Alaska Resource Data File, Ruby quadrangle, Alaska

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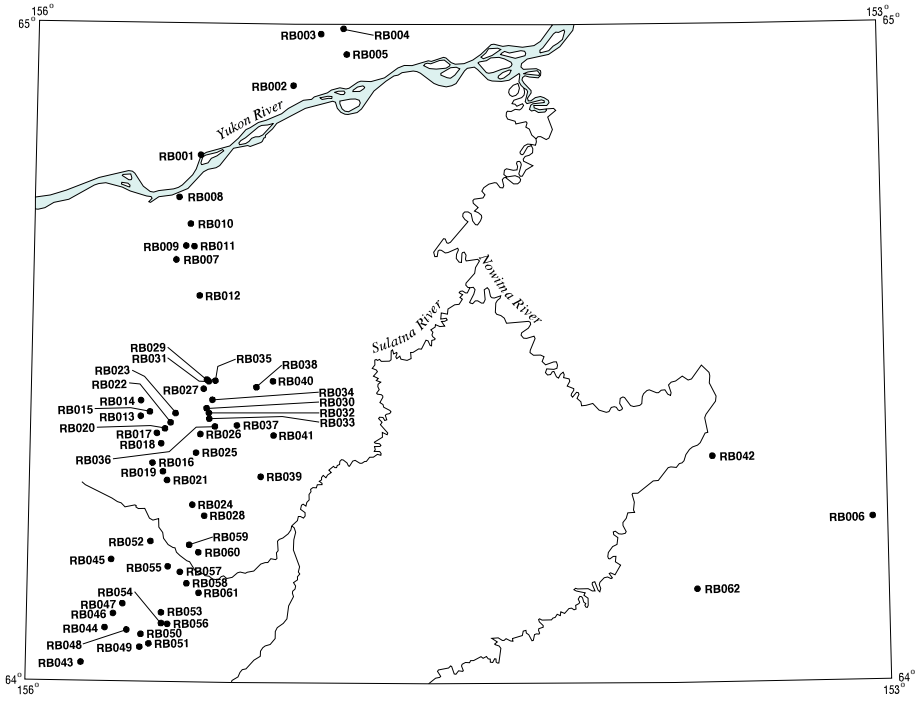
Alaska Resource Data File

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

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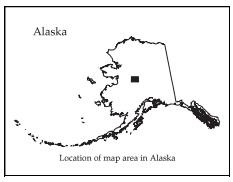

OPEN-FILE REPORT 2004-1385

Site name(s): Center Creek

Site type: Prospect

ARDF no.: RB001

Latitude: 64.8007 **Quadrangle:** RB D-5

Longitude: 155.4141

Location description and accuracy:
Center Creek is a 2-mile-long, south-flowing unnamed stream. It empties into Bootlegger slough, a slough off of the Yukon River, approximately 3 miles upstream from the mouth of the Melozitna River. The coordinates from Eberlein and others (1977), location 12, correspond to this mineral occurrence and were the source of those listed above. The mineralization is estimated to fall in or near section 15, T. 8 S., R17 E. and the accuracy is within several miles.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
Bedrock at or near the prospect consists of quartz lenses and stringers within shear zones in schist (Maddren, 1910). Some of the quartz veins are as much as 5 feet wide. In 1906, a 150-foot adit was driven into a quartz vein within slaty schist (Maddren, 1909). Most of the vein probably was barren, but a surface sample assayed 3.1 ounces of gold per ton (Eberlein and others, 1977).

Alteration:

Age of mineralization:

Deposit model:
Gold and quartz veins.

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

Production Status: Undetermined

Site Status: Probably inactive

Workings/exploration:
In 1906 an adit was driven on and near one of the quartz bodies. The straight adit could not follow the irregularities of the quartz stringers, and so most of the adit was in schist country rock; the adit had collapsed by July 1908 (Maddren, 1909).

Production notes:

Reserves:

Additional comments:

References:

Maddren, 1909; Maddren, 1910; Maddren, 1912; Eberlein and others, 1977.

Primary reference: Maddren, 1910

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Shovel Creek

Site type: Prospect

ARDF no.: RB002

Latitude: 64.9070 **Quadrangle:** RB D-5

Longitude: 155.0864

Location description and accuracy:
Shovel Creek is a south-flowing tributary of the Yukon River that is approximately 6 miles long. The reports of this occurrence do not list a specific location (Cobb and Chapman, 1981), however the deposit is known to be on one of the lower creek terraces of unknown length. Coordinates given are for the location of that terrace, located in section 6, T. 7 S., R. 19 E., and equivalent to location 42 of Eberlein and others (1977). The location is accurate within 2 miles. Additional prospecting has occurred further downstream from this area, in section 18, T. 7 S., R. 19 E. Shovel Creek lies within Doyon, Limited selected land.

Commodities:

Main: Au

Other: Sn, W

Ore minerals: Gold

Gangue minerals:

Geologic description:
Shovel Creek drains a granite body that intrudes mafic rocks, limestone, greenstone, argillite, and schist (Eberlein and others, 1977). In 1911, gold-bearing gravels were found under 20 or more feet of clean white quartz boulders overlain by several feet of fine sediment or muck (Maddren, 1912; Mertie and Harrington, 1916). The ground did not contain enough gold to support mining (Mertie and Harrington, 1924).
Doyon, Limited conducted stream sediment sampling in the lower portion of the creek in 1985. Values were as high as 4,200 parts per billion gold, 375 parts per million tin, and 1,330 parts per million tungsten in composite pan concentrate samples at two locations (Bond, 1985). The greenstone is locally propylitically altered, and the argillite commonly contains quartz veins and stockworks (DiMarchi and others, 1990).

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:
Shovel Creek was prospected during 1911 and through 1915. Doyon, Limited took soil samples in 1985.

Production notes:

Reserves:

Additional comments:
Shovel Creek lies within Doyon, Limit selected land. For more information, contact Doyon, Limited.

References:
Maddren, 1912; Mertie and Harrington, 1916; Eberlein and others, 1977; Cobb and Chapman, 1981; Bond, 1985; DiMarchi and others, 1990.

Primary reference: Mertie and Harrington, 1916

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Fain Creek

Site type: Prospect

ARDF no.: RB003

Latitude: 64.9856 **Quadrangle:** RB D-4

Longitude: 154.9890

Location description and accuracy:
The approximate center of the Fain Creek prospect is located on a north-facing slope at about 2,500 feet of elevation in section 10, T. 6 S., R. 19 E. of the Kateel River meridian. The location is accurate. Fain Creek lies within Doyon, Limited selected land.

Commodities:

Main: Cu, Pb, Zn

Other: Ag, Au, Mn

Ore minerals: Pyrite

Gangue minerals:

Geologic description:
The Fain Creek prospect is located along a northeast-trending contact between amphibolite and greenschist facies metamorphic rocks to the southeast and greenstone to the northwest (DiMarchi and others, 1990). A mixed unit, possibly a foliated tectonic melange, separates the metamorphic rocks from the greenstone, and it underlies the area from which anomalous stream sediment samples have been taken. The mixed unit includes quartzite, chlorite-quartz schist, pelitic schist, graphitic schist, and minor marble. The greenstone package consists of metamorphosed basalt and diabase that are in possible thrust contact with pelitic schist. Locally, the greenstone and the metamorphic rocks are cut by pegmatite and aplite dikes that are probably related to the Melozitna pluton to the north (DiMarchi and others, 1990).

The granitic stock at Fain Creek is argillically and sericitically altered and contains 1 to 3 percent pyrite (Northstar Exploration Company, 1999).

Soil samples collected in the Fain Creek area contain as much as 115 parts per billion gold, 6.6 parts per million silver, 463 parts per million copper, 4,310 parts per million lead, 4,040 parts per million zinc, and 9,525 parts per million manganese associated with iron and manganese stained fractures in quartzite (Northstar Exploration Company, 1999).

Contrasting geochemical signatures at Fain Creek suggest the presence of two styles of mineralization that may be unrelated to each **Other:** (1) gold-biased mineralization associated with a quartz veining event, and (2) lead-biased, silver/base-metal mineralization (DiMarchi and others, 1990).

Soil, stream sediment, and rock sampled since at least 1989.

Alteration:
Argillic and sericitic alteration occur in the granitic stock (Northstar Exploration Company, 1999).

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Active

Workings/exploration:
Soil, rock, and stream sediment samples have been collected from the Fain Creek area since at least 1989 (DiMarchi and others, 1990; Northstar Exploration Company, 1999).

Production notes:

Reserves:

Additional comments:
The Fain Creek prospect lies within Doyon, Ltd. selected land. For more information, contact Doyon, Ltd.

References:
DiMarchi and others, 1990; Northstar Exploration Company, 1999.

Primary reference: DiMarchi and others, 1990

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Surprise Creek; Section 31

Site type: Prospect

ARDF no.: RB004

Latitude: 64.9938 **Quadrangle:** RB D-4

Longitude: 154.9088

Location description and accuracy:

Coordinates for Surprise Creek describe a site on a west-facing slope, at about 2,300 feet of elevation, in section 1, T. 6 S., R. 19 E. A gold soil anomaly was located in SW1/4 section 31, T. 5 S., R. 20 E. and NW1/4 of section 6, T. 6 S., R. 20 E. Northstar Exploration Company (1999) reports the locations are probably the same. It is about 1/2 mile east of Turnaround Creek. The location is accurate within 1/2 mile. Surprise Creek is located within Doyon, Limited selected lands.

Commodities:

Main: Au

Other:

Ore minerals:

Gangue minerals:

Geologic description:

At the Surprise Creek locality a few veins and some breccia are present in talus and rubble of metamorphic rocks and crystalline limestone (Cass, 1959; Northstar Exploration Company, 1999). A gold anomaly was located in the SW1/4 section 31, T. 5 S., R. 20 E., and the NW1/4 of section 6, T. 6 S., R. 20 E., the former probably being the same as the Suprise Creek location (Northstar Exploration Company, 1999).

In 1989, a stream sediment sample from this area contained 45 parts per billion gold. Three samples collected in 1998 contained no obvious metal anomalies (Northstar Exploration Company 1999). Fifty soil samples collected in 1990 revealed only three anomalous samples (35, 40, and 65 parts per billion gold) (DiMarchi and others, 1990).

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:

Soil, stream, and sediment samples were taken in the Suprise Creek prospect during 1989, 1990, and 1998 (Northstar Exploration Company, 1999).

Production notes:

Reserves:

Additional comments:
Surprise Creek lies within Doyon, Limited selected land. For more information, contact Doyon, Limited.

References:
Cass, 1959; DiMarchi and others, 1990; Northstar Exploration Company, 1999.

Primary reference: Northstar staff, 1999

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Bull Ridge

Site type: Prospect

ARDF no.: RB005

Latitude: 64.9549 **Quadrangle:** RB D-4

Longitude: 154.8972

Location description and accuracy:

Bull Ridge is located at about 3,500 foot elevation on an 8-mile-long east-west-trending ridge system in the Kokrines Hills. It is about 1/4 mile southwest of VABM 3669. Horner hotsprings, now abandoned, are about 4 miles southeast of the site. Suprise (RB004) lies 2 1/2 miles north of this prospect. Coordinates are given for the approximate center of prospecting activity, in section 19, T. 6 S., R. 20 E. of the Kateel River meridian. The location is accurate. Bull Ridge lies within Doyon, Ltd. selected land.

Commodities:

Main: Cu, Zn

Other:

Ore minerals: Chalcopyrite, pyrrhotite

Gangue minerals:

Geologic description:

The northeast side of Bull Ridge is underlain by a northeast-trending, vertical to northwest dipping package of hornfelsed quartz biotite gneiss and biotite-amphibolite gneiss (DiMarchi and others, 1990). The southern side of the ridge is underlain by coarse grained biotite granite and granitic gneiss. Undifferentiated gneissic rocks are commonly cut by 3- to 4-foot-thick dikes of felsic biotite porphyry and aplite, and by discordant quartz tourmaline veins up to 2 inches thick. Disseminated pyrrhotite and minor chalcopyrite occur in undifferentiated gneiss as concordant stratiform layers. The spatial relationship of this mineralization to the hornfelsed zones suggests that mineralization is related to the granitic intrusion; the stratiform nature of the sulfide may be due to preferential replacement of certain favorable beds or metamorphic mineral bands, or pre-intrusive sulfides may have been remobilized or upgraded by a contact metamorphic event (DiMarchi and others, 1990).

The prospect was first discovered by WGM Inc. in 1976 when reconnaissance work detected elevated zinc and copper values in disseminated sulfide mineralization in hornfelsed gneiss. WGM Inc. also identified an airborne radiometric anomaly and anomalous uranium in stream sediment samples. In 1989 Central Alaska Gold Company (CAGC) completed 1:24,000 scale geologic mapping and geochemical sampling on the three ridges immediately north of Bull Ridge, and stream sediment sampling of the first-order drainages to the north (DiMarchi and others, 1990). Soil samples collected in 1989 by CAGC and 1998 by North Star Exploration contain weakly elevated base-metal values of copper and zinc (DiMarchi and others, 1990; Northstar Exploration Company, 1999[99-33]).

Alteration:

Age of mineralization:

Deposit model:

Plutonic-related Cu-Zn.

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

Production Status: None

Site Status: Active

Workings/exploration:

The prospect was first discovered by WGM Inc. in 1976 when reconnaissance work detected disseminated sulfide mineralization with elevated zinc and copper values in hornfelsed gneiss (DiMarchi and others, 1990). WGM Inc. also identified an airborne radiometric anomaly and anomalous uranium in stream sediment samples. In 1989, Central Alaska Gold Company completed 1:24,000-scale geologic mapping and geochemical sampling on the three ridges immediately north of Bull Ridge, and stream sediment sampling of the first-order drainages to the north (DiMarchi and others, 1990).

Production notes:

Reserves:

Additional comments:

Bull Ridge lies within Doyon, Limited selected land. For more information, contact Doyon, Limited.

References:

DiMarchi and others, 1990.

Primary reference: DiMarchi and others, 1990

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Baker Creek

Site type: Mine

ARDF no.: RB006

Latitude: 64.2487 **Quadrangle:** RB A-1

Longitude: 153.0520

Location description and accuracy:
Baker Creek is a northeast-flowing creek that drains from VABM Baker. The site coordinates mark the approximate center of placer gold occurrences in Baker Creek and are analogous to location 38 of Cobb (1972 [MF405]). The coordinates fall in the northwest corner of section 25, T. 14 S., R. 29 E., Kateel River Meridian. The location is accurate within 2 miles.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
The bedrock underlying Baker Creek is probably a low-grade phyllitic schist (Eberlein and others, 1977). Placer gold was reported at Baker Creek in 1918 by Eakin (1918). The old prospect is located near a pluton that ranges in composition from granite to diorite (Puchner and others, 1998). The extent of mining and workings in this area was apparently small (Eberlein and others, 1977).

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:

Production notes:
Eberlein and others (1977) reported that a small amount of placer gold was produced from Baker Creek.

Reserves:

Additional comments:

References:

Eakin, 1918; Cobb, 1972 (MF405); Eberlein and others, 1977; Puchner and others, 1998.

Primary reference: Eakin, 1918

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Boston Creek

Site type: Prospects

ARDF no.: RB007

Latitude: 64.6413 **Quadrangle:** RB C-6

Longitude: 155.4962

Location description and accuracy:
Boston Creek is location 10 of Eberlein and others, 1977. Boston Creek is approximately 8 miles long, and is a west-flowing tributary of Main Creek. The coordinates above, corresponding to those of location 10 of Eberlein and others (1977), fall in section 8, T. 10 S., R. 17 E. of the Kateel River meridian. No specific location has been recorded for the prospects at the headwaters of Boston Creek. Location is accurate within 4 miles.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
Boston Creek is underlain by Paleozoic phyllite and quartzite at its head (Puchner and others, 1998). In the winter of 1907-08, an undetermined small number of prospect holes were sunk along the creek. A few colors of gold may have been found, and pyrite was reported (Maddren, 1910).

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: Probably inactive

Workings/exploration:
In 1907-08, a few prospect holes were sunk along the creek (Maddren, 1910).

Production notes:

Reserves:

Additional comments:

References:

Maddren, 1910; Eberlein and others, 1977; Puchner and others, 1998.

Primary reference: Eberlein and others, 1977

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Ruby Creek

Site type: Mine

ARDF no.: RB008

Latitude: 64.7364 **Quadrangle:** RB C-5

Longitude: 155.4886

Location description and accuracy:
Ruby Creek is a north-flowing tributary of the Yukon River, with the town of Ruby at the confluence. The coordinates given correspond to location 2 of Cobb (1972 [MF405]) and mark the midpoint of placer grounds lying on a bench to the east of the creek. The workings are near the mouth of the creek, in section 4, T. 9 S., R. 17 E. of the Kateel River meridian. The location is accurate.

