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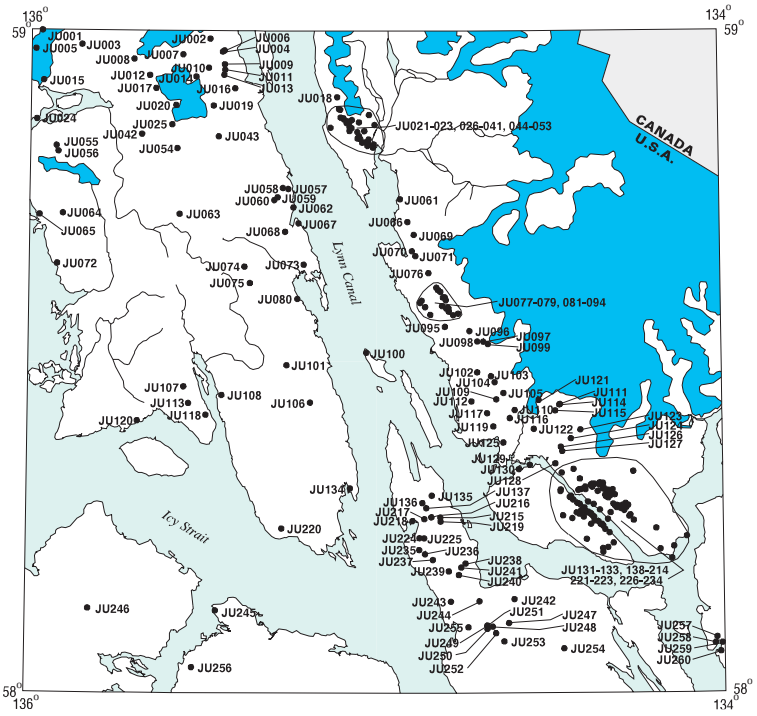
Alaska Resource Data File

Juneau 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 Juneau 1:250,000-scale quadrangle, Alaska

This and related reports are accessible through the USGS World Wide Web site http://ardf.wr.usgs.gov. Comments or information regarding corrections or missing data, or requests for digital retrievals should be directed to: Frederic Wilson, USGS, 4200 University Dr., Anchorage, AK 99508-4667, e-mail fwilson@usgs.gov, telephone (907) 786-7448. This compilation is authored by:

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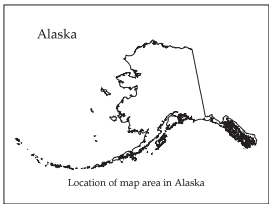

U.S. DEPARTMENT OF THE INTERIOR · MARCH 3, 1849 ·

This report is preliminary and has not been reviewed for conformity with U.S. Geological Survey editorial standards or with the North American Stratigraphic code. Any use of trade, product, or firm names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

OPEN-FILE REPORT 03-456

Site name(s): Unnamed (on the west side of Casement Glacier)

Site type: Occurrence

ARDF no.: JU001

Latitude: 58.9993 **Quadrangle:** JU D-6

Longitude: 135.9697

Location description and accuracy:

This occurrence is on the east slope of Red Mountain at an elevation of about 1,800 feet, approximately 3 miles northwest of Snow Dome and 9 miles north of Adams Inlet. It is in a moraine on the west side of the Casement Glacier, just below about the center of the north side of section 19, T.33 S., R.57 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Cu

Other:

Ore minerals: Chalcopyrite

Gangue minerals:

Geologic description:

Skarn boulders containing approximately 5% chalcopyrite were found at this locality in 1968 (MacKevett and others, 1971) but a later search failed to reveal their source (Brew and others, 1978). The area is underlain by deformed and metamorphosed Silurian or Devonian carbonate, clastic, and volcaniclastic rocks that have been intruded by Upper Jurassic and Lower Cretaceous granitic and dioritic rocks (Brew and others, 1992). The rocks immediately west of the occurrence are metamorphosed Silurian and Devonian graywacke and argillite that have been intruded by foliated Cretaceous granitic rocks (Brew and others, 1978).

Alteration:

Age of mineralization:

Deposit model:

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

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

18b

Production Status: None

Site Status: Inactive

Workings/exploration:

Production notes:

Reserves:

Additional comments:
This occurrence is located in Glacier Bay National Park and Reserve.

References:
MacKevett and others, 1971; Brew and others, 1978; Brew and others, 1992.

Primary reference: Brew and others,1978

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Unnamed (west of Sullivan Island)

Site type: Occurrence

ARDF no.: JU002

Latitude: 58.9881 **Quadrangle:** JU D-5

Longitude: 135.4791

Location description and accuracy:

This occurrence is at an elevation of about 1,250 feet on the south valley wall of an east-flowing drainage 3 miles west of Lynn Canal and 5 miles west of Sullivan Island. It is in the NW1/4NW1/4 section 19, T. 33 S., R. 60 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Ag, Au, Cu, Pb, Zn

Other:

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

Gangue minerals: Calcite, quartz

Geologic description:

This occurrence consists of sulfide-bearing quartz-calcite veins in siliceous argillite. The sulfide minerals are arsenopyrite, chalcopyrite, galena, pyrite, and sphalerite. A sample of one vein collected by the U.S. Bureau of Mines contained 0.1 ppm gold, 1,100 ppm copper, 1,800 ppm lead, and 5,000 ppm zinc (Clough and Redman, 1989). The occurrence is in the Dream prospect area (also see JU009), the site of extensive exploration and mapping from 1987 through 1990 by International Curator Resources Ltd. and Placer Dome U.S. (Bull and others, 1989). The area was covered by 600 federal mining claims in 1989, and more than 5000 feet of drilling was completed by the end of 1990 (Swainbank and others, 1991).

The area is underlain predominantly by metamorphosed Silurian and Devonian clastic rocks, limestone, and volcanic units; Permian limestone and siltstone; and small plutons of Tertiary and Cretaceous granodiorite (Brew and Ford, 1985).

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:

The occurrence is in the Dream prospect area (also see JU009), the site of extensive exploration and mapping from 1987 through 1990 by International Curator Resources Ltd. and Placer Dome U.S. (Bull and others, 1989). The area was covered by 600 federal mining claims in 1989 and more than 5000 feet of drilling was completed by the end of 1990 (Swainbank and others, 1991).

Production notes:

Reserves:

Additional comments:

References:

Brew and Ford, 1985; Bull and others, 1989; Clough and Redman, 1989; Swainbank and others, 1991; Gehrels and Berg, 1994.

Primary reference: Clough and Redman, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Unnamed (west of Mt. Elder)

Site type: Occurrence

ARDF no.: JU003

Latitude: 58.9785 **Quadrangle:** JU D-6

Longitude: 135.8536

Location description and accuracy:

This occurrence is on the west side of Mt. Elder at an elevation of about 3,700 feet. It is in the SE1/4 section 26, T. 33 S., R. 57 E. of the Copper River Meridian. It is location number J002 of Wells and others (1986). The location is accurate within 1/2 mile.

Commodities:

Main: Cu, Mn

Other:

Ore minerals: Psilomelane, pyrite, secondary Cu mineral

Gangue minerals:

Geologic description:

Wells and others (1986) describe this deposit as psilomelane, pyrite, and secondary Cu minerals in a siliceous gangue associated with volcanic rocks. No other information is available. The area is underlain by deformed and metamorphosed Silurian or Devonian carbonate, clastic and volcanic clastic rocks that have been intruded by Upper Jurassic and Lower Cretaceous granitic and dioritic rocks (Brew and others, 1992). The host country rocks at the occurrence are metamorphosed Silurian and Devonian graywacke and argillite that have been intruded by non-foliated Cretaceous and Tertiary granodiorite (Brew and others, 1978).

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:

Brew and others, 1978; Wells and others, 1986; Brew and others, 1992.

Primary reference: Wells and others, 1986

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Gunsight Notch

Site type: Prospect

ARDF no.: JU004

Latitude: 58.9687 **Quadrangle:** JU D-5

Longitude: 135.4426

Location description and accuracy:

The Gunsight Notch prospect is 1.5 miles west of Lynn Canal and 3.5 miles west of Sullivan Island. It is at an elevation of about 3,240 feet, 0.5 mile north of peak 4720, in the NE1/4 section 32, T. 33 S., R. 60 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au, Cu

Other: As

Ore minerals: Arsenopyrite, bornite, chalcopyrite, pyrrhotite

Gangue minerals:

Geologic description:

The Gunsight Notch prospect, which was discovered by Placer Dome U.S. in 1989, is a lens of semi-massive to massive arsenopyrite, bornite, chalcopyrite, and pyrrhotite. The sulfides occur in a volcaniclastic unit 80 feet below the contact of a marble-schist unit. Samples contain up to 6 ppm gold and up to 0.13% copper (Bull and others, 1989). Although the stratabound, volcaniclastic-hosted, sulfides suggest a volcanogenic origin, Placer Dome U.S. geologists interpreted the deposit as a pre- or syn-metamorphic, hydrothermal-replacement deposit, possibly related to a pluton (Bull, 1991).

This deposit is one of many in the Dream prospect area that includes numerous veins, stockworks, stratabound and stratiform sulfide deposits (also see JU002, JU006, JU009, JU011, JU013, JU014, JU016, JU019), most of which occur near a volcaniclastic-marble contact. The U.S. Bureau of Mines (Clough and Redman, 1989), International Curator Resources, Ltd. (Huber and Barnett, 1988), and Placer Dome U.S. (Bull and others, 1989) explored the area in the late 1980's and developed a general lithology of the area. They divide the rocks into four major rock units. From the base up, they are: 1) a volcaniclastic unit approximately 2000 feet thick that consists of albite-chlorite schist, chlorite schist, and chlorite-quartz-sericite schist that may in part be metaplutonic as well as metavolcanic; 2) a unit 800 feet thick of micaceous marble, pelitic schist, graphite schist, gray to white, cliff-forming marble, chlorite-amphibole schist, greenstone, and phyllitic graphite

schist; and 3) a unit of very fine-grained chlorite-sericite-biotite schist over 1000 feet thick that includes metatuff and pelitic, mafic and graphitic schist. The upper contact of this unit is a thrust fault that trends N-S for several miles; quartz veining is common along the thrust contact. The rocks overlying the thrust are middle- to upper-greenschist-facies graphitic schist, argillite, phyllite, and marble. The metamorphic grade of the rocks varies from mid- to upper-greenschist facies in the south, to amphibolite facies in the north. There have been at least two stages of folding.

The Dream prospect area was the site of extensive exploration and mapping from 1987 through 1990 by International Curator Resources Ltd. and Placer Dome U.S. The area was covered by 600 federal mining claims in 1989 and more than 5000 feet of drilling was completed by the end of 1990 (Swainbank and others, 1991).

The general area consists of metamorphosed Silurian and Devonian clastic rocks, limestone, and volcanic units; Permian limestone and siltstone; and small plutons of Tertiary and Cretaceous granodiorite (Brew and Ford, 1985).

Alteration:

Age of mineralization:

Deposit model:

Possibly a metamorphosed Kuroko massive sulfide deposit (Cox and Singer, 1986; model 28a) or a metamorphosed polymetallic replacement deposit (Cox and Singer, 1986; model 19a)

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

28a or 19a

Production Status: None

Site Status: Inactive

Workings/exploration:

The area has been the site of extensive exploration and mapping from 1987 through 1990 by International Curator Resources Ltd. and Placer Dome U.S. The area was covered by 600 federal mining claims in 1989 and more than 5000 feet of drilling had been completed by the end of 1990 (Swainbank and others, 1991).

Production notes:

Reserves:

Additional comments:

References:

Brew and Ford, 1985; Huber and Barnett, 1988; Bull and others, 1989; Clough and Redman, 1989; Bull, 1991; Swainbank and others, 1991.

Primary reference: Bull and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Unnamed (west side of Casement Glacier)

Site type: Occurrence

ARDF no.: JU005

Latitude: 58.9715 **Quadrangle:** JU D-6

Longitude: 135.9875

Location description and accuracy:

This occurrence is at an elevation of about 1,000 feet, approximately 3 miles west of Snow Dome and 7 miles north of Adams Inlet. It is on a nunatak on the west side of lower Casement Glacier in the NE1/4 section 36, T.33 S., R.56 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Zn

Other: Ba

Ore minerals: Barite, pyrite

Gangue minerals: Ankerite, quartz

Geologic description:

This occurrence consists of an iron-stained altered zone that is exposed on a small nunatak of thin-bedded limestone, argillite, and hornfels. The altered zone is about 30 feet thick and contains several quartz-ankerite-barite veins that are less than 1 foot thick. The veins and the altered zone strike N 58 W and dip vertically. Pyrite is the only visible sulfide mineral in either the veins or the altered zone. A select sample contained 300 ppm zinc (MacKevett and others, 1971).

The area is underlain by deformed and metamorphosed Silurian or Devonian carbonate, clastic and volcanic clastic rocks that have been intruded by Upper Jurassic and Lower Cretaceous granitic and dioritic rocks (Brew and others, 1992). The rocks immediately west of this occurrence are metamorphosed Silurian and Devonian graywacke and argillite that have been intruded by foliated Cretaceous granitic rocks (Brew and others, 1978).

Alteration:

Iron staining is reported (MacKevett and others, 1971).

Age of mineralization:

Deposit model:

Possible polymetallic replacement deposit (Cox and Singer, 1986; model 19a)

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

Production Status: No

Site Status: Inactive

Workings/exploration:
Only limited surface sampling.

Production notes:

Reserves:

Additional comments:

References:
MacKevett and others, 1971; Brew and others, 1978; Brew and others, 1992.

Primary reference: MacKevett and others, 1971

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Eux 125

Site type: Prospect

ARDF no.: JU006

Latitude: 58.9704 **Quadrangle:** JU D-5

Longitude: 135.4370

Location description and accuracy:

This prospect is 1.5 miles west of Lynn Canal and 3.5 miles west of Sullivan Island. It is at an elevation of about 3,000 feet, 0.5 mile north-northeast of peak 4720, in the NE1/4 section 32, T. 33 S., R. 60 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Pb, Zn

Other: Ag, Au, Co

Ore minerals: Galena, pyrite, sphalerite

Gangue minerals:

Geologic description:

The Eux 125 prospect was discovered in 1988 by International Curator Resources Ltd.. The deposit consists of stratabound sulfides in mafic greenschist which exhibit possibly, primary depositional textures. The sulfide layers are predominately sphalerite and galena. These layers are in the upper portion of a marble-schist unit of basal, pyritic chert overlain by mafic greenschist. A 1.5-foot chip sample contained 5.04% zinc, 1.16% lead and 0.01 ounce of gold per ton (Huber and Barnett, 1988). Approximately 1/4 mile to the south, Placer Dome U.S. discovered a 15-foot-thick, massive to semi-massive, pyrite bed exposed for 80 feet along strike. Samples contain 0.03 ppm gold, 9.7 ppm silver, and 274 ppm cobalt (Bull and others, 1989). Although the stratabound, volcaniclastic-hosted, sulfides suggest a volcanogenic origin, Placer Dome U.S. geologists interpreted the deposit as a pre- or syn-metamorphic, hydrothermal-replacement deposit, possibly related to a pluton (Bull, 1991). The EUX 125 prospect is about one mile north of the Dream prospect (JU009).

This deposit is one of many in the Dream prospect area that includes numerous veins, stockworks, stratabound and stratiform sulfide deposits (also see JU002, JU006, JU009, JU011, JU013, JU014, JU016, JU019), most of which occur near a volcaniclastic-marble contact. The U.S. Bureau of Mines (Clough and Redman, 1989), International Curator Resources, Ltd. (Huber and Barnett, 1988), and Placer Dome U.S. (Bull and others, 1989) explored the area in the late 1980's and developed a general lithology of the area. They

divide the rocks into four major rock units. From the base up, they are: 1) a volcaniclastic unit approximately 2000 feet thick that consists of albite-chlorite schist, chlorite schist, and chlorite-quartz-sericite schist that may in part be metaplutonic as well as metavolcanic; 2) a unit 800 feet thick of micaceous marble, pelitic schist, graphite schist, gray to white, cliff-forming marble, chlorite-amphibole schist, greenstone, and phyllitic graphite schist; and 3) a unit of very fine-grained chlorite-sericite-biotite schist over 1000 feet thick that includes metatuff and pelitic, mafic and graphitic schist. The upper contact of this unit is a thrust fault that trends N-S for several miles; quartz veining is common along the thrust contact. The rocks overlying the thrust are middle- to upper-greenschist-facies graphitic schist, argillite, phyllite, and marble. The metamorphic grade of the rocks varies from mid- to upper-greenschist facies in the south, to amphibolite facies in the north. There have been at least two stages of folding.

The Dream prospect area was the site of extensive exploration and mapping from 1987 through 1990 by International Curator Resources Ltd. and Placer Dome U.S. The area was covered by 600 federal mining claims in 1989 and more than 5000 feet of drilling was completed by the end of 1990 (Swainbank and others, 1991).

The general area consists predominantly of metamorphosed Silurian and Devonian clastic rocks, limestone, and volcanic units; Permian limestone and siltstone; and small plutons of Tertiary and Cretaceous granodiorite (Brew and Ford, 1985).

Alteration:

Age of mineralization:

Deposit model:

Possibly a metamorphosed Kuroko massive sulfide deposit (Cox and Singer, 1986; model 28a) or a metamorphosed polymetallic replacement deposit (Cox and Singer, 1986; model 19a)

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

28a or 19a

Production Status: None

Site Status: Active?

Workings/exploration:

The Dream prospect area was the site of extensive exploration and mapping from 1987 through 1990 by International Curator Resources Ltd. and Placer Dome U.S. The area was covered by 600 federal mining claims in 1989 and more than 5000 feet of drilling was completed by the end of 1990 (Swainbank and others, 1991).

Production notes:

Reserves:

Additional comments:

References:

Brew and Ford, 1985; Huber and Barnett, 1988; Bull and others, 1989; Clough and Redman, 1989; Bull, 1991; Swainbank and others, 1991.

Primary reference: Huber and Barnett, 1988

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Unnamed (near Peak 6010)

Site type: Occurrence

ARDF no.: JU007

Latitude: 58.9641 **Quadrangle:** JU D-5

Longitude: 135.5580

Location description and accuracy:

This occurrence is at an elevation of about 4,500 feet, 7.5 miles north of Mt. Young and about 9 miles west of Sullivan Island. It is approximately 0.4 mile north-northeast of peak 6010 in the SW1/4 section 34, T. 33 S., R. 59 E. of the Copper River Meridian. The location is accurate within 1/2 mile. It is just east of the boundary of Glacier Bay National Park and Reserve.

Commodities:

Main: Cu

Other: Co

Ore minerals: Chalcopyrite, pyrite, pyrrhotite

Gangue minerals:

Geologic description:

The rocks in the area of this occurrence area are predominantly Silurian dark-gray, siliceous graywacke and argillite (Brew and Ford, 1985). Chalcopyrite, pyrite and pyrrhotite are disseminated in a siliceous greenschist (Wells and others, 1986). Cobalt was identified as a major trace constituent (Cobb,1978 [OFR-78-374]).

The area is underlain by deformed and metamorphosed Silurian or Devonian carbonate, clastic and volcanic clastic rocks that have been intruded by Upper Jurassic and Lower Cretaceous granitic and dioritic rocks (Brew and others, 1992).

Alteration:

Age of mineralization:

Deposit model:

Possibly a metamorphosed Kuroko massive sulfide deposit (Cox and Singer, 1986; model 28a) or a metamorphosed polymetallic replacement deposit (Cox and Singer, 1986; model 19a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
28a

Production Status: No

Site Status: Inactive

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:
MacKevett and others, 1971; Brew and others, 1978; Cobb, 1978 (OFR 78-374); Brew and Ford, 1985; Wells and others, 1986; Brew and others, 1992.

Primary reference: Cobb, 1978 (OFR 78-374)

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Unnamed (east of Berg Mountain)

Site type: Occurrence

ARDF no.: JU008

Latitude: 58.9569 **Quadrangle:** JU D-6

Longitude: 135.7007

Location description and accuracy:

This occurrence is approximately one mile east of Berg Mountain at an elevation of about 4,100 feet. It is in the NW1/4 section 2, T. 34 S., R. 58 E. of the Copper River Meridian. This is location J012 of Wells and others (1986). The location is accurate within 1/2 mile.

Commodities:

Main: Y

Other:

Ore minerals: Pyrite

Gangue minerals:

Geologic description:

The rocks in the area are predominantly Silurian and Devonian greenstones and other metavolcanic rocks (Brew and Ford, 1985). Cobb (1978, [OFR 78-374]) reports disseminated pyrite in iron-stained siliceous rocks that contain traces of yttrium. An aeromagnetic anomaly occurs nearby (Wells and others, 1986).

The area consists of deformed and metamorphosed Silurian or Devonian carbonate, clastic and volcanic clastic rocks that have been intruded by Upper Jurassic and Lower Cretaceous granitic and dioritic rocks (Brew and others, 1992).

Alteration:

Local iron staining.

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:

MacKevett and others, 1971; Brew and others, 1978; Cobb, 1978 (OFR 78-374); Brew and Ford, 1985; Wells and others, 1986; Brew and others, 1992.

Primary reference: Wells and others, 1986

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Dream

Site type: Prospect

ARDF no.: JU009

Latitude: 58.9494 **Quadrangle:** JU D-5

Longitude: 135.4365

Location description and accuracy:

This prospect is located in an east-facing cirque at an elevation of 3,200 feet. The cirque forms the east flank of an unnamed mountain, 2 miles west of Lynn Canal and 3.5 miles west of Sullivan Island in the SE1/4 section 5, T. 34 S., R. 60 E. of the Copper River Meridian. The location is accurate. This is the discovery prospect in what has been called the Dream prospect area; numerous other prospects and occurrences have been found nearby.

Commodities:

Main: Ag, Au, Co, Cu, Pb, Zn

Other: As, Mo, W

Ore minerals: Arsenopyrite, chalcopyrite, erythrite, galena, pyrite, pyrrhotite, sphalerite

Gangue minerals: Calcite, quartz

Geologic description:

This prospect consists of three distinct stratiform layers of sulfides in a zone 75 feet thick. These layers pinch and swell from six inches to four feet thick and are exposed for over 200 feet along strike. The lowest sulfide layer is characterized by disseminated to massive, well-bedded, arsenopyrite-pyrite zones containing minor erythrite or 'cobalt bloom'. The sulfide minerals include arsenopyrite, chalcopyrite, galena, pyrite, pyrrhotite, and sphalerite. Alteration is limited to postmetamorphic hydrothermal, dolomitization and pyritization (Huber and Barnett, 1988). Continuous chip samples collected every 15 feet average 0.67 ounce gold per ton and 0.37% cobalt over 200 feet of strike length. Select samples contained up to 3.25 ounces of gold per ton, 3.5% copper, and 2.4 ounces of silver per ton (Huber and Barnett, 1988). Three diamond drill holes drilled in the cirque failed to intersect massive-arsenopyrite beds. One, however, intersected two mineralized zones; An upper 2.3-foot-thick zone assayed 0.107 ounce of gold per ton; and a lower 5.4-feet-thick zone tassayed 0.22 ounce of gold per ton (Bull and others, 1989). Although the stratabound, volcaniclastic-hosted, sulfides suggest a volcanogenic origin, Placer Dome U.S. geologists interpreted the deposit as a pre- or syn-metamorphic, hydrothermal-replacement deposit, possibly related to a pluton (Bull, 1991).

This deposit is one of many in the Dream prospect area that includes numerous veins, stockworks, stratabound and stratiform sulfide deposits (also see JU002, JU006, JU009, JU011, JU013, JU014, JU016, JU019), most of which occur near a volcaniclastic-marble contact. The U.S. Bureau of Mines (Clough and Redman, 1989), International Curator Resources, Ltd. (Huber and Barnett, 1988), and Placer Dome U.S. (Bull and others, 1989) explored the area in the late 1980's and developed a general lithology of the area. They divide the rocks into four major rock units. From the base up, they are: 1) a volcaniclastic unit approximately 2000 feet thick that consists of albite-chlorite schist, chlorite schist, and chlorite-quartz-sericite schist that may in part be metaplutonic as well as metavolcanic; 2) a unit 800 feet thick of micaceous marble, pelitic schist, graphite schist, gray to white, cliff-forming marble, chlorite-amphibole schist, greenstone, and phyllitic graphite schist; and 3) a unit of very fine-grained chlorite-sericite-biotite schist over 1000 feet thick that includes metatuff and pelitic, mafic and graphitic schist. The upper contact of this unit is a thrust fault that trends N-S for several miles; quartz veining is common along the thrust contact. The rocks overlying the thrust are middle- to upper-greenschist-facies graphitic schist, argillite, phyllite, and marble. The metamorphic grade of the rocks varies from mid- to upper-greenschist facies in the south, to amphibolite facies in the north. There have been at least two stages of folding.

The Dream prospect area was the site of extensive exploration and mapping from 1987 through 1990 by International Curator Resources Ltd. and Placer Dome U.S. The area was covered by 600 federal mining claims in 1989 and more than 5000 feet of drilling was completed by the end of 1990 (Swainbank and others, 1991).

The general area consists predominantly of metamorphosed Silurian and Devonian clastic rocks, limestone, and volcanic units; Permian limestone and siltstone; and small plutons of Tertiary and Cretaceous granodiorite (Brew and Ford, 1985).

Alteration:

Post-metamorphic hydrothermal dolomitization and pyritization (Huber and Barnett, 1988).

Age of mineralization:

Deposit model:

Possibly a metamorphosed Kuroko massive sulfide deposit (Cox and Singer, 1986; model 28a) or a metamorphosed polymetallic replacement deposit (Cox and Singer, 1986; model 19a)

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

28a or 19a

Production Status: None

Site Status: Active

Workings/exploration:

The Dream prospect was discovered by the U.S. Bureau of Mines in 1986; numerous

other prospects were found nearby and the area is commonly called the Dream prospect area. The area was the site of extensive exploration and mapping from 1987 through 1990 by International Curator Resources Ltd. and Placer Dome U.S. The area was covered by 600 federal mining claims in 1989 and more than 5,000 feet of drilling had been completed by the end of 1990 (Swainbank and others, 1991). In 1989, 3 diamond drill holes were completed on the Dream prospect and 3 diamond drill holes were completed in the Stinging Cliffs (JU016) area for a total of 2,000 feet. Three additional diamond drill holes were completed in the area by Placer Dome during the 1990 field season for a total of 2,307 feet (Bull, 1991). Claims are still active on this prospect (Roger Eichman, oral commun., 2001).

Production notes:

Reserves:

Additional comments:

References:

Brew and Ford, 1985; Huber and Barnett, 1988; Bull and others, 1989; Clough and Redman, 1989; Bull, 1991; Swainbank and others, 1991; Gehrels and Berg, 1994.

Primary reference: Bull, 1991

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Unnamed (east side of upper Sullivan River)

Site type: Occurrence

ARDF no.: JU010

Latitude: 58.9441 **Quadrangle:** JU D-5

Longitude: 135.4827

Location description and accuracy:

This occurrence is approximately 3.5 miles west of Lynn Canal and 5 miles west of the Sullivan Island at an elevation of about 800 feet. It is on the east side of upper Sullivan River, which is not named on the current (1996) edition of the D-5 topographic map. The site is in the SW1/4 section 6, T. 34 S., R. 60 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Ag, Au

Other: Zn

Ore minerals:

Gangue minerals: Quartz

Geologic description:

In 1989, Placer Dome U.S. identified several areas of elevated base and precious metals in this area (Bull and others, 1989). The U.S. Bureau of Mines collected a sample of a quartz vein that contained 1.5 ppm gold and 23 ppm silver; a sample of argillite contained 450 ppm zinc (Clough and Redman, 1989).

This deposit is one of many in the Dream prospect area that includes numerous veins, stockworks, stratabound and stratiform sulfide deposits (also see JU002, JU006, JU009, JU011, JU013, JU014, JU016, JU019), most of which occur near a volcaniclastic-marble contact. The U.S. Bureau of Mines (Clough and Redman, 1989), International Curator Resources, Ltd. (Huber and Barnett, 1988), and Placer Dome U.S. (Bull and others, 1989) explored the area in the late 1980's and developed a general lithology of the area. They divide the rocks into four major rock units. From the base up, they are: 1) a volcaniclastic unit approximately 2000 feet thick that consists of albite-chlorite schist, chlorite schist, and chlorite-quartz-sericite schist that may in part be metaplutonic as well as metavolcanic; 2) a unit 800 feet thick of micaceous marble, pelitic schist, graphite schist, gray to white, cliff-forming marble, chlorite-amphibole schist, greenstone, and phyllitic graphite schist; and 3) a unit of very fine-grained chlorite-sericite-biotite schist over 1000 feet thick that includes metatuff and pelitic, mafic and graphitic schist. The upper contact of

this unit is a thrust fault that trends N-S for several miles; quartz veining is common along the thrust contact. The rocks overlying the thrust are middle- to upper-greenschist-facies graphitic schist, argillite, phyllite, and marble. The metamorphic grade of the rocks varies from mid- to upper-greenschist facies in the south, to amphibolite facies in the north. There have been at least two stages of folding.

The Dream prospect area was the site of extensive exploration and mapping from 1987 through 1990 by International Curator Resources Ltd. and Placer Dome U.S. The area was covered by 600 federal mining claims in 1989 and more than 5000 feet of drilling was completed by the end of 1990 (Swainbank and others, 1991).

The general area consists predominantly of metamorphosed Silurian and Devonian clastic rocks, limestone, and volcanic units; Permian limestone and siltstone; and small plutons of Tertiary and Cretaceous granodiorite (Brew and Ford, 1985).

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:

The Dream prospect area was the site of extensive exploration and mapping from 1987 through 1990 by International Curator Resources Ltd. and Placer Dome U.S. The area was covered by 600 federal mining claims in 1989 and more than 5000 feet of drilling had been completed by the end of 1990 (Swainbank and others, 1991).

Production notes:

Reserves:

Additional comments:

References:

Brew and Ford, 1985; Huber and Barnett, 1988; Bull and others, 1989; Clough and Redman, 1989; Bull, 1991; Swainbank and others, 1991.

Primary reference: Clough and Redman, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Tuthill Peak

Site type: Prospect

ARDF no.: JU011

Latitude: 58.9412 **Quadrangle:** JU D-5

Longitude: 135.4356

Location description and accuracy:

This prospect is approximately 2 miles west of Lynn Canal and 4 miles west of Sullivan Island. It is at an elevation of about 4,000 feet, 1/2 mile west of peak 4260 and 2 miles north of the Sullivan River, in the NE1/4 section 8, T. 34 S., R. 60 E. of the Copper River Meridian. The Sullivan River is not named on the current (1996) edition of the D-5 topographic map. The location is accurate.

Commodities:

Main: Au

Other: As

Ore minerals: Arsenopyrite

Gangue minerals: Quartz

Geologic description:

In 1989, Placer Dome U.S. discovered a 30-foot by 50-foot area of arsenopyrite-bearing trachyte breccia at this site. The area is bounded by high-angle, northwest-trending faults. Samples contained up to 0.4 ounce of gold per ton. The deposit is interpreted to be the result of remobilization of a deep massive-sulfide deposit along a high angle fault (Bull, 1991).

This deposit is one of many in the Dream prospect area that includes numerous veins, stockworks, stratabound and stratiform sulfide deposits (also see JU002, JU006, JU009, JU011, JU013, JU014, JU016, JU019), most of which occur near a volcaniclastic-marble contact. The U.S. Bureau of Mines (Clough and Redman, 1989), International Curator Resources, Ltd. (Huber and Barnett, 1988), and Placer Dome U.S. (Bull and others, 1989) explored the area in the late 1980's and developed a general lithology of the area. They divide the rocks into four major rock units. From the base up, they are: 1) a volcaniclastic unit approximately 2000 feet thick that consists of albite-chlorite schist, chlorite schist, and chlorite-quartz-sericite schist that may in part be metaplutonic as well as metavolcanic; 2) a unit 800 feet thick of micaceous marble, pelitic schist, graphite schist, gray to white, cliff-forming marble, chlorite-amphibole schist, greenstone, and phyllitic graphite schist; and 3) a unit of very fine-grained chlorite-sericite-biotite schist over 1000 feet

thick that includes metatuff and pelitic, mafic and graphitic schist. The upper contact of this unit is a thrust fault that trends N-S for several miles; quartz veining is common along the thrust contact. The rocks overlying the thrust are middle- to upper-greenschist-facies graphitic schist, argillite, phyllite, and marble. The metamorphic grade of the rocks varies from mid- to upper-greenschist facies in the south, to amphibolite facies in the north. There have been at least two stages of folding.

The Dream prospect area was the site of extensive exploration and mapping from 1987 through 1990 by International Curator Resources Ltd. and Placer Dome U.S. The area was covered by 600 federal mining claims in 1989 and more than 5000 feet of drilling was completed by the end of 1990 (Swainbank and others, 1991).

The general area consists predominantly of metamorphosed Silurian and Devonian clastic rocks, limestone, and volcanic units; Permian limestone and siltstone; and small plutons of Tertiary and Cretaceous granodiorite (Brew and Ford, 1985).

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Active

Workings/exploration:

The Dream prospect area was the site of extensive exploration and mapping from 1987 through 1990 by International Curator Resources Ltd. and Placer Dome U.S. The area was covered by 600 federal mining claims in 1989 and more than 5000 feet of drilling was completed by the end of 1990 (Swainbank and others, 1991). Claims are still active on this prospect (Roger Eichman, oral communication 2001).

Production notes:

Reserves:

Additional comments:

References:

Brew and Ford, 1985; Huber and Barnett, 1988; Bull and others, 1989; Clough and Redman, 1989; Bull, 1991; Swainbank and others, 1991.

Primary reference: Bull, 1991

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Unnamed (southeast of upper Berg Creek)

Site type: Occurrence

ARDF no.: JU012

Latitude: 58.9325 **Quadrangle:** JU D-5

Longitude: 135.6546

Location description and accuracy:

This occurrence is at an elevation of about 2,500 feet, 2.5 miles southeast of Berg Mountain on the east side of the Berg Creek drainage. It is in the SE1/4 section 12, T. 34 S, R. 58 E. of the Copper River Meridian. This is location J016 of Wells and others (1986). The location is accurate within 1/2 mile.

Commodities:

Main: Cu

Other:

Ore minerals: Chalcopyrite, pyrite

Gangue minerals:

Geologic description:

The rocks in the vicinity of this occurrence are predominantly Silurian and Devonian greenstones and other metavolcanic rocks (Brew and Ford, 1985). Cobb (1978 [OFR 78-374]) reports that a boulder containing pyrite and chalcopyrite was found in glacial moraine at this location.

The rocks in the vicinity of this occurrence are deformed and metamorphosed Silurian or Devonian carbonate, clastic and volcanic clastic units that have been intruded by Upper Jurassic and Lower Cretaceous granitic and dioritic rocks (Brew and others, 1992).

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:

MacKevett and others, 1971; Brew and others, 1978; Cobb, 1978 (OFR 78-374); Brew and Ford, 1985; Wells and others, 1986; Brew and others, 1992.

Primary reference: Cobb, 1978 (OFR 78-374)

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): CP

Site type: Prospect

ARDF no.: JU013

Latitude: 58.9335 **Quadrangle:** JU D-5

Longitude: 135.4378

Location description and accuracy:

The CP prospect is approximately 2 miles west of Lynn Canal and 4 miles west of Sullivan Island. It is at an elevation of about 1,700 feet, 1.5 miles north of the Sullivan River, in the SE1/4 section 8, T. 34 S., R. 60 E. of the Copper River Meridian. The Sullivan River is not named on the current (1996) edition of the D-5 topographic map. The location is accurate.

Commodities:

Main: Ag, Au, Cu, Pb, Zn

Other:

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

Gangue minerals:

Geologic description:

The CP prospect consists of four distinct layers of stratabound, disseminated pyrite, pyrrhotite, and chalcopyrite in a horizon approximately 125 feet thick. These layers occur in the lower part of a marble unit underlain by graphite schist. The sulfide-bearing layers are exposed along strike for up to 200 feet and and are one inch to 18 inches thick. The sulfide-bearing horizon contain up to 5.6% copper (Huber and Barnett, 1988), and occurs at approximately the same stratigraphic position as the exposure at the Stinging Cliffs prospect (JU016) (Bull, 1991). The sulfide disseminations are parallel to the foliation and the marble-schist contact, and are not associated with any fault. Samples collected in 1989 contained up to 10 ppm gold, 18.5 ppm silver, 6.66% lead, and 0.25% zinc (Bull and others, 1989). Although the stratabound, volcaniclastic-hosted, sulfides suggest a volcanogenic origin, Placer Dome U.S. geologists interpreted the deposit as a pre- or syn-metamorphic, hydrothermal-replacement deposit, possibly related to a pluton (Bull, 1991).

This deposit is one of many in the Dream prospect area that includes numerous veins, stockworks, stratabound and stratiform sulfide deposits (also see JU002, JU006, JU009, JU011, JU013, JU014, JU016, JU019), most of which occur near a volcaniclastic-marble contact. The U.S. Bureau of Mines (Clough and Redman, 1989), International Curator

Resources, Ltd. (Huber and Barnett, 1988), and Placer Dome U.S. (Bull and others, 1989) explored the area in the late 1980's and developed a general lithology of the area. They divide the rocks into four major rock units. From the base up, they are: 1) a volcaniclastic unit approximately 2000 feet thick that consists of albite-chlorite schist, chlorite schist, and chlorite-quartz-sericite schist that may in part be metaplutonic as well as metavolcanic; 2) a unit 800 feet thick of micaceous marble, pelitic schist, graphite schist, gray to white, cliff-forming marble, chlorite-amphibole schist, greenstone, and phyllitic graphite schist; and 3) a unit of very fine-grained chlorite-sericite-biotite schist over 1000 feet thick that includes metatuff and pelitic, mafic and graphitic schist. The upper contact of this unit is a thrust fault that trends N-S for several miles; quartz veining is common along the thrust contact. The rocks overlying the thrust are middle- to upper-greenschist-facies graphitic schist, argillite, phyllite, and marble. The metamorphic grade of the rocks varies from mid- to upper-greenschist facies in the south, to amphibolite facies in the north. There have been at least two stages of folding.

The Dream prospect area was the site of extensive exploration and mapping from 1987 through 1990 by International Curator Resources Ltd. and Placer Dome U.S. The area was covered by 600 federal mining claims in 1989 and more than 5000 feet of drilling was completed by the end of 1990 (Swainbank and others, 1991).

The general area consists predominantly of metamorphosed Silurian and Devonian clastic rocks, limestone, and volcanic units; Permian limestone and siltstone; and small plutons of Tertiary and Cretaceous granodiorite (Brew and Ford, 1985).

Alteration:

Age of mineralization:

Deposit model:

Possibly a metamorphosed Kuroko massive sulfide deposit (Cox and Singer, 1986; model 28a) or a metamorphosed polymetallic replacement deposit (Cox and Singer, 1986; model 19a)

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

28a or 19a

Production Status: None

Site Status: Active?

Workings/exploration:

Three diamond drill holes were completed at the CP prospect by Placer Dome in 1990; they totaled 2,307 feet (Bull, 1991). The Dream prospect area was the site of extensive exploration and mapping from 1987 through 1990 by International Curator Resources Ltd. and Placer Dome U.S. The area was covered by 600 federal mining claims in 1989 and more than 5000 feet of drilling was completed by the end of 1990 (Swainbank and others, 1991).

Production notes:

Reserves:

Additional comments:

References:

Brew and Ford, 1985; Huber and Barnett, 1988; Bull and others, 1989; Clough and Redman, 1989; Bull, 1991; Swainbank and others, 1991.

Primary reference: Huber and Barnett, 1988

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Unnamed (west of Lynn Canal)

Site type: Occurrence

ARDF no.: JU014

Latitude: 58.9308 **Quadrangle:** JU D-5

Longitude: 135.5194

Location description and accuracy:

This occurrence is at an elevation of about 1,500 feet, at the northwest margin of the moraine at the foot of the glacier about 5 miles west of Lynn Canal, in the SE1/4 section 11, T. 34 S., R. 59 E. of the Copper River Meridian.

Commodities:

Main: Au, Co, Cu, Ni

Other: Cr

Ore minerals: Chalcopyrite, pyrite, pyrrhotite

Gangue minerals: Quartz

Geologic description:

This occurrence, referred to as the West Dream occurrence by the U.S. Bureau of Mines, was discovered in 1988 by following the stratigraphy south of the Dream prospect (JU009) (Clough and Redman, 1989). The country rocks are siliceous argillite that strikes northerly and dips moderately to the west. Discontinuous quartz veins and stratiform and stratabound sulfide pods and stringers occur in the siliceous argillite. The dominant sulfide minerals are pyrite and pyrrhotite, with minor chalcopyrite. Samples collected by U. S. Bureau of Mines contained up to 12,000 ppm copper, 7,100 ppm nickel, 910 ppm cobalt, and 900 ppm chromium. A sample of a quartz vein in volcaniclastic rocks contained 0.58 ppm gold (Clough and Redman, 1989).

This deposit is one of many in the Dream prospect area that includes numerous veins, stockworks, stratabound and stratiform sulfide deposits (also see JU002, JU006, JU009, JU011, JU013, JU014, JU016, JU019), most of which occur near a volcaniclastic-marble contact. The U.S. Bureau of Mines (Clough and Redman, 1989), International Curator Resources, Ltd. (Huber and Barnett, 1988), and Placer Dome U.S. (Bull and others, 1989) explored the area in the late 1980's and developed a general lithology of the area. They divide the rocks into four major rock units. From the base up, they are: 1) a volcaniclastic unit approximately 2000 feet thick that consists of albite-chlorite schist, chlorite schist, and chlorite-quartz-sericite schist that may in part be metaplutonic as well as metavolcanic; 2) a unit 800 feet thick of micaceous marble, pelitic schist, graphite schist, gray to

white, cliff-forming marble, chlorite-amphibole schist, greenstone, and phyllitic graphite schist; and 3) a unit of very fine-grained chlorite-sericite-biotite schist over 1000 feet thick that includes metatuff and pelitic, mafic and graphitic schist. The upper contact of this unit is a thrust fault that trends N-S for several miles; quartz veining is common along the thrust contact. The rocks overlying the thrust are middle- to upper-greenschist-facies graphitic schist, argillite, phyllite, and marble. The metamorphic grade of the rocks varies from mid- to upper-greenschist facies in the south, to amphibolite facies in the north. There have been at least two stages of folding.

The Dream prospect area was the site of extensive exploration and mapping from 1987 through 1990 by International Curator Resources Ltd. and Placer Dome U.S. The area was covered by 600 federal mining claims in 1989 and more than 5000 feet of drilling was completed by the end of 1990 (Swainbank and others, 1991).

The general area consists predominantly of metamorphosed Silurian and Devonian clastic rocks, limestone, and volcanic units; Permian limestone and siltstone; and small plutons of Tertiary and Cretaceous granodiorite (Brew and Ford, 1985).

Alteration:

Age of mineralization:

Deposit model:

Possibly a metamorphosed Kuroko massive sulfide deposit (Cox and Singer, 1986; model 28a) or a metamorphosed polymetallic replacement deposit (Cox and Singer, 1986; model 19a)

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

28a or 19a

Production Status: None

Site Status: Inactive

Workings/exploration:

Surface sampling only . The Dream prospect area, was the site of extensive exploration and mapping from 1987 through 1990 by International Curator Resources Ltd. and Placer Dome U.S. The area was covered by 600 federal mining claims in 1989 and more than 5000 feet of drilling was completed by the end of 1990 (Swainbank and others, 1991).

Production notes:

Reserves:

Additional comments:

References:

Brew and Ford, 1985; Clough and Redman, 1989; Swainbank and others, 1991; Brew and

others, 1992.

Primary reference: Clough and Redman, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Unnamed (near terminus of Casement Glacier)

Site type: Occurrence

ARDF no.: JU015

Latitude: 58.9242 **Quadrangle:** JU D-6

Longitude: 135.9639

Location description and accuracy:

This occurrence is at an elevation of about 300 feet, approximately 3.5 miles southwest of Snow Dome and 3 miles north of Adams Inlet. It is near the terminus of Casement Glacier in the NE1/4 section 18, T. 34 S., R. 57 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Cu

Other:

Ore minerals: Pyrite

Gangue minerals:

Geologic description:

The rocks in the vicinity of this occurrence are predominantly Silurian and Devonian graywacke and argillite, and nonfoliated, Tertiary felsic granitic rocks and migmatite. Foliated, Cretaceous intermediate granitic plutons and migmatite crop out south of the occurrence (Brew and others, 1978). At the occurrence, altered zones 5 to 30 feet thick cut granitic rock near hornfels at the contact. The altered zones contain pyrite. A composite sample of altered rock contained 500 ppm copper and 5 ppm molybdenum (MacKevett and others, 1971).

The rocks in the vicinity of this occurrence are deformed and metamorphosed Silurian or Devonian carbonate, clastic and volcanic clastic rocks that have been intruded by Upper Jurassic and Lower Cretaceous granitic and dioritic rocks (Brew and others, 1992).

Alteration:

Hornfelsing and iron-staining.

Age of mineralization:

Tertiary.

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:

MacKevett and others, 1971; Brew and others, 1978; Brew and others, 1992.

Primary reference: MacKevett and others, 1971

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Stinging Cliffs

Site type: Prospect

ARDF no.: JU016

Latitude: 58.9132 **Quadrangle:** JU D-5

Longitude: 135.4058

Location description and accuracy:

This prospect is approximately 1.5 miles west of Lynn Canal and 3 miles west of Sullivan Island. It is at an elevation of about 950 feet, 1/2 mile north of the Sullivan River. It is in the NE1/4 section 21, T. 34 S., R. 60 E. of the Copper River Meridian. The Sullivan River is not named on the current (1996) edition of the D-5 topographic map. The location is accurate.

Commodities:

Main: Au, Cu, Pb, Zn

Other: Hg

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

Gangue minerals:

Geologic description:

In 1989, Placer Dome U.S. discovered a stratabound sulfide deposit here that consists of pyrrhotite, sphalerite, chalcopyrite, pyrite, and galena in a siliceous layer along the contact between marble and chlorite-graphite schist. The sulfide layer is 2 feet to 8 feet thick and has been traced continuously along strike for 300 feet. Another exposure of the same sulfide-bearing layer has been identified along strike 2,300 feet to the southeast. The sulfide-bearing horizon is at the same stratigraphic position as the one at the CP prospect (JU013) (Bull and others, 1989). Samples collected by Placer Dome contained up to 2.5 ppm gold, 6.0% zinc, 0.2% lead, 0.2% copper, 2% mercury, and 570 ppm barium. Placer Dome U.S. drilled 3 diamond drill holes at the Stinging Cliffs prospect in 1989. Although the stratabound, volcaniclastic-hosted, sulfides suggest volcanogenic origin, Placer Dome U.S. geologists interpreted the deposit as a pre- or syn-metamorphic, hydrothermal-replacement deposit, possibly related to a pluton (Bull, 1991).

This deposit is one of many in the Dream prospect area that includes numerous veins, stockworks, stratabound and stratiform sulfide deposits (also see JU002, JU006, JU009, JU011, JU013, JU014, JU016, JU019), most of which occur near a volcaniclastic-marble contact. The U.S. Bureau of Mines (Clough and Redman, 1989), International Curator Resources, Ltd. (Huber and Barnett, 1988), and Placer Dome U.S. (Bull and others, 1989)

explored the area in the late 1980's and developed a general lithology of the area. They divide the rocks into four major rock units. From the base up, they are: 1) a volcaniclastic unit approximately 2000 feet thick that consists of albite-chlorite schist, chlorite schist, and chlorite-quartz-sericite schist that may in part be metaplutonic as well as metavolcanic; 2) a unit 800 feet thick of micaceous marble, pelitic schist, graphite schist, gray to white, cliff-forming marble, chlorite-amphibole schist, greenstone, and phyllitic graphite schist; and 3) a unit of very fine-grained chlorite-sericite-biotite schist over 1000 feet thick that includes metatuff and pelitic, mafic and graphitic schist. The upper contact of this unit is a thrust fault that trends N-S for several miles; quartz veining is common along the thrust contact. The rocks overlying the thrust are middle- to upper-greenschist-facies graphitic schist, argillite, phyllite, and marble. The metamorphic grade of the rocks varies from mid- to upper-greenschist facies in the south, to amphibolite facies in the north. There have been at least two stages of folding.

The Dream prospect area was the site of extensive exploration and mapping from 1987 through 1990 by International Curator Resources Ltd. and Placer Dome U.S. The area was covered by 600 federal mining claims in 1989 and more than 5000 feet of drilling was completed by the end of 1990 (Swainbank and others, 1991).

The general area consists predominantly of metamorphosed Silurian and Devonian clastic rocks, limestone, and volcanic units; Permian limestone and siltstone; and small plutons of Tertiary and Cretaceous granodiorite (Brew and Ford, 1985).

Alteration:

Age of mineralization:

Deposit model:

Possibly a metamorphosed Kuroko massive sulfide deposit (Cox and Singer, 1986; model 28a) or a metamorphosed polymetallic replacement deposit (Cox and Singer, 1986; model 19a)

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

28a or 19a

Production Status: None

Site Status: Active?

Workings/exploration:

In 1989, 3 diamond drill holes were drilled at the Stinging Cliffs prospect by Placer Dome U.S. (Bull, 1991). The Dream prospect area, which includes this prospect, was the site of extensive exploration and mapping from 1987 through 1990 by International Curator Resources Ltd. and Placer Dome U.S. The area was covered by 600 federal mining claims in 1989 and more than 5000 feet of drilling was completed by the end of 1990 (Swainbank and others, 1991).

Production notes:

Reserves:

Additional comments:

References:

Brew and others, 1978; Brew and Ford, 1985; Huber and Barnett, 1988; Bull and others, 1989; Clough and Redman, 1989; Bull, 1991; Swainbank and others, 1991; Brew and others, 1992.

Primary reference: Bull, 1991

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Unnamed (northwest of Mt. Young)

Site type: Occurrence

ARDF no.: JU017

Latitude: 58.9130 **Quadrangle:** JU D-5

Longitude: 135.6359

Location description and accuracy:

This occurrence is 4 miles northwest of Mt. Young at an elevation of approximately 4,500 feet. It is in the NE1/4 section 19, T. 34 S., R. 59 E. of the Copper River Meridian. The location is accurate within 1/2 mile. There are several other occurrences in the Mt. Young area (JU020, JU025); the locations given by Wells and others (1986) appear to be the most accurate.

Commodities:

Main: Cu, Mo

Other:

Ore minerals:

Gangue minerals:

Geologic description:

This occurrence is in a geologically complex area characterized by a variety of metamorphic rocks, small granitic plutons, and mafic dikes (MacKevett and others,1971). Brew and Ford (1985) map the general area as predominantly Devonian and Silurian greenstone, greenschist, limestone and graywacke, intruded by Cretaceous biotite-hornblende granodiorite. The occurrence consists of several ankeritic altered zones between 5 and 30 feet thick that cut granitic rocks. Samples from these zones contained anomalous copper and molybdenum (MacKevett and others, 1971).

Alteration:

Ankeritic altered zone.

Age of mineralization:

Veins cut Cretaceous or younger plutonic rocks.

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:
Only surface samples have been collected.

Production notes:

Reserves:

Additional comments:

References:
MacKevett and others, 1971; Brew and others, 1978; Cobb, 1978 (OFR 78-374); Brew and Ford, 1985; Wells and others, 1986; Brew and others, 1992.

Primary reference: MacKevett and others, 1971

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Unnamed (northeast of Independence Lake)

Site type: Occurrence

ARDF no.: JU018

Latitude: 58.9002 **Quadrangle:** JU D-4

Longitude: 135.1083

Location description and accuracy:

This occurrence is at an elevation of about 3,100 feet, approximately 1 mile northeast of Independence Lake and 1.4 mile east of Lynn Canal. It is in the S1/2 section 20 or N1/2 section 29, T. 34 S., R. 62 E. of the Copper River Meridian. The location is accurate within 1/2 mile.

Commodities:

Main: Au, Cu, Pb, W

Other:

Ore minerals:

Gangue minerals: Calcite, quartz

Geologic description:

The U.S. Bureau of Mines investigated this area in 1986 and 1987 in response to increased exploration activity 3 miles to the south in the Kensington area (JU029). They collected several samples of quartz and quartz-calcite veins, and calcite breccia. A 1-foot channel sample across a quartz-calcite vein in metavolcanic rock contained 50.0 ppm gold, 490 ppm copper, 70 ppm lead, and 14 ppm tungsten. Placid Oil Company staked several claims in this area in the early 1980's (Clough, 1990). The country rocks in the area of this occurrence are upper Paleozoic or Mesozoic metasedimentary and metavolcanic strata on the western margin of the Coast Plutonic-Metamorphic Complex (Brew and others, 1992).

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:
Placid Oil Company staked several claims in this area in the early 1980's (Clough, 1990). Only surface samples have been collected.

Production notes:

Reserves:

Additional comments:

References:
Clough, 1990; Brew and others, 1992.

Primary reference: Clough, 1990

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Unnamed (south of the Sullivan River)

Site type: Occurrence

ARDF no.: JU019

Latitude: 58.8871 **Quadrangle:** JU D-5

Longitude: 135.4682

Location description and accuracy:

This occurrence is at an elevation of about 2,100 feet, on the east side of a north-facing glacier that is 1.5 miles south of the Sullivan River and approximately 4 miles SW of Lynn Canal. It is in the SE1/4 section 30, T. 34 S., R. 60 E. of the Copper River Meridian. The Sullivan River is not named on the current (1996) edition of the D-5 topographic map.

Commodities:

Main: Au, Co, Ni, Pb, Zn

Other: Co

Ore minerals: Chalcopyrite, pyrite, pyrrhotite

Gangue minerals: Calcite, quartz

Geologic description:

This occurrence, called the south Sullivan River occurrence by the U.S. Bureau of Mines was discovered in 1988 by Bureau personnel following the extension of the lithologic units at the Dream prospect (JU009) to the south (Clough and Redman, 1989). The U.S. Geological Survey had previously noted elevated metal values in geochemical samples collected in the area in 1983 and 1984 (Bailey and others, 1985). The rocks in the area consist of graywacke, argillite and metavolcanic rocks. U.S. Bureau of Mines personnel sampled phyllite that contained up to 6000 ppm copper and siliceous argillite that contained up to 500 ppm zinc. They also sampled several quartz and quartz-calcite veins that contained up to 3.9 ppm gold, 22,000 ppm copper, 1,300 ppm cobalt, 1,300 ppm nickel, and 500 ppm zinc (Clough and Redman, 1989).

This deposit is one of many in the Dream prospect area that includes numerous veins, stockworks, stratabound and stratiform sulfide deposits (also see JU002, JU006, JU009, JU011, JU013, JU014, JU016, JU019), most of which occur near a volcaniclastic-marble contact. The U.S. Bureau of Mines (Clough and Redman, 1989), International Curator Resources, Ltd. (Huber and Barnett, 1988), and Placer Dome U.S. (Bull and others, 1989) explored the area in the late 1980's and developed a general lithology of the area. They divide the rocks into four major rock units. From the base up, they are: 1) a volcaniclas-

tic unit approximately 2000 feet thick that consists of albite-chlorite schist, chlorite schist, and chlorite-quartz-sericite schist that may in part be metaplutonic as well as metavolcanic; 2) a unit 800 feet thick of micaceous marble, pelitic schist, graphite schist, gray to white, cliff-forming marble, chlorite-amphibole schist, greenstone, and phyllitic graphite schist; and 3) a unit of very fine-grained chlorite-sericite-biotite schist over 1000 feet thick that includes metatuff and pelitic, mafic and graphitic schist. The upper contact of this unit is a thrust fault that trends N-S for several miles; quartz veining is common along the thrust contact. The rocks overlying the thrust are middle- to upper-greenschist-facies graphitic schist, argillite, phyllite, and marble. The metamorphic grade of the rocks varies from mid- to upper-greenschist facies in the south, to amphibolite facies in the north. There have been at least two stages of folding.

The Dream prospect area was the site of extensive exploration and mapping from 1987 through 1990 by International Curator Resources Ltd. and Placer Dome U.S. The area was covered by 600 federal mining claims in 1989 and more than 5000 feet of drilling was completed by the end of 1990 (Swainbank and others, 1991).

The general area consists predominantly of metamorphosed Silurian and Devonian clastic rocks, limestone, and volcanic units; Permian limestone and siltstone; and small plutons of Tertiary and Cretaceous granodiorite (Brew and Ford, 1985).

Alteration:

Age of mineralization:

Deposit model:

Possibly a metamorphosed Kuroko massive sulfide deposit (Cox and Singer, 1986; model 28a) or a metamorphosed polymetallic replacement deposit (Cox and Singer, 1986; model 19a)

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

28a or 19a

Production Status: None

Site Status: Inactive

Workings/exploration:

Surface sampling only. The Dream prospect area was the site of extensive exploration and mapping from 1987 through 1990 by International Curator Resources Ltd. and Placer Dome U.S. The area was covered by 600 federal mining claims in 1989 and more than 5000 feet of drilling was completed by the end of 1990 (Swainbank and others, 1991).

Production notes:

Reserves:

Additional comments:

References:

Brew and others, 1978; Bailey and others, 1985; Brew and Ford, 1985; Huber and Barnett, 1988; Bull and others, 1989; Clough and Redman, 1989; Bull, 1991; Swainbank and others, 1991; Brew and others, 1992.

Primary reference: Clough and Redman, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Unnamed (near Mt. Young)

Site type: Occurrence

ARDF no.: JU020

Latitude: 58.8876 **Quadrangle:** JU D-5

Longitude: 135.5773

Location description and accuracy:

This occurrence is 2 miles north of Mt. Young at an elevation of approximately 2,500 feet. It is in the SE1/4 section 28, T. 34 S., R. 59 E. of the Copper River Meridian. The location is accurate within 1/2 mile. There are several other geologically similar occurrences in the Mt. Young area (JU017, JU025); the locations given by Wells and others (1986) appear to be the most accurate.

Commodities:

Main: Zn

Other: Ag, Ba, Cr, Cu, Mo, Pb

Ore minerals: Barite, chalcopyrite, pyrite

Gangue minerals: Quartz

Geologic description:

This occurrence consists of short, quartz veins, usually less than 6 inches thick, and numerous altered zones, about 2 feet thick. The altered zones transect metavolcanic rocks, schist, hornfels, slate, and marble. A few zones are localized along the margins of mafic dikes that cut the metamorphic rocks. The altered zones consist mainly of hydrous iron oxides, carbonate minerals, and quartz; minor pyrite, chalcopyrite, barite, and clay minerals are also present (MacKevett and others, 1971). MacKevett and others (1971) also report that the highest analytical metal values were from a sample consisting of sulfides, chiefly pyrite, replacing metavolcanic rocks, and from a sample of altered hornfels. These samples contained 1500 ppm zinc and anomalous silver, chromium, copper, molybdenum, and lead.

The rocks in the vicinity of this occurrence consist of deformed and metamorphosed Silurian or Devonian carbonate, clastic and volcanic clastic units that have been intruded by Upper Jurassic and Lower Cretaceous granitic and dioritic rocks (Brew and others, 1992). This occurrence is in a geologically complex area characterized by a variety of metamorphic rocks, small granitic plutons, and mafic dikes (MacKevett and others,1971).

Alteration:

Iron-oxide alteration; clay alteration; hornfelsing.

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:
Apparently only surface sampling.

Production notes:

Reserves:

Additional comments:

References:
MacKevett and others, 1971; Brew and others, 1978; Brew and Ford, 1985; Wells and others, 1986; Brew and others, 1992.

Primary reference: MacKevett and others, 1971

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Ivanhoe

Site type: Mine

ARDF no.: JU021

Latitude: 58.8823 **Quadrangle:** JU D-4

Longitude: 135.1029

Location description and accuracy:

The Ivanhoe Mine is at an elevation of about 2,300 feet, in the Kakuhan Range, 2 miles northeast of Pt. Sherman on Lynn Canal and 1 mile west of Lions Head Mountain. The mine is marked on the Juneau D-4 topographic map. It is in the NE1/4 section 32, T. 34 S., R. 62 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other: Ag, Cu

Ore minerals: Chalcopyrite, native copper, pyrite

Gangue minerals: Quartz

Geologic description:

The Ivanhoe Mine was discovered in 1896. In 1897, a 20-stamp mill was installed and a 5,700-foot tramway was constructed. By 1902, the mine had produced 340 ounces of gold from 3,500 tons of ore. The mine has 1,100 feet of workings and 2 stoped areas, 6 adits, 1 crosscut, and a 100-foot shaft.

The Ivanhoe mine developed a quartz vein entirely contained in metamorphosed basalt, unlike most other veins in the Berners Bay district, which are typically are hosted in Jualin Diorite. The vein trends northerly to northwesterly and dips 35 to 55 East. It varies from 1 foot to 9 feet thick and has been traced on the surface for 1,500 feet along strike. The contact between the vein and the metabasalt is sheared and fragments of basalt are common in the vein. Pyrite and chalcopyrite occur in the vein as small clots or thin bands. Native copper occurs in the deeper stopes as dendrites on fractures in the quartz. This is the only occurrence of native copper in the Juneau Gold Belt (Redman and others, 1989). U.S. Bureau of Mines samples contained up to 0.14% copper and 15 ppm gold. Their weighted average over 4.3 feet was 2.3 ppm gold and 5.9 ppm silver. (Redman and others, 1989).

The Ivanhoe Mine is within the Berners Bay district at the north end of the Juneau Gold Belt. The district is characterized by a series of structurally-controlled mesothermal, gold-bearing quartz veins. Most of the veins cut the Lower Cretaceous Jualin Diorite,

which intrudes Mesozoic (Upper Triassic) metabasalt (Miller and others, 1995). The age of mineralization in the Berners Bay area is about 55 Ma, the same as the other mesothermal gold vein deposits in the Juneau Gold Belt (Goldfarb and others, 1997).

Alteration:

Age of mineralization:

The age of mineralization in the Berners Bay district is about 55 Ma, the same as the other mesothermal gold-quartz-vein deposits in the Juneau Gold Belt (Goldfarb and others, 1997).

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: Yes; small

Site Status: Inactive

Workings/exploration:

The Ivanhoe Mine was discovered in 1896. In 1897, a 20-stamp mill was installed and a 5,700-foot tramway was constructed. The mine has 1,100 feet of workings and 2 stoped areas, 6 adits, 1 crosscut and a 100-foot shaft.

Production notes:

By 1902, the mine had produced 340 ounces of gold from 3,500 tons of ore.

Reserves:

The Ivanhoe Mine has a resource of 180,000 tons of ore that contains 0.7 ounce of gold per ton and 0.2 ounce of silver per ton (Redman and others, 1989).

Additional comments:

References:

Redman and others, 1989; Miller and others, 1995; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Hope

Site type: Prospect

ARDF no.: JU022

Latitude: 58.8815 **Quadrangle:** JU D-4

Longitude: 135.0996

Location description and accuracy:

The Hope prospect is at an elevation of about 2,350 feet, in the Kakuhan Range, 2 miles northeast of Pt. Sherman on Lynn Canal and 1 mile west of Lions Head Mountain. It is approximately 0.2 mile east-southeast of the Ivanhoe Mine in the NE1/4 section 32, T. 34 S., R. 62 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other: Ag, Cu

Ore minerals: Chalcopyrite, pyrite

Gangue minerals: Quartz

Geologic description:

The Hope prospect was discovered in 1895 and by 1902 was developed by 2 adits and an open cut. The prospect is an east-west-trending quartz vein in metamorphosed basalt, unlike most other veins in the Berners Bay district which typically are hosted in Jualin Diorite. The vein is 8 feet thick in one adit. Samples contain up to 25 ppm gold (Redman and others, 1989).

The Hope prospect is within the Berners Bay district at the north end of the Juneau Gold Belt. The district is characterized by a series of structurally-controlled mesothermal, gold-bearing quartz veins. Most of the veins are in Lower Cretaceous Jualin Diorite, which intrudes Mesozoic (Upper Triassic) metabasalt (Miller and others, 1995). The age of mineralization in the Berners Bay area is about 55 Ma, the same as the other mesothermal gold vein deposits in the Juneau Gold Belt (Goldfarb and others, 1997).

Alteration:

Age of mineralization:

The age of mineralization in the Berners Bay district is about 55 Ma, the same as the other mesothermal gold-quartz-vein deposits in the Juneau Gold Belt (Goldfarb and others, 1997).

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: Inactive

Workings/exploration:
The Hope prospect was discovered in 1895 and by 1902 it had 2 adits and an open cut.

Production notes:

Reserves:

Additional comments:

References:
Redman and others, 1989; Miller and others, 1995; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Unnamed (Greek Boy upper pits)

Site type: Prospect

ARDF no.: JU023

Latitude: 58.8734 **Quadrangle:** JU D-4

Longitude: 135.0157

Location description and accuracy:

This prospect consists of four open cuts that vary in elevation from 2,300 to 3,400 feet, about 5 miles north of the mouth of the Berners River where it empties into Berners Bay. It is 2 miles north-northeast of the Jualin mine (JU044), and 1.5 miles east of Lions Head Mountain, in the SW1/4 section 35, T. 34 S., R. 62 E. of the Copper River Meridian. The location marks the approximate center of several pits and is accurate. There are several adits 1 mile south-southeast of these workings which are the Greek Boy prospect (JU035). This prospect has sometimes been included with the Greek Boy prospect (Redman and others, 1989), but because of the great distance from the Greek Boy prospect, this prospect is listed as a separate prospect.

Commodities:

Main: Ag, Au, Cu

Other:

Ore minerals: Pyrite

Gangue minerals: Quartz

Geologic description:

The prospect consists of four open cuts that follow a 4- to 10-foot-thick quartz vein in chlorite schist, 100 to 200 feet from diorite contact. The vein contains minor pyrite. U.S. Bureau of Mines samples from the pits contained up to 4.2 ppm gold, 3.5 ppm silver and 1,560 ppm copper (Redman and others, 1989).

The prospect is within the Berners Bay district at the north end of the Juneau Gold Belt. The district is characterized by a series of structurally-controlled mesothermal, gold-bearing quartz veins. Most of the veins are in Late Cretaceous, Jualin Diorite, which intrudes Upper Triassic metabasalt (Miller and others, 1995). The age of mineralization in the Berners Bay area is about 55 Ma, the same as the other mesothermal gold vein deposits in the Juneau Gold Belt (Goldfarb and others, 1997).

Alteration:

Age of mineralization:
The age of mineralization in the Berners Bay district is about 55 Ma, the same as the other mesothermal gold-quartz-vein deposits in the Juneau Gold Belt (Goldfarb and others, 1997).

