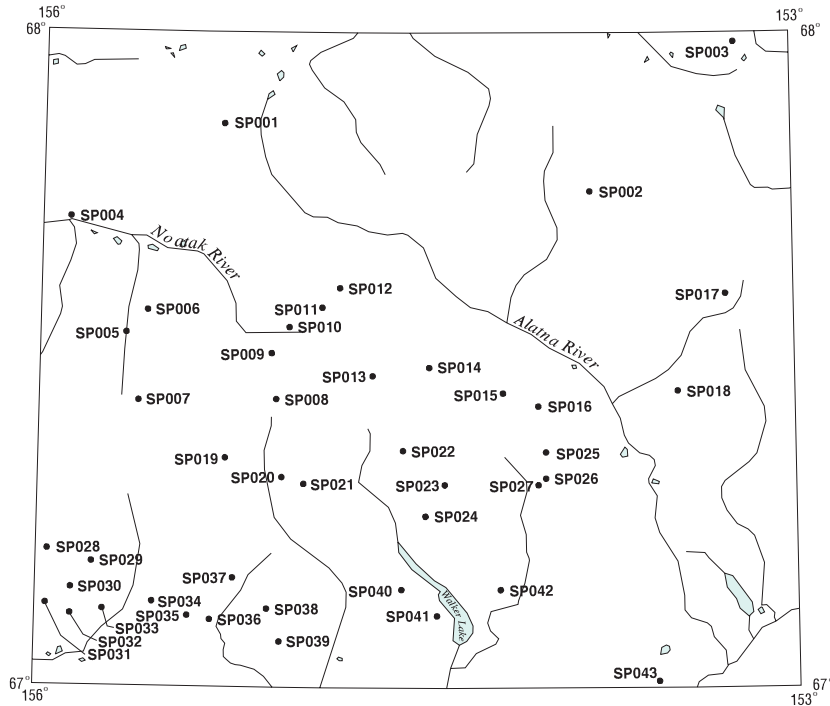


Survey Pass quadrangle

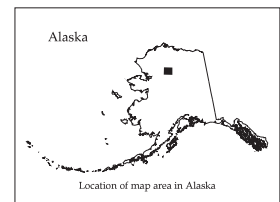
Descriptions of the mineral occurrences shown on the accompanying figure follow. See U.S. Geological Survey (1996) for a description of the information content of each field in the records. The data presented here are maintained as part of a statewide database on mines, prospects and mineral occurrences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



*Distribution of mineral occurrences in the Survey Pass
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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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 00-328

Site name(s): Unnamed (near Weyahok River)**Site type:** Occurrences**ARDF no.:** SP001**Latitude:** 67.86**Quadrangle:** SP D-5**Longitude:** 155.28**Location description and accuracy:**

This site represents roughly circular area of about 30 square miles centered at about the midpoint of the Weyahok River, a headwater tributary to the Alatna River. The coordinates are for the approximate center of the area, which is mostly in sec. 4, T. 28 N., R. 16 E., of the Kateel River Meridian. Includes localities 1-4 of Grybeck and Nelson (1981) and is accurate to within 2000 ft.

Commodities:**Main:** Ag, Cu, Pb, Zn**Other:** Sb**Ore minerals:** Chalcopyrite, galena, pyrite, sphalerite**Gangue minerals:** Quartz**Geologic description:**

The site consists of a sprinkling of small occurrences of epigenetic quartz veins, lenses, and breccia zones less than 3 feet thick that contain various combinations of galena, sphalerite, chalcopyrite, and pyrite. The occurrences are in an area of about 30 square miles in an otherwise monotonous sequence of feldspathic sandstone of the Hunt Fork Shale (Nelson and Grybeck, 1980; Grybeck and Nelson, 1981). Assays of the sulfide-bearing samples show up to 100 ppm Ag and 200 ppm Sb. Our fieldwork (S.W. Nelson and D. Grybeck, unpublished data, 1977-1980), and geochemical sampling (Cathrall and others, 1981) suggest that many additional such deposits may occur in this area. All the occurrences found to date are small and discontinuous and there is no obvious sign of any large deposit within the area.