Commodities:

Main: Au

Other: Sn

Ore minerals: Cassiterite, gold

Gangue minerals:

Geologic description:
Bedrock near the mouth of Ruby Creek is limestone, slate, and schist (Maddren, 1909). Unconsolidated deposits include muck, loamy sand, schist and slate pebbles, diabase cobbles, and rounded diorite boulders 12 to 18 inches in diameter (Maddren, 1909). Vein quartz boulders and a small amount of cassiterite are present in stream gravels (Eakin, 1914 [B578]; Mertie and Harrington, 1916; Chapman and others, 1963). The gold is found at a depth of about 25 feet in discontinuous, thin, sandy layers in gravel (Maddren, 1909). The placer deposits are confined to a small bench on the right side of the stream near the mouth (Eakin, 1914).

Ruby Creek is the site of the first placer gold discovered in the Ruby mining district; gold was found along the creek in 1907 (Eakin, 1914 [B578]; Brooks, 1908). Mining began in 1908 and continued until about 1915 (Eberlein and others, 1977). Between these years, about 970 ounces of gold were recovered from the creek (Cobb and Chapman, 1981). Additional intermittent mining took place at least until 1988 (Bundtzen and others, 1986; Green 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:

Small-scale mining took place along Ruby Creek between 1907 and 1915 (Eberlein and others, 1977). Additional intermittent mining took place up until at least 1988 (Bundtzen and others, 1986; Green and others, 1989).

Production notes:

Between 1907 and 1915, about $10,000 in gold (at $20.67 per ounce) was recovered from Ruby Creek (Eberlein and others, 1977), amounting to 970 ounces of gold (Cobb and Chapman, 1981).

Reserves:

Additional comments:

References:

Brooks, 1908; Maddren, 1909; Eakin, 1914 (B578); Mertie and Harrington, 1916; Chapman and others, 1963; Cobb, 1972 (MF405); Eberlein and others, 1977; Cobb and Chapman, 1981; Bundtzen and others, 1986; Green and others, 1989.

Primary reference: Maddren, 1909

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Big Creek

Site type: Mine

ARDF no.: RB009

Latitude: 64.6626 **Quadrangle:** RB C-5

Longitude: 155.4622

Location description and accuracy:
Big Creek is a curved stream with west-flowing headwaters that turn northward toward the Yukon River and curve southeast toward the flats of the Nowitna River before curling to flow northwest into the Yukon River. The Big Creek placer area, location 4 of Cobb (1972 [MF405]), stretches almost a mile on the headwaters of the creek, two miles northwest of Boston Dome and 5 air-miles south of the Yukon River. The coordinates above mark the center of the mined area, in section 33, T. 9 S., R. 17 E. of the Kateel River meridian. The location is accurate within 1/4 mile. Big Creek is located within Doyon, Ltd.'s Ruby Village Block.

Commodities:

Main: Au

Other: Sn

Ore minerals: Cassiterite, gold

Gangue minerals:

Geologic description:
The bedrock underlying Big Creek consists of slate and granite, both cut by veins of quartz and tourmaline (Eberlein and others, 1977). Big Creek was prospected in 1910; miners sank 15 holes 15 to 60 feet down until they hit slaty bedrock (Maddren, 1910). A 1 to 7-foot-thick gravel layer on the bedrock was found to be auriferous (Maddren, 1910). Pyrite occurs in gravel and attached to large fragments of bedrock. Cassiterite is also abundant in the placer gravels. The pay streak is about 30 feet wide and 1 to 15 feet thick and may extend as much as 5,000 feet downstream from the mouth of Cox Pup (Chapman and others, 1963). In the upper valley, about 0.04 pound cassiterite and 0.0052 ounce of gold per cubic foot can be panned from dumps of prospect holes (Chapman and others, 1963). Sporadic mining took place along the creek between 1907 and the 1940s. Big Creek was also prospected during more recent years by several larger companies (Pete Haggland, oral communication, 2000).

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: Probably inactive

Workings/exploration:

Around 1910, miners sank 15 holes 15 to 60 feet down to slaty bedrock (Maddren, 1910). Most of the ground is not frozen and is difficult to work by drift mining. Sporadic mining took place along the creek between 1907 and the 1940s (Chapman and others, 1963). Big Creek was also prospected during more recent years by several larger companies (Pete Haggland, oral communication, 2000).

Production notes:

Reserves:

Additional comments:

See also Cox Pup (RB011).

References:

Maddren, 1909; Maddren, 1910; Smith, 1930; Mertie, 1936; Chapman and others, 1963; Cobb, 1972 (MF405); Eberlein and others, 1977; Cobb and Chapman, 1981.

Primary reference: Chapman and others, 1963

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Glacier Creek

Site type: Mine

ARDF no.: RB010

Latitude: 64.6961 **Quadrangle:** RB C-5

Longitude: 155.4469

Location description and accuracy:
Glacier Creek is a north-flowing tributary of Big Creek, and is about 3 miles long. The placer ground along Glacier Creek is located approximately at the midpoint of the creek, 3 miles south-southeast of Ruby. The coordinates listed correspond to location 3 of Cobb (1972 [MF405]) and mark the approximate mid-point of the creek, in section 22, T. 9 S., R. 17 E. of the Kateel River meridian. The location is accurate within 1.5 miles.

Commodities:

Main: Au

Other: Bi, Sn

Ore minerals: Bismuth, cassiterite, gold

Gangue minerals:

Geologic description:
The bedrock underlying Glacier Creek is slaty schist; abundant crystalline limestone and dolostone are present at the head of the creek (Eberlein and others, 1977). Gold was found on Glacier Creek as early as 1946 (Mertie, 1936). In 1953, a sluice box concentrate contained 29 percent bismuth (White and Stevens, 1953). Near the head of the creek, muck and gravel are about 70 feet thick. Cassiterite and some gold were recovered from dump piles (Eberlein and others, 1977) of unknown location. The main pay streak is about 1 1/2 to 2 miles downstream from the head of the stream. It is about 10 feet wide and 2 feet thick, and occurs in a bench on the east side of the creek. Chapman rand others (1963) reported estimated gold yield from some workings was 25 to 30 cents per square foot of bedrock (gold at $35 an ounce).

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: Probably inactive

Workings/exploration:
Glacier Creek was intermittent mined prior to 1977 and may have been mined or explored more recently (Eberlein and others, 1977).

Production notes:

Estimated gold yield from some of the workings was 25 to 30 cents per square foot (gold at $35 an ounce) (Chapman and others, 1963).

Reserves:

Additional comments:

References:

Mertie, 1936; White and Stevens, 1953; Chapman and others, 1963; Cobb, 1972 (MF405); Eberlein and others, 1977; Cobb and Chapman, 1981.

Primary reference: Chapman and others, 1963

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Cox Gulch; Cox Pup

Site type: Mine

ARDF no.: RB011

Latitude: 64.6619 **Quadrangle:** RB C-5

Longitude: 155.4330

Location description and accuracy:
Cox Gulch is a south-flowing tributary of Big Creek, about 1 1/2 miles north-northwest of Boston Dome and 5 miles south-southeast of Ruby. Cox Gulch is not marked on the USGS Ruby (C-5) Quadrangle (1952, minor revisions in 1973) but was taken from location 5 of Cobb (1972 [MF-405]), and location 13 of Eberlein and others (1977). The coordinates mark the location of mining activity in section 34, T. 9 S., R. 17 E. The location is accurate.

Commodities:

Main: Au, Sn

Other:

Ore minerals: Cassiterite, gold

Gangue minerals:

Geologic description:
The bedrock underlying Cox Gulch is Paleozoic phyllite and quartzite (Puchner and others, 1998). The placer ground along Cox Gulch is overlain by 15 feet of muck and 15 feet of gravel (Chapman and others, 1963). The creek was mined and prospected for tin in 1927. Intermittent work continued into the 1940s (Cobb and Chapman, 1981). The pay streak is about 30 feet wide and 1,000 feet long. The gold is generally rough and accompanied by the presence of cassiterite. The associated gravels are subangular. Tourmaline is found in some quartz pebbles. The placer material is probably not far removed from its source (Chapman and others, 1963). Where mined, the creek yielded 0.02 ounces of gold and 0.2-0.33 pounds of cassiterite per square foot of bedrock (Eberlein and others, 1977). At least 2,100 pounds of cassiterite concentrate are stockpiled at the site; there is no record of it being sold (Chapman and others, 1963).

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:
Cox Gulch was mined by surface methods between 1927 and the 1940s.

Production notes:
At least 2,100 pounds of cassiterite were saved at the site. Production figures for gold are not available.

Reserves:

Additional comments:

References:
Chapman and others, 1963; Cobb, 1972 (MF405); Eberlein and others, 1977; Cobb and Chapman, 1981; Puchner and others, 1998.

Primary reference: Chapman and others, 1963

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Beaver Creek (tributary of Big Creek)

Site type: Prospect

ARDF no.: RB012

Latitude: 64.5871 **Quadrangle:** RB C-5

Longitude: 155.4120

Location description and accuracy:

Beaver Creek is located on the north side of the Beaver Creek valley, near its junction with Thirteenmile Creek. Coordinates fall on location 1 of Cobb (1972 [MF405]), in section 26, T. 9 S., R. 17 E. of the Kateel River meridian. The location is accurate within 1/2 mile. Beaver Creek lies within Doyon, Limited Ruby village land.

Commodities:

Main: Pb

Other: Ag, Au, Cu

Ore minerals: Anglesite, azurite, cerussite, galena, gold, malachite, manganese oxides, pyrite, ruby silver, silver, sphalerite

Gangue minerals:

Geologic description:

The galena deposit near Beaver Creek was first discovered around 1920 (Brooks, 1922). The country rock is fractured quartz-mica schist and phyllite containing siliceous and calcareous bands (Thomas, 1964). The Beaver Creek site contains two northeast-striking, near-vertical zones of silver-rich, galena-bearing gossan (Northstar Exploration Company, 1999). The zones are as much as 500 feet long, 6 feet wide, and 10 feet deep (Northstar Exploration Company, 1999). The gossan zones contain abundant cellular boxworks that parallel schistocity. Sulfide minerals from Beaver Creek exhibit crosscutting and recrystallized textures that are clearly indicate remobilization and are not typical of syngenetic ore deposits (Northstar Exploration Company, 1999).

Lenticular veins of silver-bearing galena occur within gossan, with varied amounts of cerussite, anglesite, rhodochrosite, manganese oxides, gold, pyrite, ruby silver, malachite, and azurite (White and Stevens, 1953). Nokleberg and others (1994) also report sphalerite.

Assays of the ore contain 1.47 to 82 ounces of silver per ton, 8.7 percent to 15.3 percent lead, 0.08 to 0.89 percent zinc, and 0.02 percent copper (Thomas, 1964). A trace of gold was also reported. The maximum eU was 0.003 percent (White and Stevens, 1953). A resource estimate by Nockleberg and others (1994) is 13,600 tonnes of ore grading 103 grams silver per ton, 0.8 percent gold, and 0.5 percent copper, with an additional 19,100 tonnes containing 26.1 grams silver per ton, 4.2 percent lead, 0.16 percent zinc, and 0.2 percent copper (Nokleberg and others, 1994).

The Beaver Creek prospect lies within 250 m of the Angayucham-Tozitna thrust fault, and this fault could have played a significant role in controlling the location of sulfide mineralization (Northstar Exploration Company, 1999). While the Beaver Creek mineralization could be plutonic-related, sulfur isotope values from the nearby and mineralogically similar Perseverance mine yield results more consistent with a remobilized syngenetic massive sulfide deposit (Northstar Exploration Company, 1999).

The deposit was explored by trenches, pits, and short adits in the early 1920s. Beaver Creek was explored by the U.S. Bureau of Mines in 1960. It now lies within the Doyon, Limited Ruby Village Block, and has been sampled and geologically mapped from 1993 to 1998 (Northstar Exploration Company, 1999).

Alteration:

Weathering of sulfides has produced a base metal-rich gossan.

Age of mineralization:

Deposit model:
Remobilized syngenetic massive sulfide? (Cox and Singer, 1986; model 24b).

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

Production Status: Yes; small

Site Status: Active

Workings/exploration:
The deposit has been explored by trenches, pits, and short adits during the 1920s. The deposit was also explored by the U.S. Bureau of Mines in 1960.
Workings include a 40-foot shaft, 2 other shallow shafts, as well as an adit and drift tunnels. About 3,100 linear feet of trenches were excavated from 11 trenching sites in 1960 (Thomas, 1964).

Production notes:

Reserves:
A resource estimate by Nockleberg and others (1994) is 13,600 tonnes of ore grading 103 grams silver per ton, 0.8 percent gold, and 0.5 percent copper, with an additional 19,100 tonnes containing 26.1 grams silver per ton, 4.2 percent lead, 0.16 percent zinc, and 0.2 percent copper (Nokleberg and others, 1994).

Additional comments:
Beaver Creek lies within the Doyon, Limited Ruby Village Block. For more information, contact Doyon, Limited.

References:
Brooks, 1922; Mertie, 1936; White and Stevens, 1953; Thomas, 1964; Cobb, 1972 (MF405); Eberlein and others, 1977; Cobb and Chapman, 1981; Nokleberg and others, 1994; Northstar Exploration Company, 1999.

Primary reference: Thomas, 1964

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Basin Creek

Site type: Mine

ARDF no.: RB013

Latitude: 64.4032 **Quadrangle:** RB B-6

Longitude: 155.6133

Location description and accuracy:
Basin Creek is location 4 of Eberlein and others, 1977. Basin Creek is a south-flowing, nine-mile-long tributary of Long Creek. The exact location of prospecting and mining is unknown. Coordinates are arbitrarily placed at the approximate midpoint of the stream in section 35, T. 12 S., R. 16 E. of the Kateel River meridian. The location is accurate within 4 miles.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
The type of bedrock underlying Basin Creek is not known, due to the covering of Quaternary deposits in the stream valley. Mertie and Harrington (1916) reported gold production from Basin Creek in 1915 . This reference may refer to two of Basin Creek's tributaries, Swift and Willow Creeks, which were also mined (Cobb and Chapman, 1981; Eberlein and others, 1977). Basin Creek was prospected more recently during the 1980s (Pete Haggland, oral communication, 2000).

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:
Gold production from Basin Creek was reported in 1915 by Mertie and Harrington (1916). This reference may refer to two of Basin Creek's tributaries, Swift and Willow Creeks, which were also mined (Cobb and Chapman, 1981; Eberlein and others, 1977). Basin Creek was prospected during the 1980s (Pete Haggland, oral communication, 2000).

Production notes:

Some placer gold may have been recovered from this creek.

Reserves:

Additional comments:

References:

Mertie and Harrington, 1916; Mertie and Harrington, 1924; Eberlein and others, 1977.

Primary reference: Mertie and Harrington, 1916

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Swift Creek

Site type: Mine

ARDF no.: RB014

Latitude: 64.4270 **Quadrangle:** RB B-6

Longitude: 155.6131

Location description and accuracy:
Swift Creek is a south-flowing headwater tributary of Basin Creek. Coordinates given are for the approximate center of location 10 if Cobb (1972 [MF405]), in section 26, T. 12 S., R. 16 E. of the Kateel River meridian. The location is accurate to 1/2 mile. An error was identified on the USGS Ruby Quadrangle 1:250,000 scale map (1952, minor corrections in 1984), where Swift Creek has been renamed Lion Creek, and Willow Creek, the eastern headwater tributary of Basin Creek has been renamed Swift Creek. This error was not identified on the Ruby (B-6) Quadrangle map or earlier uneditted maps.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
Most of the bedrock underneath Swift Creek is graywacke (Eberlein and others, 1977). Some prospecting along Swift Creek took place around 1915 (Mertie and Harrington, 1916). A few holes were sunk about 1 mile from the mouth of the stream; bedrock was at 35 feet in the upstream holes and was deeper than 75 feet 1/2 mile downstream (Mertie and Harrington, 1916). Gold was found on a false bedrock of clay-rich gravel. The gold was fine, bright, and very slightly rounded. Although considerable magnetite was present, few, if any, sulfides were found in the placer gravels (Mertie and Harrington, 1916). Work in 1915 consisted of open-cut mining at the head of the creek; farther downstream miners sluiced off 10 to 12 feet of muck and then mined 6 to 8 feet of gravel (Mertie and Harrington, 1916). Mining continued intermittently on Swift Creek until at least 1991 (Mertie, 1936; Eakins and others, 1985; Green and others, 1989; Bundtzen and others, 1990; Swainbank and others, 1991; Bundtzen and others, 1992).

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:

Work in 1915 consisted of open-cut mining at the head of the creek, and sluicing off 10 to 12 feet of muck and then mining 6 to 8 feet of gravel farther downstream (Mertie and Harrington, 1916). Intermittent mining of Swift Creek continued until at least 1991 (Eakins and others, 1985; Green and others, 1989; Bundtzen and others, 1990; Swainbank and others, 1991; Bundtzen and others, 1992).