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: No

Site Status: Inactive

Workings/exploration:
The deposit has been explored by four open cuts.

Production notes:

Reserves:

Additional comments:

References:
Redman and others, 1989; Miller and others, 1995; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Unnamed (northwest shore of outer Adams Inlet)

Site type: Occurrence

ARDF no.: JU024

Latitude: 58.8654 **Quadrangle:** JU D-6

Longitude: 135.9825

Location description and accuracy:
This occurrence is on the north shore of Adams Inlet, approximately 3 miles from its entrance. It is in the NW1/4 section 6, T. 35 S., R. 57 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Cu

Other: Ag, Co, Mo, Sn

Ore minerals: Chalcopyrite, ilmenite, magnetite, pyrite, pyrrhotite

Gangue minerals:

Geologic description:
The rocks in the area consist of deformed and metamorphosed Silurian or Devonian carbonate, clastic and volcanic clastic units that have been intruded by Upper Jurassic and Lower Cretaceous granitic and dioritic rocks (Brew and others, 1992). Lava flows of amygdaloidal, vesicular, altered basalt up to 15 feet thick are exposed for 500 feet along the shore at this site. Pyrite, chalcopyrite, and pyrrhotite occur along fractures in the basalt and near altered basalt dikes which intrude the flows. Pyrite, ilmenite, and magnetite are disseminated throughout the dikes (Brew and others, 1978). The groundmass of the altered basalt consists of epidote, actinolite, and lesser amounts of calcite, dolomite, and chlorite. All samples collected contained anomalous amounts of copper; one sample contained 300 ppm cobalt. Most samples contained trace amounts of molybdenum; one contained silver and tin (MacKevett and others, 1971).

Alteration:
Propylitization of basalt hostrock.

Age of mineralization:

Deposit model:
Volcanic-hosted Cu (Cox and Singer, 1986; model 22a)

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

Production Status: None

Site Status: Inactive

Workings/exploration:
Surface sampling only.

Production notes:

Reserves:

Additional comments:

References:
MacKevett and others, 1971; Brew and others, 1978; Brew and others, 1992.

Primary reference: MacKevett and others, 1971

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Unnamed (on Mt. Young)

Site type: Occurrence

ARDF no.: JU025

Latitude: 58.8583 **Quadrangle:** JU D-5

Longitude: 135.5886

Location description and accuracy:
This occurrence is 1/2 mile west of Mt. Young at an elevation of approximately 4,200 feet. It is in the SW1/4 section 4, T. 35 S., R. 59 E. of the Copper River Meridian. The location is accurate within 1/2 mile.

Commodities:

Main: Cu

Other:

Ore minerals: Chalcopyrite, pyrite

Gangue minerals:

Geologic description:
The rocks in the vicinity are deformed and metamorphosed Silurian or Devonian carbonate, clastic and volcanic clastic rocks that have been intruded by Upper Jurassic and Lower Cretaceous granitic and dioritic rocks (Brew and others, 1992). This occurrence is in a geologically complex area characterized by a variety of metamorphic rocks, small granitic plutons, and mafic dikes (MacKevett and others,1971). The occurrence is associated with volcanic rocks and consists of pyrite and chalcopyrite in a cellular siliceous matrix (Cobb, 1978 [OFR 78-374]).

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:
Only surface examination of outcrops.

Production notes:

Reserves:

Additional comments:

References:
MacKevett and others, 1971; Brew and others, 1978; Cobb, 1978 (OFR 78-374); Brew and Ford, 1985; Wells and others, 1986; Brew and others, 1992.

Primary reference: Cobb, 1978 (OFR 78-374)

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Ophir; Hartford; Chilkat; Selkirk; Acropolis

Site type: Prospect

ARDF no.: JU026

Latitude: 58.8696 **Quadrangle:** JU D-4

Longitude: 135.0983

Location description and accuracy:

The Ophir Mine is at an elevation of about 1,450 feet, 2 miles northeast of Pt. Sherman on Lynn Canal and 1 mile west-southwest of Lions Head Mountain in the Kakuhan Range. The Ophir Mine is marked on the Juneau D-4 topographic map. It is approximately 3/4 mile northwest of the Kensington mine (JU029), in the NE1/4 section 5, T. 35 S., R. 62 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other: Ag, Cu, Pb, Zn

Ore minerals: Arsenopyrite, calaverite, chalcopyrite, galena, gold, hessite, petzite, pyrite, sphalerite, tetrahedrite

Gangue minerals: Albite, ankerite, apatite, calcite, chlorite, ferroan dolomite, muscovite, quartz, rutile, tourmaline

Geologic description:

The Ophir Mine (as it is commonly called but has no production) consists of several quartz veins and associated quartz-vein stockworks in Jualin Diorite. The Ophir deposit was discovered in 1887. Workings consist of a 350-foot adit with 250 feet of drifts, a 125-foot adit with a 75-foot crosscut, and a 75-foot inclined shaft (Redman and others, 1989). The Ophir workings explored at least 5 principal quartz veins, named the Hartford, Ophir, Chilkat, Selkirk, and Acropolis (Kensington Mines, 1914).

The Ophir prospect is in the Kensington project area, that in 2001 was controlled by Coeur Alaska. It is in the Berners Bay district at the north end of the Juneau Gold Belt. The district is characterized by a series of structurally-controlled, mesothermal, gold-bearing quartz veins. Most of the veins are in Early Cretaceous (105 Ma) Jualin Diorite, which intrudes Upper Triassic metabasalt. The Jualin Diorite is generally massive, jointed, blocky, quartz monzonite to quartz monzodiorite. Gold occurs in low-sulfide, quartz-carbonate veins that contain pyrite and tellurides; the veins are marked by distinctive ankeritic alteration zones. There are both extensional and shear veins that generally strike north to northwest and dip east. Discrete vein systems are defined by one or more

through-going quartz veins, many of which are in shear zones. Levielle (1991) and Knopf (1911) describe other gangue minerals near vein margins including albite, chlorite, muscovite, and lesser tourmaline, rutile, and apatite. Hydrothermal alteration adjacent to the veins is characterized by reddish-brown ferroan dolomite (Miller and others, 1995). Other alteration includes sericitization of plagioclase, chloritization, sulfidization of mafic minerals, and albitization of feldspars (Leveille, 1991). Pyrite is the most abundant sulfide mineral, with lesser amounts of chalcopyrite, galena, sphalerite, arsenopyrite, and tetrahedrite. Gold occurs in the native state, in pyrite, and in various telluride minerals such as calaverite, hessite, and petzite (Leveille, 1991; Redman and others, 1989). The vein paragenesis consists of early quartz, carbonates, albite and pyrite, followed by deposition of base and precious metals. Gold, galena and the tellurides were the last to be deposited (Leveille, 1991). The age of hydrothermal muscovite from veins at Kensington Mine (JU029) varies from 53.4 Ma to 56.5 Ma (Miller and others, 1994). This coincides with the 55 Ma age of the other mesothermal gold vein deposits in the Juneau Gold Belt (Goldfarb and others, 1997).

Alteration:

Hydrothermal alteration adjacent to the veins is characterized by reddish-brown ferroan dolomite alteration (Miller and others, 1995). Other alteration includes sericitization of plagioclase, chloritization and sulfidization of mafic minerals, and albitization of feldspars (Leveille, 1991).

Age of mineralization:

The age of mineralization in the Berners Bay district is about 55 Ma, the same as the other mesothermal gold-quartz-vein deposits in the Juneau Gold Belt (Goldfarb and others, 1997).

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: Undetermined.

Site Status: Active

Workings/exploration:

The Ophir deposit was discovered in 1887. Workings consist of a 350-foot adit with 250 feet of drifts, a 125-foot adit with a 75-foot crosscut and a 75-foot inclined shaft (Redman and others, 1989). The deposit has been extensively explored by Placid Oil Co. and Echo Bay Mines-Coeur Alaska, and in 2001 is controlled by Coeur Alaska.

Production notes:

No recorded production.

Reserves:

The Kensington project area (see JU029), as defined by Coeur-Alaska, includes the Kensington (JU029), Ophir, Mexican (JU028), Horrible (JU027), and other veins, that collectively contain over 1.96 million ounces of proven and probable gold (Bundtzen and others, 1996).

Additional comments:

References:

Knopf, 1911; Kensington Mines, 1914; Redman and others, 1989; Levielle, 1991; Swainbank and others, 1991; Miller and others, 1994; Miller and others, 1995; Bundtzen and others, 1996; Goldfarb and others, 1997; Coeur d'Alene Mines Corporation, 2001.

Primary reference: Miller and others, 1995

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Horrible; Savage

Site type: Mine

ARDF no.: JU027

Latitude: 58.8686 **Quadrangle:** JU D-4

Longitude: 135.0904

Location description and accuracy:

The Horrible Mine is at an elevation of about 2,150 feet, 2 miles northeast of Pt. Sherman on Lynn Canal and 1 mile west-southwest of Lions Head Mountain in the Kakuhan Range. The Horrible Mine is marked on the Juneau D-4 topographic map. It is approximately 1/2 mile northwest of the Kensington Mine (JU029), in the NW1/4 section 4, T. 35 S., R. 62 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other: Ag, Cu, Pb, Zn

Ore minerals: Arsenopyrite, calaverite, chalcopyrite, galena, gold, hessite, petzite, pyrite, sphalerite, tetrahedrite

Gangue minerals: Albite, ankerite, apatite, calcite, chlorite, ferroan dolomite, muscovite, quartz, rutile, tourmaline

Geologic description:

The deposit at the Horrible Mine consists of a quartz vein that was discovered about 1887 and by 1912 was developed by a 84-foot adit, a 408-foot adit, a 230-foot crosscut, and a 20-foot winze (Redman and others, 1989). The mine produced 75 ounces of gold from 500 tons of ore, although 1,500 tons were mined from stopes (Redman and others, 1989). The main (Savage) vein in the Horrible Mine trends northerly and dips 45-75 east. It is in Jualin Diorite and consists of a primary quartz vein and associated stockworks quartz veins (Redman and others, 1989). The deposit has been extensively drilled by Placid Oil Co. and Echo Bay Mines-Coeur Alaska, and is currently (2001) controlled by Coeur Alaska. In 1988, a haulage tunnel for the Kensington Mine (JU029) was completed at the 800 elevation. The Horrible deposit, which was intersected by the main Kensington haulage drift, contains an inferred reserve of 3.93 million tons of ore that contains 0.11 ounce gold per ton (Swainbank and other, 1991).

The Horrible Mine is in the Kensington project area, that in 2001 was controlled by Coeur Alaska. It is in the Berners Bay district at the north end of the Juneau Gold Belt. The district is characterized by a series of structurally-controlled, mesothermal, gold-

bearing quartz veins. Most of the veins are in Early Cretaceous (105 Ma) Jualin Diorite, which intrudes Upper Triassic metabasalt. The Jualin Diorite is generally massive, jointed, blocky, quartz monzonite to quartz monzodiorite. Gold occurs in low-sulfide, quartz-carbonate veins that contain pyrite and tellurides; the veins are marked by distinctive ankeritic alteration zones. There are both extensional and shear veins that generally strike north to northwest and dip east. Discrete vein systems are defined by one or more through-going quartz veins, many of which are in shear zones. Levielle (1991) and Knopf (1911) describe other gangue minerals near vein margins including albite, chlorite, muscovite, and lesser tourmaline, rutile, and apatite. Hydrothermal alteration adjacent to the veins is characterized by reddish-brown ferroan dolomite (Miller and others, 1995). Other alteration includes sericitization of plagioclase, chloritization, sulfidization of mafic minerals, and albitization of feldspars (Leveille, 1991). Pyrite is the most abundant sulfide mineral, with lesser amounts of chalcopyrite, galena, sphalerite, arsenopyrite, and tetrahedrite. Gold occurs in the native state, in pyrite, and in various telluride minerals such as calaverite, hessite, and petzite (Leveille, 1991; Redman and others, 1989). The vein paragenesis consists of early quartz, carbonates, albite and pyrite, followed by deposition of base and precious metals. Gold, galena and the tellurides were the last to be deposited (Leveille, 1991). The age of hydrothermal muscovite from veins at Kensington Mine (JU029) varies from 53.4 Ma to 56.5 Ma (Miller and others, 1994). This coincides with the 55 Ma age of the other mesothermal gold vein deposits in the Juneau Gold Belt (Goldfarb and others, 1997).

Alteration:

Hydrothermal alteration adjacent to the veins is characterized by reddish-brown ferroan dolomite alteration (Miller and others, 1995). Other alteration includes sericitization of plagioclase, chloritization and sulfidization of mafic minerals, and albitization of feldspars (Leveille, 1991).

Age of mineralization:

The age of mineralization in the Berners Bay district is about 55 Ma, the same as the other mesothermal gold-quartz-vein deposits in the Juneau Gold Belt (Goldfarb and others, 1997).

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: Yes; small

Site Status: Active

Workings/exploration:

The Horrible vein was discovered about 1887 and by 1912 it was developed by a 84-foot adit, a 408-foot adit, a 230-foot crosscut and a 20-foot winze (Redman and others,

1989). The deposit has been extensively drilled by Placid Oil Co. and Echo Bay Mines-Coeur Alaska and is currently (2001) controlled by Coeur Alaska. In 1988, a haulage tunnel for the Kensington Mine (JU029) was completed at the 800 elevation.

Production notes:

The Horrible mine produced 75 ounces of gold from 500 tons of ore, although 1,500 tons were mined from stopes (Redman and others, 1989).

Reserves:

The Horrible deposit contains an inferred reserve of 3.93 million tons grading 0.11 ounce gold per ton (Swainbank and other, 1991). The Kensington project area, as defined by Coeur, Alaska, includes the Kensington (JU029), Horrible and other veins, that collectively contain over 1.96 million ounces of gold in the proven and probable categories (Bundtzen and others, 1996).

Additional comments:

See JU029.

References:

Knopf, 1911; Redman and others, 1989; Levielle, 1991; Swainbank and others, 1991; Miller and others, 1994; Miller and others, 1995; Bundtzen and others, 1996; Goldfarb and others, 1997; Coeur d'Alene Mines Corporation, 2001.

Primary reference: Miller and others, 1995

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Mexican

Site type: Prospect

ARDF no.: JU028

Latitude: 58.8670 **Quadrangle:** JU D-4

Longitude: 135.0890

Location description and accuracy:

The Mexican prospect is at an elevation of about 2,050 feet, 2 miles northeast of Pt. Sherman on Lynn Canal and 1 mile west-southwest of Lions Head Mountain in the Kakuhan Range. It is 1/4 mile NW of the Kensington Mine (JU029) in the NW1/4 section 4, T. 35 S., R. 62 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other: Ag, Cu, Pb, Zn

Ore minerals: Arsenopyrite, calaverite, chalcopyrite, galena, gold, hessite, petzite, pyrite, sphalerite, tetrahedrite

Gangue minerals: Albite, ankerite, apatite, calcite, chlorite, ferroan dolomite, muscovite, quartz, rutile, tourmaline

Geologic description:

The Mexican prospect was discovered in 1887 and developed by 2 adits, a 135-foot crosscut, and a 106-foot drift. The deposit consists of a 1- to 8-foot-thick quartz vein, and quartz-vein stockworks in a shear zone in Jualin Diorite. The zone trends northerly and dips 60-84 degrees east. The vein is possibly the same as the principal one at the Horrible Mine (JU027) (Redman and others, 1989). The Mexican deposit is in Coeur Alaska's Kensington project area (see JU029). The Kensington project area, as defined by Coeur, includes the Kensington (JU029), Horrible and other veins, and contains over 1.96 million ounces of proven and probable gold (Bundtzen and others, 1996).

The Mexican prospect is in the Kensington project area, that in 2001 was controlled by Coeur Alaska. It is in the Berners Bay district at the north end of the Juneau Gold Belt. The district is characterized by a series of structurally-controlled, mesothermal, gold-bearing quartz veins. Most of the veins are in Early Cretaceous (105 Ma) Jualin Diorite, which intrudes Upper Triassic metabasalt. The Jualin Diorite is generally massive, jointed, blocky, quartz monzonite to quartz monzodiorite. Gold occurs in low-sulfide, quartz-carbonate veins that contain pyrite and tellurides; the veins are marked by distinctive ankeritic alteration zones. There are both extensional and shear veins that generally

strike north to northwest and dip east. Discrete vein systems are defined by one or more through-going quartz veins, many of which are in shear zones. Levielle (1991) and Knopf (1911) describe other gangue minerals near vein margins including albite, chlorite, muscovite, and lesser tourmaline, rutile, and apatite. Hydrothermal alteration adjacent to the veins is characterized by reddish-brown ferroan dolomite (Miller and others, 1995). Other alteration includes sericitization of plagioclase, chloritization, sulfidization of mafic minerals, and albitization of feldspars (Leveille, 1991). Pyrite is the most abundant sulfide mineral, with lesser amounts of chalcopyrite, galena, sphalerite, arsenopyrite, and tetrahedrite. Gold occurs in the native state, in pyrite, and in various telluride minerals such as calaverite, hessite, and petzite (Leveille, 1991; Redman and others, 1989). The vein paragenesis consists of early quartz, carbonates, albite and pyrite, followed by deposition of base and precious metals. Gold, galena and the tellurides were the last to be deposited (Leveille, 1991). The age of hydrothermal muscovite from veins at Kensington Mine (JU029) varies from 53.4 Ma to 56.5 Ma (Miller and others, 1994). This coincides with the 55 Ma age of the other mesothermal gold vein deposits in the Juneau Gold Belt (Goldfarb and others, 1997).

Alteration:

Hydrothermal alteration adjacent to the veins is characterized by reddish-brown ferroan dolomite alteration (Miller and others, 1995). Other alteration includes sericitization of plagioclase, chloritization and sulfidization of mafic minerals, and albitization of feldspars (Leveille, 1991).

Age of mineralization:

The age of mineralization in the Berners Bay district is about 55 Ma, the same as the other mesothermal gold-quartz-vein deposits in the Juneau Gold Belt (Goldfarb and others, 1997).

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: Active

Workings/exploration:

In its early years, the Mexican prospect was developed by 2 adits, a 135-foot crosscut and a 106-foot drift. The deposit has been extensively drilled by Placid Oil Co. and Echo Bay Mines-Coeur Alaska, and is currently (2001) controlled by Coeur Alaska.

Production notes:

No recorded production.

Reserves:

The Kensington project area (see JU029), as defined by Coeur, includes the Kensington (JU029), Ophir (JU026), Mexican, Horrible (JU027), and other veins, and contains over 1.96 million ounces of proven and probable gold (Bundtzen and others, 1996).

Additional comments:

References:

Knopf, 1911; Redman and others, 1989; Levielle, 1991; Swainbank and others, 1991; Miller and others, 1994; Miller and others, 1995; Bundtzen and others, 1996; Goldfarb and others, 1997; Coeur d'Alene Mines Corporation, 2001.

Primary reference: Miller and others, 1995

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Kensington

Site type: Mine

ARDF no.: JU029

Latitude: 58.8642 **Quadrangle:** JU D-4

Longitude: 135.0816

Location description and accuracy:

The Kensington Mine is at an elevation of approximately 2,000 feet, about 2 miles northeast of Pt. Sherman on Lynn Canal and 1 mile southwest of Lions Head Mountain in the Kakuhan Range. It is marked on the Juneau D-4 topographic map. It is in the center of section 4, T. 35 S., R. 62 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other: Ag, Cu, Pb, Zn

Ore minerals: Arsenopyrite, calaverite, chalcopyrite, galena, gold, hessite, petzite, pyrite, sphalerite, tetrahedrite

Gangue minerals: Albite, ankerite, apatite, calcite, chlorite, ferroan dolomite, muscovite, quartz, rutile, tourmaline

Geologic description:

The deposit at the Kensington mine consists of a quartz vein in Jualin Diorite. The vein strikes N-S and dips 55-70 east. It has been traced for 1500 feet along strike and 3,200 feet vertically, and averages 43 feet thick. The vein is bounded on the north by a metavolcanic rocks ; to the south, the limit of ore is defined by declining metal values (Echo Bay Mines, 1993).

The Kensington vein was discovered in 1886. It was explored and mined from 1897 to 1900. Total production was 2,600 ounces of gold from 10,342 tons of ore (Redman and others, 1989). Placid Oil Co. acquired rights to the property in 1980 and completed nearly 22,000 feet of core drilling on the Kensington and other nearby veins by the end of 1985 (Kucinski and others, 1985). The property was acquired in 1987 by a joint venture consisting of Echo Bay Mines and Coeur Alaska, who implemented an extensive exploration and development program that totaled over $80 million by 1992 (Swainbank and others, 1993). In 1995, Coeur paid $32.5 million, plus a scaled royalty to gain 100% interest in the Kensington Mine. The Kensington vein system contains reserves of 11.5 million tons of ore with 0.143 ounce of gold per ton (Bundtzen and others, 1991). The Kensington project, as defined by Coeur, contains over 1.96 million ounces of gold in the proven

and probable categories. Mine life is expected to be 12 years, mining at a rate of 4,000 tons per day by long-hole open-stoping. Annual production is expected to be 259,000 ounces of gold. Ore will be beneficiated by flotation, augmented by carbon-in-leach processing (Bundtzen and others, 1996).

The Kensington Mine is in the Kensington project area, that in 2001 was controlled by Coeur Alaska. It is in the Berners Bay district at the north end of the Juneau Gold Belt. The district is characterized by a series of structurally-controlled, mesothermal, gold-bearing quartz veins. Most of the veins are in Early Cretaceous (105 Ma) Jualin Diorite, which intrudes Upper Triassic metabasalt. The Jualin Diorite is generally massive, jointed, blocky, quartz monzonite to quartz monzodiorite. Gold occurs in low-sulfide, quartz-carbonate veins that contain pyrite and tellurides; the veins are marked by distinctive ankeritic alteration zones. There are both extensional and shear veins that generally strike north to northwest and dip east. Discrete vein systems are defined by one or more through-going quartz veins, many of which are in shear zones. Levielle (1991) and Knopf (1911) describe other gangue minerals near vein margins including albite, chlorite, muscovite, and lesser tourmaline, rutile, and apatite. Hydrothermal alteration adjacent to the veins is characterized by reddish-brown ferroan dolomite (Miller and others, 1995). Other alteration includes sericitization of plagioclase, chloritization, sulfidization of mafic minerals, and albitization of feldspars (Leveille, 1991). Pyrite is the most abundant sulfide mineral, with lesser amounts of chalcopyrite, galena, sphalerite, arsenopyrite, and tetrahedrite. Gold occurs in the native state, in pyrite, and in various telluride minerals such as calaverite, hessite, and petzite (Leveille, 1991; Redman and others, 1989). The vein paragenesis consists of early quartz, carbonates, albite and pyrite, followed by deposition of base and precious metals. Gold, galena and the tellurides were the last to be deposited (Leveille, 1991). The age of hydrothermal muscovite from veins at Kensington Mine (JU029) varies from 53.4 Ma to 56.5 Ma (Miller and others, 1994). This coincides with the 55 Ma age of the other mesothermal gold vein deposits in the Juneau Gold Belt (Goldfarb and others, 1997).

Alteration:

Hydrothermal alteration adjacent to the veins is characterized by reddish-brown ferroan dolomite alteration (Miller and others, 1995). Other alteration includes sericitization of plagioclase, chloritization and sulfidization of mafic minerals, and albitization of feldspars (Leveille, 1991).

Age of mineralization:

Hydrothermal muscovite from veins at the Kensington Mine gives ages of from 53.4 to 56.6 Ma (Miller and others, 1994). This coincides with the 55 Ma age of the other mesothermal gold-quartz-vein deposits in the Juneau Gold Belt (goldfarb and others, 1997).

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: Yes

Site Status: Active

Workings/exploration:

Since 1987, the Kensington mine has been extensively developed including: drilling to define resources and reserves, a 5,300-foot lower adit; drifts, crosscuts, and footwall ramps, metallurgical testing; and bulk sampling. A tailings impoundment and semi-permanent camp are on-site. The project has a complete 'Environmental Impact Statement', a 'Large Mine Permit' from the City and Borough of Juneau, and a preliminary 'Coastal Zone Consistency Determination' from the State of Alaska (Swainbank and others, 1995).

Production notes:

The Kensington vein was explored and mined from 1897 to 1900. Total production was 2,600 ounces of gold from 10,342 tons of ore (Redman and others, 1989). Should production resume under Coeur Alaska, the estimated mine life is expected to be 12 years, mining at a rate of 4,000 tons per day by long-hole open-stoping. Annual production is expected to be 259,000 ounces of gold. Ore will be beneficiated by flotation, augmented by carbon-in-leach processing (Bundtzen and others, 1996).

Reserves:

The Kensington vein has reserves of 11.5 million tons of ore that contain 0.143 ounce gold per ton (Bundtzen and others, 1991). The Kensington project, as defined by Coeur, includes the Kensington, Horrible (JU027) and other properties that collectively contain over 1.96 million ounces of proven and probable gold (Bundtzen and others, 1996).

Additional comments:

The Kensington project, that is currently (2001) controlled by Coeur Alaska, covers an area in the Berners Bay district that includes numerous mines and prospects described separately (see JU026-028, JU030-034, JU036-041, and JU044-053). Coeur is currently (2001) limiting expenditures to focus on securing the permits required for development and optimization of the entire project to enhance the economic return of the project in response to declining gold prices. Work continued throughout 2000 to develop a revised, selective mining plan that would reduce the tons of material to be mined but significantly increase the gold grade. This revised plan also lowers the estimated capital costs (Coeur d'Alene Mines Corporation, corporate website, www.coeur.com; July 31, 2001).

References:

Knopf, 1911; Kucinski and others, 1985; Redman and others, 1989; Levielle, 1991; Bundtzen and others, 1991; Echo Bay Mines, 1993; Swainbank and others, 1993; Miller and others, 1994; Miller and others, 1995; Swainbank and others, 1995; Bundtzen and others, 1996; Goldfarb and others, 1997; Coeur d'Alene Mines Corporation, 2001.

Primary reference: Miller and others, 1995

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Johnson; Northern Lights

Site type: Mine

ARDF no.: JU030

Latitude: 58.8659 **Quadrangle:** JU D-4

Longitude: 135.0656

Location description and accuracy:

The Johnson Mine is at an elevation of approximately 3,000 feet in the cirque at the head of Johnson Creek, about 3 miles northeast of Pt. Sherman on Lynn Canal and 3/4 mile southwest of Lions Head Mountain. It is in the NW1/4 section 3, T. 35 S., R. 62 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other: Ag, Cu

Ore minerals: Arsenopyrite, calaverite, chalcopyrite, galena, gold, hessite, petzite, pyrite, sphalerite, tetrahedrite

Gangue minerals: Albite, ankerite, apatite, calcite, chlorite, ferroan dolomite, muscovite, quartz, rutile, tourmaline

Geologic description:

The Johnson mine was discovered in 1886. It was developed by a 75-foot adit and 1,360 feet of workings from the Kensington (JU029) adit, which cut the Johnson vein in 1913. There was minor gold production from the Johnson mine in 1887 (Redman and others, 1989). The Johnson deposit is similar to the Kensington deposit; it consists of a principal vein and associated stockworks of quartz stringers in a shear zone. The stockworks occurs along the contact between Jualin Diorite and metabasalt, with quartz veining both in diorite and metabasalt (Redman and others, 1989). The vein and stockworks can be traced for over 1,500 feet and is up to 70 feet thick. The Johnson vein system was drilled by Placid Oil Co. in 1984 (Kucinski and others, 1985). It was also drilled in the early 1990's by the Echo Bay Mines - Coeur Alaska joint venture.

The Johnson Mine is in the Berners Bay district at the north end of the Juneau Gold Belt. The district is characterized by a series of structurally-controlled, mesothermal, gold-bearing quartz veins. Most of the veins are in Early Cretaceous (105 Ma) Jualin Diorite, which intrudes Upper Triassic metabasalt. The Jualin Diorite is generally massive, jointed, blocky, quartz monzonite to quartz monzodiorite. Gold occurs in low-sulfide, quartz-carbonate veins that contain pyrite and tellurides; the veins are marked by

distinctive ankeritic alteration zones. There are both extensional and shear veins that generally strike north to northwest and dip east. Discrete vein systems are defined by one or more through-going quartz veins, many of which are in shear zones. Levielle (1991) and Knopf (1911) describe other gangue minerals near vein margins including albite, chlorite, muscovite, and lesser tourmaline, rutile, and apatite. Hydrothermal alteration adjacent to the veins is characterized by reddish-brown ferroan dolomite (Miller and others, 1995). Other alteration includes sericitization of plagioclase, chloritization, sulfidization of mafic minerals, and albitization of feldspars (Leveille, 1991). Pyrite is the most abundant sulfide mineral, with lesser amounts of chalcopyrite, galena, sphalerite, arsenopyrite, and tetrahedrite. Gold occurs in the native state, in pyrite, and in various telluride minerals such as calaverite, hessite, and petzite (Leveille, 1991; Redman and others, 1989). The vein paragenesis consists of early quartz, carbonates, albite and pyrite, followed by deposition of base and precious metals. Gold, galena and the tellurides were the last to be deposited (Leveille, 1991). The age of hydrothermal muscovite from veins at Kensington Mine (JU029) varies from 53.4 Ma to 56.5 Ma (Miller and others, 1994). This coincides with the 55 Ma age of the other mesothermal gold vein deposits in the Juneau Gold Belt (Goldfarb and others, 1997).

Alteration:

Hydrothermal alteration adjacent to the veins is characterized by reddish-brown ferroan dolomite alteration (Miller and others, 1995). Other alteration includes sericitization of plagioclase, chloritization and sulfidization of mafic minerals, and albitization of feldspars (Leveille, 1991).

Age of mineralization:

The age of mineralization in the Berners Bay district is about 55 Ma, the same as the other mesothermal gold-quartz-vein deposits in the Juneau Gold Belt (Goldfarb and others, 1997).

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: Yes; small

Site Status: Active

Workings/exploration:

The Johnson deposit was discovered in 1886. It was developed by a 75-foot adit and 1,360 feet of workings from the Kensington (JU029) adit, which cut the Johnson vein in 1913. The Johnson vein system was drilled by Placid Oil Co. in 1984 (Kucinski and others, 1985). It was also drilled in the early 1990's by the Echo Bay Mines - Coeur Alaska joint venture.

Production notes:

There was minor production from the Johnson mine in 1887 (Redman and others, 1989).

Reserves:

The Johnson vein is in part of the Kensington area (see JU029), which, as defined by Coeur, includes the Kensington, Ophir, Mexican (JU028), Horrible (JU027), and other veins that collectively contain over 1.96 million ounces of proven and probable gold (Bundtzen and others, 1996).

Additional comments:

References:

Knopf, 1911; Redman and others, 1989; Levielle, 1991; Swainbank and others, 1991; Miller and others, 1994; Miller and others, 1995; Bundtzen and others, 1996; Goldfarb and others, 1997; Coeur d'Alene Mines Corporation, 2001.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Eureka

Site type: Prospect

ARDF no.: JU031

Latitude: 58.8634 **Quadrangle:** JU D-4

Longitude: 135.0768

Location description and accuracy:

The Eureka prospect is at an elevation of about 2,300 feet, about 2 miles northeast of Pt. Sherman on Lynn Canal and 1 mile southwest of Lions Head Mountain in the Kakuhan Range. It is in the N1/2 of the SE1/4 section 4, T. 35 S., R. 62 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other: Ag, Cu

Ore minerals: Arsenopyrite, calaverite, chalcopyrite, galena, gold, hessite, petzite, pyrite, sphalerite, tetrahedrite

Gangue minerals: Albite, ankerite, apatite, calcite, chlorite, ferroan dolomite, muscovite, quartz, rutile, tourmaline

Geologic description:

The Eureka prospect is a quartz vein stockworks similar to the Kensington Mine (JU029). It strikes north-south and dips 63 E. It is about 60 feet wide and has been traced along strike for 350 feet (Redman and others, 1989). The deposit was discovered in 1897. Workings include 2 adits, several open cuts, a short raise and 360 feet of workings. The stockworks is cut by the Kensington tunnel. The Eureka prospect has an inferred reserve of 300,000 tons of ore that contain 0.17 ounce of gold per ton (Redman and others, 1989). Placid Oil Co. drilled 2 surface core holes and 7 underground drill holes in 1981 and 1982 (Chris Croff, Placid Oil Co., oral commun. 1987). The prospect is within the Kensington (JU029) project area, that is currently (2001) under control of Coeur Alaska.

The Eureka prospect is in the Berners Bay district at the north end of the Juneau Gold Belt. The district is characterized by a series of structurally-controlled, mesothermal, gold-bearing quartz veins. Most of the veins are in Early Cretaceous (105 Ma) Jualin Diorite, which intrudes Upper Triassic metabasalt. The Jualin Diorite is generally massive, jointed, blocky, quartz monzonite to quartz monzodiorite. Gold occurs in low-sulfide, quartz-carbonate veins that contain pyrite and tellurides; the veins are marked by distinctive ankeritic alteration zones. There are both extensional and shear veins that gen-

erally strike north to northwest and dip east. Discrete vein systems are defined by one or more through-going quartz veins, many of which are in shear zones. Levielle (1991) and Knopf (1911) describe other gangue minerals near vein margins including albite, chlorite, muscovite, and lesser tourmaline, rutile, and apatite. Hydrothermal alteration adjacent to the veins is characterized by reddish-brown ferroan dolomite (Miller and others, 1995). Other alteration includes sericitization of plagioclase, chloritization, sulfidization of mafic minerals, and albitization of feldspars (Leveille, 1991). Pyrite is the most abundant sulfide mineral, with lesser amounts of chalcopyrite, galena, sphalerite, arsenopyrite, and tetrahedrite. Gold occurs in the native state, in pyrite, and in various telluride minerals such as calaverite, hessite, and petzite (Leveille, 1991; Redman and others, 1989). The vein paragenesis consists of early quartz, carbonates, albite and pyrite, followed by deposition of base and precious metals. Gold, galena and the tellurides were the last to be deposited (Leveille, 1991). The age of hydrothermal muscovite from veins at Kensington Mine (JU029) varies from 53.4 Ma to 56.5 Ma (Miller and others, 1994). This coincides with the 55 Ma age of the other mesothermal gold vein deposits in the Juneau Gold Belt (Goldfarb and others, 1997).

Alteration:

Hydrothermal alteration adjacent to the veins is characterized by reddish-brown ferroan dolomite alteration (Miller and others, 1995). Other alteration includes sericitization of plagioclase, chloritization and sulfidization of mafic minerals, and albitization of feldspars (Leveille, 1991).

Age of mineralization:

The age of mineralization in the Berners Bay district is about 55 Ma, the same as the other mesothermal gold-quartz-vein deposits in the Juneau Gold Belt (Goldfarb and others, 1997).

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: Active

Workings/exploration:

The deposit was discovered in 1897. Workings include 2 adits, several open cuts, a short raise and 360 feet of workings. The stockworks is cut by the Kensington tunnel. Placid Oil Co. drilled 2 surface core holes and 7 underground drill holes in 1981 and 1982 (Chris Croff, Placid Oil Co., oral commun. 1987). The prospect is within the Kensington (JU029) project area that is currently (2001) under control of Coeur Alaska.

Production notes:

Reserves:

The Eureka prospect has an inferred reserve of 300,000 tons of ore with 0.17 ounce of gold per ton (Redman and others, 1989).

Additional comments:

References:

Knopf, 1911; Redman and others, 1989; Levielle, 1991; Miller and others, 1995; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Northern Belle; Elmira; Yellowjacket; Boston; Troy

Site type: Mine

ARDF no.: JU032

Latitude: 58.8630 **Quadrangle:** JU D-4

Longitude: 135.0718

Location description and accuracy:

The Northern Belle Mine is at an elevation of about 2,500 feet, about 2.5 miles east-northeast of Pt. Sherman on Lynn Canal and 1 mile southwest of Lions Head Mountain in the Kakuhan Range. It is in the SE1/4 section 4, T. 35 S., R. 62 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Arsenopyrite, calaverite, chalcopyrite, galena, gold, hessite, petzite, pyrite, sphalerite, tetrahedrite

Gangue minerals: Albite, ankerite, apatite, calcite, chlorite, ferroan dolomite, muscovite, quartz, rutile, tourmaline

Geologic description:

The deposit at Northern Belle Mine consists of several quartz veins and associated vein stockworks. The deposit includes the Northern Belle, Elmira, and Yellowjacket deposits. The veins strike N 5-30 E and dip 55-70 SE. The Northern Belle stockworks is about 35 feet wide and has been traced along strike for 1,500 feet and vertically for 636 feet. The Elmira vein is less well defined than the Northern Belle, and may be the extension of the Yellowjacket vein. It can be traced intermittently for 1200 feet along a N 28 E strike, and is 1-5 feet thick (Kucinski and others, 1985). The Northern Belle deposit was discovered prior to 1896 and was mined between 1896 and 1897. There were 2 adits and 2 open stopes. The only open adit is 105 feet long. A total of 940 ounces of gold was recovered from 2,302 tons of ore. Reportedly, 78% of the gold in the deposit was free-milling (Redman and others, 1989). Placid Oil Co. explored the Northern Belle stockworks with surface and underground sampling in 1985 and tested the Elmira vein with 6 surface drill holes in 1984 and 1985 (Kucinski, 1985). The site is in the Kensington project area (see JU029), currently (2001) under control of Coeur Alaska.

The Northern Belle Mine is in the Berners Bay district at the north end of the Juneau Gold Belt. The district is characterized by a series of structurally-controlled, mesother-

mal, gold-bearing quartz veins. Most of the veins are in Early Cretaceous (105 Ma) Jualin Diorite, which intrudes Upper Triassic metabasalt. The Jualin Diorite is generally massive, jointed, blocky, quartz monzonite to quartz monzodiorite. Gold occurs in low-sulfide, quartz-carbonate veins that contain pyrite and tellurides; the veins are marked by distinctive ankeritic alteration zones. There are both extensional and shear veins that generally strike north to northwest and dip east. Discrete vein systems are defined by one or more through-going quartz veins, many of which are in shear zones. Levielle (1991) and Knopf (1911) describe other gangue minerals near vein margins including albite, chlorite, muscovite, and lesser tourmaline, rutile, and apatite. Hydrothermal alteration adjacent to the veins is characterized by reddish-brown ferroan dolomite (Miller and others, 1995). Other alteration includes sericitization of plagioclase, chloritization, sulfidization of mafic minerals, and albitization of feldspars (Leveille, 1991). Pyrite is the most abundant sulfide mineral, with lesser amounts of chalcopyrite, galena, sphalerite, arsenopyrite, and tetrahedrite. Gold occurs in the native state, in pyrite, and in various telluride minerals such as calaverite, hessite, and petzite (Leveille, 1991; Redman and others, 1989). The vein paragenesis consists of early quartz, carbonates, albite and pyrite, followed by deposition of base and precious metals. Gold, galena and the tellurides were the last to be deposited (Leveille, 1991). The age of hydrothermal muscovite from veins at Kensington Mine (JU029) varies from 53.4 Ma to 56.5 Ma (Miller and others, 1994). This coincides with the 55 Ma age of the other mesothermal gold vein deposits in the Juneau Gold Belt (Goldfarb and others, 1997).

Alteration:

Hydrothermal alteration adjacent to the veins is characterized by reddish-brown ferroan dolomite alteration (Miller and others, 1995). Other alteration includes sericitization of plagioclase, chloritization and sulfidization of mafic minerals, and albitization of feldspars (Leveille, 1991).

Age of mineralization:

The age of mineralization in the Berners Bay district is about 55 Ma, the same as the other mesothermal gold-quartz-vein deposits in the Juneau Gold Belt (Goldfarb and others, 1997).

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: Yes

Site Status: Active

Workings/exploration:

The Northern Belle deposit was discovered prior to 1896 and was mined between 1896 and 1897. There were 2 adits and 2 open stopes. The only open adit is 105 feet long.

Placid Oil Co. explored the Northern Belle stockworks with surface and underground sampling in 1985 and tested the Elmira vein with 6 surface drill holes in 1984 and 1985 (Kucinski, 1985). The site is in the Kensington project area (see JU029), currently (2001) under control of Coeur Alaska.

Production notes:

A total of 940 ounces of gold was recovered from 2,302 tons of ore. Reportedly, 78% of the gold in the deposit was free-milling (Redman and others, 1989).

Reserves:

Additional comments:

References:

Knopf, 1911; Kucinski and others, 1985; Redman and others, 1989; Levielle, 1991; Miller and others, 1995; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Gold King

Site type: Prospect

ARDF no.: JU033

Latitude: 58.8623 **Quadrangle:** JU D-4

Longitude: 135.0449

Location description and accuracy:

The Gold King prospect is on the northeast side of the head of Johnson Creek at an elevation of about 2,100 feet, about 1 mile south-southeast of Lions Head Mountain. It is in the SE1/4 section 3, T. 35 S., R. 62 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Ag, Au

Other: Cu

Ore minerals: Chalcopyrite, gold, pyrite

Gangue minerals: Ankerite, ferroan dolomite, quartz

Geologic description:

The Gold King prospect was discovered prior to 1903 and developed by a 64-foot adit with 20 feet of drifts, and 2 other adits, 30 feet and 122 feet long. The deposit is in Jualin Diorite and consists of a series of quartz veins ranging from a few inches to 2 feet thick. The veins strike SE and dip 75 NE. They contain 1% to 20% pyrite and minor chalcopyrite. U.S. Bureau of Mines samples contained up to 36.8 ppm gold and 18.0 ppm silver. A sample of altered diorite contained 2.5 ppm gold (Redman and others, 1989). Bear Creek Mining Co. and International Curator Resources Ltd. undertook a cursory investigation of the Gold King adit in 1984-1988 and collected 24 samples. One sample was from an exposure of pyrite-rich diorite 50 feet from the Gold King vein; it assayed 0.785 ounce of gold per ton (Barnett, 1989). The prospect is currently (2001) controlled by Coeur Alaska.

The Gold King prospect is in the Berners Bay district at the north end of the Juneau Gold Belt. The district is characterized by a series of structurally-controlled, mesothermal, gold-bearing quartz veins. Most of the veins are in Early Cretaceous (105 Ma) Jualin Diorite, which intrudes Upper Triassic metabasalt. The Jualin Diorite is generally massive, jointed, blocky, quartz monzonite to quartz monzodiorite. Gold occurs in low-sulfide, quartz-carbonate veins that contain pyrite and tellurides; the veins are marked by distinctive ankeritic alteration zones. There are both extensional and shear veins that gen-

erally strike north to northwest and dip east. Discrete vein systems are defined by one or more through-going quartz veins, many of which are in shear zones. Levielle (1991) and Knopf (1911) describe other gangue minerals near vein margins including albite, chlorite, muscovite, and lesser tourmaline, rutile, and apatite. Hydrothermal alteration adjacent to the veins is characterized by reddish-brown ferroan dolomite (Miller and others, 1995). Other alteration includes sericitization of plagioclase, chloritization, sulfidization of mafic minerals, and albitization of feldspars (Leveille, 1991). Pyrite is the most abundant sulfide mineral, with lesser amounts of chalcopyrite, galena, sphalerite, arsenopyrite, and tetrahedrite. Gold occurs in the native state, in pyrite, and in various telluride minerals such as calaverite, hessite, and petzite (Leveille, 1991; Redman and others, 1989). The vein paragenesis consists of early quartz, carbonates, albite and pyrite, followed by deposition of base and precious metals. Gold, galena and the tellurides were the last to be deposited (Leveille, 1991). The age of hydrothermal muscovite from veins at Kensington Mine (JU029) varies from 53.4 Ma to 56.5 Ma (Miller and others, 1994). This coincides with the 55 Ma age of the other mesothermal gold vein deposits in the Juneau Gold Belt (Goldfarb and others, 1997).

Alteration:

Hydrothermal alteration adjacent to the veins is characterized by reddish-brown ferroan dolomite alteration (Miller and others, 1995). Other alteration includes sericitization of plagioclase, chloritization and sulfidization of mafic minerals, and albitization of feldspars (Leveille, 1991).

Age of mineralization:

The age of mineralization in the Berners Bay district is about 55 Ma, the same as the other mesothermal gold-quartz-vein deposits in the Juneau Gold Belt (Goldfarb and others, 1997).

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: Active

Workings/exploration:

The Gold King deposit was discovered prior to 1903 and developed by a 64-foot adit with 20 feet of drifts, and 2 other adits, 30 feet and 122 feet long. Bear Creek Mining Co. and International Curator Resources Ltd. explored the area in 1984-1988. The prospect is currently (2001) controlled by Coeur Alaska.

Production notes:

Reserves:

Additional comments:

References:

Barnett, 1989; Redman and others, 1989; Leveille, 1991; Miller and others, 1995; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Bear

Site type: Mine

ARDF no.: JU034

Latitude: 58.8612 **Quadrangle:** JU D-4

Longitude: 135.0804

Location description and accuracy:

The Bear Mine is at an elevation of about 1,500 feet, about 2 miles east-northeast of Pt. Sherman on Lynn Canal and 1 mile southwest of Lions Head Mountain in the Kakuhan Range. It is in the SE1/4 section 4, T. 35 S., R. 62 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other: Ag, Cu, Pb, Zn

Ore minerals: Arsenopyrite, calaverite, chalcopyrite, galena, gold, hessite, petzite, pyrite, sphalerite, tetrahedrite

Gangue minerals: Albite, ankerite, apatite, calcite, chlorite, ferroan dolomite, muscovite, quartz, rutile, tourmaline

Geologic description:

The Bear Mine is a quartz vein in Jualin Diorite. It strikes NW and dips 40-70 NE. It has been traced for 500 feet along strike and 350 feet vertically, and has an average width of 5 to 10 feet (Chris Croff, Placid Oil Co., oral commun., 1987; Redman and others, 1989). Placid Oil Co. drilled 4 core holes in 1984. A second vein, possibly the Savage (JU028), crops out uphill from the Bear vein. It was explored by Placid Oil Co. in 1982 and 1984 by 5 drill holes (Chris Croff, Placid Oil Co., oral commun., 1987) The veins are under control of Coeur Alaska and are in the Kensington Project area (see JU029). The Bear deposit was discovered in 1887 and was mined from 1895 to 1897. Workings include an 1,100-foot crosscut, a 200-foot raise, and 3 levels with 850 feet of drifts. A total of 800 ounces of gold was recovered from 5,900 tons of ore (Redman and others, 1989).

The Bear mine is in the Berners Bay district at the north end of the Juneau Gold Belt. The district is characterized by a series of structurally-controlled, mesothermal, gold-bearing quartz veins. Most of the veins are in Early Cretaceous (105 Ma) Jualin Diorite, which intrudes Upper Triassic metabasalt. The Jualin Diorite is generally massive, jointed, blocky, quartz monzonite to quartz monzodiorite. Gold occurs in low-sulfide, quartz-carbonate veins that contain pyrite and tellurides; the veins are marked by distinc-

tive ankeritic alteration zones. There are both extensional and shear veins that generally strike north to northwest and dip east. Discrete vein systems are defined by one or more through-going quartz veins, many of which are in shear zones. Levielle (1991) and Knopf (1911) describe other gangue minerals near vein margins including albite, chlorite, muscovite, and lesser tourmaline, rutile, and apatite. Hydrothermal alteration adjacent to the veins is characterized by reddish-brown ferroan dolomite (Miller and others, 1995). Other alteration includes sericitization of plagioclase, chloritization, sulfidization of mafic minerals, and albitization of feldspars (Leveille, 1991). Pyrite is the most abundant sulfide mineral, with lesser amounts of chalcopyrite, galena, sphalerite, arsenopyrite, and tetrahedrite. Gold occurs in the native state, in pyrite, and in various telluride minerals such as calaverite, hessite, and petzite (Leveille, 1991; Redman and others, 1989). The vein paragenesis consists of early quartz, carbonates, albite and pyrite, followed by deposition of base and precious metals. Gold, galena and the tellurides were the last to be deposited (Leveille, 1991). The age of hydrothermal muscovite from veins at Kensington Mine (JU029) varies from 53.4 Ma to 56.5 Ma (Miller and others, 1994). This coincides with the 55 Ma age of the other mesothermal gold vein deposits in the Juneau Gold Belt (Goldfarb and others, 1997).

Alteration:

Hydrothermal alteration adjacent to the veins is characterized by reddish-brown ferroan dolomite alteration (Miller and others, 1995). Other alteration includes sericitization of plagioclase, chloritization and sulfidization of mafic minerals, and albitization of feldspars (Leveille, 1991).

Age of mineralization:

The age of mineralization in the Berners Bay district is about 55 Ma, the same as the other mesothermal gold-quartz-vein deposits in the Juneau Gold Belt (Goldfarb and others, 1997).

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: Yes

Site Status: Active

Workings/exploration:

The Bear deposit was discovered in 1887 and was mined from 1895 to 1897. Workings include an 1,100-foot crosscut, a 200-foot raise, and 3 levels with 850 feet of drifts. Placid Oil Co. drilled 4 core holes in 1984. A second vein, possibly the Savage (JU028), crops out uphill from the Bear vein. It was explored by Placid Oil Co. in 1982 and 1984 by 5 drill holes (Chris Croff, Placid Oil Co., oral commun., 1987) The veins are under control of Coeur Alaska and are in the Kensington Project area (see JU029).

Production notes:

From 1895 to 1897, 800 ounces of gold were recovered from 5,900 tons of ore (Redman and others, 1989).

Reserves:

Additional comments:

References:

Knopf, 1911; Kucinski and others, 1985; Redman and others, 1989; Levielle, 1991; Miller and others, 1995; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Greek Boy; Rusty Lode

Site type: Prospect

ARDF no.: JU035

Latitude: 58.8584 **Quadrangle:** JU D-3

Longitude: 134.9995

Location description and accuracy:

The Greek Boy prospect is at an elevation of 200 feet, about 4 miles north of the mouth of the Berners River where it empties into Berners Bay, 2 miles northeast of the Jualin mine (JU044), and 4 miles due east of the Kensington mine (JU029). It is in the SE1/4 section 1, T. 35 S., R. 62 E. of the Copper River Meridian. The location is accurate. There are several open cuts 1 mile north-northwest of the Greek Boy that have been considered part of the Greek Boy prospect (Redman and others, 1989), but due to the large distance from the main workings they are described separately (ARDF JU023).

Commodities:

Main: Ag, Au, Cu

Other:

Ore minerals: Gold, pyrite

Gangue minerals: Quartz

Geologic description:

The Greek Boy deposit was discovered prior to 1889 and developed by 3 adits and a winze totaling 1,287 feet (Redman and others, 1989). Roehm (1938 [PE 112-14]) describes the deposit as a more or less continuous stringer lode in a narrow schist band 8 to 20 feet wide that is along the contact of quartz diorite gneiss and metabasalt. The contact varies in strike from N 26-40 W and dips slightly off vertical to the southwest; it can be traced across the entire length of the claims. Roehm (1938 [PE 112-14]) reports gold values up to 4.1 ppm over 6 feet. U.S. Bureau of Mines samples contain up to 0.4 ppm gold (Redman and others, 1989). Roehm calculated a resource of 100,400 tons of ore that contain 0.05 ounce of gold per ton for the Greek Boy deposit.

The Greek Boy prospect is in the Berners Bay district at the north end of the Juneau Gold Belt. The district is characterized by a series of structurally-controlled, mesothermal gold-bearing quartz veins. Most of the veins are in Early Cretaceous (105 Ma) Jualin Diorite, which intrudes Mesozoic (Upper Triassic) metabasalt. The age of mineralization in the Berners Bay district is about 55 Ma, the same as the other mesothermal gold vein deposits in the Juneau Gold Belt (Goldfarb and others, 1997).

Alteration:

Age of mineralization:
The age of mineralization in the Berners Bay district is about 55 Ma, the same as the other mesothermal gold-quartz-vein deposits in the Juneau Gold Belt (Goldfarb and others, 1997).

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: Inactive

Workings/exploration:
The Greek Boy deposit was discovered prior to 1889 and developed by 3 adits and a winze totaling 1,287 feet (Redman and others, 1989).

Production notes:

Reserves:
Roehm (1938 [PE 112-14]) calculated a resource for the Greek Boy prospect of 100,400 tons of ore that contain 0.05 ounce of gold per ton.

Additional comments:

References:
Roehm, 1938 (PE 112-14); Redman and others, 1989; Miller and others, 1995; Goldfarb and others, 1997.

Primary reference: Roehm, 1938 (PE 112-14)

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Comet

Site type: Mine

ARDF no.: JU036

Latitude: 58.8552 **Quadrangle:** JU D-4

Longitude: 135.0723

Location description and accuracy:

The Comet Mine is at an elevation of about 2,300 feet, about 3 miles east of Pt. Sherman on Lynn Canal and 1.5 miles south-southwest of Lions Head Mountain in the Kakuhan Range. The mine is marked on the Juneau D-4 topographic map. It is in the NE1/4 section 9, T. 35 S., R. 62 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other: Ag, Cu, Pb, Zn

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

Gangue minerals: Calcite, chlorite, ferroan dolomite, quartz

Geologic description:

The deposit at the Comet Mine consists of 2 principal quartz veins about 50 ft apart that strike north and dip 70 E. The largest vein is 300-500 ft long; it averages 2 to 3 feet wide at the surface and up to 9 feet thick in underground exposures. The vein is truncated to the north by a large, left-lateral fault; to the south it crosses a diorite-phyllite contact, where it splits and ends. The veins carry pyrite, chalcopyrite, galena and free gold (Redman and others, 1989).

The Comet Mine is the largest gold producer in the Berners Bay region producing 22,485 ounces of gold from 51,463 tons of ore between 1894 and 1900. The deposit was discovered in the 1880's and tunneling began in 1891. A 20-stamp mill was in place by 1892 and production began in 1894. The mine has 9,000 feet of workings on 9 levels, 5 adits, and 1 open stope. Placid Oil Co. drilled 2 core holes in 1981 (Kucinski and others, 1985). The property is currently (2001) controlled by Coeur Alaska.

The Comet mine is in the Berners Bay district at the north end of the Juneau Gold Belt. The district is characterized by a series of structurally-controlled, mesothermal, gold-bearing quartz veins. Most of the veins are in Early Cretaceous (105 Ma) Jualin Diorite, which intrudes Upper Triassic metabasalt. The Jualin Diorite is generally massive, jointed, blocky, quartz monzonite to quartz monzodiorite. Gold occurs in low-sulfide,

quartz-carbonate veins that contain pyrite and tellurides; the veins are marked by distinctive ankeritic alteration zones. There are both extensional and shear veins that generally strike north to northwest and dip east. Discrete vein systems are defined by one or more through-going quartz veins, many of which are in shear zones. Levielle (1991) and Knopf (1911) describe other gangue minerals near vein margins including albite, chlorite, muscovite, and lesser tourmaline, rutile, and apatite. Hydrothermal alteration adjacent to the veins is characterized by reddish-brown ferroan dolomite (Miller and others, 1995). Other alteration includes sericitization of plagioclase, chloritization, sulfidization of mafic minerals, and albitization of feldspars (Leveille, 1991). Pyrite is the most abundant sulfide mineral, with lesser amounts of chalcopyrite, galena, sphalerite, arsenopyrite, and tetrahedrite. Gold occurs in the native state, in pyrite, and in various telluride minerals such as calaverite, hessite, and petzite (Leveille, 1991; Redman and others, 1989). The vein paragenesis consists of early quartz, carbonates, albite and pyrite, followed by deposition of base and precious metals. Gold, galena and the tellurides were the last to be deposited (Leveille, 1991). The age of hydrothermal muscovite from veins at Kensington Mine (JU029) varies from 53.4 Ma to 56.5 Ma (Miller and others, 1994). This coincides with the 55 Ma age of the other mesothermal gold vein deposits in the Juneau Gold Belt (Goldfarb and others, 1997).

Alteration:

Hydrothermal alteration adjacent to the veins is characterized by reddish-brown ferroan dolomite alteration (Miller and others, 1995). Other alteration includes sericitization of plagioclase, chloritization and sulfidization of mafic minerals, and albitization of feldspars (Leveille, 1991).

Age of mineralization:

The age of mineralization in the Berners Bay district is about 55 Ma, the same as the other mesothermal gold-quartz-vein deposits in the Juneau Gold Belt (Goldfarb and others, 1997).

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: Yes; small

Site Status: Inactive

Workings/exploration:

The Comet deposit was discovered in the 1880's and tunneling began in 1891. A 20-stamp mill was in place by 1892 and production began in 1894. The mine has 9,000 feet of workings on 9 levels, 5 adits and 1 open stope. Placid Oil Co. drilled several core holes in 1981. The property is currently (2001) controlled by Coeur Alaska.

Production notes:

The Comet Mine is the largest gold producer in the Berners Bay region producing 22,485 ounces of gold from 51,463 tons of ore between 1894 and 1900. The deposit was discovered in the 1880's and tunneling began in 1891. A 20-stamp mill was in place by 1892 and production began in 1894.

Reserves:

Additional comments:

References:

Knopf, 1911; Kucinski and others, 1985; Redman and others, 1989; Levielle, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Seward; Thomas

Site type: Prospect

ARDF no.: JU037

Latitude: 58.8536 **Quadrangle:** JU D-4

Longitude: 135.0664

Location description and accuracy:

The Seward prospect is at an elevation of about 2,600 feet, about 3 miles east of Pt. Sherman on Lynn Canal and 1.5 miles south-southwest of Lions Head Mountain in the Kakuhan Range. It is in the saddle above the Comet mine (JU036), in the NW1/4 section 10, T. 35 S., R. 62 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Gold, pyrite

Gangue minerals: Quartz

Geologic description:

The Seward prospect consists of a quartz vein in Jualin diorite. It is 5- to 12-feet-thick, strikes N, dips E, and has been traced on the surface for approximately 1,100 feet. Early samples (before 1906), assayed up to 24 ppm gold (Redman and others, 1989). The quartz contains free gold, but little or no sulfides (Kensington Mines, 1914). Workings include a 63-foot shaft with a 15-foot drift at the bottom, and 2 open cuts. The shaft and open cuts were completed during the 1890's. Placid Oil Co. drilled 3 core holes on the prospect in 1983; core samples assayed up to 0.7 ounce of gold per ton (Chris Croff, oral communication, 1987). The prospect is currently (2001) under control by Coeur Alaska.

The Seward prospect is in the Berners Bay district at the north end of the Juneau Gold Belt. The district is characterized by a series of structurally-controlled, mesothermal, gold-bearing quartz veins. Most of the veins are in Early Cretaceous (105 Ma) Jualin Diorite, which intrudes Upper Triassic metabasalt. The Jualin Diorite is generally massive, jointed, blocky, quartz monzonite to quartz monzodiorite. Gold occurs in low-sulfide, quartz-carbonate veins that contain pyrite and tellurides; the veins are marked by distinctive ankeritic alteration zones. There are both extensional and shear veins that generally strike north to northwest and dip east. Discrete vein systems are defined by one or more through-going quartz veins, many of which are in shear zones. Levielle (1991) and Knopf (1911) describe other gangue minerals near vein margins including albite, chlorite,

muscovite, and lesser tourmaline, rutile, and apatite. Hydrothermal alteration adjacent to the veins is characterized by reddish-brown ferroan dolomite (Miller and others, 1995). Other alteration includes sericitization of plagioclase, chloritization, sulfidization of mafic minerals, and albitization of feldspars (Leveille, 1991). Pyrite is the most abundant sulfide mineral, with lesser amounts of chalcopyrite, galena, sphalerite, arsenopyrite, and tetrahedrite. Gold occurs in the native state, in pyrite, and in various telluride minerals such as calaverite, hessite, and petzite (Leveille, 1991; Redman and others, 1989). The vein paragenesis consists of early quartz, carbonates, albite and pyrite, followed by deposition of base and precious metals. Gold, galena and the tellurides were the last to be deposited (Leveille, 1991). The age of hydrothermal muscovite from veins at Kensington Mine (JU029) varies from 53.4 Ma to 56.5 Ma (Miller and others, 1994). This coincides with the 55 Ma age of the other mesothermal gold vein deposits in the Juneau Gold Belt (Goldfarb and others, 1997).

Alteration:

Hydrothermal alteration adjacent to the veins is characterized by reddish-brown ferroan dolomite alteration (Miller and others, 1995). Other alteration includes sericitization of plagioclase, chloritization and sulfidization of mafic minerals, and albitization of feldspars (Leveille, 1991).

Age of mineralization:

The age of mineralization in the Berners Bay district is about 55 Ma, the same as the other mesothermal gold-quartz-vein deposits in the Juneau Gold Belt (Goldfarb and others, 1997).

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: Active

Workings/exploration:

Workings completed during the 1890's include a 63-foot shaft with a 15-foot drift at the bottom, and 2 open cuts. Placid Oil Co. drilled 3 core holes on the prospect in 1983; core samples assayed up to 0.7 ounce of gold per ton (Chris Croff, oral commun., 1987). The prospect is currently (2001) under control of Coeur Alaska.

Production notes:

Reserves:

Additional comments:

References:

Kensington Mines, 1914; Redman and others, 1989; Levielle, 1991; Miller and others, 1995; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Sweeny; Comet City

Site type: Prospect

ARDF no.: JU038

Latitude: 58.8541 **Quadrangle:** JU D-4

Longitude: 135.1276

Location description and accuracy:

The Sweeny prospect is at an elevation of about 350 feet, about 1 mile east of Pt. Sherman on Lynn Canal and 3 miles southwest of Lions Head Mountain in the Kakuhan Range. It is in the Sherman Creek drainage in the NE1/4 section 7, T. 35 S., R. 62 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other: Pb

Ore minerals: Pyrrhotite

Gangue minerals: Quartz

Geologic description:

The Sweeny prospect, originally called the Comet City mine, was developed in 1904 by T.H. Jarmey, who completed 2 adits,estimated to be 20 feet and 100 feet long, by 1905. The deposit is in black phyllite and consists of several thin concordant, discontinuous quartz veins that carry minor amounts of pyrrhotite. U.S. Bureau of Mines samples contained elevated lead values but no gold (Redman and others, 1989).

The Sweeny prospect is in the Berners Bay district at the north end of the Juneau Gold Belt. The district is characterized by a series of structurally-controlled, mesothermal, gold-bearing quartz veins. Most of the veins are in Early Cretaceous (105 Ma) Jualin Diorite, which intrudes Mesozoic (Upper Triassic) metabasalt (Miller and others, 1995). The age of mineralization in the Berners Bay district is about 55 Ma, the same as the other mesothermal gold vein deposits in the Juneau Gold Belt (Goldfarb and others, 1997).

Alteration:

Age of mineralization:

The age of mineralization in the Berners Bay district is about 55 Ma, the same as the other mesothermal gold-quartz-vein deposits in the Juneau Gold Belt (Goldfarb and oth-

ers, 1997).

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: Active

Workings/exploration:
The Sweeny prospect, originally called the Comet City mine, was developed in 1904 by T.H. Jarmey, who completed 2 adits, estimated to be 20 feet and 100 feet long, by 1905. This prospect is currently (2001) under control of Coeur Alaska.

Production notes:

Reserves:

Additional comments:

References:
Redman and others, 1989; Miller and others, 1995; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Cumberland

Site type: Prospect

ARDF no.: JU039

Latitude: 58.8493 **Quadrangle:** JU D-4

Longitude: 135.0722

Location description and accuracy:

The Cumberland prospect is at an elevation of about 2,250 feet, about 3 miles east of Pt. Sherman on Lynn Canal and 2 miles south-southwest of Lions Head Mountain in the Kakuhan Range. It is at the head of Sherman Creek in the E1/2 section 9, T. 35 S., R. 62 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Gold, pyrite

Gangue minerals: Quartz

Geologic description:

The Cumberland prospect was probably developed before 1909. Workings include a 54-foot adit and an open cut. The adit exposes gray phyllite and felsic phyllite. Thin quartz veins containing minor pyrite occur near the portal and in a small shear near the face of the adit. Although native gold in quartz veins has been identified in dump samples by other workers in the area, U.S. Bureau of Mines samples all contained less than 0.1 ppm gold (Redman and others, 1989).

The Cumberland prospect is in the Berners Bay district at the north end of the Juneau Gold Belt. The district is characterized by a series of structurally-controlled, mesothermal, gold-bearing quartz veins. Most of the veins are in Early Cretaceous (105 Ma) Jualin Diorite, which intrudes Mesozoic (Upper Triassic) metabasalt (Miller and others, 1995). The age of mineralization in the Berners Bay district is about 55 Ma, the same as the other mesothermal gold vein deposits in the Juneau Gold Belt (Goldfarb and others, 1997).

Alteration:

Age of mineralization:

The age of mineralization in the Berners Bay district is about 55 Ma, the same as the

other mesothermal gold-quartz-vein deposits in the Juneau Gold Belt (Goldfarb and others, 1997).

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: Active

Workings/exploration:
The Cumberland prospect was probably developed before 1909. There is a 54-foot adit and an open cut. This prospect is currently (2001) under control of Coeur Alaska.

Production notes:

Reserves:

Additional comments:

References:
Redman and others, 1989; Miller and others, 1995; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): DZ

Site type: Prospect

ARDF no.: JU040

Latitude: 58.8491 **Quadrangle:** JU D-4

Longitude: 135.0291

Location description and accuracy:

The prospect is at an elevation of about 2,350 feet, on the ridge northeast of upper Johnson Creek. It is about 2 miles south-southeast of Lions Head Mountain near the center of section 11, T. 35 S., R. 62 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other: Ag, Cu, Pb, Zn

Ore minerals: Pyrite

Gangue minerals: Calcite, chlorite, ferroan dolomite, quartz

Geologic description:

In 1984, Bear Creek Mining Company delineated a N 40 W-trending, 300- to 800-foot-wide band of quartz veins with disseminationed pyrite. The veins carry elevated gold values, accompanied by wallrock alteration similar in style to that at the Jualin Mine (JU044) and Kensington Mine (JU029)(Barnett, 1989). The veins are traceable for over 7,000 feet. Bear Creek collected 140 vein samples of which nearly 20% assayed 0.05 ounce or more of gold per ton, the highest was 1.205 ounces of gold per ton. In 1987 and 1988 additional mapping and sampling was conducted by International Curator Resources, Ltd. (Barnett, 1989).

