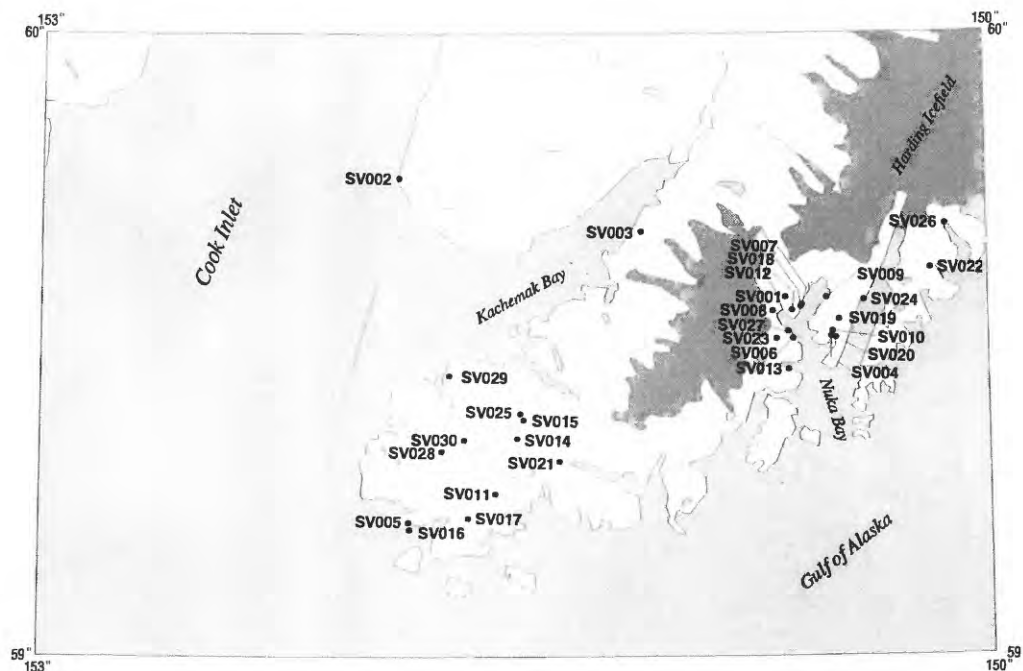


Seldovia quadrangle

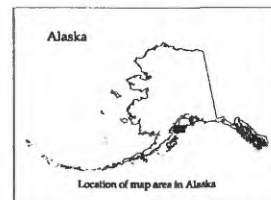
Descriptions of the mineral occurrences shown on the accompanying figure follow. See U.S. Geological Survey (1996) for a description of the information content of each field in the records. The data presented here are maintained as part of a statewide database on mines, prospects and mineral occurrences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



*Distribution of mineral occurrences in the Seldovia
1:250,000-scale quadrangle, southcentral 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: Donald Grybeck, USGS, 4200 University Dr., Anchorage, AK 99508-4667, e-mail dgrybeck@usgs.gov, telephone (907) 786-7424. This compilation is authored by:

Jeff Huber
Anchorage, Alaska



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.

Site name(s): Alaska Hills Corp.; Paystreak & Fairweathers

Site type: Mine

ARDF no.: SV001

Latitude: 59.575

Quadrangle: SV C-2

Longitude: 150.638

Location description and accuracy:

The Alaska Hills mine consists of four tunnels, an old mill and a campsite located on the east side of Nuka River Valley and about one and a half miles northeast of the mouth of Beauty Bay. Beauty Bay is a northwest trending fjord within the West Arm of Nuka Bay; it is about 60 miles southwest of Seward, Alaska. The lower tunnel is at 370 feet elevation and intersects the vein 460 feet from the portal. The upper most tunnel is at 569 feet elevation. This is Cobb's (1972, MF-397) location 20 and Richter's (1970) location 3. Cobb (1972, OFR 80-84) summarized the relevant references under the name Alaska Hill (Mines Corp.).

Commodities:

Main: Au

Other: Ag

Ore minerals: Arsenopyrite, gold, pyrite

Gangue minerals: Quartz

Geologic description:

Graywacke and slate of the Cretaceous Valdez Group host the mineralized quartz veins (Richter, 1970). Mining has occurred on two quartz veins which are mostly in the graywacke. The veins are white crystalline quartz which carry considerable arsenopyrite and free gold. The principal vein ranges from 6 to 30 inches wide, strikes east-west and dips 55N. The other vein that has been mined averages 11 inches wide; it has a general east-west strike and northerly dip. The veins occur mostly in the graywacke and pinch out when they cross into slate (Richter, 1970). The mine consists of four tunnels and other workings that total about 950 feet, excluding stopes and raises. Improvements on the site included a 1,000 foot aerial tram, a 10-ton jaw crusher, a Worthington Ball Mill with amalgamator, and a Diester sand table. Power was provided by a 66 inch Pelton wheel with 94 feet of head. In normal milling operations, the concentrates assayed \$107 to \$112 per ton gold (Pilgrim, 1933). Pilgrim, (1933) reported production of \$40,000, or 1,935 fine ounces of gold.

Alteration:

None reported, although Borden and others (1991) report other veins in the Nuka Bay district show carbonization, sulfidization, sericitization, and silicification of the wall rock adjacent to the veins.

Age of mineralization:

Tertiary; Boden and others (1991) report other veins in the district are about 55 m.y. old.

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 mine consists of four tunnels and other workings that total about 950 feet, excluding stopes and raises. Improvements on the site included a 1,000 foot aerial tram, a 10-ton jaw crusher, a Worthington Ball Mill with amalgamator, and a Diester sand table. Power was provided by a 66 inch Pelton wheel with 94 feet of head. In normal milling operations, the concentrates assayed \$107 to \$112 per ton gold (Pilgrim, 1933).

Production notes:

Pilgrim (1933) reported production of \$40,000 or 1,935 fine ounces of gold. Richter, (1970) reported a total production of \$45,000 from 1924-1931.

Reserves:

None.

Additional comments:

One of two principal producing mines in the area in 1935. This mine is now within the Kenai Fjords National Park and the park is closed to mineral entry.

References:

Pilgrim, 1933; Richter, 1970; Cobb, 1972 (MF-397); MacKevett and Holloway, 1977; Cobb, 1979 (OFR 80-87); Borden and others, 1991.

Primary reference: Pilgrim, 1931; Richter, 1970**Reporter(s):** Jeff A. Huber (Anchorage)**Last report date:** 02/08/99

Site name(s): Anchor Point

Site type: Mine

ARDF no.: SV002

Latitude: 59.768

Quadrangle: SV D-5

Longitude: 151.864

Location description and accuracy:

Cobb (1972, MF-397) located this placer occurrence as beginning at the south end of the spit at the mouth of Anchor River and running south along the beach for a mile and a half. This is Cobb's (1972, MF-397) location 2, and is accurate to within one quarter of a mile. There has apparently been no commercial mining at the site since before World War I.

Commodities:

Main: Au

Other: Pt?

Ore minerals: Gold

Gangue minerals:

Geologic description:

Gold has been found along the shoreline in a thin gravel layer about two feet below the surface. This area was mined intermittently from 1889 to 1911, mostly by rocker and small sluice boxes. One hydraulic plant was installed prior to 1906 (Moffit, 1906, p. 44) but it was a failure. The gold is probably derived from the Kenai Formation.

Alteration:

None.

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:

This area was mined intermittently from 1889 to 1911, mostly by rocker and small sluice boxes. One hydraulic plant was installed prior to 1906 (Moffit, 1906, p. 44) but it was a failure. In support of the hydraulic plant a two mile long ditch and several support structures were built at the turn of the century.

Production notes:

A small amount of gold was probably produced from 1889 to 1911.

Reserves:

Additional comments:

References:

Moffit, 1906; Atwood, 1909; Brooks, 1912; Martin and others, 1915; Cobb, 1973 (B-1374); MacKevett and Holloway, 1977; Cobb, 1979 (OFR 80-87).

Primary reference: Cobb, 1979 (OFR 80-87)

Reporter(s): Jeff A. Huber (Anchorage)

Last report date: 02/04/99

Site name(s): Aurora**Site type:** Prospects**ARDF no.:** SV003**Latitude:** 59.681**Quadrangle:** SV C-3**Longitude:** 151.093**Location description and accuracy:**

The Aurora Prospects are about two miles south-southeast of the tip of Aurora Spit in the SE1/4 of section 2, T. 6 S., R. 11 W., of the Seward Meridian and about 12 miles northeast of Homer, Alaska. Three tunnels have been drifted along the canyon which drains Portlock Glacier. This is location 97 of Martin and others (1915); it is accurate to one quarter of a mile.

Commodities:**Main:** Au?**Other:****Ore minerals:** Gold?, pyrite**Gangue minerals:** Quartz**Geologic description:**

Three tunnels have been driven in fractured graywacke of the Cretaceous Valdez Group, near the contact with a 20-foot-wide porphyritic dike. Martin and others (1915) did not find any indication of mineralization within the adits, but they did find some disseminated pyrite in the dump.

Alteration:

None reported.

Age of mineralization:**Deposit model:**

Insufficient data to classify

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

Site Status: Inactive

Workings/exploration:

Three short tunnels were driven and a wagon road and telephone line were installed in the early 1900's (Martin and others, 1915).

Production notes:

None reported.

Reserves:

Additional comments:

References:

Moffit, 1906; Martin and others, 1915; Cobb, 1979 (OFR 80-87).

Primary reference: Cobb, 1979 (OFR 80-84)

Reporter(s): Jeff A. Huber (Anchorage)

Last report date: 02/04/99

Site name(s): Goyne; Surprise; Bear**Site type:** Mine**ARDF no.:** SV004**Latitude:** 59.512**Quadrangle:** SV C-2**Longitude:** 150.494**Location description and accuracy:**

The Goyne mine is on the west shore of Surprise Bay about 0.6 miles south of the mouth of Palisade Lagoon. A wave-demolished cabin and a tailing dump is all that remains at the mill and campsite. Exploration and development work consisted of two ad-its, at approximately 25 and 135 feet above sea level, and numerous pits and trenches which trace series of mineralized quartz veins from sea level to the top the ridge. This is Cobb's (1972, MF-397) location 26 and Richter's (1970) location 8. Cobb (1979, OFR 80-87) summarized the relevant references under the name Goyne.

Commodities:**Main:** Ag, Au**Other:** Pb, Te?**Ore minerals:** Arsenopyrite, galena, gold, pyrite, sylvanite?**Gangue minerals:** Quartz**Geologic description:**

The country rock near the lower portal is black slate of the Cretaceous Valdez Group that has been intruded by a Tertiary granodioritic dike (Richter, 1970). The dike is very irregular and segmented but overall has a east-west trend and dips 65 to 85S. In hand sample, the dike is a light gray color with a medium equigranular texture. No primary mafic minerals were observed, but abundant chlorite (10 percent volume) occurs in poorly defined patches and scattered interstitial fillings. Veinlets of quartz, zoisite, and potassium feldspar are abundant throughout the dike (Richter, 1970).