Production notes:

Reserves:

Additional comments:

Some confusion about Willow Creek exists because the USGS Ruby quadrangle topographic map (1952, minor revisions in 1984) has mislabeled Willow Creek as Swift Creek and renamed the former Swift Creek as Lion Creek.probably switched the labels of Swift and Willow Creeks. Larger scale maps appear to be correct.

References:

Mertie and Harrington, 1916; Mertie, 1936; Cobb, 1972 (MF405); Eberlein and others, 1977; Cobb and Chapman, 1981; Eakins and others, 1985; Green and others, 1989; Bundtzen and others, 1990; Swainbank and others, 1991; Bundtzen and others, 1992.

Primary reference: Mertie, 1936

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Willow Creek

Site type: Mine

ARDF no.: RB015

Latitude: 64.4101 **Quadrangle:** RB B-6

Longitude: 155.5814

Location description and accuracy:

Willow Creek is a southwest-flowing headwater tributary of Basin Creek. A misprint on the USGS Ruby Quadrangle map (1952, limited revisions in 1984) renames Willow Creek as Swift Creek. Coordinates given correspond to the Willow Creek location 11 of Cobb (1972 [MF405]), and mark the center of tailings shown on the USGS Ruby (B-6) Quadrangle map (1952, minor revisions in 1973). The tailings are in the headwater section of the creek, in section 36, T. 12 S., R. 16 E. of the Kateel River meridian The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:

The bedrock under the mined areas of Willow Creek is greenstone and argillite, although the creek apparently drains a contact zone between schist and greenstone (Mertie, 1936; Eberlein and others, 1977). The gravels in the creek contain a carbonaceous layer, sheared chert, greenstone, sandy phyllite and schist, and some vein quartz (Mertie and Harrington, 1916; Mertie, 1936).

The pay streak was in the present day creek bottom and is about 10 feet wide and ran 25 to 30 cents per square foot of bedrock (gold at $20.67 per ounce) (Mertie, 1936). The gold is present in the lower one foot of gravel before bedrock and within the top foot of bedrock. The gold is both fine and coarse; at least one nugget weighed about 2.4 ounces (Mertie and Harrington, 1916).

In 1915, the upper part of the creek, where the ground was 5 to 6 feet deep, was worked using open-cut methods (Mertie and Harrington, 1916). Farther downstream in 1915, miners sluiced off 10 to 12 feet of muck and then mined 6 to 8 feet of gravel. Mining by these methods was nearly continuous until 1933 (Mertie, 1936).

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: Probably inactive

Workings/exploration:

A few exploration holes were sunk about 1 mile from the mouth of Willow Creek, and gold was reported (Mertie and Harrington, 1916). In 1915, the upper part of the creek, where the ground was 5 to 6 feet deep, was worked using open-cut methods (Mertie and Harrington, 1916). Farther downstream in 1915, miners sluiced off 10 to 12 feet of muck and then mined 6 to 8 feet of gravel. Mining by these methods was nearly continuous until 1933 (Mertie, 1936).

Production notes:

Reserves:

Additional comments:

The USGS Ruby quadrangle map (1952, with limited revisions in 1984) misnames Willow Creek as the neighboring Swift Creek.

References:

Mertie and Harrington, 1916; Mertie, 1936; Cobb, 1972 (MF405); Eberlein and others, 1977; Cobb and Chapman, 1981.

Primary reference: Mertie, 1936

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Flat Creek (tributary of Long Creek)

Site type: Prospects

ARDF no.: RB016

Latitude: 64.3325 **Quadrangle:** RB B-6

Longitude: 155.5698

Location description and accuracy:
Flat Creek, a southwest-flowing tributary of Long Creek, is about 8 miles long. The coordinates given correspond to location 21 of Cobb (1972; MF-405), and location 18 of Eberlein and others (1977). The site marks the approximate location of prospect pits located 1/4 mile upstream from the winter trail crossing, in section 30, T. 13 S., R. 17 E. of the Kateel River meridian. The location is accurate.

Commodities:

Main: Au, Sn

Other:

Ore minerals: Cassiterite, gold

Gangue minerals:

Geologic description:
The bedrock underlying the head of Flat Creek, a tributary of Long Creek, is Paleozoic schist and other metamorphic rocks (Puchner and others, 1998). Flat Creek cuts benches of Long Creek near its mouth. Small amounts of gold and cassiterite were reported in prospect holes in 1938; however, neither was found in dump samples in 1942. The mining may have been in nearby bench gravels of Long Creek.

There is some discrepancy about when this creek was prospected or mined: Smith reported mining along Flat Creek from 1929 until 1940, but Chapman and others (1963) state that there was very little mining along the creek until 1942, and none between 1942 and 1960. The confusion may be the result of poor discrimination between this Flat Creek and another Flat Creek (RB051), a tributary of Timber Creek (RB049) near Poorman.

During the early 1980s, Resource Associates of Alaska drilled two lines across Flat Creek to test the gravels for placer gold (Jim Johnson, oral communication, 2000).

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:

Mining along Flat Creek was reported from 1929 until 1940, but other reports say there was very little mining during this time (Eberlein and others, 1977). There may be confusion with a different Flat Creek (RB051), that is a tributary to Timber Creek (RB049). During the early 1980s, Resource Associates of Alaska drilled two lines across Flat Creek (Jim Johnson, oral communication, 2000).

Production notes:

Reserves:

Additional comments:

Conflicting references to Flat Creek may be describing the Flat Creek (RB051) that is a tributary to Timber Creek (RB049).

References:

Chapman and others, 1963; Cobb, 1972 (MF405); Cobb, 1977 (OF 77-168b); Eberlein and others, 1977; Cobb and Chapman, 1981; Puchner and others, 1998.

Primary reference: Chapman and others, 1963

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Fifth of July Creek

Site type: Mine

ARDF no.: RB017

Latitude: 64.3777 **Quadrangle:** RB B-6

Longitude: 155.5559

Location description and accuracy:
Fifth of July Creek is a west-flowing tributary of Long Creek. The deposit is found in the lower portion of the creek, downstream from the winter trail marked on the Ruby B-6 quadrangle (USGS topographic map, 1952, minor revisions in 1972). The coordinates above correspond to location 14 of Cobb (1972 [MF-405]), and location 17 of Eberlein and others (1977), near the mouth of the creek, in section 8, T. 13 S., R. 17 E. of the Kateel River meridian. The location is accurate.

Commodities:

Main: Au, Sn

Other:

Ore minerals: Cassiterite, gold

Gangue minerals:

Geologic description:
The bedrock underlying Fifth of July Creek is Paleozoic phyllite, schist, metagraywacke, metachert, greenstone, and marble (Puchner and others, 1998).

Gold placer mines were operated around 1922 for a few years (Eberlein and others, 1977). The ground at the mouth was reported to be 70 to 80 feet deep, and at least 30 feet deep 0.3 miles above the mouth (Chapman and others, 1963). The gold production is unknown, but an incomplete recovery from gravel overlying 6,000 square feet of bedrock produced a washtub of cassiterite and iron-bearing concentrate (Chapman and others, 1963). Cassiterite, limonite, and black sands are common in this area. The gravel mined contained subangular to subround fragments of greenstone, schist, and quartz most of which measured less than 7 inches in diameters.

Some of Fifth of July Creek's placer ground may be a bench of Long Creek which Fifth of July Creek intersects (Eberlein and others, 1977).

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:

Fifth of July Creek was mined for a few years around 1922 (Eberlein and others, 1977).

Production notes:

The gold production is unknown, but an incomplete recovery from gravel overlying 6,000 square feet of bedrock produced a washtub of cassiterite and iron-bearing concentrate (Chapman and others, 1963).

Reserves:

Additional comments:

References:

Chapman and others, 1963; Cobb, 1972 (MF405); Eberlein and others, 1977; Cobb and Chapman, 1981; Puchner and others, 1998.

Primary reference:

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Short Creek

Site type: Mine

ARDF no.: RB018

Latitude: 64.3620 **Quadrangle:** RB B-6

Longitude: 155.5403

Location description and accuracy:
Short Creek is a 2-mile-long northwest-flowing tributary of Long Creek. Placer deposits extend about 1 1/2 miles from the head of Short Creek down to the winter trail marked on the Ruby (B-6) Quadrangle (USGS topographic map, 1952). Coordinates given correspond to location 15 of Cobb (1972 [MF405]), and mark the approximate midpoint of the mined area in section 17, T. 13 S., R. 17 E. of the Kateel River meridian. The location is accurate.

Commodities:

Main: Au

Other: Sn

Ore minerals: Cassiterite, gold

Gangue minerals:

Geologic description:
The bedrock underlying the head of Short Creek is intermediate to mafic intrusive rocks, probably greenstone (Puchner and others, 1998). At the winter trail crossing of Short Creek there is 4 to 6 feet of gravel beneath 6 to 8 feet of muck, and the depth to bedrock increases to 75 feet at the mouth of the creek (Mertie and Harrington, 1916; Chapman and others, 1963). The most gold is usually found within a foot of bedrock in an irregular and poorly defined channel (Mertie and Harrington, 1916). The gold is accompanied by cassiterite, and a few thousand pounds of cassiterite were recovered as byproduct in 1918 (Chapin, 1919).

The creek was mined using open-pit methods in 1914 and 1915 (Mertie and Harrington, 1916). The placer ground was worked 10 to 15 feet deep over a width of 20 to 40 feet for a distance of 1 to 1 1/2 miles (Eberlein and others, 1977).

Mining may have extended into the early 1920s, but there are no records of more recent activity (Eberlein and others, 1977).

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:

Short Creek experienced open-pit mining during 1914 and 1915 and probably into the early 1920s (Mertie and Harrington, 1916).

Production notes:

The gold is accompanied by cassiterite, and a few thousand pounds of cassiterite were recovered as by-product in 1918 (Chapin, 1919).

Reserves:

Additional comments:

References:

Mertie and Harrington, 1916; Chapin, 1919; Chapman and others, 1963; Cobb, 1972 (MF405); Eberlein and others, 1977; Cobb and Chapman, 1981; Puchner and others, 1998.

Primary reference: Chapman and others, 1963

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Midnight Creek

Site type: Mine

ARDF no.: RB019

Latitude: 64.3195 **Quadrangle:** RB B-6

Longitude: 155.5324

Location description and accuracy:

Midnight Creek is a southwest-flowing tributary of Long Creek. It is about 15 miles long. The coordinates given correspond to location 22 of Cobb (1972 [MF405]) and mark the approximate midpoint of tailings drawn on the Ruby (B-6) Quadrangle (USGS topographic map, 1952, minor revisions in 1972) in section 32, T. 13 S., R. 17 E of the Kateel River meridian. The location is accurate.

Commodities:

Main: Au, Sn

Other: Ag, W

Ore minerals: Cassiterite, gold, scheelite

Gangue minerals:

Geologic description:

The bedrock underlying the head of Midnight Creek is Paleozoic phyllite and quartzite of the Ruby terrane (Puchner and others, 1998). The bedrock in the Midnight Creek valley is schist, slate, siliceous cherty rock, and greenstone (Eberlein and others, 1977). The ridge that Midnight Creek drains from is a Tertiary granitic body. The lower portion of the creek flows through Quaternary surficial deposits (Puchner and others, 1998).

The gold in Midnight Creek is found under 14 to 150 feet of muck in gravel just above bedrock or on a false clay bedrock (Mertie and Harrington, 1916). The lode source for the placers in this area has not been found (Eberlein and others, 1977). The pay streak was 100 to 150 feet wide along the south side of the valley adjacent to the creek and was mined for nearly 2 miles along its length (Chapman and others, 1963). The gold is fine; there were only a few small nuggets (Mertie and Harrington, 1916). The fineness of the gold generally ranged from 883 to 885.5, but one shipment was only 857.5 parts gold per thousand (Chapman and others, 1963). The gold is accompanied by abundant cassiterite and rare scheelite (Eakin, 1914 [B578]; Chapin, 1919; Joesting, 1943).

In 1911, gold was discovered in Midnight Creek (Maddren, 1912). Gravels at depths of 25 to 30 feet contained as much as $4.00 in gold (gold at $20.67 per ounce) per square foot of bedrock. There was nearly continuous mining along Midnight Creek from 1911 until about 1949 (Eberlein and others, 1977). In 1917, miners recovered 1,037 pounds of cassiterite concentrate containing 537 pounds of tin from 6,000 feet of bedrock and shipped it to Singapore for smeltering (Chapin, 1919). In 1940-42, mining averaged about $1.10 (about 0.03 ounces of gold) and 0.06 pounds of cassiterite per square yard of gravel (Chapman and others, 1963). During 1989 and 1990, Sphinx Mining Company (who became Sphinx America Company in 1990 (?)) recovered about $150,000 worth of tin in cassiterite (Jim Johnson, oral communication, 2000). There are no data on total gold production.

Midnight Creek experienced nearly continuous mining between 1911 and 1990 (Bundtzen and others, 1990; Swainbank and others, 1991). In 1990, Midnight Creek was the largest operating placer mine in the Ruby district (Swainbank and others, 1991).

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:
Midnight Creek experienced nearly continuous mining from 1911 to about 1990 (Eberlein and others, 1977; Swainbank and others, 1991).

Production notes:
In 1911, gold was discovered in Midnight Creek (Maddren, 1912). Gravels at depths of 25 to 30 feet contained as much as $4.00 in gold (gold at $20.67 per ounce) per square foot of bedrock. In 1917, miners recovered 1,037 pounds of cassiterite concentrate from 6000 square feet of bedrock and shipped the ore Singapore (Chapman and others, 1963). In 1940-42, mining averaged about $1.10 of gold per cubic yard (gold at $35 per ounce), and about 7,320 pounds of cassiterite concentrate were recovered (Chapman and others, 1963). During this time mining averaged about $1.10 (about 0.03 ounces of gold) and 0.06 pounds of cassiterite per square yard of gravel (Chapman and others, 1963). During 1989 and 1990, Sphinx Mining Company (soon to be named Sphinx America Company(?) recovered about $150,000 worth of tin in cassiterite (Jim Johnson, oral communication, 2000).

Reserves:

Additional comments:

References:
Maddren, 1912; Eakin, 1914 (B578); Mertie and Harrington, 1916; Chapin, 1919; Joesting, 1943; Chapman and others, 1963; Cobb, 1972 (MF405); Eberlein and others, 1977; Cobb and Chapman, 1981; Bundtzen and others, 1990; Swainbank and others, 1991; Puchner and others, 1998.

Primary reference: Chapman and others, 1963

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Long Creek

Site type: Mine

ARDF no.: RB020

Latitude: 64.3847 **Quadrangle:** RB B-6

Longitude: 155.5277

Location description and accuracy:

Long Creek is a south-flowing tributary of the Sulatna River. Mining took place for 61/2 miles along the creek, centered 5 miles northwest of Monument Rocks. Coordinates corresponding to location 13 of Cobb (1972 [MF-405]) mark the approximate center of placer tailings marked on the Ruby B-5 quadrangle (USGS topographic map, 1952, minor revisions in 1973) at the mouth of Snow Gulch. This site is located in section 4, T. 13 S., R. 17 E. of the Kateel River meridian. The location is accurate.

Commodities:

Main: Au

Other: Ag, Sn

Ore minerals: Cassiterite, gold

Gangue minerals:

Geologic description:

The bedrock underneath Long Creek is mostly cherty siliceous rock with talcose layers and some greenstone (Mertie, 1936). Granite is found in the divide between Long and Flint Creeks (Mertie, 1937). The pay streak is located east of the present course of Long Creek and is at least 6 1/2 miles long, although sporadic (Brooks, 1916). In some places it is as much as 100 feet wide (Eberlein and others, 1977). The ground runs from 0.04 to 0.72 ounces per square foot of bedrock, and under 20 to 80 feet of overburden (Eakin, 1914 [B578]; Mertie and Harrington, 1916).

The gold is found on and in crevices in the bedrock and on a false clay bedrock just above barren gravel (Mertie and Harrington, 1916). The gold is generally spongy and not well rounded (Mertie, 1936). It is both fine and coarse grained; the largest nugget weighed 131 ounces. Several other nuggets weighed about 35 ounces. Assays show the gold to be about 857 parts gold per thousand and 135 parts silver per thousand. The gold is accompanied by cassiterite (Eberlein and others, 1977).

Gold was first discovered on Long Creek in 1910, and since then Long Creek experienced almost continuous mining through 1977 (Eberlein and others, 1977). Long Creek experienced intermittent mining from the 1970s until 1988 and continuous mining and exploration from 1988 through 1993 (Green and others, 1989; Bundtzen and others, 1990; Swainbank and others, 1991; Bundtzen and others, 1992; Swainbank and others, 1993; Bundtzen and others, 1994). The early work was done by drift mining, but later work included open-cut mining and reworking old tailings. All post-1940 mining was done with open-cut methods (Eberlein and others, 1977).