The DZ prospect is in the Berners Bay district at the north end of the Juneau Gold Belt. The district is characterized by a series of structurally-controlled, mesothermal, gold-bearing quartz veins. Most of the veins are in Early Cretaceous (105 Ma) Jualin Diorite, which intrudes Upper Triassic metabasalt. The Jualin Diorite is generally massive, jointed, blocky, quartz monzonite to quartz monzodiorite. Gold occurs in low-sulfide, quartz-carbonate veins that contain pyrite and tellurides; the veins are marked by distinctive ankeritic alteration zones. There are both extensional and shear veins that generally strike north to northwest and dip east. Discrete vein systems are defined by one or more through-going quartz veins, many of which are in shear zones. Levielle (1991) and Knopf (1911) describe other gangue minerals near vein margins including albite, chlorite, muscovite, and lesser tourmaline, rutile, and apatite. Hydrothermal alteration adjacent to the

veins is characterized by reddish-brown ferroan dolomite (Miller and others, 1995). Other alteration includes sericitization of plagioclase, chloritization, sulfidization of mafic minerals, and albitization of feldspars (Leveille, 1991). Pyrite is the most abundant sulfide mineral, with lesser amounts of chalcopyrite, galena, sphalerite, arsenopyrite, and tetrahedrite. Gold occurs in the native state, in pyrite, and in various telluride minerals such as calaverite, hessite, and petzite (Leveille, 1991; Redman and others, 1989). The vein paragenesis consists of early quartz, carbonates, albite and pyrite, followed by deposition of base and precious metals. Gold, galena and the tellurides were the last to be deposited (Leveille, 1991). The age of hydrothermal muscovite from veins at Kensington Mine (JU029) varies from 53.4 Ma to 56.5 Ma (Miller and others, 1994). This coincides with the 55 Ma age of the other mesothermal gold vein deposits in the Juneau Gold Belt (Goldfarb and others, 1997).

Alteration:

The alteration adjacent to the veins is characterized by reddish-brown ferroan dolomite alteration, sericitization of plagioclase, chloritization and sulfidization of mafic minerals, and albitization of feldspars (Leveille, 1991).

Age of mineralization:

The age of mineralization in the Berners Bay district is about 55 Ma, the same as the other mesothermal gold-quartz-vein deposits in the Juneau Gold Belt (Goldfarb and others, 1997).

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: Active

Workings/exploration:

The DZ deposit was discovered and sampled by Bear Creek Mining Company in 1984. International Curator Resources and Placer Dome U.S. conducted additional mapping and sampling in 1987 and 1988. Currently (2001) held by Coeur Alaska.

Production notes:

Reserves:

Additional comments:

References:

Barnett, 1989; Leveille, 1991; Miller and others, 1995; Goldfarb and others, 1997.

Primary reference: Barnett, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Indiana

Site type: Prospect

ARDF no.: JU041

Latitude: 58.8476 **Quadrangle:** JU D-4

Longitude: 135.0494

Location description and accuracy:

The Indiana prospect is on the west side of upper Johnson Creek at an elevation of approximately 800 feet. It is 1/3 mile north of the Jualin Mine (JU044), 2 miles south of Lions Head Mountain, and 4.5 miles north of Berners Bay. It is in the SE1/4 section 10, T. 35 S., R. 62 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals:

Gangue minerals: Quartz

Geologic description:

The Indiana prospect was worked from 1896 to 1901 and was developed to intersect the northern extension of the Jualin (JU044) vein system. But, the Jualin system deflects from northerly to northwesterly and the Indiana tunnels failed to reach it. The workings consists of a 1600-foot adit, a 900-foot adit, and a 400-foot adit. A 10-stamp mill was also installed but not used at this site (Redman and others, 1989). The workings reportedly intersected auriferous quartz veins and stockworks, but no production occurred (Poncin, 1940). The prospect is currently (2001) under control of Coeur Alaska.

This prospect is in the Berners Bay district at the north end of the Juneau Gold Belt. The district is characterized by a series of structurally-controlled, mesothermal, gold-bearing quartz veins. Most of the veins are in Early Cretaceous (105 Ma) Jualin Diorite, which intrudes Mesozoic (Upper Triassic) metabasalt. The Jualin Diorite is largely massive, jointed, and blocky quartz monzonite to quartz monzodiorite. Gold occurs in low-sulfide, quartz-carbonate veins that contain pyrite and tellurides, marked by distinctive ankeritic alteration zones. There are both extensional and shear veins that generally strike north to northwest and dip east. Age data from hydrothermal muscovite from veins at the Jualin mine range from 53.2 Ma to 55.5 Ma (Miller and others, 1994). This coincides with the 55 Ma age of the other mesothermal gold vein deposits in the Juneau Gold Belt (Goldfarb and others, 1997).

Alteration:

Age of mineralization:
The age of mineralization in the Berners Bay district is about 55 Ma, the same as the other mesothermal gold-quartz-vein deposits in the Juneau Gold Belt (Goldfarb and others, 1997).

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: Inactive

Workings/exploration:
The workings consist of a 1600-foot adit, a 900-foot adit, and a 400-foot adit. A 10-stamp mill was installed (Redman and others, 1989). The prospect is currently (2001) under control of Coeur Alaska.

Production notes:

Reserves:

Additional comments:

References:
Poncin, 1940; Redman and others, 1989; Miller and others, 1995; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

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

Site type: Occurrence

ARDF no.: JU042

Latitude: 58.8437 **Quadrangle:** JU D-6

Longitude: 135.6763

Location description and accuracy:
This occurrence is at an elevation of about 3,150 feet, approximately 1 mile north of Endicott Lake and 1 mile northeast of Endicott Gap, in the SW1/4 section 12, T. 35 S., R. 58 E. of the Copper River Meridian. This is location J022 of Wells and others (1986). The location is accurate within 1/4 mile.

Commodities:

Main: Cu

Other:

Ore minerals: Bornite, secondary Cu minerals

Gangue minerals:

Geologic description:
The area consists of deformed and metamorphosed Silurian or Devonian carbonate, clastic and volcanic clastic rocks that have been intruded by Upper Jurassic and Lower Cretaceous granitic and dioritic rocks (Brew and others, 1992). Cobb (1978 [78-374]) reports veinlets of bornite, secondary Cu minerals, and epidote associated with siliceous volcanic rocks.

Alteration:
Oxidation of copper minerals.

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:

MacKevett and others, 1971; Brew and others, 1978; Cobb, 1978 (OFR 78-374); Wells and others, 1986; Brew and others, 1992.

Primary reference: MacKevett and others, 1971

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Hodson

Site type: Occurrence

ARDF no.: JU043

Latitude: 58.8406 **Quadrangle:** JU D-5

Longitude: 135.4527

Location description and accuracy:

This occurrence is at an elevation of about 750 feet, approximately 4.5 miles southeast of Mt. Young, on a north tributary of the Endicott River. It is in the NW1/4 section 17, T. 35 S., R. 60 E. of the Copper River Meridian. The location is accurate within 1 mile.

Commodities:

Main: Cu

Other:

Ore minerals:

Gangue minerals:

Geologic description:

The regional geology consists of deformed and metamorphosed Silurian or Devonian carbonate, clastic and volcanic clastic rocks that have been intruded by Upper Jurassic and Lower Cretaceous granitic and dioritic rocks (Brew and others, 1992). Brew and Ford (1985) describe the rocks in the vicinity of this occurrence as predominantly Devonian and Silurian greenstone, greenschist, limestone and graywacke intruded by Cretaceous biotite-hornblende granodiorite.

Jim Burnett, a prospector, reported that he sampled a 12-foot vein or zone of copper in the area that assayed 14% copper (Williams, 1953). Williams failed to locate the occurrence. Wells and others (1986) report a copper vein in this vicinity and assert that claims were active in 1900.

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:

Williams, 1953; Brew and others, 1978; Brew and Ford, 1985; Wells and others, 1986; Brew and others, 1992.

Primary reference: Williams, 1953

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Jualin

Site type: Mine

ARDF no.: JU044

Latitude: 58.8414 **Quadrangle:** JU D-4

Longitude: 135.0446

Location description and accuracy:

The Jualin Mine is in the Johnson Creek drainage at an elevation of approximately 700 feet, about 2.5 miles south of Lions Head Mountain and 4 miles north of Berners Bay. The mine is marked on the Juneau D-4 topographic map. It is in the NE1/4 section 15, T. 35 S., R. 62 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other: Cu, Pb, Zn

Ore minerals: Arsenopyrite, calaverite, chalcopyrite, galena, gold, hessite, petzite, pyrite, sphalerite, tetrahedrite

Gangue minerals: Albite, ankerite, apatite, calcite, chlorite, ferroan dolomite, muscovite, quartz, rutile, tourmaline

Geologic description:

The Jualin Mine is in Jualin Diorite in a shear zone 400 to 600 feet wide; the shear zone has a strike length of nearly 15,000 feet, and extends from the Jualin Mine area to the Ophir prospect (JU026). The veins in the shear zone generally strike N 35 W and dip 50-75 NE. The ore zones pinch and swell along strike to as much as 40 feet thick. The orebodes in the Jualin deposit consist of ore shoots that exhibit a strong southeast rake (Barnett and others, 1989). Noteworthy veins at the Jualin deposit include the Empire vein, East vein, number 1, 2, 3, 3E and 4 veins, Production was from relatively high grade individual veins. The number 1 vein averages 7 feet thick and varies from 0.53 to 0.73 ounce of gold per ton gold; the number 2 vein averages 3 feet thick and contains from 0.73 to 0.12 ounce of gold per ton; and the number 3 vein averages 5 feet thick with an average grade of 0.48 ounce of gold per ton (Redman and others, 1989). The Berners Bay district features two general types of veins (Miller et al., 1995): network (stockwork) veins which generally contain 0.1 to 0.25 ounce of gold per ton, as at Kensington mine (JU029); and individual veins that contain 0.5 ounce or more of gold per ton; as at the Jualin mine. Historically, the gold has been produced from the individual veins. The current (2001) reserves of the Jualin mine are 1,069,400 tons of ore with an average grade of

0.349 ounce of gold per ton (Woollett, 1990).

The Jualin Mine is in the Berners Bay district at the north end of the Juneau Gold Belt. The district is characterized by a series of structurally-controlled, mesothermal, gold-bearing quartz veins. Most of the veins are in Early Cretaceous (105 Ma) Jualin Diorite, which intrudes Upper Triassic metabasalt. The Jualin Diorite is generally massive, jointed, blocky, quartz monzonite to quartz monzodiorite. Gold occurs in low-sulfide, quartz-carbonate veins that contain pyrite and tellurides; the veins are marked by distinctive ankeritic alteration zones. There are both extensional and shear veins that generally strike north to northwest and dip east. Discrete vein systems are defined by one or more through-going quartz veins, many of which are in shear zones. Levielle (1991) and Knopf (1911) describe other gangue minerals near vein margins including albite, chlorite, muscovite, and lesser tourmaline, rutile, and apatite. Hydrothermal alteration adjacent to the veins is characterized by reddish-brown ferroan dolomite (Miller and others, 1995). Other alteration includes sericitization of plagioclase, chloritization, sulfidization of mafic minerals, and albitization of feldspars (Leveille, 1991). Pyrite is the most abundant sulfide mineral, with lesser amounts of chalcopyrite, galena, sphalerite, arsenopyrite, and tetrahedrite. Gold occurs in the native state, in pyrite, and in various telluride minerals such as calaverite, hessite, and petzite (Leveille, 1991; Redman and others, 1989). The vein paragenesis consists of early quartz, carbonates, albite and pyrite, followed by deposition of base and precious metals. Gold, galena and the tellurides were the last to be deposited (Leveille, 1991). The age of hydrothermal muscovite from veins at Kensington Mine (JU029) varies from 53.4 Ma to 56.5 Ma (Miller and others, 1994). This coincides with the 55 Ma age of the other mesothermal gold vein deposits in the Juneau Gold Belt (Goldfarb and others, 1997).

Alteration:

Hydrothermal alteration adjacent to individual veins is characterized by reddish-brown ferroan dolomite alteration (Miller and others, 1995). Other alteration includes sericitization of plagioclase, chloritization and sulfidization of mafic minerals, and albitization of feldspars (Leveille, 1991). The quartz carbonate stockworks in the Jualin vein system feature three zones of alteration within and adjacent to the stockworks: 1) an inner zone of intense carbonate-sericite alteration; 2) an intermediate zone of mottled, dark-green diorite marked by cataclastic fabric and increased chlorite +/- sericite; and 3) an outer zone of equigranular diorite with abundant epidote, and locally, potassium feldspar (Barnett and others, 1989).

Age of mineralization:

Hydrothermal muscovite from veins in the Jualin Mine gives ages of from 53.2 Ma to 55.5 Ma (Miller and others, 1994). This coincides with the 55 Ma age of the mesothermal gold-quartz-vein deposits in the rest of the Juneau Gold Belt (Goldfarb and others, 1997).

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: Yes

Site Status: Active

Workings/exploration:

Workings at the Jualin Mine include over 15,000 feet of workings on 5 levels; two inclined shafts, one 220 deep and the other 160 feet deep; a 310-foot main shaft; a 150-foot shaft; and the 5, 000-foot Berners Tunnel (Redman and others, 1989). A 5.5-mile access road was completed from tidewater to the mine site in July, 1988 (Barnett, 1989). Core drilling as of the end of 1991 totaled 82,337 feet in 126 holes (Bundtzen and others, 1991). Coeur Alaska acquired the rights to the Jualin Mine area from International Curator Resources Ltd. in 1995 (Swainbank and others, 1995).

Production notes:

The Jualin deposit was discovered in 1895 and the mine commenced production in 1896 when a 10-stamp mill was in operation. In 1914, the first semi-diesel generators in Alaska were installed. Between 1895 and 1929 the mine produced 37,913 ounces of gold from 74,624 tons of ore. Milling recovered 85-90% of the gold; 85% of the gold was free-milling and the remaining 15% was combined with sulfides (Redman and others, 1989).

Reserves:

Current (2001) reserves are 1,069,400 tons of ore that averages 0.349 ounce of gold per ton (Woolett, 1990).

Additional comments:

References:

Knopf, 1911; Cheney, 1981; Kucinski and others, 1985; Barnett, 1989; Barnett and others, 1989; Redman and others, 1989; Woollett, 1990; Bundtzen and others, 1991; Levielle, 1991; Miller and others, 1994; Miller and others, 1995; Swainbank and others, 1995; Goldfarb and others, 1997.

Primary reference: Barnett and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Snowslide Gulch

Site type: Prospect

ARDF no.: JU045

Latitude: 58.8380 **Quadrangle:** JU D-4

Longitude: 135.0488

Location description and accuracy:

This prospect is in Snowslide Gulch at an elevation of 915 feet. It is 2.5 miles northwest of Berners Bay and 1/3 mile south of the Jualin Mine (JU044) in the NE1/4 section 15, T. 35 S., R. 62 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Pyrite

Gangue minerals: Quartz

Geologic description:

The Snowslide Gulch prospect was probably explored in the early 1900's by a 115-foot adit. The deposit consists of pyrite disseminated in quartz-chlorite phyllite, and of pyrite in a bluish quartz vein. The vein is in a shear zone in the phyllite. No significant metal values were obtained from U.S. Bureau of Mines samples (Redman and others, 1989).

The Snowslide prospect is in the Jualin Mine (see JU044) area currently (2001) controlled by Coeur Alaska. It is in the Berners Bay district at the north end of the Juneau Gold Belt. The district is characterized by a series of structurally-controlled, mesothermal, gold-bearing quartz veins. Most of the veins are in Early Cretaceous (105 Ma) Jualin Diorite, which intrudes Mesozoic (Upper Triassic) metabasalt. The veins are both extensional and shear and generally strike north to northwest and dip east. Discrete vein systems are defined by one or more through-going quartz veins, many of which are in shear zones (Miller and others, 1995). Hydrothermal muscovite from veins at the Jualin mine are 53.2 Ma to 55.5 Ma (Miller and others, 1994). This coincides with the 55 Ma age of the other mesothermal gold veins in the Juneau Gold Belt (Goldfarb and others, 1997).

Alteration:

Sericitic and chloritic.

Age of mineralization:
Hydrothermal muscovite from veins in the Jualin mine are 53.2 Ma to 55.5 Ma (Miller and others, 1994). This coincides with the 55 Ma age of the other mesothermal gold veins in the Juneau Gold Belt (Goldfarb and others, 1997).

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: Active

Workings/exploration:
The Snowslide Gulch prospect was probably explored in the early 1900's by a 115-foot adit. The prospect is currently (2001) controlled by Coeur Alaska.

Production notes:

Reserves:

Additional comments:

References:
Redman and others, 1989; Miller and others, 1994; Miller and others, 1995; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Valentine; Falls and Diana; Thomas

Site type: Prospects

ARDF no.: JU046

Latitude: 58.8370 **Quadrangle:** JU D-4

Longitude: 135.0408

Location description and accuracy:

This prospect is at an elevation of about 550 feet, in the Johnson Creek drainage near the confluence of Snowslide Gulch. It is 2 miles northwest of Berners Bay and 1/3 mile southeast of the Jualin Mine (JU044) in the NE1/4 section 15, T. 35 S., R. 62 E. of the Copper River Meridian. The location is accurate and marks the center of several workings associated with these prospects.

Commodities:

Main: Ag, Au, Cu, Pb, Zn

Other:

Ore minerals: Chalcopyrite, pyrite

Gangue minerals: Calcite, quartz

Geologic description:

There are several prospects at this site. The prospect area is completely covered by colluvium. The prospect area is underlain mainly by sheared and altered Jualin Diorite (Barnett and others, 1988). Workings at the Thomas prospect include a caved adit (Barnett and others, 1988). A sample of dump material contained 0.1 ppm gold (Redman and others, 1989). The Valentine prospect, located on the Falls and Diana claims, is 300 feet west of the Thomas prospect. Workings there include 2 water-filled shafts and a 115-foot adit. The shafts were sunk into felsic (quartz-sericite) phyllite and chlorite phyllite near the contact with the Jualin Diorite. The adit exposes pyritic, quartz-chlorite phyllite. The phyllite hosts a 5-foot band of stratiform pyrite and chalcopyrite which has been traced 150 feet to the southeast. The band contains up to 15% chalcopyrite and is in a shear zone in phyllite near the contact with Jualin Diorite (Redman and others, 1989). U. S. Bureau of Mines samples contained up to 161.9 ppm gold, 89.1 ppm silver, and 5.1% copper (Redman and others, 1989).

The Thomas and Valentine prospects are in the Jualin mine area (see JU044), currently (2001) controlled by Coeur Alaska. They are in the Berners Bay district at the north end of the Juneau Gold Belt. The district is characterized by a series of structurally-controlled, mesothermal, gold-bearing quartz veins. Most of the veins are in Early Creta-

ceous (105 Ma) Jualin Diorite, which intrudes Mesozoic (Upper Triassic) metabasalt. There are both extensional and shear veins that generally strike north to northwest and dip east. Discrete vein systems are defined by one or more through-going quartz veins, many of which are in shear zones (Miller and others, 1995). Hydrothermal muscovite from veins in the Jualin mine are 53.2 Ma to 55.5 Ma (Miller and others, 1994). This coincides with the 55 Ma age of the other mesothermal gold veins in the Juneau Gold Belt (Goldfarb and others, 1997).

Alteration:

Sericitic and chloritic.

Age of mineralization:

Hydrothermal muscovite from veins in the Jualin mine are 53.2 Ma to 55.5 Ma (Miller and others, 1994). This coincides with the 55 Ma age of the other mesothermal gold veins in the Juneau Gold Belt (Goldfarb and others, 1997).

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: Active

Workings/exploration:

The Thomas prospect include a caved adit. The Valentine prospect, located on the Falls and Diana claims, is 300 feet west of the Thomas prospect and its workings include 2 water-filled shafts and a 115-foot adit. The prospects are currently (2001) under the control of Coeur Alaska.

Production notes:

Reserves:

Additional comments:

References:

Barnett and others, 1988; Redman and others, 1989; Miller and others, 1994; Miller and others, 1995; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Big Lake

Site type: Prospect

ARDF no.: JU047

Latitude: 58.8364 **Quadrangle:** JU D-4

Longitude: 135.0166

Location description and accuracy:
The Big Lake prospect is at an elevation of 1,200 feet, about 0.7 mile from the northeast side of Johnson Creek and 1 mile northwest of Berners Bay. It is in the NE1/4 section 14, T. 35 S., R. 62 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other: Ag, Cu, Pb, Zn

Ore minerals: Chalcopyrite, malachite, pyrite

Gangue minerals: Ankerite, calcite, hematite, quartz

Geologic description:
The Big Lake prospect was discovered in 1988 by International Curator Resources, Ltd. It consists of a series of parallel quartz veins in Jualin Diorite that strike northwest and dip 70 NE. The veins crop out along the ridge crest for nearly 1,300 feet; they extend toward the Yankee Boy prospect (JU051), about 2,300 feet away. The Big Lake and Yankee Boy veins are probably part of the same vein system that consists of a zone about 300 feet wide. There are two distinct types of Big Lake quartz veins; one is massive and the other consists of thin, white, veinlets. The massive veins are distinguished by a pervasive yellow-brown iron stain, sheared margins, and 1% to 10% pyrite; they are in sheared, chloritic diorite that contains about 1% disseminated pyrite. The small, white, veinlets range in thickness from one-eighth inch to three feet, and lay parallel to each other in zones up to fifty feet wide. The veins contain isolated blebs of pyrite, chalcopyrite, malachite, and specular hematite. Alteration adjacent to the veins is characterized by sericite, pervasive interstitial carbonate, and moderate to strong silicification (Barnett and others, 1989). In 1988, International Curator Resources Ltd. collected numerous samples of the Big Lake veins and Placer Dome U.S. drilled one core hole in 1989. The average for twenty grab samples collected along strike for 1200 feet was 0.454 ounce of gold per ton (Barnett, 1989). The drill hole had several anomalous intercepts; one 2.5-foot interval assayed 0.109 ounce of gold per ton (Barnett and others, 1989).

The Big Lake prospect is in the Jualin mine area (see JU044), currently (2001) con-

trolled by Coeur Alaska. It is in the Berners Bay district at the north end of the Juneau Gold Belt. The district is characterized by a series of structurally-controlled, mesothermal, gold-bearing quartz veins. Most of the veins are in Early Cretaceous (105 Ma) Jualin Diorite, which intrudes Mesozoic (Upper Triassic) metabasalt. Both extensional and shear vein are present that generally strike north to northwest and dip east. Discrete vein systems are defined by one or more through-going quartz veins, many of which are in shear zones (Miller and others, 1995). Hydrothermal muscovite from veins in the Jualin mine are 53.2 Ma to 55.5 Ma (Miller and others, 1994). This coincides with the 55 Ma age of the other mesothermal gold veins in the Juneau Gold Belt (Goldfarb and others, 1997).

Alteration:

Alteration adjacent to the veins is characterized by sericite, pervasive interstitial carbonate, and moderate to strong silicification. Local oxidation of copper minerals.

Age of mineralization:

Hydrothermal muscovite from veins in the Jualin mine are 53.2 Ma to 55.5 Ma (Miller and others, 1994). This coincides with the 55 Ma age of the other mesothermal gold veins in the Juneau Gold Belt (Goldfarb and others, 1997).

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: Active

Workings/exploration:

The Big Lake prospect was discovered in 1988. International Curator Resources, Ltd. collected numerous samples of the veins and Placer Dome U.S. drilled one core hole in 1989. The prospect is currently (2001) controlled by Coeur Alaska.

Production notes:

Reserves:

Additional comments:

References:

Barnett, 1989; Barnett and others, 1989; Miller and others, 1994; Miller and others, 1995; Goldfarb and others, 1997.

Primary reference: Barnett and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Hoggatt Creek

Site type: Prospect

ARDF no.: JU048

Latitude: 58.8322 **Quadrangle:** JU D-4

Longitude: 135.0267

Location description and accuracy:

This prospect is at an elevation of about 500 feet on Hoggatt Creek, a informally-named north tributary to Johnson Creek. It is 1.5 miles northwest of Berners Bay and 1 mile southeast of the Jualin Mine (JU044), in the SW1/4 section 14, T. 35 S., R. 62 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Pyrite

Gangue minerals: Calcite, quartz

Geologic description:

The Hoggatt Creek deposit was probably discovered around 1895 but little work has been done since. Workings include a 22-foot adit, 2 open cuts, and several trenches. The deposit consists of a concordant quartz vein that cuts metavolcanic greenschist and Jualin Diorite. The vein strikes SE and dips 65-75 SW; it has been traced in outcrop for at least 600 feet and ranges from a few inches to 4 feet thick. The vein contains 1% to 7% pyrite. Samples averaged 268 ppm copper and 0.4 ppm gold (Redman and others, 1989). This property is currently (2001) under control of Coeur Alaska.

The Hoggatt Creek prospect is in the Jualin Mine area (see JU044). It is in the Berners Bay district at the north end of the Juneau Gold Belt. The district is characterized by a series of structurally-controlled, mesothermal, gold-bearing quartz veins. Most of the veins are in Early Cretaceous (105 Ma) Jualin Diorite, which intrudes Mesozoic (Upper Triassic) metabasalt. Both extensional and shear veins are present that generally strike north to northwest and dip east. Discrete vein systems are defined by one or more through-going quartz veins, many of which are in shear zones (Miller and others, 1995). Hydrothermal muscovite from veins in the Jualin mine are 53.2 Ma to 55.5 Ma (Miller and others, 1994). This coincides with the 55 Ma age of the other mesothermal gold veins in the Juneau Gold Belt (Goldfarb and others, 1997).

Alteration:

Age of mineralization:
Hydrothermal muscovite from veins in the Jualin mine are 53.2 Ma to 55.5 Ma (Miller and others, 1994). This coincides with the 55 Ma age of the other mesothermal gold veins in the Juneau Gold Belt (Goldfarb and others, 1997).

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: Active

Workings/exploration:
There is a 22-foot adit, 2 open cuts, and several trenches. This property is currently (2001) under control of Coeur Alaska.

Production notes:

Reserves:

Additional comments:

References:
Redman and others, 1989; Miller and others, 1995; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Fremming

Site type: Prospect

ARDF no.: JU049

Latitude: 58.8317 **Quadrangle:** JU D-4

Longitude: 135.0355

Location description and accuracy:

This prospect is at an elevation of about 350 feet on Johnson Creek. It is 2 miles northwest of Berners Bay and 3/4 mile southeast of the Jualin Mine (JU044), in the SW1/4 section 14, T. 35 S., R. 62 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Ag, Au, Cu, Pb, Zn

Other:

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

Gangue minerals: Calcite, quartz

Geologic description:

The Fremming prospect was discovered by Frank Fremming in about 1897. Fremming drove a 360-foot adit and sank a 85-foot inclined shaft by 1905. The deposit consists of a 6-foot thick phyllite layer that contains 1% to 3% disseminated pyrite, and thin, stratiform lenses of pyrite. The stratiform pyrite has been traced on the surface for 800 feet by trenching (Redman and others, 1989). Underground, at the end of the adit, there is a 6-foot-wide zone of sulfide-bearing schist and quartz-calcite stringers that contains pyrite, chalcopyrite, galena, sphalerite, and free gold (Knopf , 1911). A shear zone near the Fremming shaft contains a quartz vein with sphalerite, galena, pyrite, and chalcopyrite (Redman and others, 1989). Redman and others (1989), interpret the Fremming prospect as a volcanogenic massive sulfide deposit. However, exploration of the Fremming prospect area by International Curator Resources Ltd., combined with observations of drill core from both the Jualin mine (JU044) and the Fremming prospect, indicate that the predominant host rock is in fact Jualin Diorite (Barnett and others, 1988). This interpretation is supported by Kaplar (1988) who showed that the diorite loses textural and mineralogical identity as shearing becomes more intense. Rocks at or near the Fremming workings thus can be classified as greenstone and phyllite, but their protolith probably was Jualin Diorite (Kapler, 1988). Exploratory drilling by International Curator Resources Ltd. encountering minor zones of anomalous metal values (Barnett and others, 1988).

The Fremming prospect is in the Jualin mine area (see JU044) in the Berners Bay dis-

trict at the north end of the Juneau Gold Belt. The district is characterized by a series of structurally-controlled, mesothermal, gold-bearing quartz veins. Most of the veins are in Early Cretaceous (105 Ma) Jualin Diorite, which intrudes Mesozoic (Upper Triassic) metabasalt. Both extensional and shear veins are present that generally strike north to northwest and dip east. Discrete vein systems are defined by one or more through-going quartz veins, many of which are in shear zones (Miller and others, 1995). Hydrothermal muscovite from veins in the Jualin mine are 53.2 Ma to 55.5 Ma (Miller and others, 1994). This coincides with the 55 Ma age of the other mesothermal gold veins in the Juneau Gold Belt (Goldfarb and others, 1997).

Alteration:
Chloritic.

Age of mineralization:
Hydrothermal muscovite from veins in the Jualin mine are 53.2 Ma to 55.5 Ma (Miller and others, 1994). This coincides with the 55 Ma age of the other mesothermal gold veins in the Juneau Gold Belt (Goldfarb and others, 1997).

Deposit model:

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

Production Status: No

Site Status: Active

Workings/exploration:
Workings consist of a 360-foot adit and an 85-foot inclined shaft. The prospect is currently (2001) controlled by Coeur Alaska.

Production notes:

Reserves:

Additional comments:

References:
Knopf, 1911; Barnett and others, 1988; Kapler, 1988; ; Redman and others, 1989; Miller and others, 1994; Miller and others, 1995; Goldfarb and others, 1997.

Primary reference: Barnett and others, 1988

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Berners Tunnel

Site type: Prospect

ARDF no.: JU050

Latitude: 58.8294 **Quadrangle:** JU D-4

Longitude: 135.0172

Location description and accuracy:

The Berners Tunnel prospect is at an elevation of about 150 feet in a short, unnamed north tributary to Johnson Creek. It is 3.5 miles south of Lions Head Mountain and 2 miles north-northwest of Berners Bay, in the SE1/4 section 14, T. 35 S., R. 62 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other: Ag, Cu, Pb, Zn

Ore minerals: Chalcopyrite, gold, pyrite

Gangue minerals: Ankerite, calcite, quartz

Geologic description:

The Berners Tunnel was begun in 1914 to drain water from the Jualin Mine (Redman and others, 1989). The tunnel, which trends northwesterly, was never completed. During construction, workers collected ten-foot rock-chip samples along its 5,000-foot length. Two intervals contained elevated gold values. Between station 1912 and 2042 from the portal, a 130-foot zone averaged 0.12 ounce of gold per ton; between station 2112 and 2212, a 100-foot zone averaged 0.087 ounce of gold per ton. The first 400 feet of the tunnel was in glacial till and colluvium and the portal has long since collapsed. In 1989, Placer Dome U.S. drilled 3 core holes along the trace of the Berners Tunnel. The drill holes cut numerous anomalous zones along a major NW-trending shear zone. The richest intercept averaged 0.028 ounce of gold per ton. The drill core consists of moderately to strongly sheared diorite with widespread potassic and sericitic alteration. The potassic alteration suite includes epidote, chlorite, and pyrite. Locally, the sheared diorite is highly silicified giving it a bleached appearance. This silicified diorite contains relatively abundant pyrite and chalcopyrite, and quartz-pyrite veinlets (Barnett and others, 1989).

The Berners Tunnel is in the Jualin mine area (see JU044). It is in the Berners Bay district at the north end of the Juneau Gold Belt. The district is characterized by a series of structurally-controlled, mesothermal, gold-bearing quartz veins. Most of the veins are in Early Cretaceous (105 Ma) Jualin Diorite, which intrudes Mesozoic (Upper Triassic) me-

tabasalt. Both extensional and shear veins are present that generally strike north to northwest and dip east. Discrete vein systems are defined by one or more through-going quartz veins, many of which are in shear zones (Miller and others, 1995). Hydrothermal muscovite from veins in the Jualin mine are 53.2 Ma to 55.5 Ma (Miller and others, 1994). This coincides with the 55 Ma age of the other mesothermal gold veins in the Juneau Gold Belt (Goldfarb and others, 1997).

Alteration:

The drill core consists of moderately to strongly sheared diorite showing widespread potassic and sericitic alteration. The potassic alteration suite includes epidote, chlorite, and pyrite. Locally, the sheared diorite is highly silicified giving it a bleached appearance.

Age of mineralization:

Hydrothermal muscovite from veins in the Jualin mine are 53.2 Ma to 55.5 Ma (Miller and others, 1994). This coincides with the 55 Ma age of the other mesothermal gold veins in the Juneau Gold Belt (Goldfarb and others, 1997).

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: Active

Workings/exploration:

The site consists of a 5,000-foot tunnel which is caved at the portal. Placer Dome U.S. drilled 3 core holes along the trace of the tunnel in 1989.

Production notes:

Reserves:

Additional comments:

References:

Barnett and others, 1989; Redman and others, 1989; Miller and others, 1994; Miller and others, 1995; Goldfarb and others, 1997.

Primary reference: Barnett and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Yankee Boy; Yankee

Site type: Prospect

ARDF no.: JU051

Latitude: 58.8290 **Quadrangle:** JU D-4

Longitude: 135.0017

Location description and accuracy:

The Yankee prospect is at an elevation of 570 feet,on the north valley wall of Johnson Creek. It is 1 mile northwest of Berners Bay, in the SW1/4 section 13, T. 35 S., R. 62 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Ag, Au

Other:

Ore minerals: Arsenopyrite, gold, pyrite

Gangue minerals: Calcite, quartz

Geologic description:

The Yankee Boy vein was discovered about 1911 and explored by a 136-foot adit and 4 open cuts (Redman and others, 1989). The Yankee Boy deposit consists of a single quartz vein in Jualin Diorite that is traceable for 3000 feet from the Yankee adit northwest to an elevation of 1,080 feet. It strikes N 41 W, and dips steeply south. The thickness varies from a few inches to five feet and averages two feet. Roehm (1938) describes the vein as banded quartz , having a darker, bluish core. The outer bands are nearly barren of sulfides and vary from milky white to glassy. Sulfide minerals are confined mainly to the central bluish band, which varies in width from a few inches to 18 inches and averages less than 12 inches. Pyrite and a little arsenopyrite are the only sulfides in the vein. The vein represents two generations of quartz: a milky white to glassy rim, and grayish blue core (Roehm, 1938). Roehm reports vein assays of up to 1.6 ounces of gold per ton and 1.0 ounce of silver per ton. In 1988, Curator International Resources Ltd. collected samples of the Yankee vein; one, two-foot chip sample assayed 1.35 ounces of gold per ton (Barnett, 1989).

The Yankee Boy prospect is in the Berners Bay district at the north end of the Juneau Gold Belt. The district is characterized by a series of structurally-controlled, mesothermal, gold-bearing quartz veins. Most of the veins are in Early Cretaceous (105 Ma) Jualin Diorite, which intrudes Mesozoic (Upper Triassic) metabasalt. Both extensional and shear veins are present that generally strike north to northwest and dip east. Discrete

vein systems are defined by one or more through-going quartz veins, many of which are in shear zones (Miller and others, 1995). Hydrothermal muscovite from veins in the Jualin mine are 53.2 Ma to 55.5 Ma (Miller and others, 1994). This coincides with the 55 Ma age of the other mesothermal gold veins in the Juneau Gold Belt (Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Hydrothermal muscovite from veins in the Jualin mine are 53.2 Ma to 55.5 Ma (Miller and others, 1994). This coincides with the 55 Ma age of the other mesothermal gold veins in the Juneau Gold Belt (Goldfarb and others, 1997).

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: Active

Workings/exploration:

The Yankee prospect was discovered about 1911 and explored by a 136-foot adit and 4 open cuts (Redman and others, 1989). Limited exploration was conducted by International Curator Resources Ltd. in 1988 (Barnett, 1989). The property is currently (2001) controlled by Coeur Alaska.

Production notes:

Reserves:

Additional comments:

References:

Roehm, 1938 (PE 112-13); Barnett, 1989; Redman and others, 1989; Miller and others, 1995; Goldfarb and others, 1997.

Primary reference: Roehm, 1938 (PE 112-13)

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Mystery

Site type: Prospect

ARDF no.: JU052

Latitude: 58.8267 **Quadrangle:** JU D-4

Longitude: 135.0201

Location description and accuracy:

This prospect is at an elevation of 350 feet, on the north wall of lower Johnson Creek. It is 1.5 miles northwest of Berners Bay and 1.5 mile southeast of the Jualin mine (JU044), in the NE1/4 section 23, T. 35 S., R. 62 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Ag, Au, Cu

Other:

Ore minerals: Pyrite

Gangue minerals:

Geologic description:

The rocks at the Mystery prospect are similar to those at the Fremming prospect (JU049). They consist of light green, chloritic phyllite and greenstone. Redman and others (1989), interpret the Mystery prospect as a stratabound, volcanogenic massive sulfide deposit. However, exploration by International Curator Resources Ltd., combined with observations of drill core from both the Jualin Mine (JU044) and the nearby Fremming prospect (JU049), indicate that the predominant host rock is probably Jualin Diorite (Barnett and others, 1988). This interpretation is supported by Kaplar (1988) who showed that the diorite loses textural and mineralogical identity as shearing becomes more intense. Rocks at or near the Mystery workings thus can be classified as greenstone and phyllite, but their protolith probably was Jualin Diorite (Kapler, 1988). Workings at the Mystery prospect include a water-filled shaft and several sloughed-in pits. The shaft is sunk on a 3-foot-thick layer of light green phyllite that contains 5-15% disseminated pyrite, and massive pyrite layers parallel to the foliation. The pyrite layers are up to 2 inches thick. Samples contain up to 1.4 ppm gold, 1.5 ppm silver, and 5,500 ppm copper (Redman and others, 1989).

The Mystery prospect is in the Jualin mine area (JU044), currently (2001) controlled by Coeur Alaska. It is within the Berners Bay district at the north end of the Juneau Gold Belt. The district is characterized by a series of structurally-controlled, mesothermal,

gold-bearing quartz veins.

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Active

Workings/exploration:
Workings at the Mystery prospect include a water-filled shaft and several sloughed-in pits.

Production notes:

Reserves:

Additional comments:

References:
Barnett and others, 1988; Kapler, 1988; Redman and others, 1989; Miller and others, 1995; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Johnson Creek

Site type: Prospect

ARDF no.: JU053

Latitude: 58.8240 **Quadrangle:** JU D-4

Longitude: 135.0038

Location description and accuracy:
This placer prospect is at the mouth of Johnson Creek on the northwest side of Berners Bay. about 1.5 miles southeast and downstream of the Jualin Mine (JU044). It is in the NW1/4 section 24, T. 35 S., R. 62 E. of the Copper River Meridian. The location is accurate. This is location J110 of Wells and others (1986).

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
This placer prospect is downstream from the Jualin Mine (JU044), which produced nearly 38,000 ounces of gold between 1896 and 1928. Historical records indicate that 80% of the gold recovered at the Jualin Mine was free-milling. A shaft was was sunk into the gravels of lower Johnson Creek in the early 1900's. Gold can be panned from the present stream channel but there are no records of past production (Redman and others, 1989).

The Johnson Creek placer is in the Jualin Mine (JU044) area, currently (2001) controlled by Coeur Alaska. It is within the Berners Bay district at the north end of the Juneau Gold Belt. The district is characterized by a series of structurally-controlled, mesothermal, gold-bearing quartz veins. Most of the veins are hosted by the Early Cretaceous (105 Ma) Jualin Diorite, which intrudes Mesozoic (Upper Triassic) metabasalt (Miller and others, 1995).

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au (Cox and Singer, 1986; model 39a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: Undetermined.

Site Status: Active

Workings/exploration:
A shaft was was sunk into the gravels of lower Johnson Creek in the early 1900's.

Production notes:

Reserves:

Additional comments:

References:
Wells and others, 1986; Redman and others, 1989; Miller and others, 1995.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Endy

Site type: Prospect

ARDF no.: JU054

Latitude: 58.8224 **Quadrangle:** JU D-5

Longitude: 135.5730

Location description and accuracy:
The Endy prospect is at an elevation of about 2,700 feet, approximately 2.5 miles south of Mt. Young and 1 mile north of the Endicott River. It is in the NE1/4 section 21, T. 35 S., R. 59 E. of the Copper River Meridian. The location is accurate within 1/2 mile.

Commodities:

Main: Cu

Other: Au, Cr, Zn

Ore minerals:

Gangue minerals: Quartz

Geologic description:
The area is underlain by deformed and metamorphosed Silurian or Devonian carbonate, clastic and volcanic clastic rocks that have been intruded by Upper Jurassic and Lower Cretaceous granitic and dioritic rocks (Brew and others, 1992). Brew and Ford (1985) describe the rocks in the area of this occurrence as predominantly Devonian and Silurian greenstone, greenschist, limestone and graywacke intruded by Cretaceous biotite-hornblende granodiorite. The U.S. Bureau of Mines collected samples of rhyolite, pyritic tuff, and metatuff from the Endy prospect. A rhyolite sample contained 0.21 ppm gold, 270 ppm copper, 930 ppm chromium, and 330 ppm arsenic. A sample of a quartz vein contained 1,400 ppm copper. The deposit was discovered by St. Joseph Mining Co. in 1974, who interpreted it as a stratiform massive sulfide deposit (Clough and Redman, 1989).

Alteration:

Age of mineralization:

Deposit model:
Possible metamorphosed Kuroko massive sulfide deposit (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:
The deposit was discovered by St. Joseph Mining Co. in 1974 (Clough and Redman, 1989).

Production notes:

Reserves:

Additional comments:

References:
Brew and Ford, 1985; Clough and Redman, 1989; Brew and others, 1992.

Primary reference: Clough and Redman, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Unnamed (north of White Glacier)

Site type: Occurrence

ARDF no.: JU055

Latitude: 58.8255 **Quadrangle:** JU D-6

Longitude: 135.9246

Location description and accuracy:

This occurrence is at an elevation of about 3,300 feet, approximately 2 miles east-northeast of Mt. Case and 1.5 miles north of the White Glacier. It is in the NW1/4 section 21, T. 35 S., R. 57 E. of the Copper River Meridian. This occurrence is close to location J006 of Wells and others (1986). The location is accurate within 1/4 mile.

Commodities:

Main: Au, Cu, Mo, Pb, Zn

Other:

Ore minerals: Pyrite

Gangue minerals:

Geologic description:

The general area is underlain by deformed and metamorphosed Silurian or Devonian carbonate, clastic and volcanic clastic rocks that have been intruded by Upper Jurassic and Lower Cretaceous granitic and dioritic rocks (Brew and others, 1992). Brew and others (1978) map the country rocks at this occurrence as Permian, thin-bedded limestone and argillite, basalt and andesite, and cherty limestone and siltstone. The deposit consists of lenses and disseminations of pyrite in andesite. It is marked by iron-stained zones hundreds of feet wide and up to 1000 feet long (Brew and others,1978). MacKevett and others (1971) report that a 6-foot chip sample contained 2% zinc, but Brew and others (1978) failed to find samples with elevated zinc. Still (1989), reports samples that contain anomalous gold, lead and molybdenum.

Alteration:

Conspicuous iron-staining.

Age of mineralization:

Deposit model:

Possible metamorphosed 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:
Surface sampling only.

Production notes:

Reserves:

Additional comments:

References:
MacKevett and others, 1971; Brew and others, 1978; Brew and Ford, 1985; Wells and others, 1986; Still, 1989; Brew and others, 1992.

Primary reference: Brew and others,1978

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Unnamed (near White Glacier)

Site type: Occurrence

ARDF no.: JU056

Latitude: 58.8171 **Quadrangle:** JU D-6

Longitude: 135.9192

Location description and accuracy:

This occurrence is at an elevation of about 2,400 feet, approximately 2 miles east of Mt. Case and 1 mile north of the White Glacier. It is in the SW1/4 section 21, T. 35S., R. 57 E. of the Copper River Meridian. This occurrence is close to location J006 of Wells and others (1986). The location is accurate within 1/4 mile.

Commodities:

Main: Ag, Au, Ba, Cu, Sr

Other:

Ore minerals: Barite, celestite, chalcopyrite, gold, pyrite, silver, sphalerite, strontianite, witherite

Gangue minerals: Ankerite

Geologic description:

The general area is underlain by deformed and metamorphosed Silurian or Devonian carbonate, clastic and volcanic clastic rocks that have been intruded by Upper Jurassic and Lower Cretaceous granitic and dioritic rocks (Brew and others, 1992).

Brew and others (1978) map the country rocks at this occurrence as Permian, thin-bedded limestone and argillite, basalt and andesite, and cherty limestone and siltstone. The deposit is in cherty limestone and consists of an iron-stained zone about 8 feet thick that contains pyrite, chalcopyrite, sphalerite, native silver, native gold, ankerite, barite, celestite, strontianite, and witherite. The deposit is truncated to the south by a mafic dike and is lost under surficial material to the north (Brew and others, 1978). Samples of this zone near a volcanic contact contained up to 4.5 percent zinc, 1,900 ppm copper, 7 ppm silver, 5,000 ppm barium and 500 ppm antimony (Still, 1989). Still (1989) interprets the deposit as a stratabound volcanogenic deposit.

Alteration:

Conspicuous iron-staining.

Age of mineralization:

Deposit model:
Possible metamorphosed Kuroko massive sulfide deposit (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:
MacKevett and others, 1971; Brew and others, 1978; Brew and Ford, 1985; Wells and others, 1986; Still, 1989; Brew and others, 1992.

Primary reference: Brew and others,1978

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Lucky Six; William Henry

Site type: Prospect

ARDF no.: JU057

Latitude: 58.7615 **Quadrangle:** JU D-4

Longitude: 135.2499

Location description and accuracy:
The Lucky Six prospect is at an elevation of about 1,200 feet, approximately 1 mile south of the mouth of the Endicott River and 1/2 mile west of Lynn Canal. It is in the SW1/4 section 9, T. 36 S., R. 61 E. of the Copper River Meridian. The location is accurate within 1/2 mile.

Commodities:

Main: Cu, Pb, REE, Th, U, Zn

Other:

Ore minerals: Chalcopyrite, euxenite, galena, pyrite, sphalerite, thorianite

Gangue minerals:

Geologic description:
The general area is underlain mainly by Silurian and Devonian graywacke and argillite and Middle Devonian carbonate, clastic and volcanic rocks (MacKevett and others, 1971; Brew and others,1978). The country rocks at this prospect are Silurian graywacke and Devonian and Silurian greenstone intruded by small bodies of Cretaceous quartz monzonite and syenite (Clough and Redman, 1989). The Lucky Six prospect was first discovered in the 1950's, when a radioactive anomaly was detected from the air by prospectors. The deposit has been explored by shallow pits, trenches, and one diamond-drill hole. The drilling was conducted by a private contractor supported by a Federal grant. One sample was reported to contain 0.20% eU (equivalent uranium), but a commercial deposit was not indicated (Clough and Redman, 1989). Two pits on the Lucky Six prospect expose zones containing soft, vuggy, black-and red-stained fractured material. No well-defined veins are visible, but a prominent fracture in pit No. 2 strikes N 5 E and dips 80 W. The intrusive country rock is light-gray porphyry containing feldspar crystals up to 1.5 inches long. The porphyry contains abundant altered mica, especially noticeable on fractures and in vugs. Brecciated, fine-grained, siliceous rock crops out 150 feet southwest of pit No. 1. This rock may be the extension of a crushed zone in that pit. Traces of thorianite and scattered grains of euxenite have been reported, and rare-earth elements occur in a sample containing pyrite, chalcopyrite, galena, and sphalerite (Eakins, 1975).

Alteration:
Mica in porphyry is altered.

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:
The deposit has been explored by shallow pits, trenches, and one diamond-drill hole.

Production notes:

Reserves:

Additional comments:
The Lucky Six (JU057) , William Henry (JU060), Kings View (JU058), Athero (JU062), and an unnamed occurrence (JU059) are on the flanks of William Henry Mountain and have been collectively referred to as the William Henry prospect or as being in the William Henry area.

References:
MacKevett and others, 1971; Eakins, 1975; Brew and others, 1978; Clough and Redman, 1989.

Primary reference: Eakins, 1975

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Kings View

Site type: Prospect

ARDF no.: JU058

Latitude: 58.7630 **Quadrangle:** JU D-4

Longitude: 135.2658

Location description and accuracy:

The Kings View prospect is at an elevation of about 1800 feet, approximately 1.5 mile south of the mouth of the Endicott River and 1 mile west of Lynn Canal. It is located in the E1/2 section 8, T. 36 S., R. 61 E. of the Copper River Meridian. The location is accurate within 1/2 mile.

Commodities:

Main: Ag, Au, Pb

Other:

Ore minerals:

Gangue minerals:

Geologic description:

The general area is underlain mainly by Silurian and Devonian graywacke and argillite and Middle Devonian carbonate, clastic and volcanic rocks (MacKevett and others, 1971; Brew and others,1978). The country rocks at this prospect are Silurian graywacke and Devonian and Silurian greenstone intruded by small bodies of Cretaceous quartz monzonite and syenite (Clough and Redman, 1989). The general strike of the strata and the trend of fold axis is north to northwest. The bedded rocks are metamorphosed and cut by subordinate east-west faults (Eakins, 1975). The Kings View prospect contains gold, lead, and silver values. It is described in Alaska Kardex file 112-137, but no other information is available.

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:

Production notes:

Reserves:

Additional comments:

The Lucky Six (JU057) , William Henry (JU060), Kings View (JU058), Athero (JU062), and an unnamed occurrence (JU059) are on the flanks of William Henry Mountain and have been collectively referred to as the William Henry prospect or as being in the William Henry area.

References:

MacKevett and others, 1971; Eakins, 1975; Brew and others, 1978; Clough and Redman, 1989.

Primary reference: Clough and Redman, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Unnamed (on William Henry Mountain)

Site type: Occurrence

ARDF no.: JU059

Latitude: 58.7490 **Quadrangle:** JU C-4

Longitude: 135.2806

Location description and accuracy:

This occurrence is at an elevation of about 2,800 feet, approximately 1/2 mile north-northeast of William Henry Mountain and 1.5 mile west of Lynn Canal. It is just northwest of the center of section 17, T. 36 S., R. 61 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Pb, Zn

Other:

Ore minerals:

Gangue minerals: Quartz

Geologic description:

The general area is underlain mainly by Silurian and Devonian graywacke and argillite and Middle Devonian carbonate, clastic and volcanic rocks (MacKevett and others, 1971; Brew and others,1978). The country rocks at this prospect are Silurian graywacke and Devonian and Silurian greenstone intruded by small bodies of Cretaceous quartz monzonite and syenite (Clough and Redman, 1989). The U.S. Bureau of Mines sampled a quartz vein at this site that contained 17,000 ppm zinc and 1,400 ppm lead (Clough and Redman, 1989).

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:
Surface sampling only.

Production notes:

Reserves:

Additional comments:
The Lucky Six (JU057) , William Henry (JU060), Kings View (JU058), Athero (JU062), and this record are on the flanks of William Henry Mountain and have been collectively referred to as the William Henry prospect or as being in the William Henry area.

References:
MacKevett and others, 1971; Brew and others, 1978; Clough and Redman, 1989.

Primary reference: Clough and Redman, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): William Henry

Site type: Prospect

ARDF no.: JU060

Latitude: 58.7446 **Quadrangle:** JU C-4

Longitude: 135.2904

Location description and accuracy:
The William Henry prospect is at an elevation of about 3,300 feet, on the west flank of William Henry Mountain and 2 miles west of Lynn Canal. It is located in the SW1/4 section 17, T. 36 S., R. 61 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Cu, Pb, REE, Zn

Other: Au

Ore minerals: Barite, galena, molybdenite, pyrite

Gangue minerals: Calcite, feldspar

Geologic description:
The general area is underlain mainly by Silurian and Devonian graywacke and argillite and Middle Devonian carbonate, clastic and volcanic rocks (MacKevett and others, 1971; Brew and others,1978). The country rocks at this prospect are Silurian graywacke and Devonian and Silurian greenstone intruded by small bodies of Cretaceous quartz monzonite and syenite (Clough and Redman, 1989). The quartz monzonite, which contains feldspars crystals up to 4 inches long, contains disseminated pyrite, and is highly altered to sericite, chlorite, epidote and clay minerals. The sedimentary and volcanic country rocks are silicified and contain disseminated pyrite. Carbonatite forms northwest-trending veins up to a foot thick. They are composed mostly of calcite and minor feldspar phenocrysts. The veins carry variable amounts of pyrite, galena, molybdenite, barite, rutile and biotite. Analyses of the veins show small amounts of rare-earth elements and elevated values of copper, zinc and gold. The area has been explored for uranium-thorium minerals (Clough and Redman, 1989).

Alteration:
Pyrite-sericite-chlorite-epidote-clay alteration in quartz monzonite; silicification and pyritization of sedimentary and volcanic country rocks.

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:
Surface sampling and mapping.

Production notes:

Reserves:

Additional comments:
The Lucky Six (JU057) , William Henry (JU060), Kings View (JU058), Athero (JU062), and an unnamed occurrence (JU059) are on the flanks of William Henry Mountain and have been collectively referred to as the William Henry prospect or as being in the William Henry area.

References:
MacKevett and others, 1971; Eakins, 1975; Brew and others, 1978; Clough and Redman, 1989.

Primary reference: Clough and Redman, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Berners

Site type: Prospect

ARDF no.: JU061

Latitude: 58.7462 **Quadrangle:** JU C-3

Longitude: 134.9257

Location description and accuracy:

The Berners prospect is at an elevation of about 300 feet, on the east side of Berners Bay, 4.5 miles north of Echo Cove and 2 miles north of Sawmill Creek. It is in the SW1/4 section 16, T. 36 S., R. 63 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Au

Other:

Ore minerals:

Gangue minerals: Quartz

Geologic description:

The Berners deposit was discovered in 1885. In 1888, the prospect was patented and work continued until 1905. The deposit consists of quartz veins in black phyllite and mafic metavolcanic rocks. The workings include 2 shafts, a 31-foot adit, and an open cut (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, mod-

erately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Probably inactive

Workings/exploration:

Workings include 2 shafts, a 31-foot adit, and an open cut.

Production notes:

Reserves:

Additional comments:

References:

Brew and Ford, 1974; Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Athero (near Lance Point)

Site type: Prospect

ARDF no.: JU062

Latitude: 58.7337 **Quadrangle:** JU C-4

Longitude: 135.2349

Location description and accuracy:
The Athero prospect is at Lance Point on Lynn Canal. It is in the W1/2 section 22, T. 36 S., R. 61 E. of the Copper River Meridian. The location is accurate within 1/2 mile.

Commodities:

Main: Th, U

Other:

Ore minerals:

Gangue minerals:

Geologic description:
The general area is underlain mainly by Silurian and Devonian graywacke and argillite and Middle Devonian carbonate, clastic and volcanic rocks(MacKevett and others, 1971; Brew and others,1978). The host rocks at this prospect are Silurian graywacke and Devonian and Silurian greenstone intruded by small bodies of Cretaceous quartz monzonite and syenite (Clough and Redman, 1989). Eakins (1975) describes potential uranium-thorium mineralization and Wells and others (1986) report a lode claim at this site. The U.S. Bureau of Mines sampled a quartz vein but it did not contain any elevated metal values (Clough and Redman, 1989) Alaska Kardex file 112-109 shows a uranium claim at this site.

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:
Surface sampling.

Production notes:

Reserves:

Additional comments:
The Lucky Six (JU057) , William Henry (JU060), Kings View (JU058), Athero (JU062), and an unnamed occurrence (JU059) are on the flanks of William Henry Mountain and have been collectively referred to as the William Henry prospect or as being in the William Henry area.

References:
MacKevett and others, 1971; Eakins, 1975; Brew and others, 1978; Wells and others, 1986; Clough and Redman, 1989.

Primary reference: Clough and Redman, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Unnamed (south tributary to Endicott River)

Site type: Occurrence

ARDF no.: JU063

Latitude: 58.7231 **Quadrangle:** JU C-5

Longitude: 135.5650

Location description and accuracy:
This occurrence is at an elevation of approximately 2,000 feet, on the west side of a south tributary of the Endicott River about 2 miles north of the divide with the Excursion River. It is in the NW1/4 section 27, T. 36 S., R. 59 E. of the Copper River Meridian. The location is accurate within 1/2 mile.

Commodities:

Main: Fe

Other:

Ore minerals: Magnetite, pyrite

Gangue minerals:

Geologic description:
The general area is underlain by deformed and metamorphosed Silurian or Devonian carbonate, clastic and volcanic clastic rocks that have been intruded by Upper Jurassic and Lower Cretaceous granitic and dioritic rocks (Brew and others, 1992). This occurrence consists of pyrite and magnetite in iron-stained greenstone granulite. It is described as a skarn deposit by the U.S. Bureau of Mines (Redman and others, 1989). Redman reports the occurrence was discovered by the U.S. Geological Survey.

Alteration:
Local iron-staining.

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:
Surface examination only.

Production notes:

Reserves:

Additional comments:

References:
Clough and Redman, 1989; Redman and others, 1989; Brew and others, 1992.

Primary reference: Clough and Redman, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Miller Peak

Site type: Occurrence

ARDF no.: JU064

Latitude: 58.7236 **Quadrangle:** JU C-6

Longitude: 135.9041

Location description and accuracy:
This occurrence is at an elevation of approximately 3,000 feet, on the northwest flank of Miller Peak, 2.5 miles east of Sandy Cove in Glacier Bay. It is in the NE1/4 section 28, T. 36 S., R. 57 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Ag, Cu

Other:

Ore minerals: Chalcopyrite, malachite, pyrite

Gangue minerals: Ankerite, calcite, quartz

Geologic description:
The general area is underlain by deformed and metamorphosed Silurian or Devonian carbonate, clastic and volcanic clastic rocks that have been intruded by Upper Jurassic and Lower Cretaceous granitic and dioritic rocks (Brew and others, 1992). This occurrence was discovered in 1976 by the U.S. Geological Survey (Brew and others, 1978). It consists of widely-spaced quartz veins parallel to the bedding in limestone. A series of sills and ankerite layers up to 10-feet-thick also appear to be parallel to the bedding. One vein is in the footwall of an andesite sill; others are in the limestone. The veins contain ankerite, biotite, chlorite, albite-orthoclase, sericite, calcite, pyrite, chalcopyrite, and malachite. The veins can be traced for hundreds of feet. Channel samples of the veins contained 0.42 to 1.5 percent copper and traces of silver (Brew and others, 1978).

Alteration:
Local oxidation of copper minerals.

Age of mineralization:

Deposit model:

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

Production Status: No

Site Status: Inactive

Workings/exploration:
Surface samples only.

Production notes:

Reserves:

Additional comments:
This occurrence is in Glacier Bay National Park and Reserve.

References:
Brew and others, 1978; Brew and others, 1992.

Primary reference: Brew and others,1978

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Sandy Cove

Site type: Prospect

ARDF no.: JU065

Latitude: 58.7213 **Quadrangle:** JU C-6

Longitude: 135.9715

Location description and accuracy:

This prospect is at an elevation of approximately 115 feet, above the northeast shore of Sandy Cove in Glacier Bay. It is in the NW1/4 section 30, T. 36 S., R. 57 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Ag, Au, Cu

Other: W

Ore minerals: Chalcopyrite, pyrite, scheelite

Gangue minerals: Quartz

Geologic description:

The Sandy Cove prospect was staked in 1933 and an 11-foot adit was completed by 1937 (Brew and others, 1978). The only recorded production was a 4-ton smelter test shipment made prior to 1938. In 1966 the U.S. Geological Survey sampled and mapped the adit and surrounding areas (MacKevett and others, 1971). The deposit consists of discontinuous, gold-, copper-, and silver-bearing quartz veins and adjacent altered zones, mainly in quartz monzonite and monzonite that forms small intrusions in the predominant limestone terrain. The adit is driven on a discontinuous altered zone that strikes northeast and dips steeply east. The altered zone ranges from 0.2 feet to 4.5 feet thick and contains quartz stringers and veins up to 2 feet thick. Chalcopyrite and pyrite form disseminations in the quartz veins and the wallrock, and the sulfides also occur discontinuous, massive bands up to 0.6 foot thick in the veins. Minor scheelite is also present. Alteration products are chlorite, epidote, sericite and hydromuscovite. The quartz monzonite and monzonite are silicified near the veins. Vein samples from the adit assayed up to 0.333 ounce of gold per ton, 3.0 percent copper, and 1.75 ounces of silver per ton. Samples of a vein 100 feet from the adit contained 0.588 ounces of gold per ton, 0.583 ounce of silver per ton, and more than 10 percent copper (Brew and others, 1978).

The general area is underlain by deformed and metamorphosed Silurian or Devonian carbonate, clastic and volcanic clastic rocks that have been intruded by Upper Jurassic and Lower Cretaceous granitic and dioritic rocks (Brew and others, 1992).

Alteration:
Silicification and chlorite-epidote-sericite-hydromuscovite alteration.

Age of mineralization:

Deposit model:

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

Production Status: No

Site Status: Inactive

Workings/exploration:
The Sandy Cove prospect was staked in 1933 and an 11-foot adit was completed by 1937. The only recorded production was a 4-ton smelter test shipment made prior to 1938. Only surface sampling since the 1930's.

Production notes:
The only recorded production was a 4-ton smelter test shipment made prior to 1938.

Reserves:

Additional comments:
This prospect is in the Glacier Bay National Park and Reserve.

References:
MacKevett and others, 1971; Brew and others, 1978; Brew and others, 1992.

Primary reference: Brew and others,1978

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Tacoma; Bonanza

Site type: Prospect

ARDF no.: JU066

Latitude: 58.7117 **Quadrangle:** JU C-3

Longitude: 134.9041

Location description and accuracy:

The Tacoma prospect is at an an elevation of about 1,000 feet, on the south side of Sawmill Creek. It is 1 mile east of Berners Bay and 2 miles north of Echo Cove in the NE1/4 section 33, T. 36 S., R. 63 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Ag, Au, Pb

Other: Zn

Ore minerals: Arsenopyrite, galena, pyrite, sphalerite

Gangue minerals: Quartz

Geologic description:

The Tacoma prospect was discovered in 1901 and developed by 3 adits and several open cuts (Redman and others, 1989). The deposit consists of two east-west-striking, north-dipping quartz veins up to 8 feet thick in black phyllite and metavolcanic rocks. The veins are brecciated, and contain pyrite, galena, arsenopyrite, and sphalerite. The phyllite contains stringers of quartz carrying disseminated pyrite. Quartz vein samples contain up to 1.1 ppm gold, 169.8 ppm silver, and 2.78 percent lead (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike to-

nalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: No

Site Status: Inactive

Workings/exploration:

The Tacoma prospect was discovered in 1901 and developed by 3 adits and several open cuts.

Production notes:

Reserves:

Additional comments:

References:

Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Unnamed (coast, southeast of William Henry Bay)

Site type: Occurrence

ARDF no.: JU067

Latitude: 58.7097 **Quadrangle:** JU C-4

Longitude: 135.2199

Location description and accuracy:

This occurrence is on the west shore of Lynn Canal on the peninsula separating William Henry Bay from Lynn Canal. It is located in the NE1/4 section 34, T. 36 S., R. 61 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au, Cu

Other: Co

Ore minerals: Pyrite

Gangue minerals: Calcite, quartz

Geologic description:

This occurrence consists of a pyrite-bearing quartz-calcite vein in greenstone. The vein strikes NW and dips 70 NW, and is conformable to the foliation of the greenstone meta-volcanic unit that hosts it. A sample of the quartz-calcite vein contained 2.7 ppm gold, 2,500 ppm copper, and 200 ppm cobalt. A sample of the greenstone contained 0.15 ppm gold, and 550 ppm copper (Clough and Redman, 1989). The general area is underlain by metamorphosed Silurian and Devonian clastic rocks, limestone, and volcanic units; Permian limestone and siltstone; and small plutons of Tertiary and Cretaceous granodiorite (Brew and Ford, 1985).

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:
Surface sampling only.

Production notes:

Reserves:

Additional comments:

References:
Brew and Ford, 1985; Clough and Redman, 1989; Gehrels and Berg, 1994.

Primary reference: Clough and Redman, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Alaska Endicott

Site type: Mine

ARDF no.: JU068

Latitude: 58.6968 **Quadrangle:** JU C-4

Longitude: 135.2589

Location description and accuracy:

This mine is at an elevation of about 300 feet, on a west tributary to the Beardsley River. It is on the west side of Lynn Canal 1/2 mile south-southwest of the head of William Henry Bay, in the NE1/4 section 1, T. 37 S., R. 61 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Ag, Au, Cu

Other:

Ore minerals: Chalcopyrite, pyrite

Gangue minerals: Calcite, quartz

Geologic description:

The Alaska Endicott Mine is in well-foliated greenstone intercalated with fine-grained clastic rocks and muscovite schist. The clastic rocks are mostly graywacke, dark gray argillite, and black phyllite (Clough and Redman, 1989). The mine workings follow a quartz-calcite vein in sheared greenstone. The vein strikes about west and dips 58-85 south. It pinches and swells from nil to 25 feet, averaging 5 feet thick. The vein is predominantly calcite which has been crushed and brecciated and subsequently annealed with quartz. Chalcopyrite and pyrite make up about 1% of the vein. The sulfides are concentrated near the vein margins. The Alaska Endicott deposit was discovered prior to 1915 and developed by more than 2,400 feet of underground workings, including an 1,800-foot adit, and several drifts, raises, and stopes. A 30-stamp mill was in-place by 1919. A new 15-stamp mill from the Comet mine (JU036) was in operation by 1922 and a small flotation plant was also built. The prospect was diamond-drilled in 1922. A 100-ton smelter sample that averaged 1.7% copper was shipped in 1917; production records indicate that 48 ounces of gold and 20 ounces of silver were recovered from 200 tons of ore. A U.S. Bureau of Mines sample of the quartz-calcite vein contained 1.7% copper, 5.6 ppm silver and 0.04 ppm gold (Clough and Redman, 1989). They estimate that the deposit contains a resource of 20,000 tons of ore with an average grade of 0.46% copper.

The general area is underlain by metamorphosed Silurian and Devonian clastic rocks,

limestone, and volcanic units; Permian limestone and siltstone; and small plutons of Tertiary and Cretaceous granodiorite (Brew and Ford, 1985).

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: Yes; small

Site Status: Inactive

Workings/exploration:

The Alaska Endicott deposit was discovered prior to 1915 and developed by more than 2,400 feet of underground workings, including an 1,800-foot adit, and several drifts, raises, and stopes. A 30-stamp mill was in-place by 1919. A new 15-stamp mill from the Comet mine (JU036) was in operation by 1922 and a small flotation plant was also built. The prospect was diamond-drilled in 1922. A 100-ton smelter sample that averaged 1.7% copper was shipped in 1917; production records indicate that 48 ounces of gold and 20 ounces of silver were recovered from 200 tons of ore.