The gold mineralization occurs in quartz veins which in places contain abundant arsenopyrite, with galena and pyrite. Gold mineralization seems to be more associated with galena than arsenopyrite (Pilgrim, 1931). Select high grade samples, taken from the surface at an elevation of about 600 feet, contained 158.16 ounces of gold and 58.92 ounces of silver per ton, and 0.72 percent tellurium as sylvanite (Smith, 1936, p. 31). The veins appear to be confined to the dike or local areas along dike-slate contacts. When veins pass into the slate, they pinch out or split into thin quartz stringers that pinch out.

In the underground workings, the veins are exposed on both levels and along a raise

connecting the two levels. The main vein in the upper adit, is about one-foot-wide and is exposed for 70 feet along strike. It strikes N85E and dips 75S. In the lower adit, the same vein is exposed for 100 feet and has a maximum width of 1.0 foot. Two random channel samples taken across the vein indicate a fairly high gold content; 200 ppm gold across 0.9 foot in the upper adit and 40 ppm gold across one foot in the lower adit (Richter, 1970).

Alteration:

Borden and others (1991) reported carbonization, sulfidization, sericitization, and silicification of the wall rock adjacent to the veins.

Age of mineralization:

Tertiary; Boden and others (1991) report other veins in the district are about 55 m.y. old.

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:**

Two tunnels were driven, and numerous trenches and prospect pits were dug on the property prior to 1934 (Pilgrim, 1933). Since that time the mine appears to have lain idle. The lower tunnel is at an elevation of 25 feet and the upper tunnel at 135 feet elevation. The tunnels are connected by a raise from which a total of 6,710 pounds of hand selected ore was produced. Samples from the lower working contained four ppm gold from a one foot vein and a sample from the stoped vein contained 200 ppm gold (Richter, 1970). A total of 600 feet of workings have been dug on the property.

Production notes:

In 1931, 6,710 pounds of hand selected ore that was shipped to a smelter in Tacoma, Washington produced 4.10 ounces of gold and 1.72 ounces of silver per ton (Pilgrim, 1933).

Reserves:

None.

Additional comments:

This mine is within the Kenai Fjords National Park and is closed to mineral entry.

References:

Pilgrim, 1933; Capps, 1938; Berg and Cobb, 1967; Richter, 1970; Cobb, 1972 (MF-397); MacKevett and Holloway, 1977; Cobb, 1979 (OFR 80-87); Borden and others, 1991.

Primary reference: Richter, 1970

Reporter(s): Jeff A. Huber (Anchorage)

Last report date: 02/07/99

Site name(s): Claim Point; Reef**Site type:** Mine**ARDF no.:** SV005**Latitude:** 59.21**Quadrangle:** SV A-5**Longitude:** 151.82**Location description and accuracy:**

These chromite deposits occur on a small peninsula on the northern shore of Port Chatham in the SW1/4 of section 21, T. 11 S., R. 15 W., of the Seward Meridian. Most of the chromite lens and layers are found on the northeast side of the peninsula near the old mill and wharf. This is location 1 of Cobb (1972, MF-397) and is accurate to within half a mile.

Commodities:**Main:** Cr**Other:** Fe**Ore minerals:** Chromite, magnetite**Gangue minerals:** Olivine, pyroxene**Geologic description:**

The chromite at Claim Point occurs in dunite that is part of the informally named Border Ranges ultramafic and mafic complex of Burns (1985). The Border Ranges complex is at least Jurassic in age. The complex is faulted at the base and there are many small northeast-trending, high-angle faults which offset the chromite layers. In general, the chromite layers strike northeast and dip nearly vertical.

Most of the production in the area has occurred from the Reef mine where the ore body strikes N76E with a near vertical dip. Its length is about 135 feet and the width ranges from three to 35 feet. The chromic oxide content of the ore as shipped, ranged from 42 to 49 percent (Guild, 1942).

Foley and Barker (1985) estimates there is 82,000 metric tons of ore that grades from 5 to 30% chromic oxide.

Alteration:

Serpentation and spillitic alteration is common.

Age of mineralization:

Early Jurassic.

Deposit model:

Podiform chromite (Cox and Singer, 1986; model 8a)

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

8a

Production Status: Yes; small

Site Status: Inactive

Workings/exploration:

Production totaled 2,000 metric tons from the Reef and Bluff mines from 1916 to 1918; development included a wharf and camp. Some drilling was done during WW II by the U.S. Bureau of Mines. Anaconda Minerals flew regional airborne geophysics in the early 1980s which showed a major magnetic high underlying the outer part of Port Chatham bay (Foley, 1992).

Production notes:

Two thousand metric tons of chromite ore was produced in 1917 and 1918 (Foley, 1992, p. 38).

Reserves:

There are conflicting estimates of the remaining reserves for this property. Foley (1992, p. 38) estimates a total resource of 82,000 metric tons of ore that grades 17.8% chromic oxide, while MacKevett and others (1978, p. 17) estimate a resource of 260,000 tons at 17.8% chromic oxide.

Additional comments:**References:**

Grant and Higgins, 1910; Martin and others, 1915; Brooks, 1918; Mertie, 1919; Gill, 1920; Martin, 1920; Brooks, 1921; Gill, 1922; Guild, 1942; Bain, 1946; Sanford and Cole, 1949; Twenhofel, 1953; Berg and Cobb, 1967; Cobb, 1972 (MF-397); Bird, 1977; MacKevett and Holloway, 1977; Cobb, 1979 (OFR 80-87); Burns, 1985; Foley and Barker, 1985; Nokleberg and others, 1987; Foley, 1992.

Primary reference: Foley, 1985; Guild, 1942

Reporter(s): Jeff A. Huber (Anchorage)

Last report date: 02/25/99

Site name(s): Frank Long

Site type: Prospect

ARDF no.: SV006

Latitude: 59.51

Quadrangle: SV C-2

Longitude: 150.61

Location description and accuracy:

Pilgrim (1933) located this prospect directly across from Beautiful Island just above the high tide line in the West Arm of Nuka Bay, and 1.5 miles south of the entrance of Beauty Bay. Richter (1970) could not find any signs of this prospect and its location is uncertain.

Commodities:

Main: Ag, Au

Other:

Ore minerals: Arsenopyrite, gold

Gangue minerals: Quartz

Geologic description:

The quartz vein at this prospect is hosted in Cretaceous Valdez Group graywacke (Richter, 1970). The vein varies from six to 24 inches in width; it strikes S45E and dips nearly vertical. The vein consists of white quartz and arsenopyrite with considerable graywacke fragments. The vein was drifted along strike for 88 feet. A sample of quartz and arsenopyrite taken from the ore stockpile assayed 0.38 ounces of gold and 0.30 ounces of silver per ton (Pilgrim, 1933).

Alteration:

None reported, although Borden and others (1991) report other veins in the Nuka Bay district show carbonization, sulfidization, sericitization, and silicification of the wall rock adjacent to the veins.

Age of mineralization:

Tertiary; Boden and others (1991) report other veins in the district are about 55 m.y. old.

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 vein was drifted along strike for 88 feet. A sample of quartz and arsenopyrite taken from the ore stockpile assayed 0.38 ounces of gold and 0.30 ounces of silver per ton (Pilgrim, 1933).

Production notes:

None reported.

Reserves:**Additional comments:**

This property is often combined with the Skinner property. The site is difficult to locate.

References:

Pilgrim, 1933; Smith, 1938 (B 897-A); Richter, 1970; MacKevett and Holloway, 1977; Cobb, 1979 (OFR 80-87); Borden and others, 1991.

Primary reference: Richter, 1970; Pilgrim, 1933**Reporter(s):** Jeff A. Huber (Anchorage)**Last report date:** 03/07/99

Site name(s): Charles Frank**Site type:** Mine**ARDF no.:** SV007**Latitude:** 59.563**Quadrangle:** SV C-2**Longitude:** 150.587**Location description and accuracy:**

The Charles Frank mine is located 1.8 miles north of Moss Point on the west shore of the Nuka Bay's North Arm. A caved adit exists just above the high tide line and about 40 feet below the discovery outcrops. This is Cobb's (1972, MF-397) location 22 and Richter's (1970) location 2. This location is accurate to within 300 feet.

Commodities:**Main:** Au**Other:****Ore minerals:** Arsenopyrite, gold, pyrite**Gangue minerals:** Quartz**Geologic description:**

The prospect consists of two quartz-arsenopyrite veins that cut Cretaceous Valdez Group black slate (Richter, 1970). Pilgrim (1933), describes the vein as being 8 to 14 inches wide, it trends N53E and dips 79N. Near the caved portal the black slate strikes N25E and dips 35W. A 60 foot adit was driven N50W where it intersected the vein. A total of 51 feet of drift was driven along the vein eight feet to the southwest and 43 feet to the northeast (Pilgrim, 1933). Grab samples from the dump contained 0.04 ppm gold (Richter, 1970).

Alteration:

None reported, although Borden and others (1991) report other veins in the Nuka Bay district show carbonization, sulfidization, sericitization, and silicification of the wall rock adjacent to the veins.

Age of mineralization:

Tertiary; Borden and others (1991) report other veins in the district are about 55 m.y. old.

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:

A 60 foot adit was driven N50W where it intersected the vein. A total of 51 feet of drift was driven along the vein eight feet to the southwest and 43 feet to the northeast (Pilgrim, 1933). Grab samples from the dump contained 0.04 ppm gold (Richter, 1970).

Production notes:

An unknown amount of gold was produced between 1931 and 1933 (Pilgrim, 1933).

Reserves:

None.

Additional comments:

These prospects are within the Kenai Fjords National Park which is closed to mineral entry.

References:

Pilgrim, 1933; Richter, 1970; Cobb, 1972 (MF-397); MacKevett and Holloway, 1977; Cobb, 1979 (OFR 80-87); Borden and others, 1991.

Primary reference: Richter, 1970; Pilgrim, 1931

Reporter(s): Jeff A. Huber (Anchorage)

Last report date: 02/06/99

Site name(s): Glass & Heifner; Little Creek; Earl Mount

Site type: Prospect

ARDF no.: SV008

Latitude: 59.553

Quadrangle: SV C-2

Longitude: 150.678

Location description and accuracy:

This prospect is about one mile northwest of the mouth of Ferrum Creek. Ferrum Creek drains into a northwestern trending arm of Nuka Bay, called Beauty Bay. A road leads to the property from the Nuka River flats airstrip. The prospect consists of a 400 foot adit, numerous prospect pits and trenches. The adit is at 200 feet elevation and the prospect pit can be found along the hillside above the adit at an elevation of 350 feet. This is Cobb's (1972, MF-397) location 19 and Richter's (1970) location 2. Cobb (1979, OFR 80-87) summarized the relevant references for this prospect under the name Glass and Heifner. This location is accurate to within 300 feet.

Commodities:

Main: Ag, Au

Other: Cu, Pb, Zn

Ore minerals: Arsenopyrite, galena, gold, sphalerite

Gangue minerals: Quartz

Geologic description:

Cretaceous Valdez Group massive graywacke is exposed in all the underground workings and in most of the surface outcrops. The only black slate and siltstones in the vicinity are exposed in the eastern and southeastern most prospect pits. Foliation and bedding in this area trends N10 to 30E and dips 50 to 60NW (Richter, 1970).