Production from 1910 through 1933 was at least 38,500 ounces of gold, and total production through 1977 may have been twice that much (Mertie, 1936; Cobb and Chapman, 1981).

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:
Long Creek has experienced nearly continuous mining from 1910 to 1993 (Green and others, 1989; Bundtzen and others, 1990; Swainbank and others, 1991; Bundtzen and others, 1992; Swainbank and others, 1993; Bundtzen and others, 1994). Early mining was done by drift mining, and later mining was by open-cut methods and re-working old tailings.

Production notes:
Production between 1910 and 1933 was at least 38,500 ounces of gold. Total production on Long Creek through 1977 may have been at least twice as much (Cobb and Chapman, 1981).

Reserves:
According to Eberlein and others (1977), the major part of the mining area is probably nearly worked out, however some peripheral gold-bearing placers may remain.

Additional comments:
Tributaries of Long Creek that have experienced mining or prospecting are Greenstone Creek (RB021), Midnight Creek (RB019), Flat Creek (RB016), Short Creek (RB018), Fifth of July Creek (RB017), Fourth of July (RB022), and Basin Creek (RB013). Tributaries of Basin Creek, Willow Creek (RB015) and Swift Creek (RB014) have also experienced mining and or prospecting.

References:
Maddren, 1912; Eakin, 1914 (B578); Brooks, 1916; Mertie and Harrington, 1916; Mertie, 1936; Mertie, 1937; Cobb, 1972 (MF405); Eberlein and others, 1977; Cobb and Chapman, 1981; Green and others, 1989; Bundtzen and others, 1990; Swainbank and others, 1991; Bundtzen and others, 1992; Swainbank and others, 1993; Bundtzen and others, 1994.

Primary reference: Mertie, 1936

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Greenstone Creek; Greenstone Gulch

Site type: Mine

ARDF no.: RB021

Latitude: 64.3064 **Quadrangle:** RB B-6

Longitude: 155.5179

Location description and accuracy:

Greenstone Creek is a southwest-flowing tributary of Long Creek, and is about 4 miles long. Coordinates given correspond to location 23 of Cobb (1972 [MF405]) and mark the center of placer tailings 3 1/2 miles from the mouth of the creek, in section 4, T. 14 S., R. 17 E. of the Kateel River meridian, below the mouth of Greenstone Gulch. Greenstone Gulch refers to a southwesterly-flowing headwater tributary of Greenstone Creek. Tailings connect the two creeks and similar to Cobb (1972 [MF405]), this report treats both locations as one mine. The location is accurate.

Commodities:

Main: Au

Other: Ag, Sn

Ore minerals: Cassiterite, gold

Gangue minerals:

Geologic description:

The bedrock under Greenstone Creek is mostly weathered greenstone, although the headwaters are underlain by granite (Eberlein and others, 1977; Mertie, 1936). Gold was first discovered during the winter of 1912-13 (Eakin, 1914 [B592]). The gravels were 3 to 12 feet deep and worked by open-cut methods (Brooks, 1915) during 1913-14. A dredge was installed in 1915 and operational in 1916 (Smith, 1917 [BMB153]).

Chapman and others (1963) reported that the gold from Greenstone Creek is generally fine and angular, spottily distributed, and occurs on bedrock. Some of the gold is described as round and associated with only a little black sand, mostly magnetite and ilmenite, although cassiterite is also present (Chapin, 1919; Chapman and others, 1963). The pay streak was 60 to 100 feet wide, and was dredged for 2 miles below the mouth of Greenstone Gulch in 1916-17. The gravel is generally less than 25 feet deep (Mertie, 1936), and a stretch of about 3 miles was eventually mined from the upper half of Greenstone Creek (Cobb, 1972 [MF405]; Jim Johnson, oral communication, 2000). Dredge production was about $500,000 in 1936 (Mertie, 1936). Nearly continuous mining occurred along the creek until 1939. From 1939 to around 1977, mining was intermittent (Eberlein and others, 1977). During the early 1980s, sonic holes and auger holes were drilled into the gravels at the lower end of Greenstone Creek, but the grade was reported to be sub-economic (Jim Johnson, oral communication, 2000). The last record of exploration along Greenstone Creek is from the Sphinx America Company in 1990 (Swainbank and others, 1991).

Greenstone Creek also has a 3-mile-long tributary called Greenstone Gulch, that is unnamed on the USGS Ruby (B-6) Quadrangle map (1952, minor revisions in 1973). This area was also mined. Assays reported 865.75 parts gold per thousand and 129 parts silver per thousand (Mertie, 1936). The lower 800 feet of this creek was dredged, and other mining was conducted farther upstream (Mertie, 1936).

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: Probably inactive

Workings/exploration:
Beginning in 1914, the head of Greenstone Creek was stripped and mined by open-cut methods. In 1916-17, a dredge mined at least two miles of the creek (Smith, 1917 [BMB153]), and up into the lower 800 feet of Greenstone Gulch (Mertie, 1936). Mining and exploration activities along Greenstone Creek continued intermittently until at least 1990 (Swainbank and others, 1991), presumably along the approximately 3 mile stretch marked as location 23 by Cobb (1972 [MF405]).

Production notes:

Reserves:

Additional comments:

References:
Eakin, 1914 (B592); Brooks, 1915; Mertie and Harrington, 1916; Smith, 1917 (BMB153); Chapin, 1919; Mertie, 1936; Chapman and others, 1963; Cobb, 1972 (MF405); Eberlein and others, 1977; Cobb and Chapman, 1981; Swainbank and others, 1991.

Primary reference: Mertie, 1936

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Fourth of July Creek (tributary of Long Creek)

Site type: Mine

ARDF no.: RB022

Latitude: 64.3940 **Quadrangle:** RB B-5

Longitude: 155.5082

Location description and accuracy:
Fourth of July Creek is a 2-mile-long, northwest-flowing tributary of Long Creek. The placer ground of Fourth of July Creek is found near its mouth, along a bench east of Long Creek as marked by location 21 of Eberlein and others (1977). The coordinates above mark a point in section 4, T. 13 S., R. 17 E. of the Kateel River meridian. The location is accurate within 1/2 mile.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
Fourth of July Creek is underlain by phyllite and quartzite of the Ruby terrane, although a Tertiary granite body is located 3 miles east of the head of the creek (Puchner and others, 1998). Mining took place along Fourth of July Creek in the bench gravels on the east side of Long Creek. Unlike many creeks in this area, no cassiterite was found with the gold (Eberlein and others, 1977).

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:
This creek was probably mined prior to 1977 (Eberlein and others, 1977).

Production notes:

Reserves:

Additional comments:

References:

Chapman and others, 1963; Cobb, 1972 (MF405); Eberlein and others, 1977; Cobb and Chapman, 1981; Puchner and others, 1998.

Primary reference: Eberlein and others, 1977

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Bear Gulch; Bear Pup

Site type: Mines

ARDF no.: RB023

Latitude: 64.4080 **Quadrangle:** RB B-5

Longitude: 155.4914

Location description and accuracy:
Bear Gulch is a 3-mile-long southwest-flowing tributary of Long Creek. Its confluence with Long Creek is near the town of Long. The coordinates given correspond to location 12 of Cobb (1972[MF405]), and mark the center of placer tailings marked on the USGS Ruby (B-5) Quadrangle map (1952, minor revisions in 1973), in section 32, T. 12 S., R. 17 E. of the Kateel River meridian. The location is accurate.

Commodities:

Main: Au

Other: Ag, Sn

Ore minerals: Cassiterite, gold, silver

Gangue minerals:

Geologic description:
The Bear Creek basin drains off of three separate rock units, and flows on or very near to a reverse fault contact between two distinct rock units of the Tozitna terrane. Puchner and others (1998) mapped intermediate to mafic intrusive rocks including gabbros and diorites on the eastern side of the valley. The western side consists of interbedded phyllites, schists, meta-graywackes, greenstones and marbles. The closest granitic bodies lie 6 miles away, toward the northeast and southeast.

Gold was first discovered on Bear Gulch in 1910 (Maddren, 1912). There are two pay streaks in Bear Gulch. The main one is in a low terrace southeast of the creek. The other is at a higher level and is less rich in gold (Eberlein and others, 1977). Cassiterite and silver accompanied the gold (Mertie, 1936). The stream gravels were mined by open-cut methods until about 1933.

The main pay streak was 20 to 30 feet deep and up to 100 feet wide with 6 to 8 feet of gold-bearing gravel (Mertie, 1936). The two most productive claims produced a total of 24,000 to 29,000 ounces of gold between 1914 and 1933 with an average composition of nuggets being 857 parts Au per thousand and 135 parts Ag per thousand (Mertie, 1936). The gold was worn but not well-rounded, and included several nuggets weighing between 2 1/2 and 100 ounces apiece (Eberlein and others, 1977).

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: Active?

Workings/exploration:

Gold was first discovered on Bear Gulch in 1910 (Maddren, 1912). There are two pay streaks in Bear Gulch: in a low terrace southeast of the creek, and at a higher level where gold grades are lower (Eberlein and others, 1977). The stream gravels were mined by open-cut methods until about 1933 (Mertie, 1936).

Production notes:

The two most productive claims along Bear Creek produced a total of 24,000 to 29,000 ounces of gold between 1914 and 1933 (Eberlein and others, 1977).

Reserves:

Additional comments:

References:

Maddren, 1912; Mertie, 1936; Cobb, 1972 (MF405); Eberlein and others, 1977; Cobb and Chapman, 1981.

Primary reference: Mertie, 1936

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Monument Creek

Site type: Mine

ARDF no.: RB024

Latitude: 64.2695 **Quadrangle:** RB B-5

Longitude: 155.4282

Location description and accuracy:
Monument Creek flows through the southwestern corner of the Ruby (B-5) Quadrangle. The area of interest is approximately 5 1/2 miles south of VABM Monument (USGS topographic map, 1952, minor revisions in 1973), which corresponds to location 24 of Cobb (1972 [MF405]). Coordinates are for the approximate midpoint of placer ground in section 13, T. 14 S., R. 17 E. of the Kateel River meridian. The placer ground extends for about a mile downstream from a point 1/2 mile above the tributary Rabbit Creek. The discovery claim was made at the mouth of Rabbit Creek. The location is accurate.

Commodities:

Main: Au

Other: Ag, Sn

Ore minerals: Cassiterite, gold

Gangue minerals:

Geologic description:
The bedrock underlying Monument Creek is likely intermediate to mafic intrusive rocks (Puchner and others, 1998). Granite is present on a headwater divide to the north of the creek, and rocks peripheral to this body may be the source of the metals in the placer gravels (Eberlein and others, 1977).

Gold was discovered along Monument Creek during the winter of 1912-13 (Eakin, 1914). About 1,450 ounces of gold and some byproduct silver were recovered between 1913 and 1933 (Mertie, 1936). Monument Creek was also explored from 1990 to 1993 (Swainbank and others, 1991; Bundtzen and others, 1992; Swainbank and others, 1993; Swainbank and others, 1995).

The gold is found in an irregular, spotty pay streak 20 to 50 feet wide, about 1/2 mile above and below the mouth of Rabbit Creek (Mertie, 1936). At 1/4 mile below the mouth of Rabbit Creek (Discovery claim) 25 feet of muck is underlain by 15 feet of gravel. Gold is found in irregularly distributed, 3-to-6-inch-thick streaks of fine gravel. There is little or no gold on bedrock (Mertie, 1936). The gold is both fine and coarse, and the largest nugget weighed a little more than an ounce. The average of three assays showed 853 parts gold per thousand and 139 parts silver per thousand (Mertie, 1936). Cassiterite is also present with the gold (Mertie and Harrington, 1916; Chapin, 1919; Joesting, 1942).

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:

Monument Creek was mined from 1913 to about 1933 (Mertie, 1936) and from 1990 to 1994 (Swainbank and others, 1991; Bundtzen and others, 1992; Swainbank and others, 1993; Swainbank and others, 1995).

Production notes:

Total production for Monument Creek through 1933 was about 1,450 ounces (Mertie, 1936).

Reserves:

Additional comments:

References:

Eakin, 1914; Chapin, 1919; Mertie and Harrington, 1916; Mertie, 1936; Joesting, 1942; White and Stevens, 1953; Chapman and others, 1963; Cobb, 1972 (MF405); Eberlein and others, 1977; Cobb and Chapman, 1981; Swainbank and others, 1991; Bundtzen and others, 1992; Swainbank and others, 1993; Swainbank and others, 1995; Puchner and others, 1998.

Primary reference: Mertie, 1936

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Granite Creek

Site type: Mine

ARDF no.: RB025

Latitude: 64.3485 **Quadrangle:** RB B-5

Longitude: 155.4177

Location description and accuracy:
Granite Creek is not labeled on the USGS Ruby B-5 quadrangle map (1952, minor revisions in 1973), but is probably one of the headwater tributaries of Flint Creek. The coordinates listed above correspond to location 19 of Cobb (1972 [MF405]) and mark the approximate center of the more northerly tributary, in section 24, T. 13 S., R. 17 E. of the Kateel River Meridian The location is accurate within 5 miles.

Commodities:

Main: Au

Other: Pt

Ore minerals: Gold, platinum

Gangue minerals:

Geologic description:
Granite Creek is underlain by Paleozoic phyllite and quartzite (Puchner and others, 1998). Gold and platinum were mined from the creek during 1924 and possibly other years (Smith, 1926). Platinum is probably a rare constituent of the concentrates (Eberlein and others, 1977).

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: Probably inactive

Workings/exploration:
Gold and platinum were mined from the creek during 1924 and possibly other years (Smith, 1926).

Production notes:

Reserves:

Additional comments:

References:

Smith, 1926; Cobb, 1972 (MF405); Eberlein and others, 1977; Cobb and Chapman, 1981; Puchner and others, 1998.

Primary reference: Smith, 1926

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Eldorado Creek (tributary of Flint Creek)

Site type: Prospect

ARDF no.: RB026

Latitude: 64.3769 **Quadrangle:** RB B-5

Longitude: 155.4035

Location description and accuracy:
Eldorado Creek is a 3-mile-long tributary of Flint Creek. Exact locations for prospecting are not known; coordinates are arbitrarily placed at the approximate midpoint of the creek, in section 12, T. 13 S., R. 17 E. of the Kateel River meridian. The location is accurate within a 1.5 miles.

Commodities:

Main: Au?

Other:

Ore minerals: Gold?

Gangue minerals:

Geologic description:
The bedrock underlying Eldorado Creek is Paleozoic phyllite and quartzite (Puchner and others, 1998). Mertie (1936) reported that prior to 1933, prospecting occurred along the creek, however no information on follow-up work was found in the literature, including Cobb and Chapman (1981). Several holes were drilled into the bed of Eldorado Creek by unknown persons during the early 1980s but results were poor (Pete Haggland, oral communication, 2000).

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:
Eldorado Creek was prospected prior to 1933 (Mertie, 1936). Several holes were drilled into Eldorado Creek during the early 1980s by unknown persons but results were poor (Pete Haggland, oral communication, 2000).

Production notes:

Reserves:

Additional comments:

References:

Mertie, 1936; Cobb and Chapman, 1981; Puchner and others, 1998.

Primary reference: Mertie, 1936

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Lucky Creek (tributary of Crooked Creek)

Site type: Mine

ARDF no.: RB027

Latitude: 64.4457 **Quadrangle:** RB B-5

Longitude: 155.3938

Location description and accuracy:
Lucky Creek is a tributary of Crooked Creek that is not shown on the 1952 USGS Ruby (B-5) Quadrangle map (minor revisions in 1973). The coordinates above correspond to location 8 of Cobb (1972[MF405]) and were used to find the site location in section 14, T. 12 S., R. 17 E. of the Kateel River meridian. The location is accurate within 1 mile.

Commodities:

Main: Au

Other:

Ore minerals: Cassiterite?, gold

Gangue minerals:

Geologic description:
The bedrock geology in the Lucky Creek area consists of two different rocktypes. If the location is accurate, the creek drains amphibolite grade schist and gneiss of the Ruby terrane (Puchtner and others, 1998). The contact with a phyllite and quartzite unit of the Ruby terrane is mapped 1 to 2 miles to the south, and the contact with a Tertiary-Cretaceous granite stock is projected to be approximately 1/2 mile north of the Lucky Creek prospect site, buried under Quaternary fill (Puchter and others, 1998).

Some prospecting and mining took place along this creek around 1933 (Mertie, 1936). Although gold was reported, the amount of gold is unknown, and the presence of cassiterite is uncertain (Mertie, 1936; Chapman and others, 1963). The potential for placer mining in this valley is probably slight (Eberlein and others, 1977).

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: Probably inactive

Workings/exploration:
Some placer gold mining took place along Lucky Creek around 1933 (Mertie, 1936; Chapman and others, 1963).

Production notes:

Reserves:

Additional comments:

References:

Mertie, 1936; Chapman and others, 1963; Cobb, 1972 (MF405); Eberlein and others, 1977; Cobb and Chapman, 1981.

