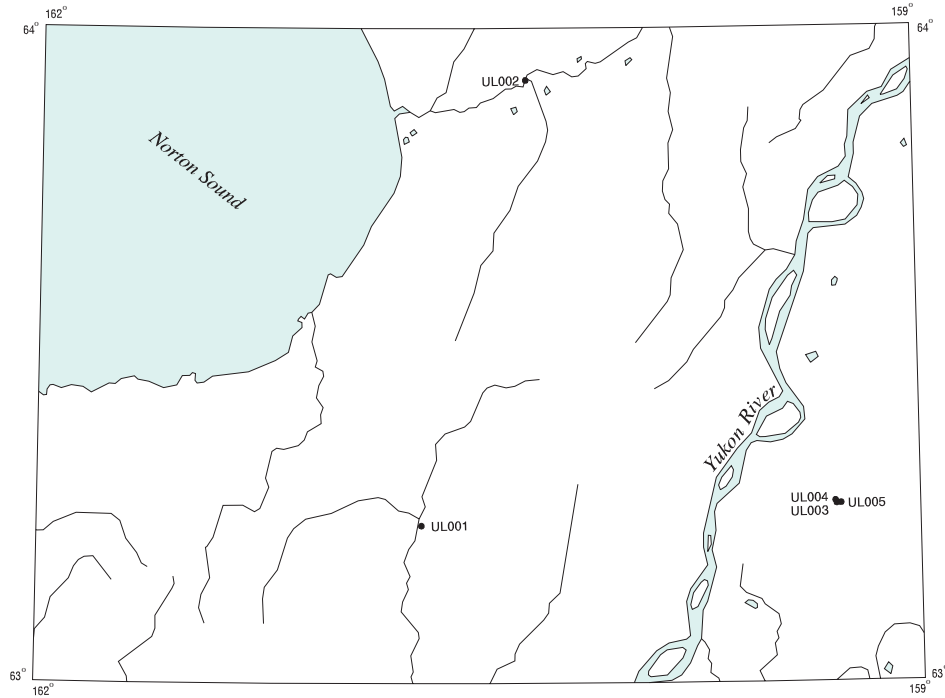


Unalakleet quadrangle

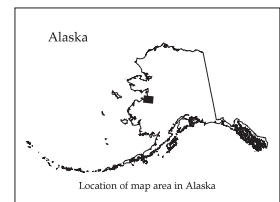
Descriptions of the mineral occurrences shown on the accompanying figure follow. See U.S. Geological Survey (1996) for a description of the information content of each field in the records. The data presented here are maintained as part of a statewide database on mines, prospects and mineral occurrences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



*Distribution of mineral occurrences in the Unalakleet
1:250,000-scale quadrangle, Alaska*

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

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Fairbanks, AK



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

OPEN-FILE REPORT 02-95

Site name(s): Anvik River

Site type: Prospect

ARDF no.: UL001

Latitude: 63.2407

Quadrangle: UL A-4

Longitude: 160.6937

Location description and accuracy:

There are early reports of placer gold and platinum near the headwaters of the Anvik River. This prospect may be in Holy Cross quadrangle. A precise location for this prospect is unknown; the coordinates are for an arbitrary point on the Anvik River near the junctions of Canyon Creek and Otter Creek. The location is accurate within 100 miles.

Commodities:

Main: Au, Pt

Other:

Ore minerals: Gold, platinum

Gangue minerals:

Geologic description:

Prospecting on the Anvik River occurred as early as 1900 (Schrader and Brooks, 1900; Harrington, 1918). Coarse gold, along with platinum was reported in crystalline rocks at the headwaters of the Anvik River. Gold was found on river bars, but presumably in insufficient quantities to justify mining (Harrington, 1918). There are no references to prospecting in this drainage after 1919.

Alteration:

Age of mineralization:

Quaternary.

Deposit model:

Placer gold and platinum (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 probably took place along this drainage from about 1900 to 1919 (Schrader and Brooks, 1900; Martin, 1919).

Production notes:

Reserves:

Additional comments:

The location of this prospect is uncertain; it may be in the Holy Cross quadrangle.

References:

Schrader and Brooks, 1900; Harrington, 1918; Martin, 1919; Cobb, 1973 (B 1374); Cobb, 1976 (OFR 76-866).