There are two theories about the origin of the deposits: (1) Grybeck and others, 1985) cite geochemical evidence that they may be related to a buried felsic intrusion; (2) Schmidt and Werdon (1993) and Schmidt (1997) believe that they are related to post-depositional dewatering of the sedimentary rock section and are similar in origin to other sedimentary-rock hosted mineral occurrences in the Brooks Range.

Alteration:

None.

Age of mineralization:

Deposit model:

Polymetallic vein (Cox and Singer, 1986; model 22c. See Schmidt and Werdon, 1993, p. 143)

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

22c

Production Status: None

Site Status: Inactive

Workings/exploration:

The site is defined by a few short traverses and spot stations by USGS in late 1970's, and since closed to exploration.

Production notes:

Reserves:

Additional comments:

The area is within the Gates of the Arctic National Park and Wilderness and has been closed to prospecting since 1981.

References:

Nelson and Grybeck, 1980; Grybeck and Nelson, 1981; Cathrall and others, 1981; Grybeck and others, 1985; Schmidt and Werdon, 1993; Schmidt, 1997.

Primary reference: Grybeck and Nelson, 1981

Reporter(s): S.W. Nelson (Anchorage, Alaska)

Last report date: 09/16/99

Site name(s): Unnamed (near Kutuk River)

Site type: Occurrence

ARDF no.: SP002

Latitude: 67.758

Quadrangle: SP D-2

Longitude: 153.811

Location description and accuracy:

This site is at an elevation of about 2700 feet on the west side of the Kutuk River near its head. It is in the N1/2 of sec. 12, T. 27 N., R. 22 E., of the Kateel River Meridian. It corresponds to locality 5 of Grybeck and Nelson, 1981. Location accurate to within 600 ft.

Commodities:

Main: Ag, Cu

Other:

Ore minerals: Malachite

Gangue minerals:

Geologic description:

This occurrence consists of a grab sample of copper-stained, orange-weathering dark-gray stretched-pebble conglomerate collected from an otherwise monotonous and regionally extensive sequence of Devonian phyllite (Nelson and Grybeck, 1980; Grybeck and Nelson, 1981). The sample contained 5 ppm Ag and 1500 ppm Cu. No sulfides were noted in the sample, and the occurrence appeared to be only of local extent.

Alteration:

Age of mineralization:

Devonian or younger based on age of host rock.

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:

Grab sample collected during regional geologic mapping by the USGS in the late 1970s.

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

The area is within the Gates of the Arctic National Park and Wilderness and has been closed to prospecting since 1981.

References:

Nelson and Grybeck, 1980; Grybeck and Nelson, 1981.

Primary reference: Grybeck and Nelson, 1981

Reporter(s): S.W. Nelson (Anchorage, Alaska)

Last report date: 09/16/99

Site name(s): Unnamed (near Lonely Lake)

Site type: Occurrence

ARDF no.: SP003

Latitude: 67.9851

Quadrangle: SP D-1

Longitude: 153.2258

Location description and accuracy:

The site is at an elevation of about 4500 feet in a saddle on the ridge north of Lonely Lake. It is in the E of 1/2 sec. 19, T. 30 N., R. 25 E., of the Kateel River Meridian. Location accurate to within 100 ft. The site corresponds to locality 6 of Grybeck and Nelson, 1981.

Commodities:

Main: Cu

Other: Ag, Cu, Pb, Sn, Zn

Ore minerals: Malachite

Gangue minerals: Quartz ?

Geologic description:

This occurrence consists of a float sample of copper-stained quartz derived from an outcrop of chert-pebble conglomerate. The sample contains 2 ppm Ag, 700 ppm Cu, 150 ppm Pb, 20 ppm Sn, and 500 ppm Zn.

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:

Grab sample collected during regional geologic mapping by the USGS in the late 1970s.

Production notes:

Reserves:

Additional comments:

References:

Grybeck and Nelson, 1981.

Primary reference: Grybeck and Nelson, 1981

Reporter(s): S.W. Nelson (Anchorage, Alaska)

Last report date: 09/16/99

Site name(s): Nigikpalvgururvrak Creek**Site type:** Mine**ARDF no.:** SP004**Latitude:** 67.7156**Quadrangle:** SP C-6**Longitude:** 155.8907**Location description and accuracy:**

Small placer gold mine near the mouth of Nigikpalvgururvrak Creek, in the NW 1/4 of sec. 26, T. 27 N., R. 13 E., of the Kateel River Meridian. Locality 7 of Grybeck and Nelson, 1981. Location accurate to within 300 ft.