Primary reference: Mertie, 1936

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Ophir Creek

Site type: Mine

ARDF no.: RB028

Latitude: 64.2530 **Quadrangle:** RB B-5

Longitude: 155.3861

Location description and accuracy:
Ophir Creek is a southwest-flowing tributary of the Sulatna River and is approximately 8 miles long. Coordinates corresponding to location 25 of Cobb (1972 [MF405]) are for the approximate midpoint of placer ground, in section 30, T. 14 S., R. 18 E., Kateel River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
The bedrock underlying Ophir Creek is intermediate to mafic intrusive rocks and is probably greenstone (Puchner and others, 1998). An unnamed rich gold discovery was reported along Ophir Creek in 1913 (Eakin, 1914). There was some mining in and about 1956 (Cass, 1959; Eberlein and others, 1977). Additional mining and(or) exploration occurred between 1988 and 1991 (Green and others, 1989; Bundtzen and others, 1990; Swainbank and others, 1991; Bundtzen and others, 1992).

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:
Exploration and discovery of gold took place along Ophir Creek in 1913, and some mining took place in and about 1956 (Cass, 1959; Eberlein and others, 1977). Additional mining and(or) exploration took place between 1988 and 1991 (Green and others, 1989; Bundtzen and others, 1990; Swainbank and others, 1991; Bundtzen and others, 1992).

Production notes:

Reserves:

Additional comments:

References:

Eakin, 1914 (B592); Mertie and Harrington, 1916; Cass, 1959; Cobb, 1972 (MF405); Eberlein and others, 1977; Cobb and Chapman, 1981; Green and others, 1989; Bundtzen and others, 1990; Swainbank and others, 1991; Bundtzen and others, 1992; Puchner and others, 1998.

Primary reference: Eberlein and others, 1977

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Straight Creek

Site type: Mine

ARDF no.: RB029

Latitude: 64.4597 **Quadrangle:** RB B-5

Longitude: 155.3826

Location description and accuracy:
Straight Creek is a 2 1/2-mile-long, east-flowing tributary of Birch Creek, a southeast-flowing tributary of Flint Creek, which subsequently flows northeast into the Sulatna River. The coordinates given correspond to location 6 of Cobb (1972 [MF405]) and mark the center of placer mining ground. The site lies in section 12, T. 12 S., R. 17 E. of the Kateel River meridian. The location is accurate.

Commodities:

Main: Au, Sn

Other:

Ore minerals: Cassiterite, gold

Gangue minerals:

Geologic description:
The hill drained by Straight Creek is composed of schist intruded by granitic dikes (White and Stevens, 1953; Eberlein and others, 1977). The contact between granite and schist is located near the mouth of the creek.

Gold and cassiterite were mined near the mouth of Straight Creek from a bench deposit of Birch Creek that is cut by Straight Creek (Chapman and others, 1963).

A placer mine was first established at Straight Creek in 1916 (Smith, 1917 [BMB153]). Straight Creek was mined until 1920, although more recent prospecting may have occurred along the creek (Eberlein and others, 1977).

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:
Straight Creek was mined from 1916 to 1920 (Eberlein and others, 1977).

Production notes:

Reserves:

Additional comments:

References:

Smith, 1917 (BMB153); White and Stevens, 1953; Chapman and others, 1963; Cobb, 1972 (MF405); Eberlein and others, 1977; Cobb and Chapman, 1981.

Primary reference: Chapman and others, 1963

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Glen Gulch; Glenn Gulch

Site type: Mine

ARDF no.: RB030

Latitude: 64.4162 **Quadrangle:** RB B-5

Longitude: 155.3826

Location description and accuracy:
Glen Gulch was mined along its entire length of about 2 1/2 miles. The stream is an east-flowing tributary of Flint Creek. The coordinates correspond to location 16 of Cobb (1972 [MF-405]), and mark the approximate midpoint of the creek, in section 25, T. 12 S., R. 17 E of the Kateel River meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
The bedrock underlying Glen Gulch is Paleozoic phyllite and quartzite (Puchner and others, 1998). A small Tertiary granitic body lies about 3 1/2 miles south of its head.

Gold was first discovered in Glen Gulch in 1911 (Maddren, 1912). Brooks (1915) reported that considerable drift mining was taking place in 1914. Mertie and Harrington (1916) reported that exploration drill holes, some 40 feet to bedrock, were used for prospecting in the area around this time. Mertie and Harrington (1924) reported that no extensive operations had operated since 1915, and Eberlein and others (1977) speculated that Glen Gulch was mined out soon after 1915. However, Jim Johnson (oral communication, 2000) reported that the area was mined intensively around 1915, but mining took place intermittently from 1915 until about 1985. Gravels overlying about 50,000 square feet of bedrock were mined in 1986 or 1987 yielding roughly 250 ounces of gold (Pete Haggland, oral communication, 2000). During this operation, Haggland reported that 37 drift holes were encountered.

Gold was found in the bottom foot of gravel and in shattered bedrock (Mertie and Harrington, 1916). Some gold is rough and coarse, and some nuggets were valued at $150 (gold at $20.67 per ounce). There were profitable gravels along the entire creek although the pay was spotty (Eberlein and others, 1977). Near the head, the gravel was 10 to 15 feet deep and unfrozen (Eakin, 1914 [B578]). Farther downstream, gravels were 25 feet deep and frozen. Some open-cut mining took place upstream (Mertie and Harrington, 1916). The gravels near the mouth of the creek were prospected but not mined due to the frozen nature of the ground (Mertie and Harrington, 1916).

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: Probably inactive

Workings/exploration:

Between 1911 and 1915, mining took place near the head of Glen Gulch by open-cut methods (Mertie and Harrington, 1916). Exploration drill holes were sunk 40 feet to bedrock further downstream and some drift mining also took place during this time (Mertie and Harrington, 1916).

The area was probably mined intensively around 1915, but mining took place intermittently from 1915 until about 1985 (Jim Johnson, oral communication, 2000). Gravels overlying about 50,000 square feet of bedrock were mined in 1986 or 1987, intersecting 37 drift holes and yielding roughly 250 ounces of gold (Pete Haggland, oral communication, 2000).

Production notes:

In 1986 or 1987, about 250 ounces of gold were removed from gravel covering 50,000 square feet of bedrock (P. Haggland, oral communication, 2000).

Reserves:

Additional comments:

References:

Maddren, 1912; Eakin, 1914 (B578); Mertie and Harrington, 1916; Cobb, 1972 (MF405); Eberlein and others, 1977; Cobb and Chapman, 1981; Puchner and others, 1998.

Primary reference: Mertie and Harrington, 1916

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Crooked Creek

Site type: Mine

ARDF no.: RB031

Latitude: 64.4569 **Quadrangle:** RB B-5

Longitude: 155.3761

Location description and accuracy:
Crooked Creek is marked by a strip mine labeled on the Ruby B-5 quadrangle (USGS topographic map, 1952, minor revisions in 1973). The mine is located just north of Crooked Creek, on a west bench of Birch Creek. The above coordinates mark the center of mining and correspond to location 7 of Cobb (1972 [MF405]), in section 12, T. 12 S., R. 17 E. of the Kateel River Meridian. The location is accurate.

Commodities:

Main: Au

Other: Sn

Ore minerals: Cassiterite, gold

Gangue minerals:

Geologic description:
The type of bedrock underlying the Crooked Creek mine is not known because of the substantial thickness of Quaternary deposits (Puchner and others, 1998). A small pay streak is located near the mouth of Crooked Creek itself, and further deposits are located several hundred yards up Crooked Creek from Birch Creek (Chapman and others, 1963). The downstream deposits of Crooked Creek mix with the cassiterite-bearing Birch Creek deposits and Cobb and Chapman (1981) speculate that at least some of the Crooked Creek deposits contained cassiterite although there is no record of any recovered (Cobb and Chapman, 1981).
Shafts were first sunk approximately 50 feet to bedrock on a low silt terrace south of the creek prior to 1936, however, only a little gold was found (Mertie, 1936). Intermittent mining has been done on the area from its discovery to the present. Strip mining has been done on the lower part of the creek (Eberlein and others, 1977).

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:

Shafts were sunk approximately 50 feet to bedrock, and strip mining was done on the lower part of the creek (Mertie, 1936; Eberlein and others, 1977).

Production notes:

Reserves:

Additional comments:
See also Birch Creek (RB035).

References:
Mertie, 1936; Chapman and others, 1963; Cobb, 1972 (MF405); Cobb, 1977 (OF 77 168b); Eberlein and others, 1977; Cobb and Chapman, 1981; Puchner and others, 1998.

Primary reference: Chapman and others, 1963

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Root Creek

Site type: Prospect

ARDF no.: RB032

Latitude: 64.4091 **Quadrangle:** RB B-5

Longitude: 155.3744

Location description and accuracy:
Root Creek is not marked on the 1952 USGS Ruby B-5 topographic map (1952, minor revisions in 1973). It is a tributary of Flint Creek, and presumably is located south of Glen Gulch. Coordinates are arbitrarily placed in section 36, T. 12 S., R. 17 E. of the Kateel River meridian. The location is accurate within 5 miles.

Commodities:

Main: Au?

Other:

Ore minerals: Gold?

Gangue minerals:

Geologic description:
Prospecting took place along Root Creek prior to 1933 (Mertie, 1936). There is no mention of more recent work on this creek. Since Root Creek is not labeled on current geologic maps, location and geologic information are uncertain, but the creek is underlain by phyllite and quartzite of the Ruby Terrane (Puchner and others, 1998).

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:
Prospecting on Root Creek took place prior to 1933 (Mertie, 1936).

Production notes:

Reserves:

Additional comments:

References:

Mertie, 1936; Cobb and Chapman, 1981; Puchner and others, 1998.

Primary reference: Mertie, 1936

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Gold Run (tributary of Flint Creek)

Site type: Prospect

ARDF no.: RB033

Latitude: 64.4004 **Quadrangle:** RB B-5

Longitude: 155.3728

Location description and accuracy:
Gold Run Creek is a 2 1/2-mile-long, east-flowing tributary of Flint Creek. Coordinates corresponding to location 25 of Eberlein and others (1977) are arbitrarily placed at the approximate midpoint of the creek, in section 36, T. 12 S., R. 17 E. of the Kateel River meridian. The location is accurate within 2 miles.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
The bedrock underlying Gold Run Creek is Paleozoic phyllite and quartzite (Puchner and others, 1998). Mertie (1936) reported that prospecting occurred on this creek prior to 1933. There probably was no mining on this creek (Eberlein and others, 1977).

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:
Prospecting occurred along Gold Run Creek prior to 1933 (Mertie, 1936).

Production notes:

Reserves:

Additional comments:

References:

Mertie, 1936; Eberlein and others, 1977; Cobb and Chapman, 1981; Puchner and others, 1998.

Primary reference: Mertie, 1936

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Lucky Creek (tributary of Flint Creek)

Site type: Mine

ARDF no.: RB034

Latitude: 64.4291 **Quadrangle:** RB B-5

Longitude: 155.3626

Location description and accuracy:
Lucky Creek, an east-flowing tributary of Flint Creek, is not named on the Ruby (B-5) Quadrangle map (1952, minor revisions in 1973). The creek is less than 3 miles long. The coordinates mark a point within location 32 of Eberlein and others (1977) that is the midpoint of the creek in section 24, T. 12 S., R. 17 E. of the Kateel River meridian. The location is accurate within 6 miles.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
The bedrock underlying Lucky Creek is covered by surificial deposits, but is probably schist or slate (Eberlein and others, 1977). There was a small amount of gold production from Lucky Creek in 1912-13. The ground was 16 to 30 feet deep over 2 miles of creek bed. The gold is derived from the area drained by Glen Gulch, Bear Pup, and Crooked Creek (Eakin, 1914 [B592]).
Mining and exploration activities have been intermittent between 1913 and the present. During the mid-1980s, Sphinx America mining company conducted churn drilling along Lucky Creek. Activity along the creek may be ongoing (Jim Johnson, oral communication, 2000), although who is doing the work is unknown to the author.

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: Active?

Workings/exploration:
Two small operations produced gold during 1912 and 1913 (Eakin, 1914 [B592]). Mining and exploration activities have been intermittent between 1913 and the present. During the mid-1980's, Sphinx America mining company conducted churn drilling along Lucky Creek. Activity along the creek may be ongoing

(Jim Johnson, oral communication, 2000), although who is unknown to the author.

Production notes:

Reserves:

Additional comments:

References:

Eakin, 1914 (B592); Cobb, 1972 (MF405); Eberlein and others, 1977; Cobb and Chapman, 1981.

Primary reference: Eakin, 1914

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Birch Creek

Site type: Mine

ARDF no.: RB035

Latitude: 64.4581 **Quadrangle:** RB B-5

Longitude: 155.3531

Location description and accuracy:
Birch Creek is a headwater tributary of the Sulatna River. Coordinates corresponding to location 9 of Cobb (1972 [MF405]) are listed above, and mark the approximate center of mining activity, in section 7, T. 12 S., R. 18 E. of the Kateel River meridian. The location is accurate.

Commodities:

Main: Au, Sn

Other: Ag, Bi, Th, U

Ore minerals: Anatase, cassiterite, gold, hematite, ilmenite, malachite, native bismuth, pyrite, titanite (sphene), uranothorite?

Gangue minerals: Allanite, garnet, zircon

Geologic description:
The bedrock under Birch Creek consists of granite near the head of the creek and black pyritic slate/shale further downstream (Mertie and Harrington, 1916). The creek contains both placer gold and cassiterite. Concentrates from stream placers and granite bedrock contained allanite, zircon, hematite, anatase, garnet, ilmenite, malachite, titanite (sphene), and traces of a radioactive mineral that may be uranothorite (White and Stevens, 1953). The mineralization may be related to the intrusive contact zone and veining(?) in pyritic shale (Eberlein and others, 1977).

Birch Creek was first staked in 1914. Gold was found for more than 2 miles along lower Birch Creek and between Straight and Crooked Creeks. The gold was found on or near bedrock at depths of 70 to 90+ feet below the surface. Three mines operated between 1914-15 (Mertie and Harrington, 1916) and Green Mountain Mining and Exploration mined between 1993 and 1995 (Bundtzen and others, 1996).

The gold from the granite area is fairly coarse and badly tarnished. Gravels from further downstream contain mostly pyrite from the underlying slate (Mertie and Harrington, 1916). The mean of three assays yielded 872 parts per thousand gold and 120 parts per thousand silver (Mertie, 1936).

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: Probably inactive

Workings/exploration:

Prospecting and mining were rendered difficult due to depth to paystreak and the presence of thawed ground above that depth in places. Mertie and Harrington (1916) reported that 'live water' was encountered in some shafts and drifts 80+ feet below ground surface. During 1914-1915, three underground mines were being worked (Mertie and Harrington, 1916). Green Mountain Mining and Exploration mined ground from 1993 to 1995 (Bundtzen and others, 1996).

Production notes:

An unknown (probably small) quantity of placer gold was recovered from this creek.

Reserves:

Additional comments:

References:

Mertie and Harrington, 1916; Mertie, 1936; White and Stevens, 1953; Chapman and others, 1963; Cobb, 1972 (MF405); Eberlein and others, 1977; Cobb and Chapman, 1981; Bundtzen and others, 1996.

Primary reference: Mertie, 1936

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Flint Creek

Site type: Prospect

ARDF no.: RB036

Latitude: 64.3887 **Quadrangle:** RB B-5

Longitude: 155.3526

Location description and accuracy:
Flint Creek is location 17 of Cobb. Flint Creek is a northeast-flowing tributary of the Sulatna River. The better prospects are found on the bench along the west side of the creek, between Gold Run and Eldorado Creek. The coordinates given mark the approximate locations of the better prospects found in section 5, T. 13 S., R. 18 E. of the Kateel River merdian. This placer area corresponds to location 17 of Cobb (1972 [MF405]) although Cobb locates the Flint Creek prospect approximately 1 mile further north, just downstream of Gold Run Creek. As a result, accuracy is within 1 1/2 miles.

Commodities:

Main: Au

Other: Bi?, Sn, Th, U

Ore minerals: Cassiterite, gold, uranothorite?

Gangue minerals:

Geologic description:
Flint Creek drains the contact zone of a granitic body with phyllite and quartzite (Mertie, 1936). Prospectors first identified gold on Flint Creek in 1911 (Maddren, 1912). There is no data concerning any actual mining at Flint Creek, and the area probably was not mined. Later years of prospecting resulted in poorer results than in 1911 (Mertie, 1936; White and Stevens, 1953). Cassiterite was found in heavy mineral concentrates. Concentrates of gravels derived from the granite also contained a uranium-thorium mineral (possibly uranothorite), sphene, allanite, ilmenite, magnetite, and zircon (White and Stevens, 1953). Bismuth was reported in a spectrographic analysis of uranothorite, but no bismuth mineral was found (White and Stevens, 1953).