Production notes:

A 100-ton smelter sample that averaged 1.7% copper was shipped in 1917; production records indicate that 48 ounces of gold and 20 ounces of silver were recovered from 200 tons of ore.

Reserves:

The U.S. Bureau of Mines estimate that the deposit contains a resource of 20,000 tons of ore with an average grade of 0.46% copper (Clough and Redman, 1989).

Additional comments:

References:

Brew and Ford, 1985; Clough and Redman, 1989; Gehrels and Berg, 1994.

Primary reference: Clough and Redman, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Unnamed (northeast of mouth of Echo Cove)

Site type: Occurrence

ARDF no.: JU069

Latitude: 58.6924 **Quadrangle:** JU C-3

Longitude: 134.8857

Location description and accuracy:

This occurrence is on the west side of a ridge crest at an elevation of 3,000 feet, approximately 1.8 mile east-northeast of the mouth of Echo Cove. It is in the NW1/4 section 5, T. 37 S., R. 64 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Ag, Au, Cu

Other:

Ore minerals: Chalcopyrite, pyrite

Gangue minerals: Quartz, siderite

Geologic description:

This occurrence was discovered by Echo Bay Mines in 1991. It consists of several quartz-siderite veins containing clots and disseminations of pyrite and chalcopyrite. The veins are in altered greenstone and slate. Samples assayed up to 0.4 ounce of gold per ton, 1 ounce of silver per ton, and 1.3 percent copper (Lance Miller, oral commun., 2001).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Creta-

ceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:
Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Inactive

Workings/exploration:
Surface sampling only.

Production notes:

Reserves:

Additional comments:

References:
Brew and Ford, 1974; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: This record

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Gold Standard

Site type: Prospect

ARDF no.: JU070

Latitude: 58.6676 **Quadrangle:** JU C-3

Longitude: 134.8913

Location description and accuracy:

The Gold Standard prospect is near the south end of a ridge at an elevation of 1,700 feet, approximately 1/2 mile east of inner Echo Cove. It is in the northwest corner of section 17, T. 37 S., R. 64 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other: Pb

Ore minerals: Arsenopyrite, galena, gold, pyrite

Gangue minerals: Ankerite, calcite, quartz

Geologic description:

The deposit at the Gold Standard prospect consists of quartz-calcite-siderite veins and stringer zones along the contact of greenstone and phyllite. The veins contain pyrite, arsenopyrite and galena. The veins are up to 2 feet thick, strike northerly, dip moderately to the east, and can be traced along strike for 4,500 feet . The deposit was discovered in 1897. Workings include 3 adits, one inclined shaft, and several open cuts and trenches. Samples contain up to 24.7 ppm gold (Redman and others, 1989). This prospect is on the same vein system as the California prospect (JU071).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and gra-

nodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: No

Site Status: Active?

Workings/exploration:

The deposit was discovered in 1897. Workings include 3 adits, one inclined shaft, and several open cuts and trenches.

Production notes:

Reserves:

Additional comments:

References:

Brew and Ford, 1974; Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): California

Site type: Prospect

ARDF no.: JU071

Latitude: 58.6602 **Quadrangle:** JU C-3

Longitude: 134.8812

Location description and accuracy:

The California prospect is on a small north tributary of Davies Creek at an elevation of 750 feet. It is approximately 1 mile east of the head of Echo Cove, near the center of section 17, T. 37 S., R. 64 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other: Pb

Ore minerals: Arsenopyrite, galena, gold, pyrite

Gangue minerals: Ankerite, calcite, quartz

Geologic description:

The deposit at the California prospect consists of quartz-calcite-siderite veins and stringer zones along the contact of greenstone and phyllite. The veins contain pyrite, arsenopyrite, and galena. The veins are up to 2 feet thick, strike northerly, dip moderately to the east, and can be traced along strike for 4,500 feet. The deposit was discovered in 1897. Workings include 3 adits, one inclined shaft, and several open cuts and trenches. The deposit was discovered in 1897. The three adits total 335 feet. U.S. Bureau of Mines samples contained up to 2.3 ppm gold (Redman and others, 1989). This prospect is on the same vein system as the Gold Standard prospect (JU070).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike to-

nalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: No

Site Status: Inactive

Workings/exploration:

The deposit was discovered in 1897. Workings include 3 adits, one inclined shaft, and several open cuts and trenches.

Production notes:

Reserves:

Additional comments:

References:

Brew and Ford, 1974; Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Unnamed (north of mouth of York Creek)

Site type: Prospect

ARDF no.: JU072

Latitude: 58.6477 **Quadrangle:** JU C-6

Longitude: 135.9188

Location description and accuracy:

This prospect is at an elevation of approximately 100 feet, 0.5 mile north-northwest of the mouth of York Creek It is just east of the center of section 24, T. 37 S., R. 57 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Co, Cu, Ni

Other: Au

Ore minerals: Pyrite, pyrrhotite

Gangue minerals: Quartz

Geologic description:

The general area is underlain by deformed and metamorphosed Silurian or Devonian carbonate, clastic and volcanic clastic rocks that have been intruded by Upper Jurassic and Lower Cretaceous granitic and dioritic rocks (Brew and others, 1992).

This deposit was discovered in 1899. It is in hornfels, and consists of 5 widely-spaced, pyrite-rich quartz veins and of altered zones that contain pods of pyrite. The veins are up to 0.5 foot thick, and the altered zones are up to 50 feet thick. A nearby, half-mile-long, iron-stained zone in siliceous limestone contains 5-10% pyrrhotite (Brew and others, 1978). A select grab sample of one of the quartz veins contained 1,500 ppm copper, 150 ppm cobalt, 150 ppm nickel, and a trace of gold (MacKevett and others, 1971).

Alteration:

Conspicuous iron-stained zone.

Age of mineralization:

Deposit model:

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

Production Status: No

Site Status: Inactive

Workings/exploration:
Surface sampling only.

Production notes:

Reserves:

Additional comments:

References:
MacKevett and others, 1971; Brew and others, 1978; Brew and others, 1992.

Primary reference: Brew and others, 1978

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Unnamed (northwest of Boat Harbor)

Site type: Occurrence

ARDF no.: JU073

Latitude: 58.6473 **Quadrangle:** JU C-4

Longitude: 135.2046

Location description and accuracy:
This occurrence is at an elevation of approximately 300 feet, on a southwest flowing creek that enters the head of Boat Harbor. It is neawr the middle of the E1/2 section 20, T. 37 S., R. 62 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Au

Other: Ag, Cu, Pb, Zn

Ore minerals: Chalcopyrite, malachite, pyrite, sphalerite

Gangue minerals: Calcite, quartz

Geologic description:
This occurrence consists of several short 4- to 10-inch-thick quartz veins, small quartz-calcite veins, and quartz breccia hosted in argillite. The veins contain disseminated chalcopyrite, malachite, pyrite, and sphalerite. U.S. Bureau of Mines samples contained up to 1.8 ppm gold, 2 ppm silver, 670 ppm copper, 320 ppm lead, and 310 ppm zinc (Clough and Redman, 1989). The general area is underlain by metamorphosed Silurian and Devonian clastic rocks, limestone, and volcanic units; Permian limestone and siltstone; and small plutons of Tertiary and Cretaceous granodiorite (Brew and Ford, 1985).

Alteration:
Oxidation of copper minerals.

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:
Only surface samples.

Production notes:

Reserves:

Additional comments:

References:
Brew and Ford, 1985; Clough and Redman, 1989.

Primary reference: Clough and Redman, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Unnamed (west-northwest of St. James Bay)

Site type: Prospect

ARDF no.: JU074

Latitude: 58.6439 **Quadrangle:** JU C-5

Longitude: 135.3762

Location description and accuracy:
This occurrence is 5 miles west-northwest of St. James Bay. It is at an elevation of approximately 2,000 feet, near the terminus of a glacier at the head of a creek draining into St. James Bay. It is in the NE1/4, SW1/4 section 20, T. 37 S., R. 61 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au, Cu, Pb, Zn

Other: Ba

Ore minerals: Pyrite, pyrrhotite

Gangue minerals: Calcite, quartz

Geologic description:
The prospect is in Silurian graywacke, turbidite, and limestone of the Point Augusta Formation (Brew and Ford, 1985). The deposit consists of pods and stringers of pyrite in siliceous argillite and in quartz veins, and of massive pyrite and pyrrhotite parallel to the foliation of laminated phyllite. U.S. Bureau of Mines samples contain up to 0.1 ppm gold, 1,600 ppm barium, 880 ppm copper, 570 ppm lead, and 710 ppm zinc (Clough and Redman, 1989). The general area is underlain by metamorphosed Silurian and Devonian clastic rocks, limestone, and volcanic units; Permian limestone and siltstone; and small plutons of Tertiary and Cretaceous granodiorite (Brew and Ford, 1985).

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:
Only surface sampling.

Production notes:

Reserves:

Additional comments:

References:
Brew and Ford, 1985; Clough and Redman, 1989.

Primary reference: Clough and Redman, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Unnamed (near St. James Bay)

Site type: Occurrence

ARDF no.: JU075

Latitude: 58.6193 **Quadrangle:** JU C-5

Longitude: 135.3602

Location description and accuracy:

This occurrence is about 4 miles west of St. James Bay. It is at an elevation of approximately 2,000 feet, near the terminus of a glacier at the head of a creek draining into St. James Bay. It is in the SW1/4 NW1/4 section 33, T. 37 S., R. 61 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Cu, Zn

Other:

Ore minerals: Pyrite

Gangue minerals: Calcite, quartz

Geologic description:

This occurrence is in Silurian graywacke, turbidite, and limestone of the Point Augusta Formation (Brew and Ford, 1985). The deposit consists of pods and stringers of pyrite in siliceous argillite and in quartz veins. A U.S. Bureau of Mines sample of a quartz-calcite vein contained up to 4,000 ppm copper and 1,600 ppm zinc (Clough and Redman, 1989). The general area is underlain by metamorphosed Silurian and Devonian clastic rocks, limestone, and volcanic units; Permian limestone and siltstone; and small plutons of Tertiary and Cretaceous granodiorite (Brew and Ford, 1985).

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:
Only surface sampling.

Production notes:

Reserves:

Additional comments:

References:
Brew and Ford, 1985; Clough and Redman, 1989.

Primary reference: Clough and Redman, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Gilen

Site type: Prospect

ARDF no.: JU076

Latitude: 58.6345 **Quadrangle:** JU C-3

Longitude: 134.8434

Location description and accuracy:

The Gilen prospect is at an elevation of about 1,000 feet on the north side of Cowee Creek approximately 0.6 mile west of its confluence with Canyon Creek It is in the SE1/4NE1/4 section 28, T. 37 S., R. 64 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Au

Other:

Ore minerals: Pyrite

Gangue minerals: Quartz

Geologic description:

The Gillen prospect was discovered about 1910. It consists of a concordant quartz-stringer zone along the contact between black phyllite and greenstone. Disseminated pyrite is common both in phyllite and greenstone. Workings include three adits and several open cuts (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 auriferous quartz vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a 160-km-long by 5- to 8-km-wide zone along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, mod-

erately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Inactive

Workings/exploration:

The deposit at the Gillen prospect was discovered about 1910. Workings include three adits and several open cuts (Redman and others, 1989).

Production notes:

Reserves:

Additional comments:

References:

Brew and Ford, 1974; Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Blue Jay

Site type: Prospect

ARDF no.: JU077

Latitude: 58.6126 **Quadrangle:** JU C-3

Longitude: 134.8207

Location description and accuracy:

The Blue Jay prospect is at an elevation of about 2,000 feet, near the head of an unnamed, north tributary of Cowee Creek on the south side of Cowee Creek . It is in the SW1/4SE1/4 section 34, T. 37 S., R. 64 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Au

Other:

Ore minerals: Pyrite

Gangue minerals: Quartz

Geologic description:

The Blue Jay deposit was discovered in 1906. It consists of northwest-trending quartz veins up to 1.1 feet thick, and of quartz vein stockworks that cut black phyllite. U.S. Bureau of Mines samples contained up to 5.0 ppm gold (Redman and others, 1989). Workings include an adit and several open cuts.

This prospect is in the Juneau Gold Belt, which consists of more than 200 auriferous quartz vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a 160-km-long by 5- to 8-km-wide zone along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, mod-

erately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Inactive

Workings/exploration:

Workings include an adit and several open cuts.

Production notes:

Reserves:

Additional comments:

References:

Brew and Ford, 1974; Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Maude S.

Site type: Prospect

ARDF no.: JU078

Latitude: 58.6091 **Quadrangle:** JU C-3

Longitude: 134.8160

Location description and accuracy:

The prospect is at an elevation of about 2,500 feet, on the northwest side of the ridge crest that is bounded on the north by Cowee Creek, on the northeast by Canyon Creek, and on the west by South Fork Cowee Creek. It is 1/2 mile northwest of Cottrell Basin, near the center of the NE1/4 section 3, T. 38 S., R. 64 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Au

Other:

Ore minerals:

Gangue minerals: Quartz

Geologic description:

The Maude S deposit was discovered in 1906. It is in black phyllite and graphitic schist, and consists of northwest-trending quartz veins up to 3 feet thick and discontinuous quartz-vein stockworks up to 35 feet thick. U.S. Bureau of Mines samples contained up to 4.4 ppm gold. Workings include a 125-foot adit and 45-foot adit. The deposit was drilled by Houston Oil and Minerals in 1985 (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 auriferous quartz vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a 160-km-long by 5- to 8-km-wide zone along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and gra-

nodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Inactive

Workings/exploration:

Workings include a 125-foot adit and 45-foot adit. The deposit was drilled by Houston Oil and Minerals in 1985 (Redman and others, 1989).

Production notes:

Reserves:

Additional comments:

References:

Brew and Ford, 1974; Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Joyce-Jenson

Site type: Prospect

ARDF no.: JU079

Latitude: 58.6061 **Quadrangle:** JU C-3

Longitude: 134.8091

Location description and accuracy:

The Joyce-Jenson prospect is at an elevation of about 2,200 feet on the northwest side of the ridge crest that is bounded on the north by Cowee Creek, on the northeast by Canyon Creek, and on the west by South Fork Cowee Creek. It is 1/4 mile northwest of Cottrell Basin, in the SW1/4NW1/4 section 2, T. 38 S., R. 64 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Au

Other: Ag, Cu, Pb

Ore minerals: Arsenopyrite, chalcopyrite, galena, pyrite, pyrrhotite

Gangue minerals: Quartz

Geologic description:

The Joyce-Jensen deposit was discovered in 1906. It is in phyllite and consists of a northwest-trending quartz vein that dips northeast and is up to 12 feet thick. The vein parallels the foliation of the phyllite and contains up to 5 percent sulfides in pods and stringers. The sulfides are arsenopyrite, pyrite, pyrrhotite, chalcopyrite, and galena (Knopf, 1912; Redman and others, 1989). U.S. Bureau of Mines samples contain up to 11.8 ppm gold. Workings include a 220-foot adit, a 10-foot adit, an open cut,and several trenches. The deposit was drilled by Houston Oil and Minerals in 1985 (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 auriferous quartz vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a 160-km-long by 5- to 8-km-wide zone along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller

and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:
Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: No

Site Status: Inactive

Workings/exploration:
Workings include a 220-foot adit, a 10-foot adit, an open cut, and several trenches. The deposit was drilled by Houston Oil and Minerals in 1985.

Production notes:

Reserves:

Additional comments:

References:
Knopf, 1912; Brew and Ford, 1974; Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): St. James Bay

Site type: Prospect

ARDF no.: JU080

Latitude: 58.5955 **Quadrangle:** JU C-4

Longitude: 135.2226

Location description and accuracy:
This prospect is at an elevation of about 100 feet, about midway along St. James Bay. It is at the northwest corner of section 8, T. 38 S., R. 62 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Ag, Pb, Zn

Other:

Ore minerals: Galena

Gangue minerals: Calcite, quartz

Geologic description:
The St. James Bay prospect consists of three parallel, quartz-calcite veins in black phyllite. The veins strike about west-northwest, dip 76 NE, and can be traced along strike up to 3000 feet. The westernmost vein is up to 15 feet thick and contains galena. The veins were developed in the 1890's by 2 adits driven in 1896. U.S. Bureau of Mines samples contained up to 4.8 ppm silver, 15,100 ppm zinc, and 5,280 ppm lead (Clough and Redman, 1989). The general area is underlain by metamorphosed Silurian and Devonian clastic rocks, limestone, and volcanic units; Permian limestone and siltstone; and small plutons of Tertiary and Cretaceous granodiorite (Brew and Ford, 1985).

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:
The veins were developed in the 1890's by 2 adits driven in 1896.

Production notes:

Reserves:

Additional comments:

References:
Brew and Ford, 1985; Clough and Redman, 1989; Gehrels and Berg, 1994.

Primary reference: Clough and Redman, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Black Chief

Site type: Prospect

ARDF no.: JU081

Latitude: 58.5982 **Quadrangle:** JU C-3

Longitude: 134.7964

Location description and accuracy:

The Black Chief prospect is at an elevation of about 2,200 feet on the south wall of Cottrell Basin. It is in the NW1/4NE1/4 section 11, T. 38 S., R. 64 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Au

Other: Pb

Ore minerals: Arsenopyrite, galena, pyrite

Gangue minerals: Quartz

Geologic description:

The Black Chief prospect was discovered in 1906. It consists of a northwest-trending quartz stockwork zone in black phyllite and graphitic schist. The zone dips northeast and is up to 20 feet thick. The stockwork veins average approximately 1 inch thick and contain arsenopyrite, pyrite, and galena. A U.S. Bureau of Mines sample across a 2-foot width of the stockwork contained 16.7 ppm gold. Workings include a caved adit, a 320-foot adit, and an open cut (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 auriferous quartz vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a 160-km-long by 5- to 8-km-wide zone along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels

and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: No

Site Status: Inactive

Workings/exploration:

Workings include a caved adit, a 320-foot adit, and an open cut.

Production notes:

Reserves:

Additional comments:

References:

Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): E Pluribus Unum; Cottrell-Spaulding

Site type: Mine

ARDF no.: JU082

Latitude: 58.5978 **Quadrangle:** JU C-3

Longitude: 134.8018

Location description and accuracy:

The E Pluribus Unum Mine is at an elevation of about 2,200 feet, on the south wall of Cottrell Basin. It is near the center of the NW1/4 section 11, T. 38 S., R. 64 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Au

Other: Cu, Pb, Sb, Zn

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

Gangue minerals: Quartz

Geologic description:

The E Pluribus Unum Mine is in a nortwest-trending zone of intensely folded and sheared black phyllite and graphitic schist that can be traced for nearly 5,000 feet (Redman and others, 1989). The shear zone is at least 130 feet wide and contains quartz-stringer veins 1-inch thick in 6-foot-thick zones, and massive quartz veins up to 2.5 feet thick in the noses of folds. The veins contain arsenopyrite, chalcopyrite, galena, pyrite, minor sphalerite, and stibnite. The stringer veins average about 0.3 ppm gold and the massive quartz veins average about 30.2 ppm gold (Roehm, 1936; Redman and others, 1989). U.S. Bureau of Mines samples contained up to 59.9 ppm gold (Redman and others, 1989). The U.S. Bureau of Mines collected a 300-pound metallurgical sample for a cyanide amenability test that resulted in 92 percent recovery of gold using 23 pounds of sodium cyanide. The E Pluribus Unum deposit was discovered in 1906 and produced gold intermittently until 1940. The total documented production was 154 ounces of gold, 44 ounces of silver, 11 pounds of copper, and 242 pounds of lead from 106 tons of ore. There are 3 adits and several trenches, and the deposit was drilled by Houston Oil and Minerals in 1985 (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adja-

cent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Yes; small

Site Status: Active

Workings/exploration:

There are 3 adits and several trenches; the deposit was drilled by Houston Oil and Minerals in 1985.

Production notes:

The E Pluribus Unum deposit was discovered in 1906 and produced gold intermittently until 1940. The total documented production was 154 ounces of gold, 44 ounces of silver, 11 pounds of copper, and 242 pounds of lead, from 106 tons of ore.

Reserves:

Additional comments:

References:

Roehm, 1936; Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Julia

Site type: Prospect

ARDF no.: JU083

Latitude: 58.5936 **Quadrangle:** JU C-3

Longitude: 134.7933

Location description and accuracy:

The Julia prospect is at an elevation of about 2,200 feet, on the divide between Yankee Basin and Cottrell Basin. It is about 0.1 mile east of the center of section 11, T. 38 S., R. 64 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Ag, Au

Other: Pb

Ore minerals: Arsenopyrite, galena, pyrite, scorodite

Gangue minerals: Quartz

Geologic description:

The Julia prospect is in northwest-trending intercalated black phyllite, graphitic schist, and felsic phyllite. The deposit consists of discontinuous quartz lenses and quartz stringer-veins in black phyllite. The quartz contains arsenopyrite, galena, pyrite, and scorodite (Redman and others, 1989). U.S. Bureau of Mines samples contain up to 20.2 ppm gold and 12.0 ppm silver (Redman and others, 1989). This prospect, together with the Noonday (JU090), Puzzler (JU089), and Cascade (JU088) prospects, is sometimes collectively referred to as the Julia group. The deposits were discovered before 1904. The Julia prospect was developed by an 8-foot adit, several open cuts, and some trenches. The area was drilled by Placid Oil in the early 1980's and by Houston Oil and Minerals in 1985 (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 auriferous quartz vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a 160-km-long by 5- to 8-km-wide zone along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller

and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Inactive

Workings/exploration:

There is an 18-foot adit, an 8-foot adit, an inclined shaft, and several open cuts and trenches. The deposit was drilled by Placid Oil in the early 1980's and by Houston Oil and Minerals in 1985.

Production notes:

Reserves:

Additional comments:

References:

Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Aurora Borealis; Morningstar

Site type: Mine

ARDF no.: JU084

Latitude: 58.5929 **Quadrangle:** JU C-3

Longitude: 134.8632

Location description and accuracy:

This mine is at an elevation of about 1,200 feet between Bessie Creek and South Fork Cowee Creek. It is 1/4 mile northeast of the Bessie mine (JU085), in the SW1/4 section 9, T. 38 S., R. 64 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other: Pb

Ore minerals: Arsenopyrite, galena, pyrite

Gangue minerals: Quartz

Geologic description:

The Aurora Borealis Mine, also known as the Morning Star, was discovered in 1896. It consists of a northeast-trending quartz vein and quartz stringer lode that dips 20 NW. The vein is in northerly-striking, west-dipping black phyllite near the contact with metamorphosed volcanic conglomerate. The vein mostly follows a shear zone in the phyllite and varies from a few inches to 3.6 feet thick; it commonly branches into numerous quartz veinlets and stringers. The quartz contains up to 2 percent pyrite and arsenopyrite, with minor galena. The sulfides are concentrated near the vein margins (Barnett, 1988; Redman and others, 1989). A U.S. Bureau of Mines sample of the quartz vein contained up to 4.1 ppm gold over 2.7-foot width, and a sample of metavolcanic rock contained 11.3 ppm gold (Redman and others, 1989). In 1988, Monument Resources panel-sampled the entire 200-foot length of the vein exposed in one adit. The weighted average of their assays was 0.163 ounce of gold per ton over 200 feet. Included in that average was a 50-foot zone that had a weighted average of 0.431 ounce of gold per ton (Barnett, 1988). There are 4 adits and 1,400 feet of underground workings. The mine is estimated to have produced 150 ounces of gold prior to 1913, which is half of the combined production of the Aurora Borealis and the Bessie mine (JU085) (Redman and others, 1989). The U.S. Bureau of Mines estimates that the Aurora Borealis deposit contains a resource of 3,500 tons of ore that average 0.1 ounce of gold per ton. The area was explored by Noranda in 1981 and by Monument Resources in 1988. Monument Resources drilled 5 holes on the

Bessie (JU085) and the Aurora Borealis properties in 1988. The holes intersected 2 narrow veins, each assaying more than 1.1 ounces of gold per ton (Barnett, 1988).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Yes; small

Site Status: Active

Workings/exploration:

There are 4 adits and 1,400 feet of underground workings. The mine area was explored by Noranda in 1981 and by Monument Resources in 1988. Monument Resources drilled 5 holes on the Bessie (JU085) and the Aurora Borealis properties in 1988 (Barnett, 1988; Redman and others, 1989; Roehm, 1936).

Production notes:

The mine is estimated to have produced 150 ounces of gold prior to 1913, half of the

combined production of the Aurora Borealis and the Bessie mine (JU085) (Redman and others, 1989).

Reserves:

The U.S. Bureau of Mines estimates that the Aurora Borealis deposit contains a resource of 3,500 tons of ore that average 0.1 ounce of gold per ton.

Additional comments:

References:

Roehm, 1936; Barnett, 1988; Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Barnett, 1988

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Bessie

Site type: Mine

ARDF no.: JU085

Latitude: 58.5895 **Quadrangle:** JU C-3

Longitude: 134.8677

Location description and accuracy:

The Bessie Mine is at an elevation of about 2,200 feet, between Bessie Creek and South Fork Cowee Creek. The mine site is marked on the Juneau C-3 topographic map, in the SE1/4 section 8, T. 38 S., R. 64 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other: Ag, Pb, Zn

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

Gangue minerals: Quartz

Geologic description:

The deposit at the Bessie Mine consists of a quartz vein in metamorphosed volcanic conglomerate that contains well-rounded pebbles up to 5 inches diameter. The conglomerate has a sheared contact with graywacke and black phyllite. The vein strikes N 77 E and dips steeply to the southeast. The vein displays ribbon structures and varies from 8 inches to 3 feet thick, averaging 1 foot thick. It contains pyrite, with minor sphalerite, arsenopyrite, galena and native gold (Redman and others, 1989; Roehm, 1936). Thirteen panel samples taken by Monument Resources in 1988 along 70 feet of exposed quartz vein in one of the drifts had a weighted average of 0.347 ounce of gold per ton (Barnett, 1988). The Bessie deposit was discovered in 1897 and developed by two adits and a shaft. One adit was driven 175 feet to the vein and then drifts along it for 75 feet. Another adit follows the vein along strike for 245 feet. The mine is estimated to have produced 150 ounces of gold prior to 1913, which is half of the combined production of the Bessie and Aurora Borealis mines (JU084) (Redman and others, 1989). The U.S. Bureau of Mines estimates that the Bessie Mine contains a resource of 19,000 tons of ore that contains 0.2 ounce of gold per ton with an average width of 3 feet. The mine area was explored by Noranda in 1981 and by Monument Resources in 1988. Monument Resources drilled 5 holes on the Bessie (JU085) and the Aurora Borealis properties in 1988. The holes intersected 2 narrow veins, each assaying more than 1.1 ounces of gold per ton

(Barnett, 1988).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Yes; small

Site Status: Active

Workings/exploration:

The Bessie mine was discovered in 1897 and developed by two adits and a shaft. The mine area was explored by Noranda in 1981 and by Monument Resources in 1988. Monument Resources drilled 5 holes on the Bessie (JU085) and the Aurora Borealis properties in 1988. The holes intersected 2 narrow veins, each assaying more than 1.1 ounces of gold per ton (Barnett, 1988).

Production notes:

The mine is estimated to have produced 150 ounces of gold prior to 1913, which is half

of the combined production of the Bessie and Aurora Borealis mines (JU084) (Redman and others, 1989).

Reserves:

The U.S. Bureau of Mines estimates that the Bessie Mine contains a resource of 19,000 tons of ore that contains 0.2 ounce of gold per ton, with an average vein width of 3 feet (Redman and others, 1989).

Additional comments:

References:

Roehm, 1936 (PE 112-5); Barnett, 1988; Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Barnett, 1988

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Dividend

Site type: Prospect

ARDF no.: JU086

Latitude: 58.5846 **Quadrangle:** JU C-3

Longitude: 134.8040

Location description and accuracy:

The Dividend prospect is at an elevation of about 1,300 feet, on the southeast wall of Yankee Basin. It is in the NE1/4NW1/4 section 14, T. 38 S., R. 64 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Au

Other: Pb

Ore minerals: Arsenopyrite, galena, native gold, pyrite

Gangue minerals: Quartz

Geologic description:

The Dividend prospect is in northwest-trending, intercalated black phyllite and greenstone (Redman and others, 1989). The deposit consists of discontinuous quartz lenses and quartz-stringer veins in sheared black phyllite. The quartz contains arsenopyrite, galena, pyrite, and native gold. The stringer zones are up to 10 feet thick, and the stringers vary from 1 inch to 1 foot thick. U.S. Bureau of Mines samples contained up to 6.4 ppm gold (Redman and others, 1989). The prospect area was explored by Houston Oil and Minerals in 1985. The deposit was discovered in 1903 and developed by the so-called Standard crosscut, a 1,100-foot adit (that was reopened by Houston Oil and Minerals in 1985), another short crosscut, 2 shafts, and some trenches (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plu-

tons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Inactive

Workings/exploration:

The prospect was explored by Houston Oil and Minerals in 1985. The deposit was discovered in 1903 and developed by the so-called Standard crosscut, an 1,100-foot adit (that was reopened by Houston Oil and Minerals in 1985), another short crosscut, 2 shafts, and some trenches (Redman and others, 1989).

Production notes:

Reserves:

Additional comments:

References:

Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Alaska-Washington

Site type: Prospect

ARDF no.: JU087

Latitude: 58.5831 **Quadrangle:** JU C-3

Longitude: 134.8531

Location description and accuracy:

The Alaska-Washington prospect is at an elevation of about 2,200 feet near the ridge crest between at the head of Bessie Creek. It is about one-quarter of a mile north of the center of section 16, T. 38 S., R. 64 E. of the Copper River Meridian. The prospect is marked by mine and prospect symbols on the Juneau C-3 topographic map. The location is accurate.

Commodities:

Main: Au

Other: Zn

Ore minerals: Arsenopyrite, pyrite, sphalerite

Gangue minerals: Quartz

Geologic description:

The Alaska-Washington deposit consists of a series of parallel quartz veins in metamorphosed volcanic conglomerate (Knopf, 1912). The veins strike east-west, dip steeply to the south, and can be traced discontinuously for 1,500 feet along strike. The veins display slickensides and shearing along their margins, and the wallrock is altered and bleached. The veins are up to 6 feet thick, average 1.4 feet thick, and contain arsenopyrite, pyrite, and minor sphalerite. The deposit was discovered in 1897 and developed by a 30 foot shaft and four adits totaling 500 feet. U.S. Bureau of Mines samples contained up to 0.147 ounce of gold per ton (Redman and others, 1989). The area was explored by Noranda in 1981 and by Monument Resources in 1988 (Barnett, 1988).

This prospect is in the Juneau Gold Belt, which consists of more than 200 auriferous quartz vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a 160-km-long by 5- to 8-km-wide zone along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-

Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

The wallrocks of veins are altered and bleached.

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Inactive

Workings/exploration:

The deposit was discovered in 1897 and developed by a 30 foot shaft and four adits totaling 500 feet. The area was explored by Noranda in 1981 and by Monument Resources in 1988 (Barnett, 1988).

Production notes:

Reserves:

Additional comments:

References:

Barnett, 1988; Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Cascade

Site type: Prospect

ARDF no.: JU088

Latitude: 58.5813 **Quadrangle:** JU C-3

Longitude: 134.7923

Location description and accuracy:

The Cascade prospect is at an elevation of approximately 2,000 feet, on the southeast side of Yankee Basin. It is in the SW1/4NE1/4 section 14, T. 38 S., R. 64 E. of the Copper River Meridian; the site is marked by mine and prospect symbols on the Juneau C-3 topographic map. The location is accurate.

Commodities:

Main: Ag, Au

Other: Pb, Zn

Ore minerals: Arsenopyrite, galena, pyrite, sphalerite

Gangue minerals: Quartz

Geologic description:

The host rocks at the Cascade prospect are northwest-trending, intercalated black phyllite, graphitic schist and felsic phyllite (Knopf, 1912). The deposit consists of continuous quartz lenses and quartz stringer lodes up to 6 feet thick in black phyllite. The quartz contains arsenopyrite, galena, pyrite, and sphalerite. This prospect, together with the Noonday (JU090), Julia (JU083), and Puzzler (JU089) prospects are sometimes collectively referred to as the Julia group. The deposits were discovered before 1904. The Cascade prospect was developed by a 90-foot inclined shaft and several trenches. The prospect area was drilled by Placid Oil in the early 1980's and by Houston Oil and Minerals in 1985. U.S. Bureau of Mines samples contained up to 4.3 ppm gold and 4.4 ppm silver (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-

Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Inactive

Workings/exploration:

This prospect, together with the Noonday (JU090), Julia (JU083) and Puzzler (JU089) prospects are sometimes collectively referred to as the Julia group. The deposits were discovered prior to 1904. The Cascade prospect was developed by a 90-foot inclined shaft and several trenches. The prospect area was drilled by Placid Oil in the early 1980's and by Houston Oil and Minerals in 1985. U.S. Bureau of Mines samples contained up to 4.3 ppm gold and 4.4 ppm silver (Redman and others, 1989).

Production notes:

Reserves:

Additional comments:

References:

Knopf, 1912; Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Puzzler

Site type: Prospect

ARDF no.: JU089

Latitude: 58.5820 **Quadrangle:** JU C-3

Longitude: 134.7880

Location description and accuracy:

The Puzzler prospect is on the southeast side of Yankee Basin at an elevation of approximately 2,300 feet. It is near the center of the NE1/4 section 14, T. 38 S., R. 64 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Ag, Au

Other: Pb, Zn

Ore minerals: Arsenopyrite, galena, pyrite, sphalerite

Gangue minerals: Quartz

Geologic description:

The rocks at the Puzzler prospect are northwest-trending, intercalated black phyllite, graphitic schist, and felsic phyllite (Knopf, 1912). The deposit consists of discontinuous quartz lenses and quartz-stringer lodes up to 14 feet thick in black phyllite. The quartz contains arsenopyrite, galena, pyrite, and sphalerite. This prospect together with the Noonday (JU090), Julia (JU083) and Cascade (JU088) prospects are sometimes collectively referred to as the Julia group. The deposits were discovered before 1904. The prospect was developed by an inclined shaft. This deposit was drilled by Placid Oil in the early 1980's and by Houston Oil and Minerals in 1985. U.S. Bureau of Mines samples contained up to 6.2 ppm gold and 4.0 ppm silver (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 auriferous quartz vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a 160-km-long by 5- to 8-km-wide zone along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plu-

tons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Inactive

Workings/exploration:

This prospect together with the Noonday (JU090), Julia (JU083) and Cascade (JU088) prospects are sometimes collectively referred to as the Julia group. All were discovered prior to 1904. The prospect was developed by an inclined shaft. It was drilled by Placid Oil in the early 1980's and by Houston Oil and Minerals in 1985.

Production notes:

Reserves:

Additional comments:

References:

Knopf, 1912; Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Noonday

Site type: Prospect

ARDF no.: JU090

Latitude: 58.5812 **Quadrangle:** JU C-3

Longitude: 134.7856

Location description and accuracy:
The Noonday prospect is at an elevation of approximately 2,400 feet on the southeast side of Yankee Basin. It is in the SE1/4NE1/4 section 14, T. 38 S., R. 64 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Ag, Au

Other: Pb, Zn

Ore minerals: Arsenopyrite, galena, pyrite, sphalerite

Gangue minerals: Quartz

Geologic description:
The Noonday prospect is in northwest-trending intercalated black phyllite, graphitic schist, and felsic phyllite (Knopf, 1912). The deposit consists of discontinuous quartz lenses and quartz-stringer lodes up to 6 feet thick in black phyllite. The quartz contains arsenopyrite, galena, pyrite, and sphalerite. This prospect together with the Puzzler (JU089), Julia (JU083), and Cascade (JU088) prospects are sometimes collectively referred to as the Julia group. The deposits were discovered before 1904. This prospect was developed by an 18-foot adit and 5 trenches. The area was drilled by Placid Oil in the early 1980's and by Houston Oil and Minerals in 1985. U.S. Bureau of Mines samples contained up to 50.3 ppm gold and 7.0 ppm silver (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 auriferous quartz vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a 160-km-long by 5- to 8-km-wide zone along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plu-

tons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Inactive

Workings/exploration:

This prospect together with the Puzzler (JU089), Julia (JU083) and Cascade (JU088) prospects are sometimes collectively referred to as the Julia group. The deposits were discovered prior to 1904. This prospect was developed by an 18-foot adit and 5 trenches. The area was drilled by Placid Oil in the early 1980's and by Houston Oil and Minerals in 1985.

Production notes:

Reserves:

Additional comments:

References:

Knopf, 1912; Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Rex

Site type: Mine

ARDF no.: JU091

Latitude: 58.5764 **Quadrangle:** JU C-3

Longitude: 134.7851

Location description and accuracy:

The Rex Mine is at an elevation of approximately 2,500 feet on the divide between the southeast side of Yankee Basin and the Eagle River drainage. It is in the NE1/4 SE1/4 section 14, T. 38 S., R. 64 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Arsenopyrite, gold

Gangue minerals: Calcite, quartz

Geologic description:

The Rex Mine is in northwest-trending, intercalated black phyllite and greenstone (Knopf, 1912). A small, irregular, calcite-quartz vein carrying auriferous arsenopyrite and native gold crosscuts the foliation of the phyllite. The Rex vein was discovered in 1903 and developed by a 15-foot adit and 5 trenches. The mine has documented production of 145 ounces of gold. The prospect area was explored by Houston Oil and Minerals in 1985. U.S. Bureau of Mines samples contained up to 0.2 ppm gold (Redman and others, 1989).

This mine is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bod-

ies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Yes; small

Site Status: Inactive

Workings/exploration:

The Rex vein was discovered in 1903 and developed by a 15-foot adit and 5 trenches. The mine has documented production of 145 ounces of gold. The prospect area was explored by Houston Oil and Minerals in 1985. U.S. Bureau of Mines samples contained up to 0.2 ppm gold (Redman and others, 1989).

Production notes:

The Rex mine has documented production of 145 ounces of gold.

Reserves:

Additional comments:

References:

Knopf, 1912; Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Knopf, 1912

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Mt. Queen; Westover

Site type: Prospect

ARDF no.: JU092

Latitude: 58.5731 **Quadrangle:** JU C-3

Longitude: 134.7579

Location description and accuracy:

The prospect is at an elevation of approximately 500 feet on the northwest side of Eagle River 1/4 mile west of the lake at the terminus of the Eagle Glacier. It is near the southeast corner of section 13, T. 38 S., R. 64 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Pyrite

Gangue minerals: Quartz

Geologic description:

The Mountain Queen prospect was discovered in 1903 and developed by a 10- to 15-foot adit and 3 open cuts. The deposit consists of a pyrite-bearing quartz vein in graywacke and phyllite (Redman and others, 1989). U.S. Bureau of Mines samples did not contain significant metal values (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 auriferous quartz vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a 160-km-long by 5- to 8-km-wide zone along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, mod-

erately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Inactive

Workings/exploration:

The Mountain Queen deposit was discovered in 1903 and developed by a 10- to 15-foot adit and 3 open cuts.

Production notes:

Reserves:

Additional comments:

References:

Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Mother Lode

Site type: Prospect

ARDF no.: JU093

Latitude: 58.5715 **Quadrangle:** JU C-3

Longitude: 134.8382

Location description and accuracy:

The Mother Lode prospect is at an elevation of about 1,900 feet, near the ridge crest between Favorite Channel and the head of Boulder Creek. It is near the NE corner of section 22, T. 38 S., R. 64 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Arsenopyrite, pyrite

Gangue minerals: Quartz

Geologic description:

The Mother Lode prospect consists of a series of quartz veins and masses in metamorphosed volcanic conglomerate (Knopf, 1912). The veins strike northerly and dip 35 W. They are up to 3 feet thick and contain arsenopyrite and pyrite. The deposit was discovered in the late 1890's. Workings include a 10-foot decline and a trench. U.S. Bureau of Mines samples contained up to 8.8 ppm gold (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, mod-

erately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Inactive

Workings/exploration:

The prospect was discovered in the late 1890's. Workings include a 10-foot decline and a trench. U.S. Bureau of Mines samples contained up to 8.8 ppm gold (Redman and others, 1989).

Production notes:

Reserves:

Additional comments:

References:

Knopf, 1912; Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Eagle River; Amalga

Site type: Mine

ARDF no.: JU094

Latitude: 58.5710 **Quadrangle:** JU C-3

Longitude: 134.7722

Location description and accuracy:

The Eagle River Mine is at an elevation of approximately 1,500 feet, overlooking the historic townsite of Amalga. The mine area is about 2 miles southwest of the terminus of Eagle Glacier and 1/2 mile west of Eagle River, in the NW1/4 section 13, NW1/4 section 24, T. 38 S., R. 64 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Ag, Au

Other: Pb, Zn

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

Gangue minerals: Quartz

Geologic description:

The deposit at the Eagle River Mine consists of heavily-faulted quartz veins along shear zones in slate and graywacke that are cut by a a few thin, intrusive sheets of green, augite melaphyre. The quartz veins are up to 15 feet thick, vary from 25 to 100 feet long, and are repeatedly terminated by faults. Ground conditions are poor and many of the veins are in slump blocks and sloughed areas. The veins generally strike northwest, dip 70 NE, and contain pyrite, pyrrhotite, arsenopyrite, native gold, galena, sphalerite, chalcopyrite, and minor native copper. High gold values are generally associated with high sulfide content, mainly arsenopyrite and galena. Honeycombed quartz with no sulfides also carries considerable free gold, as does quartz with much pyrrhotite (Spencer, 1906; Knopf, 1912; Cobb, 1978 [OFR 78-374]). The Eagle River Mine was discovered in 1902. The mine workings include over 30,000 feet of underground workings, including the 3,000-foot Flume Tunnel. The mine had a 20-stamp mill and produced 19,451 ounces of gold and 8,855 ounces of silver between 1904 and 1915. Ore mined from the upper workings was 90 percent free-milling and ore mined in the lower workings was 56 percent free-milling. An additional 100 ounces of gold, 5 ounces of silver, and 1 pound of lead were recovered from the tailings in 1940. U.S. Bureau of Mines samples contained up to 50.3 ppm gold, 42.5 ppm silver, 1.27 percent lead, and 0.7 percent zinc. In 1981 and 1982, Placid Oil Co. drilled several holes in the mine area. Houston Oil and Minerals Co.

drilled additional holes in 1985. Reserves at the Eagle River Mine have been estimated as high as 750,000 tons of ore with an average of 0.2 ounce of gold per ton (Kurtak and Maas, 1988). The U.S. Bureau of Mines however, estimates an inferred resource of 53,100 tons of ore with an average of 0.28 ounce of gold per ton (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Yes

Site Status: Active

Workings/exploration:

The Eagle River Mine was discovered in 1902. The mine workings include over 30,000 feet of underground workings, including the 3,000-foot Flume Tunnel. In 1981 and 1982, Placid Oil Co. drilled several holes in the mine area. Houston Oil and Minerals Co. drilled additional holes in 1985.

Production notes:

The mine had a 20-stamp mill and produced 19,451 ounces of gold and 8,855 ounces of silver between 1904 and 1915. Ore mined from the upper workings was 90 percent free-milling and ore mined in the lower workings was 56 percent free-milling. An additional 100 ounces of gold, 5 ounces of silver, and 1 pound of lead were recovered from the tailings in 1940.

Reserves:

Reserves at the Eagle River Mine have been estimated as high as 750,000 tons of ore with an average of 0.2 ounce of gold per ton (Kurtak and Maas, 1988). The U.S. Bureau of Mines however, estimates an inferred resource of 53,100 tons of ore with an average of 0.28 ounce of gold per ton (Redman and others, 1989).

Additional comments:

References:

Spencer, 1906; Knopf, 1912; Brew and Ford, 1974; Cobb, 1978 (OFR 78-374); Kurtak and Maas, 1988; Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Kurtak and Moss, 1988

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Oleson

Site type: Prospect

ARDF no.: JU095

Latitude: 58.5534 **Quadrangle:** JU C-3

Longitude: 134.7964

Location description and accuracy:

The Oleson prospect is at an elevation of approximately 1,000 feet on the east side of the old Yankee Basin trail, 1/2 mile west of Boulder Creek and 1 mile northwest of Eagle River. It is about at the center of the N1/2 of section 26, T. 38 S., R. 64 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Au

Other:

Ore minerals: Arsenopyrite

Gangue minerals: Quartz

Geologic description:

The Oleson prospect was discovered in 1908 and consists of a short adit and 2 open cuts. The deposit consits of narrow quartz veins containing rock fragments impregnated with arsenopyrite (Knopf, 1912). The veins are along the contact between phyllite and greenstone and metavolcanic breccia. U.S. Bureau of Mines samples did not contain significant metal values (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels

and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:
Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: No

Site Status: Inactive

Workings/exploration:
The Oleson prospect was discovered in 1908 and consists of a short adit and 2 open cuts.

Production notes:

Reserves:

Additional comments:

References:
Knopf, 1912; Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Mitchell and McPherson

Site type: Prospect

ARDF no.: JU096

Latitude: 58.5468 **Quadrangle:** JU C-3

Longitude: 134.7254

Location description and accuracy:

The Mitchell and McPherson prospect is 1.5 miles west-northwest of the terminus of Herbert Glacier. It is at an elevation of approximately 1,700 feet near the west end of the ridge between Eagle River and Herbert Glacier in the SW1/4SW1/4 section 29, T. 38 S., R. 65 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Ag, Au

Other: Pb

Ore minerals: Galena, pyrite

Gangue minerals: Quartz

Geologic description:

The Mitchell and McPherson prospect was discovered in 1904 and consists of 2 adits and several trenches. The prospect is on a northeast-trending, vertical shear zone in diorite gneiss whose foliation trends northwest and dips 60 NE (Redman and others, 1989). A breccia zone 6 feet thick trends across the foliation and contains quartz carrying sparse pyrite and galena. Around the time of discovery, the shear zone was reported to contain gold valued up to $12 per ton (with gold at $20.67 per ounce)(Knopf, 1912). In 1939, the prospect was reported to have a reserve of 1.5 million tons that averages 0.2 ounce of gold per ton (Redman and others, 1989). The U.S. Bureau of Mines failed to locate the shear zone in the late 1980's but a sample of altered pyritic diorite contains 2.7 ppm gold, 39.0 ppm silver, and 0.14 percent lead (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-

Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: No

Site Status: Inactive

Workings/exploration:

The Mitchell and McPherson prospect was discovered in 1904 and consists of 2 adits and several trenches.

Production notes:

Reserves:

In 1939, the prospect was reported to have a reserve of 1.5 million tons that averages 0.2 ounce of gold per ton (Redman and others, 1989).

Additional comments:

References:

Knopf, 1912; Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Herbert Glacier

Site type: Prospect

ARDF no.: JU097

Latitude: 58.5309 **Quadrangle:** JU C-3

Longitude: 134.6855

Location description and accuracy:
This prospect is at the south edge of the terminus of Herbert Glacier at an elevation of approximately 500 feet. It is in about the center of the S1/2 section 33, T. 38 S., R. 65 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Ag, Au, Pb, Zn

Other:

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

Gangue minerals: Calcite, quartz

Geologic description:
The Herbert Glacier prospect was discovered in 1986 by Houston Oil and Minerals in outcrops recently exposed by retreating ice. Houston Oil and Minerals drilled the prospect in 1986 and Echo Bay Mines did additional drilling in 1988. The deposit consists of 2 parallel sets of east-northeast- trending quartz veins in quartz-diorite gneiss and andesitic metavolcanic rocks. The veins dip steeply to the north and are composed of quartz and subordinate calcite, and exhibit ribbon texture. The veins pinch and swell, varying in thickness from a few inches to 4 feet. The veins are in shear zones perpendicular to the regional foliation and are marked by slickensided cores. The quartz veins contain native gold, arsenopyrite, pyrite, galena, sphalerite, and scheelite. Fist-size clots of arsenopyrite form up to 20 percent of the principal veins and visible gold occurs in the footwalls of galena-rich parts of the veins. Potassic alteration in the footwalls extends several feet outward into the wallrock. There are two distinct sets of veins, called the north vein set and the south vein set. The south set can be traced for 1,200 feet along strike and 320 feet vertically. The north set is less extensive and contains less sulfide (Redman and others, 1989). U.S. Bureau of Mines samples of the north vein set contained up to 37.2 ppm gold, 186.7 ppm silver, greater than 1 percent lead, and 0.36 percent zinc. Samples of the south vein set contained up to 240.8 ppm gold, 126.9 ppm silver, greater than 1 percent lead, and 0.36 percent zinc (Redman and others, 1989). The Bureau collected a 240-pound metallurgical sample for analysis and beneficiation tests in 1988. A gravity separa-

tion test recovered 88.8 percent of the gold and 80.7 percent of the silver (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Potassic alteration in the footwalls extends several feet outward into the wallrock.

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Active

Workings/exploration:

Houston Oil and Minerals drilled the prospect in 1986 and Echo Bay Mines undertook additional drilling in 1988.

Production notes:

Reserves:

Additional comments:

References:

Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Herbert River

Site type: Prospect

ARDF no.: JU098

Latitude: 58.5311 **Quadrangle:** JU C-3

Longitude: 134.7030

Location description and accuracy:
This placer prospect is at an elevation of approximately 100 feet on Herbert River near the terminus of the Herbert Glacier. It is in the SE1/4SE1/4 section 32, T. 38 S., R. 65 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
The Herbert Glacier gold placer prospect consists of glacial sand deposited near the terminus of the glacier. The sand was mined in 1932 and 1933 and processed with a centrifugal concentrator, but recovery was poor and the operation failed. Native gold-bearing quartz veins outcrop upstream from this prospect along the southern margin of Herbert Glacier (JU097) (Redman and others, 1989).

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au (Cox and Singer, 1986; model 39a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: Undetermined.

Site Status: Inactive

Workings/exploration:

Glacial sand from the Herbert River was mined in 1932 and 1933 and processed with a centrifugal concentrator, but recovery was poor and the operation failed.

Production notes:

Reserves:

Additional comments:

References:

Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): St. Louis; Summit

Site type: Prospect

ARDF no.: JU099

Latitude: 58.5272 **Quadrangle:** JU C-3

Longitude: 134.6723

Location description and accuracy:

The St. Louis prospect is at an elevation of approximately 1,300 feet, near the foot of the north-sloping ridge 1/4 mile south of lower Herbert Glacier. It is near the northwest corner of section 3, T. 39 S., R. 65 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Ag, Au

Other: Pb

Ore minerals: Arsenopyrite, galena, gold

Gangue minerals: Quartz

Geologic description:

The Summit and St. Louis are adjacent prospects that are described as a single prospect in this record. The deposit was discovered in 1889 and developed by a 22-foot shaft. It was explored by Houston Oil and Minerals in 1986 and by Echo Bay Mines in 1988 to 1992 (Redman and others, 1989). The deposit consists of two east-northeast-trending quartz veins in a shear zone that cuts the foliation of quartz-diorite gneiss. The veins vary from 0.7 foot to 4 feet thick, dip 75 southeast, and contain arsenopyrite, free gold and sparse galena. The wallrock, adjacent to the veins, exhibits potassic alteration (Redman and others, 1989). This deposit is one of the few south of the Berners Bay area in diorite gneiss rather than metamorphosed bedded rocks. U.S. Bureau of Mines samples contained up to 35.7 ppm gold, 3.1 ppm silver (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-

Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Potassic alteration of the wallrock.

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: No

Site Status: Inactive

Workings/exploration:

The Summit and St. Louis are adjacent properties that are described as a single prospect in this record. The deposit was discovered in 1889 and developed by a 22-foot shaft. It was explored by Houston Oil and Minerals in 1986 and by Echo Bay Mines in 1988 to 1992 (Redman and others, 1989).

Production notes:

Reserves:

Additional comments:

References:

Berg and Cobb, 1967; Wells and others, 1986; Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Unnamed (on Lincoln Island)

Site type: Prospect

ARDF no.: JU100

Latitude: 58.5145 **Quadrangle:** JU C-4

Longitude: 135.0233

Location description and accuracy:

This prospect is near the northern tip of Lincoln Island at an elevation of about 300 feet. It is in the SW1/4 section 4, T. 39 S., R. 63 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Cu

Other:

Ore minerals: Pyrite, pyrrhotite

Gangue minerals:

Geologic description:

The country rocks are a sequence of chert, tuff, argillite and mafic volcanic rocks, presumably of Late Jurassic or Cretaceous age (Gehrels and Berg, 1994). All of the rocks contain varying amounts of disseminated sulfides, chiefly pyrite or pyrrhotite. The U.S. Bureau of Mines conducted limited ground geophysics in 1986 and noted good conductivity related to the exposure. U.S. Bureau of Mines samples contained up to 1,900 ppm copper (Clough and Hayden, 1988). Wells and others (1986) noted claims at this site in 1956.

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:
Surface sampling and limited geophysics.

Production notes:

Reserves:

Additional comments:

References:
Wells and others, 1986; Clough and Hayden, 1988; Gehrels and Berg, 1994.

Primary reference: Clough and Hayden, 1988

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Unnamed (south of Nun Mt.)

Site type: Occurrence

ARDF no.: JU101

Latitude: 58.4954 **Quadrangle:** JU B-4

Longitude: 135.2535

Location description and accuracy:
This occurrence is 1/2 mile south of Nun Mountain and 4 miles northwest of Mount Golub at an elevation of approximately 2,000 feet. It is near the northeast corner of section 13, T. 39 S., R. 61 E. of the Copper River Meridian. The location shown is accurate within 1/2 mile.

Commodities:

Main: Cu

Other:

Ore minerals: Chalcopyrite, pyrite

Gangue minerals: Epidote, garnet, quartz

Geologic description:
The general area is underlain by deformed and metamorphosed Silurian or Devonian carbonate, clastic and volcanic clastic rocks that have been intruded by Upper Jurassic and Lower Cretaceous granitic and dioritic rocks (Brew and others, 1992). This occurrence is one of several widely scattered skarn deposits in the area between Nun Mountain and just south of Mount Golub, where a Cretaceous granodiorite pluton intrudes a thick limestone unit (Clough and Redman, 1989). Numerous small garnet-epidote skarns occur along the contact between the granodiorite and the limestone. Wells and others (1986) describe pyrite veinlets in limestone and silicified argillite near a granodiorite contact at this locality. The U.S. Bureau of Mines noted several small, discontinuous garnet-epidote skarns up to a foot thick and several feet long, that contain sparse chalcopyrite and pyrite (Clough and Redman, 1989).

Alteration:

Age of mineralization:

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

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

Production Status: None

Site Status: Inactive

Workings/exploration:
Surface samples only.

Production notes:

Reserves:

Additional comments:

References:
Wells and others, 1986; Clough and Redman, 1989; Brew and others, 1992.

Primary reference: Clough and Redman, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Windfall Creek

Site type: Mine

ARDF no.: JU102

Latitude: 58.4846 **Quadrangle:** JU B-3

Longitude: 134.7036

Location description and accuracy:
This placer mine is on Windfall Creek, 1 mile northwest of the divide between Windfall Creek and Montana Creek. It is at an elevation of approximately 500 feet, near the old Montana Creek trail, in the NE1/4NE1/4 section 20, T. 39 S., R. 65 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
The Windfall Creek placer deposit was discovered in 1882 (Spencer, 1906) and has produced 249 ounces of gold (Redman and others, 1989). Old diversion ditches, water pipes and placer tailings lie along a 400-foot stretch of the creek. The mine area is underlain by black phyllite, felsic phyllite, greenschist, and greenstone. Gold-bearing quartz veins cut phyllite upstream near the head of Windfall Creek (JU103). The placer gravels that were worked lie in a small flat area, upstream from several small waterfalls emptying into Windfall Lake. There are abundant quartz fragments in the gravels, some with visible sulfides (Redman and others, 1989; Wells and others, 1986).

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au (Cox and Singer, 1986; model 39a)

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

39a

Production Status: Yes; small

Site Status: Inactive

Workings/exploration:

The Windfall Creek placer deposit was discovered in 1882 and has produced 249 ounces of gold. Old diversion ditches, water pipes, and placer tailings lie along a 400-foot stretch of the Creek.

Production notes:

The Windfall Creek placer deposit was discovered in 1882 and has produced 249 ounces of gold.

Reserves:

Additional comments:

References:

Spencer, 1906; Wells and others, 1986; Redman and others, 1989.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Smith And Heid; Ashby-Torro

Site type: Mine

ARDF no.: JU103

Latitude: 58.4786 **Quadrangle:** JU B-2

Longitude: 134.6639

Location description and accuracy:

This mine is at an elevation of approximately 2,300 feet, on a northwest facing slope, 1 mile northeast of the divide between Windfall Creek and Montana Creek. It is near the center of the W1/2 section 22, T. 39 S., R. 65 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Au

Other: Cu, Pb, Zn

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

Gangue minerals: Quartz

Geologic description:

The Smith and Heid Mine was discovered in 1893. Workings include a 135-foot adit, a 170-foot adit, a 36-foot adit, and numerous trenches. It produced at least 205 ounces of gold between 1893 and 1937 (Redman and others, 1989). Ore was roasted and treated in an arrastre. The deposit consists of quartz veins and quartz stringer zones in an interbedded squence of black phyllite and chlorite schist . The veins trend northwest and dip 40-60 NE. The stringer zones are up to 35 feet thick and contain arsenopyrite, chalcopyrite, galena, gold, pyrite, pyrrhotite, and sphalerite. Oxidized exposures yield gold when panned (Knopf, 1912). Rusty, vuggy, felsic phyllite contain quartz stringers, and disseminated pyrrhotite is exposed underground. U.S. Bureau of Mines samples of these quartz stringers contain up to 107.8 ppm gold. Samples of the felsic phyllite did not contain significant gold. (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavol-

canic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:
Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Yes; small

Site Status: Inactive

Workings/exploration:
The Smith and Heid Mine was discovered in 1893. Workings include a 135-foot adit, a 170-foot adit, a 36-foot adit, and numerous trenches.

Production notes:
At least 205 ounces of gold was produced between 1893 and 1937. Ore was roasted and treated in an arrastre.

Reserves:

Additional comments:

References:
Knopf, 1912; Wells and others, 1986; Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Patton; Montana Basin

Site type: Mine

ARDF no.: JU104

Latitude: 58.4696 **Quadrangle:** JU B-2

Longitude: 134.6533

Location description and accuracy:

The Patton Mine is at an elevation of approximately 2,700 feet, on a southwest-facing slope, 1 mile northeast of the divide between Windfall Creek and Montana Creek. It is in the SE1/4SE1/4 section 22, T. 39 S., R. 65 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Au

Other: Ag

Ore minerals: Arsenopyrite, gold

Gangue minerals: Quartz

Geologic description:

The Patton Mine was discovered in 1882. The workings include 5 adits with 500 feet of underground workings, and numerous trenches. There is some production of gold reported, but the amount is not documented. Based on the volume of the stopes, the U.S. Bureau of Mines estimates that at least 35 tons of ore was mined. Ore was roasted and treated in an arrastre (Redman and others, 1989). The deposit consists of two types of veins, both in biotite schist: 1) conformable, quartz stringer veins that strike northwest and dip 70-80 northeast that contain pyrite, but little gold; and 2) quartz veins that strike east-west and dip 55-65 north, are up to 2 feet thick and slightly crosscut foliation, and contain arsenopyrite and native gold (Knopf, 1912). The auriferous veins are associated with fault gouge and have slickensides along the vein margins. U.S. Bureau of Mines samples of quartz vein contained up to 76.3 ppm gold (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavol-

canic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Undetermined.

Site Status: Inactive

Workings/exploration:

The deposit at the Patton Mine was discovered in 1882. The workings include 5 adits with 500 feet of underground workings, and numerous trenches.

Production notes:

There is some production of gold reported but the amount is not documented. Based on the volume of the stopes, the U.S. Bureau of Mines estimates that at least 35 tons of ore was mined.

Reserves:

Additional comments:

References:

Knopf, 1912; Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Montana Basin; upper Montana Creek

Site type: Mine

ARDF no.: JU105

Latitude: 58.4532 **Quadrangle:** JU B-2

Longitude: 134.6281

Location description and accuracy:
This placer mine is at an elevation of approximately 2,200 feet in the headwaters of Montana Creek, 1 mile east of the divide between Windfall Creek and Montana Creek. It is in the NE1/4 section 27, T. 39 S., R. 65 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
The upper Montana Creek placer deposit was discovered in 1882, shortly after discoveries in lower Montana Creek (JU110)(Redman and others, 1989). There is some production of gold reported but the amount is not documented. Placer tailings, water ditches, and remains of sluice boxes and an arrastre are visible. The mine area is underlain by black phyllite, greenschist, and greenstone. Quartz stringers containing arsenopyrite, pyrite and chalcopyrite occur in bedrock underlying the stream gravels (Redman and others, 1989).

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au (Cox and Singer, 1986; model 39a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: Undetermined.

Site Status: Inactive

Workings/exploration:

The upper Montana Creek placer deposit was discovered in 1882 shortly after discoveries in lower Montana Creek. Placer tailings, water ditches, and remains of sluice boxes and an arrastre are still visible.

Production notes:

There is some reported production of gold, but the amount is not documented.

Reserves:

Additional comments:

References:

Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Unnamed (south of Mount Golub)

Site type: Occurrences

ARDF no.: JU106

Latitude: 58.4390 **Quadrangle:** JU B-4

Longitude: 135.1853

Location description and accuracy:

This site marks the approximate center of several occurrences in the area. They are at an elevation of approximately 2,500 feet, along a west-northwest-trending ridge 3 miles west of Lynn Canal and 1.5 miles south of Mount Golub. The site is in the SE1/4SW1/4 section 33, T. 39 S., R. 62 E. of the Copper River Meridian. The location is accurate within 1 mile.

Commodities:

Main: Ag, Cu, Pb, Zn

Other:

Ore minerals: Chalcopyrite, pyrite

Gangue minerals: Epidote, garnet, quartz

Geologic description:

The general area is underlain by deformed and metamorphosed Silurian or Devonian carbonate, clastic and volcanic clastic rocks that have been intruded by Upper Jurassic and Lower Cretaceous granitic and dioritic rocks (Brew and others, 1992). This occurrence is one of several widely scattered skarn deposits in the area between Nun Mountain and just south of Mount Golub, where a Cretaceous granodiorite pluton intrudes a thick limestone unit (Clough and Redman, 1989). The U.S. Bureau of Mines noted several small, discontinuous garnet-epidote skarns up to a foot thick and several feet long that contain sparse chalcopyrite and pyrite (Clough and Redman, 1989). Samples of skarn contained up to 2,400 ppm copper. A limestone sample contained up to 110 ppm silver, 1,600 ppm lead, 1,600 ppm zinc, and 430 ppm copper (Clough and Redman, 1989).

Alteration:

Age of mineralization:

Deposit model:

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

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

Production Status: None

Site Status: Inactive

Workings/exploration:
Surface samples only.

Production notes:

Reserves:

Additional comments:

References:
Clough and Redman, 1989; Brew and others, 1992.

Primary reference: Clough and Redman, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Unnamed (west of Sawmill Bay in Excursion Inlet)

Site type: Occurrence

ARDF no.: JU107

Latitude: 58.4626 **Quadrangle:** JU B-5

Longitude: 135.5504

Location description and accuracy:
This occurrence is at an elevation of 2,950 feet, on the crest of the northwest-trending ridge, 1.8 miles west of Sawmill Bay in Excursion Inlet. It is in the NW1/4NW1/4 section 29, T. 39 S., R. 60 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main:

Other:

Ore minerals: Pyrrhotite

Gangue minerals:

Geologic description:
The regional geology consists of deformed and metamorphosed Silurian or Devonian carbonate, clastic and volcanic clastic rocks that have been intruded by Upper Jurassic and Lower Cretaceous granitic and dioritic rocks (Brew and others, 1992). This occurrence consists of intrusive diorite that contains up to 2 percent pyrrhotite (Brew and others,1978).

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:
Brew and others, 1978; Brew and others, 1992.

Primary reference: Brew and others,1978

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Alaska Silver King

Site type: Mine

ARDF no.: JU108

Latitude: 58.4500 **Quadrangle:** JU B-5

Longitude: 135.4406

Location description and accuracy:
This small mine is at an elevation of 800 feet, 1/4 mile east of Excursion Inlet and 2 miles north of the settlement of Excursion Inlet. It is in the NW1/4NW1/4 section 36, T. 39 S., R. 60 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Ag, Pb, Sb, Zn

Other:

Ore minerals: Galena, pyrite, sphalerite, stibnite, tetrahedrite

Gangue minerals: Calcite, quartz

Geologic description:
The regional geology consists of deformed and metamorphosed Silurian or Devonian carbonate, clastic and volcanic clastic rocks that have been intruded by Upper Jurassic and Lower Cretaceous granitic and dioritic rocks (Brew and others, 1992). The Alaska Silver King Mine was discovered in 1938. It is in graywacke, and consists of small, discontinuous, sulfide-bearing quartz-calcite veins that strike ENE and dip nearly vertically. The veins varies from 4 to 10 inches thick and can be traced for up to 550 feet north of the mine. The sulfides consist of galena, pyrite, sphalerite, stibnite, and tetrahedrite (Clough and Redman, 1989). Samples contain up to 2,528 ppm silver, 2.3 percent lead, 7.5 percent zinc, and 1.5 percent antimony (Clough and Redman, 1989). The mine workings include an open cut 30 feet long and 10 feet deep. A 3000-foot aerial tram was installed between the beach and the mine shortly after discovery, and more than a ton of high-grade silver ore was mined and shipped to a smelter in Tacoma, Washington (Clough and Redman, 1989).

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: Yes; small

Site Status: Probably inactive

Workings/exploration:

The Alaska Silver King Mine was discovered in 1938, the mine workings include an open cut 30 feet long and 10 feet deep. A 3000-foot aerial tram was installed between the beach and the mine shortly after discovery.

Production notes:

More than a ton of high-grade silver ore was mined and shipped to a smelter in Tacoma, Washington.

Reserves:

Additional comments:

References:

Clough and Redman, 1989; Brew and others, 1992.

Primary reference: Clough and Redman, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): McGinnis Creek; Mansfield Gold

Site type: Mine

ARDF no.: JU109

Latitude: 58.4436 **Quadrangle:** JU B-2

Longitude: 134.6487

Location description and accuracy:
This placer mine is at an elevation of 500 feet on the east side of McGinnis Creek. It is 1.2 miles west of McGinnis Mountain, and 1 mile upstream from the mouth of Montana Creek. It is near the center of the NE1/4 section 35, T. 39 S., R. 65 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
The McGinnis Creek placer deposit was discovered in 1897 and produced an unknown quantity of gold from 1897 to 1939 (Redman and others, 1989). Hydraulic machinery, a 1,000-foot flume, a 1,500-foot cable tram, and worker housing were constructed between 1903 and 1905. Gravels were sluiced with high-pressure giant water nozzles. The claims were patented in 1917 (Roehm, 1940). Bedrock consists of black phyllite and biotite schist. The phyllite contains quartz stringers that contain pyrite and up to 0.04 ounce of gold per ton (Redman and others, 1989).