Primary reference: Schrader and Brooks, 1900

Reporter(s): C.E. Cameron

Last report date: 8/7/01

Site name(s): Unalakleet River**Site type:** Prospect**ARDF no.:** UL002**Latitude:** 63.9207**Quadrangle:** UL D-3**Longitude:** 160.3344**Location description and accuracy:**

There are unconfirmed early reports of gold along the Unalakleet River. The precise location of this prospect is unknown, and it may be in the Norton Bay quadrangle. The coordinates are for an arbitrary location on the Unalakleet River near the junction of Chirooskey River. The location is accurate within 50 miles.

Commodities:**Main:** Au**Other:****Ore minerals:** Gold**Gangue minerals:****Geologic description:**

Schrader and Brooks (1900) report gold discoveries along the Unalakleet River during the fall of 1898. The rocks in the vicinity of the Unalakleet River are graywacke, shale, grit, and conglomerate of the Cretaceous Shaktolik group (Cass, 1959). An intrusive body of unspecified composition that is approximately 5 miles south of the river and 7 miles south of the boundary of Holy Cross quadrangle is partially buried by sediments from the river (Cass, 1959).

Alteration:**Age of mineralization:**

Quaternary.

Deposit model:

Placer gold (Cox and Singer, 1986; model 39a)

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

39a

Production Status: None

Site Status: Undetermined

Workings/exploration:

Some prospecting or mining around 1898 (Schrader and Brooks, 1900).

Production notes:

Reserves:

Additional comments:

The location of this prospect is uncertain; it may be in the Norton Bay quadrangle.

References:

Schrader and Brooks, 1900; Cass, 1959; Cobb, 1973 (B 1374); Cobb, 1976 (OFR 76-886).

Primary reference: Schrader and Brooks, 1900

Reporter(s): C.E. Cameron

Last report date: 8/7/01

Site name(s): McLeod**Site type:** Prospect**ARDF no.:** UL003**Latitude:** 63.2711**Quadrangle:** UL B-1**Longitude:** 159.2846**Location description and accuracy:**

This prospect is located on the southwestern flank of the Kaiyuh Mountains, approximately 11.5 miles southeast of Blackburn, an abandoned settlement on the Yukon River. The discovery trenches, now caved, are at an elevation of 1025 feet on a north-trending ridge locally known as Camp Ridge. Camp Ridge is approximately 1400 feet southeast of hill 1170. The site is on the northeastern side of the ridge in the NE1/4 NW1/4 sec. 5, T. 26 S., R. 3 W., Kateel River Meridian. The location is accurate within 300 feet. This is an unnumbered locality in Cobb (1972 [MF 427]). The prospect is on Doyon, Ltd. selected lands. References describing recent exploration are available for review at the offices of Doyon, Ltd. in Fairbanks, Alaska.

Commodities:**Main:** Mo**Other:** Ag, Cu, Mn, Pb, Sn, U, W**Ore minerals:** Ferrimolybdenite, molybdenite**Gangue minerals:** Quartz, magnetite, pyrite, pyrrhotite, tourmaline, zircon**Geologic description:**

This deposit consists of platy aggregates and grains of molybdenite in sparse, northeast-trending, milky-white quartz veinlets and veins up to 8 inches thick (Mertie, 1937). The veins cut hornfels, clastic sedimentary rocks, minor intermediate to mafic volcanic rocks, and biotite-quartz-feldspar porphyritic dikes, near the southwestern margin of a Cretaceous or Tertiary quartz-feldspar-porphyritic granite stock. The stock is exposed in a 3/4-square-mile area, but the extent of the hornfels suggests that the pluton is considerably larger at depth (Bressler and others, 1979). The dikes postdate the stock and generally strike northeast. The general strike of the strata is northwesterly with gentle dips to the northeast and southwest. There is very little outcrop, but vein float trending about N60E can be traced in frost-riven rubble for several hundred feet on the ridge and downslope (West, 1954).

The deposit also contains pyrite, pyrrhotite, molybdenite altered to ferrimolybdenite, magnetite, zircon, and tourmaline (West, 1954). Selected samples of molybdenite- and

ferrimolybdenite-bearing quartz vein material assay 0.23 to 1.49% Mo. A sample submitted in 1942 by McLeod (probably from this prospect) contained approximately 4% molybdenite (Joesting, 1943). Early indications of elevated uranium content were not substantiated by sampling by the U.S. Geological Survey (West, 1954, p. 9-10). No sample contained more than 0.0003% eU.

The mineralized veins are mainly in highly fractured, silicified pyritic hornfels adjacent to biotite-quartz -porphyritic dikes. Mineralized veinlets in the dikes are rare. A multi-element and molybdenum soil anomaly that marks the deposit measures 3500 by 2700 feet (Bressler and others, 1979). The anomaly partly coincides with mapped alteration and with exposures of molybdenite-bearing quartz veinlets; the anomaly is open to the southwest (Bressler and others, 1979).