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

Placer gold may be derived from nearby pyritic quartz veins in phyllite of the Hunt Fork Shale (Degenhart and others, 1978). A few tens of ounces of gold per year were being produced for several years in the mid-1970's; production may have continued for some further uncertain period. No record of mining prior to 1970's nor any record of substantial production in recent years.

Alteration:**Age of mineralization:****Deposit model:**

Stream placer (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:

Minor gold production using small-scale, non-mechanized methods up to about 1978.
Production of gold amounted to a few tens of ounces/year (Degenhart and others, 1978).

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

If claims are still valid on this site, they are surrounded by Gates of the Arctic National Park and Preserve, where prospecting and mining have been prohibited since 1981.

References:

Degenhart and others, 1978; Grybeck and Nelson, 1981.

Primary reference: Degenhart and others, 1978

Reporter(s): S.W. Nelson (Anchorage, Alaska)

Last report date: 09/16/99

Site name(s): Wood

Site type: Prospect

ARDF no.: SP005

Latitude: 67.54

Quadrangle: SP C-6

Longitude: 155.66

Location description and accuracy:

The Wood prospect is at an elevation of about 2500 feet in a canyon in the west wall of the Kugrak River. It is in the NW1/4NW1/4 sec. 26, T. 25 N., R. 14 E., of the Kateel River Meridian. The site corresponds with locality 10 of Grybeck and Nelson (1981). Location accurate to within 2000 ft.

Commodities:

Main: Cu

Other:

Ore minerals:

Gangue minerals: Quartz

Geologic description:

The deposit consists of a quartz vein that cuts massive gray limestone and black phyllite, of the Devonian-Silurian Skagit Limestone (Grybeck and Nelson, 1981). Assays of the vein show copper values. Prospect located in 1970's by private industry; probably more an occurrence than a prospect and apparently very limited in extent.

Alteration:

Age of mineralization:

Deposit model:

Quartz vein containing copper values.

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

Production Status: None

Site Status: Inactive

Workings/exploration:

Work apparently restricted to limited surface sampling of outcrops.

Production notes:

Reserves:

Additional comments:

Located within Gates of the Arctic National Park.

References:

Grybeck and Nelson, 1981.

Primary reference: Grybeck and Nelson, 1981

Reporter(s): S.W. Nelson (Anchorage, Alaska)

Last report date: 09/16/99

Site name(s): Unnamed (west of Oyukak Mountain)

Site type: Occurrence

ARDF no.: SP006

Latitude: 67.5747

Quadrangle: SP C-6

Longitude: 155.5757

Location description and accuracy:

This occurrence is at an elevation of about 5300 feet on a ridge approximately 2 miles west of Oyukak Mountain. It is in the S1/2 sec. 7, T. 25 N., R. 15 E., of the Kateel River Meridian. The location is accurate to within 200 ft. The site corresponds to locality 11 of Grybeck and Nelson (1981).

Commodities:

Main:

Other: As, Sb

Ore minerals:

Gangue minerals:

Geologic description:

This occurrence consists of a grab sample of pyrite-bearing oxidized zones in calcareous siltstone of the Devonian Skagit Limestone. Assays of the sample showed 300 ppm As and 300 ppm Sb (Nelson and Grybeck, 1980; Grybeck and Nelson, 1981). The occurrence apparently is only of local extent.

Alteration:

Oxidized sulfides.

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:

Work restricted to surface sampling of outcrop during geologic mapping by USGS in the late 1970s.

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

Site is in Gates of the Arctic National Park.

References:

Nelson and Grybeck, 1980; Grybeck and Nelson, 1981.

Primary reference: Grybeck and Nelson, 1981

Reporter(s): S.W. Nelson (Anchorage, Alaska)

Last report date: 09/17/99

Site name(s): Unnamed (east-northeast of Danger Pass)

Site type: Occurrence

ARDF no.: SP007

Latitude: 67.4369

Quadrangle: SP B-6

Longitude: 155.6068

Location description and accuracy:

This site is about 3.5 miles east-northeast of Danger Pass at the 3400 foot elevation. It is in the E1/2 of sec. 31, T. 24 N., R. 15 E., of the Kateel River Meridian. Location accurate to within 200 ft. The site corresponds to locality 12 of Grybeck and Nelson (1981).