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au (Cox and Singer, 1986; model 39a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: Yes; small

Site Status: Inactive

Workings/exploration:

The McGinnis Creek placer deposit was discovered in 1897 and produced an unknown quantity of gold from 1897 to 1939. Hydraulic machinery, a 1,000-foot flume, a 1,500-foot cable tram, and worker housing were constructed between 1903 and 1905. Gravels were sluiced with high-pressure giant water nozzles.

Production notes:

The McGinnis Creek placer deposit was discovered in 1897 and produced an unknown quantity of gold from 1897 to 1939.

Reserves:

Additional comments:

References:

Roehm, 1940; Redman and others, 1989.

Primary reference: Roehm, 1940

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Lower Montana Creek

Site type: Mine

ARDF no.: JU110

Latitude: 58.4272 **Quadrangle:** JU B-2

Longitude: 134.5960

Location description and accuracy:
This placer mine is at an elevation of 350 feet on Montana Creek, just upstream from the mouth of McGinnis Creek. It is in the SE1/4 section 34, T. 39 S., R. 65 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
The Montana Creek placer was discovered in 1882 and produced 46.9 ounces of gold from 1882 to 1940 (Redman and others, 1989). Signs of suction dredging are visible along the creek. Bedrock in the mine area is black phyllite, greenschist, and greenstone (Redman and others, 1989).

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au (Cox and Singer, 1986; model 39a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: Yes; small

Site Status: Inactive

Workings/exploration:

The Montana Creek placer deposit was discovered in 1882. Signs of historic suction dredging are visible along the creek.

Production notes:

The Montana Creek placer deposit was discovered in 1882 and produced 46.9 ounces of gold from 1882 to 1940.

Reserves:

Additional comments:

References:

Redman and others, 1989.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Unnamed (near Mendenhall Glacier)

Site type: Occurrence

ARDF no.: JU111

Latitude: 58.4355 **Quadrangle:** JU B-2

Longitude: 134.4678

Location description and accuracy:
This occurrence is at an elevation of approximately 1,500 feet on the southeast margin of the lower Mendenhall Glacier, 1.5 miles west of Bullard Mountain. It is near the center of the SW1/4 section 33, T. 39 S., R. 66 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Cu, Zn

Other:

Ore minerals: Chalcopyrite, pyrite, pyrrhotite

Gangue minerals: Quartz

Geologic description:
This occurrence consists of a 10-foot-thick zone of reddish-brown oxide staining in biotite schist that contains disseminated chalcopyrite. The zone also contains several discordant quartz veins 6-24 inches thick. The quartz veins contain pyrite and pyrrhotite and are cut by garnet-aplite sills. U.S. Bureau of Mines samples contained up to 820 ppm copper and 905 ppm zinc (Redman and others, 1989).

Alteration:
Iron-oxide staining.

Age of mineralization:

Deposit model:

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

Production Status: No

Site Status: Inactive

Workings/exploration:
Surface sampling only.

Production notes:

Reserves:

Additional comments:

References:
Redman and others, 1989.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Peterson; Prairie

Site type: Mine

ARDF no.: JU112

Latitude: 58.4406 **Quadrangle:** JU B-3

Longitude: 134.7202

Location description and accuracy:

This mine is at an elevation of 800 feet, 1/4 mile east of Peterson Lake, 3 miles north of Auke Mountain, and 2 miles east of Lynn Canal. It is in the SW1/4SW1/4 section 32, T. 39 S., R. 65 E. of the Copper River Meridian, where the site is marked by a prospect symbol on the Juneau B-3 topographic map. The location is accurate.

Commodities:

Main: Ag, Au

Other:

Ore minerals: Arsenopyrite, gold, pyrite, pyrrhotite

Gangue minerals: Quartz

Geologic description:

The Peterson Mine was discovered in 1897. Workings include 4 shafts, 11 adits, and numerous trenches (Redman and others, 1989). The deposit consists of quartz veins in northwest-striking phyllite and greenstone. A chloritized, 80- to 100-foot-thick diorite sill forms the footwall of the veins and the phyllite along this footwall contains finely disseminated pyrite and pyrrhotite. Augite lamprophyre also occurs in the footwall and augite melaphyre flows and breccias crop out east of the mine. The quartz veins form tabular bodies and lenses that trend north-northwest and dip shallowly to the northeast. They average 3 to 5 feet wide but locally are up to 30 feet thick (Knopf, 1912). The quartz contains arsenopyrite and native gold, and the ore averages 0.3 ounce of gold per ton. Between 1916 and 1982, at least 544 tons of ore were mined that yielded 211 ounces of gold and 8 ounces of silver. Some gold was also recovered between 1905 and 1915, but production records are not available (Redman and others, 1989). U.S. Bureau of Mines samples of quartz veins contained up to 15.3 ppm gold. The Bureau collected a 350 pound metallurgical sample in 1988 for cyanide amenability, flotation, and cyanide-leach-with-assay-screen-analysis tests. The deposit was drilled by FMC Corporation in 1988 (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing

mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Yes; small

Site Status: Active

Workings/exploration:

The deposit at the Peterson Mine was discovered in 1897. Workings include 4 shafts, 11 adits, and numerous trenches (Redman and others, 1989). The deposit was drilled by FMC Corporation in 1988.

Production notes:

Between 1916 and 1982, at least 544 tons of ore were mined that yielded 211 ounces of gold and 8 ounces of silver. Some gold was also recovered between 1905 and 1915 but production records are not available (Redman and others, 1989).

Reserves:

Additional comments:

References:

Knopf, 1912; Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Knopf, 1912

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Exray

Site type: Prospect

ARDF no.: JU113

Latitude: 58.4376 **Quadrangle:** JU B-5

Longitude: 135.5364

Location description and accuracy:

This prospect is at an elevation of 2,800 feet on the crest of the northwest-trending ridge 2 miles west of Excursion Inlet. It is in the NW1/4 NE1/4 section 5, T. 40 S., R. 60 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Cu

Other: Ag

Ore minerals: Chalcopyrite

Gangue minerals: Calcite

Geologic description:

The general area is underlain by deformed and metamorphosed Silurian or Devonian carbonate, clastic, and volcanic clastic rocks that have been intruded by Upper Jurassic and Lower Cretaceous granitic and dioritic rocks (Brew and others, 1992). The deposit was discovered about 1909 (Brew and others,1978). It is in calcareous argillite and consists of chalcopyrite-bearing calcite veins, breccia zones, and limestone-calcite breccia veins. Samples contain up to 4,300 ppm copper (Brew and others,1978). Early workings included several surface pits and trenches along the veins. Wells and others (1986) show six prospects in this area.

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: No

Site Status: Inactive

Workings/exploration:

This deposit was discovered about 1909 and development work consists of several surface pits and trenches.

Production notes:

Reserves:

Additional comments:

References:

Brew and others, 1978; Wells and others, 1986; Brew and others, 1992.

Primary reference: Brew and others,1978

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Unnamed (near Nugget Creek)

Site type: Occurrence

ARDF no.: JU114

Latitude: 58.4355 **Quadrangle:** JU B-2

Longitude: 134.4678

Location description and accuracy:
This occurrence is at an elevation of approximately 1,700 feet, on the east valley wall of Nugget Creek, just upstream from Middle Basin. It is near the center of the N1/2 section 2, T. 40 S., R. 66 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Zn

Other: Ba

Ore minerals: Pyrite

Gangue minerals:

Geologic description:
This occurrence consists of sparse, disseminated pyrite and other sulfides in mica-quartz schist (Wells and others, 1986) A placer gold prospect (JU115) is downstream from this occurrence. Wells and others (1986) show this as a barite and zinc occurrence. No other information is available.

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:

Wells and others, 1986.

Primary reference: Wells and others, 1986

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Nugget Creek

Site type: Mine

ARDF no.: JU115

Latitude: 58.4265 **Quadrangle:** JU B-2

Longitude: 134.4795

Location description and accuracy:
This placer mine is at an elevation of approximately 1,700 feet in the Middle Basin of Nugget Creek. It is in the SW1/4SW1/4 section 2, T. 40 S., R. 66 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
The Nugget Creek placer deposit was discovered in 1900 and produced at least 20 ounces of gold (Redman and others, 1989). Numerous claims were staked in three gravel-filled basins in Nugget Creek in 1900, and several sluicing operations were active. No production was reported after 1901 (Redman and others, 1989).

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au (Cox and Singer, 1986; model 39a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: Yes; small

Site Status: Inactive

Workings/exploration:
The Nugget Creek placer deposit was discovered in 1900.

Production notes:
The Nugget Creek placer deposit produced at least 20 ounces of gold.

Reserves:

Additional comments:

References:
Redman and others, 1989.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Mendenhall

Site type: Prospect

ARDF no.: JU116

Latitude: 58.4153 **Quadrangle:** JU B-2

Longitude: 134.6102

Location description and accuracy:

The Mendenhall prospect is at an elevation of approximately 500 feet on the west side of Mendenhall Lake below the terminus of the Mendenhall Glacier. It is in the SE1/4SE1/4 section 1, T. 40 S., R. 65 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other: Pb

Ore minerals: Arsenopyrite, galena, gold, pyrrhotite

Gangue minerals: Quartz

Geologic description:

The Mendenhall prospect consists of 2 adits and an open cut. The deposit was discovered before 1900. It consists of a 85- to 100-foot thick quartz-stringer zone sparsely mineralized with pyrrhotite, arsenopyrite, and galena (Knopf, 1912). A 100-foot thick amphibolite dike is exposed nearby that contains irregular albite-calcite veinlets with pyrrhotite and free gold. U.S. Bureau of Mines samples contained up to 0.4 ppm gold (Redman, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and gra-

nodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Inactive

Workings/exploration:

The Mendenhall prospect consists of 2 adits and an open cut. The deposit was discovered before 1900.

Production notes:

Reserves:

Additional comments:

References:

Knopf, 1912; Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Knopf, 1912

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Treasury Hill; Gold Knob

Site type: Mine

ARDF no.: JU117

Latitude: 58.4227 **Quadrangle:** JU B-3

Longitude: 134.6754

Location description and accuracy:

This mine are at an elevation of 1,600 feet, between the headwaters of Waydelich Creek and Lake Creek . It is 2.5 miles southeast of Peterson Lake near the northeast corner of section 9, T. 40 S., R. 65 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other: Pb

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

Gangue minerals: Calcite, quartz

Geologic description:

The rocks in the area are black phyllite, graywacke, greenstone and greenschist (Knopf, 1912). A northwest-trending gabbro sill lies between a footwall of phyllite and a hanging wall of greenstone and greenschist. The sill is more than 200 feet thick and has been traced for over 2,000 feet along strike. The sill is cut by numerous quartz and calcite veins and stringers. Most of the quartz stringers are perpendicular to the strike of the sill but some are parallel. The quartz veins are up to 4.5 feet thick, average less than 2 feet thick, and contain disseminated arsenopyrite, pyrite, pyrrhotite, traces of galena, and native gold. The wallrocks adjacent to the veins are strongly altered and contain albite, chlorite, carbonate, sericite, and apatite. Arsenopyrite and pyrrhotite are concentrated along the margins of the veins (Knopf, 1912). The deposit was discovered in 1908 and prospected by numerous trenches and open cuts over a large area. Workings include the Gold Knob adit with 655 feet of workings, and two other adits. Approximately 300 ounces of gold was recovered in 1908 and 1909 by sluicing the soil overlying the exposures (Redman and others, 1989). The deposit was drilled in 1979 by Occidental Minerals and again in 1988 by FMC Corporation. U.S. Bureau of Mines samples contained up to 18.7 ppm gold (Redman and others, 1989).

This mine is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the west-

ern margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Wallrocks adjacent to the veins are strongly altered and contain albite, chlorite, carbonate, sericite, and apatite.

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Yes; small

Site Status: Inactive

Workings/exploration:

The deposit was discovered in 1908 and prospected by numerous trenches and open cuts over a large area. Workings include the Gold Knob adit with 655 feet of workings, and two other adits. The prospect was drilled in 1979 by Occidental Minerals and in 1988 by FMC Corporation.

Production notes:

Approximately 300 ounces of gold was recovered in 1908 and 1909 by sluicing the soil overlying the quartz veins (Redman and others, 1989).

Reserves:

Additional comments:

References:

Knopf, 1912; Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Unnamed (west of outer Excursion Inlet)

Site type: Prospect

ARDF no.: JU118

Latitude: 58.4200 **Quadrangle:** JU B-5

Longitude: 135.4861

Location description and accuracy:
This prospect is at an elevation of 1,500 feet, on the west side of Excursion Inlet. It is near the center of the N1/2 section 10, T. 40 S., R. 60 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Cu

Other:

Ore minerals:

Gangue minerals:

Geologic description:
The regional geology consists of deformed and metamorphosed Silurian or Devonian carbonate, clastic and volcanic clastic rocks that have been intruded by Upper Jurassic and Lower Cretaceous granitic and dioritic rocks (Brew and others, 1992). The only information that has been made public is that there are copper claims at the site (Wells and others,1986).

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:

Wells and others, 1986; Brew and others, 1992.

Primary reference: Wells and others, 1986

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Lower Montana Creek

Site type: Prospect

ARDF no.: JU119

Latitude: 58.4027 **Quadrangle:** JU B-2

Longitude: 134.6577

Location description and accuracy:
This placer prospect is at an elevation of approximately 500 feet on lower Montana Creek, about 0.7 mile west of Mendenhall Lake. It is just southwest of the center of section 12, T. 40 S., R. 65 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
Placer claims were staked on the lower portion of Montana Creek in 1880 and 1881 (Wells and others, 1986). There were other active placer operations upstream from this location (JU105, JU110) in the late 1800's and early 1900's but no other information is available.

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au (Cox and Singer, 1986; model 39a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: Undetermined.

Site Status: Inactive

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:

Wells and others, 1986.

Primary reference: Wells and others, 1986

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Gustavus beach

Site type: Prospect

ARDF no.: JU120

Latitude: 58.4109 **Quadrangle:** JU B-6

Longitude: 135.6836

Location description and accuracy:
This beach placer is on the shore of Icy Passage, 2 miles east-southeast of Gustavus. It is in the NW1/4 section 16, T. 40 S., R. 59 E. of the Copper River Meridian. The location is accurate within 1/2 mile.

Commodities:

Main: Au ?

Other:

Ore minerals:

Gangue minerals:

Geologic description:
This prospect is on a large area of beach sand near the town of Gustavus. Wells and others (1986) show placer claims at this site between 1882 and 1982. No other information is available.

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au (Cox and Singer, 1986; model 39a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: Undetermined.

Site Status: Probably inactive

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:

Wells and others, 1986.

Primary reference: Wells and others, 1986

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Dull And Stephens; Gold King

Site type: Mine

ARDF no.: JU121

Latitude: 58.4424 **Quadrangle:** JU B-2

Longitude: 134.5269

Location description and accuracy:

This mine is at an elevation of 700 feet on the low ridge between Waydelich Creek and Lake Creek. It is 1 mile northwest of Auke Lake, just northeast of the center of section 15, T. 40 S., R. 65 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other: Ag, Cu, Pb

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

Gangue minerals: Quartz

Geologic description:

The Dull and Stephens Mine was discovered in 1906. It was developed by a 150-foot adit, a 144-foot adit, a 199-foot adit, a 297-foot adit, and numerous trenches. The property produced 32 ounces of gold by sluicing overburden in 1909 and 1914. The deposit consists of several 1- to 2-foot- thick, northeast-trending, discontinuous quartz veins and irregular masses of quartz that dip steeply north. The veins are along the contact between phyllite and greenstone (in part volcanic breccia), and contain pyrite, arsenopyrite, pyrrhotite, galena, and traces of chalcopyrite and native gold (Knopf, 1912). U.S. Bureau of Mines samples contained a weighted average grade of 2.0 ppm gold over 1.8 feet (Redman and others, 1989).

This mine is in the Juneau Gold Belt, which consists of more than 200 auriferous quartz vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a 160-km-long by 5- to 8-km-wide zone along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plu-

tons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994, Goldfarb and others, 1997).

Alteration:

Age of mineralization:
Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Yes; small

Site Status: Inactive

Workings/exploration:
The Dull and Stephens Mine was discovered in 1906. It was developed by a 150-foot adit, a 144-foot adit, a 199-foot adit, a 297-foot adit, and numerous trenches.

Production notes:
The property produced 32 ounces of gold by sluicing overburden in 1909 and 1914.

Reserves:

Additional comments:

References:
Knopf, 1912; Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Knopf, 1912

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Dutch Lady

Site type: Prospect

ARDF no.: JU122

Latitude: 58.3988 **Quadrangle:** JU B-2

Longitude: 134.5412

Location description and accuracy:

The Dutch Lady prospect is at an elevation of 200 feet at the northwest base of Thunder Mountain. It is 1.5 miles east-southeast of the outlet of Mendenhall Lake and 1/2 mile east of Dredge Lake, near the center of the SE1/4 section 17, T. 40 S., R. 66 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Pyrrhotite

Gangue minerals: Quartz

Geologic description:

The Dutch Lady deposit was discovered prior to 1911 and prospected by 2 adits and an inclined shaft. The deposit consists of numerous small quartz veins in the crest of an anticline in black phyllite (Redman and others, 1989). The veins contain disseminated pyrrhotite, but U.S. Bureau of Mines samples did not contain significant metal values (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels

and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:
Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Inactive

Workings/exploration:
The Dutch Lady prospect was discovered prior to 1911 and prospected by 2 adits and an inclined shaft.

Production notes:

Reserves:

Additional comments:

References:
Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Lemon Creek; Keystone

Site type: Prospect

ARDF no.: JU123

Latitude: 58.3975 **Quadrangle:** JU B-2

Longitude: 134.4074

Location description and accuracy:

The Lemon Creek prospect is at an elevation of approximately 1,000 feet, near the headwaters of Lemon Creek. It is 1 mile upstream from the junction of Lemon Creek and Canyon Creek. It is in the SW1/4 SE1/4 section 18, T. 40 S., R. 67 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Ag, Au, Pb, Zn

Other: Cu

Ore minerals: Chalcopyrite, galena, pyrite, pyrrhotite

Gangue minerals: Quartz

Geologic description:

The Lemon Creek lode was discovered in 1890 and consists of three quartz veins in biotite gneiss (Redman and others, 1989). The veins are 6 inches to 1 foot thick and can be traced for up to 300 feet. The veins contain pyrrhotite, galena, sphalerite, and chalcopyrite; the sulfides are concentrated along the hanging wall. The U.S. Bureau of Mines collected six samples that averaged 2.6 ppm gold, 87.0 ppm silver, 2.9 percent zinc, and 0.26 percent lead (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and gra-

nodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:
Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: No

Site Status: Inactive

Workings/exploration:
Surface sampling only.

Production notes:

Reserves:

Additional comments:

References:
Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Glacier; upper basin Lemon Creek

Site type: Mine

ARDF no.: JU124

Latitude: 58.3843 **Quadrangle:** JU B-2

Longitude: 134.4351

Location description and accuracy:
This placer mine is at an elevation of approximately 300 feet in Lemon Creek, 1/2 mile downstream from its junction with Canyon Creek. It is near the center of the SE1/4 section 24, T. 40 S., R. 66 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
There are 2 large gravel basins in Lemon Creek, both were worked for placer gold in the late 1880's and early 1900's. The upper basin was location of the Glacier placer. The gravels lie on glacial clay in the bedrock-dammed basins. Gold was recovered but there is no documentation of the amount (Redman and others, 1989). U.S. Bureau of Mines samples at the Glacier placer contained 0.0002 ounces gold per cubic yard (Redman and others, 1989).

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au (Cox and Singer, 1986; model 39a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: Yes; small

Site Status: Inactive

Workings/exploration:
Placer workings of some type.

Production notes:
Gold was recovered but there is no documentation of the amount (Redman and others, 1989).

Reserves:

Additional comments:

References:
Redman and others, 1989.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Winn

Site type: Prospect

ARDF no.: JU125

Latitude: 58.3784 **Quadrangle:** JU B-2

Longitude: 134.6293

Location description and accuracy:

The Winn prospect is at an elevation of 200 feet, 1/4 mile south of Auke Lake on the north side of Pederson Hill. It is in the NW1/4NE1/4 section 26, T. 40 S., R. 65 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Arsenopyrite, pyrite

Gangue minerals: Albite, carbonate, quartz

Geologic description:

The Winn prospect was discovered in 1882 and developed by a 20-foot adit and several trenches. The deposit consists of quartz-albite-carbonate veinlets in an altered diorite dike that contains disseminated pyrite and arsenopyrite near the veinlets (Knopf, 1912). U.S. Bureau of Mines samples did not contain more than 0.1 ppm gold (Redman and others, 1989).

This prospect is is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, mod-

erately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: No

Site Status: Inactive

Workings/exploration:

The Winn deposit was discovered in 1882 and developed by a 20-foot adit and several trenches.

Production notes:

Reserves:

Additional comments:

References:

Knopf, 1912; Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Knopf, 1912

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Lemon Creek, lower basin

Site type: Mine

ARDF no.: JU126

Latitude: 58.3717 **Quadrangle:** JU B-2

Longitude: 134.4640

Location description and accuracy:
This placer mine is at an elevation of approximately 150 feet in Lemon Creek 1/4 mile upstream from its junction with Sawmill Creek. It is mainly in the NE1/4 section 26, T. 40 S., R. 66 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
There are 2 large gravel basins in Lemon Creek, both were worked for placer gold in the late 1880's and early 1900's (Redman and others, 1989). The upper basin was the location of the Glacier placer (JU124) and the lower basin was the location of the Lemon Creek placer. The gravels in the lower Lemon Creek basin are 100 to 500 feet wide and 8 to 10 feet thick. The gravels lie on glacial clay in a bedrock-dammed basin (Redman and others, 1989). Gold was recovered from this placer but the amount is unknown. U. S. Bureau of Mines samples at the lower Lemon Creek placer contained 0.016 ounce of gold per cubic yard (Redman and others, 1989).

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au (Cox and Singer, 1986; model 39a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: Undetermined.

Site Status: Inactive

Workings/exploration:

Production notes:
Gold was recovered from this placer but the amount is unknown.

Reserves:

Additional comments:

References:
Redman and others, 1989.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Clark

Site type: Prospect

ARDF no.: JU127

Latitude: 58.3651 **Quadrangle:** JU B-2

Longitude: 134.4601

Location description and accuracy:

The Clark prospect is at an elevation of approximately 700 feet in Sawmill Creek, 1/4 mile upstream from its junction with Lemon Creek. It is in the NE1/4 section 35, T. 40 S., R. 66 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other: Cu

Ore minerals: Chalcopyrite, gold, pyrrhotite

Gangue minerals: Quartz

Geologic description:

The Clark deposit was discovered in the 1880's and developed by open cuts and trenches. The deposit consists of quartz veins that cut phyllite and altered gabbroic dikes. The veins are up to 4 feet thick and contain pyrrhotite, some chalcopyrite, and gold (Spencer, 1906).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Creta-

ceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:
Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: No

Site Status: Inactive

Workings/exploration:
The Clark deposit was discovered in the 1880's and developed by open cuts and trenches.

Production notes:

Reserves:

Additional comments:

References:
Spencer, 1906; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Spencer, 1906

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Doran

Site type: Prospect

ARDF no.: JU128

Latitude: 58.3465 **Quadrangle:** JU B-2

Longitude: 134.4800

Location description and accuracy:

The Doran prospect is at an elevation of approximately 500 feet on the west end of Blackerby Ridge. It is 1/2 mile northeast of Gastineau Channel, and overlooks the subdivision of Vanderbilt Hill. The prospect is in the NE1/4NE1/4 section 5, T. 41 S., R. 67 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au ?

Other:

Ore minerals:

Gangue minerals: Quartz

Geologic description:

The Doran deposit was discovered in 1889 and developed by a 100-foot adit and a 180-foot adit. The deposit consists of quartz-albite-carbonate veinlets in a shattered, sheared, and altered albite-diorite dike(Knopf, 1912). U.S. Bureau of Mines samples did not contain significant metal values (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, mod-

erately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:
Dike is albitized.

Age of mineralization:
Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Inactive

Workings/exploration:
The Doran deposit was discovered in 1889 and developed by a 100-foot adit and a 180-foot adit.

Production notes:

Reserves:

Additional comments:

References:
Knopf, 1912; Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Knopf, 1912

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Bar

Site type: Prospect

ARDF no.: JU129

Latitude: 58.3445 **Quadrangle:** JU B-2

Longitude: 134.5531

Location description and accuracy:
This placer prospect is on a sandbar in Gastineau Channel, off the north tip of Douglas Island. It is 0.4 mile northwest of the mouth of Johnson Creek, in about the center of the NW1/4 section 1, T. 41 S., R. 66 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
The Bar placer deposit was discovered in 1911. The prospect was drilled and a 2-ton sample was shipped to St. Louis for gold recovery tests. There is no further work recorded after 1912 (Redman and others, 1989).

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au (Cox and Singer, 1986; model 39a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: Undetermined.

Site Status: Inactive

Workings/exploration:

The Bar placer was discovered in 1911. The prospect was drilled and a 2-ton sample was shipped to St. Louis for gold recovery tests. There is no further work recorded after 1912 (Redman and others, 1989).

Production notes:

Reserves:

Additional comments:

References:

Redman and others, 1989.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Rainbow

Site type: Prospect

ARDF no.: JU130

Latitude: 58.3381 **Quadrangle:** JU B-2

Longitude: 134.5848

Location description and accuracy:
The Rainbow prospect is near sea level on the north end of Douglas Island, 1/4 mile west of Ninemile Creek and 1/2 mile northeast of Hut Point. It is near the SW corner of section 2, T. 41 S., R. 66 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Au ?

Other:

Ore minerals:

Gangue minerals: Quartz

Geologic description:
The Rainbow prospect was discovered in 1955 in a rock quarry. The deposit consists of quartz veins in black phyllite. No other information is available (Redman and others, 1989).

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:

Redman and others, 1989.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Salmon Creek

Site type: Prospect

ARDF no.: JU131

Latitude: 58.3379 **Quadrangle:** JU B-2

Longitude: 134.4280

Location description and accuracy:
This placer prospect is at an elevation of about 400 feet, in Salmon Creek, 1 mile below Salmon Creek Reservoir. It is in the SE1/4SE1/4 section 3, T. 41 S., R. 67 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
This placer prospect is in Salmon Creek basin downstream from tributaries that train the Goldstein gold prospect (JU133). Spencer (1906) reported placer activity here prior to 1905. Wells and others (1986) show placer claims here in 1984. No other information is available.

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au (Cox and Singer, 1986; model 39a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: Undetermined.

Site Status: Inactive

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:

Spencer, 1906; Wells and others, 1986.

Primary reference: Wells and others, 1986

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Wagner; Boston King; Salmon Creek Gold Mining Co.

Site type: Mine

ARDF no.: JU132

Latitude: 58.3325 **Quadrangle:** JU B-2

Longitude: 134.4620

Location description and accuracy:

This mine is adjacent to lower Salmon Creek at an elevation of about 50 feet. It is 2 miles west-southwest of Salmon Creek reservoir and 1/4 mile northeast of Gastineau Channel, in about the center of the N1/2 section 9, T. 41 S., R. 67 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Ag, Au, Cu, Pb, Zn

Other:

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

Gangue minerals: Calcite, quartz

Geologic description:

The Wagner Mine consists of over 1,600 feet of underground workings including 3 adits and a shaft at least 250 feet deep (Eakin, 1915). The mine processed gold ore with a 20-ton tubular mill and a 15-stamp mill but there is no documentation of the amount of gold produced (Redman and others, 1989). The deposit was discovered in 1889. It consists of multiple quartz veins along the contact between black phyllite and an altered diorite dike. The veins are up to 4 feet thick and contain arsenopyrite, pyrite, chalcopyrite, pyrite, galena, sphalerite and tetrahedrite. No data on metal grades are available (Eakin, 1915).

This mine is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons

emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Undetermined.

Site Status: Inactive

Workings/exploration:

The Wagner Mine consists of over 1,600 feet of underground workings including 3 adits and a shaft at least 250 feet deep (Eakin, 1915). The deposit was discovered in 1889.

Production notes:

The mine processed gold ore in a 20-ton tubular mill and a 15-stamp mill, but there is no documentation of the amount of gold produced (Redman and others, 1989).

Reserves:

Additional comments:

References:

Eakin, 1915; Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Eakin, 1915

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Goldstein

Site type: Prospect

ARDF no.: JU133

Latitude: 58.3234 **Quadrangle:** JU B-2

Longitude: 134.4100

Location description and accuracy:

The Goldstein prospect is at an elevation of 2,700 feet on the northwest flank of Mt. Juneau. It is 0.3 mile north-northwest of the top of the mountain, near the center of the bottom of the S1/2 section 11, T. 41 S., R. 67 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Ag, Au, Cu

Other:

Ore minerals:

Gangue minerals: Quartz

Geologic description:

The Goldstein prospect was discovered in 1916 and developed by a 48-foot adit, a 7-foot adit, and two 25-foot trenches. The deposit consists of a concordant quartz vein up to three feet thick in chlorite phyllite. U.S. Bureau of Mines samples contained up to 3.2 ppm silver and 0.1 percent copper, but no gold (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, mod-

erately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Inactive

Workings/exploration:

The Goldstein deposit was discovered in 1916 and developed by a 48-foot adit, a 7-foot adit, and two 25-foot trenches.

Production notes:

Reserves:

Additional comments:

References:

Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Howard Bay; Copper King

Site type: Mine

ARDF no.: JU134

Latitude: 58.3095 **Quadrangle:** JU B-4

Longitude: 135.0701

Location description and accuracy:

This mine is at an elevation of approximately 300 feet, on the east side of inner Howard Bay, approximately 1 mile north-northwest of Point Howard. It is in the SW1/4SW1/4 section 14, T. 41 S., R. 63 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Ag, Au, Cu, Pb, Zn

Other:

Ore minerals: Chalcopyrite, galena, pyrite, sphalerite

Gangue minerals: Ankerite, calcite, quartz

Geologic description:

The rocks in the area are mainly Silurian limestone, argillite, mudstone, and turbidite that have been folded into an asymmetrical, north-plunging anticline (Clough and Redman, 1989). The deposit was discovered in 1917, and consists of a sulfide-bearing, brecciated, quartz-ankerite-calcite vein that cuts northeast-trending limestone and argillite. The vein strikes just east of north, and dips 76 S; it is nearly parallel to the axial plane of the anticline, varies in thickness from 2.5 to 4.5 feet, and is truncated to the south by a mafic dike. The sulfide minerals include galena, chalcopyrite, pyrite, and sphalerite. The mine has a 20-foot shaft and several open cuts. Seven tons of ore were shipped to a smelter in Tacoma, Washington prior to 1921(Clough and Redman, 1989). The ore shipment assayed 44 ounces of silver per ton, 0.07 ounce of gold per ton, 3.55 percent copper, and a trace of zinc. U.S. Bureau of Mines samples from the mine area assayed more than 1 ounce of silver per ton, 0.9 percent zinc, and 0.47 percent copper (Clough and Redman, 1989).

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: Yes; small

Site Status: Inactive

Workings/exploration:

The deposit was discovered in 1917. The mine has a 20-foot shaft and several open cuts.

Production notes:

Seven tons of ore were shipped to a smelter in Tacoma, Washington prior to 1921. The ore shipment assayed 44 ounces of silver per ton, 0.07 ounce of gold per ton, 3.55 percent copper, and a trace of zinc.

Reserves:

Additional comments:

References:

Clough and Redman, 1989; Brew and others, 1992.

Primary reference: Clough and Redman, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Barron

Site type: Prospect

ARDF no.: JU135

Latitude: 58.2984 **Quadrangle:** JU B-3

Longitude: 134.8354

Location description and accuracy:
The Barron prospect is at an elevation of approximately 900 feet on the southwest side of Lone Mountain, 2 miles north of Bear Creek and 1.2 miles west of Stephens Passage. It is in the NE1/4SE1/4 section 19, T. 41 S., R. 65 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Fe

Other:

Ore minerals: Magnetite, pyrrhotite

Gangue minerals:

Geologic description:
The Barron prospect consists of a 10-foot thick magnetite- and pyrrhotite-bearing skarn in marble. The skarn can be traced 2000 feet to the northwest and a short distance to the southeast. A large claim block covered this area in 1984 (Wells and others, 1986). No other information is available. The rocks in the area are mainly Ordovician and Devonian to Triassic clastic strata, mafic-intermediate volcanic rocks, and subordinate limestone. The bedded rocks are intruded and locally metamorphosed by Cretaceous granodiorite (Gehrels and Berg, 1994).

Alteration:

Age of mineralization:

Deposit model:
Fe-skarn deposit, (Cox and Singer, 1986; model 18d)

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

Production Status: No

Site Status: Inactive

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:

Wells and others, 1986; Gehrels and Berg, 1994.

Primary reference: Wells and others, 1986

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Portage

Site type: Prospect

ARDF no.: JU136

Latitude: 58.2873 **Quadrangle:** JU B-3

Longitude: 134.8624

Location description and accuracy:

The Portage prospect is at an elevation of approximately 900 feet at the head of Bear Creek, on the northeast side of Green Mountain. It is 2 miles north-northeast of Funter Bay in the SE1/4NE1/4 section 25, T. 41 S., R. 65 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Au, Cu, Pb

Other:

Ore minerals: Chalcopyrite, galena, pyrite

Gangue minerals: Calcite, quartz

Geologic description:

The Portage prospect consists of lenticular quartz masses in slate that are sub-parallel to the cleavage (Cobb, 1978 [OFR 78-374]). The quartz contains disseminated pyrite, chalcopyrite, and minor galena. The prospect contained low gold values by 1900 standards (Cobb, 1978 [OFR 78-374]). Nearby, chlorite-mica schist is cut by quartz-calcite veinlets contain small masses of pyrite and chalcopyrite across a width of 30 to 40 feet (Wells and others, 1986). The deposit was discovered prior to 1906 and was explored by a small shaft, a tunnel that failed to reach the ore zone, open cuts, and trenches (Wright, 1907) The deposit in the mica schist resembles the one at the Mammoth prospect (JU248) (Cobb, 1978 [OFR 78-374]).

The rocks in the area are mainly Ordovician and Devonian to Triassic clastic strata, mafic-intermediate volcanic rocks, and subordinate limestone. The bedded rocks are intruded and locally metamorphosed by Cretaceous granodiorite (Gehrels and Berg, 1994).

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: No

Site Status: Inactive

Workings/exploration:
Surface sampling, shallow shaft, tunnel, open cuts, and trenches.

Production notes:

Reserves:

Additional comments:

References:
Wright, 1907; Cobb, 1978 (OFR 78-374); Wells and others, 1986; Gehrels and Berg, 1994.

Primary reference: Cobb, 1978 (OFR 78-374)

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Bear Creek

Site type: Prospect

ARDF no.: JU137

Latitude: 58.2796 **Quadrangle:** JU B-3

Longitude: 134.8512

Location description and accuracy:
This placer prospect is on Bear Creek at an elevation of approximately 500 feet. It is in near the center of the bottom of the SW1/4 section 30, T. 41 S., R. 65 E. of the Copper River Meridian. The location is accurate within 1/2 mile.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
Wells and others (1986) show a placer prospect at this location. Claims were active in 1967. This prospect is downstream from the Portage prospect (JU136), a low-grade gold-copper prospect.

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au (Cox and Singer, 1986; model 39a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: Undetermined.

Site Status: Inactive

Workings/exploration:

Wells and others (1986) show a placer prospect at this location. Claims were active in 1967.

Production notes:

Reserves:

Additional comments:

References:

Wells and others, 1986.

Primary reference: Wells and others, 1986

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Gold Fork; Silver Falls; Kathleen

Site type: Prospect

ARDF no.: JU138

Latitude: 58.3343 **Quadrangle:** JU B-1

Longitude: 134.2566

Location description and accuracy:

This prospect is on the northwest valley wall of Gold Fork at an elevation of 1,400 feet. It is about 1 mile upstream from the mouth of Carlson Creek in the NW1/4NW1/4 section 11, T. 41 S., R. 68 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Ag, Au

Other: Pb, Sb, Zn

Ore minerals: Arsenopyrite, galena, pyrite, sphalerite, stibnite

Gangue minerals: Quartz

Geologic description:

The Gold Fork deposit was discovered in 1911 and developed by a 10-foot adit and a 150-foot adit. The deposit was explored by Curator American in 1988 and drilled by Kennecott Exploration and Echo Bay Mines in the early 1990's. The prospect is currently (2001) being explored (Dale Henkins, oral commun., 2001). The Gold Fork deposit consists of at least four, fault-controlled quartz veins and quartz-breccia zones in biotite-hornblende gneiss and banded calc-schist. The veins can be traced along the north side of Gold Fork on the surface for nearly 1,000 feet and vertically for nearly 600 feet. Reconnaissance drilling by Kennecott suggests a total strike length of over 8,000 feet. The veins are slightly banded, with alternating layers of quartz and graphitic schist, and are locally brecciated. The banded veins dip north to northeast, and contain pyrite, stibnite, arsenopyrite, and galena. Four major veins up to 20 feet thick have been identified. Noteworthy intercepts from Kennecott core drilling in 1992 included 17 feet with 0.35 ounce of gold per ton and 39 feet with 0.22 ounce of gold per ton (Huber and Barnett, 1989; Dale Henkins, oral commun., 2001) Quartz vein stockworks and stringers also occur as well as intense silicification in the adjacent wallrock. The veins appear to have undergone brecciation and subsequent healing by quartz and minor pyrite. These veins are crosscut by multiple generations of quartz-pyrite veinlets with associated clay-ankerite wall rock alteration (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz

vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a 160-km-long by 5- to 8-km-wide zone along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Silicification and clay-ankerite wall rock alteration.

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Active

Workings/exploration:

The Gold Fork deposit was discovered in 1911 and developed by a 10-foot adit and a 150-foot adit. The prospect was explored by Curator American in 1988 and drilled by Kennecott Exploration and Echo Bay Mines in the early 1990's. The prospect is currently (2001) being explored.

Production notes:

Reserves:

Additional comments:

References:

Huber and Barnett, 1989; Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Huber and Barnett, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Douglas; Eagle Creek

Site type: Prospect

ARDF no.: JU139

Latitude: 58.3070 **Quadrangle:** JU B-2

Longitude: 134.4653

Location description and accuracy:

This prospect is at an elevation of approximately 300 feet, on Eagle Creek, on northeastern Douglas Island. It is just below the center of the north side of section 21, T. 41 S., R. 67 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Sb

Other:

Ore minerals: Stibnite

Gangue minerals: Quartz

Geologic description:

The rocks in the area are Upper Jurassic or Cretaceous marine argillite and graywacke, interbedded with andesite or basalt (Brew and Ford, 1985). The bedded rocks are regionally metamorphosed to prehnite-pumpellyite or greenschist grade, and cut by diorite or gabbro dikes and sills.

The deposit was discovered in 1932 and developed by a 40-foot adit and an open cut. The deposit consists of massive stibnite in the footwall of a quartz vein that cuts northwest-striking, northeast-dipping black phyllite and greenstone. The vein is up to 16 inches thick; samples contain up to 20.7 percent antimony (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike to-

nalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:

This deposit was discovered in 1932 and developed by a 40-foot adit and an open cut.

Production notes:

Reserves:

Additional comments:

References:

Brew and Ford, 1985; Redman and others, 1989; Gehrels and others, 1991; Gehrels and Berg, 1994; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): New Boston; Eagle Creek

Site type: Prospect

ARDF no.: JU140

Latitude: 58.3046 **Quadrangle:** JU B-2

Longitude: 134.4660

Location description and accuracy:

This prospect is at an elevation of approximately 500 feet. It is on the south side of Eagle Creek on northeastern Douglas Island, about 1.5 miles northwest of West Juneau, in about the center of the N1/2 section 21, T. 41 S., R. 67 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Cu, Pb, Zn

Other: Ag, Au

Ore minerals: Chalcopyrite, galena, pyrite, sphalerite

Gangue minerals: Quartz

Geologic description:

The rocks in the area are Upper Jurassic or Cretaceous marine argillite and graywacke, interbedded with andesite or basalt (Brew and Ford, 1985). The bedded rocks are regionally metamorphosed to prehnite-pumpellyite or greenschist grade, and cut by diorite or gabbro dikes and sills.

The deposit was discovered in 1888 and developed by a 1,040-foot adit and a 415-foot adit. The facilities included an 80-stamp mill, a tram, wharfs, and dock facilities. The recorded production is 2 ounces of gold (Redman and others, 1989). The rocks at the prospect are black phyllite, felsic phyllite, greenstone , and very-fine-grained augite metagabbro or diabase. The strata strike northwest and dip moderately northeast. The felsic phyllite is composed of quartz, muscovite, and feldspar. The unit is several hundred feet thick; has1 to 3 percent disseminated pyrite, and is cut by small quartz veins with sphalerite, galena, and chalcopyrite, and traces of gold and silver. The U.S. Bureau of Mines suggests that this prospect is similar to the Alaska Treasure massive sulfide deposit (JU228) (Redman and others, 1989; Wells and others, 1986).

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: No

Site Status: Inactive

Workings/exploration:

The deposit was discovered in 1888 and developed by a 1,040-foot adit and a 415-foot adit. The facilities included an 80-stamp mill, a tram, wharfs, and dock facilities.

Production notes:

Recorded production was 2 ounces of gold.

Reserves:

Additional comments:

References:

Brew and Ford, 1985; Wells and others, 1986; Redman and others, 1989.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Early Bird

Site type: Prospect

ARDF no.: JU141

Latitude: 58.3062 **Quadrangle:** JU B-2

Longitude: 134.4149

Location description and accuracy:

This prospect is in the city of Juneau. It is at an elevation of approximately 200 feet, 1 mile south-southwest of Mt. Juneau and 1/3 mile west of Mt. Maria It is in the NE1/4NW1/4 section 23, T. 41 S., R. 67 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Pyrite

Gangue minerals: Albite, quartz

Geologic description:

The Early Bird prospect was discovered in 1888 and developed by an adit with 215 feet of workings. The prospect consists of an albitized diorite sill in phyllite; there are quartz-albite veins along the contact of the sill (Spencer, 1906). The altered sill contains up to 5 percent pyrite. Accessory minerals in the sill include apatite, titanite, and magnetite. U.S. Bureau of Mines samples from the Early Bird adit contained up to 0.6 ppm gold (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and gra-

nodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:
Sill is albitized.

Age of mineralization:
Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:
The Early Bird deposit was discovered in 1888 and developed by an adit with 215 feet of workings.

Production notes:

Reserves:

Additional comments:

References:
Spencer, 1906; Redman and others, 1989; Wells and others, 1986; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Boston

Site type: Prospect

ARDF no.: JU142

Latitude: 58.3071 **Quadrangle:** JU B-2

Longitude: 134.4118

Location description and accuracy:

The Boston prospect is at an elevation of approximately 250 feet in Gold Creek in the city of Juneau. It is 1 mile south-southwest of Mt. Juneau and 1/4 mile west of Mt. Maria in the NE1/4NW1/4 section 23, T. 41 S., R. 67 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Pyrite

Gangue minerals: Albite, quartz

Geologic description:

The Boston prospect was discovered in 1888 and was developed by 500 feet of underground workings, including a 150-foot shaft. The prospect consists of an albitized diorite sill in phyllite; there are quartz-albite veins along the contact of the sill (Spencer, 1906). The altered sill contains up to 5 percent pyrite. Accessory minerals in the sill include apatite, titanite , and magnetite. U.S. Bureau of Mines samples from the dump of the Boston shaft contain up to 0.6 ppm gold (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a 160-km-long by 5- to 8-km-wide zone along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and gra-

nodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:
Diorite is albitized.

Age of mineralization:
Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Deposit model:

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

Production Status: No

Site Status: Inactive

Workings/exploration:
The Boston deposit was discovered in 1888 and was developed by 500 feet of underground workings, including a 150-foot shaft.

Production notes:

Reserves:

Additional comments:

References:
Spencer, 1906; Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): April; lower Gold Creek

Site type: Mine

ARDF no.: JU143

Latitude: 58.3075 **Quadrangle:** JU B-2

Longitude: 134.4054

Location description and accuracy:
This placer is in Gold Creek in the city of Juneau. It is at an elevation of approximately 300 feet, 1 mile south of Mt. Juneau and immediately north of Mt. Maria. It is just south of the center of the north side of section 23, T. 41 S., R. 67 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
The April placer on lower Gold Creek was discovered in the early 1880's (Spencer, 1906). All historic workings have been covered by the expansion of Juneau and the confinement of Gold Creek into a concrete channel. Gold was recovered but there is no record of the production (Redman and others, 1989).

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au (Cox and Singer, 1986; model 39a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: Yes

Site Status: Inactive

Workings/exploration:

The April placer on lower Gold Creek was discovered in the early 1880's (Spencer, 1906). All historic workings have been covered by the expansion of Juneau and the confinement of Gold Creek into a concrete channel.

Production notes:

Gold was recovered but there is no record of the production (Redman and others, 1989).

Reserves:

Additional comments:

References:

Spencer, 1906; Redman and others, 1989.

Primary reference: Spencer, 1906

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Hallum

Site type: Prospect

ARDF no.: JU144

Latitude: 58.3111 **Quadrangle:** JU B-2

Longitude: 134.3951

Location description and accuracy:

The Hallum prospect is at an elevation of approximately 800 feet, on the north side of Gold Creek, 3/4 mile south-southeast of Mt. Juneau and 1/2 mile west of The Horn. It is in the SW1/4SW1/4 section 13, T. 41 S., R. 67 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals: Quartz

Geologic description:

The Hallum prospect was discovered in 1901 and developed by a 27-foot adit and a 523-foot adit (Spencer, 1906). The prospect consists of gold-quartz veins along the contact between black phyllite and a greenstone or metagabbro sill. The metagabbro is hydrothermally altered along the contact with the phyllite (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a 160-km-long by 5- to 8-km-wide zone along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, mod-

erately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994, Goldfarb and others, 1997).

Alteration:
The metagabbro is hydrothermally altered along the contact with the phyllite.

Age of mineralization:
Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Inactive

Workings/exploration:
The Hallum deposit was discovered in 1901 and developed by a 27-foot adit and a 523-foot adit.

Production notes:

Reserves:

Additional comments:

References:
Spencer, 1906; Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Spencer, 1906

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Jualpa; Last Chance Basin

Site type: Mine

ARDF no.: JU145

Latitude: 58.3072 **Quadrangle:** JU B-2

Longitude: 134.3944

Location description and accuracy:
This placer mine is at an elevation of approximately 300 feet in the Last Chance Basin of Gold Creek. It is 1 mile south-southeast of Mt. Juneau and 1/2 mile west of The Horn. It is in the NW1/4NW1/4 section 24, T. 41 S., R. 67 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
The Jualpa placer was discovered by Joe Juneau and Richard Harris in 1880. A 4,250-foot flume was constructed and a 2000-foot drainage tunnel was driven in 1897. This tunnel is currently (2001) used for water storage for the City of Juneau. The gravels in Gold Creek were hydraulically mined in the early 1900's but debris and floods made mining difficult (Spencer, 1906). The gravel deposit is 4,000 feet long and 700 feet wide, with a maximum thickness of 90 to 100 feet. The gravels are in a glacially scoured basin that was dammed by a landslide which caused rapid gravel accumulation. Gold was recovered from the placer but no production records are available. There is a resource of 5.7 million cubic yards of auriferous gravel but the deposit is in the City of Juneau's watershed, which precludes development (Redman and others, 1989).

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au (Cox and Singer, 1986; model 39a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: Yes; small

Site Status: Inactive

Workings/exploration:
The Jualpa placer deposit was discovered by Joe Juneau and Richard Harris in 1880. A 4,250-foot flume was constructed and a 2000-foot drainage tunnel was driven in 1897. This tunnel is currently (2001) used for water storage for the City of Juneau.

Production notes:
Gold was recovered from the placer but no production records are available.

Reserves:
There is a resource of 5.7 million cubic yards of auriferous gravel but the deposit is in the city of Juneau's watershed, which precludes development.

Additional comments:

References:
Spencer, 1906; Redman and others, 1989.

Primary reference: Spencer, 1906

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Dora

Site type: Mine

ARDF no.: JU146

Latitude: 58.3134 **Quadrangle:** JU B-2

Longitude: 134.3794

Location description and accuracy:

The Dora mine is at an elevation of approximately 1100 feet on the north side of Gold Creek. It is 1 mile southeast of Mt. Juneau and immediately northwest of Ebner Falls. It is in the NW1/4SE1/4 section 13, T. 41 S., R. 67 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Pyrrhotite

Gangue minerals: Quartz

Geologic description:

The Dora Mine was discovered in the early 1880's and has been developed by a 285-foot adit and another, shorter, adit. Ore was shipped to the nearby Takou Union Mill in 1895 but production records are not available. This area was explored extensively by Echo Bay Mines Ltd. from the mid-1980's through the 1990's. The deposit consists of north-trending quartz veins in carbonate-altered metagabbro (Redman and others, 1989). The quartz veins contain pyrrhotite. U.S. Bureau of Mines samples contained up to 65.7 ppm gold (Redman and others, 1989).

This mine is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons

emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Carbonate alteration of metagabbro.

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Yes; small

Site Status: Inactive

Workings/exploration:

The Dora Mine was discovered in the early 1880's and has been developed by a 285-foot adit and another, shorter, adit. This area was explored extensively by Echo Bay Mines Ltd. from the mid-1980's through the 1990's.

Production notes:

Ore was shipped to the nearby Takou Union Mill in 1895 but production records are not available.

Reserves:

Additional comments:

References:

Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Humboldt

Site type: Mine

ARDF no.: JU147

Latitude: 58.3146 **Quadrangle:** JU B-2

Longitude: 134.3771

Location description and accuracy:

The Humboldt mine is at an elevation of approximately 1000 feet on the north side of Gold Creek. It is 1 mile southeast of Mt. Juneau and immediately north of Ebner Falls. It is in the SW1/4NE1/4 section 13, T. 41 S., R. 67 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other: Ag, Pb, Zn

Ore minerals: Galena, pyrrhotite, sphalerite

Gangue minerals: Quartz

Geologic description:

The Humboldt mine was discovered in 1882 and was developed by 6 adits and over 400 feet of underground workings. This area was explored extensively by Echo Bay Mines Ltd. from the mid-1980's through the 1990's. Approximately 1,400 tons of ore was mined from the Humboldt Mine between 1882 and 1905. The deposit consists of black phyllite with boudinaged quartz veins, and metagabbro sills and dikes (Redman and others, 1989). The quartz veins contains pyrrhotite, as well as minor sphalerite and galena. U.S. Bureau of Mines samples contained up to 35.9 ppm gold (Redman and others, 1989).

This mine is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons

emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:
Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Yes; small

Site Status: Inactive

Workings/exploration:
The Humboldt mine was discovered in 1882 and was developed by 6 adits and over 400 feet of underground workings. This area was explored extensively by Echo Bay Mines Ltd. from the mid-1980's through the 1990's.

Production notes:
Approximately 1,400 tons of ore was mined from the Humboldt Mine between 1882 and 1905.

Reserves:

Additional comments:

References:
Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Jeff and Russell

Site type: Prospect

ARDF no.: JU148

Latitude: 58.3156 **Quadrangle:** JU B-2

Longitude: 134.3736

Location description and accuracy:

The Jeff and Russell prospect is at an elevation of approximately 1000 feet on the north side of Gold Creek. It is 1 mile southeast of Mt. Juneau and 1/4 northeast of Ebner Falls, in the SE1/4NE1/4 section 13, T. 41 S., R. 67 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Pyrrhotite

Gangue minerals: Quartz

Geologic description:

The Jeff and Russell prospect was discovered in 1930 and was developed by a 2,630-foot adit and 1,080 feet of crosscuts. This area was explored extensively by Echo Bay Mines Ltd. from the mid-1980's through the 1990's. The deposit consists of quartz veins near the contact between black phyllite and felsic phyllite, greenstone, and metagabbro (Redman and others, 1989). The veins contain pyrrhotite. U.S. Bureau of Mines samples contained up to 10.1 ppm gold (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and gra-

nodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Inactive

Workings/exploration:

The Jeff and Russell prospect was discovered in 1930 and was developed by a 2,630-foot adit and 1,080 feet of crosscuts.

Production notes:

Reserves:

Additional comments:

References:

Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Ebner

Site type: Mine

ARDF no.: JU149

Latitude: 58.3107 **Quadrangle:** JU B-2

Longitude: 134.3749

Location description and accuracy:

The Ebner Mine is at an elevation of approximately 700 feet, on the southeast side of Gold Creek. It is 1.2 mile southeast of Mt. Juneau and immediately south of Ebner Falls. It is near the center of the SE1/4 section 13, T. 41 S., R. 67 E. of the Copper River Meridian. The location is accurate. References to the Alaska Juneau mine (JU165) commonly include the Ebner Mine (JU149), the Groundhog Mine (JU169), the Sheep Creek Tunnel (JU177), and the Perseverance Mine (JU168).

Commodities:

Main: Ag, Au

Other: Cu

Ore minerals: Chalcopyrite, gold, pyrite, pyrrhotite

Gangue minerals: Ankerite, quartz

Geologic description:

The deposit at the Ebner Mine was discovered in 1880. The mine was developed by nearly 11,000 feet of underground workings including the 3,500-foot Ebner Tunnel which was rehabilitated by Echo Bay Mines in 1987. The mine produced an estimated 32,000 ounces of gold and over 1,000 ounces of silver between 1889 and 1907, and 165,750 tons of ore with an average of 0.1 ounce gold per ton between 1925 and 1930. There was some gold production prior to 1898 but accurate production records are not available. The mine was acquired by the Alaska-Juneau Mining Co. in 1923. It currently (2001) is referred to as the Ebner orebody and represents the northern extension of the Alaska-Juneau Mine (JU165). The Ebner orebody was explored extensively by Echo Bay Mines in the late-1980's and 1990's. The U.S. Bureau of Mines has estimated that it contains a reserve of 300,000 tons of ore with an average of 0.07 ounce of gold per ton (Redman and others, 1989). The Ebner mine and the Alaska-Juneau mine are in the structurally lowest portion of the Perseverance Slate, a Upper Triassic unit that consists of quartz-sericite phyllite, schist, and black slate with minor carbonaceous limestone and numerous sill-like lenses of amphibolite or metagabbro (Miller and others, 1992; Light and others, 1989). The deposit is a system of quartz veins more than 6 kilometers in strike length, and 700

meters in vertical extent. The quartz-vein system is restricted to the lower 100 meters of the Perseverance Slate. The quartz-vein system is made up of numerous veins, veinlets, stringers and stockworks; individual veins vary from a few centimeters to over 1 meter thick. The Ebner veins are 95 percent quartz, with subsidiary ankerite, pyrrhotite, pyrite, chalcopyrite, and native gold. Approximately 90 percent of the gold is free-milling (Light and others, 1989). Hydrothermal alteration associated with the emplacement of the quartz veins formed biotite, ferroan dolomite and sericite as well as some chlorite and albite in the amphibolite. The alteration has been traced with decreasing intensity as much as 1 kilometer from the Alaska-Juneau mine. Inward from its periphery, magnetite, then ilmenite and magnetite, are replaced by pyrrhotite (Miller and others, 1992; Newberry and Brew, 1988).

This mine is in the Juneau Gold Belt, which consists of more than 200 gold-quartz vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a 160-km-long by 5- to 8-km-wide zone along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Hydrothermal alteration associated with the emplacement of the quartz veins formed biotite, ferroan dolomite and sericite, as well as some chlorite and albite in the amphibolite. The alteration has been traced with decreasing intensity as much as 1 kilometer from the Alaska-Juneau mine. Inward from its periphery, magnetite, then ilmenite and magnetite, are replaced by pyrrhotite (Miller and others, 1992; Newberry and Brew, 1987).

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Yes; medium

Site Status: Inactive

Workings/exploration:

The deposit at the Ebner Mine is now part of the Alaska-Juneau Mine (JU165) system and was discovered in 1880. The mine was developed by nearly 11,000 feet of underground workings including the 3,500-foot Ebner Tunnel, which was rehabilitated by Echo Bay Mines in 1987. The mine was acquired by the Alaska-Juneau Mining Co. in 1923. It currently (2001) is referred to as the Ebner Orebody and represents the northern extension of the Alaska-Juneau Mine (JU165). The Ebner Orebody was explored extensively by Echo Bay Mines in the late-1980's and 1990's.

Production notes:

The Ebner mine produced an estimated 32,000 ounces of gold and over 1,000 ounces of silver between 1889 and 1907, and 165,750 tons of ore with an average grade of 0.1 ounce of gold per ton between 1925 and 1930. There was some gold production prior to 1898 but accurate production records are not available.

Reserves:

The U.S. Bureau of Mines has estimated that this orebody contains a reserve of 300,000 tons of ore with an average of 0.07 ounce of gold per ton.

Additional comments:

References to the Alaska-Juneau mine commonly include the Ebner Mine (JU149), the Groundhog Mine (JU169), the Sheep Creek Tunnel (JU177), and the Perseverance Mine (JU168).

References:

Newberry and Brew, 1987; Light and others, 1989; Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1992; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Middle Basin; Middle Flat

Site type: Mine

ARDF no.: JU150

Latitude: 58.3152 **Quadrangle:** JU B-2

Longitude: 134.3672

Location description and accuracy:
This placer mine is at an elevation of approximately 800 feet in Gold Creek. It is 1.5 mile southeast of Mt. Juneau and 1/2 mile upstream of Ebner Falls, just east of the center of the west side of section 18, T. 41 S., R. 68 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
The Middle Basin placer was discovered in 1881. It is in the Gold Creek canyon below Silverbow Basin and Ebner Falls. The gravels are in an area 2,500 feet long and 200 feet wide (Spencer, 1906). The placers were worked in the 1880's but production records are not available (Redman and others, 1989).

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au (Cox and Singer, 1986; model 39a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: Undetermined.

Site Status: Inactive

Workings/exploration:
The placer was worked in the 1880's.

Production notes:
Production records are not available.

Reserves:

Additional comments:

References:
Spencer, 1906; Redman and others, 1989.

Primary reference: Spencer, 1906

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Reilly

Site type: Prospect

ARDF no.: JU151

Latitude: 58.3172 **Quadrangle:** JU B-2

Longitude: 134.3532

Location description and accuracy:

The Riley prospect is at an elevation of approximately 1,000 feet on the north side of Gold Creek. It is 2 miles east of Mt. Juneau and immediately west of the confluence with Granite Creek. It is about 0.1 mile north of the center of section 18, T. 41 S., R. 68 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals:

Gangue minerals:

Geologic description:

The Reilly prospect was discovered prior to 1917 and was developed by a 5-foot adit. This area was explored extensively by Echo Bay Mines Ltd. from the mid-1980's through the 1990's. The prospect is in chloritic phyllite. No other information is available (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, mod-

erately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:

The Reilly prospect was discovered prior to 1917 and was developed by a 5-foot adit.

Production notes:

Reserves:

Additional comments:

References:

Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Republican

Site type: Prospect

ARDF no.: JU152

Latitude: 58.3166 **Quadrangle:** JU B-2

Longitude: 134.3442

Location description and accuracy:

The Republican prospect is at an elevation of approximately 1,300 feet on the south side of Granite Creek. It is 2.25 miles east of Mt. Juneau and 1/8 mile east of junction of Granite Creek with Gold Creek in the SE1/4NE1/4 section 18, T. 41 S., R. 68 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Pyrite

Gangue minerals:

Geologic description:

The Republican prospect was discovered prior to 1916 and was developed by 4 adits. This area was explored extensively by Echo Bay Mines Ltd. from the mid-1980's through the 1990's. The prospect consists of carbonate-altered metagabbro that contains up to 2 percent disseminated pyrite. U.S. Bureau of Mines samples contain up to 0.2 ppm gold (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels

and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:
Metagabbro hostrock is altered to carbonate minerals.

Age of mineralization:
Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Inactive

Workings/exploration:
The deposit at the Republican prospect was discovered prior to 1916 and was developed by 4 adits.

Production notes:

Reserves:

Additional comments:

References:
Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Little Basin

Site type: Mine

ARDF no.: JU153

Latitude: 58.3138 **Quadrangle:** JU B-2

Longitude: 134.3534

Location description and accuracy:
This placer mine is at an elevation of approximately 1,100 feet in a small drainage basin downstream from Silverbow Basin on Gold Creek. It is in the NW1/4SE1/4 section 18, T. 41 S., R. 68 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
The Little Basin placer was discovered in 1881 and had a 300-foot drainage tunnel. The placer was formed by the erosion of the adjacent north ore body of the Alaska-Juneau Mine. The deposit is divided into 2 sections; the lower section is alluvium and the upper section is colluvium (Spencer, 1906). Approximately 75,000 cubic yards were mined, including 52,000 cubic yards from the upper section and 23,000 cubic yards from the lower section. The mine produced at least 2,400 ounces of gold by 1889 (Redman and others, 1989).

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au (Cox and Singer, 1986; model 39a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: Yes

Site Status: Inactive

Workings/exploration:

The Little Basin placer deposit was discovered in 1881 and had a 300-foot drainage tunnel. The deposit is divided into 2 sections; the lower section is alluvium and the upper section is colluvium (Spencer, 1906). Approximately 75,000 cubic yards were mined, including 52,000 cubic yards from the upper section and 23,000 cubic yards from the lower section. The mine produced at least 2,400 ounces of gold by 1889 (Redman and others, 1989).

Production notes:

The deposit is divided into 2 sections; the lower section is alluvium and the upper section is colluvium (Spencer, 1906). Approximately 75,000 cubic yards were mined, including 52,000 cubic yards from the upper section and 23,000 cubic yards from the lower section. The mine produced at least 2,400 ounces of gold by 1889 (Redman and others, 1989).

Reserves:

Additional comments:

References:

Spencer, 1906; Redman and others, 1989.

Primary reference: Spencer, 1906

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Alexander Crosscut

Site type:

ARDF no.: JU154

Latitude: 58.3060 **Quadrangle:** JU B-1

Longitude: 134.3323

Location description and accuracy:

This tunnel is at an elevation of approximately 1,300 feet on the south side of Gold Creek. It is 1.5 miles north of Roberts Peak and 1.5 miles west-northwest of Clark Peak in the NE1/4NW1/4 section 20, T. 41 S., R. 68 E. of the Copper River Meridian. The location is accurate. This tunnel is part of the Alaska-Juneau Mine and is included because it is marked by a symbol on the Juneau B-1 topographic map.

Commodities:

Main:

Other:

Ore minerals:

Gangue minerals:

Geologic description:

This tunnel is part of the Alaska-Juneau mine (JU165) and the Perseverance mine (JU168); it is a crosscut driven in 1902 to access ore below the Perseverance mine. The Alexander crosscut was over 2,500 feet long by 1905. Until the Sheep Creek Tunnel and other workings were rehabilitated in the late-1980's, the Alexander crosscut was the best underground access to the Perseverance and Alaska Juneau mine (JU165) workings (Redman and others, 1985). This tunnel is part of the Alaska-Juneau Mine and is included because it is marked by a symbol on the Juneau B-1 topographic map.

Alteration:

Age of mineralization:

Deposit model:

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

Production Status:

Site Status: Inactive

Workings/exploration:

The Alexander Crosscut is 2,500 feet long and provides access to the Perseverance mine.

Production notes:

This tunnel did not produce ore. This tunnel is part of the Alaska-Juneau Mine and is included because it is marked by a symbol on the Juneau B-1 topographic map.

Reserves:

Additional comments:

References:

Redman and others, 1985.

Primary reference: Redman and others, 1985

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Martin

Site type: Prospect

ARDF no.: JU155

Latitude: 58.3060 **Quadrangle:** JU B-1

Longitude: 134.3265

Location description and accuracy:

This prospect is at an elevation of approximately 1,400 feet on upper Gold Creek. It is 1.5 miles north of Roberts Peak and 1.3 miles west-northwest of Clark Peak It is in the NW1/4NE1/4 section 20, T. 41 S., R. 68 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Pyrrhotite

Gangue minerals: Quartz

Geologic description:

The Martin prospect was discovered prior to 1900 and was developed by a 126-foot adit and a 16-foot adit. This area was explored extensively by Echo Bay Mines Ltd. from the mid-1980's through the 1990's. The prospect consists of quartz veins that parallel the foliation in black phyllite (Redman and others, 1989). The quartz veins contain pyrrhotite and vary from 1 to 10 feet thick. U.S. Bureau of Mines samples contained up to 1.3 ppm gold (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and gra-

nodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Inactive

Workings/exploration:

The Martin prospect was discovered prior to 1900 and was developed by a 126-foot adit and a 16-foot adit. This area was explored extensively by Echo Bay Mines Ltd. from the mid-1980's through the 1990's.

Production notes:

Reserves:

Additional comments:

References:

Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Unnamed (upper Gold Creek)

Site type: Prospect

ARDF no.: JU156

Latitude: 58.3067 **Quadrangle:** JU B-1

Longitude: 134.3165

Location description and accuracy:

This prospect is at an elevation of approximately 1,800 feet on upper Gold Creek. It is 1.5 miles north of Roberts Peak and 1 mile west-northwest of Clark Peak, near the northeast corner of section 20, T. 41 S., R. 68 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Pyrite, pyrrhotite

Gangue minerals: Quartz

Geologic description:

This prospect was discovered before 1900 and worked again in the 1930's. The prospect was developed by 5 adits, 110 feet of workings, and a trench. The deposit consists of concordant quartz veins in biotite schist that contain pyrrhotite, and of thin quartz veins in an altered hornblende diorite sill (Redman and others, 1989). The quartz veins in the sill contain pyrite. U.S. Bureau of Mines samples did not contain significant gold values (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and gra-

nodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Inactive

Workings/exploration:

The deposit at this prospect was discovered before 1900 and worked again in the 1930's. The prospect was developed by 5 adits, 110 feet of workings, and a trench.

Production notes:

Reserves:

Additional comments:

References:

Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Margarite

Site type: Prospect

ARDF no.: JU157

Latitude: 58.3029 **Quadrangle:** JU B-1

Longitude: 134.3323

Location description and accuracy:

The Margarite prospect is at an elevation of approximately 1,800 feet, 1/4 mile south of upper Gold Creek. It is 1.2 miles north of Roberts Peak and 1.5 miles west of Clark Peak, in the SE1/4NW1/4 section 20, T. 41 S., R. 68 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Pyrrhotite

Gangue minerals: Quartz

Geologic description:

This Margarite prospect was probably discovered before 1900 and was developed by a 9-foot adit. The deposit consists of irregular discordant pyrrhotite-bearing quartz veins that cut black phyllite and thin bands of metagabbro (Redman and others, 1989). U.S. Bureau of Mines samples did not contain significant gold values.