Also see UL004 and 005.

Alteration:

The intrusive rocks are locally silicified and sericitized (Mertie, 1937). The adjacent country rocks are marked by extensive hornfelsing, secondary pyrite, and chloritic alteration.

Age of mineralization:

The molybdenite-bearing veins presumably are related to the cooling phase of the Upper Cretaceous or Tertiary porphyritic granite stock.

Deposit model:

Porphyry Mo (Cox and Singer, 1986; model 16a and 21b)

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

16a, 21b

Production Status: None

Site Status: Undetermined

Workings/exploration:

Several prospect pits and trenches were dug and caved prior to 1945 (West, 1954). There has been no underground exploration at this site. Surface exploration and mapping was conducted by Bear Creek Mining Company in 1976 (Fields, 1976), and by WGM, Inc., on behalf of Doyon, Ltd., in 1979 and 1980 (Bressler and others, 1979; Lessman, 1979). Airborne and radiometric surveys were completed in 1980 (Boniwell, 1981).

Production notes:

Reserves:

Additional comments:

This property is on Doyon, Ltd. selected lands. For more information contact Doyon, Ltd., in Fairbanks, Alaska.

References:

Mertie, 1937; Joesting, 1943; West, 1954; Cobb, 1972 (MF 427); Cobb, 1976 (OFR 76-886); Fields, 1976; Andrews and others, 1978; Lessman, 1979; Bressler and others, 1979; Boniwell, 1981 (DR 81-05); Boniwell, 1981 (DR 81-08); Bright, 1982.

Primary reference: Bressler and others, 1979

Reporter(s): S.S. Dashevsky

Last report date: 8/7/01

Site name(s): Moly Dike; McLeod**Site type:** Occurrence**ARDF no.:** UL004**Latitude:** 63.2750**Quadrangle:** UL B-1**Longitude:** 159.2884**Location description and accuracy:**

This occurrence is at the southwestern end of the Kaiyuh Mountains, 11.25 miles south-east of Blackburn, an abandoned settlement on the Yukon River. The occurrence is at an elevation of 1150 feet, approximately 250 feet northeast of hill 1170, in the SW1/4 sec. 32, T. 25 S., R. 3 W., Kateel River Meridian. It is approximately 1500 feet north of the caved trenches at the original McLeod prospect (UL003). The location is accurate within 300 feet.

Commodities:**Main:** Mo**Other:** Ag, Cu, Mn, Pb, Sn, W**Ore minerals:** Chalcopyrite, ferrimolybdenite, molybdenite, pyrite**Gangue minerals:** Quartz**Geologic description:**

This occurrence consists of molybdenite-bearing quartz veinlets in a weakly to moderately developed quartz-stockwork zone exposed in frost-riven rubble in an area of about 100 by 1000 feet. The mineralization is hosted by a suite of quartz-feldspar-porphyrific granite dikes that trend 330 degrees across hill 1170 in a swath about 400 feet wide. Individual dikes are up to 100 feet thick. Molybdenite and ferrimolybdenite are concentrated in the northernmost dike, which is highly sericitized and pervasively cut by locally molybdenite-bearing quartz veinlets that form parallel arrays and local stockworks (Bressler and others, 1979). The molybdenite occurs as discrete, platy aggregates along the margins of the quartz veinlets and as very fine grained disseminations in the quartz, imparting a distinct blue-gray color to the veinlets. Vein density ranges from 1 veinlet to more than 15 veinlets per square foot; they are mostly concentrated along the southern contact of the northernmost dike. The molybdenum content of this deposit ranges between 0.01 and 0.09% molybdenum (Bressler and others, 1979).

The country rocks in the general area of this occurrence include poorly sorted, medium- to coarse-grained arkosic sandstone and subordinate siltstone, shale, and lesser intermediate to mafic volcanic rocks. The strata generally strike northwest with gentle dips to the

northeast and southwest (Bressler and others, 1979). The dikes occur along the western lobe of a Cretaceous or Tertiary granitic stock composed of 20-40% bipyramidal to sub-hedral quartz and 10-30% feldspar phenocrysts in a matrix mostly of quartz and feldspar. Pyrite is a minor accessory (<1%), along with rare chalcopyrite; there are no mafic minerals. The outcrop area of the stock measures about 6000 by 2500 feet, and is elongate to the northeast. The exposure is centered along the boundary of sections 32 and 33, and the stock sends dike swarms into sections 4 and 28 (Bressler and others, 1979). A younger suite of biotite-quartz-feldspar porphyritic dikes exposed south of the McLeod prospect apparently does not occur at this site (Bressler and others, 1979).