Commodities:

Main: Ag, Cu, Sb, Zn

Other:

Ore minerals:

Gangue minerals:

Geologic description:

This occurrence consists of a grab sample of thin, locally copper-stained, quartz veins that cut orange-weathering marble of the Devonian-Siluran Skagit Limestone (Nelson and Grybeck, 1980; Grybeck and Nelson, 1981). Selected samples contain up to 70 ppm Ag, 1 percent Cu, 1 percent Sb, and 2000 ppm Zn. The veins apparently are of only local extent.

Alteration:

Age of mineralization:

Deposit model:

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

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

22c ?

Production Status: None

Site Status: Inactive

Workings/exploration:

Work restricted to limited surface sampling during geologic mapping by USGS in the late 1970s.

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

Located within Gates of the Arctic National Park.

References:

U.S. Bureau of Mines, 1978; U.S. Bureau of Mines, 1979; Nelson and Grybeck, 1980; Grybeck and Nelson, 1981.

Primary reference: Grybeck and Nelson, 1981

Reporter(s): S.W. Nelson (Anchorage, Alaska)

Last report date: 09/17/99

Site name(s): Unnamed (near Angiaak Pass)**Site type:** Occurrences**ARDF no.:** SP008**Latitude:** 67.44**Quadrangle:** SP B-5**Longitude:** 155.06**Location description and accuracy:**

This site comprises three occurrences (locations 14, 15, and 16) in Grybeck and Nelson, 1981. The center of the area of occurrences is in sec. 34, T. 24 N., R. 17 E., of the Kateel River Meridian. The area of occurrences covers approximately 9 square miles of the prominent mountain (peak 6711) whose summit is east of Angiaak Pass. Site location is accurate to within 0.5 mi.

Commodities:**Main:** As, F, Mo**Other:** Ag, Cu, Pb**Ore minerals:** Arsenopyrite, fluorite, galena, molybdenite**Gangue minerals:****Geologic description:**

Porphyritic, foliated granite of Devonian age is irregularly stained a gaudy orange-yellow over an area of about 9 square miles. The staining is related to alteration of the mafic minerals in the granite to coarse white mica and oxidization of pervasive disseminated pyrite. Grab samples rarely give anomalous metal values but extended search almost anywhere can usually locate a few grains of molybdenite, fluorite, or arsenopyrite along fractures in the altered granite.

At one outcrop near the top of peak 6711 in the center of the area, a one-inch-thick quartz vein in a small roof pendant of calc-silicate rocks that overlie the granite contains visible galena and 7 ppm Ag. Area only briefly examined at a few scattered places and it is likely that other such occurrences can be found in this roof pendant.

Alteration:

White mica and pyrite-oxidation.

Age of mineralization:

Devonian, based on the age of the pluton (Nelson and Grybeck, 1980).

Deposit model:

Porphyry Mo or porphyry Cu (Cox and Singer, 1986; models 16 or 17)

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

16 ? or 17 ?

Production Status: None

Site Status: Inactive

Workings/exploration:

Production notes:

Reserves:

Additional comments:

Located within Gates of the Arctic National Park.

References:

Nelson and Grybeck, 1980; Grybeck and Nelson, 1981.

Primary reference: Grybeck and Nelson, 1981

Reporter(s): S.W. Nelson (Anchorage, Alaska)

Last report date: 09/17/99

Site name(s): Unnamed (Tupik Creek area)

Site type: Occurrences

ARDF no.: SP009

Latitude: 67.51

Quadrangle: SP C-5

Longitude: 155.08

Location description and accuracy:

This site is a composite of four occurrences (localities 18-22 of Grybeck and Nelson, 1981) in an area of about 6 square miles on both sides of Tupik Creek. The coordinates are for the center of the area in the NW1/4 of sec. 3, T. 24 N., R. 17 E., of the Kateel River Meridian. Location of area accurate to within 2000 ft.