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, mod-

erately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Inactive

Workings/exploration:

This deposit at the Margarite prospect was probably discovered before 1900 and was developed by a 9-foot adit.

Production notes:

Reserves:

Additional comments:

References:

Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Solo

Site type: Prospect

ARDF no.: JU158

Latitude: 58.3029 **Quadrangle:** JU B-1

Longitude: 134.3265

Location description and accuracy:

The Solo prospect is at an elevation of approximately 2,000 feet, 1/4 mile south of upper Gold Creek. It is 1.2 miles north of Roberts Peak and 1.3 miles west of Clark Peak, in the SW1/4NE1/4 section 20, T. 41 S., R. 68 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Pyrrhotite

Gangue minerals: Quartz

Geologic description:

The Solo prospect was probably discovered before 1900 and was developed by 5 adits, a 20-foot trench, and an open cut. The deposit consists of a concordant quartz vein along the contact between black phyllite and felsic phyllite (Redman and others, 1989). The black phyllite has thin bands of metagabbro. The quartz veins contain pyrrhotite. U.S. Bureau of Mines samples did not contain significant gold values (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and gra-

nodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Inactive

Workings/exploration:

The Solo prospect was probably discovered before 1900 and was developed by 5 adits, a 20-foot trench, and an open cut.

Production notes:

Reserves:

Additional comments:

References:

Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Rubicon

Site type: Prospect

ARDF no.: JU159

Latitude: 58.3014 **Quadrangle:** JU B-1

Longitude: 134.3185

Location description and accuracy:

The Rubicon prospect is at an elevation of approximately 2,500 feet, 1/4 mile south of upper Gold Creek. It is 1.2 miles north of Roberts Peak and 1 mile west of Clark Peak, in the SE1/4NE1/4 section 20, T. 41 S., R. 68 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Ag, Au, Pb, Zn

Other:

Ore minerals: Arsenopyrite, galena, pyrrhotite, sphalerite

Gangue minerals: Quartz

Geologic description:

The Rubicon prospect was discovered in 1906 and has been developed by 5 adits and a 400-foot trench. The deposit consists of an older set of foliation-concordant boudinaged, quartz veins in black phyllite and felsic schist (Redman and others, 1989). These veins are up to 10 feet thick and 200 feet long and contain disseminated pyrrhotite. A series of en echelon faults intersect these veins and contain siderite, quartz , and brecciated wall-rock. The late-stage, fault-controlled, quartz-siderite veins contain arsenopyrite, galena, pyrrhotite, and sphalerite. U.S. Bureau of Mines samples contained up to 5.3 ppm gold, 797.1 ppm silver, 2.47 percent lead, and 3.65 percent zinc. The U.S. Bureau of Mines estimates a resource of 40,500 tons with an average of 2.37 ounces of silver and 0.03 ounce of gold per ton (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-

Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Inactive

Workings/exploration:

The deposit at the Rubicon prospect was discovered in 1906 and was developed by 5 adits and a 400-foot trench.

Production notes:

Reserves:

The U.S. Bureau of Mines estimates a resource of 40,500 tons of ore with an average of 2.37 ounces of silver and 0.03 ounce of gold per ton (Redman and others, 1989).

Additional comments:

References:

Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Bull Consolidated

Site type: Prospect

ARDF no.: JU160

Latitude: 58.2991 **Quadrangle:** JU B-1

Longitude: 134.3104

Location description and accuracy:

The Bull Consolidated prospect is at an elevation of approximately 3,000 feet, 1/2 mile northwest of Sheep Mountain, 1 mile north-northeast of Roberts Peak, and 3/4 mile west of Clark Peak. It is near the center of the SW1/4 section 21, T. 41 S., R. 68 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Ag

Other:

Ore minerals: Pyrite

Gangue minerals: Quartz

Geologic description:

The Bull Consolidated prospect was discovered before 1905 and several sacks of ore were extracted for testing (Redman and others, 1989). No further work was reported after 1905. The prospect has a shaft and an open cut. The deposit consists of three concordant quartz veins in biotite gneiss. The veins are 0.5 to 3.5 feet thick and contain pyrite. U.S. Bureau of Mines samples contained up to 1.2 ppm silver (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a 160-km-long by 5- to 8-km-wide zone along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels

and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:
Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: No

Site Status: Inactive

Workings/exploration:
The deposit at the Bull Consolidated prospect was discovered before 1905. No further work was reported after 1905. The prospect has a shaft and an open cut.

Production notes:

Reserves:

Additional comments:

References:
Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): McKinley

Site type: Prospect

ARDF no.: JU161

Latitude: 58.2981 **Quadrangle:** JU B-1

Longitude: 134.3231

Location description and accuracy:

The McKinley prospect is at an elevation of approximately 2,400 feet, 3/4 mile west-northwest of Sheep Mountain, 3/4 mile north of Roberts Peak, and 1.2 miles west of Clark Peak. It is near the center of the SE1/4 section 20, T. 41 S., R. 68 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Ag, Au

Other:

Ore minerals: Pyrrhotite

Gangue minerals: Quartz

Geologic description:

The McKinley prospect was discovered in 1907 and was developed by a 150-foot adit, a 15-foot adit, and 2 trenches. The deposit consists of concordant, boudinaged quartz veins in black phyllite and metagabbro sills (Redman and others, 1989). The quartz veins are up to 1.5 feet thick and 200 feet long, and contain disseminated pyrrhotite. U.S. Bureau of Mines samples contained up to 0.1 ppm gold and 1.8 ppm silver (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and gra-

nodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Inactive

Workings/exploration:

The McKinley prospect was discovered in 1907 and was developed by a 150-foot adit, a 15-foot adit and 2 trenches.

Production notes:

Reserves:

Additional comments:

References:

Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Lurvey; Lurvey Amphitheater

Site type: Mine

ARDF no.: JU162

Latitude: 58.2980 **Quadrangle:** JU B-1

Longitude: 134.3325

Location description and accuracy:
This placer mine is at an elevation of approximately 1,800 feet in a small basin, 1.2 mile west-northwest of Sheep Mountain, 3/4 mile north of Roberts Peak, and 1.5 miles west of Clark Peak. It is in the NE1/4SW1/4 section 20, T. 41 S., R. 68 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
The Lurvey placer was discovered in 1881 in a small basin near the Perseverance Mine (JU168). It was developed by a 343-foot drainage tunnel and a 90-foot raise (Spencer, 1906). The placer occupies a small lake basin that was filled with gravels from Lurvey Creek and from the area of the Perseverance mine. The basin is approximately 700 feet long, 300 feet wide, and up to 20 feet deep. Approximately 40,000 cubic yards were mined but there are no production records available (Redman and others, 1989).

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au (Cox and Singer, 1986; model 39a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: Undetermined.

Site Status: Inactive

Workings/exploration:

The Lurvey placer was discovered in 1881 in a small basin near the Perseverance Mine (JU168) and was developed by a 343-foot drainage tunnel and a 90-foot raise.

Production notes:

Approximately 40,000 cubic yards of gravel were mined but there are no production records available.

Reserves:

Additional comments:

References:

Spencer, 1906; Redman and others, 1989.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Jumbo

Site type: Prospect

ARDF no.: JU163

Latitude: 58.2944 **Quadrangle:** JU B-1

Longitude: 134.3290

Location description and accuracy:

The Jumbo prospect is at an elevation of approximately 2,600 feet in Lurvey Creek. It is 1 mile west of Sheep Mountain, 1/2 mile north of Roberts Peak and 1.5 miles west-southwest of Clark Peak, just aove the center of the south side of section 20, T. 41 S., R. 68 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Ag, Au

Other: Pb, Zn

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

Gangue minerals: Quartz

Geologic description:

The Jumbo prospect is essentially a surface exposure of the Perseverance deposit (JU168)(Redman and others, 1989). It has a short adit and a trench. The deposit consists of numerous quartz veins in black phyllite, felsic phyllite, and altered metagabbro. U.S. Bureau of Mines samples contained up to 18.1 ppm gold, 37.7 ppm silver, 6,550 ppm lead, and 630 ppm zinc (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels

and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:
Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Inactive

Workings/exploration:
The Jumbo prospect is essentially a surface exposure of the Perseverance deposit (JU168)(Redman and others, 1989). It has a short adit and a trench.

Production notes:

Reserves:

Additional comments:

References:
Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Silver Bow Basin; Nowell; Silver Bow Hydraulic Mine

Site type: Mine

ARDF no.: JU164

Latitude: 58.3113 **Quadrangle:** JU B-2

Longitude: 134.3432

Location description and accuracy:
This placer mine is at an elevation of approximately 1,050 feet, in the Silverbow Basin of Gold Creek, between the junction of Granite Creek and Icy Gulch. It is near the northeast corner of the SE1/4 section 18, T. 41 S., R. 68 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
The Silverbow Basin placer in Gold Creek was discovered in 1880 by Joe Juneau and Richard Harris. By 1887, over 5,000 ounces of gold were estimated to have been recovered from sluicing operations (Spencer, 1906). Large scale hydraulic mining began in 1889 with 2 giants. The mine has a 3400-foot drainage tunnel, 2 shafts, and placer pit 1,800 feet long, 500 feet wide, and 100 feet deep. (Redman and others, 1989). The placer occupies a glacially-scoured postglacial lake basin that was filled with gravels from Lurvey Creek (JU162), Gold Creek, Icy, Nugget, and Quartz Gulches. The basin is approximately 3,000 feet long and 1,000 feet wide. Mining concentrated on the portion of the basin below the Alaska-Juneau vein system (JU165) (Cobb, 1978 [OFR 78-374]). Total production from the Gold Creek placers is estimated at over 63,000 ounces of gold; the Silverbow Basin probably accounting for well over 50,000 ounces of that total (Redman and others, 1989).

Alteration:

Age of mineralization:
Quaternary.

Deposit model:

Placer Au (Cox and Singer, 1986; model 39a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: Yes; medium

Site Status: Inactive

Workings/exploration:
The Silverbow Basin placer was discovered in 1880 by Joe Juneau and Richard Harris. The mine has a 3400-foot drainage tunnel, 2 shafts, and a placer pit 1,800 feet long, 500 feet wide, and 100 feet deep.

Production notes:
By 1887, over 5,000 ounces of gold is estimated to have been recovered from sluicing operations. Large scale hydraulic mining began in 1889 with 2 giants. Total production is estimated to exceed 50,000 ounces of gold.

Reserves:

Additional comments:

References:
Becker, 1898; Spencer, 1906; Cobb, 1978 (OFR 78-374); Redman and others, 1989.

Primary reference: Cobb, 1978 (OFR 78-374)

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Alaska-Juneau; A-J; AJ

Site type: Mine

ARDF no.: JU165

Latitude: 58.3079 **Quadrangle:** JU B-2

Longitude: 134.3442

Location description and accuracy:

The Alaska-Juneau Mine is at an elevation of 1,000 feet, on the southwest side of Silverbow Basin, 2.5 miles east-southeast of Mt. Juneau and 1 mile north of Gastineau Peak. It is near the northeast corner of section 19, T. 41 S., R. 68 E. of the Copper River Meridian. The location is accurate. References to the Alaska-Juneau Mine commonly include the Ebner Mine (JU149), the Groundhog Mine (JU169), and the Perseverance Mine (JU168).

Commodities:

Main: Ag, Au, Pb

Other: Cu, Zn

Ore minerals: Arsenopyrite, bismuth, bismuthinite, chalcopyrite, electrum, galena, gold, joseite, pyrite, pyrrhotite, sphalerite, tetrahedrite

Gangue minerals: Ankerite, quartz

Geologic description:

The Alaska-Juneau Mine (AJ, A-J), was discovered by Joe Juneau and Richard Harris in 1880 and comprises four separate ore bodies: the Ebner ore body (JU149); the North and South orebodies; and the Perseverance orebody (JU168). The mine operated from 1883 to 1944, when labor shortages and rising prices forced the mine to stop operations. The total production from the Alaska-Juneau Mine is approximately 3.5 million ounces of gold, 1.9 million ounces of silver, and 40.2 million pounds of lead (Redman and others, 1989). Of that total, the Alaska-Juneau North and South orebodies account for over 88 million tons of ore that produced 2.8 million ounces of gold and nearly 1.9 million ounces of silver; the Perseverance Mine (JU168) accounts for over 500,000 ounces of gold and over 480,000 ounces of silver; while the Ebner Mine (JU149) accounts for over 50,000 ounces of gold. The deposit was mined by modified block-caving and hand-sorting. There are 93.7 miles of underground workings on 15 levels that extend from 1000 feet below sea level to 2,800 feet above sea level. When combined with the Perseverance Mine, the total amount of underground workings is nearly 120 miles. From 1986 to 1988, Echo Bay Mines renovated the Sheep Creek Tunnel (JU177), completed a 2,000

foot decline to the AJ 4 level, and drove 1,100 feet of new workings in the Perseverance Mine (Redman and others, 1989). Approximately 360,000 feet of underground and surface core drilling was completed by Echo Bay Mines between 1986 and 1997. Using a sublevel caving mining model, Echo Bay Mines Ltd. calculated an indicated and inferred resource for the Alaska-Juneau Mine of 89 million tons with an average grade of 0.05 ounce of gold per ton (L. Miller, personal comm., 2001).

The Alaska-Juneau deposit is a system of sulfide-bearing, auriferous, quartz-ankerite veins in the structurally lowest portion of the Perseverance Slate, an Upper Triassic unit of carbonaceous and graphitic, quartz-sericite phyllite, schist, and black slate, with minor carbonaceous limestone and numerous sill-like lenses of amphibolite or metagabbro (Miller and others, 1992; Light and others, 1989). The vein system is more than 6 kilometers in strike length, 700 meters in vertical extent, and is confined to the lowest 100 meters of the Perseverance Slate. The system comprises numerous veins, veinlets, stringers and stockworks; individual veins range from a few centimeters to over 1 meter thick. The veins are 95 percent quartz, with subordinate ankerite, pyrrhotite, galena, sphalerite, electrum, arsenopyrite, pyrite, and native gold. Approximately 90 percent of the gold is free-milling (Light and others, 1989; Twenhofel, 1952).

The Alaska-Juneau Mine was one of the major gold producers in the Juneau Gold Belt. The belt consists of more than 200 mesothermal quartz-vein prospects and mines, which produced nearly 7 million ounces of gold (Miller and others, 1994). The structural grain of the belt is defined by a northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994).

Alteration:

Alternation consists of hydrothermal biotite, ferroan dolomite, and sericite; chlorite and albite partly replace amphibolite(Miller and others, 1992). The alteration has been traced with decreasing intensity as much as 1 kilometer from the Alaska-Juneau mine. Inward from its periphery, magnetite, then ilmenite and magnetite, are replaced by pyrrhotite (Miller and others, 1992; Newberry and Brew, 1987).

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Yes; large

Site Status: Inactive

Workings/exploration:

The deposit at the Alaska-Juneau Mine (AJ, A-J), was discovered by Joe Juneau and Richard Harris in 1880 and comprises four separate ore bodies: the Ebner ore body (JU149); the North and South orebodies; and the Perseverance orebody (JU168). The mine operated from 1883 to 1944, when labor shortages and rising prices forced the mine to stop operations. There are 93.7 miles of underground workings on 15 levels that extend from 1000 feet below sea level to 2,800 feet above sea level. When combined with the Perseverance Mine, the total amount of underground workings is nearly 120 miles. During 1986-1988, Echo Bay Mines renovated the Sheep Creek Tunnel (JU177), completed a 2,000 foot decline to the AJ 4 level, and drove 1,100 feet of new workings in the Perseverance Mine (Redman and others, 1989). Approximately 360,000 feet of underground and surface core drilling was completed by Echo Bay Mines between 1986 and 1997.

Production notes:

The total production from the Alaska-Juneau Mine is approximately 3.5 million ounces of gold, 1.9 million ounces of silver and 40.2 million pounds of lead (Redman and others, 1989). Of that total, the Alaska-Juneau North and South orebodies account for over 88 million tons of ore that contained 2.8 million ounces of gold and nearly 1.9 million ounces of silver; the Perseverance Mine (JU168) accounts for over 500,000 ounces of gold and over 480,000 ounces of silver; while the Ebner Mine (JU149) accounts for over 50,000 ounces of gold production. The Alaska-Juneau deposit was mined by modified block-caving and hand-sorting.

Reserves:

Using a sublevel-caving mining model, Echo Bay Mines Ltd. calculated an indicated and inferred resource for the Alaska Juneau mine of 89 million tons of material with an average grade of 0.05 ounce of gold per ton.

Additional comments:

References:

Spencer, 1906; Twenhofel, 1952; Newberry and Brew, 1987; Light and others, 1989; Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1992; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Light and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Bess

Site type: Prospect

ARDF no.: JU166

Latitude: 58.3063 **Quadrangle:** JU B-2

Longitude: 134.3357

Location description and accuracy:

The Bess prospect is at an elevation of 1,200 feet, on the south side of Silverbow Basin. It is on the east side of Icy Gulch, 2.75 miles east-southeast of Mt. Juneau and 1 mile north of Gastineau Peak, in the NW1/4NW1/4 section 20, T. 41 S., R. 68 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Pyrrhotite

Gangue minerals: Quartz

Geologic description:

The Bess prospect was probably discovered before 1900 and was developed by a 31-foot adit and a 34-foot drift. The deposit consists of an irregular, discordant pyrrhotite-bearing quartz vein. The vein cuts black phyllite and thin bands of metagabbro (Redman and others, 1989). The vein exposed in the adit pinches and swells from zero to 3.5 feet. U.S. Bureau of Mines samples contained up to 0.6 ppm gold (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels

and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:
Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Inactive

Workings/exploration:
The Bess prospect was probably discovered before 1900 and was developed by a 31-foot adit and a 34-foot drift.

Production notes:

Reserves:

Additional comments:

References:
Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Bridle

Site type: Prospect

ARDF no.: JU167

Latitude: 58.3043 **Quadrangle:** JU B-2

Longitude: 134.3593

Location description and accuracy:

The Bridle prospect is at an elevation of 2,700 feet, 1 mile south of Gold Creek, 2 miles southeast of Mt. Juneau and 1 mile north-northwest of Gastineau Peak. It is in the NE1/4NW1/4 section 19, T. 41 S., R. 68 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Ag

Other: Au, Cu, Zn

Ore minerals: Pyrrhotite

Gangue minerals: Quartz

Geologic description:

The Bridle prospect has a short trench and the deposit consists of quartz veins in massive greenstone (Redman and others, 1989). The greenstone has some carbonate alteration adjacent to the quartz veins. U.S. Bureau of Mines samples contained up to 1.4 ppm silver, 290 ppm copper and 208 ppm zinc (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, mod-

erately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:
Carbonate alteration in greenstone hostrock.

Age of mineralization:
Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Inactive

Workings/exploration:
The prospect has a short trench.

Production notes:

Reserves:

Additional comments:

References:
Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Perseverance; Alaska-Juneau; Alaska Gastineau; South Orebody

Site type: Mine

ARDF no.: JU168

Latitude: 58.2990 **Quadrangle:** JU B-2

Longitude: 134.3378

Location description and accuracy:
This mine is at an elevation of 1,700 feet, at the head of Icy Gulch. It is 3 miles southeast of Mt. Juneau and 1/2 mile north of Gastineau Peak, in the NE1/4SW1/4 section 20, T. 41 S., R. 68 E. of the Copper River Meridian. The location is accurate. Descriptions of the Alaska-Juneau mine (JU165) commonly include the Perseverance Mine.

Commodities:

Main: Ag, Au, Pb

Other: Cu, Zn

Ore minerals: Arsenopyrite, bismuth, bismuthinite, chalcopyrite, electrum, galena, gold, joseite, pyrite, pyrrhotite, sphalerite, tetrahedrite

Gangue minerals: Ankerite, quartz

Geologic description:
The Perseverance Mine is often considered the Perseverance orebody of the Alaska-Juneau mine (JU165). The Perseverance Mine was discovered by Joe Juneau and Richard Harris in 1880 and the mine was extracting 8,000 tons of ore per day by 1917. The mine was developed by 2 major crosscuts, the Alexander crosscut (JU154) completed in 1905, and the Sheep Creek Tunnel (JU177) completed in 1914. The mine was acquired by the Alaska-Juneau Mining Company in 1933 and connected underground with the Alaska Juneau Mine (JU165) in 1935. The mine operated from 1886 to 1943 and produced about 70 percent of the total ore mined by the Alaska Juneau Mining Company. The total production from the Perseverance Mine was over 12 million tons of ore that yielded approximately 500,900 ounces of gold and over 482,000 ounces of silver. The deposit was mined by modified block-caving and hand-sorting. There are 26 miles of underground workings on 10 levels in the Perseverance Mine which, combined with the Alaska-Juneau Mine, totals nearly 120 miles of underground workings. During 1986-1988 Echo Bay Mines renovated the Sheep Creek Tunnel (JU177), completed a 2,000 foot decline to the AJ 4 level, and drove 1,100 feet of new workings in the Perseverance Mine (Cobb, 1978 [OFR 78-374]; Redman and others, 1989). Approximately 360,000 feet of underground

and surface core drilling was completed by Echo Bay Mines in the mine area between 1986 and 1997. Echo Bay Mines Ltd. calculated an indicated and inferred resource for the Alaska-Juneau Mine, which includes the Perseverance orebody, of 89 million tons of ore that contain 0.05 ounce of gold per ton (L. Miller, personal commun., 2001). The Perseverance orebody is part of the Alaska-Juneau's South orebody.

The deposit is a system of sulfide-bearing, auriferous, quartz-ankerite veins in the structurally lowest portion of the Perseverance Slate, an Upper Triassic unit of carbonaceous and graphitic quartz-sericite phyllite, schist, and black slate, with minor carbonaceous limestone and numerous sill-like lenses of amphibolite or metagabbro (Miller and others, 1992; Light and others, 1989). The vein system extends for more than 6 kilometers along strike, 700 meters in vertical extent, and is confined to the lowest 100 meters of the Perseverance Slate. The system comprises numerous veins, veinlets, stringers and stockworks; individual veins range from a few centimeters to over 1 meter thick. The veins are 95 percent quartz with subordinate ankerite, pyrrhotite, galena, sphalerite, electrum, arsenopyrite, pyrite, and native gold. Approximately 90 percent of the gold is free-milling (Light and others, 1989; Twenhofel, 1952).

The Perseverance Mine is one of the major gold producers in the Juneau Gold Belt. The belt is marked by more than 200 mesothermal, gold-quartz-vein prospects and mines, which produced nearly 7 million ounces of gold (Miller and others, 1994). The structural grain of the belt is defined by a northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Alternation consists of hydrothermal biotite, ferroan dolomite, and sericite; chlorite and albite partly replace amphibolite(Miller and others, 1992). The alteration has been traced with decreasing intensity as much as 1 kilometer from the Alaska-Juneau mine. Inward from its periphery, magnetite, then ilmenite and magnetite, are replaced by pyrrhotite (Miller and others, 1992; Newberry and Brew, 1987).

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Yes; large

Site Status: Inactive

Workings/exploration:

The deposit at the Perseverance Mine was discovered by Joe Juneau and Richard Harris in 1880. The mine was developed by 2 major crosscuts, the Alexander crosscut (JU154), completed in 1905, and the Sheep Creek Tunnel (JU177), completed in 1914. The mine was acquired by the Alaska-Juneau Mining Company in 1933 and was connected underground with the Alaska Juneau Mine (JU165) in 1935. The mine operated from 1886 to 1943 and it produced 70 percent of the total ore mined by the Alaska Juneau Mining Company. There are 26 miles of underground workings on 10 levels in the Perseverance Mine which, combined with the Alaska-Juneau Mine, total nearly 120 miles of underground workings. During 1986-1988 Echo Bay Mines renovated the Sheep Creek Tunnel (JU177), completed a 2,000 foot decline to the AJ 4 level, and drove 1,100 feet of new workings in the Perseverance Mine (Cobb, 1978 [OFR 78-374]; Redman and others, 1989). Approximately 360,000 feet of underground and surface core drilling was completed by Echo Bay Mines in the mine area between 1986 and 1997.

Production notes:

The total production from the Perseverance Mine was over 12 million tons of ore that yielded approximately 500,900 ounces of gold and over 482,000 ounces of silver. The deposit was mined by modified block-caving and hand-sorting.

Reserves:

Assuming a sublevel caving mining model, Echo Bay Mines Ltd. calculated an indicated and inferred resource for the Alaska-Juneau Mine-- including the Perseverance Mine--of 89 million tons of ore that contain 0.05 ounce of gold per ton.

Additional comments:

References:

Spencer, 1906; Twenhofel, 1952; Cobb, 1978 (OFR 78-374); Newberry and Brew, 1987; Light and others, 1989; Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1992; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Light and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Groundhog; Perseverance; Alaska Gastineau; Alaska Juneau

Site type: Mine

ARDF no.: JU169

Latitude: 58.2963 **Quadrangle:** JU B-2

Longitude: 134.3355

Location description and accuracy:

This mine is at an elevation of 2,700 feet at the head of Icy Gulch. It is 3 miles southeast of Mt. Juneau and 1/2 mile northeast of Gastineau Peak, near the center of the SW1/4 section 20, T. 41 S., R. 68 E. of the Copper River Meridian. The location is accurate. Descriptions of the Alaska-Juneau mine (JU165) commonly include the Groundhog Mine.

Commodities:

Main: Ag, Au, Pb

Other: Cu, Zn

Ore minerals: Arsenopyrite, bismuth, bismuthinite, chalcopyrite, electrum, galena, gold, joseite, pyrite, pyrrhotite, sphalerite, tetrahedrite

Gangue minerals: Ankerite, quartz

Geologic description:

The Groundhog mine is often considered part of the Perseverance Mine (JU168) which is in turn often considered part of the Alaska-Juneau Mine (JU165). The surface over the Groundhog Mine was placer-mined prior to 1888, and lode mining began in 1889. The mine was consolidated with the Perseverance Mine (JU168) in 1911. The total recorded production from the Groundhog mine is 900 tons of ore. Gold recovery from placer operations is not documented but several thousand dollars of gold (at $20.67 per ounce) were probably produced (Redman and others, 1989). There are 3 adits, placer workings and 8 open cuts. The Groundhog mine was explored extensively by Echo Bay Mines between 1986 and 1997 (Redman and others, 1989).

The Groundhog deposit represents the upper portion of the Perseverance orebody of the Alaska-Juneau mine, and consists of a system of sulfide-bearing, auriferous, quartz-ankerite veins in the structurally lowest portion of the Perseverance Slate, an Upper Triassic unit of carbonaceous and graphitic quartz-sericite phyllite, schist, and black slate, with minor carbonaceous limestone and numerous sill-like lenses of amphibolite or metagabbro (Miller and others, 1992; Light and others, 1989). The vein system extends for more than 6 kilometers along strike, 700 meters in vertical extent , and is confined to the low-

est 100 meters of the Perseverance Slate. The system comprises numerous veins, veinlets, stringers and stockworks; individual veins range from a few centimeters to over 1 meter thick. The veins are 95 percent quartz with subordinate ankerite, pyrrhotite, galena, sphalerite, electrum, arsenopyrite, pyrite, and native gold. Approximately 90 percent of the gold is free-milling (Light and others, 1989; Twenhofel, 1952).

The Groundhog Mine is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Alternation consists of hydrothermal biotite, ferroan dolomite, and sericite; chlorite and albite partly replace amphibolite(Miller and others, 1992). The alteration has been traced with decreasing intensity as much as 1 kilometer from the Alaska-Juneau mine. Inward from its periphery, magnetite, then ilmenite and magnetite, are replaced by pyrrhotite (Miller and others, 1992; Newberry and Brew, 1987).

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Yes; small

Site Status: Inactive

Workings/exploration:

The surface over the Groundhog Mine was placer-mined prior to 1888, and lode mining began in 1889. The mine was consolidated with the Perseverance Mine (JU168) in 1911. There are 3 adits, placer workings, and 8 open cuts. The Groundhog Mine was explored extensively by Echo Bay Mines between 1986 and 1997.

Production notes:

The total recorded production from the Groundhog Mine is 900 tons of ore. Gold and silver recovery is not documented. Gold recovery from the placer operations is not documented but several thousand dollars in gold (at $20.67 per ounce) was probably produced.

Reserves:

Assuming a sublevel caving mining model, Echo Bay Mines Ltd. calculated an indicated and inferred resource for the Alaska-Juneau Mine--including the Groundhog Mine--of 89 million tons of ore that contain 0.05 ounce of gold per ton.

Additional comments:

References:

Spencer, 1906; Twenhofel, 1952; Cobb, 1978 (OFR 78-374); Newberry and Brew, 1987; Light and others, 1989; Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1992; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Ascension; Ibex

Site type: Mine

ARDF no.: JU170

Latitude: 58.2852 **Quadrangle:** JU B-1

Longitude: 134.3147

Location description and accuracy:

This mine is at an elevation of approximately 2,600 feet on the north side of Sheep Creek. It is 1/2 mile southwest of Sheep Mountain and 1/2 mile east of Roberts Peak, just south of the center of the boundary between sections 28 and 29, T. 41 S., R. 68 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Ag, Au, Pb, Zn

Other: Cu

Ore minerals: Chalcopyrite, galena, gold, pyrrhotite, silver, sphalerite, tetrahedrite

Gangue minerals: Quartz

Geologic description:

The Ascension (Ibex) Mine was discovered in 1887 and was developed by 4 adits. An estimated 800 tons of ore was mined but production records are not available. The deposit consists of three boudinaged, concordant, quartz veins near the contact between black phyllite and green phyllite (Redman and others, 1989). The veins are up to 300 feet long, 1.5 feet thick, and contain chalcopyrite, galena, native gold, native silver, pyrrhotite, sphalerite, and tetrahedrite. The U.S. Bureau of Mines has estimated an inferred resource of 10,000 tons of ore with 3.44 ounces of silver and 0.01 ounce of gold per ton, with an average mining width of 3.0 feet (Redman and others, 1989). Their samples of the veins contained up to 354.6 ppm silver, 0.7 ppm gold, 0.54 percent lead, and 0.47 percent zinc. They also collected a 300-pound metallurgical sample that contained 382 ppm silver and 6.2 ppm gold. Cyanide amenability tests recovered 63.7 percent of the gold but only 1.1 percent of the silver (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Moun-

tains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Yes; small

Site Status: Inactive

Workings/exploration:

The deposit at the Ascension (Ibex) Mine was discovered in 1887 and was developed by 4 adits.

Production notes:

An estimated 800 tons of ore was mined but production figures are not available.

Reserves:

The U.S. Bureau of Mines has estimated an inferred resource of 10,000 tons of ore that contain 3.44 ounces of silver and 0.01 ounce of gold per ton, with an average mining width of 3.0 feet (Redman and others, 1989).

Additional comments:

References:

Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb

and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Denny

Site type: Prospect

ARDF no.: JU171

Latitude: 58.2859 **Quadrangle:** JU B-1

Longitude: 134.2797

Location description and accuracy:

The Denny prospect is at an elevation of approximately 3,000 feet on the ridge on the north side of the middle reaches of Sheep Creek. It is 1/4 mile west of Powerline Ridge, 1 mile southeast of Sheep Mountain,and 1.85 miles east of Roberts Peak. It is near the center of the W1/2 section 27, T. 41 S., R. 68 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Chalcopyrite, pyrite, pyrrhotite

Gangue minerals: Quartz

Geologic description:

The Denny prospect was discovered in 1903 and was developed by 3 adits and an open cut. The country rocks are black phyllite and biotite gneiss intruded by a foliated hornblende-diorite sill. The sill is strongly silicified and contains numerous quartz veins which cut the phyllite. The veins contain chalcopyrite, pyrite and pyrrhotite. U.S. Bureau of Mines samples contained up to 14.6 ppm gold (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and gra-

nodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Inactive

Workings/exploration:

The deposit at the Denny prospect was discovered in 1903 and was developed by 3 adits and an open cut.

Production notes:

Reserves:

Additional comments:

References:

Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Gould and Curry

Site type: Mine

ARDF no.: JU172

Latitude: 58.2832 **Quadrangle:** JU B-1

Longitude: 134.2725

Location description and accuracy:

The Gold and Curry Mine is an elevation of approximately 3,000 feet on the north side of upper Sheep Creek. It is on the southwest end of Powerline Ridge, 1.2 mile southeast of Sheep Mountain, and 2 miles east of Roberts Peak, near the center of the S1/2 section 27, T. 41 S., R. 68 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au, Zn

Other: Cd

Ore minerals: Gold, pyrite, pyrrhotite, sphalerite

Gangue minerals: Quartz

Geologic description:

The Gould and Curry Mine was discovered before 1890 and was developed by 2 adits, a shaft, and 2 stopes open to the surface (Redman and others, 1989). In 1895, a 4,500-foot tram was used to bring the ore to a 5-stamp mill on the valley floor(Cobb, 1978 [OFR 78-374]). An estimated 1,250 ounces of gold was produced in 1895; there may have been some production in 1894 but production records are not available. The country rocks are amphibolite and black phyllite that have been folded into two synclines and an anticline having wavelengths of about 50 feet. The deposit consists of three large quartz veins up to 150 feet long and 3 feet thick that parallel the axial planes of the folds, but crosscut foliation (Redman and others, 1989). The veins contain native gold, pyrite, pyrrhotite, and sphalerite. The U.S. Bureau of Mines has estimated an inferred resource of 4,000 tons of ore with 0.2 ounce of gold per ton (Redman and others, 1989). Their samples of the veins contained up to 26.2 ppm gold, and 5.2 percent zinc. Some cadmium may also be present (Redman and others, 1989).

This mine is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably

metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Yes; small

Site Status: Inactive

Workings/exploration:

The Gould and Curry Mine was discovered before 1890 and was developed by 2 adits, a shaft, and 2 stopes open to the surface (Redman and others, 1989). In 1895, a 4,500-foot wire tram was used to bring the ore to a 5-stamp mill on the valley floor.

Production notes:

An estimated 1,250 ounces of gold was produced in 1895; there may have been some production in 1894 but production records are not available.

Reserves:

The U.S. Bureau of Mines has estimated an inferred resource of 4,000 tons of ore with 0.2 ounce of gold per ton.

Additional comments:

References:

Cobb, 1978 (OFR 78-374); Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Glacier

Site type: Mine

ARDF no.: JU173

Latitude: 58.2826 **Quadrangle:** JU B-1

Longitude: 134.3099

Location description and accuracy:

The Glacier Mine is at an elevation of approximately 1,500 feet on the north side of Sheep Creek. It is 1/4 mile northwest of Portal Camp and 3/4 mile southwest of Sheep Mountain in about the center of the SW1/4 section 28, T. 41 S., R. 68 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Ag, Au

Other: Cu, Pb, Zn

Ore minerals: Arsenopyrite, chalcopyrite, galena, native gold, pyrargyrite, pyrite, pyrrhotite, silver, sphalerite, stibnite, tetrahedrite

Gangue minerals: Calcite, quartz

Geologic description:

The Glacier mine was discovered in 1887 and operated intermittently until 1911. The mine has 3,200 feet of workings, 1,200 feet of connecting raises, and 5 adits. The Glacier and the geologically similar, Silver Queen (JU175) mines were connected in 1903 (Spencer, 1906). By 1891, the combined production from the Glacier and Silver Queen mines was 19,300 ounces of silver and 41 ounces of gold. The U.S. Bureau of Mines estimated that the two mines produced nearly $500,000 worth of silver and gold at 1903 prices (Redman and others, 1989). The deposit consists of three, boudinaged, concordant quartz-calcite veins along the contact between black phyllite and green phyllite (Buddington and Chapin, 1929). The veins vary from individual veins up to 12 feet thick to stringers. The veins contain arsenopyrite, chalcopyrite, galena, native gold, native silver, pyrargyrite, pyrite, pyrrhotite, sphalerite, tetrahedrite, and rare stibnite. The veins in the Glacier Mine were mined for as much as 700 feet down dip. U.S. Bureau of Mines samples contained up to 479.9 ppm silver, 2.9 ppm gold, 0.71 percent lead, and 0.11 percent zinc (Redman and others, 1989).

This mine is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the west-

ern margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Deposit model:

Silver-gold vein with sulfides

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

Production Status: Yes; small

Site Status: Inactive

Workings/exploration:

The deposit at the Glacier mine was discovered in 1887 and operated intermittently until 1911. The mine has 3,200 feet of workings, 1,200 feet of connecting raises, and 5 adits. The Glacier and the geologically similar, Silver Queen (JU175) mines were connected in 1903 (Spencer, 1906).

Production notes:

By 1891 the combined production from the Glacier and Silver Queen mines was 19,300 ounces of silver and 41 ounces of gold. The U.S. Bureau of Mines estimated that the two mines produced nearly $500,000 worth of silver and gold at 1903 prices (Redman and others, 1989). Veins in the Glacier Mine were mined for as much as 700 feet down dip.

Reserves:

Additional comments:

References:

Spencer, 1906; Buddington and Chapin, 1929; Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Hartford

Site type: Prospect

ARDF no.: JU174

Latitude: 58.2829 **Quadrangle:** JU B-1

Longitude: 134.3040

Location description and accuracy:

This prospect is at an elevation of approximately 1,500 feet on the north side of Sheep Creek. It is 1/4 mile north of Portal Camp and 1/2 mile south of Sheep Mountain in the NE1/4SW1/4 section 28, T. 41 S., R. 68 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Ag

Other:

Ore minerals: Chalcopyrite, galena, pyrite, pyrrhotite, silver, sphalerite, tetrahedrite

Gangue minerals: Quartz

Geologic description:

The Hartford prospect was discovered in 1888 and was developed by a 14-foot adit. The deposit consists of a boudinaged, concordant, quartz vein along the contact between black phyllite and green phyllite (Redman and others, 1989). The vein contains chalcopyrite, galena, native gold, native silver, pyrite, pyrrhotite, sphalerite, and tetrahedrite. U.S. Bureau of Mines samples contained up to 30 ppm silver (Redman and others, 1989). The deposit is geologically similar to those at the Silver Queen (JU175) and the Glacier mines (JU173).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike to-

nalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Inactive

Workings/exploration:

The Hartford prospect was discovered in 1888 and was developed by a 14-foot adit.

Production notes:

Reserves:

Additional comments:

References:

Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Silver Queen

Site type: Mine

ARDF no.: JU175

Latitude: 58.2821 **Quadrangle:** JU B-1

Longitude: 134.2993

Location description and accuracy:

The Silver Queen Mine is at an elevation of approximately 1,100 feet on the north side of Sheep Creek. It is 1/4 mile northeast of Portal Camp and 3/4 mile south of Sheep Mountain, near the center of the S1/2 section 28, T. 41 S., R. 68 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Ag, Au

Other: Cu, Pb, W, Zn

Ore minerals: Arsenopyrite, chalcopyrite, galena, native gold, pyrargyrite, pyrite, pyrrhotite, silver, sphalerite, stibnite, tetrahedrite

Gangue minerals: Calcite, quartz

Geologic description:

The Silver Queen Mine was discovered in 1887 and operated intermittently until 1911 (Buddington and Chapin, 1929). It has 2,600 feet of workings, 500 feet of connecting raises, and at least 4 adits. The Silver Queen and geologically similar Glacier mines (JU173) were connected in 1903 (Spencer, 1906). By 1891, the combined production from the two mines was 19,300 ounces of silver and 41 ounces of gold. The U.S. Bureau of Mines estimated that they produced nearly $500,000 worth of silver and gold at 1903 prices (Redman and others, 1989). The Silver Queen veins were mined for 900 feet along strike and over a 400-foot vertical extent. The Silver Queen deposit consists of several boudinaged, concordant, quartz-calcite veins along the contact between black phyllite and green phyllite (Redman and others, 1989). The veins vary from single veins that average about 2 feet thick, to stringers. They contain arsenopyrite, chalcopyrite, galena, native gold, native silver, pyrargyrite, pyrite, pyrrhotite, sphalerite, tetrahedrite and rare stibnite. The U.S. Bureau of Mines samples of the veins contained up to 1,076 ppm silver, 14.3 ppm gold, 0.62 percent lead, 0.68 percent zinc, and 0.10 percent copper. One sample contained 509 ppm tungsten (Redman and others, 1989).

This mine is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing meso-

thermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Yes; small

Site Status: Inactive

Workings/exploration:

The Silver Queen Mine was discovered in 1887 and operated intermittently until 1911 (Buddington and Chapin, 1929). It has 2,600 feet of workings, 500 feet of connecting raises, and at least 4 adits. The Silver Queen and geologically similar Glacier mines (JU173) were connected in 1903 (Spencer, 1906).

Production notes:

By 1891, the combined production from the Silver Queen and Glacier Mines was 19,300 ounces of silver and 41 ounces of gold. The U.S. Bureau of Mines estimated that they produced nearly $500,000 worth of silver and gold at 1903 prices (Redman and others, 1989). The Silver Queen veins were mined for 900 feet along strike and over a vertical extent of 400 feet.

Reserves:

Additional comments:

References:

Becker, 1898; Spencer, 1906; Buddington and Chapin, 1929; Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Anderson; Golden Treasure

Site type: Prospect

ARDF no.: JU176

Latitude: 58.2829 **Quadrangle:** JU B-1

Longitude: 134.2888

Location description and accuracy:

This prospect is at an elevation of approximately 1,600 feet on the north side of Sheep Creek. It is 1/2 mile northeast of Portal Camp and 3/4 mile southeast of Sheep Mountain, in the NE1/4SE1/4 section 28, T. 41 S., R. 68 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Ag, Au, Pb, Zn

Other:

Ore minerals: Galena, pyrite, pyrrhotite, sphalerite

Gangue minerals: Quartz

Geologic description:

The Anderson prospect was discovered about 1890 and was developed by 3 adits and a trench. The deposit is in felsic phyllite and consists of boudinaged, concordant, quartz veins 2 to 9 feet thick, and quartz stringer zones 4 to 5 feet thick (Redman and others, 1989). The veins contain pyrite, pyrrhotite, sphalerite and galena. U.S. Bureau of Mines samples contained up to 30 ppm silver and 6.3 ppm gold (Redman and others, 1989). The prospect is geologically similar to the Silver Queen (JU175) and Glacier mines (JU173).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and gra-

nodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: No

Site Status: Inactive

Workings/exploration:

The deposit at the Anderson prospect was discovered about 1890 and was developed by 3 adits and a trench.

Production notes:

Reserves:

Additional comments:

References:

Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Sheep Creek Tunnel

Site type:

ARDF no.: JU177

Latitude: 58.2796 **Quadrangle:** JU B-1

Longitude: 134.3054

Location description and accuracy:

This tunnel is at an elevation of approximately 800 feet on the north side of Sheep Creek at Portal Camp. It is 1 mile south of Sheep Mountain, just about the center of the south side of section 28, T. 41 S., R. 68 E. of the Copper River Meridian. The location is accurate. This tunnel is part of the Alaska-Juneau Mine (JU165) and included as a separate site because it is marked by a symbol on the Juneau B-1 topographic map.

Commodities:

Main:

Other:

Ore minerals:

Gangue minerals:

Geologic description:

This tunnel is a crosscut driven in 1912 to access the Perseverance and Alaska-Juneau orebodies. It was a haulage and access tunnel and is part of the Alaska Juneau mine (JU165) and the Perseverance mine (JU168). During 1986-1988 Echo Bay Mines renovated the Sheep Creek Tunnel, completed a 2,000 foot decline to the AJ 4 level, and drove 1,100 feet of new workings in the Perseverance mine (Redman and others, 1989). The Sheep Creek Tunnel passes through numerous quartz veins and quartz vein stockworks that are part of the Alaska-Juneau mine.

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Active

Workings/exploration:

This tunnel is a crosscut driven in 1912 to access the Perseverance and Alaska-Juneau orebodies. It was a haulage and access tunnel and is part of the Alaska Juneau mine (JU165) and the Perseverance mine (JU168). During 1986-1988 Echo Bay Mines renovated the Sheep Creek Tunnel, completed a 2,000 foot decline to the AJ 4 level, and drove 1,100 feet of new workings in the Perseverance mine (Redman and others, 1989).

Production notes:

Reserves:

Additional comments:

References:

Redman and others, 1989.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Alaska Consolidated

Site type: Prospect

ARDF no.: JU178

Latitude: 58.2799 **Quadrangle:** JU B-1

Longitude: 134.2774

Location description and accuracy:

The Alaska Consolidated prospect is at an elevation of approximately 2,100 feet, 1/2 mile north of Sheep Creek. It is 1 mile east of Portal Camp and 1 mile southeast of Sheep Mountain, in the SE1/4SW1/4 section 27, T. 41 S., R. 68 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Ag, Au

Other:

Ore minerals: Pyrite

Gangue minerals: Quartz

Geologic description:

The Alaska Consolidated prospect was discovered prior to 1916 and has a 15-foot adit, a 18-foot adit , and an open cut. The deposit consists of thin, concordant, quartz veins in black phyllite, green phyllite, biotite gneiss, and altered diorite. The veins contain disseminated pyrite. U.S. Bureau of Mines samples contained up to 0.1 ppm gold and 0.7 ppm silver (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels

and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:
Diorite hostrock is altered.

Age of mineralization:
Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: Inactive

Workings/exploration:
The deposit at the Alaska Consolidated prospect was discovered prior to 1916 and was developed by a 15-foot adit, a 18-foot adit, and an open cut.

Production notes:

Reserves:

Additional comments:

References:
Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): McCartney

Site type: Prospect

ARDF no.: JU179

Latitude: 58.2780 **Quadrangle:** JU B-1

Longitude: 134.2925

Location description and accuracy:

The McCarney prospect is at an elevation of approximately 900 feet, on the north side of Sheep Creek. It is 1/2 mile east of Portal Camp and 1 mile south-southeast of Sheep Mountain, in the NE1/4NE1/4 section 33, T. 41 S., R. 68 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au ?

Other:

Ore minerals:

Gangue minerals:

Geologic description:

The McCartney prospect was discovered in 1908 and was developed by 2 adits. The deposit consists of quartz veins near the contact between black phyllite and green phyllite. No other information is available (Redman and others, 1989).

This prospect iis in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Creta-

ceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:
Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:
The deposit at this prospect was discovered in 1908 and was developed by 2 adits.

Production notes:

Reserves:

Additional comments:

References:
Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Reagan

Site type: Prospect

ARDF no.: JU180

Latitude: 58.2752 **Quadrangle:** JU B-1

Longitude: 134.2835

Location description and accuracy:

The Reagan prospect is at an elevation of approximately 1,100 feet,on the north side of Sheep Creek. It is 3/4 mile east-southeast of Portal Camp and 1.5 miles southeast of Sheep Mountain, in the NW1/4NW1/4 section 34, T. 41 S., R. 68 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Ag, Au, Cu, Pb, Zn

Other:

Ore minerals: Arsenopyrite, chalcopyrite, electrum, galena, pyrite, silver, sphalerite, tetrahedrite

Gangue minerals: Quartz

Geologic description:

The Reagan prospect was discovered in 1894 and has a 250-foot adit, 3 additional adits, a 42-foot winze, and a 40-foot shaft. Echo Bay Mines Ltd. explored the property in 1988. The deposit consists of 2 quartz veins in a shear zone along the contact between black phyllite and green phyllite. The veins dip southwest and are 1 to 3 feet thick. They contain arsenopyrite, chalcopyrite, electrum, galena, native silver, pyrite, sphalerite, and tetrahedrite. U.S. Bureau of Mines samples contained up to 52.2 ppm gold, 4,612.0 ppm silver, 1.71 percent zinc, and 0.97 percent lead. The U.S. Bureau of Mines has estimated a resource of 82,000 tons of ore of uncertain grade (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller

and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

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: No

Site Status: Inactive

Workings/exploration:

The Reagan prospect was discovered in 1894 and has a 250-foot adit, 3 additional adits, a 42-foot winze, and a 40-foot shaft. Echo Bay Mines Ltd. explored the property in 1988.

Production notes:

Reserves:

The U.S. Bureau of Mines has estimated a resource of 82,000 tons of material with an uncertain grade.

Additional comments:

References:

Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Alaska-Juneau Tailings; AJ Mill Dump

Site type: Mine

ARDF no.: JU181

Latitude: 58.2883 **Quadrangle:** JU B-2

Longitude: 134.3868

Location description and accuracy:
This man-made placer mine is on the northeast shore of Gastineau Channel, 1 mile southeast of Juneau and 3/4 mile north of Douglas. It is in center of the NW1/4 section 25, T. 41 S., R. 67 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Ag, Au, Cu, Pb

Other: W, Zn

Ore minerals: Chalcopyrite, galena, gold, ilmenite, scheelite, sphalerite, zircon

Gangue minerals: Quartz

Geologic description:
This man-made placer deposit consists of mine tailings from the Alaska-Juneau mill which processed ore from several mines near Juneau. including the Alaska-Juneau (JU165), Perseverance (JU168), Ebner (JU149), and other mines. The deposit comprises processed mill tailings and hand sorted, rejected waste rock. It has been worked intermittently since 1948 and has produced more than of 7,106 ounces of gold, 1,663 ounces of silver, 2,800 pounds of lead and 1,400 pounds of copper (Redman and others, 1989). There is an estimated resource of 47 million tons of tailings of unknown grade (Redman and others, 1989). The property is now the site of a petroleum tank farm but a portion of the tailings are currently (2001) being processed on a small scale by a Juneau-based company.

Alteration:

Age of mineralization:
Holocene.

Deposit model:

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

Production Status: Yes

Site Status: Active

Workings/exploration:

The deposit has been worked intermittently since 1948 and is now the site of a petroleum tank farm but a portion of the tailings are currently (2001) being processed for their metal values on a small scale by a Juneau-based company.

Production notes:

The deposit comprises processed mill tailings and hand sorted, rejected waste rock. It has been worked intermittently since 1948 and has produced more than of 7,106 ounces of gold, 1,663 ounces of silver, 2,800 pounds of lead, and 1,400 pounds of copper (Redman and others, 1989). A portion of the tailings are currently (2001) being processed for their metal values on a small scale by a Juneau-based company.

Reserves:

There is an estimated resource of 47 million tons of tailings of unknown grade (Redman and others, 1989).

Additional comments:

References:

Redman and others, 1989.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Snowslide Gulch

Site type: Prospect

ARDF no.: JU182

Latitude: 58.2848 **Quadrangle:** JU B-2

Longitude: 134.3709

Location description and accuracy:

The Snowslide Gulch prospect is at an elevation of approximately 300 feet, on the northeast side of Gastineau Channel near the mouth of Snowslide Gulch. It is in the NE1/4SE1/4 section 25, T. 41 S., R. 67 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au ?

Other:

Ore minerals: Pyrite

Gangue minerals: Calcite, quartz

Geologic description:

The Snowslide Gulch prospect was probably discovered before 1900 and has a 198-foot adit (Redman and others, 1989). The deposit consists of thin calcite-quartz veins that cut chlorite phyllite and greenstone. The chlorite phyllite contains disseminated pyrite. U.S. Bureau of Mines samples did not contain significant metal values (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels

and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:

The deposit at the Snowslide Gulch prospect was probably discovered before 1900 and has a 198-foot adit (Redman and others, 1989).

Production notes:

Reserves:

Additional comments:

References:

Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Cross Bay

Site type: Prospect

ARDF no.: JU183

Latitude: 58.2764 **Quadrangle:** JU B-2

Longitude: 134.3532

Location description and accuracy:

The Cross Bay prospect is at an elevation of approximately 200 feet on the northeast side of Gastineau Channel near the mouth of Cross Bay Creek. It is in the NW1/4NE1/4 section 31, T. 41 S., R. 68 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au ?

Other:

Ore minerals: Pyrite

Gangue minerals: Quartz

Geologic description:

The Cross Bay prospect was discovered in 1894 and has a 194-foot adit, a 104-foot adit, a 50-foot shaft, and one other adit (Redman and others, 1989). The deposit consists of thin quartz veins that cut chlorite phyllite and greenstone. The greenstone and chlorite phyllite contain disseminated pyrite. The quartz veins appear barren of sulfides. U.S. Bureau of Mines samples did not contain significant metal values (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels

and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:

The deposit at the Cross Bay prospect was discovered in 1894 and has a 194-foot adit, a 104-foot adit, a 50-foot shaft, and one other adit (Redman and others, 1989).

Production notes:

Reserves:

Additional comments:

References:

Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Dolan

Site type: Prospect

ARDF no.: JU184

Latitude: 58.2721 **Quadrangle:** JU B-1

Longitude: 134.3227

Location description and accuracy:

The Dolan prospect is at an elevation of approximately 1,000 feet on the northwest side of Sheep Creek. It is 3/4 mile north of Gastineau Channel and 1 mile south of Roberts Peak, in the SW1/4NE1/4 section 32, T. 41 S., R. 68 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au ?

Other:

Ore minerals: Magnetite, pyrite

Gangue minerals: Calcite, epidote, quartz

Geologic description:

The Dolan prospect was discovered in 1897 and has 4 adits and 175 feet of workings (Redman and others, 1989). The deposit consists of thin, discontinuous, calcite-quartz veins that cut massive to foliated greenstone. The veins contain pyrite, magnetite, and epidote. U.S. Bureau of Mines samples did not contain significant metal values (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels

and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:

The deposit at the Dolan prospect was discovered in 1897 and has 4 adits and 175 feet of workings (Redman and others, 1989).

Production notes:

Reserves:

Additional comments:

References:

Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Kowee Creek

Site type: Prospect

ARDF no.: JU185

Latitude: 58.2974 **Quadrangle:** JU B-2

Longitude: 134.4359

Location description and accuracy:
This placer prospect is at an elevation of approximately 100 feet on Kowee Creek, on Douglas Island in West Juneau. It is in about the center of the S1/2 section 22, T. 41 S., R. 67 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
There are historic placer claims at this site but no other information is available (Redman and others, 1989). The rocks in the area Upper Jurassic or Cretaceous marine argillite and graywacke, interbedded with andesite or basalt (Brew and Ford, 1985). The bedded rocks are regionally metamorphosed to prehnite-pumpellyite or greenschist grade, and cut by diorite or gabbro dikes and sills.

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au (Cox and Singer, 1986; model 39a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: Undetermined.

Site Status: Inactive

Workings/exploration:

There are historic placer claims at this site but no other information is available (Redman and others, 1989).

Production notes:

Reserves:

Additional comments:

References:

Brew and Ford, 1985; Redman and others, 1989.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Foster

Site type: Prospect

ARDF no.: JU186

Latitude: 58.2957 **Quadrangle:** JU B-2

Longitude: 134.4396

Location description and accuracy:

The Foster prospect is at an elevation of approximately 200 feet on the northwest bank of Kowee Creek on Douglas Island, immediately west of West Juneau. It is in the SE1/4SW1/4 section 22, T. 41 S., R. 67 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au ?

Other:

Ore minerals: Pyrite

Gangue minerals: Quartz

Geologic description:

The Foster prospect was discovered before 1900 and has 4 adits (Redman and others, 1989). The deposit consists of several, thin, concordant, quartz veins in black phyllite. The veins contain pyrite. U.S. Bureau of Mines samples did not contain significant metal values (Redman and others, 1989). The country rocks are Upper Jurassic or Cretaceous marine argillite and graywacke, interbedded with andesite or basalt (Brew and Ford, 1985). The bedded rocks are regionally metamorphosed to prehnite-pumpellyite or greenschist grade, and cut by diorite or gabbro dikes and sills.

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike to-

nalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:

The deposit at the Foster prospect was discovered before 1900 and has 4 adits (Redman and others, 1989).

Production notes:

Reserves:

Additional comments:

References:

Brew and Ford, 1985; Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Lost Lucy

Site type: Prospect

ARDF no.: JU187

Latitude: 58.2917 **Quadrangle:** JU B-2

Longitude: 134.4304

Location description and accuracy:

The Lost Lucy prospect is at an elevation of approximately 300 feet, on northeast Douglas Island. It is 1.2 miles northwest of Douglas, 1/2 mile southeast of Kowee Creek, and 1 mile northwest of Lawson Creek, in the NE1/4NE1/4 section 27, T. 41 S., R. 67 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Pyrite

Gangue minerals: Quartz

Geologic description:

The Lost Lucy prospect was discovered before 1939 and has a 315-foot adit with a raise to the surface. The adit is currently (2001) shut with a metal plate and concrete because it is in a housing development. The deposit consists of quartz stringers and 1- to 2-foot quartz veins in slate and greenstone. The veins contain pyrite and low gold values (Redman and others, 1989; Wells and others, 1986). The rocks in the general area are Upper Jurassic or Cretaceous marine argillite and graywacke, interbedded with andesite or basalt (Brew and Ford, 1985). The bedded rocks are regionally metamorphosed to prehnite-pumpellyite or greenschist grade, and cut by diorite or gabbro dikes and sills.

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plu-

tons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Deposit model:

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

Production Status: No

Site Status: Inactive

Workings/exploration:

The Lost Lucy prospect was discovered before 1939, and has a 315-foot adit with a raise to the surface.

Production notes:

Reserves:

Additional comments:

References:

Brew and Ford, 1985; Wells and others, 1986; Redman and others, 1989; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Wells and others, 1986

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Pansy

Site type: Prospect

ARDF no.: JU188

Latitude: 58.2864 **Quadrangle:** JU B-2

Longitude: 134.4178

Location description and accuracy:

The Pansy prospect is at an elevation of about 250 feet on Douglas Island, 3/4 mile northwest of Douglas and 1/4 mile northwest of Lawson Creek. It is in the SE1/4NW1/4 section 26, T. 41 S., R. 67 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals:

Gangue minerals:

Geologic description:

The Pansy prospect was discovered in 1889 and has a 35-foot adit. Several hundred tons of ore were mined but only a minor amount was shipped to the New Boston Mill for testing (Redman and others, 1989). After 1889, the prospect was abandoned. The prospect is currently covered by a housing development. The prospect is in black phyllite and greenstone (Redman and others, 1989). The rocks in the general area are Upper Jurassic or Cretaceous marine argillite and graywacke, interbedded with andesite or basalt (Brew and Ford, 1985). The bedded rocks are regionally metamorphosed to prehnite-pumpellyite or greenschist grade, and cut by diorite or gabbro dikes and sills.

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike to-

nalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:

The Pansy prospect was discovered in 1889 and has a 35-foot adit.

Production notes:

Several hundred tons of ore were mined but only a minor amount was shipped to the New Boston Mill for testing (Redman and others, 1989).

Reserves:

Additional comments:

References:

Brew and Ford, 1985; Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Lower Lawson Creek

Site type: Prospect

ARDF no.: JU189

Latitude: 58.2851 **Quadrangle:** JU B-2

Longitude: 134.4109

Location description and accuracy:
This placer prospect is at the mouth of Lawson Creek on Douglas Island, 1/2 mile northwest of Douglas. It is near the center of section 26, T. 41 S., R. 67 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
Several placer claims at this site were active from 1881 to 1981 (Wells and others, 1986). The Lawson Creek area is underlain by black phyllite and diorite (Redman and others, 1989). The U.S. Bureau of Mines collected a pan-concentrate sample here that contained 1.7 ppm gold (Redman and others, 1989). The country rocks in the general area are Upper Jurassic or Cretaceous marine argillite and graywacke, interbedded with andesite or basalt (Brew and Ford, 1985). The bedded rocks are regionally metamorphosed to prehnite-pumpellyite or greenschist grade, and cut by diorite or gabbro dikes and sills.

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au (Cox and Singer, 1986; model 39a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: Undetermined.

Site Status: Inactive

Workings/exploration:

Several placer claims at this site were active from 1881 to 1981 (Wells and others, 1986).

Production notes:

Reserves:

Additional comments:

References:

Brew and Ford, 1985; Wells and others, 1986; Redman and others, 1989.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Bear Creek

Site type: Prospect

ARDF no.: JU190

Latitude: 58.2795 **Quadrangle:** JU B-2

Longitude: 134.3978

Location description and accuracy:
This placer prospect is near the mouth of Bear Creek on Douglas Island, immediately northwest of Douglas and 1/2 mile southeast of Lawson Creek. It is near the southeast corner of section 26, T. 41 S., R. 67 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
Several placer claims at this site were active from 1881 to 1981 (Wells and others, 1986). The Bear Creek area is underlain by black phyllite, greenstone and diorite (Redman and others, 1989). The rocks in the general area of this prospect are Upper Jurassic or Cretaceous marine argillite and graywacke, interbedded with andesite or basalt (Brew and Ford, 1985). The bedded rocks are regionally metamorphosed to prehnite-pumpellyite or greenschist grade, and cut by diorite or gabbro dikes and sills.

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au (Cox and Singer, 1986; model 39a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: Undetermined.

Site Status: Inactive

Workings/exploration:
Several placer claims at this site were active from 1881 to 1981 (Wells and others, 1986).

Production notes:

Reserves:

Additional comments:

References:
Brew and Ford, 1985; Wells and others, 1986; Redman and others, 1989.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Great Eastern

Site type: Prospect

ARDF no.: JU191

Latitude: 58.2778 **Quadrangle:** JU B-2

Longitude: 134.4018

Location description and accuracy:

The Great Eastern prospect is at an elevation of approximately 100 feet on Douglas Island, immediately west of Douglas in Bear Creek and 1/2 mile southeast of Lawson Creek. It is in the NW1/4NE1/4 section 35, T. 41 S., R. 67 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other: Mo

Ore minerals: Pyrite

Gangue minerals:

Geologic description:

The Great Eastern prospect was discovered in 1888 when a portion of surface was ground-sluiced for gold. There is a 200-foot adit and a short shaft on the prospect. The deposit consists of black phyllite that has been intruded by a swarm of hydrothermally altered diorite sills (Redman and others, 1989). The sills vary from a few inches up to 20 feet thick. Alteration has destroyed most of the mafic minerals. The sills contain up to 3 percent disseminated pyrite. U.S. Bureau of Mines samples contained no significant gold values; they did, however, contain up to 164 ppm molybdenum (Redman and others, 1989).

The rocks in the general area are Upper Jurassic or Cretaceous marine argillite and graywacke, interbedded with andesite or basalt (Brew and Ford, 1985). The bedded rocks are regionally metamorphosed to prehnite-pumpellyite or greenschist grade, and cut by diorite or gabbro dikes and sills.

Alteration:

The diorite sills are hydrothermally altered. The alteration has destroyed most of the mafic minerals.

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:

The deposit at the Great Eastern prospect was discovered in 1888 when a portion of surface was ground-sluiced for gold. There is a 200-foot adit and a short shaft on the prospect.

Production notes:

The surface in the vicinity was ground sluiced for gold in 1888 but there is no record of the production.

Reserves:

Additional comments:

References:

Brew and Ford, 1985; Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Holeman

Site type: Prospect

ARDF no.: JU192

Latitude: 58.2755 **Quadrangle:** JU B-2

Longitude: 134.4072

Location description and accuracy:
The Holeman prospect is at an elevation of approximately 300 feet on Douglas Island, 1/4 mile west of Douglas on the south side of Bear Creek. It is in the SW1/4NE1/4 section 35, T. 41 S., R. 67 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Pyrite

Gangue minerals: Quartz

Geologic description:
The Holeman prospect was discovered before 1902 and was subsequently consolidated with the Tyee Prospect (JU193). Diamond drilling took place on the property in 1916, but there are no known workings. The deposit consists of black phyllite that has been intruded by a swarm of diorite sills (Redman and others, 1989). The sills are weakly altered and contain minor disseminated pyrite. Pyrite-bearing quartz veins occur along the margins. No other information is available (Redman and others, 1989; Wells and others, 1986).

The rocks in the general area are Upper Jurassic or Cretaceous marine argillite and graywacke, interbedded with andesite or basalt (Brew and Ford, 1985). The bedded rocks are regionally metamorphosed to prehnite-pumpellyite or greenschist grade, and cut by diorite or gabbro dikes and sills.

Alteration:
Diorite sills are weakly altered.

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:

The deposit at the Holeman prospect was discovered before 1902 and was subsequently consolidated with the Tyee Prospect (JU193). There are no known workings but diamond drilling took place on the property in 1916.

Production notes:

Reserves:

Additional comments:

References:

Brew and Ford, 1985; Wells and others, 1986; Redman and others, 1989.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Tyee

Site type: Occurrence

ARDF no.: JU193

Latitude: 58.2736 **Quadrangle:** JU B-2

Longitude: 134.4005

Location description and accuracy:
This prospect is at an elevation of approximately 400 feet, on Douglas Island, 1/4 mile west of Douglas. It is in the SE1/4NE1/4 section 35, T. 41 S., R. 67 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Pyrite

Gangue minerals: Quartz

Geologic description:
The Tyee prospect was discovered in 1914 and was subsequently consolidated with the Holeman Prospect (JU192). There are no known workings. The deposit consists of black phyllite that has been intruded by a swarm of diorite sills (Redman and others, 1989). The sills are weakly altered and contain minor disseminated pyrite. Pyrite-bearing quartz veins occur along the margins. No other information is available (Redman and others, 1989; Wells and others, 1986).

The rocks in the general area are Upper Jurassic or Cretaceous marine argillite and graywacke, interbedded with andesite or basalt (Brew and Ford, 1985). The bedded rocks are regionally metamorphosed to prehnite-pumpellyite or greenschist grade, and cut by diorite or gabbro dikes and sills.

Alteration:
The diorite is weakly altered.

Age of mineralization:

Deposit model:

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

Production Status: No

Site Status: Inactive

Workings/exploration:

The Tyee prospect was discovered in 1914 and was subsequently consolidated with the Holeman Prospect (JU192).

Production notes:

Reserves:

Additional comments:

References:

Brew and Ford, 1985; Wells and others, 1986; Redman and others, 1989.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Jumbo

Site type: Prospect

ARDF no.: JU194

Latitude: 58.2721 **Quadrangle:** JU B-2

Longitude: 134.4199

Location description and accuracy:
The Jumbo prospect is at an elevation of approximately 800 feet on Douglas Island, 3/4 mile west of Douglas. It is in the SW1/4NW1/4 section 35, T. 41 S., R. 67 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Gold, pyrite

Gangue minerals:

Geologic description:
The Jumbo prospect was discovered in 1922 when native gold was found while sluicing surface trenches. There are four, 200-foot long trenches and a short shaft on the prospect which is in black phyllite and pyritic greenschist (Redman and others, 1989). The pyrite occurs as cubes disseminated in the greenschist. U.S. Bureau of Mines samples contained no significant metal values (Redman and others, 1989).