Also see UL003 and UL005.

Alteration:

The principal mineralized dike is pervasively sericitized and locally intensely silicified. The bedded rocks peripheral to the stock are thermally altered to hornfels and contain secondary pyrite and chlorite.

Age of mineralization:

Late Cretaceous or Tertiary, the age of the granitic stock and its apophyses.

Deposit model:

Porphyry Mo (Cox and Singer, 1986; model 16a and 21b)

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

16a, 21b

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

Surface exploration and mapping was conducted by Bear Creek Mining Company in 1976 (Fields, 1976), and by WGM, Inc., on behalf of Doyon, Ltd., in 1979 and 1980 (Bressler and others, 1979; Lessman, 1979). Airborne and radiometric surveys were completed in 1980 (Boniwell, 1981 [DR 81-05]; Boniwell, 1981 [DR 81-08]). A 3500- by 2700-foot molybdenum soil anomaly was defined; this anomaly is open to the southwest.

Production notes:**Reserves:****Additional comments:**

This property is on Doyon, Ltd. selected lands. For more information, contact Doyon, Ltd., in Fairbanks, Alaska.

References:

Fields, 1976; Lessman, 1979; Bressler and others, 1979; Boniwell, 1981 (DR 81-05);

Boniwell, 1981 (DR 81-08).

Primary reference: Bressler and others, 1979

Reporter(s): S.S. Dashevsky

Last report date: 8/7/01

Site name(s): McLeod East**Site type:** Occurrence**ARDF no.:** UL005**Latitude:** 63.2713**Quadrangle:** UL B-1**Longitude:** 159.2698**Location description and accuracy:**

The McCleod East occurrence is at the southwestern end of the Kaiyuh Mountains, approximately 11.25 miles southeast of Blackburn, an abandoned settlement on the Yukon River. The occurrence is at an elevation of 950 feet, approximately 3400 feet south of hill 1170, in the northeast corner of sec. 6, T. 26 S., R. 3 W., Kateel River Meridian. It is approximately 2200 feet east of the caved trenches at the original McLeod prospect (UL003). The location is accurate within 500 feet.

Commodities:**Main:** Mo**Other:** Ag, Cu, Mn, Pb, Sn, W**Ore minerals:** Chalcopyrite, ferrimolybdenite, molybdenite, pyrite**Gangue minerals:** Quartz**Geologic description:**

This occurrence consists of disseminated molybdenite in talus of quartz-veined and sericitically-altered felsic intrusive rock along the southern margin of a small stock that intrudes Cretaceous strata (Bressler and others, 1979). The strata include poorly sorted, medium- to coarse-grained arkosic sandstone and subordinate siltstone, shale, and lesser intermediate to mafic volcanic rocks. The beds generally strike northwest and dip gently to the northeast and southwest (Bressler and others, 1979). The stock is leucocratic, quartz-feldspar porphyry composed of 20-40% bipyramidal to subhedral quartz and 10-30% feldspar phenocrysts in a matrix dominantly of quartz and feldspar. The stock is exposed in an area of about 2500 by 6000 feet that is elongate to the northeast. The exposure is centered along the boundary of sections 32 and 33, and the stock sends dike swarms into sections 4 and 28 (Bressler and others, 1979).

A younger suite of biotite-quartz-feldspar porphyry dikes exposed to the west at the McLeod prospect (UL003) apparently does not occur at this site (Bressler and others, 1979).

Also see UL003 and UL004.

Alteration:

The granitic stock is sericitized and locally intensely silicified.

Age of mineralization:

Cretaceous or Tertiary, the presumed age of the mineralized felsic intrusive hostrock.

Deposit model:

Vein and porphyry Mo (Cox and Singer, 1986; model 16a, 21b)

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

16a, 21b

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

This occurrence was discovered during reconnaissance mapping and sampling during 1979 (Bressler and others, 1979). No further work is documented.

Production notes:**Reserves:****Additional comments:**

This property is on Doyon, Ltd. selected lands. For more information, contact Doyon, Ltd., in Fairbanks, Alaska.

References:

Lessman, 1979; Bressler and others, 1979; Boniwell, 1981 (DR 81-05); Boniwell, 1981 (DR 81-08).

Primary reference: Bressler and others, 1979**Reporter(s):** S.S. Dashevsky**Last report date:** 8/7/01

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