Commodities:

Main: Cu, Pb, Sn

Other: Ag, Au, Be, Bi, F, Mo, Sb, W, Zn

Ore minerals: Arsenopyrite, chalcopyrite, fluorite, galena, molybdenite, sphalerite, stibnite

Gangue minerals: Calc-silicate minerals, quartz

Geologic description:

This composite site represents a number of occurrences that share a common geologic environment marked by flat-lying Paleozoic gneiss and schist and Devonian and Silurian limestone and shale that overlie a large Devonian gneissic granite pluton. Small erratic skarn bodies are common where carbonates are present. Five mineral occurrences within the area are specifically noted by Grybeck and Nelson (1981), and others probably could be found with some search. Most are small and erratic; they rarely are more than a few feet or tens of feet in area and they are usually hundreds of feet or more apart. Impressive hand samples containing ore minerals were collected within the area, but no widespread concentration of ore minerals was noted. The mineralogy of the occurrences is highly variable. It includes various combinations of galena, sphalerite, stibnite, chalcopyrite, magnetite, and molybdenite, often associated with quartz and fluorite, and, in the skarns, various calc-silicate minerals. Highly select grab samples of the more sulfide-rich rocks contain up to 55 ppm Ag, 55 ppm Au, 70 ppm Be, 700 ppm Bi, 1000 ppm Sn, and, in the skarns, 300 ppm W. The overall environment is that of contact metamorphism marked by very spotty metasomatic mineralization. The source of the metals is the large Devonian granite pluton that underlies most of the area. Similar mineralization is recognized elsewhere in the Brooks Range and is described by Newberry and others (1986).

Alteration:

Metasomatic alteration related to contact metamorphism: calc-silicate minerals, sulfides and quartz.

Age of mineralization:

Deposits formed by metasomatic introduction of metals related to intrusion of Devonian granite.

Deposit model:

Skarn (Cox and Singer, 1986; model 14b)

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

14b

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

Samples were mostly collected during spot stops and short traverses during geologic mapping by the USGS in the late 1970s.

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

Located within Gates of the Arctic National Park.

References:

Garland and others, 1975 (DDGS OFR 63); Grybeck and Nelson, 1981; Newberry and others, 1986.

Primary reference: Grybeck and Nelson, 1981**Reporter(s):** S.W. Nelson (Anchorage, Alaska)**Last report date:** 09/20/99

Site name(s): Unnamed (north of Noatak River)

Site type: Occurrences

ARDF no.: SP010

Latitude: 67.55

Quadrangle: SP C-5

Longitude: 155.01

Location description and accuracy:

This site is a composite of three occurrences (localities 23-25 of Grybeck and Nelson, 1981) in an area of about 10 square miles north of the Noatak River and south of Mt. Papiok. The coordinates are for the center of an area, in sec. 22, T. 25 N., R. 17 E., of the Kateel River Meridian. Location of area accurate to within 2000 ft.

Commodities:

Main: Cu, Pb, Sn

Other: Ag, As, Au, Be, Bi, Sb, Zn

Ore minerals: Chalcopyrite, galena, sphalerite, pyrrhotite

Gangue minerals: Calc-silicate minerals, quartz

Geologic description:

The occurrences at the site are contact-metamorphic deposits in Paleozoic phyllite and limestone over a dome of Devonian gneissic granite that is exposed on the north bank of the Noatak River. Three small mineral occurrences have been documented (Grybeck and Nelson, 1981). They include quartz vein rubble and skarn containing various combinations of ore minerals including galena, chalcopyrite, pyrrhotite, and sphalerite. Select samples contain up to 480 ppm Ag, 3.5 ppm Au, 5,000 ppm As, 150 ppm Be, 150 ppm Bi, and 100 ppm Sn. The occurrences are similar to those at SP009, and to other contact metamorphic deposits elsewhere in the Brooks Range (Newberry and others, 1986).

Alteration:

Quartz and calc-silicate minerals.

Age of mineralization:

Related to the intrusion of the Devonian pluton.

Deposit model:

Skarn (Cox and Singer, 1986; model 14b)

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

14b

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

Samples were mostly collected during spot stops and short traverses during geologic mapping by the USGS in the late 1970s.

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

Located within Gates of the Arctic National Park.