At least three major quartz veins are exposed on the property. All the quartz veins generally strike east-west and dip to the north. The northern most and principal vein is sporadically exposed in the surface working for about 350 feet and underground for 125 feet. At its western extremity, the vein has a consistent moderate dip of 40 to 60N, but toward the east the dip steepens to more than 80N. The vein ranges from one to five feet wide and consists of white quartz with massive lens and sheets of arsenopyrite (Richter, 1970). Two samples cut randomly across the vein in the main drift assayed 72 and 0.2 ppm gold (Richter, 1970).

A second and much shorter vein is exposed 100 feet south of the main vein in two surface trenches about 100 feet apart. The vein generally strikes east-west and dips 84 to

87N. This vein contains only minor sulfides, but Pilgrim (1933) reported that abundant free coarse gold was panned from samples of this vein. This vein does not extend in depth to the underground workings.

Sixty feet further south, a third vein is exposed over a distance of 150 feet in pits and trenches. The third vein is also exposed in a short drift off the main adit. The vein has been stoped from the adit to the surface, the stoped area contained abundant galena and free gold (Pilgrim, 1933). Overall, the vein is lens shaped and pinches out to the east and west. A channel sample from the vein (Richter, 1970) contained 2 ppm gold.

Alteration:

Borden and others (1991) report carbonization, sulfidization, sericitization, and silicification of the wall rock adjacent to the veins.

Age of mineralization:

Tertiary; Boden and others (1991) report other veins in the district are about 55 m.y. old.

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:**

Four hundred and fifty feet of tunnels were driven in 1932 through 1934, but the amount of ore delineated was not enough to justify a mill (Capps, 1938). Some small-scale, surface mining took place in 1967 (Richter, 1970).

Production notes:**Reserves:**

None.

Additional comments:

This occurrence is within Kenai Fjords National Park, consequently the area is closed to mineral entry.

References:

Pilgrim, 1933; Capps, 1938; Richter, 1970; Cobb, 1972 (MF-397); MacKevett and Holloway, 1977; Cobb, 1979 (OFR 80-87); Borden and others, 1991.

Primary reference: Richter, 1970

Reporter(s): Jeff A. Huber (Anchorage)

Last report date: 02/15/99

Site name(s): Hatcher; Utopia; North Gold**Site type:** Prospects**ARDF no.:** SV009**Latitude:** 59.574**Quadrangle:** SV C-2**Longitude:** 150.508**Location description and accuracy:**

These prospects are located just south of Pilot Harbor on the west side of the North Arm of Nuka Bay. The Hatcher prospect consists of two short adits near the high tide line, just south of the entrance to Pilot Harbor. The Utopia and North Gold claims are described as being about one mile south of Pilot Harbor and the workings consist of a series of short tunnels and prospect pits which trace multiple white quartz veins up the ridge. This is Cobb's (1972, MF-397) location 24 and Richter's (1970) location 7. Cobb (1979, OFR 80-87) summarized the relevant references to this prospect under the name Hatcher. The location of the two adits is accurate to within 300 feet.

Commodities:**Main:** Ag, Au**Other:** Cu, Pb, Zn**Ore minerals:** Arsenopyrite, chalcopyrite, galena, gold, pyrite, sphalerite**Gangue minerals:** Quartz**Geologic description:**

The host rock of the prospects is Cretaceous Valdez Group slates and graywackes (Richter, 1970). The quartz veins are typical of the district and consist of white crystalline quartz with varying amounts of sulfides. Arsenopyrite is the dominate sulfide with decreasing amounts of pyrite, chalcopyrite, sphalerite, and galena. Gold occurs as free gold and is associated with arsenopyrite. The veins are confined to the more massive graywacke units and commonly pinch out when they splay into the slate units. The veins at the various tunnels and prospect pits range in width from five inches to over five feet. The general strike of the veins is east-west with a near vertical dip.

Alteration:

Borden and others (1991) report carbonization, sulfidization, sericitization, and silicification of the wall rock adjacent to the veins.

Age of mineralization:

Tertiary; Boden and others (1991) report other veins in the district are about 55 m.y. old.

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 several short tunnels and numerous prospect pits. No assay results are reported.

Production notes:**Reserves:**

None.

Additional comments:

These prospects are within Kenai Fjords National Park; the area is closed to mineral entry.

References:

Pilgrim, 1933; Richter, 1970; Cobb, 1972 (MF-397); MacKevett and Holloway, 1977; Cobb, 1979 (OFR 80-87); Borden and others, 1991.

Primary reference: Richter, 1970; Pilgrim, 1933

Reporter(s): Jeff A. Huber (Anchorage)

Last report date: 02/09/99

Site name(s): Johnston & Degan; Grubstake & Lost Boys

Site type: Prospect

ARDF no.: SV010

Latitude: 59.52

Quadrangle: SV C-2

Longitude: 150.49

Location description and accuracy:

The prospect is located on both sides of the ridge that separates Quartz Bay from Surprise Bay, both of which are in the West Arm of Nuka Bay. This is Cobb's (1972, MF-397) location 25 and MacKevett and Holloway's (1977) location 16. Cobb (1979, OFR 80-87) summarized the relevant references to this prospect under the name Johnson and Degan. This location is accurate within half a mile.

Commodities:

Main: Ag, Au

Other: Pb

Ore minerals: Arsenopyrite, galena, gold, pyrite

Gangue minerals: Quartz

Geologic description:

Cretaceous Valdez Group graywacke host the mineralization of the Johnson and Degan prospect (Richter, 1970). Generally quartz veins are hosted in the graywacke although conglomerates are found in the area. The veins are white quartz containing few percent sulfides, although some exposures show considerable iron-staining. A single sample through a vein at an elevation of 1,000 feet, on the Surprise Bay side of the ridge, assayed 0.98 ounces of gold and 1.0 ounce of silver per ton (Pilgrim, 1933).

Alteration:

Extensive oxidation staining on surface outcrops. Borden and others (1991) report other veins in the Nuka Bay district show carbonization, sulfidization, sericitization, and silicification of the wall rock adjacent to the veins.

Age of mineralization:

Tertiary; Boden and others (1991) report other veins in the district are about 55 m.y. old.

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 trails were laid and trenches were dug in the 1930's. A single sample through a vein at 1000 feet elevation on the Surprise Bay side of the ridge, assayed 0.98 ounces of gold and 1.0 ounce of silver per ton (Pilgrim, 1933).

Production notes:

Reserves:
None.

Additional comments:

This prospect is within the Kenai Fjords National Park; the area is closed to mineral entry.

References:

Pilgrim, 1933; Capps, 1938; Richter, 1970; Cobb, 1972 (MF-397); MacKevett and Holloway, 1977; Cobb, 1979 (OFR 80-87); Borden and others, 1991.

Primary reference: Pilgrim, 1933

Reporter(s): Jeff A. Huber (Anchorage)

Last report date: 02/09/99

Site name(s): Mills & Trimble**Site type:** Prospect**ARDF no.:** SV011**Latitude:** 59.26**Quadrangle:** SV B-5**Longitude:** 151.56**Location description and accuracy:**

The prospect is located in the northern one-half of section 1, T. 11 S., R. 14 W., of the Seward Meridian, about one mile west of Mt. Mills and about 1.5 miles north of the end of the Rocky River road that runs from Seldovia to Windy Bay. This location is accurate to within half a mile. This is Cobb's (1972, MF-397) location 3.

Commodities:**Main:** Ag, Au**Other:** Cu, Ni**Ore minerals:** Arsenopyrite, chalcopyrite, gold, pyrite**Gangue minerals:** Calcite, quartz**Geologic description:**

The bedrock around Mt. Mills is Cretaceous Valdez Group metasediments and greenstone that is cut by felsic dikes of probable Tertiary age (Cobb, 1979, OFR 80-87). The prospect consists of a zone 30 to 50 feet wide, composed of reddish, decaying dike rock which contains some thin quartz veins; it has been fractured by post-veining movement. The zone has a general north-south trend and dips 60 to 70W. The quartz veins are less than a foot wide and contain arsenopyrite, pyrite, and chalcopyrite. Several small adits have been made in this zone but no assay results are reported (Martin and others, 1915).

Alteration:

Alteration or oxidation of dike rock related to a possible shear zone.

Age of mineralization:

Younger than Cretaceous host rocks.

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:**

Several small adits were driven in the early 1900's. No assay results are reported (Martin and others, 1915).

Production notes:**Reserves:**

None.

Additional comments:**References:**

Grant and Higgins, 1910; Martin and others, 1915; Berg and Cobb, 1967; Cobb, 1972 (MF-397); MacKevett and Holloway, 1977; Cobb, 1979 (OFR 80-87).

Primary reference: Martin and others, 1915**Reporter(s):** Jeff A. Huber (Anchorage)**Last report date:** 03/04/99

Site name(s): Nuka Bays Mining Company; Nookas; Harrington

Site type: Mine

ARDF no.: SV012

Latitude: 59.554

Quadrangle: SV C-2

Longitude: 150.618

Location description and accuracy:

The Nuka Bay mine is on the northwest flank of Hill 1728 overlooking Beauty Bay. Beauty Bay is a northwest trending arm of Nuka Bay, about 65 miles southwest of Seward, Alaska. An overgrown trail begins near the first stream north of the mouth of the bay and climbs to an elevation of 1,100 feet where the portal and mill site are located. This is Cobb's (1972, MF-397) location 21 and Richter's (1970) location 4. Cobb summarized the relevant references under the name Nuka Bay Mines Co. This location is accurate to within 300 feet.

Commodities:

Main: Au

Other: Ag

Ore minerals: Arsenopyrite, gold, pyrite

Gangue minerals: Quartz

Geologic description:

The mineralization is hosted by slates and graywackes of the Cretaceous Valdez Group (Richter, 1970). The quartz veins that have been mined are typical of the district and consist of white crystalline quartz with various amounts of sulfides. Arsenopyrite is the dominant sulfide with minor amounts of pyrite. Gold occurs as free gold associated with arsenopyrite.

At the 1,480 foot workings a four-inch to three-foot vein has been drifted on for at least 35 feet. The vein is in a thin bedded graywacke and slate that strikes N85W and dips 82N. The vein is strongly iron stained and contains scattered lens and stringers of arsenopyrite and pyrite. A single channel sample of this vein assayed 8.8 ppm gold (Richter, 1970).

The workings at 1,180 feet elevation consists of a 30-foot-deep shaft that exposed a one- to two-feet-wide quartz vein. The vein strikes N20E and dips 30NW. The vein is exposed for about 20 feet on the surface and is hosted in a thin-bedded graywacke. A random channel sample of this vein assayed 304 ppm gold (Richter, 1970).

A 410 foot long exploration adit was driven at 1,120 feet elevation near the mill site.

The adit was driven eastward for 270 feet where it split into two drifts to the south. All the workings are in a massive graywacke that generally strikes northward and dips 35W. About 20 feet from the portal, a 0.5 foot-wide quartz vein was followed for about 30 feet. At about 65 feet from the portal, a wider vein was followed for almost 80 feet where it appears to end in a stockwork of veins about 160 feet from the portal. This vein strikes almost east-west and dips 80S. A sample of the vein assayed 0.8 ppm gold (Richter, 1970). The original purpose of the adit was probably to intercept the veins exposed at the surface but for an unknown reason, the tunnel stopped short of this goal.

Alteration:

None reported although Borden and others (1991) report other veins in the Nuka Bay district show carbonization, sulfidization, sericitization, and silicification of the wall rock adjacent to the veins.