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:
Flint Creek was prospected between 1911 and at least 1936. Chapman and others (1963) speculated that the

results were probably never good enough to warrant mining.

Production notes:

Reserves:

Additional comments:

Tributaries of Flint Creek along which there are prospects or mines include Granite Creek (RB025), Eldorado Creek (RB026), Root Creek (RB032), Gold Run (RB033), Glen Gulch (RB030), Lucky Creek (RB034), and Birch Creek (RB035). Additionally, tributaries Straight Creek (RB029), Crooked Creek (RB031), and Lucky Creek (RB027) tributary of Birch Creek contain gold.

References:

Maddren, 1912; Mertie and Harrington, 1916; Mertie, 1936; White and Stevens, 1953; Chapman and others, 1963; Cobb, 1972 (MF405); Eberlein and others, 1977; Cobb and Chapman, 1981.

Primary reference: White and Stevens, 1953

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Trail Creek

Site type: Mine

ARDF no.: RB037

Latitude: 64.3906 **Quadrangle:** RB B-5

Longitude: 155.2756

Location description and accuracy:
Trail Creek is an east-flowing tributary of the Sulatna River. Coordinates given correspond to location 18 of Cobb (1972 [MF-405]), and represent the approximate center of placer tailings and the mine marked on the USGS Ruby B-5 topographic map (1952, revised in 1973), in section 3, T. 13 S., R. 18 E. of the Kateel River meridian. The location is accurate.

Commodities:

Main: Au

Other: Ag, Pb, Sn, W

Ore minerals: Cassiterite, galena, gold, pyrite, scheelite

Gangue minerals:

Geologic description:
The bedrock underlying Trail Creek is phyllite, schist, and shaly slate, though the stream flows close to a contact between greenstone and schist (Eberlein and others, 1977). Some bedrock is highly pyritiferous. The gravels found in the creek are composed of subangular cobbles of greenstone, quartzite, carbonaceous shale, chert, and boulders of vein quartz (Mertie, 1936).

Placer gold was discovered on Trail creek in 1911, and intermittent mining continued along the creek until at least 1991 (Eberlein and others, 1977; Swainbank and others, 1991; Bundtzen and others, 1992). The pay streak was found along 2 miles along the valley, although gold was reported to be present as far as 17 miles downstream (Eakin, 1914 [B578]). Eakin (1914 [578]) reported the depth to bedrock is about 40 feet in the upper valley and 70 feet 7 miles downstream (Eakin, 1914). The ground in the upper 3 miles where most mining took place is generally about 25 to 35 feet deep (Mertie and Harrington, 1916). Gold is found in the base of 1 to 6 feet of gravel and on top of bedrock (Mertie, 1936). The gold is irregularly distributed within the gravel, and richer ground was reported at the mouths of small tributary gulches (Mertie and Harrington, 1916). The ground ran about 0.036 to 0.109 ounces of gold per square foot of bedrock (Mertie, 1936). Prospects and mining activity are found from Elephant Creek to Little Creek, along the right limit of Trail Creek (Jim Johnson, oral communication, 2000).

The gold is both rough and well-rounded, suggesting two different sources (Cobb and Chapman, 1981). It is mostly fine-grained; however, 10 percent of the gold is present in larger nuggets (Mertie and Harrington, 1916; Cobb and Chapman, 1981). The largest nugget was about 14.5 ounces. The mean of multiple assays of the gold showed 838 parts gold per thousand and 152 parts silver per thousand (Mertie, 1936). The gold is accompanied by sand-sized cassiterite, abundant pyrite, and minor galena and scheelite (Mertie and Harrington, 1916; Mertie, 1936; Joesting, 1943; Chapman and others, 1963).

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: Active?

Workings/exploration:
Placer gold was discovered on this creek in 1911, and intermittent mining continued along the creek until at least 1991 (Eberlein and others, 1977; Swainbank and others, 1991; Bundtzen and others, 1992).

Production notes:

Reserves:

Additional comments:

References:
Maddren, 1912; Eakin, 1914 (B578); Mertie and Harrington, 1916; Mertie, 1936; Joesting, 1943; Chapman and others, 1963; Cobb, 1972 (MF405); Eberlein and others, 1977; Cobb and Chapman, 1981; Swainbank and others, 1991; Bundtzen and others, 1992.

Primary reference:

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Easy Money Creek

Site type: Prospect

ARDF no.: RB038

Latitude: 64.4489 **Quadrangle:** RB B-5

Longitude: 155.2086

Location description and accuracy:
Easy Money Creek is an east-flowing tributary of Tip Creek. Tip Creek flows into Flint Creek, which is a tributary of the Sulatna River. Easy Money Creek is approximately 6 miles long. The exact location of prospecting along the creek is not known; coordinates are arbitrarily placed at the approximate midpoint of the creek, in section 14, T. 12 S., R. 18 E. of the Kateel River meridian. The location is accurate within 3 miles.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
The bedrock underlying the head of Easy Money Creek is Paleozoic phyllite and quartzite (Puchner and others, 1998). Mertie and Harrington (1924) reported that the creek was prospected in 1912 and that at the juncture of Easy Money Creek and Tip Creek, the depth to bedrock was 80 feet.

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:
Easy Money Creek was prospected in 1912 (Mertie and Harrington, 1924).

Production notes:

Reserves:

Additional comments:

References:

Mertie and Harrington, 1924; Mertie, 1936; Cobb and Chapman, 1981; Puchner and others, 1998.

Primary reference: Mertie, 1936

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Quartz Creek

Site type: Prospect

ARDF no.: RB039

Latitude: 64.3130 **Quadrangle:** RB B-5

Longitude: 155.1902

Location description and accuracy:
Quartz Creek is approximately 9 miles long and is an east-flowing tributary of the Sulatna River. No exact location of prospecting along the creek is known; coordinates are arbitrarily placed at the approximate midpoint of the creek, in section 31, T. 13 S., R. 19 E. of the Kateel River meridian. The location is accurate within 5 miles.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
The drainage of Quartz Creek is along a thrust fault separating phyllite and quartzite of the Ruby terrane from pelitic schist of the Ruby terrane (Puchner and others, 1998). Intermediate to mafic intrusive rocks are also found at the uppermost headwaters of the creek (Puchner and others, 1998). Quartz Creek was prospected during 1912 (Eakin, 1913). The ground along the creek is as much as 180 feet deep and nearly all frozen (Eakin, 1914 [B578]). No mention of the creek is made in more recent reports.

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:
Quartz Creek was first prospected in 1912 (Eakin, 1913).

Production notes:

Reserves:

Additional comments:

References:

Eakin, 1913; Eakin, 1914 (B578); Cobb and Chapman, 1981; Puchner and others, 1998.

Primary reference: Eakin, 1914

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Tip Creek

Site type: Prospect

ARDF no.: RB040

Latitude: 64.4581 **Quadrangle:** RB B-5

Longitude: 155.1502

Location description and accuracy:
Tip Creek is a 12-mile-long, east-flowing tributary of the Sulatna River. The prospect is near the head of the creek, but its location is not precisely known. The coordinates for Tip Creek correspond to location 53 of Eberlein and others (1977) and are arbitrarily placed on the creek in section 7, T. 12 S., R. 19 E. of the Kateel River meridian. The location is accurate within 5 miles.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
The Tip Creek valley is broad and flat, and the alluvium is deep (Eakin, 1914). Cass (1959) mapped the headwaters as draining a unit containing schist, crystalline limestone, quartzite, greenstone, slate and phyllite. To the south several miles Cass also mapped greenstones. The relationship of these rocks (or any others) is unknown based on the deep alluvium.

According to Eakin (1914 [B578]), prospects worthy of further examination were found in the upper reaches of Tip Creek in or before 1912. However, no mention of Tip Creek occurs again until Mertie (1936) reported that prospecting has, in the past, occurred there. Eberlein and others (1977) concluded that the area is poorly explored due to the ground being covered by 80 feet of alluvium. There is no evidence that any mining took place at Tip Creek.

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:
Tip Creek was prospected in and(or) before1912 (Eberlein and others, 1977).

Production notes:

Reserves:

Additional comments:

References:

Eakin, 1913; Eakin, 1914 (B578); Mertie, 1936; Eberlein and others, 1977; Cobb and Chapman, 1981.

Primary reference: Eberlein and others, 1977

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): White Channel Creek

Site type: Prospect

ARDF no.: RB041

Latitude: 64.3758 **Quadrangle:** RB B-5

Longitude: 155.1468

Location description and accuracy:
White Channel Creek is an approximately 5-mile-long, north-flowing tributary of Trail Creek. The exact location of prospecting along this creek is not known. Coordinates are arbitrarily placed at the approximate midpoint of the creek, in section 8, T. 13 S., R. 19 E. of the Kateel River meridian. The location is accurate within 2.5 miles.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
The bedrock in the area of White Channel Creek is gabbro (Eberlein and others, 1977). Prospecting was done along the creek in 1914-15, and holes sunk 150 feet to bedrock revealed a layer of white quartz gravel (Mertie, 1936). Apparently there was no mineable pay streak. The muck and alluvium are 60 feet thick near the head of the stream and greater than 180 feet thick in the lower portion of the creek (Eberlein and others, 1977).

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:
White Channel Creek was prospected during 1914-15, but no mineable deposits were located at that time. No records indicating more recent work were found by the author.

Production notes:

Reserves:

Additional comments:

References:

Mertie, 1936; Eberlein and others, 1977; Cobb and Chapman, 1981.

Primary reference: Eberlein and others, 1977

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): California Creek

Site type: Mine

ARDF no.: RB042

Latitude: 64.3433 **Quadrangle:** RB B-2

Longitude: 153.6090

Location description and accuracy:
California Creek is a north-flowing tributary of the Titna River and is approximately 6 miles long. The coordinates for the mine site are located in section 19, T. 13 S., R. 27 E. of the Kateel River meridian and correspond to location 11 of Eberlein and others (1977). It is unclear how much of the creek has been mined. The location is accurate within 2 miles.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
California Creek drains a small granitic stock about 0.8 km in diameter that intrudes calcareous schists. It was mined for placer gold during the early 1970s. There is also evidence of placer prospect drill hole lines (Eberlein and others, 1977). In 1980, Pete Haggland (oral communication, 2000) explored California Creek and found minor pay, although it was shallow. In 1991 Tilleson Mining and Exploration explored and mined on the creek (Bundtzen and others, 1992).

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: Probably inactive

Workings/exploration:
California Creek was mined for placer gold during the early 1970s. There is also evidence of placer prospect drill hole lines (Eberlein and others, 1977). In 1980, Pete Haggland (oral communication, 2000) explored California Creek and found minor pay, although it was shallow. Tilleson Mining and Exploration explored and mined on California Creek in 1991 (Bundtzen and others, 1992).

Production notes:

Reserves:

Additional comments:

References:

Eberlein and others, 1977; Bundtzen and others, 1992.

Primary reference: Eberlein and others, 1977

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Moose Creek

Site type: Mine

ARDF no.: RB043

Latitude: 64.0286 **Quadrangle:** RB A-6

Longitude: 155.8084

Location description and accuracy:
Moose Creek is a 1.5-mile-long, southwest-flowing tributary of Poorman Creek. Site coordinates corresponding to location 36 of Cobb (1972 [MF405]) are given for the approximate midpoint of placer ground in the lower part of the Moose Creek valley, in section 7, T. 17 S., R. 16 E., Kateel River Meridian. The location is accurate within a quarter mile.

Commodities:

Main: Au

Other: Ag

Ore minerals: Gold

Gangue minerals: Quartz

Geologic description:
The headwaters of Moose Creek drain deeply weathered basaltic greenstone (Cass, 1959; Mertie, 1936). Stream gravels are greenstone with considerable vein quartz (Mertie, 1936).

The gold along Moose Creek is found in old channels that lie under the southwest valley slope (Mertie, 1936). The present stream follows the northwest side of the asymmetrical valley. The pay streak was about 50 to 60 feet wide, buried by about 55 feet of muck, and ran about 40 cents per square foot of bedrock (gold at $20.67 per ounce). Some richer areas were reported to run $3 to $5 per square foot of bedrock (Mertie, 1936). The gold is fairly fine grained and well-rounded, but one 7-ounce nugget was reported (Mertie, 1936). One assay showed 842.5 parts gold per thousand and 152 parts silver per thousand.

Gold was first discovered along Moose Creek in 1920, but the pay streak was not located until 1931 (Cobb, 1973 [B1374]). The old channel was mined extensively from shafts and drifts. Some gold was produced from the creek from 1931 through 1939 (Eberlein and others, 1977).

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:

Shafts were sunk 50 to 60 feet to bedrock for drift mining from 1931 through 1939. Old stream channels were mined extensively from shafts and drifts (Eberlein and others, 1977).

Production notes:

Reserves:

Additional comments:
Placer genesis and lode source poorly known (Eberlein and others, 1977).

References:
Mertie, 1936; Cass, 1959; Cobb, 1972 (MF405); Cobb, 1973 (B1374); Eberlein and others, 1977; Cobb and Chapman, 1981.

Primary reference: Mertie, 1936

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Beaver Creek (tributary of Poorman Creek)

Site type: Mine

ARDF no.: RB044

Latitude: 64.0817 **Quadrangle:** RB A-6

Longitude: 155.7270

Location description and accuracy:
Beaver Creek is a southeast-flowing tributary of Poorman Creek and is about 5 miles long. This site corresponds to location 31 of Cobb (1972 [MF405]) and is located in section 21, T. 16 S., R. 16 E., Kateel River Meridian. The location is accurate within 1 mile.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
The bedrock under Beaver Creek is probably weathered basaltic greenstone (Eberlein and others, 1977). Placer gold was initially discovered in 1930 at the bottom of a 60-foot shaft. The gold-bearing gravel was mined from 1930 to 1932, and the discoverers may have removed as much as 315 ounces from a drift at the bottom of the shaft (Mertie, 1936). The gold was found on bedrock, and there was very little gravel. Since continuity was not found, mining stopped in 1932 (Mertie, 1936).

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: Probably inactive

Workings/exploration:
Between 1930 and 1932, Beaver Creek was mined from a 60-foot deep shaft (Mertie, 1936).

Production notes:
Mertie (1936) reported as much as 315 ounces of gold may have been removed from a shaft mined between 1930 and1932.

Reserves:

Additional comments:

References:
Mertie, 1936; Cobb, 1972 (MF405); Eberlein and others, 1977.

Primary reference: Mertie, 1936

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Gold Run (tributary of Deer Creek)

Site type: Prospect

ARDF no.: RB045

Latitude: 64.1852 **Quadrangle:** RB A-6

Longitude: 155.7084

Location description and accuracy:
Gold Run is a north-flowing tributary of Deer Creek, which is a northeast-flowing tributary of the Sulatna River. Gold Run is approximately 8 miles long. Exact locations of prospects along the creek are not known. The Gold Run site corresponds to location 26 of Eberlein and others (1977). Coordinates used to mark this location are in section 16, T. 15 S., R. 16 E., Kateel River Meridian. The location is accurate within 4 miles. (The 1:250,000-scale map of the Ruby quadrangle has this creek labeled Gold Run Creek.)

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
The bedrock underlying the head of Gold Run consists of Mesozoic intermediate to mafic intrusive rocks, and Paleozoic slate, siltstone, chert, graywacke, and limestone (Puchner and others, 1998). Good gold prospects were reported in 1916 by Mertie and Harrington (1916), but no mining was reported. There are no later reports of mining or prospecting along this creek (Cobb and Chapman, 1981).

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:
Prospecting reported in or before 1915 (Mertie and Harrington, 1916).

Production notes:

Reserves:

Additional comments:

References:

Mertie and Harrington, 1916; Cobb, 1972 (MF405); Eberlein and others, 1977; Cobb and Chapman, 1981; Puchner and others, 1998.

Primary reference: Mertie and Harrington, 1916

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Eldorado Creek (tributary of Poorman Creek)

Site type: Prospect

ARDF no.: RB046

Latitude: 64.1034 **Quadrangle:** RB A-6

Longitude: 155.6989

Location description and accuracy:
Eldorado Creek is approximately 4 1/2 miles long and is a southeast-flowing tributary of Poorman Creek. Exact location of the prospect is unknown however; the coordinates used correspond to location 16 of Eberlein and others (1977). The site is marked at the approximate midpoint of the stream, in section 16, T. 16 S., R. 16 E., Kateel River Meridian. The location is accurate within 2.5 miles.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
The upper part of Eldorado Creek is underlain by Paleozoic phyllite and quartzite (Puchner and others, 1998). Good gold prospects were reported along the creek in 1930 and 1931, but there is no later mention of any further development (Smith, 1933; Eberlein and others, 1977; Cobb and Chapman, 1981).

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:
Good gold prospects were reported during 1930 and 1931 (Smith, 1933).