The rocks in the general area are Upper Jurassic or Cretaceous marine argillite and graywacke, interbedded with andesite or basalt (Brew and Ford, 1985). The bedded rocks are regionally metamorphosed to prehnite-pumpellyite or greenschist grade, and cut by diorite or gabbro dikes and sills.

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:

The deposit at the Jumbo prospect was discovered in 1922 when native gold was found while sluicing surface trenches. There are four, 200-foot long trenches and a short shaft on the prospect.

Production notes:

Reserves:

Additional comments:

References:

Brew and Ford, 1985; Redman and others, 1989.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Skookum Chief

Site type: Prospect

ARDF no.: JU195

Latitude: 58.2702 **Quadrangle:** JU B-2

Longitude: 134.4120

Location description and accuracy:

The Skookum Chief prospect is at an elevation of approximately 800 feet on Douglas Island, 1/2 mile west of Douglas. It is in the NE1/4 SW1/4 section 35, T. 41 S., R. 67 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Gold, pyrite

Gangue minerals: Quartz

Geologic description:

The Skookum Chief prospect was discovered prior to 1936 when native gold was found in a thin layer of debris on bedrock. There are 5 open cuts on the prospect (Redman and others, 1989). The country rocks at this prospect consist of black phyllite and a 150-foot thick greenstone unit. The deposit consists of quartz veins and stringers in the greenstone. The quartz is sheared. Pyrite and native gold occur in the quartz and along fractures in the greenstone (Wells and others, 1986).

The rocks in the general area are Upper Jurassic or Cretaceous marine argillite and graywacke, interbedded with andesite or basalt (Brew and Ford, 1985). The bedded rocks are regionally metamorphosed to prehnite-pumpellyite or greenschist grade, and cut by diorite or gabbro dikes and sills.

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:

The deposit at the Skookum Chief prospect was discovered prior to 1936 when native gold was found in a thin layer of debris on bedrock. There are 5 open cuts on the prospect (Redman and others, 1989).

Production notes:

Reserves:

Additional comments:

References:

Brew and Ford, 1985; Wells and others, 1986; Redman and others, 1989.

Primary reference: Wells and others, 1986

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Josie And Karen

Site type: Prospect

ARDF no.: JU196

Latitude: 58.2726 **Quadrangle:** JU B-2

Longitude: 134.3897

Location description and accuracy:
The Josie and Karen prospect is on the southwest shore of Gastineau Channel, on Douglas Island immediately southwest of the Douglas boat harbor. It is in the SE1/4NW1/4 section 36, T. 41 S., R. 67 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Ag, Au, Cu, Zn

Other:

Ore minerals: Chalcopyrite, pyrite, sphalerite

Gangue minerals: Calcite, quartz

Geologic description:
The Josie and Karen prospect was discovered in 1886 and has a 175-foot adit with a 22-foot winze. The deposit consists of black phyllite that has been intruded by a hydrothermally altered albite-diorite dike about 70 feet thick (Redman and others, 1989). The dike contains glassy, quartz-calcite stringers and sparsely disseminated chalcopyrite, pyrite and sphalerite. U.S. Bureau of Mines samples contained no significant gold values (Redman and others, 1989; Wells and others, 1986).

The rocks in the general area are Upper Jurassic or Cretaceous marine argillite and graywacke, interbedded with andesite or basalt (Brew and Ford, 1985). The bedded rocks are regionally metamorphosed to prehnite-pumpellyite or greenschist grade, and cut by diorite or gabbro dikes and sills.

Alteration:
Dike is hydrothermally altered.

Age of mineralization:

Deposit model:

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

Production Status: No

Site Status: Inactive

Workings/exploration:
The Josie and Karen prospect was discovered in 1886 and has a 175-foot adit with a 22-foot winze.

Production notes:

Reserves:

Additional comments:

References:
Brew and Ford, 1985; Wells and others, 1986; Redman and others, 1989.

Primary reference: Wells and others, 1986

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Bears Nest

Site type: Prospect

ARDF no.: JU197

Latitude: 58.2716 **Quadrangle:** JU B-2

Longitude: 134.3839

Location description and accuracy:

The Bears Nest prospect is on the southwest shore of Gastineau Channel, on Douglas Island immediately south of the Douglas boat harbor. It is just east of the center of section 36, T. 41 S., R. 67 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Pyrite

Gangue minerals: Quartz

Geologic description:

The deposit at the Bears Nest prospect was discovered in 1881 and has a 1,500-foot adit. An 80-stamp mill had been installed and the adit had already been driven when Alaska Gold Company determined that the prospect was worthless; it had been salted in 1888 before they bought it for an unprecedented $2.5 million (Stone and Stone, 1980). The prospect is in black phyllite, massive metagabbro, chloritic phyllite and a hornblende-diorite sill, locally called the Bears Nest sill. The Bears Nest sill contains disseminated pyrite and pyrite-bearing quartz stringers. U.S. Bureau of Mines samples contained no significant gold values (Redman and others, 1989).

The rocks in the general area are Upper Jurassic or Cretaceous marine argillite and graywacke, interbedded with andesite or basalt (Brew and Ford, 1985). The bedded rocks are regionally metamorphosed to prehnite-pumpellyite or greenschist grade, and cut by diorite or gabbro dikes and sills.

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: No

Site Status: Inactive

Workings/exploration:

The deposit at the Bears Nest prospect was discovered in 1881 and has a 1,500-foot adit. An 80-stamp mill had been installed and the adit had already been driven when Alaska Gold Company determined that it was worthless; the prospect had been salted in 1888 before it was sold to them for an unprecedented $2.5 million (Stone and Stone, 1980).

Production notes:

Reserves:

Additional comments:

References:

Stone and Stone, 1980; Brew and Ford, 1985; Redman and others, 1989.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Treadwell tailings

Site type: Mine

ARDF no.: JU198

Latitude: 58.2712 **Quadrangle:** JU B-2

Longitude: 134.3796

Location description and accuracy:
This man-made placer mine is on the southwest shore of Gastineau Channel, on the northeast shore of Douglas Island, immediately southeast of the Douglas boat harbor. It is in about the center of the E1/2 section 36, T. 41 S., R. 67 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Ag, Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
This deposit consists of mill tailings from the Treadwell stamp mills, which processed ore from the Treadwell Mines group that included the Treadwell (JU199), 700-Foot (JU200), Mexican (JU201), and Ready Bullion (JU206) mines. Between 1885 and 1923, the Treadwell Group collectively mined 28 million tons of ore that produced 3.2 million ounces of gold and more than 180,000 ounces of silver. The tailings were worked intermittently before 1940 but there is no public record of the amount of gold that was recovered. The tailings were worked again from 1943 to 1949, when 320 ounces of gold and 12 ounces of silver were produced. There is an estimated resource of 15 million tons of tailings that contain 0.0004 ounce of gold per ton (Redman and others, 1989).

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: Yes; small

Site Status: Inactive

Workings/exploration:

See Treadwell mine (JU199).

Production notes:

The tailings were worked intermittently before 1940 but there is no public record of the amount of gold recovered. The tailings were worked again from 1943 to 1949, when 320 ounces of gold and 12 ounces of silver were produced.

Reserves:

There is an estimated resource of 15 million tons of tailings that contain 0.0004 ounce of gold per ton (Redman and others, 1989).

Additional comments:

References:

Redman and others, 1989.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Treadwell; Alaska Treadwell Gold Mining Co. (Treadwell Mines group)

Site type: Mine

ARDF no.: JU199

Latitude: 58.2692 **Quadrangle:** JU B-2

Longitude: 134.3777

Location description and accuracy:
This mine is on the northeast shore of Douglas Island on the southwest shore of Gastineau Channel, 1/4 mile southeast of Douglas. It is in about the center of the SE1/4 section 36, T. 41 S., R. 67 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other: Ag, As, Cu, Mo, Pb, Sb, W, Zn

Ore minerals: Arsenic, chalcopyrite, galena, gold, magnetite, molybdenite, orpiment, pyrite, pyrrhotite, realgar, scheelite, sphalerite, tetrahedrite

Gangue minerals: Albite, calcite, quartz

Geologic description:
The Treadwell Mine is part of the Treadwell Mines group which consists of the Treadwell (JU199), 700-Foot (JU200), Mexican (JU201) and the Ready Bullion (JU206) mines. Between 1885 and 1923, the Treadwell group collectively mined 28 million tons of ore that produced 3.2 million ounces of gold and over 180,000 ounces of silver (Redman and others, 1989). Of that total, the Mexican Mine and Ready Bullion Mine each accounted for approximately 500,000 ounces of gold (Light and others, 1989). There are approximately 75 miles of underground workings among the 4 mines; all but 3,360 feet are presently (2001) flooded. There is a large glory hole at the Treadwell Mine and 2 smaller glory holes at the Mexican Mine.

Placer gold was discovered in Ready Bullion Creek in 1880 and in 1881, the Ready Bullion, Mexican, Treadwell and Mexican lodes were discovered. The Treadwell Mine began operation in 1882, and the Mexican Mine began work in 1886. The Treadwell and Mexican mines were consolidated in 1891 and major development at the Ready Bullion mine began in 1894. Work began at the 700-Foot mine, which was midway between the Treadwell mine and the Mexican mine, in 1897. The Treadwell, 700-Foot, and Mexican mines were connected to the Ready Bullion Mine by a tunnel in 1904, but a concrete bulkhead was placed in the tunnel in 1913 (Stone and Stone, 1980). By the end of 1916,

the mines were being worked as much as 2,700 feet below the surface. In 1917, a cave-in at the 700-Foot shaft flooded the Treadwell, 700-Foot, and Mexican mines. Only the Ready Bullion survived and remained in operation until 1923 when lean ore caused the mine to cease operations (Redman and others, 1989).

The deposit is in albite-diorite sills (Spencer, 1905). The sills have intruded northwest-trending, black phyllite that forms the footwall of the diorite; a greenstone sill forms the hanging wall. The albite-diorite sills are generally conformable to the foliation, pinch and swell along strike, and are up to 290 feet thick and 3,800 feet long (Spencer, 1906). Base and precious metals are disseminated in the albite-diorite and in reticulated veins and stringers of calcite and quartz that vary from a few millimeters to a few centimeters in thickness. The veins and stringers constitute almost 20 percent of the altered albite diorite (Light and others, 1989). The highest gold concentrations tend to be associated with the highest density of quartz and calcite veinlets. Pyrite is the most abundant sulfide with minor amounts of native gold, chalcopyrite, galena, sphalerite, molybdenite, native arsenic, realgar, and orpiment. The gold is irregularly distributed and is independent of pyrite distribution. From 60 to 75 percent of the gold was free-milling and over the life of the Treadwell Mine group it is estimated that overall gold recovery averaged almost 90 percent (Light and others, 1989; Redman and others, 1989).

The rocks in the general area are Upper Jurassic or Cretaceous marine argillite and graywacke, interbedded with andesite or basalt (Brew and Ford, 1985). The bedded rocks are regionally metamorphosed to prehnite-pumpellyite or greenschist grade, and cut by diorite or gabbro dikes and sills.

Alteration:

The albite-diorite sills are altered. The alteration assemblage includes albite, calcite, and quartz with lesser amounts of biotite, chlorite, epidote, hornblende, magnetite, pyrite, pyrrhotite, rutile, sericite, stibnite and zoisite (Spencer, 1905).

Age of mineralization:

The age of mineralization in the Berners Bay district is about 55 Ma, the same as the other mesothermal gold-quartz-vein deposits in the Juneau Gold Belt (Goldfarb and others, 1997).

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: Yes; large

Site Status: Inactive

Workings/exploration:

There are approximately 75 miles of underground workings in the fours mines of the Treadwell Group, all but 3,360 feet are presently (2001) flooded. There is a large glory

hole at the Treadwell Mine and 2 smaller glory holes at the Mexican Mine. Placer gold was discovered in Ready Bullion Creek in 1880 and in 1881, the Ready Bullion, Mexican, Treadwell and Mexican lodes were discovered. By the end of 1916 the mines were being worked as much as 2,700 feet below the surface. In 1917, a cave-in at the 700-Foot shaft flooded the Treadwell, 700-Foot, and Mexican mines. Only the Ready Bullion survived and remained in operation until 1923, when lean ore caused the mine to cease operations (Redman and others, 1989). In the early 1980's Occidental Minerals and Barrick Resources conducted exploratory drilling in the Treadwell area. From 1986 through 1997 Echo Bay Mines explored the area, and carried out deep drilling beneath Gastineau Channel in 1990. Their deep drilling confirmed the extension of the Treadwell vein system below the deepest known workings (Miller and others, 1992; L. Miller, personal commun., 2001; Swainbank and others, 1991).

Production notes:

Between 1885 and 1923, the Treadwell Group collectively mined 28 million tons of ore that produced 3.2 million ounces of gold and over 180,000 ounces of silver. Of that total, the Mexican Mine and Ready Bullion Mine each accounted for approximately 500,000 ounces of gold. There were at least 300 stamps in use at the Treadwell, nearly 200 stamps at the 700-Foot and Mexican mines, and 150 stamps at the Ready Bullion Mine. A complete cyanide plant serviced all four mines by 1910.

Reserves:

From 1986 through 1997 Echo Bay Mines explored the area, including deep drilling beneath Gastineau Channel in 1990. Their deep drilling confirmed that the Treadwell vein system extends below the deepest known workings (Miller and others, 1992; L. Miller, personal commun., 2001; Swainbank and others, 1991). At the time the Treadwell mines closed, there was a proven reserve of 3 million tons, including broken ore in stopes, pillars, and deep ore under development (Redman and others, 1989).

Additional comments:

References:

Becker, 1898; Spencer, 1905; Spencer, 1906; Stone and Stone, 1980; Brew and Ford, 1985; Light and others, 1989; Redman and others, 1989; Swainbank and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Light and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): 700-Foot; Alaska United Gold Mining Co. (Treadwell Mines group)

Site type: Mine

ARDF no.: JU200

Latitude: 58.2668 **Quadrangle:** JU B-2

Longitude: 134.3733

Location description and accuracy:
This mine is on the northeast shore of Douglas Island on the southwest shore of Gastineau Channel, 1/4 mile southeast of Douglas. It is in the SE1/4SE1/4 section 36, T. 41 S., R. 67 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other: Ag, As, Cu, Mo, Pb, Sb, W, Zn

Ore minerals: Arsenic, chalcopyrite, galena, gold, magnetite, molybdenite, orpiment, pyrite, pyrrhotite, realgar, scheelite, sphalerite, tetrahedrite

Gangue minerals: Albite, calcite, quartz

Geologic description:
The 700-Foot mine is part of the Treadwell Mines group that includes the Treadwell (JU199), Mexican (JU201) and the Ready Bullion (JU206) mines. Between 1885 and 1923, the Treadwell group collectively mined 28 million tons of ore that produced 3.2 million ounces of gold and over 180,000 ounces of silver (Redman and others, 1989). Of that total, the Mexican Mine and Ready Bullion Mine each accounted for approximately 500,000 ounces of gold (Light and others, 1989). There are approximately 75 miles of underground workings among the 4 mines; all but 3,360 feet are now (2001) flooded. There is a large glory hole at the Treadwell Mine and 2 smaller glory holes at the Mexican Mine. Placer gold was discovered in Ready Bullion Creek in 1880 and in 1881, the Ready Bullion, Mexican, Treadwell and Mexican lodes were discovered. The Treadwell Mine began operation in 1882, and the Mexican Mine began work in 1886. The Treadwell and Mexican mines were consolidated in 1891 and major development at the Ready Bullion mine began in 1894. Work began at the 700-Foot mine, which was midway between the Treadwell mine and the Mexican mine, in 1897. The Treadwell, 700-Foot, and Mexican mines were connected to the Ready Bullion Mine by a tunnel in 1904, but a concrete bulkhead was placed in the tunnel in 1913 (Stone and Stone, 1980). By the end of 1916, the mines were being worked as much as 2,700 feet below the surface. In 1917, a

cave-in at the 700-Foot shaft flooded the Treadwell, 700-Foot, and Mexican mines. Only the Ready Bullion survived and remained in operation until 1923 when lean ore caused the mine to cease operations (Redman and others, 1989).

The deposit is in altered albite-diorite sills (Spencer, 1905). The sills have intruded northwest-trending, black phyllite that forms the footwall of the diorite; a greenstone sill forms the hanging wall. The albite-diorite sills are generally conformable to the foliation, pinch and swell along strike, and are up to 290 feet thick and 3,800 feet long (Spencer, 1906). Base and precious metals are disseminated in the albite-diorite and in reticulated veins and stringers of calcite and quartz that vary from a few millimeters to a few centimeters in thickness. The veins and stringers constitute almost 20 percent of the altered albite diorite (Light and others, 1989). The highest gold concentrations tend to be associated with the highest density of quartz and calcite veinlets. Pyrite is the most abundant sulfide and there is minor native gold, chalcopyrite, galena, sphalerite, molybdenite, native arsenic, realgar and orpiment. The gold is irregularly distributed and is independent of pyrite distribution. From 60 to 75 percent of the gold was free-milling and over the life of the Treadwell Mine group it is estimated that overall gold recovery averaged almost 90 percent (Light and others, 1989; Redman and others, 1989).

The rocks in the general area are Upper Jurassic or Cretaceous marine argillite and graywacke, interbedded with andesite or basalt (Brew and Ford, 1985). The bedded rocks are regionally metamorphosed to prehnite-pumpellyite or greenschist grade, and cut by diorite or gabbro dikes and sills.

Alteration:

The albite-diorite sills are altered. The alteration assemblage includes albite, calcite, and quartz , with lesser amounts of biotite, chlorite, epidote, hornblende, magnetite, pyrite, pyrrhotite, rutile, sericite, stibnite and zoisite (Spencer, 1905).

Age of mineralization:

The age of mineralization in the Berners Bay district is about 55 Ma, the same as the other mesothermal gold-quartz-vein deposits in the Juneau Gold Belt (Goldfarb and others, 1997).

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: Yes; large

Site Status: Inactive

Workings/exploration:

There are approximately 75 miles of underground workings among the 4 mines; all but 3,360 feet are now (2001) flooded. There is a large glory hole at the Treadwell Mine and 2 smaller glory holes at the Mexican Mine. Placer gold was discovered in Ready Bullion

Creek in 1880 and in 1881, the Ready Bullion, Mexican, Treadwell and Mexican lodes were discovered. By the end of 1916 the mines were being worked as much as 2,700 feet below the surface. In 1917, a cave-in at the 700-Foot shaft flooded the Treadwell, 700-Foot, and Mexican mines. Only the Ready Bullion survived and remained in operation until 1923, when lean ore caused the mine to cease operations (Redman and others, 1989). In the early 1980's Occidental Minerals and Barrick Resources conducted exploratory drilling in the Treadwell area. From 1986 through 1997 Echo Bay Mines explored the area, including deep drilling beneath Gastineau Channel in 1990. Their deep drilling confirmed that the Treadwell vein system continues below the deepest known workings (Miller and others, 1992; L. Miller, personal commun., 2001; Swainbank and others, 1991).

Production notes:

Between 1885 and 1923, the Treadwell Group collectively mined 28 million tons of ore that produced 3.2 million ounces of gold and over 180,000 ounces of silver. Of that total, the Mexican Mine and Ready Bullion Mine each accounted for approximately 500,000 ounces of gold. There were at least 300 stamps in use at the Treadwell, nearly 200 stamps at the 700-Foot and Mexican mines, and 150 stamps at the Ready Bullion Mine. A cyanide plant serviced all four mines by 1910.

Reserves:

From 1986 through 1997 Echo Bay Mines explored the area, including deep drilling beneath Gastineau Channel in 1990. Their deep drilling confirmed that the Treadwell vein system continues below the deepest known workings (Miller and others, 1992; L. Miller, personal commun., 2001; Swainbank and others, 1991). At the time the Treadwell mines closed, there were 3 million tons of proven reserves, including broken ore in stopes, pillars, and deep ore under development (Redman and others, 1989).

Additional comments:

References:

Becker, 1898; Spencer, 1905; Spencer, 1906; Stone and Stone, 1980; Brew and Ford, 1985; Light and others, 1989; Redman and others, 1989; Swainbank and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Light and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Mexican (Treadwell Mines group)

Site type: Mine

ARDF no.: JU201

Latitude: 58.2654 **Quadrangle:** JU B-2

Longitude: 134.3698

Location description and accuracy:
This mine is on the northeast shore of Douglas Island on the southwest shore of Gastineau Channel, 1/4 mile southeast of Douglas. It is near the southwest corner of SE1/4 section 36, T. 41 S., R. 67 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other: Ag, As, Cu, Mo, Pb, Sb, W, Zn

Ore minerals: Arsenic, chalcopyrite, galena, gold, magnetite, molybdenite, orpiment, pyrite, pyrrhotite, realgar, scheelite, sphalerite, tetrahedrite

Gangue minerals: Albite, calcite, quartz

Geologic description:
The Mexican mine is part of the Treadwell Mines group that includes the Treadwell (JU199), 700-Foot (JU200), and the Ready Bullion (JU206) mines. Between 1885 and 1923, the Treadwell group collectively mined 28 million tons of ore that produced 3.2 million ounces of gold and over 180,000 ounces of silver (Redman and others, 1989). Of that total, the Mexican Mine and Ready Bullion Mine each accounted for approximately 500,000 ounces of gold (Light and others, 1989). There are approximately 75 miles of underground workings among the 4 mines; all but 3,360 feet are now (2001) flooded. There is a large glory hole at the Treadwell Mine and 2 smaller glory holes at the Mexican Mine. Placer gold was discovered in Ready Bullion Creek in 1880 and in 1881, the Ready Bullion, Mexican, Treadwell and Mexican lodes were discovered. The Treadwell Mine began operation in 1882, and the Mexican Mine began work in 1886. The Treadwell and Mexican mines were consolidated in 1891 and major development at the Ready Bullion mine began in 1894. Work began at the 700-Foot mine, which was midway between the Treadwell mine and the Mexican mine, in 1897. The Treadwell, 700-Foot, and Mexican mines were connected to the Ready Bullion Mine by a tunnel in 1904, but a concrete bulkhead was placed in the tunnel in 1913 (Stone and Stone, 1980). By the end of 1916, the mines were being worked as much as 2,700 feet below the surface. In 1917, a cave-in at the 700-Foot shaft flooded the Treadwell, 700-Foot, and Mexican mines. Only

the Ready Bullion survived and remained in operation until 1923 when lean ore caused the mine to cease operations (Redman and others, 1989).

The deposit is in thick, altered albite-diorite sills (Spencer, 1905). The sills have intruded northwest-trending, black phyllite that forms the footwall of the diorite; a greenstone sill forms the hanging wall. The albite-diorite sills are generally conformable to the foliation, pinch and swell along strike, and are up to 290 feet thick and 3,800 feet long (Spencer, 1906). Base and precious metals are disseminated in the altered albite-diorite and in reticulated veins and stringers of calcite and quartz that vary from a few millimeters to a few centimeters in thickness. The veins and stringers constitute almost 20 percent of the albite diorite (Light and others, 1989). The highest gold concentrations tend to be associated with the highest density of quartz and calcite veinlets. Pyrite is the most abundant sulfide, with minor native gold, chalcopyrite, galena, sphalerite, molybdenite, native arsenic, realgar and orpiment. The gold is irregularly distributed and is independent of pyrite distribution. From 60 to 75 percent of the gold was free-milling and over the life of the Treadwell Mine group it is estimated that overall gold recovery averaged almost 90 percent (Light and others, 1989; Redman and others, 1989).

The rocks in the general area are Upper Jurassic or Cretaceous marine argillite and graywacke, interbedded with andesite or basalt (Brew and Ford, 1985). The bedded rocks are regionally metamorphosed to prehnite-pumpellyite or greenschist grade, and cut by diorite or gabbro dikes and sills.

Alteration:

The albite-diorite sills are altered. The alteration assemblage includes albite, calcite, and quartz along with lesser amounts of biotite, chlorite, epidote, hornblende, magnetite, pyrite, pyrrhotite, rutile, sericite, and zoisite (Spencer, 1905).

Age of mineralization:

The age of mineralization in the Berners Bay district is about 55 Ma, the same as the other mesothermal gold-quartz-vein deposits in the Juneau Gold Belt (Goldfarb and others, 1997).

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: Yes; large

Site Status: Inactive

Workings/exploration:

There are approximately 75 miles of underground workings among the 4 mines of the Treadwell Group; all but 3,360 feet are now (2001) flooded. There is a large glory hole at the Treadwell Mine and 2 smaller glory holes at the Mexican Mine. Placer gold was discovered in Ready Bullion Creek in 1880 and in 1881, the Ready Bullion, Mexican, Tread-

well and Mexican lodes were discovered. By the end of 1916 the mines were being worked as much as 2,700 feet below the surface. In 1917, a cave-in at the 700-Foot shaft flooded the Treadwell, 700-Foot, and Mexican mines. Only the Ready Bullion survived and remained in operation until 1923, when lean ore caused the mine to cease operations (Redman and others, 1989). In the early 1980's Occidental Minerals and Barrick Resources conducted exploratory drilling in the Treadwell area. From 1986 through 1997 Echo Bay Mines explored the area, including deep drilling beneath Gastineau Channel in 1990. Their deep drilling confirmed that the Treadwell vein system continues below the deepest known workings (Miller and others, 1992; L. Miller, personal commun., 2001; Swainbank and others, 1991).

Production notes:

Between 1885 and 1923, the Treadwell Group collectively mined 28 million tons of ore that produced 3.2 million ounces of gold and over 180,000 ounces of silver. Of that total, the Mexican Mine and Ready Bullion Mine each accounted for approximately 500,000 ounces of gold. There were at least 300 stamps in use at the Treadwell, nearly 200 stamps at the 700-Foot and Mexican mines, and 150 stamps at the Ready Bullion Mine. A cyanide plant serviced all four mines by 1910.

Reserves:

From 1986 through 1997 Echo Bay Mines explored the area, including deep drilling beneath Gastineau Channel in 1990. Their deep drilling confirmed that the Treadwell vein system continues below the deepest known workings (Miller and others, 1992; L. Miller, personal commun., 2001; Swainbank and others, 1991). At the time the Treadwell mines closed, there were about 3 million tons of proven reserves, including broken ore in stopes, pillars, and deep ore under development (Redman and others, 1989).

Additional comments:

References:

Becker, 1898; Spencer, 1905; Spencer, 1906; Stone and Stone, 1980; Brew and Ford, 1985; Light and others, 1989; Redman and others, 1989; Swainbank and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Light and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Jersey

Site type: Prospect

ARDF no.: JU202

Latitude: 58.2657 **Quadrangle:** JU B-2

Longitude: 134.3996

Location description and accuracy:
The Jersey prospect is at an elevation of approximately 800 feet, 1/2 mile southwest of Douglas and 1/2 mile north of Paris Creek. It is near the southeast corner of section 35, T. 41 S., R. 67 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Pyrite

Gangue minerals: Quartz

Geologic description:
The Jersey prospect was discovered in 1896 and was developed by a 85-foot shaft, a drift, and 5 trenches. The deposit consists of quartz vein stringers in black phyllite and felsic phyllite (Wells and others, 1986). The phyllites and the quartz veins contain disseminated pyrite. U.S. Bureau of Mines samples contained up to 1.0 ppm gold (Redman and others, 1989).

The rocks in the general area are Upper Jurassic or Cretaceous marine argillite and graywacke, interbedded with andesite or basalt (Brew and Ford, 1985). The bedded rocks are regionally metamorphosed to prehnite-pumpellyite or greenschist grade, and cut by diorite or gabbro dikes and sills.

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: No

Site Status: Inactive

Workings/exploration:

The deposit at the Jersey prospect was discovered in 1896 and was developed by a 85-foot shaft, a drift, and 5 trenches.

Production notes:

Reserves:

Additional comments:

References:

Brew and Ford, 1985; Wells and others, 1986; Redman and others, 1989.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Upper Kowee Creek

Site type: Prospect

ARDF no.: JU203

Latitude: 58.2679 **Quadrangle:** JU B-2

Longitude: 134.4591

Location description and accuracy:
This placer prospect is at an elevation of approximately 1,500 feet near the head of Kowee Creek on Douglas Island. It is near the center of the east side of SE1/4 section 33, T. 41 S., R. 67 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
A gold placer claim was active at this location from 1880 to 1900, but no other information is available (Wells and others, 1986).

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au (Cox and Singer, 1986; model 39a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: Undetermined.

Site Status: Inactive

Workings/exploration:

A gold placer claim was active at this location from 1880 to 1900, but no other information is available (Wells and others, 1986).

Production notes:

Reserves:

Additional comments:

References:

Wells and others, 1986.

Primary reference: Wells and others, 1986

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Lawson Creek

Site type: Prospect

ARDF no.: JU204

Latitude: 58.2637 **Quadrangle:** JU B-2

Longitude: 134.4326

Location description and accuracy:
This placer prospect is at an elevation of approximately 800 feet near the head of Lawson Creek on Douglas Island It is in the NW1/4NE1/4 section 3, T. 42 S., R. 67 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
Several gold placer claims were active at this site from 1881 to 1981 but no other information is available (Wells and others, 1986).

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au (Cox and Singer, 1986; model 39a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: Undetermined.

Site Status: Inactive

Workings/exploration:

Several gold placer claims were active at this site from 1881 to 1981 but no other information is available (Wells and others, 1986).

Production notes:

Reserves:

Additional comments:

References:

Wells and others, 1986.

Primary reference: Wells and others, 1986

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Mexico and Belvedere

Site type: Prospect

ARDF no.: JU205

Latitude: 58.2598 **Quadrangle:** JU B-2

Longitude: 134.3690

Location description and accuracy:

This prospect is at an elevation of approximately 400 feet on Douglas Island, 1/4 mile southwest of the shore of Gastineau Channel and 0.4 mile south-southwest of the abandoned townsite of Treadwell. It is near the center of the east side the NE1/4 section 1, T. 42 S., R. 67 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other: Ag

Ore minerals: Pyrite

Gangue minerals:

Geologic description:

The Mexico and Belvedere prospect was discovered before 1886 and was developed by a 301-foot adit and a caved shaft. The rocks at the prospect consist of black phyllite intruded by a hornblende diorite sill that is 140 feet thick (Redman and others, 1989). The margins of the sill are hydrothermally altered and pyrite cubes are disseminated in these altered margins. The core of the sill is unaltered. U.S. Bureau of Mines samples contained up to 0.07 ppm gold and 0.3 ppm silver (Redman and others, 1989).

The rocks in the general area are Upper Jurassic or Cretaceous marine argillite and graywacke, interbedded with andesite or basalt (Brew and Ford, 1985). The bedded rocks are regionally metamorphosed to prehnite-pumpellyite or greenschist grade, and cut by diorite or gabbro dikes and sills.

Alteration:

The margins of the hornblende diorite sill are hydrothermally altered and pyritized.

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:
The Mexico and Belvedere prospect was discovered before 1886 and was developed by a 301-foot adit and a caved shaft.

Production notes:

Reserves:

Additional comments:

References:
Brew and Ford, 1985; Redman and others, 1989.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Ready Bullion; Alaska United Gold Mining Co. (Treadwell Mines group)

Site type: Mine

ARDF no.: JU206

Latitude: 58.2588 **Quadrangle:** JU B-2

Longitude: 134.3576

Location description and accuracy:
This mine is at an elevation of approximately 20 feet on Douglas Island near the shore of Gastineau Channel, 1/4 mile north of Ready Bullion Creek, and 0.5 mile south-southwest of the abandoned townsite of Treadwell. It is in about the center of section 6, T. 42 S., R. 68 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other: Ag, As, Cu, Mo, Pb, Sb, W, Zn

Ore minerals: Arsenic, chalcopyrite, galena, gold, magnetite, molybdenite, orpiment, pyrite, pyrrhotite, realgar, scheelite, sphalerite, tetrahedrite

Gangue minerals: Albite, calcite, quartz

Geologic description:
The Ready Bullion Mine is part of the Treadwell Mines group which consists of the Treadwell (JU199), 700-Foot (JU200), and Mexican (JU201) mines. Between 1885 and 1923, the Treadwell group collectively mined 28 million tons of ore that produced 3.2 million ounces of gold and over 180,000 ounces of silver (Redman and others, 1989). Of that total, the Mexican Mine and Ready Bullion Mine each accounted for approximately 500,000 ounces of gold (Light and others, 1989). There are approximately 75 miles of underground workings in the 4 mines; all but 3,360 feet are now (2001) flooded. There is a large glory hole at the Treadwell Mine and 2 smaller glory holes at the Mexican Mine. Placer gold was discovered in Ready Bullion Creek in 1880 and in 1881, the Ready Bullion, Mexican, Treadwell and Mexican lodes were discovered. The Treadwell Mine began operation in 1882, and the Mexican Mine began work in 1886. The Treadwell and Mexican mines were consolidated in 1891 and major development at the Ready Bullion mine began in 1894. Work began at the 700-Foot mine, which was midway between the Treadwell mine and the Mexican mine, in 1897. The Treadwell, 700-Foot, and Mexican mines were connected to the Ready Bullion Mine by a tunnel in 1904, but a concrete bulkhead was placed in the tunnel in 1913 (Stone and Stone, 1980). By the end of 1916,

the mines were being worked as much as 2,700 feet below the surface. In 1917, a cave-in at the 700-Foot shaft flooded the Treadwell, 700-Foot, and Mexican mines. Only the Ready Bullion survived and remained in operation until 1923 when lean ore caused the mine to cease operations (Redman and others, 1989).

The Ready Bullion deposit is in thick, altered albite-diorite sills (Spencer, 1905). The sills have intruded northwest-trending, black phyllite that forms the footwall of the diorite; a greenstone sill forms the hanging wall. The albite-diorite sills are generally conformable to the foliation, pinch and swell along strike, and are up to 290 feet thick and 3,800 feet long (Spencer, 1906). Base and precious metals are disseminated in the albite-diorite and in reticulated veins and stringers of calcite and quartz that vary from a few millimeters to a few centimeters in thickness. The veins and stringers constitute almost 20 percent of the albite diorite (Light and others, 1989). The highest gold concentrations tend to be associated with the highest density of quartz and calcite veinlets. Pyrite is the most abundant sulfide, with minor native gold, chalcopyrite, galena, sphalerite, molybdenite, native arsenic, realgar and orpiment. The gold is irregularly distributed and is independent of pyrite distribution. From 60 to 75 percent of the gold was free-milling and over the life of the Treadwell Mine group it is estimated that overall gold recovery averaged almost 90 percent (Light and others, 1989; Redman and others, 1989).

The rocks in the general area are Upper Jurassic or Cretaceous marine argillite and graywacke, interbedded with andesite or basalt (Brew and Ford, 1985). The bedded rocks are regionally metamorphosed to prehnite-pumpellyite or greenschist grade, and cut by diorite or gabbro dikes and sills.

Alteration:

The albite-diorite sills are altered. The alteration assemblage includes albite, calcite, and quartz along with lesser amounts of biotite, chlorite, epidote, hornblende, magnetite, pyrite, pyrrhotite, rutile, sericite, and zoisite (Spencer, 1905).

Age of mineralization:

The age of mineralization in the Berners Bay district is about 55 Ma, the same as the other mesothermal gold-quartz-vein deposits in the Juneau Gold Belt (Goldfarb and others, 1997).

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: Yes; large

Site Status: Inactive

Workings/exploration:

There are approximately 75 miles of underground workings among the 4 mines of the Treadwell Group; all but 3,360 feet are now (2001) flooded. There is a large glory hole at

the Treadwell Mine and 2 smaller glory holes at the Mexican Mine. Placer gold was discovered in Ready Bullion Creek in 1880 and in 1881, the Ready Bullion, Mexican, Treadwell and Mexican lodes were discovered. By the end of 1916, the mines were being worked as much as 2,700 feet below the surface. In 1917, a cave-in at the 700-Foot shaft flooded the Treadwell, 700-Foot, and Mexican mines. Only the Ready Bullion survived and remained in operation until 1923, when lean ore caused the mine to cease operations (Redman and others, 1989). In the early 1980's Occidental Minerals and Barrick Resources conducted exploratory drilling in the Treadwell area. From 1986 through 1997 Echo Bay Mines explored the area, including deep drilling beneath Gastineau Channel in 1990. Their deep drilling confirmed that the Treadwell vein system continues below the deepest known workings (Miller and others, 1992; L. Miller, personal commun., 2001; Swainbank and others, 1991).

Production notes:

Between 1885 and 1923, the Treadwell Group collectively mined 28 million tons of ore that produced 3.2 million ounces of gold and over 180,000 ounces of silver. Of that total, the Mexican Mine and Ready Bullion Mine each accounted for approximately 500,000 ounces of gold. There were at least 300 stamps in use at the Treadwell, nearly 200 stamps at the 700-Foot and Mexican mines, and 150 stamps were employed at the Ready Bullion Mine. A cyanide plant serviced all four mines by 1910.

Reserves:

From 1986 through 1997 Echo Bay Mines explored the area which included deep drilling beneath Gastineau Channel in 1990. Their deep drilling was successful and confirmed that the Treadwell vein system continues below the deepest known workings (Miller and others, 1992; L. Miller, personal communication, 2001; Swainbank and others, 1991). At the time the Treadwell mines closed, proven reserves, including broken ore in stopes, pillars, and deep ore under development totaled 3 million tons (Redman and others, 1989).

Additional comments:

References:

Becker, 1898; Spencer, 1905; Spencer, 1906; Stone and Stone, 1980; Brew and Ford, 1985; Light and others, 1989; Redman and others, 1989; Swainbank and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Light and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Yakima

Site type: Prospect

ARDF no.: JU207

Latitude: 58.2548 **Quadrangle:** JU B-2

Longitude: 134.3789

Location description and accuracy:
The Yakima prospect is at an elevation of approximately 500 feet on the north bank of Ready Bullion Creek on Douglas Island. It is in the NW1/4SE1/4 section 1, T. 42 S., R. 67 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Ag, Au, Cu, Pb, Zn

Other:

Ore minerals: Galena, pyrite, sphalerite

Gangue minerals: Albite, calcite, quartz

Geologic description:
The Yakima prospect was discovered in the early 1880's and was developed by a 175-foot shaft, a 500-foot crosscut and a 500-foot drift at the bottom of the shaft, a 60-foot adit, and another shallow shaft (Redman and others, 1989). The prospect was explored by Occidental Petroleum and Noranda in the 1970's and 1980's, and was drilled by Hecla Minerals in 1990 and 1991(Bundtzen and others, 1991; Swainbank and others, 1991). The host rocks at this prospect are quartz-sericite phyllite and interbedded volcanic metaconglomerate. The phyllite contains 1 to 3 percent disseminated pyrite, with traces of galena and sphalerite, and concordant layers and seams of galena and sphalerite up to 0.25 inch thick (Redman and others, 1989). The phyllite is also cut by quartz veins that contain albite, pyrite, galena, and sphalerite. The deposit is approximately 3000 feet long and 1000 feet wide. U.S. Bureau of Mines samples contained up to 11.3 ppm gold, 11.0 ppm silver, 830 ppm copper, 1,120 ppm lead, and 3160 ppm zinc (Redman and others, 1989). Newberry and others (1997), have interpreted the Yakima prospect as a Cretaceous volcanogenic massive sulfide deposit. The deposit is geologically similar to the Alaska Treasure Mine (JU228), Red Diamond (JU232), Mammoth (JU229), and Homestake prospects (JU231)(Redman and others, 1989). The rocks in the general area are Upper Jurassic or Cretaceous marine argillite and graywacke, interbedded with andesite or basalt (Brew and Ford, 1985). The bedded rocks are regionally metamorphosed to prehnite-pumpellyite or greenschist grade, and cut by diorite or gabbro dikes and sills.

Alteration:

Age of mineralization:
Newberry and others (1997), have interpreted the Yakima prospect as a Cretaceous volcanogenic massive sulfide deposit.

Deposit model:
Metamorphosed Kuroko massive sulfide deposit (Cox and Singer, 1986; model 28a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
28a

Production Status: No

Site Status: Active

Workings/exploration:
The Yakima prospect was discovered in the early 1880's and was developed by a 175-foot shaft, a 500-foot crosscut with a 500-foot drift at the bottom of the shaft, a 60-foot adit, and another shallow shaft (Redman and others, 1989). The prospect was explored by Occidental Petroleum and Noranda in the 1970's and 1980's, and was drilled by Hecla Minerals in 1990 and 1991.

Production notes:

Reserves:

Additional comments:

References:
Redman and others, 1989; Bundtzen and others, 1991; Swainbank and others, 1991; Newberry and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Mineral Queen

Site type: Prospect

ARDF no.: JU208

Latitude: 58.2546 **Quadrangle:** JU B-2

Longitude: 134.3472

Location description and accuracy:

The Mineral Queen prospect is at an elevation of approximately 100 feet on Douglas Island, on the southwest shore of Gastineau Channel near the mouth of Ready Bullion Creek. It is in the NE1/4SE1/4 section 6, T. 42 S., R. 68 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Ag, Au, Cu

Other: Mo

Ore minerals: Chalcopyrite, molybdenite, pyrite, pyrrhotite

Gangue minerals: Quartz

Geologic description:

The Mineral Queen prospect was discovered before 1887 and was developed by a 410-foot adit, a 40-foot adit, a 18-foot adit, an open cut and several trenches. The deposit is in phyllite, chlorite schist and coarse- to fine-grained amphibolite that contains disseminated pyrite, pyrrhotite, and chalcopyrite (Redman and others, 1989). Shearing has converted some of the amphibolite to chlorite phyllite that contains quartz veins up to 6 feet thick. Some of the veins contain fragments of altered albite-diorite. Pyrite cubes and molybdenite occur in the margins of the veins and along the foliation of the chlorite phyllite. U.S. Bureau of Mines samples contained up to 441 ppm gold, 34 ppm silver, 1,184 ppm copper, and 0.13 percent molybdenum (Redman and others, 1989).

The rocks in the general area are Upper Jurassic or Cretaceous marine argillite and graywacke, interbedded with andesite or basalt (Brew and Ford, 1985). The bedded rocks are regionally metamorphosed to prehnite-pumpellyite or greenschist grade, and cut by diorite or gabbro dikes and sills.

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:

The Mineral Queen prospect was discovered before 1887 and was developed by a 410-foot adit, a 40-foot adit, a 18-foot adit, an open cut, and several trenches.

Production notes:

Reserves:

Additional comments:

References:

Brew and Ford, 1985; Redman and others, 1989.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Alaska Atlin

Site type: Prospect

ARDF no.: JU209

Latitude: 58.2519 **Quadrangle:** JU B-2

Longitude: 134.3436

Location description and accuracy:
The Alaska Atlin prospect is at an elevation of approximately 50 feet on the southwest shore of Gastineau Channel on Douglas Island, just south of the mouth of Ready Bullion Creek. It is in the SE1/4SE1/4 section 6, T. 42 S., R. 68 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Pyrite

Gangue minerals: Quartz

Geologic description:
The Alaska Atlin prospect was discovered in 1901 and was developed by an adit and two short shafts (Redman and others, 1989). The prospect is in black phyllite that contains concordant quartz veins. The quartz veins contain pyrite. U.S. Bureau of Mines samples contained no significant gold values (Redman and others, 1989).

The rocks in the general area are Upper Jurassic or Cretaceous marine argillite and graywacke, interbedded with andesite or basalt (Brew and Ford, 1985). The bedded rocks are regionally metamorphosed to prehnite-pumpellyite or greenschist grade, and cut by diorite or gabbro dikes and sills.

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:
The deposit at the Alaska Atlin prospect was discovered in 1901 and was developed by an adit and two short shafts.

Production notes:

Reserves:

Additional comments:

References:
Brew and Ford, 1985; Redman and others, 1989.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Portland

Site type: Prospect

ARDF no.: JU210

Latitude: 58.2544 **Quadrangle:** JU B-2

Longitude: 134.3512

Location description and accuracy:

The Portland prospect is at an elevation of approximately 200 feet on Douglas Island, on the southwest side of Gastineau Channel, and about 0.2 mile west-northwest of the mouth of Ready Bullion Creek. It is near the center of the SE1/4 section 6, T. 42 S., R. 68 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other: Mo

Ore minerals: Pyrite

Gangue minerals: Quartz

Geologic description:

The Portland prospect was discovered before 1890 and was developed by a 118-foot adit, a 19-foot adit, and several trenches. The host rocks are black phyllite, green chlorite phyllite and amphibolite (Redman and others, 1989). The black phyllite has been intruded by two, altered, albite-diorite sills that contain quartz and disseminated pyrite. The phyllite contains disseminated pyrite and is silicified along the contact with the amphibolite. U.S. Bureau of Mines samples did not contain significant precious metal values, however a quartz sample from the amphibolite contained 164 ppm percent molybdenum (Redman and others, 1989).

The rocks in the general area are Upper Jurassic or Cretaceous marine argillite and graywacke, interbedded with andesite or basalt (Brew and Ford, 1985). The bedded rocks are regionally metamorphosed to prehnite-pumpellyite or greenschist grade, and cut by diorite or gabbro dikes and sills.

Alteration:

Altered albite-diorite sills.

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:
The Portland prospect was discovered before 1890 and was developed by a 118-foot adit, a 19-foot adit, and several trenches.

Production notes:

Reserves:

Additional comments:

References:
Brew and Ford, 1985; Redman and others, 1989.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Alaska Gastineau tailings; Sheep Creek dump

Site type: Mine

ARDF no.: JU211

Latitude: 58.2622 **Quadrangle:** JU B-1

Longitude: 134.3303

Location description and accuracy:
This man-made placer mine is located at Thane, at the mouth of Sheep Creek on the northeast shore of Gastineau Channel. It is in the NW1/4NE1/4 section 5, T. 42 S., R. 68 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Ag, Au

Other:

Ore minerals: Gold

Gangue minerals: Quartz

Geologic description:
This deposit consists of processed, mill tailings and hand sorted, rejected waste rock from the Sheep Creek mill and the Perseverance (JU168), and Alaska-Juneau (JU165) mines. The tailings have been worked intermittently since 1940 and have produced more than 1,105 ounces of gold and 273 ounces of silver. There is an estimated resource of 4 million tons of tailings of unknown grade (Redman and others, 1989).

Alteration:

Age of mineralization:
Holocene.

Deposit model:

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

Production Status: Yes; small

Site Status: Inactive

Workings/exploration:

This deposit consists of processed mill tailings and hand sorted, rejected waste rock from the Sheep Creek mill and the Perseverance (JU168), and Alaska-Juneau (JU165) mines. The tailings have been worked intermittently since 1940.

Production notes:

The tailings have been worked intermittently since 1940 and have produced more than 1,105 ounces of gold and 273 ounces of silver.

Reserves:

There is an estimated resource of 4 million tons of tailings of unknown grade (Redman and others, 1989).

Additional comments:

References:

Redman and others, 1989.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Alaska Gold Belt; Nelson-Lott

Site type: Prospect

ARDF no.: JU212

Latitude: 58.2683 **Quadrangle:** JU B-1

Longitude: 134.2662

Location description and accuracy:

This prospect is at an elevation of approximately 1,200 feet on the east valley wall at the head of Sheep Creek. It is near the center of the SE1/4 section 34, T. 41 S., R. 68 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Ag, Au

Other:

Ore minerals: Pyrite

Gangue minerals: Quartz

Geologic description:

The Alaska Gold Belt prospect was developed in 1915 after the Alaska Gold Belt Company acquired the nearby Sheridan prospect (JU213). Development work consisted of a 2,750-foot adit that is now (2001) caved. The adit was designed to be a prospecting tunnel and was diamond drilled at the face (Redman and others, 1989). The deposit consists of quartz veins in black phyllite, chlorite phyllite, and metagabbro (Wells and others, 1986). Silicified black phyllite and quartz veins that contain minor pyrite can be seen on the dump. U.S. Bureau of Mines samples of the silicified phyllite contained up to 7.4 ppm silver and samples of quartz veins contained up to 24 ppm gold. Historic gold values up to 34 ppm of gold are reported (Redman and others, 1989).

This prospect iis in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plu-

tons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:

The Alaska Gold Belt prospect was developed in 1915 after the Alaska Gold Belt Company acquired the nearby Sheridan prospect (JU213). Development work consisted of a 2,750-foot adit that is now (2001) caved. The adit was designed to be a prospecting tunnel and was diamond drilled at the face (Redman and others, 1989).

Production notes:

Reserves:

Additional comments:

References:

Wells and others, 1986; Redman and others, 1989; Gehrels and others, 1991.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Sheridan

Site type: Prospect

ARDF no.: JU213

Latitude: 58.2665 **Quadrangle:** JU B-1

Longitude: 134.2692

Location description and accuracy:

The Sheridan prospect is at an elevation of approximately 1,200 feet on the south valley wall at the head of Sheep Creek. It is near the southeast corner of the SW1/4 section 34, T. 41 S., R. 68 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Ag, Au

Other:

Ore minerals: Pyrite

Gangue minerals: Quartz

Geologic description:

The Sheridan prospect was discovered about 1890 and was developed by several adits, open cuts, and trenches. The deposit consists of several concordant quartz veins in black phyllite (Redman and others, 1989). The quartz veins contain minor pyrite. U.S. Bureau of Mines samples did not contain significant metal values (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Creta-

ceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:
Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:
The deposit at the Sheridan prospect was discovered about 1890 and was developed by several adits, open cuts, and trenches.

Production notes:

Reserves:

Additional comments:

References:
Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Middle Peak

Site type: Prospect

ARDF no.: JU214

Latitude: 58.2604 **Quadrangle:** JU B-1

Longitude: 134.2565

Location description and accuracy:
The Middle Peaks prospect is at an elevation of approximately 2,300 feet, 1/2 mile northwest of Middle Peak at the head of Sheep Creek. It is near the center of the NW1/4 section 2, T. 42 S., R. 68 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Ag, Cu, Pb

Other:

Ore minerals: Chalcopyrite, galena, pyrite, secondary copper minerals

Gangue minerals: Quartz

Geologic description:
The Middle Peak prospect was discovered about 1890 and was developed by at least 5 adits and several open cuts. In 1892, several hundred pounds of copper ore was sent to a smelter for testing. In 1895, 2 tons of copper ore were mined (Redman and others, 1989). The Middle Peak prospect consists of a concordant quartz vein near the contact between felsic phyllite, and intercalated green and black phyllite (Wells and others, 1986). The quartz vein contains pyrite, chalcopyrite, galena, and some secondary copper minerals. U. S. Bureau of Mines samples of a pyrite-bearing quartz vein in felsic phyllite contained up to 13 ppm silver (Redman and others, 1989).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a zone 160 km long by 5 to 8 km wide along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike to-

nalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Deposit model:

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

Production Status: Yes; small

Site Status: Inactive

Workings/exploration:

The Middle Peak prospect was discovered about 1890 and was developed by at least 5 adits and several open cuts.

Production notes:

In 1892, several hundred pounds of copper ore was sent to a smelter for testing. In 1895, 2 tons of copper ore were mined (Redman and others, 1989).

Reserves:

Additional comments:

References:

Wells and others, 1986;Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Zengar

Site type: Prospect

ARDF no.: JU215

Latitude: 58.2654 **Quadrangle:** JU B-3

Longitude: 134.8110

Location description and accuracy:
The Zengar prospect is at an elevation of approximately 100 feet on a south tributary to Bear Creek. It is 3 miles south-southeast of Lone Mountain and 3 miles east-northeast of Funter Bay, near the southwest corner of the SE1/4 section 32, T. 41 S., R. 65 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
The rocks in the general area are mainly Ordovician and Devonian to Triassic clastic units, mafic-intermediate volcanic rocks, and subordinate limestone. The bedded rocks are intruded and locally metamorphosed by Cretaceous granodiorite (Gehrels and Berg, 1994).

The Alaska Kardex file 112-139 shows a gold placer claim at this location. If the location is correct it would be 1/2 mile downstream from the Bear Creek asbestos prospect (JU219) (Cobb, 1978 [OFR 78-374]). No other information is available.

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au (Cox and Singer, 1986; model 39a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: Undetermined.

Site Status: Inactive

Workings/exploration:

The Alaska Kardex file 112-139 shows a gold placer claim at this location. No other information is available.

Production notes:

Reserves:

Additional comments:

References:

Cobb, 1978 (OFR 78-374); Gehrels and Berg, 1994.

Primary reference: This record

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Unnamed (northeast of Funter Bay)

Site type: Prospect

ARDF no.: JU216

Latitude: 58.2658 **Quadrangle:** JU B-3

Longitude: 134.8366

Location description and accuracy:
This prospect is at an elevation of about 300 feet, approximately 2.0 miles east-northeast of Funter, at the head of Funter Bay. It is near the southeast corner of section 31, T. 41 S., R. 65 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Cu, Pb, Zn

Other:

Ore minerals:

Gangue minerals:

Geologic description:
The rocks in the general area are mainly Ordovician and Devonian to Triassic clastic units, mafic-intermediate volcanic rocks, and subordinate limestone. The bedded rocks are intruded and locally metamorphosed by Cretaceous granodiorite (Gehrels and Berg, 1994). Wells and others (1986) show a copper-lead-zinc lode claim at this site which was active in 1908. No other information is available.

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: Undetermined.

Site Status: Probably inactive

Workings/exploration:

Wells and others (1986) show a copper-lead-zinc lode claim at this site which was active in 1908. No other information is available.

Production notes:

Reserves:

Additional comments:

References:

Wells and others, 1986; Gehrels and Berg, 1994.

Primary reference: Wells and others, 1986

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Mansfield; Seattle

Site type: Prospect

ARDF no.: JU217

Latitude: 58.2630 **Quadrangle:** JU B-3

Longitude: 134.8565

Location description and accuracy:

This prospect is at an elevation of about 500 feet, approximately 1.5 miles east-northeast of Funter, and 0.5 mile southeast of Bear Creek at the head of Funter Bay. It is near the northwest corner of section 6, T. 42 S., R. 65 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Au, Cu, Pb, Zn

Other:

Ore minerals: Chalcopyrite, galena, pyrrhotite, sphalerite

Gangue minerals: Quartz

Geologic description:

This prospect was discovered before 1908; it consists of several conformable quartz veins in schist. The veins are 3 feet to 6 feet thick, 100 feet apart, and strike northwest. They contain disseminated chalcopyrite, pyrrhotite, and minor galena and sphalerite (Wells and others, 1986). The prospect is developed by surface trenches, a tunnel, and a crosscut. (Cobb, 1978 [OFR 78-374]). No other information is available.

The rocks in the general area are mainly Ordovician and Devonian to Triassic clastic units, mafic-intermediate volcanic rocks, and subordinate limestone. The bedded rocks are intruded and locally metamorphosed by Cretaceous granodiorite (Gehrels and Berg, 1994).

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: No

Site Status: Inactive

Workings/exploration:
The prospect is developed by surface trenches, a 20-foot tunnel, and a crosscut.

Production notes:

Reserves:

Additional comments:

References:
Cobb, 1978 (OFR 78-374); Wells and others, 1986; Gehrels and Berg, 1994.

Primary reference: Cobb, 1978 (OFR 78-374)

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Clam Bed

Site type: Prospect

ARDF no.: JU218

Latitude: 58.2602 **Quadrangle:** JU B-3

Longitude: 134.8906

Location description and accuracy:

The location of this prospect is uncertain and it plotted at a site at an elevation of about 100 feet, 0.2 mile north of Funter, near the old Funter Cannery site. It is near the center of the NE1/4 section 2, T. 42 S., R. 64 E. of the Copper River Meridian. The site may actually be farther to the south, near the Admiralty-Alaska Mine (JU224).

Commodities:

Main: Au

Other:

Ore minerals:

Gangue minerals:

Geologic description:

Wells and others (1986) show 3 patented gold claims in this area. The Alaska Kardex file 112-150 shows the Hargrave lode near this location. No other information is available. The three patented lode mining claims at this site imply that an economic evaluation and some development was conducted prior to receiving patent.

The rocks in the general area are mainly Ordovician and Devonian to Triassic clastic units, mafic-intermediate volcanic rocks, and subordinate limestone. The bedded rocks are intruded and locally metamorphosed by Cretaceous granodiorite (Gehrels and Berg, 1994).

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: Undetermined.

Site Status: Active

Workings/exploration:

The three patented lode mining claims at this site imply that an economic evaluation and some development was conducted prior to receiving patent.

Production notes:

Reserves:

Additional comments:

References:

Wells and others, 1986; Gehrels and Berg, 1994.

Primary reference: Wells and others, 1986

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Bear Creek

Site type: Prospect

ARDF no.: JU219

Latitude: 58.2593 **Quadrangle:** JU B-3

Longitude: 134.8102

Location description and accuracy:

The Bear Creek prospect is at an elevation of about 200 feet on a north-flowing tributary of Bear Creek. It is 3.5 miles south of Lone Mountain and 2 miles east of the head of Funter Bay. It is near the center of the NE1/4 section 5, T. 42 S., R. 65 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Asbestos

Other:

Ore minerals: Tremolite asbestos

Gangue minerals:

Geologic description:

This prospect is in amphibole-mica schist, and consists of a vertical layer, 18 inches thick of tremolite asbestos that strikes N. 45 W and can be traced on the surface for 60 feet (Race and Rose, 1967; Wells and others,1986). The deposit contains veins of cross-fiber asbestos 0.75 inch thick and 6 to 8 inches long (Cobb, 1978 [OFR 78-374]). Prior to 1930, the Alaska Asbestos Company, Inc. dug an opencut across the belt of tremolite schist, and constructed a road from the beach to the property (Roehm, 1943).

The rocks in the general area are mainly Ordovician and Devonian to Triassic clastic units, mafic-intermediate volcanic rocks, and subordinate limestone. The bedded rocks are intruded and locally metamorphosed by Cretaceous granodiorite (Gehrels and Berg, 1994).

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Probably inactive

Workings/exploration:

Prior to 1930, the Alaska Asbestos Company, Inc. dug an opencut across the belt of tremolite schist, and constructed a road from the beach to the property (Roehm, 1943).

Production notes:

Reserves:

Additional comments:

References:

Roehm, 1943; Race and Rose, 1967; Cobb, 1978 (OFR 78-374); Wells and others, 1986; Gehrels and Berg, 1994.

Primary reference: Cobb, 1978 (OFR 78-374)

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Unnamed (northwest of Pt. Couverden)

Site type: Occurrences

ARDF no.: JU220

Latitude: 58.2487 **Quadrangle:** JU A-4

Longitude: 135.2665

Location description and accuracy:

This site is the approximate center of numerous occurrences centered approximately 5 miles north of Sisters Island and 8 miles west-northwest of Point Couverden. The site is plotted somewhat arbitrarily near the north end of the boundary between sections 9 and 10, T. 42 S., R. 62 E. of the Copper River Meridian. The location is accurate within 1 mile.

Commodities:

Main: Ag, Au, Cu, Pb, Zn

Other:

Ore minerals: Chalcopyrite, galena, pyrite, sphalerite

Gangue minerals: Calcite, quartz

Geologic description:

The host rocks of these occurrences are mainly lower Paleozoic, black, carbonaceous limestone and subordinate interbedded argillite (Clough and Redman, 1989). These rocks are intruded by equigranular to slightly porphyritic andesite dikes. The deposits consist of thin, quartz-calcite veins that cut the sedimentary rocks and locally contain pyrite, galena, sphalerite, and chalcopyrite. Several fault zones up to 2 miles along, are marked by elevated metal values (Clough and Redman, 1989). U.S. Bureau of Mines samples of fault gouge contained up to 30 ppm silver, 0.7 ppm gold, 9,200 ppm zinc, 4,070 ppm lead, and 210 ppm copper. Their samples of quartz-calcite veins contained up to 1.2 ppm gold, 1,500 ppm copper, 7,500 ppm lead, and 3,800 ppm zinc. They also noted anomalous gold values in samples of black argillite. Salisbury and Associates explored for massive sulfide deposits in the area in the late 1980's (Clough and Redman, 1989).

The rocks in the general area are deformed and metamorphosed Silurian or Devonian carbonate, clastic, and volcaniclastic rocks that have been intruded by Upper Jurassic and Lower Cretaceous granitic and dioritic rocks (Brew and others, 1992). The rocks immediately west of the occurrence are metamorphosed Silurian and Devonian graywacke and argillite that have been intruded by foliated Cretaceous granitic rocks (Brew and others, 1978).

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:
Surface sampling only.

Production notes:

Reserves:

Additional comments:

References:
Brew and others, 1978; Clough and Redman, 1989.

Primary reference: Clough and Redman, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Ulela; Alice

Site type: Prospects

ARDF no.: JU221

Latitude: 58.2469 **Quadrangle:** JU A-2

Longitude: 134.3386

Location description and accuracy:

The Ulela and Alice prospects are at an elevation of approximately 100 feet, just inland from the northeast shore of Douglas Island. They are about 0.4 mile west of the mouth of Bullion Creek in the NW1/4NW1/4 section 8, T. 42 S., R. 68 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Pyrite

Gangue minerals: Quartz

Geologic description:

The Ulela and Alice prospects, about 1000 feet apart, were developed in 1912. Development work consisted of a 12-foot adit, 2 short shafts, an open cut, and several trenches. The prospects consist of black phyllite that contains several discontinuous concordant quartz veins (Redman and others, 1989). The quartz veins contain pyrite. U.S. Bureau of Mines samples did not contain significant gold values (Redman and others, 1989).

The rocks in the general area are Upper Jurassic or Cretaceous marine argillite and graywacke, interbedded with andesite or basalt (Brew and Ford, 1985). The bedded rocks are regionally metamorphosed to prehnite-pumpellyite or greenschist grade, and cut by diorite or gabbro dikes and sills.

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:

The Ulela and Alice prospects, about 1000 feet apart, were developed in 1912. Development work consisted of a 12-foot adit, 2 short shafts, an open cut, and several trenches.

Production notes:

Reserves:

Additional comments:

References:

Brew and Ford, 1985; Redman and others, 1989; Gehrels and Berg, 1994.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Alaska-Taku

Site type: Prospect

ARDF no.: JU222

Latitude: 58.2482 **Quadrangle:** JU A-1

Longitude: 134.1923

Location description and accuracy:

The Alaska-Taku prospect is at an elevation of approximately 1,200 feet on the west valley wall of upper Rhine Creek. It is 3.5 miles west of Taku Inlet, and 3.5 miles northwest of Bishop Point, in about the center of the N1/2 section 7, T. 42 S., R. 69 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Au ?

Other:

Ore minerals:

Gangue minerals: Quartz

Geologic description:

The Alaska-Taku prospect was discovered in 1915 and was developed by several open cuts (Redman and others, 1989). The deposit consists of quartz-stringer veins near the contact between black phyllite and greenstone (Wells and others, 1986). The veins can be traced for 5,000 feet. No other information is available.

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a 160-km-long by 5- to 8-km-wide zone along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plutons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, mod-

erately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: No

Site Status: Inactive

Workings/exploration:

The deposit at the Alaska-Taku prospect was discovered in 1915 and was developed by several open cuts (Redman and others, 1989).

Production notes:

Reserves:

Additional comments:

References:

Wells and others, 1986; Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Wells and others, 1986

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Zelda

Site type: Prospect

ARDF no.: JU223

Latitude: 58.2418 **Quadrangle:** JU A-1

Longitude: 134.3264

Location description and accuracy:
The Zelda prospect is on the northeast shore of Douglas Island, 1 mile northwest of the mouth of Nevada Creek. It is near the center of section 8, T. 42 S., R. 68 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Pyrite

Gangue minerals: Quartz

Geologic description:
The Zelda prospect was discovered in 1912 and was developed by 2 small adits. The deposit consists of black phyllite that contains several discontinuous, concordant quartz veins (Redman and others, 1989). The quartz veins contain pyrite. U.S. Bureau of Mines samples contained up to 1.7 ppm gold (Redman and others, 1989).

The rocks in the general area are Upper Jurassic or Cretaceous marine argillite and graywacke, interbedded with andesite or basalt (Brew and Ford, 1985). The bedded rocks are regionally metamorphosed to prehnite-pumpellyite or greenschist grade, and cut by diorite or gabbro dikes and sills.

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:
The Zelda prospect was discovered in 1912 and was developed by 2 small adits.

Production notes:

Reserves:

Additional comments:

References:
Brew and Ford, 1985; Redman and others, 1989.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Admiralty-Alaska; Tellurium

Site type: Mine

ARDF no.: JU224

Latitude: 58.2343 **Quadrangle:** JU A-3

Longitude: 134.8706

Location description and accuracy:

The Admiralty-Alaska Mine is at an elevation of about 100 feet, approximately 0.2 mile inland from the southeast shore of outer Funter Bay. It is in the NW1/4NE1/4 section 13, T. 42 S., R. 64 E. of the Copper River Meridian. The location is accurate and the location of the mine is shown on the current 1:63,360-scale topographic map.

Commodities:

Main: Au

Other: Ag, Cu, Pb, Zn

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

Gangue minerals: Albite, ankerite, calcite, chlorite, quartz

Geologic description:

The Alaska-Admiralty Mine was discovered in 1887 (Race and Rose, 1967). The deposit consists of numerous parallel, northeast-trending, southeast-dipping quartz veins that range from 3 to 10 feet thick, and average 3 feet thick. The host rocks are greenschist, quartz-mica schist, slate, graphitic phyllite, marble, aplite, and albitized diorite. The veins contain native gold, auriferous pyrite and pyrrhotite, galena, sphalerite and chalcopyrite (Buddington, 1926). The gangue is white quartz, vitreous quartz, albite, ankerite, carbonates, and chlorite. The mica-schist adjacent to some of the veins also contains native gold and sulfides (Cobb, 1978 [OFR 78-374], Wells and others, 1986). Conformable layers of sphalerite and galena also occur in quartz-mica schist and slate in the southern part of the area (Eakin, 1929). The Admiralty-Alaska Mine has produced at least 4,800 ounces of gold (Race and Rose, 1967). It has over 3,000 feet of underground workings including two 100-foot shafts and connecting crosscuts, a 70-foot shaft and several tunnels, a 2,600-foot adit , and numerous open cuts. Core drilling was conducted at the mine prior to 1946 (Holt and Moss, 1946). The Admiralty-Alaska is owned by the Admiralty-Alaska Mining Co., Inc. The owners are still actively conducting limited exploration on the property (A. Pekovich, personal commun., 2000).

The rocks in the general area are mainly Ordovician and Devonian to Triassic clastic units, mafic-intermediate volcanic rocks, and subordinate limestone. The bedded rocks

are intruded and locally metamorphosed by Cretaceous granodiorite (Gehrels and Berg, 1994).

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: Yes

Site Status: Active

Workings/exploration:

The Admiralty-Alaska Mine has over 3,000 feet of underground workings including two 100-foot shafts and connecting crosscuts, a 70-foot shaft and several tunnels, a 2,600-foot adit, and numerous open cuts. Core drilling was conducted at the mine prior to 1946 (Holt and Moss, 1946).