Age of mineralization:

Tertiary; Boden and others (1991) report other veins in the district are about 55 m.y. old.

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:**

A 400 foot tunnel was driven prior to 1933 to test the downward extension of the veins at the 1,400 foot and 1,181 foot exposures but it failed to intercept significant veining at depth. A small Gibson mill was erected prior to 1933 (Pilgrim, 1933). Two shallow shafts were dug at 1,400 feet and 1,180 feet elevation. Twenty-four tons of ore from one of these shafts produced 27 ounces of retort (Pilgrim, 1933). Channel samples at an unknown location by Pilgrim (1933) returned up to 4.54 ounces of gold per ton. Richter (1970) sampled the 1,400 foot elevation exposure which assayed 8.8 ppm gold; a two foot channel sample at the 1,180 foot exposure contained 304 ppm gold.

Production notes:

This property has produced some gold but the exact amount is unknown.

Reserves:

None.

Additional comments:

This prospect is within Kenai Fjords National Park; the area is now closed to mineral

entry.

References:

Smith, 1932 (B 824); Pilgrim, 1933; Capps, 1938; Richter, 1970; Cobb, 1972 (MF-397); MacKevett and Holloway, 1977; Cobb, 1979 (OFR 80-87); Borden and others, 1991.

Primary reference: Richter, 1970; Pilgrim, 1933

Reporter(s): Jeff A. Huber (Anchorage)

Last report date: 02/15/99

Site name(s): Peter Sather; Rolphs; Alan Blairs

Site type: Prospect

ARDF no.: SV013

Latitude: 59.46

Quadrangle: SV B-2

Longitude: 150.63

Location description and accuracy:

This prospect is located on the beach along the south shore of Yalik Bay about two miles west of Yalik Point. Yalik Bay is about 70 miles southwest of Seward, Alaska in Nuka Bay. This is Cobb's (1972, MF-397) location 16 and is accurate within half a mile. Cobb (1979, OFR 80-87) summarized the relevant references under the name Sather.

Commodities:

Main: Au

Other: Ag, Cu, Pb

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

Gangue minerals: Calcite, quartz

Geologic description:

The Rolph No. 1 vein intrudes the black slate of the Cretaceous Valdez Group (Richter, 1970). The No.1 vein strikes S57E and dips 85E. On the surface, the vein ranges from a few inches to 42 inches thick and contains white crystalline quartz with pyrite, chalcopyrite, sphalerite, and galena. Surface samples of the vein contained 0.80 ounces of gold and 1.40 ounces of silver per ton (Pilgrim, 1933). In the adit, which is about 87 feet long, the vein is six inches wide and contains some sulfides, but no assay results are reported.

The western vein is along the margins of a light gray granodiorite dike and the black slates. In hand sample, the dike rock generally contains a few small altered amphibole and plagioclase phenocrysts; it is probably Tertiary in age (Richter, 1970). A 60 foot adit intersects but does not cross the vein. The vein is at least 30 inches wide in the adit and consists of dull white quartz with considerable slate fragments, but no sulfides. The margins of the slate fragments have calcite rims. A sample from a portion of the vein returned traces of gold and silver (Pilgrim, 1933).

Alteration:

Calcite rims are found on slate fragments within the vein.

Age of mineralization:

Tertiary; Boden and others (1991) report other veins in the district are about 55 m.y. old.

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:

Some surface excavations and 87 feet of adit were driven in the 1930's. Chip samples in the No. 1 vein assayed 0.8 ounces of gold and 1.40 ounces of silver per ton (Pilgrim, 1933). Chip/channel samples taken at the surface of the Rolph No. 1 vein along strike averaged 0.25 ounces of gold per ton (MacKevett and Holloway, 1977).

Production notes:**Reserves:**

None.

Additional comments:**References:**

Pilgrim, 1933; Capps, 1938; Cobb, 1972 (MF-397); MacKevett and Holloway, 1977; Cobb, 1979 (OFR 80-87).

Primary reference: Pilgrim, 1933

Reporter(s): Jeff A. Huber (Anchorage)

Last report date: 02/15/99

Site name(s): Unnamed (on Red Mountain)

Site type: Mine

ARDF no.: SV014

Latitude: 59.35

Quadrangle: SV B-4

Longitude: 151.49

Location description and accuracy:

The Red Mountain deposits consist of at least 30 known occurrences within a seven-square-mile area of ultramafic rocks. The center of the ultramafic rocks is section 28, T. 9 S., R. 13 W., of the Seward Meridian, which is about seven air miles southeast of Seldovia, Alaska. The area is accessible by a gravel road from Seldovia through the Windy River valley.

Commodities:

Main: Cr

Other: Ni

Ore minerals: Chromite

Gangue minerals:

Geologic description:

The Red Mountain ultramafic complex covers about 7 square miles and is part of the informally named Border Ranges ultramafic and mafic complex of Burns (1985). The Jurassic Border Ranges complex is thought to be the dismembered basal section of an island arc complex (Burns, 1985) which extends from the tip of the Kenai Peninsula to east of Sutton, Alaska.

The dunite body is a klippe thrust over the Cretaceous McHugh Complex graywackes and slates. The margin of the Red Mountain klippe is serpentized and the gross overall structure of the klippe is an elongated basin.

The Red Mountain ultramafic body is mostly dunite with some pyroxenite and garnet-pyroxenite layers (Guild, 1942). Chromite layers and lens up to 300 feet long and 60 feet wide are found only within the dunite. Generally, the layers strike northwest and dip steeply near the margins of the klippe and are nearly flat lying near the center of the body.

There are over 30 identified chromite occurrences that occur in thin lens bands and pod within the dunite layers of the ultramafic body. Small scale folds and small scale normal faults commonly disrupt the chromite layers. The Cr/Fe ratio of the chromite generally varies from 2.6 to 3.6; at least 90% of the chromite is with these limits (Gill, 1922).

Alteration:

Serpentization occurs along the margin of the ultramafic body.

Age of mineralization:

Mesozoic; based on the age of the ultramafic body that host the deposit.

Deposit model:

Podiform chromite (Cox and Singer, 1986; model 8a)

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

8b

Production Status: None**Site Status:** Inactive**Workings/exploration:**

The area was discovered about 1910 to 1915, and some minor development and production occurred in 1920 (Brooks, 1922). During WW II, the Bureau of Mines drilled over thirty diamond drill holes to evaluate the deposits. From 1942 to 1944, the Chrome Queen mine produced 6,650 tons of 40 to 42% chromite ore.

Ongoing exploration continued through the late 1980's. Anaconda Minerals drilled six diamond drill holes in about 1982 and 83 which tested the Horseshoe Stringer Zone and the Turner Stringer Zone (Bill Ellis, 1999, Personal communication). Anaconda Minerals also flew regional airborne geophysics in the early 1980's.

Production notes:

Total production from 1943 to 1958 was 26,000 metric tons of ore containing 38 to 43 percent chrome; the Chrome Queen mine produced 6,650 tons and the Star No. 4 mine produced 19,350 tons (Foley and Barker, 1985).

Reserves:

About 26,000 million tons of ore containing from 38 to 43% chromite were produced between 1943 and 1958. The remaining reserve are estimated to be 1.5 million tons of contained chromic oxide in 33 deposits (Foley, 1992). About 88,000 million tons of chromic oxide are contained in 20 relative high-grade deposits with more than 20 percent chromite. The bulk of the reserves, 1.35 million tons are in three low-grade deposits that contain 5 to 6 percent chromic oxide (Foley, 1992). These are the Turner Stringer Zone, (1.13 million metric tons chromic oxide), the Star Stringer Zone (189,000 metric tons chromic oxide) and the Horseshoe Stringer Zone (26,000 metric tons chromic oxide) (Foley, 1992).

Additional comments:

There is little information regarding the actual mining of this deposit.

References:

Grant and Higgins, 1910; Martin and others, 1915; Brooks, 1918; Mertie, 1919; Gill, 1920; Martin, 1920; Brooks, 1921; Gill, 1922; Smith, 1933 (B 844-A); Smith, 1934 (B 857-A); Smith, 1936 (B 868-A); Smith, 1937 (B 880-A); Smith, 1938 (B 897-A); Guild, 1942; Bain, 1946; Rutledge, 1946; Moxham and Nelson, 1952; Twenhofle, 1953; Williams, 1954; Wells and others, 1957; Berg and Cobb, 1967; Cobb, 1972 (MF-397); Forbes, 1974; Bird, 1978; MacKevett and others, 1978; Cobb, 1979 (OFR 80-87); Toth, 1981; Burns, 1985; Foley, Barker, and Brown, 1985; Foley and Barker, 1985; Foley, 1992.

Primary reference: Gill, 1922; Guild, 1942

Reporter(s): Jeff A. Huber (Anchorage)

Last report date: 03/09/99

Site name(s): Kenai Chrome; Star #4; Chrome Queen

Site type: Mine

ARDF no.: SV015

Latitude: 59.38

Quadrangle: SV B-4

Longitude: 151.47

Location description and accuracy:

The Red Mountain ultramafic body contains at least 30 chromite occurrences. The Kenai Chrome mine and the Chrome Queen mine are the only past producers. They are located in section 21, T. 9 S., R. 13 W., of the Seward Meridian.

Commodities:

Main: Cr

Other: Ni

Ore minerals: Chromite

Gangue minerals:

Geologic description:

The Red Mountain ultramafic complex covers about 7 square miles and is part of the informally named Border Ranges ultramafic and mafic complex of Burns (1985). The Jurassic Border Ranges complex is thought to be the dismembered basal section of an island arc complex (Burns, 1985) which extends from the tip of the Kenai Peninsula to east of Sutton, Alaska.

The dunite body is a klippe thrust over the Cretaceous McHugh Complex graywackes and slates. The margin of the Red Mountain klippe is serpentized and the gross overall structure of the klippe is an elongated basin.

The Kenai Chrome mine is located on the Star No. 4 claim at an elevation of 2,600 feet on the north side of the ultramafic body. The chromite seams can be traced for almost 1,000 feet but it is less than a foot thick for over half this distance (Guild, 1941). The main ore body was 625 feet long and had a maximum thickness of 9.8 feet. The strike of the layering is N10W and the dip varies from 35 to 70W except where minor folding has caused variations. Several small faults strike more or less at right angle to the chromite banding. The Cr/Fe ratio of the chromite generally varies from 2.6 to 3.6; at least 90% of the chromite is within these limits (Gill, 1922).

Alteration:

Age of mineralization:

Mesozoic; based on the age of the ultramafic body that hosts the deposit.

Deposit model:

Podiform chromite (Cox and Singer, 1986; model 8b)

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

8b

Production Status: Yes; small**Site Status:** Inactive**Workings/exploration:**

The area was discovered about 1910 to 1915 , and some minor development and production occurring in 1920 (Brooks, 1922). During WW II, the Bureau of Mines drilled over thirty diamond drill holes to evaluate the deposits. In 1942 through 1944, production from the Chrome Queen mine totaled 6,650 tons of 40 to 42% chromic oxide ore. Star No.4 produced 15,000 tons at 46% chromic oxide about 1954, from 490 feet of underground workings. Ore from the Star No. 4 averaged 40 to 46% chromic oxide. On-going exploration continued through the late 1980's. Anaconda Minerals drilled 6 diamond drill holes about 1982 and 83 which tested the Horseshoe Stringer Zone and the Turner Stringer Zone (Bill Ellis, 1999, personal communication). Anaconda Minerals also flew regional airborne geophysics over the body in the early 1980's.