Production notes:

Reserves:

Additional comments:

References:

Smith, 1933; Eberlein and others, 1977; Cobb and Chapman, 1981; Puchner and others, 1998.

Primary reference:

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Nevada Creek

Site type: Prospect

ARDF no.: RB047

Latitude: 64.1184 **Quadrangle:** RB A-6

Longitude: 155.6667

Location description and accuracy:
Nevada Creek is a southeast-flowing tributary of Poorman Creek and is approximately 6 miles long. Co-ordinates are arbitrarily placed at the midpoint of the creek in section 10, T. 16 S., R. 16 E., Kateel River Meridian and correspond to location 37 of Eberlein and others (1977). The location is accurate within 3 miles.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
The headwaters of Nevada Creek are underlain by Tozitna terrane Paleozoic slate, siltstone, chert, grey-wacke, and limestone in thrust fault contact with Ruby terrane Paleozoic phyllite and quartzite (Puchner and others, 1998). Good placer gold prospects were reported during the winter of 1930-31. There are no later reports of mining (Smith, 1933).

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:
Gold prospects were reported along Nevada Creek during the winter of 1930-31 (Smith, 1933).

Production notes:

Reserves:

Additional comments:

References:

Smith, 1933; Eberlein and others, 1977; Cobb and Chapman, 1981; Puchner and others, 1998.

Primary reference: Smith, 1933

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Poorman Creek

Site type: Mine

ARDF no.: RB048

Latitude: 64.0785 **Quadrangle:** RB A-6

Longitude: 155.6512

Location description and accuracy:

Poorman Creek is a meandering stream that flows generally southwest through the Ruby A-6 quadrangle. Coordinates are given for the approximate midpoint of placer grounds that lie near the mouth of Solomon Creek, in section 26, T. 16 S., R. 16 E., Kateel River Meridian. This location corresponds with location 32 of Cobb (1972 [MF405]). Poorman Creek experienced heavier mining activity near the town of Poorman, in section 17, T. 16 S., R. 17 E. More information about this second area is given in the references for Duncan Creek (RB056), Little Pup (RB054), and Tenderfoot Creek (RB053). The location listed above is accurate.

Commodities:

Main: Au

Other: Barite, Sn

Ore minerals: Cassiterite, gold

Gangue minerals:

Geologic description:

The bedrock on either side of Poorman Creek is Paleozoic phyllite and quartzite, but the stream flows within 2 miles of the Poorman fault, which juxtaposes Innoko terrane chert and slate against Ruby terrane phyllite, quartzite, marble, limestone, and Tertiary volcanic rocks (Puchner and others, 1998). Mertie (1936) reported the bedrock under Poorman Creek is phyllite and rhyolite porphyry.

Poorman Creek flows through an asymmetrical valley, where the south slope is steeper than the north. The upper valley is wide and open. Gold was discovered along Poorman Creek in 1912, and several holes were sunk to bedrock during that winter (Eakin, 1914 [B592-J]). Nearly the entire creek was staked during 1913 (Mertie and Harrington, 1916). Mining along Poorman Creek began in 1913 and continued nearly continuously until about 1976 (Eberlein and others, 1977).

There are no well-developed benches, but the pay streak below Tenderfoot Creek is on a 'bench' 600 to 1,000 feet north of the creek. Farther down the valley, the pay streak is south of the stream. Most mining took place on bench claims on the north bank of the creek (Mertie and Harrington, 1916). The main pay streak is about 2 1/2 miles long and as much as 1,000 feet wide (Eberlein and others, 1977).

Most of the pay is found in 3 to 6 feet of gravel near bedrock located 53 to 65 feet below the surface, although the depth to bedrock increases with distance from the creek (Eakin, 1914 [B592-J]; Mertie and Harrington, 1916). The gravel contains gold in fine, shot-like particles (Eakin, 1914 [B592-J]). Also found in the gravel are grains of pyrite, rounded and polished cassiterite pebbles, amorphous cassiterite (wood tin), barite pebbles, and a little magnetite (Mertie and Harrington, 1916). Assays of gold from several mines showed 835 to 853 parts gold per thousand and 154 to 159 parts silver per thousand (Mertie, 1936).

Production figures are not available for this creek, but Poorman Creek may have accounted for as much as 25 percent of the 390,000 ounces of gold reported recovered from the Ruby district from 1911 to 1960 (Cobb and Chapman, 1981). Although Poorman Creek was thought to have been mined out by 1977 (Eberlein and others, 1977), it also was mined between 1988 and 1995 (Green and others, 1989; Swainbank and others, 1991; Bundtzen and others, 1992; Bundtzen and others, 1996).

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:
Poorman Creek was prospected in 1912 and experienced nearly continuous mining from 1913 until at least 1995 (Eberlein and others, 1977; Green and others, 1989; Swainbank and others, 1991; Bundtzen and others, 1992; Bundtzen and others, 1996).

Production notes:
Cobb and Chapman (1981) estimated that 25 percent of the total 390,000 ounces of placer gold production from the Ruby district between 1911 and 1960 was from Poorman Creek and its small tributaries.

Reserves:

Additional comments:
Tributaries of Poorman Creek along which there are prospects or mines are Moose Creek (RB043), Beaver Creek (RB044), Eldorado Creek (RB046), Timber Creek (RB049), Solomon Creek (RB050), Nevada Creek (RB047), Tenderfoot Creek (RB053), Little Pup (RB054), and Duncan Creek (RB056). Additionally, Flat Creek (RB051), a tributary of Timber Creek, was also mined.

References:
Brooks, 1914; Eakin, 1914 (B592); Mertie and Harrington, 1916; Mertie, 1936; Cobb, 1972 (MF405); Eberlein and others, 1977; Cobb and Chapman, 1981; Green and others, 1989; Swainbank and others, 1991; Bundtzen and others, 1992; Bundtzen and others, 1996; Puchner and others, 1998.

Primary reference: Mertie, 1936

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Timber Creek

Site type: Mine

ARDF no.: RB049

Latitude: 64.0529 **Quadrangle:** RB A-6

Longitude: 155.6056

Location description and accuracy:
Timber Creek is a northwest-flowing tributary of Poorman Creek. Coordinates given correspond to location 35 of Cobb (1972 [MF405]) and represent the approximate center of mining activity, in section 36, T. 16 S., R. 16 E., Kateel River Meridian. The location is accurate within a quarter mile.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
The bedrock in the valley walls above Timber Creek is composed of Innoko terrane chert and slate (Puchner and others, 1998). Drilling indicates the presence of a fault at the juncture of Bonanza and Timber Creeks (Pete Haggland, oral communication, 2000).

The center of mining activity was just below the mouth of Flat Creek (a tributary), and no workable deposits were located upstream from Flat Creek. Flat Creek possibly cuts a northeast-trending mineralized zone, and abundant barite was found in concentrates from near the mouth of Flat Creek (Cobb and Chapman, 1981).

Intermittent mining took place along Timber Creek from 1916 until about 1992 (Eberlein and others, 1977; Swainbank and others, 1993).

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:
Timber Creek experienced intermittent mining and exploration from 1916 to about 1992. A reverse circulation drill program was conducted along Timber Creek in 1990 by Howard Miscovitch (Swainbank and others, 1993).

Production notes:

Reserves:

Additional comments:

References:

Brooks, 1918; Cobb, 1972 (MF405); Eberlein and others, 1977; Cobb and Chapman, 1981; Swainbank and others, 1993; Puchner and others, 1998.

Primary reference: Eberlein and others, 1977

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Solomon Creek

Site type: Mine

ARDF no.: RB050

Latitude: 64.0724 **Quadrangle:** RB A-6

Longitude: 155.6021

Location description and accuracy:
Solomon Creek is approximately 2 1/2 miles long and is a west-flowing tributary of Poorman Creek. Coordinates are given for the approximate center of placer ground, in section 25, T. 16 S., R. 16 E., Kateel River Meridian, and correspond to location 33 of Cobb (1972 [MF405]). The location is accurate.

Commodities:

Main: Au

Other: Ag, U

Ore minerals: Gold, uraniferous mineral(s)

Gangue minerals:

Geologic description:
The bedrock underlying Solomon Creek is phyllite and slaty phyllite (Mertie, 1936). Mining began on Solomon Creek in 1921 and continued intermittently until at least 1937 (Brooks, 1923; Smith, 1939 [B910-A]). Further exploration along Solomon Creek occurred in the late 1980's when several lines of holes were drilled across the creek (Pete Haggland, oral communication, 2000).

The gravel in Solomon Creek is from 1 to 5 feet thick and lies beneath 20 to 60 feet of muck. In places the gold is distributed throughout the gravel, and in other places it is found only in the foot above bedrock (Mertie, 1936). The pay streak is 15 to 80 feet wide. The gold is generally fine grained, angular, and attached to quartz. The largest nugget reported weighed 1/2 ounce (Mertie, 1936). At least one radioactive mineral was present: a uraniferous mineral of the spinel group that contains Al, Cr, Fe, Mg, Ti, and rare-earth elements as major constituents (on the basis of a qualitative spectrographic analysis) (White and Stevens, 1953).

The lode source(s) for neither the gold nor the uranium has been located (Eberlein and others, 1977).

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:

Mining began on Solomon Creek in 1921 and continued intermittently until at least 1937 (Brooks, 1923; Smith, 1939 [B910-A]). Further exploration along Solomon Creek occurred in the late 1980's when several lines of holes were drilled across the creek (Pete Haggland, oral communication, 2000).

Production notes:

Reserves:

Additional comments:

References:

Brooks, 1923; Mertie, 1936; Smith, 1939 (B910-A); White and Stevens, 1953; Cobb, 1972 (MF405); Eberlein and others, 1977; Cobb and Chapman, 1981.

Primary reference: Mertie, 1936

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Flat Creek (tributary of Timber Creek)

Site type: Mine

ARDF no.: RB051

Latitude: 64.0581 **Quadrangle:** RB A-6

Longitude: 155.5740

Location description and accuracy:
Flat Creek is a tributary of Timber Creek. Coordinates given are for the approximate center of tailings (1/2 mile long) marked on the Ruby A-6 quadrangle, in section 31, T. 16 S., R. 17 E., Kateel River Meridan (USGS topographic map, 1952, minor revisions in 1973). This site corresponds to location 34 of Cobb (1972 [MF405]) and location 19 of Eberlein and others (1977). The location is accurate.

Commodities:

Main: Au

Other: Ag, Sn

Ore minerals: Arsenopyrite, barite, cassiterite, gold

Gangue minerals: Quartz

Geologic description:
The bedrock underlying Flat Creek, a tributary of Timber Creek, is phyllite (Mertie, 1936). Drilling along Flat Creek indicates a shear zone across Bonanza Creek and the lower end of Flat Creek (Pete Haggland, oral communication, 2000). The gold is found on or in the upper 6 inches of bedrock or on a false clay bedrock a short distance above the true bedrock (Mertie and Harrington, 1916). The ground consists of 40 to 50 feet of muck underlain by 2 to 30 feet of gravel. The gravel is composed of chert, vein quartz, and phyllite (Mertie and Harrington, 1916). Gold is found in narrow, irregular patches and streaks over a width of as much as 1,000 feet. The gold is rough, and most is attached to quartz. It is rarely present in nuggets heavier than half an ounce and is commonly accompanied by pyrite, rounded grains of cassiterite, magnetite, a little arsenopyrite, and barite. The barite is present near the mouth (Eberlein and others, 1977). Three assays of the gold averaged 786 parts gold per thousand and 207 parts silver per thousand (Mertie, 1936).

Mining occurred at least between 1913 and 1936. In 1913 and 1914 two mines operated on Flat Creek (Eberlein and others, 1977). In the fall of 1940, John Miscovitch and others moved a D-8 Cat and dozer into Flat Creek and started building a ditch from Timber Creek and stripping a large area for hydraulicking the overburden (John Miscovitch, written communication, 2000). Flat Creek was mined by hydraulically, removing about 45 feet of overburden and using a mechanical sluice box system (Pete Haggland, oral communication, 2000). Mining continued until 1942 and also occurred from 1946 to 1954. More recent activity took place along Flat Creek between 1990 and 1993 (Swainbank and others, 1991; Bundtzen and others, 1992; Swainbank and others, 1993; Bundtzen and others, 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: Yes

Site Status: Active

Workings/exploration:

Flat Creek was intermittently mined from 1913 until at least 1936. In the fall of 1940, John Miscovitch and others moved a D-8 Cat and dozer into Flat Creek and started building a ditch from Timber Creek and stripping a large area for hydraulicking the overburden (John Miscovitch, written communication, 2000). Mining continued until 1942 and from 1946 to 1954. Mining along Flat Creek also occurred between 1990 and 1993 (Swainbank and others, 1991; Bundtzen and others, 1992; Swainbank and others, 1993; Bundtzen and others, 1994).

Production notes:

Reserves:

Additional comments:

This mineral occurrence is not to be confused with another occurrence on a different Flat Creek (RB016), tributary to Long Creek (RB020).

References:

Brooks, 1915; Mertie and Harrington, 1916; Mertie, 1936; Chapman and others, 1963; Cobb, 1972 (MF405); Eberlein and others, 1977; Cobb and Chapman, 1981; Swainbank and others, 1991; Bundtzen and others, 1992; Swainbank and others, 1993; Bundtzen and others, 1994.

Primary reference:

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Banner Creek

Site type: Prospect

ARDF no.: RB052

Latitude: 64.2134 **Quadrangle:** RB A-6

Longitude: 155.5724

Location description and accuracy:
Banner Creek is a northeast-flowing tributary of the Sulatna River. It is approximately 3 miles long and has four unnamed tributaries. Exact locations of prospecting along the creek are not known; coordinates correspond to location 3 of Eberlein and others (1977) and are arbitrarily placed at the approximate mid-point of the creek, in section 6, T. 15 S., R. 17 E., Kateel River Meridian. The location is accurate within 2 miles.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
The bedrock underlying most of Banner Creek is unknown, but Paleozoic phyllite and quartzite can be found at its head (Puchner and others, 1998). The head of Banner Creek also flows within a mile of a thrust fault between Paleozoic phyllite and schist and Mesozoic mafic intrusive rocks (Puchner and others, 1998). The creek was prospected prior to 1915 (Mertie and Harrington, 1916, 1924). Prospecting probably took place near the head of the creek, but no mining was reported (Mertie and Harrington, 1916, 1924). In the early 1980's, the Green brothers drilled some holes to test the placer gold content of gravels along Banner Creek (Pete Haggland, oral communication, 2000).

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: Probably inactive

Workings/exploration:
Prior to 1915, prospecting occurred along Banner Creek (Mertie and Harrington, 1916). More recent prospecting took place in the early 1980's, when the Green brothers drilled some holes along the creek (Pete Haggland, oral communication, 2000).

Production notes:
There is no record of mining along this creek.

Reserves:

Additional comments:

References:
Mertie and Harrington, 1916; Mertie and Harrington, 1924; Cobb, 1972 (MF405); Eberlein and others, 1977; Puchner and others, 1998.

Primary reference: Mertie and Harrington, 1916

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Tenderfoot Creek

Site type: Mine

ARDF no.: RB053

Latitude: 64.1055 **Quadrangle:** RB A-6

Longitude: 155.5323

Location description and accuracy:
Tenderfoot Creek is a west-flowing tributary of Poorman Creek. The site coordinates given are upstream on the Little Pup Gulch from location 30 of Cobb (1972 [MF405]). The coordinates fall in the NE1/4 section 20, T. 16 S., R. 17 E., Kateel River Meridian. The location is accurate to within a quarter mile.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
The bedrock near the mouth of Tenderfoot Creek is phyllite (Eberlein and others, 1977). Placer ground was discovered along the creek in 1913 (Brooks, 1914). Mining occurred about 1/2 mile above the mouth. The gold was found in a gravel layer 3 to 6 feet thick overlying bedrock and buried by 53 to 65 feet of muck (Eakin, 1914 [B592-J]). Most of the gold is fine, shotty, and water worn (Eakin, 1914 [B592-J]; Eberlein and others, 1977). The gravels of Tenderfoot Creek are difficult to distinguish from the right-limit gravels of Poorman Creek (Eberlein and others, 1977). Mining along Tenderfoot Creek may be in gravels of Poorman Creek that are cut by Tenderfoot Creek (Eberlein and others, 1977). Mining occurred intermittently into the 1930's (Smith, 1939 [B917-A]).

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:
Tenderfoot Creek experienced mining from 1913 to at least the 1930's (Eberlein and others, 1977).

Production notes:

Reserves:

Additional comments:

Tenderfoot Creek has a similar setting to deposits on Poorman Creek (RB048), Duncan Creek (RB056) and Little Pup (RB054).

References:

Brooks, 1914; Eakin, 1914 (B592); Smith, 1939 (B917-A); Cobb, 1972 (MF405); Eberlein and others, 1977; Cobb and Chapman, 1981.