Production notes:

The Admiralty-Alaska Mine has produced at least 4,800 ounces of gold (Race and Rose, 1967).

Reserves:

Additional comments:

This mine is under the same ownership as the Mertie Lode (JU225) two-thirds of a mile to the southeast, and is sometimes shown as the same property.

References:

Buddington, 1926; Eakin, 1929; Holt and Moss, 1946; Race and Rose, 1967; Cobb, 1978 (OFR 78-374); Wells and others, 1986; Gehrels and Berg, 1994.

Primary reference: Eakin, 1929

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Mertie Lode

Site type: Prospect

ARDF no.: JU225

Latitude: 58.2340 **Quadrangle:** JU A-3

Longitude: 134.8573

Location description and accuracy:

The Mertie Lode is at an elevation of approximately 1,700 feet, on the Mansfield Peninsula. It is 1 mile southeast of Funter Bay and 1 mile northwest of Mount Robert Barron, in the NW1/4 NW1/4 section 18, T. 42 S., R. 65 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Co, Cu, Ni

Other: Ag, Au

Ore minerals: Chalcopyrite, magnetite, pentlandite, pyrite, pyrrhotite

Gangue minerals:

Geologic description:

The Mertie Lode was discovered in 1919 by U.S. Geological Survey geologist J. B. Mertie during an examination of the Admiralty-Alaska Mine (JU224) (Reed, 1942). The deposit is in a gabbro-norite pipe that intrudes complexly folded, intercalated quartz-sericite schist, graphitic schist, and phyllite. The pipe consists mainly of sulfide-poor augite gabbro and norite; sulfide-rich olivine-hornblende gabbro is confined to the keel of the pipe. The keel contains up to 27 percent pyrrhotite, 2.6 percent pentlandite, 2.5 percent chalcopyrite, and 0.4 percent pyrite. The pipe plunges 30 degrees to the east and follows the contact between quartz-sericite schist and graphitic schist. The pipe varies in diameter from 60 feet to 200 feet and has been traced for 800 feet down-plunge (Chisholm, 1970; Reed, 1942; Wells and others, 1986). Two adits and 19 drill holes explored the Mertie Lode under a DMEA (Defense Minerals Exploration Administration) contract in the 1950's. The reserves are currently estimated to be 750,000 tons of ore with 0.5 percent copper, 0.5 percent nickel, 0.1 percent cobalt and 0.03 ounce of gold per ton (Chisholm, 1970; A. Pekovich, personal commun., 2000). The Mertie Lode is owned by the Admiralty-Alaska Mining Co., Inc. The owners are still actively (2000) conducting limited exploration on the property (Andy Pekovich, oral commun., 2000).

The rocks in the general area are mainly Ordovician and Devonian to Triassic clastic units, mafic-intermediate volcanic rocks, and subordinate limestone. The bedded rocks

are intruded and locally metamorphosed by Cretaceous granodiorite (Gehrels and Berg, 1994).

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: No

Site Status: Active

Workings/exploration:

Two adits and 19 drill holes explored the Mertie Lode under a DMEA (Defense Minerals Exploration Administration) contract in the 1950's. The Mertie Lode is owned by the Admiralty-Alaska Mining Co., Inc. The owners are still actively (2000) conducting limited exploration on the property.

Production notes:

Reserves:

The reserves are estimated to be 750,000 tons of ore with 0.5 percent copper, 0.5 percent nickel, 0.1 percent cobalt, and 0.03 ounce of gold per ton (Chisholm, 1970).

Additional comments:

This prospect is under the same ownership as the Alaska-Admiralty (JU224) two-thirds of a mile to the northwest, and is sometimes shown as the same property.

References:

Reed, 1942; Chisholm, 1970; Wells and others, 1986; Gehrels and Berg, 1994.

Primary reference: Chisholm, 1970

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Unnamed (southeast of Mount Bradley)

Site type: Occurrence

ARDF no.: JU226

Latitude: 58.2322 **Quadrangle:** JU A-2

Longitude: 134.3915

Location description and accuracy:

This occurrence is at an elevation of approximately 2,800 feet on southeastern Douglas Island, 1 mile southeast of the top of Mount Bradley. It is in the NW1/4NW1/4 section 13, T. 42 S., R. 67 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main:

Other:

Ore minerals: Pyrite

Gangue minerals: Feldspar

Geologic description:

This rocks in the general area of this occurrence are Upper Jurassic to mid-Cretaceous marine argillite and graywacke, interbedded with basaltic volcanic and volcaniclastic rocks (Brew and Ford, 1985). Wells and others (1986) describe this occurrence as disseminated pyrite in cellular pods associated with feldspar lenses in volcanic rocks. No other information is available.

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:

Brew and Ford, 1985; Wells and others, 1986.

Primary reference: Wells and others,1986

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Taku Inlet (near Cooper Point)

Site type: Prospect

ARDF no.: JU227

Latitude: 58.2359 **Quadrangle:** JU A-1

Longitude: 134.1049

Location description and accuracy:
This placer prospect is at Cooper Point on the west side of Taku Inlet, 3 miles northeast of Bishop Point. It is near the northeast corner of section 15, T. 42 S., R. 69 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
Placer gold claims at or near this site were active between 1881 to 1982 (Wells and others,1986). No other information is available. The rocks in the general area are Lower Permian through Upper Triassic volcanic rocks, with subordinate clastic and carbonate strata, and their metamorphosed equivalents (Gehrels and Berg, 1994).

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au (Cox and Singer, 1986; model 39a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: Undetermined.

Site Status: Inactive

Workings/exploration:

Placer gold claims at or near this site were active between 1881 and 1982 (Wells and others,1986). No other information is available.

Production notes:

Reserves:

Additional comments:

References:

Wells and others, 1986; Gehrels and Berg, 1994.

Primary reference: Wells and others,1986

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Alaska Treasure; Nevada Creek

Site type: Mine

ARDF no.: JU228

Latitude: 58.2262 **Quadrangle:** JU A-1

Longitude: 134.3148

Location description and accuracy:

This mine is at an elevation of approximately 300 feet on Nevada Creek on southeastern Douglas Island. It is in the SE1/4 section 17, T. 42 S., R. 68 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Ag, Au, Pb, Zn

Other: Cu

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

Gangue minerals: Calcite, dolomite, quartz, sericite

Geologic description:

The Alaska Treasure Mine was discovered in 1884. No development work was done until 1904-1905 when a road was constructed from the beach to the mine site (Redman and others, 1989). A 20-stamp mill was installed in 1906 and development continued intermittently until 1916. Approximately 800 tons of ore was mined but detailed production records are not available. The mine was explored by BP Minerals in the late 1980's and by Hecla Mining Company in 1990 and 1991(Bundtzen and others, 1991; Swainbank and others, 1991). The main workings are a 3,350-foot adit with 760 feet of drifts. Other workings include the 657-foot Hudson Tunnel with 280 feet of drifts, 2 other adits, and 3 shafts. There is a total of 5,509 feet of underground workings.

The host rocks at the mine are quartz-feldspar-sericite phyllite intercalated with volcanic metaconglomerate and pale green, chlorite phyllite (Wells and others, 1986). The felsic phyllite is locally silicified and sericitized. It contains up to 5 percent disseminated pyrite and thin concordant bands of pyrite, galena, chalcopyrite, sphalerite, pyrrhotite, and tetrahedrite in a gangue of quartz and dolomite. The bands are up to 2 inches thick and can be traced for nearly 300 feet. Quartz veins containing up to 30 percent pyrite, galena, chalcopyrite and sphalerite also occur at the mine, but they are distant from the sulfide-rich zones in the felsic phyllite. U.S. Bureau of Mines samples contained up to 75.4 ppm gold, 47.0 ppm silver, 3.7 percent lead, and 5.1 percent zinc (Redman and others, 1989). A 275-pound metallurgical sample collected by the U.S. Bureau of Mines assayed 3.9

ppm gold; a cyanide-amenability test recovered 77.6 percent of the gold. The Bureau has calculated an indicated resource of 240,000 tons of ore with 0.1 ounce of gold per ton, and an inferred resource of 5.6 million tons of ore with 0.05 ounce of gold per ton (Redman and others, 1989). The deposit is similar to the Yakima (JU207), Red Diamond (JU232), Mammoth (JU229), and Homestake prospects (JU231), which Newberry and others (1997) interpret as Cretaceous volcanogenic massive sulfide deposits.

Southeastern Douglas Island is underlain mainly by Upper Jurassic to mid-Cretaceous, marine argillite and graywacke, interbedded with basaltic volcanic and volcaniclastic rocks (Brew and Ford, 1985). The strata are regionally metamorphosed to prehnite-pumpellyite or greenschist grade.

Alteration:

Sericitization, silicification, and pyritization.

Age of mineralization:

Newberry and others (1997) have interpreted this deposit as a Cretaceous volcanogenic massive sulfide deposit.

Deposit model:

Metamorphosed Kuroko massive sulfide deposit (Cox and Singer, 1986; model 28a)

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

28a

Production Status: Yes; small

Site Status: Inactive

Workings/exploration:

The Alaska Treasure Mine was discovered in 1884. No development work was done until 1904-1905 when a road was constructed from the beach to the mine site (Redman and others, 1989). A 20-stamp mill was installed in 1906 and development continued intermittently until 1916. The mine was explored by BP Minerals in the late 1980's and by Hecla Mining Company in 1990 and 1991(Bundtzen and others, 1991; Swainbank and others, 1991). The main workings at the mine are a 3,350-foot adit with 760 feet of drifts. Other workings include the 657-foot Hudson Tunnel with 280 feet of drifts, 2 other adits, and 3 shafts. There is a total of 5,509 feet of underground workings.

Production notes:

Approximately 800 tons of ore was mined but production records are not available.

Reserves:

The U.S. Bureau of Mines has calculated an indicated resource of 240,000 tons of ore with 0.1 ounce of gold per ton, and an inferred resource of 5.6 million tons of ore with 0.05 ounce of gold per ton (Redman and others, 1989).

Additional comments:

References:

Brew and Ford, 1985; Wells and others, 1986; Redman and others, 1989; Bundtzen and others, 1991; Swainbank and others, 1991; Newberry and others, 1997.

Primary reference: Newberry and others, 1997

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Mammoth (Nevada Creek)

Site type: Prospect

ARDF no.: JU229

Latitude: 58.2196 **Quadrangle:** JU A-1

Longitude: 134.3305

Location description and accuracy:
The Mammoth prospect is at an elevation of approximately 1,000 feet on Nevada Creek, on Douglas Island. It is just south of the center of the north side of section 20, T. 42 S., R. 68 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Ag, Au, Cu, Pb, Zn

Other:

Ore minerals: Pyrite

Gangue minerals:

Geologic description:
The Mammoth prospect was discovered in the 1905 and was developed by 2 adits, each with 100 to 200 feet of workings (Redman and others, 1989). The prospect was explored by Hecla Mining Company in 1990 and 1991(Bundtzen and others, 1991; Swainbank and others, 1991). The prospect is in chlorite phyllite interbedded with lesser quartz-sericite phyllite, adjacent to a fault along Nevada Creek. Both phyllites contain 1 to 3 percent disseminated pyrite. U.S. Bureau of Mines samples contained up to 0.5 ppm gold, 9.3 ppm silver, 730 ppm copper, 3,580 ppm lead, and 860 ppm zinc (Redman and others, 1989). The deposit is similar to the Alaska Treasure Mine (JU228), Yakima (JU207), Red Diamond (JU232), and Homestake prospects (JU231), which Newberry and others (1997) interpret as Cretaceous volcanogenic massive sulfide deposits.

Southeastern Douglas Island is underlain mainly by Upper Jurassic to mid-Cretaceous, marine argillite and graywacke, interbedded with basaltic volcanic and volcaniclastic rocks (Brew and Ford, 1985). The strata are regionally metamorphosed to prehnite-pumpellyite or greenschist grade.

Alteration:
Sericite.

Age of mineralization:

Newberry and others (1997) have interpreted this deposit as a Cretaceous volcanogenic massive sulfide deposit.

Deposit model:
Metamorphosed Kuroko massive sulfide deposit (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:
The deposit at the Mammoth prospect was discovered in the 1905 and was developed by 2 adits, each with 100 to 200 feet of workings. The prospect was explored by Hecla Mining Company in 1990 and 1991(Bundtzen and others, 1991; Swainbank and others, 1991).

Production notes:

Reserves:

Additional comments:

References:
Brew and Ford, 1985; Redman and others, 1989; Bundtzen and others, 1991; Swainbank and others, 1991; Newberry and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Penn-Alaska

Site type: Prospect

ARDF no.: JU230

Latitude: 58.2208 **Quadrangle:** JU A-1

Longitude: 134.1418

Location description and accuracy:

The Penn-Alaska prospect is at an elevation of approximately 200 feet on the west side of Taku Inlet, 1.2 miles north of Bishop Point and 1.5 miles southwest of Cooper Point. It is in the NW1/4 section 21, T. 42 S., R. 69 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Ag, Au, Zn

Other: Pb, Sb

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

Gangue minerals: Quartz

Geologic description:

The Penn-Alaska prospect is in interlayered black phyllite and altered mafic volcanic rocks. The volcanic rocks are marked by a 20-foot-thick, brightly yellow-stained band that contains pyrite, rare sphalerite, galena, chalcopyrite, and stibnite (Redman and others, 1986). The phyllite contains both disseminated and thinly banded pyrite. The altered mafic volcanic rocks contain ankerite, quartz and albite. The deposit was discovered before 1906 and developed by three adits that total 948 feet, a 200 foot drift, an open cut, and several trenches. U.S. Bureau of Mines samples contain up to 3.9 ppm silver, 0.1 ppm gold, 0.17 percent zinc (Redman and others, 1986).

This prospect is in the Juneau Gold Belt, which consists of more than 200 gold-quartz-vein deposits that have produced nearly 7 million ounces of gold. These gold-bearing mesothermal quartz vein systems form a 160-km-long by 5- to 8-km-wide zone along the western margin of the Coast Mountains. The vein systems are in or near shear zones adjacent to west-verging, mid-Cretaceous thrust faults. The veins are hosted by diverse, variably metamorphosed, sedimentary, volcanic, and intrusive rocks. From the Coast Mountains batholith westward, the host rocks include mixed metasedimentary and metavolcanic sequences of Carboniferous and older, Permian and Triassic, and Jurassic-Cretaceous age. The sequences are juxtaposed along mid-Cretaceous thrust faults (Miller and others, 1994). The sequences are intruded by mid-Cretaceous to middle Eocene plu-

tons, mainly diorite, tonalite, granodiorite, quartz monzonite, and granite. Sheetlike tonalite plutons emplaced just east of the Juneau Gold Belt and undeformed granite and granodiorite bodies that are emplaced farther to the east are between 55 and 48 Ma (Gehrels and others, 1991). The structural grain of the belt is defined by northwest-striking, moderately to steeply northeast-dipping, penetrative foliation that developed between Cretaceous and Eocene time (Miller and others, 1994). The majority of the veins in the Juneau Gold Belt strike northwest. Isotopic dates indicate that the auriferous veins in the Juneau Gold Belt formed between 56 and 55 Ma (Miller and others, 1994; Goldfarb and others, 1997).

Alteration:
Mafic volcanic rocks are altered to ankerite, quartz and albite.

Age of mineralization:

Deposit model:

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

Production Status: No

Site Status: Inactive

Workings/exploration:
The deposit was discovered before 1906 and developed by three adits that total 948 feet, a 200 foot drift, an open cut, and several trenches.

Production notes:

Reserves:

Additional comments:

References:
Redman and others, 1989; Gehrels and others, 1991; Miller and others, 1994; Goldfarb and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Homestake

Site type: Prospect

ARDF no.: JU231

Latitude: 58.2180 **Quadrangle:** JU A-2

Longitude: 134.3451

Location description and accuracy:

This prospect is at an elevation of approximately 1,700 feet on Douglas Island at the head of Nevada Creek. It is 0.75 mile southeast of McDonough Peak and 1 mile north of Stephens Passage, in the NE1/4NE1/4 section 19, T. 42 S., R. 68 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Ag, Au, Cu, Pb, Zn

Other:

Ore minerals: Galena, pyrite, sphalerite

Gangue minerals: Quartz

Geologic description:

The Homestake prospect was discovered in the early 1904 and was developed by a 145-foot adit with a 34-foot drift, and an open cut (Redman and others, 1989). The prospect was explored by Hecla Mining Company in 1990 and 1991(Bundtzen and others, 1991; Swainbank and others, 1991). The deposit is in quartz-sericite phyllite interbedded with volcanic metaconglomerate. The phyllite is heavily iron-stained and contains 1 to 7 percent disseminated pyrite (Redman and others, 1989). The pyrite occurs both as cubes and as small, concordant lenses up to 0.1 inch long. Random clots with galena and sphalerite occur locally in the phyllite which is cut by a 6- to 14-inch thick quartz vein that can be traced for over 70 feet. The vein contains traces of galena and sphalerite. U.S. Bureau of Mines samples contained up to 0.8 ppm gold, 12.0 ppm silver, 735 ppm copper, 580 ppm lead, and 2,900 ppm zinc (Redman and others, 1989). The deposit is similar to the Alaska Treasure Mine (JU228), and the Yakima (JU207), Red Diamond (JU232), and Mammoth (JU229) prospects, which Newberry and others (1997) interpret as Cretaceous volcanogenic massive sulfide deposits.

Southeastern Douglas Island is underlain mainly by Upper Jurassic to mid-Cretaceous marine argillite and graywacke, interbedded with basaltic volcanic and volcaniclastic rocks (Brew and Ford, 1985). The rocks are regionally metamorphosed to prehnite-pumpellyite or greenschist grade.

Alteration:
Sericite.

Age of mineralization:
Newberry and others (1997) have interpreted this deposit as a Cretaceous volcanogenic massive sulfide deposit.

Deposit model:
Metamorphosed Kuroko massive sulfide deposit (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:
The Homestake prospect was discovered in the early 1904 and was developed by a 145-foot adit with a 34-foot drift and an open cut (Redman and others, 1989). The prospect was explored by Hecla in 1990 and 1991(Bundtzen and others, 1991; Swainbank and others, 1991).

Production notes:

Reserves:

Additional comments:

References:
Brew and Ford, 1985; Redman and others, 1989; Bundtzen and others, 1991; Swainbank and others, 1991; Newberry and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Red Diamond

Site type: Prospect

ARDF no.: JU232

Latitude: 58.2124 **Quadrangle:** JU A-2

Longitude: 134.3446

Location description and accuracy:

The Red Diamond prospect is at an elevation of approximately 1,300 feet on Douglas Island, just below and south of the divide between Nevada Creek and Stephens Passage, and 1 mile southeast of McDonough Peak. It is in the NE1/4SE1/4 section 19, T. 42 S., R. 68 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Ag, Au, Pb, Zn

Other: Cu

Ore minerals: Chalcopyrite, pyrite

Gangue minerals:

Geologic description:

The Red Diamond prospect was discovered in 1902 and was developed by 5 adits, 4 shafts, and numerous trenches (Redman and others, 1989). Hecla Mining Company had a substantial core-drilling program at the Red Diamond prospect in 1990 and 1991. Drilling by Hecla during 1991 reportedly returned favorable results but Hecla decided to discontinue mineral exploration in Alaska in favor of exploration in Mexico and South America (Bundtzen and others, 1991; Swainbank and others, 1991). The deposit consists of massive greenstone with intercalated chlorite phyllite and quartz-mica schist (Redman and others, 1989). The phyllite is pale green and contains up to 5 percent disseminated pyrite cubes. Quartz stringers and concordant to locally discordant quartz veins are locally abundant and contain pyrite and minor chalcopyrite. The mineralized zone is approximately 35 feet thick, strikes northeast, and dips 70 SE. U.S. Bureau of Mines samples contained up to 13.7 ppm gold, 2.1 ppm silver, 620 ppm lead, and 955 ppm zinc (Redman and others, 1989). The deposit is similar to the Alaska Treasure mine (JU228), and the Mammoth (JU229), Yakima (JU207) and Homestake prospects (JU231), which Newberry and others (1997) interpret as Cretaceous volcanogenic massive sulfide deposits.

Southeastern Douglas Island is underlain mainly by Upper Jurassic to mid-Cretaceous, marine argillite and graywacke, interbedded with basaltic volcanic and volcaniclastic

rocks (Brew and Ford, 1985). The rocks are regionally metamorphosed to prehnite-pumpellyite or greenschist grade.

Alteration:
Sericite.

Age of mineralization:
Newberry and others (1997) have interpreted this deposit as a Cretaceous volcanogenic massive sulfide deposit.

Deposit model:
Metamorphosed Kuroko massive sulfide deposit (Cox and Singer, 1986; model 28a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
28a

Production Status: No

Site Status: Inactive

Workings/exploration:
The Red Diamond prospect was discovered in 1902 and was developed by 5 adits, 4 shafts, and numerous trenches (Redman and others, 1989). Hecla Mining Company had a substantial core-drilling program at the Red Diamond in 1990 and 1991. Drilling by Hecla Mining Company during 1991 reportedly returned favorable results, but Hecla decided to discontinue mineral exploration in Alaska in favor of exploration in Mexico and South America (Bundtzen and others, 1991; Swainbank and others, 1991).

Production notes:

Reserves:

Additional comments:

References:
Brew and Ford, 1985; Redman and others, 1989; Bundtzen and others, 1991; Swainbank and others, 1991; Newberry and others, 1997.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Grindstone Creek

Site type: Prospect

ARDF no.: JU233

Latitude: 58.2166 **Quadrangle:** JU A-1

Longitude: 134.1807

Location description and accuracy:
This placer prospect is at an elevation of approximately 250 feet in Grindstone Creek, 1.5 miles northwest of Bishop Point and 1/2 mile north of Cherokee Flats. It is in the SE1/4NE1/4 section 19, T. 42 S., R. 69 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
Placer gold claims were active at this site from 1881 to 1981 (Wells and others (1986). No other information is available.

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au (Cox and Singer, 1986; model 39a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: Undetermined.

Site Status: Inactive

Workings/exploration:

Placer gold claims were active at this site from 1881 to 1981 (Wells and others (1986). No other information is available.

Production notes:

Reserves:

Additional comments:

References:

Wells and others, 1986.

Primary reference: Wells and others, 1986

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Unnamed (Pt. Bishop)

Site type: Occurrence

ARDF no.: JU234

Latitude: 58.2028 **Quadrangle:** JU A-1

Longitude: 134.1478

Location description and accuracy:
This occurrence is at Bishop Point on Stephens Passage. It is in the NW1/4 section 28, T. 42 S., R. 69 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Ag, Au, Cu, Zn

Other:

Ore minerals: Chalcopyrite, pyrite

Gangue minerals: Quartz

Geologic description:
The rocks in the general area are Lower Permian to Upper Triassic, volcanic rocks and subordinate clastic and carbonate strata, and their their metamorphosed equivalents (Gehrels and Berg, 1994).

This occurrence is in black phyllite, mafic felsic rocks, and metamorphosed pillow basalt (Redman and others, 1989). The phyllite contains concordant quartz veins up to 3 feet thick that contain 1 to 5 percent pyrite cubes and sparse chalcopyrite. Stratiform pyrite bands up to 2 inches thick locally occur in the metamorphosed pillow basalt. U.S. Bureau of Mines samples of the metabasalt, metafelsic rocks, and phyllite contain up to 0.1 ppm gold, 2.2 ppm silver, 0.27 percent copper and 590 ppm zinc (Redman and others, 1989).

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:
Surface samples only.

Production notes:

Reserves:

Additional comments:

References:
Redman and others, 1989; Gehrels and Berg, 1994.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Alaska Dano; War Horse

Site type: Mine

ARDF no.: JU235

Latitude: 58.2164 **Quadrangle:** JU A-3

Longitude: 134.8715

Location description and accuracy:

The Alaska Dano Mine is at an elevation of approximately 500 feet on Mansfield Peninsula, 1.2 miles southeast of Funter Bay, 2 miles northwest of Snowy Mountain, and 1 mile southwest of Mount Robert Barron. It is 0.2 mile north of the center of section 24, T. 42 S., R. 64 E. of the Copper River Meridian. The location is accurate. The Alaska Dano Mine and the Nowell-Patterson prospect (JU236) are in the same block of patented mining claims.

Commodities:

Main: Ag, Au, Cu, Pb, Zn

Other:

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

Gangue minerals: Calcite, quartz

Geologic description:

This deposit was discovered in 1897 (Wells and others, 1986). It consists of multiple quartz veins that both conform to and crosscut mica schist and chlorite schist (Cobb, 1978 [OFR 78-374]). There is a small exposure of granitic rock near the mine. The deposit can be traced southeast along strike to the Nowell-Otterson prospects (JU236). Most of the veins are 0.5 to 2 feet thick; a few are up to 20 feet thick. They consist of quartz and calcite that contain pyrite, pyrrhotite, galena, chalcopyrite, native gold, sphalerite, specular hematite, and secondary copper and iron minerals. Pyrite-rich quartz lenses also occur in the slate. Mine workings include more than 400 feet of tunnels and drifts, 2 shafts, and surface cuts. The mine has documented production of less than 100 ounces of gold, but part of the 15,000-ounce gold production of the Alaska-Admiralty Mine (JU224) probably was from the Alaska Dano Mine (Cobb, 1978 [OFR 78-374]).

The rocks in the general area are mainly Ordovician and Devonian to Triassic, clastic units, mafic-intermediate volcanic rocks, and subordinate limestone. The bedded rocks are intruded and locally metamorphosed by Cretaceous granodiorite (Gehrels and Berg, 1994).

Alteration:
Local oxidation of copper and iron minerals.

Age of mineralization:

Deposit model:

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

Production Status: Yes; small

Site Status: Active

Workings/exploration:
This deposit was discovered in 1897 (Wells and others, 1986). Mine workings include more than 400 feet of tunnels and drifts, 2 shafts, and surface cuts.

Production notes:
The mine has documented production of less than 100 ounces of gold, but part of the 15,000-ounce gold production of the Alaska-Admiralty Mine (JU224) probably came from the Alaska Dano Mine (Cobb, 1978 [OFR 78-374]).

Reserves:

Additional comments:

References:
Cobb, 1978 (OFR 78-374); Wells and others, 1986; Gehrels and Berg, 1994.

Primary reference: Cobb, 1978 (OFR 78-374)

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Nowell-Otterson

Site type: Prospect

ARDF no.: JU236

Latitude: 58.2100 **Quadrangle:** JU A-3

Longitude: 134.8548

Location description and accuracy:

The Nowell-Otterson prospect is at an elevation of approximately 2500 feet on Mansfield Peninsula, 2.25 miles southeast of Funter Bay, 1.5 miles northwest of Snowy Mountain, and 1 mile south of Mount Robert Barron. It is in the SW1/4SW1/4 section 19, T. 42 S., R. 65 E. of the Copper River Meridian. The location is accurate. The Alaska Dano (JU236) and the Nowell-Patterson prospect are in the same block of patented mining claims.

Commodities:

Main: Ag, Au, Cu, Pb, Zn

Other:

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

Gangue minerals: Calcite, quartz

Geologic description:

This deposit was discovered prior to 1898 (Wells and others, 1986). It consists of multiple quartz veins in mica schist and chlorite schist near a granitic intrusive (Cobb, 1978 [OFR 78-374]). The veins strike N 20 W. and dip NE, parallel to the strike of the schistose host rocks. The veins can be traced discontinuously northwest to the Alaska Dano Mine (JU235). One vein is 15 to 25 feet thick and has been traced for 2,300 feet. It consists of quartz and calcite, with pyrite and pyrrhotite, and minor galena, specular hematite, and native gold. Another vein, 30 inches thick, consists of white quartz, pyrite, specular hematite, and minor chalcopyrite, galena, and copper oxides. It is crosscut by a calcite vein. The prospect is developed by 2 shafts, an unknown amount of drifts, and some open cuts (Wells and others, 1986). The prospect is included with the Alaska Dano and War Horse deposits in some reports (Cobb, 1978).

The rocks in the general area are mainly Ordovician and Devonian to Triassic clastic units, mafic-intermediate volcanic rocks, and subordinate limestone. The bedded rocks are intruded and locally metamorphosed by Cretaceous granodiorite (Gehrels and Berg, 1994).

Alteration:
Local oxidation of copper and iron minerals.

Age of mineralization:

Deposit model:

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

Production Status: Undetermined.

Site Status: Active

Workings/exploration:
The prospect is developed by 2 shafts,an unknown amount of drifts, and some open cuts (Wells and others, 1986).

Production notes:

Reserves:

Additional comments:

References:
Cobb, 1978 (OFR 78-374); Wells and others, 1986; Gehrels and Berg, 1994.

Primary reference: Wells and others, 1986

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Unnamed (west of Snowy Mountain)

Site type: Occurrence

ARDF no.: JU237

Latitude: 58.2012 **Quadrangle:** JU A-3

Longitude: 134.8324

Location description and accuracy:

This occurrence is at an elevation of approximately 3,000 feet on the Mansfield Peninsula, 1/2 mile northwest of Snowy Mountain. It is just above the center of the boundary between section 29 and 30, T. 42 S., R. 65 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Cu, Pb

Other:

Ore minerals: Chalcopyrite, galena, pyrite

Gangue minerals: Quartz, siderite

Geologic description:

Wells and others (1986) describe this occurrence as disseminated pyrite, chalcopyrite, and galena in siderite-cemented quartz breccia. The rocks in the general area are mainly Ordovician and Devonian to Triassic, clastic units, mafic-intermediate volcanic rocks, and subordinate limestone. The bedded rocks are intruded and locally metamorphosed by Cretaceous granodiorite (Gehrels and Berg, 1994).

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Active

Workings/exploration:
Probably explored in conjunction with exploration of the Alaska Dano mine (JU235).

Production notes:

Reserves:

Additional comments:
The occurrence is on the southern portion of a large block of patented mining claims that cover the Alaska Dano and Nowell-Otterson properties (JU235, JU236).

References:
Wells and others, 1986; Gehrels and Berg, 1994.

Primary reference: Wells and others, 1986

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Rosetta; Hawk Inlet

Site type: Prospect

ARDF no.: JU238

Latitude: 58.1957 **Quadrangle:** JU A-3

Longitude: 134.7389

Location description and accuracy:
This placer prospect is at an elevation of about 100 feet on the unnamed, southeast-flowing creek that empties into the northernmost head of Hawk Inlet. It is in the SE1/4SW1/4 section 26, T. 42 S., R. 65 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
Placer gold claims were active at this site in 1962. This prospect is called the Hawk Inlet placer by Wells and others (1986) and the Rosetta placer in Alaska Kardex file 112-127.

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au (Cox and Singer, 1986; model 39a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: Undetermined.

Site Status: Inactive

Workings/exploration:

Placer gold claims were active at this site in 1962. This prospect is called the Hawk Inlet placer by Wells and others (1986) and the Rosetta placer in Alaska Kardex file 112-127.

Production notes:

Reserves:

Additional comments:

References:

Wells and others, 1986.

Primary reference: Wells and others, 1986

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Alaska Empire; Williams; Hawk Inlet Mine

Site type: Mine

ARDF no.: JU239

Latitude: 58.1841 **Quadrangle:** JU A-3

Longitude: 134.7871

Location description and accuracy:

The Alaska Empire mine is at an elevation of approximately 1,000 feet on Mansfield Peninsula, 1.2 miles northwest of Hawk Inlet, 3.5 miles southeast of Mount Robert Barron, and 3 miles west of Young Bay. The site is at the mine symbol on the 1:63,360-scale topographic map, in the NW1/4SE1/4 section 33, T. 42 S., R. 65 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Ag, Au, Cu, Pb, Zn

Other:

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

Gangue minerals: Calcite, quartz

Geologic description:

The deposit consists of 10 quartz-calcite veins, 2.5 feet to 50 feet thick, that strike north, dip steeply east, and can be traced for over 500 feet. The host rocks are greenschist, quartz-mica schist, and black graphitic phyllite (Townsend, 1941). One vein has been traced for over 2000 feet (Buddington, 1926). The hanging wall of the veins contains up to 5 percent pyrite. Some of the quartz is white, massive, and barren, and some is bluish and friable. The bluish veins contain pyrite, galena, sphalerite, chalcopyrite, and sparse pyrrhotite. All production has come from the Williams vein, which is up to 50 feet thick and has a vertical extent of at least 400 feet (Wells and others, 1986). The deposit was discovered before 1900 and has produced small amounts of gold intermittently since that time (Cobb, 1978 [OFR 78-374]). From 1931 to 1937, the Williams vein produced 17,767 tons of ore from a glory hole (Townsend, 1941). Other workings include a 353-foot tunnel, a 48-foot winze, several short crosscuts, open cuts, and surface trenches (Buddington, 1926).

The rocks in the general area are mainly Ordovician and Devonian to Triassic, clastic units, mafic-intermediate volcanic rocks, and subordinate limestone. The bedded rocks are intruded and locally metamorphosed by Cretaceous granodiorite (Gehrels and Berg, 1994).

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: Yes; small

Site Status: Inactive

Workings/exploration:

Discovered before 1900, workings include a glory hole, a 353-foot tunnel, a 48-foot winze, several short crosscuts, open cuts, and surface trenches.

Production notes:

From 1931 to 1937, the Williams vein produced 17,767 tons of ore from a glory hole (Townsend, 1941).

Reserves:

Additional comments:

References:

Buddington, 1926; Townsend, 1941; Cobb, 1978 (OFR 78-374); Wells and others, 1986; Gehrels and Berg, 1994.

Primary reference: Buddington, 1926

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Alaska Rand

Site type: Prospect

ARDF no.: JU240

Latitude: 58.1785 **Quadrangle:** JU A-3

Longitude: 134.7580

Location description and accuracy:

The Alaska Rand prospect is at an elevation of approximately 100 feet on an unnamed, south-flowing creek that empties into the west head of Hawk Inlet. It is 2.5 miles east-southeast of Snowy Mountain and 2 miles west of Young Bay, in the SW1/4SE1/4 section 34, T. 42 S., R. 65 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Ag, Au

Other: As

Ore minerals: Arsenopyrite, pyrite

Gangue minerals: Calcite, quartz

Geologic description:

The Alaska Rand prospect is in folded and altered, phyllite and greenschist that generally strike N. 25 W. and dip 60 W (Roehm, 1937). The deposit consists of quartz lenses in the schist (Roehm, 1937). Three quartz lenses, 1- to 6-feet- thick can be traced for up to 90 feet. The quartz is white and clear in alternating bands, and contains sparse pyrite and arsenopyrite, with some calcite (Wells and others, 1986). Gold was discovered at this prospect in 1922 (Roehm, 1937). Trenches and a 25-foot crosscut were started in 1923 and a 400-foot road was built to the beach. Channel samples contain up to 2 ounces of gold per ton (Roehm, 1937).

The rocks in the general area are mainly Ordovician and Devonian to Triassic, clastic units , mafic-intermediate volcanic rocks, and subordinate limestone. The bedded rocks are intruded and locally metamorphosed by Cretaceous granodiorite (Gehrels and Berg, 1994).

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:

Gold was discovered at this prospect in 1922 (Roehm, 1937). Trenches and a 25-foot crosscut were started in 1923 and a 400-foot road was built to the beach.

Production notes:

Reserves:

Additional comments:

References:

Roehm, 1937; Wells and others, 1986; Gehrels and Berg, 1994.

Primary reference: Roehm, 1937

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Prospect Creek

Site type: Prospect

ARDF no.: JU241

Latitude: 58.1898 **Quadrangle:** JU A-3

Longitude: 134.7513

Location description and accuracy:
This placer prospect is at an elevation of about 50 feet, on 'Prospect Creek', a informally-named, south-flowing creek that empties into the northernmost head of Hawk Inlet. It is 4 miles southeast of Mount Robert Barron and 1.5 miles west of Young Bay in the NE1/4NE1/4 section 34, T. 42 S., R. 65 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
Placer gold claims were active at this site between 1958 and 1973. It is called the Prospect Creek placer by Wells and others (1986).

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au (Cox and Singer, 1986; model 39a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: Undetermined.

Site Status: Inactive

Workings/exploration:
Placer gold claims were active at this site between 1958 and 1973.

Production notes:

Reserves:

Additional comments:

References:
Wells and others, 1986.

Primary reference: Wells and others, 1986

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Baldy Mountain

Site type: Prospect

ARDF no.: JU242

Latitude: 58.1418 **Quadrangle:** JU A-2

Longitude: 134.5995

Location description and accuracy:
The Baldy Mountain prospect is at an elevation of approximately 2,800 feet on the north flank of a 3,770-foot high peak, locally called Baldy Mountain, It is at about the center of section 15, T. 43 S., R. 66 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Ag, Pb, Zn

Other: Au ?

Ore minerals:

Gangue minerals:

Geologic description:
Lode gold claims were active at this site in 1976; Wells and others (1986) call it the Baldy Mountain prospect, and Alaska Kardex file 112-160 shows a silver, lead, zinc claim here. The rocks in the general area are mainly Ordovician and Devonian to Triassic, clastic units, mafic-intermediate volcanic rocks, and subordinate limestone. The bedded rocks are intruded and locally metamorphosed by Cretaceous granodiorite (Gehrels and Berg, 1994).

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:

Lode gold claims were active at this site in 1976; Wells and others (1986) call it the Baldy Mountain prospect, and Alaska Kardex file 112-160 shows a silver, lead, zinc claim here.

Production notes:

Reserves:

Additional comments:

References:

Wells and others, 1986; Gehrels and Berg, 1994.

Primary reference: Wells and others, 1986

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Unnamed (near Hawk Inlet)

Site type: Occurrence

ARDF no.: JU243

Latitude: 58.1382 **Quadrangle:** JU A-3

Longitude: 134.7812

Location description and accuracy:

This occurrence is at an elevation of approximately 500 feet near the south end of the Mansfield Peninsula. It is 1.5 miles northwest of the Hawk Inlet docks and ore transfer facility, and 4 miles south-southeast of Snowy Mountain. It is just east of the center of the SE1/4 section 16, T. 43 S., R. 65 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Cu

Other:

Ore minerals: Chalcopyrite, pyrite

Gangue minerals:

Geologic description:

Wells and others (1986) report pyrite and traces of chalcopyrite in schist at this site. No other information is available. The rocks in the general area are mainly Ordovician and Devonian to Triassic, clastic units, mafic-intermediate volcanic rocks, and subordinate limestone. The bedded rocks are intruded and locally metamorphosed by Cretaceous granodiorite (Gehrels and Berg, 1994).

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: No

Site Status: Inactive

Workings/exploration:

Wells and others (1986) report pyrite and traces of chalcopyrite in schist at this site. No other information is available.

Production notes:

Reserves:

Additional comments:

References:

Wells and others, 1986; Gehrels and Berg, 1994.

Primary reference: Wells and others, 1986

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Little Sore; Tom

Site type: Prospect

ARDF no.: JU244

Latitude: 58.1387 **Quadrangle:** JU A-3

Longitude: 134.6996

Location description and accuracy:

The Little Sore prospect is at an elevation of approximately 850 feet, 2 miles northeast of the Hawk Inlet docks and ore transfer facility, and 1.5 miles south of Young Bay. It is just east of the center of the SE1/4 section 13, T. 43 S., R. 65 E. of the Copper River Meridian. The location is accurate within 1/2 mile.

Commodities:

Main:

Other:

Ore minerals:

Gangue minerals:

Geologic description:

This deposit is reported to be geologically similar to the Greens Creek Mine (JU253) (H. Meiners, oral commun., 2000). and it on the same trend as the deposits at JU248, JU252, and JU253. There have been continuously active claims at this locality since 1975 (Wells and others, 1986). The property is currently (2001) controlled by Kennecott Greens Creek, Inc.

The rocks in the general area are mainly Ordovician and Devonian to Triassic, clastic units, mafic-intermediate volcanic rocks, and subordinate limestone. The bedded rocks are intruded and locally metamorphosed by Cretaceous granodiorite (Gehrels and Berg, 1994).

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Active

Workings/exploration:

There have been continuously active claims at this locality since 1975 (Wells and others, 1986). The property is currently (2001) controlled by Kennecott Greens Creek, Inc.

Production notes:

Reserves:

Additional comments:

References:

Wells and others, 1986.

Primary reference: Wells and others, 1986

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Unnamed (near Hoonah)

Site type: Prospect

ARDF no.: JU245

Latitude: 58.1246 **Quadrangle:** JU A-5

Longitude: 135.4551

Location description and accuracy:
This placer prospect is at an elevation of approximately 500 feet on the east side of Port Frederick, 0.3 mile east of Hoonah Point. It is in the SW1/4 section 21, T. 43 S., R. 61 E. of the Copper River Meridian. The location is accurate within 1/2 mile.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
Wells and others (1986) report 17 gold placer claims at this site. No other information is available. The country rocks in the general area are mainly Silurian, clastic sedimentary rocks, Silurian to Upper Devonian limestone, Upper Devonian andesitic and basaltic volcanic rocks, and Mississippian limestone (Loney and others, 1975; Gehrels and Berg,1994).

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au (Cox and Singer, 1986; model 39a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: Undetermined.

Site Status: Probably inactive

Workings/exploration:

Wells and others (1986) report 17 gold placer claims at this site. No other information is available.

Production notes:

Reserves:

Additional comments:

References:

Loney and others, 1975; Wells and others, 1986; Gehrels and Berg, 1994.

Primary reference: Wells and others,1986

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Neka

Site type: Prospect

ARDF no.: JU246

Latitude: 58.1272 **Quadrangle:** JU A-6

Longitude: 135.8197

Location description and accuracy:

The Neka prospect is at an elevation of approximately 2,000 feet on the divide between Humpback Creek and a headwater tributary of the Neka River. It is 2 miles east-southeast of Otter Lake at about the center of E1/2 section 19, T. 43 S., R. 59 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Cu, Pb, Zn

Other:

Ore minerals:

Gangue minerals: Quartz

Geologic description:

This prospect consists of a 1.5- to 3.5-foot-thick quartz vein exposed for over 50 feet (Bittenbender and others, 1999). Samples contained up to 6.3 percent copper, 0.38 percent lead, and 1.9 percent zinc (Bittenbender and others, 1999). Wells and others (1986) report claims at this site in 1957. No other information available.

The country rocks in the general area are mainly Silurian, clastic sedimentary rocks, Silurian to Upper Devonian limestone, Upper Devonian andesitic and basaltic volcanic rocks, and Mississippian limestone (Loney and others, 1975; Gehrels and Berg,1994).

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:

Wells and others (1986) report claims at this site in 1957. No other information available.

Production notes:

Reserves:

Additional comments:

References:

Loney and others, 1975; Wells and others, 1986; Bittenbender and others, 1999; Gehrels and Berg, 1994.

Primary reference: Bittenbender and others, 1999

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Unnamed (near Greens Creek)

Site type: Occurrence

ARDF no.: JU247

Latitude: 58.1057 **Quadrangle:** JU A-2

Longitude: 134.6154

Location description and accuracy:
This occurrence is at an elevation of approximately 3,000 feet, 2.6 miles west-southwest of Eagle Peak. It is near the southeast corner of section 28, T. 43 S., R. 66 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Fe

Other:

Ore minerals:

Gangue minerals:

Geologic description:
Wells and others (1986) describe an occurrence of dark brown, cellular limonite gossan at this site . The occurrence is 2 miles north of the Greens Creek Mine (JU253). The rocks in the general area are mainly Ordovician and Devonian to Triassic, clastic units, mafic-intermediate volcanic rocks, and subordinate limestone. The bedded rocks are intruded and locally metamorphosed by Cretaceous granodiorite (Gehrels and Berg, 1994).

Alteration:
Locally conspicuous iron staining.

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:

Wells and others, 1986; Gehrels and Berg, 1994.

Primary reference: Wells and others, 1986

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Mammoth

Site type: Prospect

ARDF no.: JU248

Latitude: 58.1003 **Quadrangle:** JU A-2

Longitude: 134.6619

Location description and accuracy:
The Mammoth prospect is at an elevation of approximately 2,950 feet on a feature locally called Mariposite Ridge, It is 4.5 miles west-southwest of Eagle Peak and 1.5 mile northwest of the Greens Creek Mine (JU253) in the SE1/4NW1/4 section 32, T. 43 S., R. 66 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Ag, Au, Pb, Zn

Other:

Ore minerals: Galena, pyrite, sphalerite, tetrahedrite

Gangue minerals: Calcite, mariposite, quartz

Geologic description:
The Mammoth prospect, which was discovered in the 1890's, consists of gold and disseminated and massive sulfides in quartz-carbonate-mariposite schist, graphitic schist, and mafic tuff. The sulfides include sphalerite, galena, tetrahedrite, and pyrite. The volcanic units are intruded by serpentinized diorite-gabbro and pyroxene plugs (Miller and Barnett, 2000). From 1976 to 1988, Bear Creek Mining Company explored the Mammoth prospect by soil and stream-silt sampling, geologic mapping, and ground geophysics. Surface samples that assayed up to 0.085 ounce of gold per ton and 53.75 ounces silver per ton led to diamond drilling. Four holes in the quartz-carbonate-mariposite unit were completed in 1987 and one in 1988. Holes MRD-1 to MRD-4 encountered significant lead-zinc-silver-gold mineralization that had up to 0.4 percent lead, 3.8 percent zinc, 1.77 ounces of silver per ton, and 0.237 ounce of gold per ton. Hole MRD-1 intersected a 54-foot interval of 0.435 percent zinc, and hole MRD-2 intersected 40 feet of 0.51 percent zinc, There is an adit on the Mammoth prospect and numerous surface pits and trenches. Recent mapping by Kennecott Greens Creek geologists indicate intense sericite alteration and ubiquitous sulfides throughout the workings. Kennecott geologists suggested that the mineralization may be similar to that at the Greens Creek mine (JU253) (Miller and Barnett, 2000). The Greens Creek mine is Late Triassic based on fossils found in argillite intercalated with massive sulfides (Crafford, 1989). The Mammoth

claims are patented and owned by Herman Meiners of Juneau, Alaska. The prospect is currently (2001) under lease to Red Diamond Mining Company, also of Juneau.

The rocks in the general area are mainly Ordovician and Devonian to Triassic, clastic units, mafic-intermediate volcanic rocks, and subordinate limestone. The bedded rocks are intruded and locally metamorphosed by Cretaceous granodiorite (Gehrels and Berg, 1994).

Alteration:

Intense quartz-sericite alteration.

Age of mineralization:

The Mammoth prospect is probably similar in age and origin to the nearby Greens Creek Mine that is Late Triassic based on fossils found in argillite intercalated with massive sulfides (Crafford, 1989).

Deposit model:

Kuroko massive sulfide deposit (Cox and Singer, 1986; model 28a)

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

28a

Production Status: No

Site Status: Active

Workings/exploration:

The Mammoth prospect was discovered in the 1890's. From 1976 to 1988, Bear Creek Mining Company explored the Mammoth prospect by soil and stream-silt sampling, geologic mapping, and ground geophysics. Surface samples that assayed up to 0.085 ounce of gold per ton and 53.75 ounces silver per ton led to diamond drilling. Four holes were completed in 1987 and one in 1988. There is an adit on the Mammoth prospect and numerous surface pits and trenches.

Production notes:

Reserves:

Additional comments:

References:

Crafford, 1989; Gehrels and Berg, 1994; Miller and Barnett, 2000.

Primary reference: Miller and Barnett, 2000

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Unnamed (east of mouth of Hawk Inlet)

Site type: Occurrence

ARDF no.: JU249

Latitude: 58.1018 **Quadrangle:** JU A-3

Longitude: 134.6771

Location description and accuracy:

This occurrence is at an elevation of approximately 2,300 feet on a feature locally called Mariposite Ridge. It is 3 miles southeast of the Hawk Inlet docks and transfer facility, 5 miles west of Eagle Peak, and 2 miles northwest of the Greens Creek Mine (JU253). It is near the center of the NE1/4 section 31, T. 43 S., R. 66 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: As, Cd, Sb, Zn

Other:

Ore minerals: Pyrite

Gangue minerals: Mariposite, quartz

Geologic description:

This occurrence consists of a persistent shear zone in carbonate rocks that contains 5 to 10 percent mariposite and pyrite-bearing quartz stringers. Samples collected in 1983 contained traces of zinc, arsenic, cadmium, and antimony (Wells and others, 1986). The rocks in the general area are mainly Ordovician and Devonian to Triassic, clastic units, mafic-intermediate volcanic rocks, and subordinate limestone. The bedded rocks are intruded and locally metamorphosed by Cretaceous granodiorite (Gehrels and Berg, 1994).

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Active

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:

Wells and others, 1986; Gehrels and Berg, 1994.

Primary reference: Wells and others, 1986

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Tom

Site type: Prospect

ARDF no.: JU250

Latitude: 58.0970 **Quadrangle:** JU A-3

Longitude: 134.6770

Location description and accuracy:

The Tom prospect is at an elevation of approximately 600 feet, 2 miles south-southeast of the Hawk Inlet docks and ore transfer facility and 5 miles west of Eagle Peak. It is in the SW1/4NE1/4 section 35, T. 43 S., R. 65 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Ag, Pb, Zn

Other:

Ore minerals:

Gangue minerals:

Geologic description:

Lode gold claims were active at this site from 1975 through 1982. Wells and others (1986) call it the Tom prospect. The Alaska Kardex file 112-162 shows a silver, lead, and zinc claim at this site, but the occurrence may merely be the center of a large claim block staked during the exploration of the Greens Creek area. The rocks in the general area are mainly Ordovician and Devonian to Triassic, clastic units, mafic-intermediate volcanic rocks, and subordinate limestone. The bedded rocks are intruded and locally metamorphosed by Cretaceous granodiorite (Gehrels and Berg, 1994).

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:

Lode gold claims were active at this site from 1975 through 1982. Wells and others (1986) call it the Tom prospect. The Alaska Kardex file 112-162 shows a silver, lead, and zinc claim at this site, but the occurrence may merely be the center of a large claim block staked during the exploration of the Greens Creek area.

Production notes:

Reserves:

Additional comments:

References:

Wells and others, 1986; Gehrels and Berg, 1994.

Primary reference: Wells and others, 1986

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Unnamed (west end of 'Mariposite Ridge')

Site type: Occurrence

ARDF no.: JU251

Latitude: 58.1018 **Quadrangle:** JU A-3

Longitude: 134.6771

Location description and accuracy:

This occurrence is at an elevation of approximately 2,800 feet on the west end of a feature locally called Mariposite Ridge. It is 3 miles southeast of Hawk Inlet docks and transfer facility, 5 miles west of Eagle Peak, and 2 miles northwest of the Greens Creek Mine (JU253), in the NW1/4SE1/4 section 31, T. 43 S., R. 66 E. of the Copper River Meridian. The location is accurate within 1/8 mile. The occurrence may be at the west edge of the Mammoth prospect (JU248).

Commodities:

Main: Ag, Au, Pb, Zn

Other: Ba

Ore minerals:

Gangue minerals: Calcite, mariposite, quartz

Geologic description:

Wells and others (1986) describe this occurrence as quartz veins in a shear zone in mariposite-bearing dolomite. Nearby metavolcanic rocks are also sheared and veined with quartz. A sample of vein material collected in 1983 contained 0.73 percent lead, 0.3 percent zinc and 0.25 ppm silver. A sample of quartz-rich metavolcanic rock contained 0.5 percent barite and traces of arsenic, silver and gold (Wells and others,1986). The rocks in the general area are mainly Ordovician and Devonian to Triassic, clastic units, mafic-intermediate volcanic rocks, and subordinate limestone. The bedded rocks are intruded and locally metamorphosed by Cretaceous granodiorite (Gehrels and Berg, 1994).

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: No

Site Status: Active

Workings/exploration:
Surface sampling only.

Production notes:

Reserves:

Additional comments:

References:
Wells and others, 1986; Gehrels and Berg, 1994.

Primary reference: Wells and others, 1986

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Unnamed (near Greens Creek)

Site type: Occurrence

ARDF no.: JU252

Latitude: 58.0904 **Quadrangle:** JU A-2

Longitude: 134.6528

Location description and accuracy:

This occurrence is at an elevation of approximately 1,900 feet about 1.2 miles northwest of the Greens Creek Mine (JU253). It is in the NW1/4NE1/4 section 5, T. 44 S., R. 66 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Fe

Other:

Ore minerals: Pyrite

Gangue minerals:

Geologic description:

Wells and others (1986) describe this occurrence as pyrite in spongy quartz, associated with a northwest-trending fault in sheared and serpentinized ultramafic rock. The occurrence is currently (2001) under control of Kennecott Greens Creek. The rocks in the general area are mainly Ordovician and Devonian to Triassic, clastic units, mafic-intermediate volcanic rocks, and subordinate limestone. The bedded rocks are intruded and locally metamorphosed by Cretaceous granodiorite (Gehrels and Berg, 1994).

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Active

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:

Wells and others, 1986; Gehrels and Berg, 1994.

Primary reference: Wells and others, 1986

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Greens Creek; Big Sore

Site type: Mine

ARDF no.: JU253

Latitude: 58.0780 **Quadrangle:** JU A-2

Longitude: 134.6290

Location description and accuracy:
The Greens Creek Mine is at an elevation of 1,500 feet on the south side of Greens Creek. The mine is marked on the Juneau A-2 topographic map in the NW1/4 section 9, T. 44 S., R. 66 E. of the Copper River Meridian. The location is accurate.

Commodities:

Main: Ag, Au, Cu, Pb, Zn

Other: Ba, Bi

Ore minerals: Acanthite, bornite, chalcopyrite, electrum, freibergite, galena, proustite, pyrite, sphalerite, tetrahedrite, tetrahedrite-tennantite

Gangue minerals: Barite, calcite, graphite, quartz

Geologic description:
The Greens Creek deposit occurs discontinuously along the contact between a structural hanging wall of thinly laminated, quartz-mica-carbonate phyllite and a structural footwall of black, graphitic, meta-argillite. Fossils in calcareous, black-argillite clasts in pyritic massive sulfide ore are Late Triassic in age (Crafford, 1989). The most intense alteration is found closest to the copper-rich portions of the orebody and consists of intense silica-pyrite alteration. Three main types of ore have been recognized at the Greens Creek deposit: massive, black, and white. Massive ore is the most common and contains more than 50 percent sulfides, chiefly pyrite, sphalerite and galena, in a matrix of locally barite-bearing silica-carbonate rock. Less-abundant ore minerals include chalcopyrite, tetrahedrite, freibergite, proustite, and electrum. The pyrite content of the massive ore varies from 80 to 90 percent in base-metal-poor ore to 10 to 15 percent in base-metal-rich ore. The black ore is similar to the massive ore, except that it contains appreciable graphite. White ore varies depending upon whether the gangue is primarily barite, silicates, or carbonates. The white ore is pyrite-poor and contains coarse-grained tetrahedrite-tennantite, bornite, freibergite, proustite, galena, sphalerite, chalcopyrite and acanthite. Very high precious metal values are common in base-metal-rich massive sulfides near the stratigraphic hanging wall contact, but gold is common in all three types of ore (Newberry and others, 1997).

The Greens Creek deposit was discovered in 1973 by following up a zinc stream-sediment anomaly (Crafford, oral commun., 2000). The underground mine and concentrator facility began operation in 1989, but was placed on standby in 1993, followed by a $114 million modernization and redevelopment investment over a three-year period. Operations resumed in 1996 (Kennecott Minerals Company, 2001). The deposit is serviced by 13 miles of road. In addition to the mine, there is an ore concentrating mill, a tailings impoundment area, a ship-loading facility, camp facilities, and a ferry dock at Hawk Inlet. Kennecott Greens Creek currently (2001) is mining approximately 1,680 tons per day from the 200 South, the Southwest, and the West ore zones. Ore from this underground trackless mine is milled at the mine site. The mill produces gold-silver dor as well as lead, zinc and bulk concentrates. Concentrates are shipped from a marine terminal about nine miles from the mine site. Drilling in 1999 added reserves to the 200 South and other orebodies sufficient to replace production. Similar production replacement resulted from drilling in 2000. As of December 31, 2000, there were 268 employees at the Greens Creek Mine (Hecla Mining Company, 2001). Current (2001) reserves are 13 million tons of ore with 12 percent zinc, 4 percent lead, 414 grams of silver per ton, and 6 grams of gold per ton (Hecla Mining Company, 2001).

The rocks in the general area are mainly Ordovician and Devonian to Triassic, clastic units, mafic-intermediate volcanic rocks, and subordinate limestone. The bedded rocks are intruded and locally metamorphosed by Cretaceous granodiorite (Gehrels and Berg, 1994).

Alteration:

The most intense alteration is found closest to the copper-rich portions of the orebody and consists of intense silica-pyrite alteration.

Age of mineralization:

Fossils in calcareous black-argillite clasts intercalated with pyritic massive-sulfide ore are Late Triassic in age (Crafford, 1989).

Deposit model:

Kuroko massive sulfide deposit (Cox and Singer, 1986; model 28a)

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

28a

Production Status: Yes; large

Site Status: Active

Workings/exploration:

The Greens Creek deposit was discovered in 1973. The underground mine and concentrator began operation in 1989. The deposit is serviced by 13 miles of road. In addition to the mine, there is an ore concentrating mill, a tailings impoundment area, a ship-loading facility, camp facilities, and a ferry dock at Hawk Inlet. Kennecott Greens Creek currently (2001) is mining approximately 1,680 tons per day from the 200 South, the

Southwest, and the West ore zones. Drilling in 1999 added sufficient reserves to the 200 South and other orebodies to replace production. Similar production replacement resulted from drilling in 2000. As of December 31, 2000, there were 268 employees at the Greens Creek Mine (Hecla Mining Company, 2001). Exploration efforts are ongoing along the trend of the deposit.

Production notes:

Ore from this underground, trackless mine is milled at the mine site. The mill produces gold-silver dor, and lead, zinc, and bulk concentrates. Concentrates are shipped from a marine terminal about nine miles from the mine site. In 2000, the mine produced 2,754,067 ounces of silver, from ore that contained 823 grams of silver per ton, 14 percent zinc, 6 percent lead, and 6.9 grams of gold per ton.

Reserves:

Current (2001) reserves are 13 million tons of ore with 12 percent zinc, 4 percent lead, 414 grams of silver per ton, and 6 grams of gold per ton (Hecla Mining Company, 2001).

Additional comments:

Hecla Mining holds a 29.73% interest in the Greens Creek mine with Kennecott Greens Creek Mining Company. Kennecott Greens Creek is the operator of the mine.

References:

Crafford, 1989; Gehrels and Berg, 1994; Newberry and others, 1997; Hecla Mining Company, 2001; Kennecott Minerals Company, 2001.

Primary reference: Newberry and others, 1997

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Unnamed (near Salmon River)

Site type: Occurrence

ARDF no.: JU254

Latitude: 58.0671 **Quadrangle:** JU A-2

Longitude: 134.4585

Location description and accuracy:

This occurrence is at an elevation of approximately 1,600 feet, 4.5 miles southeast of Eagle Peak, 3.5 miles south of Young Lake, and 3 miles west of the Salmon River. It is in the SE1/4 section 9, T. 44 S., R. 67 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: REE (yttrium, zirconium, niobium, thorium, lanthanum, cerium, praseodymium, neodymium)

Other:

Ore minerals:

Gangue minerals:

Geologic description:

This prospect consists of pegmatite veins in granite, migmatite, and contact-metamorphic rocks. X-ray spectroscopic analysis of heavy mineral concentrates from samples of the pegmatite veins indicate the presence of yttrium, zirconium, niobium, thorium, lanthanum, cerium, praseodymium and neodymium (Lathram and others, 1965). Wells and others (1986) show active claims at this site in 1985.

The rocks in the general area are Upper Jurassic to mid-Cretaceous, marine argillite and graywacke, interbedded with andesitic to basaltic volcanic and volcaniclastic rocks, and subordinate polymictic conglomerate. The rocks are intruded by Cretaceous plutons, including granodiorite, quartz diorite, dunite, and peridotite (Gehrels and Berg, 1994).

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: No

Site Status: Inactive

Workings/exploration:
Surface sampling only.

Production notes:

Reserves:

Additional comments:

References:
Lathram and others, 1965; Wells and others, 1986; Gehrels and Berg, 1994.

Primary reference: Lathram and others, 1965

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Unnamed (near Pt. Marsden)

Site type: Prospect

ARDF no.: JU255

Latitude: 58.0995 **Quadrangle:** JU A-3

Longitude: 134.7314

Location description and accuracy:

This occurrence is on the west coast of northern Admiralty Island, 1.8 miles south of Point Marsden and 1 mile west of Wheeler Creek. It is in the NW1/4 section 28, T. 44 S., R. 65 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Ni

Other:

Ore minerals:

Gangue minerals:

Geologic description:

This occurrence consists of disseminated nickel sulfide and oxide minerals in a serpentinized ultramafic sill (Wells and others, 1986). No other information is available.

The rocks in the general area are mainly Ordovician and Devonian to Triassic clastic strata, mafic-intermediate volcanic rocks, and subordinate limestone. The bedded rocks are intruded and locally metamorphosed by Cretaceous granodiorite (Gehrels and Berg, 1994).

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:
Surface sampling only.

Production notes:

Reserves:

Additional comments:

References:
Wells and others, 1986; Gehrels and Berg, 1994.

Primary reference: Wells and others,1986

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Big Iron

Site type: Prospect

ARDF no.: JU256

Latitude: 58.0386 **Quadrangle:** JU A-5

Longitude: 135.5221

Location description and accuracy:
The Big Iron prospect is at an elevation of about 1000 feet on the east side of Port Frederick, 1.4 miles east-southeast of Burnt Point. It is in the NW1/4SE1/4 section 24, T. 44 S., R. 60 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Fe

Other:

Ore minerals:

Gangue minerals:

Geologic description:
Wells and others (1986) report lode, iron claims at this site in 1964. No other information is available. The rocks in the general area are mainly Silurian clastic sedimentary rocks, Silurian to Upper Devonian limestone, Upper Devonian andesitic and basaltic volcanic rocks, and Mississippian limestone (Loney and others, 1975; Gehrels and Berg,1994).

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:

Claims staked.

Production notes:

Reserves:

Additional comments:

References:

Loney and others, 1975; Wells and others, 1986; Gehrels and Berg, 1994.

Primary reference: Wells and others,1986

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Bum Cat

Site type: Prospect

ARDF no.: JU257

Latitude: 58.0831 **Quadrangle:** JU A-1

Longitude: 134.0216

Location description and accuracy:
This placer prospect is at an elevation of about 150 feet about midway along the unnamed creek flowing from Taku Lake to Taku Harbor. It is in the NW1/4SE1/4 section 6, T. 44 S., R. 70 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Au

Other: Ag

Ore minerals:

Gangue minerals:

Geologic description:
The Bum Cat placer prospect is in gravel overlying black phyllite and felsic phyllite that have been intruded by Cretaceous diorite and metagabbro (Redman and others, 1989). The phyllites contain disseminated and stratiform pyrrhotite and pyrite. The placer was discovered in 1905. The U.S. Bureau of Mines collected a 0.1-cubic-yard pan-concentrate sample of the gravel that contained 89.0 ppm gold and 12.0 ppm silver (Redman and others, 1989).

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au (Cox and Singer, 1986; model 39a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: Undetermined.

Site Status: Inactive

Workings/exploration:
Surface samples.

Production notes:

Reserves:

Additional comments:

References:
Redman and others, 1989; Gehrels and Berg, 1994.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Iron Lode

Site type: Prospect

ARDF no.: JU258

Latitude: 58.0744 **Quadrangle:** JU A-1

Longitude: 134.0266

Location description and accuracy:
The Iron Lode prospect is at an elevation of approximately 800 feet on the east side of Taku Mountain, 1.2 mile north of Stockade Point. It is in the NW1/4NE1/4 section 7, T. 44 S., R. 70 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Fe

Other:

Ore minerals: Magnetite

Gangue minerals:

Geologic description:
The Iron Lode prospect is in black phyllite and felsic phyllite that have been intruded by Cretaceous diorite and gabbro (Redman and others, 1989). The deposit was discovered in 1964 and there were active claims until 1974. There are no surface workings (Redman and others, 1989).

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:

Redman and others, 1989.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Taku

Site type: Prospect

ARDF no.: JU259

Latitude: 58.0743 **Quadrangle:** JU A-1

Longitude: 134.0069

Location description and accuracy:
This placer prospect is on the northeast side of Taku Harbor, 1.2 mile northeast of Stockade Point and 1 mile east of Taku Mountain. It is in the NW1/4 section 8, T. 44 S., R. 70 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Au

Other:

Ore minerals:

Gangue minerals:

Geologic description:
The Taku placer prospect is in gravel overlying black phyllite and felsic phyllite that have been intruded by Cretaceous diorite and gabbro (Redman and others, 1989). The prospect was first staked in 1968 and had active claims through 1974. There are no workings and there has been no reported production (Redman and others, 1989).

Alteration:

Age of mineralization:
Quaternary.

Deposit model:
Placer Au (Cox and Singer, 1986; model 39a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: None

Site Status: Inactive

Workings/exploration:
Claims staked.

Production notes:

Reserves:

Additional comments:

References:
Redman and others, 1989.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

Site name(s): Great Bear

Site type: Prospect

ARDF no.: JU260

Latitude: 58.0614 **Quadrangle:** JU A-1

Longitude: 134.0117

Location description and accuracy:

The Great Bear prospect is on the southeast shore of Taku Harbor, 1/2 mile east of Stockade Point, and 1 mile southeast of Taku Mountain. It is near the northwest corner of section 17, T. 44 S., R. 70 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commodities:

Main: Au ?

Other: Ni ?

Ore minerals:

Gangue minerals:

Geologic description:

The Great Bear prospect is in black phyllite and felsic phyllite that have been intruded by Cretaceous metagabbro (Redman and others, 1989). The deposit was discovered in 1900 and diamond drilled that fall, but there are no other workings. The deposit was reported to contain gold and nickel, but U.S. Bureau of Mines samples failed to detect any elevated metal values (Redman and others, 1989). The rocks in the general area are Lower Permian through Upper Triassic volcanic rocks, with subordinate clastic and carbonate strata, and their metamorphosed equivalents (Gehrels and Berg, 1994).

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:
The deposit was discovered in 1900 and diamond drilled that fall, but there are no other workings.

Production notes:

Reserves:

Additional comments:

References:
Redman and others, 1989; Gehrels and Berg, 1994.

Primary reference: Redman and others, 1989

Reporter(s): J.C. Barnett and L.D. Miller (Juneau, Alaska)

Last report date: 12/15/01

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