Production notes:

About 26,000 million tons of ore containing from 38 to 43% chromic oxide were produced between 1943 and 1958 (Foley, 1992).

Reserves:

About 26,000 million tons of ore containing from 38 to 43% Cr₂O₃ were produced between 1943 and 1958. The remaining reserve are estimates to be 1.5 million tons of contained chromic oxide in 33 deposits (Foley, 1992). About 88,000 million tons chromic oxide are contained in 20 relative high-grade deposits with more than 20 percent chromite. The bulk of the reserves, 1.35 million tons are in three low -grade deposits that contain 5 to 6 percent chromic oxide (Foley, 1992). These are the Turner Stringer Zone, (1.13 million metric tons chromic oxide), the Star Stringer Zone (189,000 metric tons chromic oxide) and the Horseshoe Stringer Zone (26,000 metric tons chromic oxide) (Foley, 1992).

Additional comments:**References:**

Grant and Higgins, 1910; Martin and others, 1915; Brooks, 1918; Mertie, 1919; Gill, 1920; Martin, 1920; Brooks, 1921; Gill, 1922; Smith, 1933 (B 844-A); Smith, 1934 (B 857-A); Smith, 1936 (B 868-A); Smith, 1937 (B 880-A); Smith, 1938 (B 897-A); Guild,

1942; Bain, 1946; Rutledge, 1946; Moxham and Nelson, 1952; Twenhofle, 1953; Williams, 1954; Wells and others, 1957; Berg and Cobb, 1967; Cobb, 1972 (MF-397); Forbes, 1974; Bird, 1978; MacKevett and others, 1978; Cobb, 1979 (OFR 80-87); Toth, 1981; Burns, 1985; Foley and Barker, 1985; Foley, 1992.

Primary reference:

Reporter(s): Jeff A. Huber (Anchorage)

Last report date: 03/09/99

Site name(s): Reef; Anderson; Bluff; Claim Point**Site type:** Mine**ARDF no.:** SV016**Latitude:** 59.21**Quadrangle:** SV A-5**Longitude:** 151.82**Location description and accuracy:**

These chromite deposits occur on a small peninsula on the northern shore of Port Chatham in the SW 1/4 of section 21, T. 11 S., R. 15 W., of the Seward Meridian. Most of the chromite lens and layers are found on the northeast side of the peninsula near the old mill and wharf. This is location 1 of Cobb (1972, MF-397) and is accurate to within half a mile.

Commodities:**Main:** Cr**Other:****Ore minerals:** Chromite**Gangue minerals:****Geologic description:**

The chromite at Claim Point is hosted in dunite that is part of the informally named Border Ranges ultramafic and mafic complex of Burns (1985). The Border Ranges complex is Mesozoic in age. The complex is faulted at the base and there are many small northeast-trending, high-angle faults which offset the chromite layers. In general, the chromite layers strike northeast and dip nearly vertical.

Most of the production in the area has occurred from the Reef mine where the ore body strikes S76W with a nearly vertical dip, although some of the chrome layers show much local variation in dip and strike. The chromite layer is about 135 feet long and the width ranges from three to 35 feet. The chromic oxide content of the ore as shipped, ranged from 42 to 49 percent.

Foley and Barker (1985) estimates there is 82,000 metric tons of ore with grades ranging from 5 to 30% chromic oxide.

Alteration:

Serpentization.

Age of mineralization:

Mesozoic; based on the age of the ultramafic body that hosts the deposit.

Deposit model:

Podiform chromite (Cox and Singer, 1986; model 8a)

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

8a

Production Status: Yes; small

Site Status: Inactive

Workings/exploration:

Production totaled 2,000 metric tons from the Reef and Bluff mines from 1916 to 1918; development included a wharf and camp (Gill, 1922). Some drilling occurred during WW II by the U.S. Bureau of Mines. Anaconda Minerals flew regional airborne geophysics over the area in the early 1980's which showed a major magnetic high underlying the outer part of Port Chatham (William Ellis, 1999 personal communication).

Production notes:

There is a little information regarding the mining of this deposit.

Reserves:

There are conflicting estimates of the remaining reserves for this property. Foley (1992, p. 38) estimates a total resource of 82,000 metric tons of ore with 17.8% chromic oxide, while MacKevett and others (1978, p. 17) estimate a resource of 260,000 tons with 17.8% chromic oxide.

Additional comments:

The airborne geophysics suggests the dunite may extend under all of the Claim Point peninsula and under Port Chatham.

References:

Grant and Higgins, 1910; Martin and others, 1915; Brooks, 1918; Mertie, 1919; Gill, 1920; Martin, 1920; Brooks, 1921; Gill, 1922; Guild, 1942; Bain, 1946; Sanford and Cole, 1949; Twenhofel, 1953; Berg and Cobb, 1967; Cobb, 1972 (MF-397); Bird, 1977; MacKevett and Holloway, 1977; Cobb, 1979 (OFR 80-87); Burns, 1985; Foley and Barker, 1985; Foley, 1992.

Primary reference: Gill, 1922

Reporter(s): Jeff A. Huber (Anchorage)

Last report date: 03/07/99

Site name(s): Rock**Site type:** Prospect**ARDF no.:** SV017**Latitude:** 59.221**Quadrangle:** SV A-5**Longitude:** 151.646**Location description and accuracy:**

The Rock prospect is located on the north flank of Rock Mountain at about 1,100 feet of elevation. This is Cobb's (1972, MF-397) location 2 and is accurate to a quarter of a mile. Cobb (1979, OFR 80-87) summarized the relevant references under the name Rock.

Commodities:**Main:** Cu, Zn**Other:****Ore minerals:** Arsenopyrite, chalcopyrite, pyrite, pyrrhotite, sphalerite**Gangue minerals:** Clay, quartz**Geologic description:**

The discovery outcrop of the prospect is located on the contact of a graywacke of the Cretaceous Valdez Group with a Tertiary granite dike (Cobb, 1979 OFR 80-87). At this locality, the vein is 22 to 28 inches in width and strikes N19W with a dip of 60N. About 150 feet higher and to the south, what appears to be the same vein is exposed in two trenches where it is 36 to 44 inches wide. The vein contains quartz, arsenopyrite, chalcopyrite, sphalerite, pyrite, and pyrrhotite, but no precious metals are reported (Martin and others, 1915).

Alteration:

Clay selvage along the vein margins.

Age of mineralization:

Tertiary; possibly related to Tertiary granite dike.

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:

Minor surface trenches. No assay results are reported.

Production notes:

Reserves:

None.

Additional comments:

References:

Grant and Higgins, 1910; Martin and others, 1915; Berg and Cobb, 1967; Cobb, 1972 (MF-397); Mackevett and Holloway, 1977; Cobb, 1979 (OFR 80-87).

Primary reference: Martin and others, 1915

Reporter(s): Jeff A. Huber (Anchorage)

Last report date: 02/25/99

Site name(s): Rossness & Larson**Site type:** Mine**ARDF no.:** SV018**Latitude:** 59.56**Quadrangle:** SV C-2**Longitude:** 150.59**Location description and accuracy:**

The Rossness and Larson mine is about 0.2 miles north of VAMB Mid on the north shore of the North Arm of Nuka Bay. The property consists of three short adits, numerous open cuts, and the ruins of the mill and camp. Two of the adits are near the beach at 30 and 50 feet above sea level; they are on each side of a small stream which drains into the cove. The third adit is at an elevation of 107 feet and about 250 feet northwest of the lower tunnels.

Commodities:**Main:** Au**Other:** Ag**Ore minerals:** Arsenopyrite, gold, pyrite**Gangue minerals:** Quartz**Geologic description:**

The host rock of the prospect is graywacke and thin slate interbeds of the Cretaceous Valdez Group (Richter, 1970). The quartz veins of this prospect consist of white crystalline quartz with various amounts of sulfides. Arsenopyrite is the dominate sulfide with minor amounts of pyrite. Gold occurs as free gold and associated with arsenopyrite. The veins at this prospect are lens shaped and generally follow the bedding which strikes N30W and dips 67S (Pilgrim, 1933). They range from less than one inch to over four feet in width.

The southwest adit is 30 feet in length and follows a stockwork of parallel quartz veins. The veins range in width from 0.1 to 0.5 foot and strike N30W and dip 67S. A composite sample across four of these veins assayed 26 ppm gold (Richter, 1970). The northwest adit is caved and appears to have followed a single quartz-arsenopyrite vein that trends east-west and dips 80S. Richter (1970) sampled this vein and it contained 0.05 ppm gold. The upper adit at 110 foot elevation trends east-west and dips 80S. There are no assay results from this adit.

North of the two adits near the beach, there is a pyritized, light colored dike swarm which trends N20W. A sample of this dike swarm contained 0.028 ounces of gold per

ton (Pilgrim,1933).

Alteration:

Borden and others (1991) report carbonization, sulfidization, sericitization, and silicification of the wall rock adjacent to the veins.

Age of mineralization:

Tertiary; Boden and others (1991) report other veins in the district are about 55 m.y. old.

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:

According to Pilgrim, (1933) the mine produced some gold during the 1931-33 period but it was inactive during Capps' 1936 visit (Capps, 1938, p. 32). Three adits totaling 170 feet in length and numerous surface cuts occur on the property. Composite samples by Richter (1970) of the southwest veins assayed 26 ppm gold. Samples by Pilgrim (1933) assayed between 0.08 and 0.064 ounces of gold and 0.40 ounces of silver per ton. A sample of the pyritic dike assayed 0.028 ounces of gold per ton (Pilgrim,1933).

Production notes:**Reserves:**

None.

Additional comments:

This prospect is within the Kenai Fjords National Park; the park is closed to mineral entry.

References:

Pilgrim, 1933; Capps, 1938; Berg and Cobb, 1967; Richter, 1970; Cobb, 1972 (MF-397); MacKevett and Holloway, 1977; Cobb, 1979 (OFR 80-87); Borden and others, 1991.

Primary reference: Pilgrim, 1933

Reporter(s): Jeff A. Huber (Anchorage)

Last report date: 02/17/99

Site name(s): Sonny Fox; Babcock & Downey; Lady Luck

Site type: Mine

ARDF no.: SV019

Latitude: 59.54

Quadrangle: SV C-2

Longitude: 150.47

Location description and accuracy:

The Sonny Fox mine was the principal gold producer in the Nuka Bay area. The mine is located on the west side of Babcock Creek at an elevation of 200 feet. Babcock Creek drains into Surprise Bay which is at the West Arm of Nuka Bay. This is Cobb's (1972, MF-397) location 28 and Richter's (1970) location 9. Cobb (1972, OFR 80-87) summarized the relevant references under the name Sonny Fox.