Primary reference: Eberlein and others, 1977

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Little Pup (Gulch)

Site type: Mine

ARDF no.: RB054

Latitude: 64.0891 **Quadrangle:** RB A-6

Longitude: 155.5316

Location description and accuracy:
The placer ground at Little Pup is located in the lower section of Little Pup Gulch, a tributary of Poorman Creek. These coordinates correspond to location 30 of Cobb (1972 [MF405]) and place the Little Pup placer ground in section 20, T. 16 S., R. 17 E., Kateel River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
The bedrock underlying the pay streak of Little Pup is phyllite, although schist is present at the mouth of the gulch (Mertie, 1936). There is very little gravel in Little Pup, and it is covered by about 60 feet of muck (Brooks, 1915).

A deep mine was operated in 1914 (Brooks, 1915). A stretch about 450 feet long was worked out before 1933 (Mertie, 1936). The pay streak was about 5 to 18 feet wide and 3,000 feet long and carried good gold values (Mertie, 1936). The ground ran as much as $2.25 (gold at $20.67 per ounce) per square foot of bedrock. Production was reported to be about 230 ounces of gold (Mertie, 1936). The last mention of placer mining was in 1933. Exploration on Little Pup may have occurred in 1934 and 1935 (Mertie, 1936).

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:
A deep mine was operated in 1914 (Brooks, 1915). A stretch about 450 feet long was worked out before 1933 (Mertie, 1936). Last mention of activity was in 1933, although exploration on Little Pup may have occurred in 1934 and 1935 (Mertie, 1936).

Production notes:
The ground ran as much as $2.25 (gold at $20.67 per ounce) per square foot of bedrock. Production was reported to be about 230 ounces of gold (Mertie, 1936).

Reserves:

Additional comments:
See also Duncan Creek (RB056) and Tenderfoot Creek (RB053).

References:
Brooks, 1915; Mertie, 1936; Cobb, 1972 (MF405); Eberlein and others, 1977; Cobb and Chapman, 1981.

Primary reference: Mertie, 1936

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Spangle Creek

Site type: Prospect

ARDF no.: RB055

Latitude: 64.1755 **Quadrangle:** RB A-6

Longitude: 155.5109

Location description and accuracy:
Spangle Creek is a 2 1/2-mile-long, east-flowing tributary of the Sulatna River. Coordinates corresponding to location 44 of Eberlein and others (1977) mark the approximate center of prospecting on Spangle Creek, in section 21, T. 15 S., R. 17 E., Kateel River Meridian. The location is accurate within 1 mile.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
The headwaters of Spangle Creek are underlain by Ruby terrane phyllite and schist; bedrock downstream is obscured by surficial deposits (Puchner and others, 1998). Spangle Creek was unsuccessfully prospected from 1913 through 1915. This drainage basin and the adjacent area are heavily vegetated (Mertie and Harrington, 1916; Cobb and Chapman, 1981) and may not have been adequately prospected (Eberlein and others, 1977).

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:
Spangle Creek was prospected from 1913 to at least 1915 (Eberlein and others, 1977).

Production notes:

Reserves:

Additional comments:

References:

Mertie and Harrington, 1916; Eberlein and others, 1977; Cobb and Chapman, 1981; Puchner and others, 1998.

Primary reference: Eberlein and others, 1977

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Duncan Creek

Site type: Mine

ARDF no.: RB056

Latitude: 64.0882 **Quadrangle:** RB A-6

Longitude: 155.5100

Location description and accuracy:
Duncan Creek is a southwest-flowing tributary of Poorman Creek and is about 2 miles long. This site is the same as location 30 of Cobb (1972 [MF405]) and location 15 of Eberlein and others (1977). The coordinates are for the approximate center of mining activity on Duncan Creek, in section 21, T. 16 S., R. 17 E., Kateel River Meridian. The location is accurate.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
The bedrock underlying the mouth of Duncan Creek is schist (Mertie, 1936). The gold in Duncan Creek is found near the mouth of the stream; the pay streak follows a previous river channel and does not follow Duncan Creek throughout its length (Mertie, 1936). Near the mouth, 2 feet of the schist must be removed in order to obtain good recovery, but upstream the good pay grades are covered by 43 feet of muck and 2 to 5 feet of subangular gravel. The gravel contains vein quartz, porous quartz breccia, and schist. The gold itself is angular; the largest nugget found weighed 1.21 ounces. Gold is not found farther east than Duncan Creek, and the breccias in the gravel suggest a northeast-trending fault zone near Duncan Creek (Eberlein and others, 1977).

Placer gold was discovered on Duncan Creek in 1913, and mining began during the same year. Mining continued intermittently until about 1936.

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: Probably inactive

Workings/exploration:
Several shafts were sunk 40 to 50 feet to bedrock. The creek was mined from 1913 until 1936 (Mertie,

1936; Eberlein and others, 1977).

Production notes:

Reserves:

Additional comments:
See also Little Pup (RB054) and Tenderfoot (RB053).

References:
Brooks, 1914; Mertie, 1936; Cobb, 1972 (MF405); Cobb, 1977 (OF 77-168b); Eberlein and others, 1977; Cobb and Chapman, 1981.

Primary reference: Mertie, 1936

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Fourth of July Creek (tributary of Sulatna River)

Site type: Mine

ARDF no.: RB057

Latitude: 64.1673 **Quadrangle:** RB A-5

Longitude: 155.4685

Location description and accuracy:
Fourth of July Creek, an east-flowing, 2 1/2 -mile-long tributary of the Sulatna River. The exact location (s) of mining and (or) prospecting along this creek are not known. Coordinates are arbitrarily placed at the approximate midpoint of the creek, in section 27, T. 15 S., R. 17 E., Kateel River Meridian. The location is accurate within 1 mile and corresponds to location 27 of Cobb (1972 [MF405]).

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
The bedrock underlying Fourth of July Creek is not known because Quaternary surficial deposits cover the area (Puchner and others, 1998). Fourth of July Creek was first prospected in 1915, and small-scale mining took place along the creek in 1916 (Mertie and Harrington, 1916; Brooks, 1918). No further mention of mining has been made in subsequent years.

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: Probably inactive

Workings/exploration:
Prospecting and small-scale mining took place along this creek during 1915 and 1916 (Mertie and Harrington, 1916; Brooks, 1918).

Production notes:

Reserves:

Additional comments:

References:

Mertie and Harrington, 1916; Brooks, 1918; Cobb, 1972 (MF405); Eberlein and others, 1977; Cobb and Chapman, 1981; Puchner and others, 1998.

Primary reference: Mertie and Harrington, 1916

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Spruce Creek

Site type: Mine

ARDF no.: RB058

Latitude: 64.1500 **Quadrangle:** RB A-5

Longitude: 155.4454

Location description and accuracy:

Spruce Creek is a northeast-flowing tributary of the Sulatna River and is approximately 3 1/2 miles long. Coordinates that correspond to location 28 of Cobb (1972 [MF405]) are given for the approximate midpoint of placer ground, in section 35, T. 15 S., R. 17 E., Kateel River Meridian. Placers extend from below the mouth of Schist Creek to the junction of the creek with the Ruby-Poorman road, a distance of about 3 miles. The location is accurate.

Commodities:

Main: Au

Other: Ag, Sn

Ore minerals: Cassiterite, gold

Gangue minerals:

Geologic description:

The bedrock underlying Spruce Creek is slate, schist, and phyllite that have been intruded by rhyolite (Eberlein and others, 1977). The stream gravels are composed of igneous rocks and dark siliceous slates, with considerable clay (Mertie and Harrington, 1916).

The pay streak follows the creek and is 55 to 70 feet deep (Mertie and Harrington, 1916). The gravel is 2 to 5 feet thick. The creek was mined for about 3 miles along its length. The gold is close to bedrock, well-rounded, and fine, though nuggets worth $2 to $3 were reported (gold at $20.67 per ounce) (Mertie and Harrington, 1916). Some of the nuggets contain vein quartz. Mineable ground ran from 75 cents per square foot of bedrock to $12 pans (gold at $20.67 per ounce) (Mertie and Harrington, 1916).

Amorphous cassiterite is found with the gold, but it was not recovered as a byproduct (Mertie and Harrington, 1924; Eberlein and others, 1977). Some assays of the gold recovered show 854 parts gold per thousand and 140 parts silver per thousand (Mertie, 1936).

Prospecting along Spruce Creek began in 1913, and there was nearly continuous mining along the creek until the 1940's (Brooks, 1914; Eberlein and others, 1977). Intermittent mining took place along Spruce Creek from the 1940's to recent years. Most mining took place along the upper right limit of the creek (Jim Johnson, oral communication, 2000).

During the early and mid 1980's, Sphinx America prospected and drilled along Spruce Creek (Jim Johnson, oral communication, 2000).

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:

Prospecting along Spruce Creek began in 1913, and there was nearly continuous mining along the creek until the 1940's (Brooks, 1914; Eberlein and others, 1977). Intermittent mining took place along Spruce Creek from the 1940's to recent years. Most mining took place along the upper right limit of the creek (Jim Johnson, oral communication, 2000).

During the early and mid 1980's, Sphinx America prospected and drilled along Spruce Creek (Jim Johnson, oral communication, 2000).

Production notes:

Mineable ground ran from 75 cents per square foot of bedrock to $12 pans (gold at $20.67 per ounce) (Mertie and Harrington, 1916).

Reserves:

Additional comments:

The tailings marked on the Ruby A-5 quadrangle map (1952, minor revisions in 1973) are probably not tailings, but erosion from the water ditch (Jim Johnson, oral communication, 2000).

References:

Brooks, 1914; Mertie and Harrington, 1916; Mertie and Harrington, 1924; Mertie, 1936; Cobb, 1972 (MF405); Eberlein and others, 1977; Cobb and Chapman, 1981.

Primary reference: Mertie and Harrington, 1916

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Meketchum Creek

Site type: Mine

ARDF no.: RB059

Latitude: 64.2085 **Quadrangle:** RB A-5

Longitude: 155.4372

Location description and accuracy:
Meketchum Creek is location 26 of Cobb (1972; MF405). Meketchum Creek is a southwest-flowing tributary of the Sulatna River and is about 3 miles long. The placer ground extends for 3,000 feet upstream from the intersection of the winter trail and the light duty road marked on the Ruby A-5 quadrangle USGS topographic map (1952, minor revisions in 1973). This site corresponds to location 26 of Cobb (1972 [MF405]), and the coordinates are for the approximate center of the placer tailings, in section 11, T. 15 S., R. 17 E., Kateel River Meridian. The location is accurate.

Commodities:

Main: Au

Other: Ag

Ore minerals: Gold

Gangue minerals:

Geologic description:
The bedrock under Meketchum Creek is greenstone (Mertie, 1936).
Gold was discovered in 1917, but it was too deep for easy recovery. Drift mining occurred from 1929 to at least 1934 (Mertie, 1936; Cobb and Chapman, 1981).
The pay streak extends for about 3,000 feet along the creek and is distributed through 10 to 20 feet of gravel, beneath 60 to 70 feet of muck. Farther upstream the gravel is 2 to 3 feet thick, and the gold is on or near bedrock. The gravel is subangular greenstone, and much of the gold is coarse. The mean of two assays shows 918 parts gold per thousand and 76 parts silver per thousand (Mertie, 1936).

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:
Drift mining took place along Meketchum Creek between 1929 and 1934 (Eberlein and others, 1977).

Production notes:

Reserves:

Additional comments:

References:

Martin, 1919; Mertie, 1936; Cobb, 1972 (MF405); Eberlein and others, 1977; Cobb and Chapman, 1981; Puchner and others, 1998.

Primary reference: Mertie, 1936

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Star Creek

Site type: Prospect

ARDF no.: RB060

Latitude: 64.1974 **Quadrangle:** RB A-5

Longitude: 155.4051

Location description and accuracy:
Star Creek is a 2 1/2-mile-long, southwest-flowing tributary of the Sulatna River. Coordinates corresponding to location 46 of Eberlein and others (1977) mark the midpoint of the creek, in section 12, T. 15 S., R. 17 E. of the Kateel River merdian. The location is accurate within 1 mile.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
Prospecting along Star Creek was done in 1915, but results did not warrant mining (Mertie and Harrington, 1924). Everlein and others (1977) noted that Star Creek is close to the contact between greenstone and schist, a location that may indicate unexplored potential, although potential mining ground is small.

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:
Star Creek was prospected in 1915 (Mertie and Harrington, 1916).

Production notes:

Reserves:

Additional comments:

References:

Mertie and Harrington, 1916; Mertie and Harrington, 1924; Eberlein and others, 1977; Cobb and Chapman, 1981.

Primary reference: Mertie and Harrington, 1916

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): Tamarack Creek; Willow Gulch

Site type: Mine

ARDF no.: RB061

Latitude: 64.1358 **Quadrangle:** RB A-5

Longitude: 155.4026

Location description and accuracy:
Tamarack Creek is a north-flowing tributary of the Sulatna River and is approximately 5 miles long. Coordinates are given for the approximate center of placer ground, corresponding to location 29 of Cobb (1972 [MF405]). This lies in section 1, T. 16 S., R. 17 E., Kateel River Meridian. The location is accurate within a quarter mile.

Commodities:

Main: Au

Other: Ag, Sn

Ore minerals: Cassiterite, gold

Gangue minerals:

Geologic description:
The bedrock underlying Tamarack creek is pyritiferous slate-phyllite (Eberlein and others, 1977). The head of the creek flows within a quarter mile of a Tertiary volcanic body (Puchner and others, 1998). The gravels in the creek are mostly greenstone (Eberlein and others, 1977).

Gold was discovered in Tamarack Creek in 1912, and mineable ground was found in 1913 (Eakin, 1914 [B592-J]). Small-scale mining began in 1913. Mining was nearly continuous from 1913 to the 1920's, and from 1933 to 1940 (Eberlein and others, 1977).

The pay streak in Tamarack Creek extended for 3 miles (Eberlein and others, 1977). The ground was about 60 feet deep (Mertie and Harrington, 1916). The gold was found in the upper part of weathered bedrock and lower 3 feet of gravel. Willow Creek, a tributary of Tamarack Creek that is not named on the A-5 quadrangle, was also mined and is included in this description of Tamarack Creek (Brooks, 1915).

The gold was rounded and shotty, and most pieces were worth from 10 cents to $2 (gold at $20.67 per ounce) (Mertie and Harrington, 1916). Assays show the gold ran 871 parts gold per thousand and 124 parts silver per thousand (Mertie, 1936). Cassiterite was also found with the gold (Chapin, 1919).

During the early 1980's, Resource Associates of Alaska drilled along Tamarack Creek about 1 mile upstream from the location of previously worked placer ground (Jim Johnson, oral communication, 2000). A sub-economic pay streak as much as 1,000 feet wide was found.

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:

Gold was discovered in Tamarack Creek in 1912, and mineable ground was found in 1913 (Eakin, 1914 [B592-J]). Small-scale mining began in 1913. Mining was nearly continuous from 1913 to the 1920's, and from 1933 to 1940 (Eberlein and others, 1977).

During the early 1980's, Resource Associates of Alaska drilled along Tamarack Creek about 1 mile upstream from the previously worked placer ground (Jim Johnson, oral communication, 2000). A subeconomic pay streak as much as 1,000 feet wide was found.

Production notes:

Reserves:

Additional comments:

References:

Eakin, 1914 (B592); Mertie and Harrington, 1916; Chapin, 1919; Mertie, 1936; Cobb, 1972 (MF405); Eberlein and others, 1977; Cobb and Chapman, 1981; Puchner and others, 1998.

Primary reference: Mertie and Harrington, 1916

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

Site name(s): American Creek

Site type: Mine

ARDF no.: RB062

Latitude: 64.1417 **Quadrangle:** RB A-2

Longitude: 153.6674

Location description and accuracy:
American Creek is an east-flowing tributary of the Telsitna River and is approximately 8 miles long. The exact location of prospecting and (or) mining along the creek is not known. Coordinates corresponding to location 37 of Cobb (1972 [MF405]) are arbitrarily placed at the approximate midpoint of American Creek, in section 35, T. 15 S., R. 26 E., Kateel River Meridian. The location is accurate within 2 miles.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals:

Geologic description:
The bedrock underlying American Creek is low-grade schist and quartzite (Eberlein and others, 1977). Placer gold was found somewhere near the midpoint of this creek (Eakin, 1918). Eberlein and others (1977) reported prospecting prior to 1915, with apparently small subsequent mining production and no evidence of workings as of 1975.

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: Probably inactive

Workings/exploration:
Mining and exploration took place along American Creek prior to 1915 (Eberlein and others, 1977).

Production notes:

Reserves:

Additional comments:

References:
Eakin, 1918; Cobb, 1972 (MF405); Eberlein and others, 1977.

Primary reference: Eakin, 1918

Reporter(s): C.E. Cameron (Alaska Division of Geological and Geophysical Surveys)

Last report date: 3/22/2000

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