References:

Garland and others, 1975 (DDGS OFR 64); Grybeck and Nelson, 1981; Newberry and others, 1986.

Primary reference: Grybeck and Nelson, 1981**Reporter(s):** S.W. Nelson (Anchorage, Alaska)**Last report date:** 09/20/99

Site name(s): Lucky Six Creek**Site type:** Mine**ARDF no.:** SP011**Latitude:** 67.58**Quadrangle:** SP C-4**Longitude:** 154.88**Location description and accuracy:**

This site is based on early descriptions (Schrader, 1904) of several mineral occurrences and minor placer gold production on Lucky Six Creek. The prospects were apparently not visited by Schrader, whose descriptions were based on reports of prospectors. Their exact location cannot now be determined. The site is arbitrarily located at about the midpoint of Lucky Six Creek, about 3.5 miles downstream from Gull Pass. It is in the E1/2 of sec. 7, T. 25 N., R. 18 E., of the Kateel River Meridian. The location is accurate to within one mile. The site corresponds to locality 26 in Grybeck and Nelson (1981).

Commodities:**Main:** Ag, Au**Other:** Graphite**Ore minerals:** Placer gold**Gangue minerals:****Geologic description:**

A few ounces of coarse placer gold was reported by Schrader (1904) to have been produced prior to 1913 from Lucky Six Creek. A small lens of high-grade silver ore and graphite was reported by prospectors prior to World War I (Smith, 1913). However, there is no more recent substantiation of any of these deposits and no new information.

Alteration:**Age of mineralization:****Deposit model:**

Stream placer (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 reported to assay \$19.2/oz; equivalent to a fineness of about 930. Surface workings but no activity since the early 1900s.

Production notes:

Production of a 'few ounces of placer gold' (Grybeck and Nelson, 1981).

Reserves:

Additional comments:

Located within Gates of the Arctic National Park.

References:

Schrader, 1904; Smith, 1913; Anderson, 1945; U.S. Bureau of Mines, 1978; U.S. Bureau of Mines, 1979; Grybeck and Nelson, 1981.

Primary reference: Grybeck and Nelson, 1981

Reporter(s): S.W. Nelson (Anchorage, Alaska)

Last report date: 09/20/99

Site name(s): Unnamed (head Lucky Six Creek near Gull Pass)

Site type: Prospect

ARDF no.: SP012

Latitude: 67.61

Quadrangle: SP C-4

Longitude: 154.81

Location description and accuracy:

The site is based on early descriptions (Schrader 1904) of several mineral occurrences and minor placer gold production on Lucky Six Creek. The prospects were apparently not visited by Schrader, whose descriptions were but are based on reports of prospectors. Their exact location cannot now be determined. The map site is near the head of Lucky Six Creek, 0.5 miles west of Gull Pass in the NE1/4 of sec. 33, T. 26 N., R. 18 E., of the Kateel River Meridian. The location is accurate to within 2000 ft. The site corresponds to locality 28 in Grybeck and Nelson (1981).

Commodities:

Main: Ag, Au, Cu, Sb

Other:

Ore minerals: Bornite, chalcopyrite, malachite, stibnite

Gangue minerals:

Geologic description:

Schrader (1904) reported that six or more quartz veins, 10 to 75 ft. thick occur in a belt 6 miles long. The veins contain pyrite, chalcopyrite, bornite, malachite, and stibnite; they were reported to have been discovered in 1902-1903 by prospectors in the vicinity. The country rock in the area is marble interlayered with chlorite schist of the Devonian and Silurian Skajit Limestone (Nelson and Grybeck, 1980).

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: Undetermined.

Site Status: Inactive

Workings/exploration:

Minor prospecting and exploration in the early 1900s.

Production notes:

Reserves:

Additional comments:

Located within Gates of the Arctic National Park.

References:

Schrader, 1904; Nelson and Grybeck, 1980; Grybeck and Nelson, 1981.