Commodities:

Main: Ag, Au, Cu

Other: Pb, Zn

Ore minerals: Arsenopyrite, chalcopyrite, galena, gold, native copper, native silver, pyrite, sphalerite

Gangue minerals: Calcite, quartz

Geologic description:

The host rocks of the prospect are graywacke and slate of the Cretaceous Valdez Group (Richter, 1970). Most of the production on the property has come from the Lucky Lady Vein which averages about 2 feet thick. The vein strikes generally northeast and dips 60SE. The vein is white quartz and in parts shows some banding. The most abundant sulfide mineral is arsenopyrite, with minor amounts of pyrite, chalcopyrite, sphalerite and galena (Richter, 1970). Free gold was also present, often in coarse particles visible to the naked eye (Pilgrim, 1933). Over 800 feet of drifts, tunnels, and stopes have been driven on this vein. The other vein on the property is lens shaped and contains the same sulfide assemblage as the Lucky Lady. The veins are thickest in the more massive graywacke units and trend to pinch out in the slate units.

Richter (1970) calculated there are at least 800 feet of workings at the mine site exclusive of raises, stopes and shafts. The mill was a No.1 Denver Quartz Mill with a capacity of 7 tons per 22 hours. The concentrates ranged in grade from \$128.00 per ton to over \$530 per ton (at \$20.67 per ounce gold) and were shipped to the Tacoma smelter (Pilgrim, 1933). The mine produced from 1926 to 1940 and production totaled \$70,000 during that time (Richter, 1970).

Alteration:

Borden and others (1991) report carbonization, sulfidization, sericitization, and silicification of the wall rock adjacent to the veins.

Age of mineralization:

Tertiary; Boden and others (1991) report other veins in the district are about 55 m.y. old.

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:**

Richter (1970) calculated there are at least 800 feet of workings at the mine site exclusive of raises, stopes and shafts. The mill was a No.1 Denver Quartz Mill with a capacity of 7 tons per 22 hours. The concentrates ranged in grade from \$128.00 per ton to over \$530 per ton (at \$20.67 per ounce gold) and were shipped to the Tacoma smelter (Pilgrim, 1933).

Production notes:

The mine produced from 1926 to 1940 and production totaled \$70,000 during that time (Richter, 1970). The concentrates ranged in grade from \$128.00 per ton to over \$530 per ton and were shipped to the Tacoma smelter (at \$20.67 per ounce gold, Pilgrim, 1933).

Reserves:

None.

Additional comments:**References:**

Smith, 1930 (B 813); Smith, 1932 (B 824); Pilgrim, 1933; Capps, 1938; Berg and Cobb, 1967; Richter, 1970; Cobb, 1972 (MF-397); MacKevett and Holloway, 1977; Cobb, 1979 (OFR 80-87); Borden and others, 1991.

Primary reference: Pilgrim, 1933; Richter, 1970**Reporter(s):** Jeff A. Huber (Anchorage)**Last report date:** 02/16/99

Site name(s): Tidewater; Skinner**Site type:** Prospect**ARDF no.:** SV020**Latitude:** 59.51**Quadrangle:** SV C-2**Longitude:** 150.48**Location description and accuracy:**

The Tidewater prospect is on the steep, rocky, east shore of Surprise Bay in the south-east corner of the Seldovia C2 quadrangle. Surprise Bay is in the West Arm of Nuka Bay. A short adit that was at sea level prior to the 1964 earthquake is now almost completely flooded at high tide (Richter, 1970). The adit was 42 feet in length but is less 25 feet long now due to wave action. This is Cobb's (1972, MF-397) location 27 and Richter's (1970) location 10. Cobb (1972, OFR 80-87) summarized the relevant references under the name Tidewater.

Commodities:**Main:** Au**Other:****Ore minerals:** Arsenopyrite, gold**Gangue minerals:** Quartz**Geologic description:**

The prospect is in graywacke and interbedded slate of the Cretaceous Valdez Group (Richter, 1970). Prior to 1931, a 41 foot adit was driven on a vein that strikes N80E and dips 72S. The vein consists of a half-foot of sheeted quartz with scattered lens of arsenopyrite along the footwall and as much as four feet of barren quartz stockwork in the hanging wall. The country rock along the hanging wall is a graywacke that was brecciated prior to the introduction of the quartz stockwork. Assay values ranged from \$38.90 to \$18.00 per ton with gold at \$20.67 per ounce (Pilgrim, 1933).

Alteration:

None reported although, Borden and others (1991) report other veins in the Nuka Bay district show carbonization, sulfidization, sericitization, and silicification of the wall rock adjacent to the veins.

Age of mineralization:

Tertiary; Boden and others (1991) report other veins in the district are about 55 m.y.

old.

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:

A 41 foot adit was driven in the 1930's. Richter (1970) took a single channel sample across the vein in the face of the drift, that assayed 6.5 ppm gold.

Production notes:

Probably none.

Reserves:

None.

Additional comments:**References:**

Pilgrim, 1933; Cobb, 1972 (MF-397); Richter, 1970; MacKevett and Holloway, 1977; Cobb, 1979 (OFR 80-87); Borden and others, 1991.

Primary reference: Richter, 1970; Pilgrim, 1933

Reporter(s): Jeff A. Huber (Anchorage)

Last report date: 02/18/99

Site name(s): Unnamed (in Port Dick)**Site type:** Prospect**ARDF no.:** SV021**Latitude:** 59.313**Quadrangle:** SV B-4**Longitude:** 151.357**Location description and accuracy:**

The prospects are about a mile and a quarter west of the head of Port Dick in the NW 1/4 section 17, T.10 S., R. 12 W., of the Seward Meridian, and the NE 1/4 of section 18, T.10 S., R. 12 W., of the Seward Meridian. The lower adit is about 200 feet above sea level, and the upper adit is about 500 feet above sea level. This is Cobb's (1972, MF-397) location 14. This location is accurate within a quarter of a mile.

Commodities:**Main:** Au**Other:** Ag, Cu, Zn**Ore minerals:** Arsenopyrite, chalcopyrite, gold, pyrite, sphalerite**Gangue minerals:** Quartz**Geologic description:**

The country rock at the head of the West Arm of Port Dick is hornfelsed graywacke and greenstones of the Cretaceous Valdez Group that have been intruded by fine-grained biotite granite dikes of Tertiary age (MacKevett and Holloway, 1978). The quartz veins are nearly vertical and cut both the granite dikes and the graywacke. The lower prospect is at about 200 feet of elevation where an adit 140 feet long was driven on a vein that strikes N54W and dips 75 to 85N. The vein ranges from 6 to 20 inches in width and averages 15 inches thick. The vein consists of quartz with segregations of arsenopyrite and pyrite that give the vein a banded appearance. The upper vein at an elevation of about 500 feet is about 500 feet to the south. It is about 24 inches thick. An adit 310 feet long has been driven N69W along strike on the vein. The upper vein is similar to the lower vein and contains traces of sphalerite and small fractures filled with calcite. The wall rock is a fine-grained granite (Brooks, 1909).

Alteration:

None reported.

Age of mineralization:

Tertiary; veins cut Tertiary granite dikes.

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:

Several hundred feet of tunnels were driven in 1899, and 1904 through 1907 by the Alaska Commercial Company. A grab sample provided to Brooks (1909) assayed at 0.123 ounces of gold and 1.32 ounces of silver per ton. There is no reported production from this location.

Production notes:

None reported.

Reserves:

None reported.

Additional comments:

This prospect is within Kachemak Bay State Wilderness Park; the area is withdrawn from mineral entry.

References:

Brooks, 1909; Martin and others, 1915; Berg and Cobb, 1967; MacKevett and Holloway, 1977; Cobb, 1972 (MF-397); Cobb, 1979 (OFR 80-87).

Primary reference: Brooks, 1909

Reporter(s): Jeff A. Huber (Anchorage)

Last report date: 02/03/99

Site name(s): Kusturin and Johnson

Site type: Occurrence

ARDF no.: SV022

Latitude: 59.62

Quadrangle: SV C-1

Longitude: 150.18

Location description and accuracy:

The occurrence overlooks Taroka Arm and is on the south flank of Hill 3835 at about 1,300 feet in elevation. Taroka Arm is the southeastern arm of Two Arm Bay. This is MacKevett and Holloway's (1977) location 20 and is accurate to within half a mile.

Commodities:

Main: Au

Other:

Ore minerals: Chalcopyrite, gold, pyrite

Gangue minerals: Quartz

Geologic description:

Three, quartz-pyrite veins intrude Cretaceous Valdez Group graywacke and slate (MacKevett and Holloway, 1977). The veins are 2 to 6 feet thick. Martin and others (1915) visited one of the veins that strikes N27E and dips 40W. It was 71 inches thick and contained pyrite, chalcopyrite, and graphite. No assay results are reported.

Alteration:

None reported.

Age of mineralization:

Cretaceous or younger; the veins cut Cretaceous graywacke.

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:

Some minor stripping was reported by Martin and others (1915).

Production notes:

No production is known.

Reserves:

None reported.

Additional comments:

This prospect is within Kenai Fjords National Park; the area is closed to mineral entry.

References:

Grant and Higgins, 1910; Martin and others, 1915; Berg and Cobb, 1967; Cobb, 1972 (MF-397); MacKevett and Holloway, 1977; Cobb, 1979 (OFR 80-87).

Primary reference: Martin and others, 1915

Reporter(s): Jeff A. Huber (Anchorage)

Last report date: 03/09/99

Site name(s): Nukalaska; Honolulu Group**Site type:** Mine**ARDF no.:** SV023**Latitude:** 59.509**Quadrangle:** SV C-2**Longitude:** 150.667**Location description and accuracy:**

The Nukalaska mine is on a precipitous north-facing slope below peak 2560 in the southwest part of the Seldovia C-2 quadrangle. The mine's camp was located on Sunny Cove, an embayment on the west arm of Nuka Bay. From the camp, a road was driven 1 1/4 miles to the mill site at an approximate elevation of 600 feet. The mill site was the terminus of an aerial tramway which rose 1,800 feet to the mine's portal about 235 feet north and 200 feet below the discovery outcrop. This Cobb's (1972, MF-397) location 17 and Richter's location 1. This location is accurate to within 300 feet.

Commodities:**Main:** Au**Other:** Ag, Cu, Te?**Ore minerals:** Arsenopyrite, chacopyrite, chalcocite, covellite, galena, gold, sylvanite?, tetrahedrite**Gangue minerals:** Quartz**Geologic description:**

The host rocks of the mine are slate and graywacke of the Cretaceous Valdez Group that have been cut by quartz diorite dikes of Tertiary age (Richter, 1970). The deposit consists of a 10- to 18-inch-thick banded quartz vein that occurs along the footwall of a 12-foot-thick quartz diorite dike. The vein is younger than the dike; low-grade veinlets that divert into the dike are common. The vein strikes almost due east at a right angle to the graywacke country rock and dips 80S. The ore consists of somewhat banded quartz with free gold, arsenopyrite, pyrite, galena, and chacopyrite. Microscopic examination by Yewell (Capp, 1938) also identified tetrahedrite, chalcocite, and covellite. The gold appears to be localized within high-grade shoots within the vein.

From the top of the tramway the main haulage drift was driven 235 feet to intersect the vein. Two drifts were driven both east and west along the vein. The east drift was driven 200 feet but no significant mineralization was encountered. All the production came from the west drift. In 1936, the west stope was 140 feet long and 80 feet high along the 12- to 18-inch-wide vein. Concentrates from this stope carried 21 to 51 ounces of gold per ton;

even though two-thirds of the mill feed was wall rock (Capps, 1938).

Alteration:

None reported although Borden and others (1991) report other veins in the Nuka Bay district show carbonization, sulfidization, sericitization, and silicification of the wall rock adjacent to the veins.

Age of mineralization:

Tertiary; Boden and others (1991) report other veins in the district are about 55 m.y. old.

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 mine was discovered in 1926 and developed in 1934-35. It produced from 1935 to 1940. In 1936, the west stope was 140 feet long and 80 feet high along the 12- to 18-inch-wide vein. Concentrates from this stope carried 21 to 51 ounces of gold per ton; even though two-thirds of the mill feed was wall rock. (Capps, 1938). A fire in 1938 and snow slides in 1939 hampered mining. World War II closed the mine in 1942 and an attempt to reopen the mine after the war failed (Richter, 1970).

Production notes:

The gold occurred in very high-grade shoots. Ore mined in 1936 yielded \$100 per ton (\$35 per ounce gold) even though two-thirds of the mill feed was country rock (Capps, 1938, p.27-29). The total production for this mine is unknown.

Reserves:

None reported.

Additional comments:

This mine is within Kenai Fjords National Park; the area is closed to mineral entry.

References:

Capps, 1938; Smith, 1939 (B 910-A); Smith, 1941 (B 926-A); Berg and Cobb, 1967; Richter, 1970; MacKevett and Holloway, 1977; Cobb, 1979 (OFR 80-87); Borden and others, 1991.

Primary reference: Capps, 1938; Richter, 1970

Reporter(s): Jeff A. Huber (Anchorage)

Last report date: 02/02/99

Site name(s): Morris, Sheridan, Kupper, and Lee

Site type: Occurrence

ARDF no.: SV024

Latitude: 59.57

Quadrangle: SV C-2

Longitude: 150.39

Location description and accuracy:

Large pieces of quartz-chalcopyrite bearing float have been found on the east shore of James Lagoon, within the east arm of Nuka Bay. This is Cobb's (1972, MF-397) location 32. This location is accurate to within half a mile.

Commodities:

Main: Cu

Other:

Ore minerals: Chalcopyrite

Gangue minerals: Quartz

Geologic description:

Pieces of quartz float up to five feet in diameter containing chalcopyrite have been found. Bedrock in this area is Cretaceous Valdez Group graywacke and slate, that has been intruded by Tertiary granitic dikes. (Cobb, 1979, OFR 80-87).

Alteration:

None reported.

Age of mineralization:

Deposit model:

Insufficient information to classify

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

Production Status: None

Site Status: Inactive

Workings/exploration:

Martin and others (1915) report little physical exploration.

Production notes:

Reserves:

None reported.

Additional comments:

This occurrence is within Kenai Fjords National Park; the area is closed to mineral entry.

References:

Grant and Higgins, 1910; Martin and others, 1915; Cobb, 1972 (MF-397); Cobb, 1979 (OFR-80-87).

Primary reference: Cobb, 1979

Reporter(s): Jeff A. Huber (Anchorage)

Last report date: 02/04/99

Site name(s): Windy River**Site type:** Prospect**ARDF no.:** SV025**Latitude:** 59.39**Quadrangle:** SV B-5**Longitude:** 151.48**Location description and accuracy:**

The deposit is a placer in Windy River. Windy River flows from Red Mountain and drains into Jakolof Creek which drains into Jakolof Bay. Access to the prospect is by road from Seldovia to Red Mountain. The prospect starts at the base of Red Mountain and runs for 2 .5 miles northeast through a U-shaped valley. The deposit is approximately 0.25 miles wide and ranges from 55 to 72 feet thick (Foley and Barker, 1985).

Commodities:**Main:** Cr**Other:****Ore minerals:** Chromite**Gangue minerals:****Geologic description:**

Bedrock in the drainage is McHugh Formation slate and graywacke. A joint study by Anaconda Minerals and the U.S. Bureau of Mines indicates there are 20,920,000 yards of sand and gravel that contain 1.33% chromic oxide per yard (Foley and Barker, 1985). The deposit is approximately 2.5 miles long, 0.25 mile wide and varies from 55 to 72 feet thick. Within the mineralized area, Windy River flows as a perennial meandering stream with a gradient of 120 feet per mile.

Examination of the drill logs and assay results shows that the chromite is disseminated throughout the gravels and not concentrated on bedrock. Barren overburden, defined as containing less than 1% chromic oxide ranges from less than 3 feet to over 30 feet thick with an average of six feet. To date no production has occurred from this drainage.

Alteration:

None.

Age of mineralization:

Quaternary.

Deposit model:

Placer Cr

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):**Production Status:****Site Status:** Inactive**Workings/exploration:**

Anaconda Minerals and the US Bureau of Mines cooperatively did surface mapping, seismic profiles, bulk sampling and drilled reverse circulation drill holes in 1982 (Foley and Barker, 1985). During World War II, Rutledge (1946) investigated the placers around the headwaters of Windy River and down slope from the Turner Stringer zone.

Production notes:**Reserves:**

The reserves are 20,920,000 cubic yards with an average grade of 1.33% chromic oxide per yard (Foley and Barker, 1985).

Additional comments:**References:**

Guild, 1942; Rutledge, 1946; Foley and Barker, 1985.

Primary reference: Foley, 1985**Reporter(s):** Jeff A. Huber (Anchorage)**Last report date:** 02/22/99

Site name(s): Unnamed (onTwo Arm Bay)

Site type: Occurrence

ARDF no.: SV026

Latitude: 59.69

Quadrangle: SV C-1

Longitude: 150.13

Location description and accuracy:

The occurrence is located near VABM Beach at the head of Paguna Bay, which is the east arm of Two Arm Bay. This location is accurate to within one mile.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals: Quartz

Geologic description:

A few small apparently barren quartz veins and auriferous granite dikes cut slate and graywacke of the Cretaceous Valdez Group (Cobb, 1979, OFR 80-87). A sample of granite assayed \$1.80 gold per ton, at \$20.67 per ounce gold (Grant and Higgins, 1910).

Alteration:

None reported.

Age of mineralization:

Cretaceous or younger; veins cut and dike cuts Cretaceous graywacke.

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:

None reported.

Production notes:**Reserves:**

None.

Additional comments:

This prospect is within Kenai Fjords National Park; the area is now closed to mineral entry.

References:

Grant and Higgins, 1910; Martin and others, 1915; Berg and Cobb, 1967; Cobb, 1972 (MF-397); MacKevett and Holloway, 1977; Cobb, 1979 (OFR 80-87).

Primary reference: Martin and others, 1915

Reporter(s): Jeff A. Huber (Anchorage)

Last report date: 04/05/99

Site name(s): Unnamed (near Shelter Cove)**Site type:** Occurrences**ARDF no.:** SV027**Latitude:** 59.523**Quadrangle:** SV C-2**Longitude:** 150.623**Location description and accuracy:**

Two occurrences are located on the southeast shore of West Arm of Nuka Bay, near the mouth of Beauty Bay. Both occurrences are exposed on the sea cliff. The northern most exposure is a two-foot-wide vein which strikes N80E. The southern occurrence is about 0.3 miles south of the northern exposure and consists of a four-foot-wide zone of quartz and fractured graywacke. This is Cobb's (1972, MF-397) location 18 and Richter's (1970) locations 11 and 12. This location is accurate to within a quarter of a mile.

Commodities:**Main:** Au**Other:****Ore minerals:** Arsenopyrite, gold, pyrite**Gangue minerals:** Quartz**Geologic description:**

Both occurrences are in massive graywacke of the Cretaceous Valdez Group (Richter, 1970). The northern most exposure is a two-foot-wide quartz-arsenopyrite vein that strikes N80E. and dips vertically. The vein has a thin clay gouge zone in the center and along the hanging wall margin. A single channel sample assayed 0.02 ppm gold (Richter, 1970).

The southern occurrence is a four-foot-wide zone of fractured graywacke with quartz-arsenopyrite lens that varies from 0.5- to 2-feet-thick. A two foot channel sample taken across the widest part of the mineralization contained 0.062 ppm gold (Richter, 1970).

Alteration:

Clay gouge occurs in the center of the vein and along hanging wall of northern occurrence.

Age of mineralization:

Tertiary; Boden and others (1991) report other veins in the district are about 55 m.y. old.

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:**

Samples from the southern occurrence assayed 0.62 ppm gold and from the northern occurrence assayed 0.028 ppm gold (Richter, 1970).

Production notes:**Reserves:**

None reported.

Additional comments:

This prospect is within Kenai Fjords National Park, the area is now closed to mineral entry.

References:

Pilgrim, 1933; Richter, 1970; Cobb, 1972 (MF-397); Cobb, 1979 (OFR 80-87).

Primary reference: Richter, 1970**Reporter(s):** Jeff A. Huber (Anchorage)**Last report date:** 03/09/99

Site name(s): Alley

Site type: Occurrence

ARDF no.: SV028

Latitude: 59.33

Quadrangle: SV B-5

Longitude: 151.73

Location description and accuracy:

The occurrence is located on the southwest side of Hill 2402 overlooking Port Graham in section 1, T. 10 S., R. 15 W., of the Seward Meridian. This location is accurate to within half a mile.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals: Quartz

Geologic description:

Thin quartz veinlets with in fractured cherts of the Triassic Kamishak Formation. One sample is reported to assay \$6.00 a ton gold with gold selling for \$20.67 per ounce (Martin and others, 1915).

Alteration:

None reported.

Age of mineralization:

Triassic or younger; veinlets cut Triassic sedimentary rocks.

Deposit model:

Insufficient data to classify

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

Production Status: None

Site Status: Inactive

Workings/exploration:

Martin and others (1915) report a single sample that assayed \$6.00 in gold per ton at \$20.67 per ounce gold.

Production notes:**Reserves:**

None reported.

Additional comments:**References:**

Grant and Higgins, 1910; Martin and others, 1915; Berg and Cobb, 1967; Cobb, 1979 (OFR 80-87).

Primary reference: Cobb, 1979 (OFR 80-87)

Reporter(s): Jeff A. Huber (Anchorage)

Last report date: 03/27/99

Site name(s): Unnamed (near the Seldovia airport)

Site type: Occurrence

ARDF no.: SV029

Latitude: 59.44

Quadrangle: SV B-5

Longitude: 151.69

Location description and accuracy:

The occurrence is near the Seldovia Airport. This location is accurate to within one mile.

Commodities:

Main: Graphite

Other:

Ore minerals: Graphite

Gangue minerals:

Geologic description:

Martin (1920) reports some work was done at a graphite prospect at Seldovia. Cobb (1979, OFR 80-87) reports seeing some graphite in a roadcut near the airport. These are the only references to the occurrence.

Alteration:

None reported.

Age of mineralization:

Deposit model:

Insufficient data to classify

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

Production Status: None

Site Status: Inactive

Workings/exploration:

None reported.

Production notes:**Reserves:**

None reported.

Additional comments:**References:**

Martin, 1920; Cobb, 1979 (OFR 80-87).

Primary reference: Cobb, 1979 (OFR 80-87)

Reporter(s): Jeff A. Huber (Anchorage)

Last report date: 03/28/99

Site name(s): Snow**Site type:** Occurrence**ARDF no.:** SV030**Latitude:** 59.348**Quadrangle:** SV B-5**Longitude:** 151.659**Location description and accuracy:**

The occurrence is located on the southwest side of the Seldovia River valley within the SW1/4 of section 33, T. 9 S., R. 14 W., of the Seward Meridian. This location is accurate to within a quarter of a mile.

Commodities:**Main:** Cr**Other:****Ore minerals:** Chromite**Gangue minerals:** Olivine**Geologic description:**

Thin lens and pods of chromite within in a klippe of the informally named Border Ranges mafic and ultramafic complex of Burns (1985). Overall the klippe is about 2 square miles in size and is composed of mostly of hartzbergites and pyroxenites with minor amounts of dunite (Bill Ellis, personal communication, 1999). Chromite is found within the dunite layers as thin layers, lens and pods.

Alteration:

Serpentization.

Age of mineralization:

Jurassic.

Deposit model:

Podiform chromite (Cox and Singer, 1986; model 8b)

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

8b

Production Status: None

Site Status: Inactive

Workings/exploration:

Anaconda minerals discovered the occurrence in 1982 as part of a regional exploration program on the Kenai Peninsula. Work included airborne geophysics, stream and soil geochemistry, minor hand trenching and rock chip samples. Selected samples assayed up to 35% chromic oxide (William Ellis, personal communication, 1999).

Production notes:

Reserves:

None.

Additional comments:

References:

This description.

Primary reference: This description

Reporter(s): Jeff A. Huber (Anchorage)

Last report date: 04/14/99

References

- Atwood, W.W., 1909, Mineral resources of southwestern Alaska: U.S. Geological Survey Bulletin 379, p. 108-152.
- Bain, H.F., 1946, Alaska's minerals as a basis for industry: U. S. Bureau of Mines Information Circular 7379, 89 p.
- Barnes, F.F., and Cobb, E.H., 1959, Geology and coal resources of the Homer district, Kenai coal field, Alaska: U.S. Geological Survey Bulletin 1058-F, p. 217-260.
- Berg, H.C., and Cobb, E.H., 1967, Metalliferous lode deposits of Alaska: U.S. Geological Survey Bulletin 1246, 254 p.
- Bird, M.L., 1977, Electron-microprobe analyses of chromite and olivine from alpine ultramafic complexes: U.S. Geological Survey Open-file Report 77-236, 69 p.
- Bird, M.L., 1978, Electron-microprobe study of chromatites associated with alpine ultramafic complexes and some genetic implications: U.S. Geological Survey Open-file Report 78-119, 53 p.
- Borden, J.C., Goldfarb, R.J., Gent, C.A., Burruss, R.C., and Roushey, B.H., 1991 Geochemistry of lode-gold deposits, Nuka Bay district, southern Kenai Peninsula: Geologic studies in Alaska by the U.S. Geological Survey, 1991, p. 13-21.
- Brooks, A.H., 1909, The mining industry in 1908: U.S. Geological Survey Bulletin 379, p. 21-62.
- Brooks, A.H., 1912, The mining industry in 1911: U.S. Geological Survey Bulletin 520, p. 17-44.
- Brooks, A.H., 1918, The Alaskan mining industry in 1916: U.S. Geological Survey Bulletin 662, p. 11-62.
- Brooks, A.H., 1921, The future of Alaska mining: U.S. Geological Survey Bulletin 714, p. 5-57.
- Burns, L.E., 1985, The Border Range ultramafic and mafic complex, southcentral Alaska: Cumulative fractionates of island-arc volcanics: Canadian Journal of Earth Science, v. 22, p.1020-1038.
- Capps, S.R., 1938, Lode mining in the Nuka Bay district, in Smith, P.S., Mineral industry of Alaska in 1936: U. S. Geological Survey Bulletin 897-A, p. 25-32.
- Cobb, E.H., 1972, Metallic minerals resources map of the Seldovia quadrangle, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-397, 1 sheet, scale 1:250,000.
- Cobb, E.H., 1973, Placer deposits of Alaska: U.S. Geological Survey Bulletin 1374, 213 p.
- Cobb, E.H., 1979, Summary of references to mineral occurrences (other than minerals fuels and construction materials) in the Seldovia quadrangle, Alaska: U.S. Geological Survey Open-file Report 80-87, 47 p.
- Cobb, E.H., and Kachadoorian, Reuben, 1961, Index of metallic and nonmetallic mineral deposits of Alaska compiled from published reports of Federal and State agencies through 1959: U.S. Geological Survey Bulletin 1139, 363 p.
- Foley, J.Y., 1992, Ophiolite and other ultramafic metallogenic provinces in Alaska (west of the 141th meridian): U.S. Geological Survey Open-file Report 92-20B 65 p.
- Foley, J.Y. and Barker, J.C., 1985, Chromite deposits along the Border Range Fault, southern Alaska: 1, Field Investigation and descriptions of chromite deposits: U.S. Bureau of Mines Information Circular 8990,

- 49 p.
- Foley, J.Y., Barker, J.C., and Brown, L.L., 1986, Chromite resources in Alaska; U.S. Bureau of Mines Information Circular 9087, p. 23-29.
- Forbes, R.B., 1974, Garnet-Clinopyroxenite from Red Mountain pluton, Alaska: Geological Society of America Bulletin v. 85, p. 285-292.
- Gill, A.C., 1920, Preliminary report on the chromite of Kenai Peninsula: U.S. Geological Survey Bulletin 712, p. 99-129.
- Gill, A.C., 1922, Chromite of Kenai Peninsula, Alaska: U.S. Geological Survey Bulletin 742, 52 p.
- Grant, U.S., and Higgins, D.F., 1910, Preliminary report on the mineral resources of the southern part of Kenai Peninsula: U.S. Geological Survey Bulletin 442, p. 166-178.
- Guild, P.W., 1942, Chromite deposits of Kenai Peninsula, Alaska: U.S. Geological Survey Bulletin 931-G, p. 139-175.
- MacKevett, B.N., Jr., and Holloway, C.D., 1977, Map showing metalliferous and selected nonmetalliferous mineral deposits in the eastern part of southern Alaska: U.S. Geological Survey Open-file Report 77-169A, 1 sheet + 99 p. tabular material, scale 1:1,000,000.
- MacKevett, B.N., Jr., Singer, D.A., and Holloway, C.D., 1978, Maps and tables describing metalliferous mineral resource potential of southern Alaska: U.S. Geological Survey Open-file Report 78-1-E, 45 p. + maps, scale 1:1,000,000.
- Martin, G.C., 1920, The Alaskan mining industry in 1918: U.S. Geological Survey Bulletin 712, p. 11-52.
- Martin, G.C., and others, 1915, Geology and mineral resources of Kenai Peninsula, Alaska: U.S. Geological Survey Bulletin 587, 243 p.
- Mertie, J.B., Jr., 1919, Chromite deposits in Alaska: U.S. Geological Survey Bulletin 692, p. 265-267.
- Moffit, F.H., 1906, Gold fields of the Turnagain Arm region: U.S. Geological Survey Bulletin 277, p. 7-52.
- Moffit, F.H., 1927, Mineral industry of Alaska in 1925: U.S. Geological Survey Bulletin 792, p. 1-39.
- Moxham, R.M., and Nelson, A.E., 1952, Reconnaissance for radioactive deposits in the southern Cook Inlet region, Alaska, 1949: U.S. Geological Survey Circular 207, 7 p.
- Newberry, R.J., Burns, L.E., Pessel, G.H., 1985, Preliminary report; geology of the Red Mountain ultramafic complex, Seldovia, Alaska: Alaska Division of Geological and Geophysical Surveys Public-Data file 85-39, p. 2
- Nockleberg, W.J., Bundtzen, T.K., Berg, H.C., Brew, D.A., Grybeck, D., Robinson, M.S., Smith, T.E., and Yeend, W., 1987, Significant metalliferous lode deposits and placer districts of Alaska: U.S. Geological Survey Bulletin 1786, 104 p.
- Pilgrim, B.R., 1933, Nuka Bay district, in Stewart, B. D., Mining investigations and mine inspection in Alaska, biennium ending March 31, 1933: Juneau, Alaska, p. 26-51.
- Ransome, A.L., and Kerns, W.H., 1954, Names and definitions of regions, districts, and subdistricts in Alaska (used by the Bureau of Mines in statistical and economic studies covering the mineral industry of the Territory): U.S. Bureau of Mines Information Circular 7679, 91 p.

- Richter, D.H., 1970, Geology and lode-gold deposits of the Nuka Bay area, Kenai Peninsula, Alaska: U.S. Geological Survey Professional Paper 625-B, p. B1-B16.
- Rutledge, F.A., 1946, Exploration of Red Mountain chromite deposits, Kenai Peninsula, Alaska: U.S. Bureau of Mines Report of Investigations 3885, 26 p.
- Sanford, R.S., and Cole, J.W., 1949, Investigation of Claim Point chromite deposits, Kenai Peninsula, Alaska: U. S. Bureau of Mines Report of Investigations 4419, 11 p.
- Smith, P.S., 1926, Mineral industry of Alaska in 1924: U.S. Geological Survey Bulletin 783, p. 1-30.
- Smith, P.S., 1929, Mineral industry of Alaska in 1926: U.S. Geological Survey Bulletin 797, p. 1-50.
- Smith, P.S., 1930, Mineral industry of Alaska in 1928: U.S. Geological Survey Bulletin 813, p. 1-72.
- Smith, P.S., 1932, Mineral industry of Alaska in 1929: U.S. Geological Survey Bulletin 824, p. 1-81.
- Smith, P.S., 1933, Mineral industry of Alaska in 1931: U.S. Geological Survey Bulletin 844-A, p. 1-82.
- Smith, P.S., 1934, Mineral industry of Alaska in 1932: U.S. Geological Survey Bulletin 857-A, p. 1-91.
- Smith, P.S., 1936, Mineral industry of Alaska in 1934: U.S. Geological Survey Bulletin 868-A, p. 1-91.
- Smith, P.S., 1937, Mineral industry of Alaska in 1935: U.S. Geological Survey Bulletin 880-A, p. 1-95.
- Smith, P.S., 1938, Mineral industry of Alaska in 1936: U.S. Geological Survey Bulletin 897-A, p. 1-107.
- Smith, P.S., 1939, Mineral industry of Alaska in 1937: U.S. Geological Survey Bulletin 910-A, p. 1-113.
- Smith, P.S., 1941, Mineral industry of Alaska in 1939: U.S. Geological Survey Bulletin 926-A, p. 1-106.
- Toth, M.I., 1981, Petrology, geochemistry, and origin of the Red Mountain ultramafic body near Seldovia, Alaska: U.S. Geological Survey Open-file Report 81-0514, 92 p.
- Twenhofel, W.S., 1953, Potential Alaska mineral resources for proposed electrochemical and electrochemical and eletrometallurgical industries in the upper Lynn Canal area, Alaska: U.S. Geological Survey Circular 252, 14 p.
- Wells, R.R. , Sterling, F.T., Erspamer, E.G., and Stickney, W.A., 1957, Laboratory concentrates of chromite ore, Red Mountain district, Kenai Peninsula, Alaska: U. S. Bureau of Mines Report of Investigations 5377, 22 p.
- Williams, J.A., 1954, Magnetic exploration of the Red Mountain chromite deposit, Kenai, Peninsula: Prospect or Properties examined- Alaska Territorial Department of Mines, PE-104-3, 22 p.