Primary reference: Grybeck and Nelson, 1981

Reporter(s): S.W. Nelson (Anchorage, Alaska)

Last report date: 09/20/99

Site name(s): Unnamed (north of Akabluak Pass)

Site type: Occurrence

ARDF no.: SP013

Latitude: 67.476

Quadrangle: SP B-4

Longitude: 154.678

Location description and accuracy:

This site is at an elevation of about 5000 feet about 2 miles north of Akabluak Pass. It is in the SE1/4 of sec. 17, T. 24 N., R. 19 E., of the Kateel River Meridian. The location is accurate to within 1000 ft. This site corresponds to locality 30 of Grybeck and Nelson (1981).

Commodities:

Main: Ag, Cu, Pb, Zn

Other: Bi, Sn, W

Ore minerals: Chalcopyrite, galena, sphalerite

Gangue minerals: Arsenopyrite, pyrrhotite

Geologic description:

This site represents several spot checks and short traverses to evaluate about one thousand feet of well-exposed contact of Devonian gneissic granite in contact with Paleozoic strata (Grybeck and Nelson, 1981). The occurrence consists of several small masses of ore minerals, a few feet across. These minerals include various combinations of chalcopyrite, pyrrhotite, sphalerite, arsenopyrite, and galena. The minerals occur erratically in metamorphic rocks along 1000 ft. of the contact zone. This occurrence is one of several associated with the contact zone of the Mt. Igikpak pluton (Newberry and others, 1986).

Alteration:

Age of mineralization:

Devonian-related to intrusion of Devonian pluton.

Deposit model:

Skarn (Cox and Singer, 1986; model 14b)

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

14b

Production Status: None

Site Status: Inactive

Workings/exploration:

Selected hand specimens contain up to 200 ppm Ag, 1000 ppm Bi and W, and more than 1000 ppm Sn (Grybeck and Nelson, 1981). In general, however, the contact is shows little sign of skarn or introduction of metals, and there is no indication of any potential for an ore deposit of significant size.

Production notes:

Reserves:

Additional comments:

References:

Grybeck and Nelson, 1981; Newberry and others, 1986.

Primary reference: Grybeck and Nelson, 1981

Reporter(s): S.W. Nelson (Anchorage, Alaska)

Last report date: 09/20/99

Site name(s): Unnamed (west of Awlinsky Creek)

Site type: Occurrence

ARDF no.: SP014

Latitude: 67.489

Quadrangle: SP B-3

Longitude: 154.453

Location description and accuracy:

This site is at an elevation of about 4300 feet near the headwaters of an unnamed creek 3 miles west of Awlinsky Creek. It is in the SE1/4 of sec. 8, T. 24 N., R. 20 E., of the Kateel River Meridian. Accuracy of the location is within 1000 ft. The site corresponds to locality 31 of Grybeck and Nelson (1981).

Commodities:

Main: Ag, Bi, Cu, Sn

Other: F

Ore minerals: Chalcopyrite, fluorite, malachite

Gangue minerals:

Geologic description:

This occurrence consists of locally prominent copper staining in several cliffs near the contact of Devonian gneissic granite with Paleozoic chlorite schist and quartzite (Grybeck and Nelson, 1981). Grab samples that had visible fluorite and chlorite contained up to 3 ppm Ag, 300 ppm Bi, and 100 ppm Sn. A brief examination suggests that the occurrences are erratic and small. They probably are similar in origin to other Devonian contact-metamorphic deposits in nearby areas of the Brooks Range (Newberry and others, 1986).

Alteration:

Age of mineralization:

Devonian; related to the intrusion of Devonian pluton.

Deposit model:

Skarn (Cox and Singer, 1986; model 14b)

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

14b

Production Status: None

Site Status: Inactive

Workings/exploration:

Site examined during regional geologic mapping by the USGS in the late 1970s.

Production notes:

Reserves:

Additional comments:

Located within Gates of the Arctic National Park.

References:

Grybeck and Nelson, 1981; Newberry and others, 1986.

Primary reference: Grybeck and Nelson, 1981

Reporter(s): S.W. Nelson (Anchorage, Alaska)

Last report date: 09/20/99

Site name(s): Unnamed (north of Arrigetch Peaks)

Site type: Occurrence

ARDF no.: SP015

Latitude: 67.45

Quadrangle: SP B-3

Longitude: 154.16

Location description and accuracy:

This site is an elevation of about 3700 feet near the head of an unnamed creek 3 miles north of the Arrigetch Peaks. It is in the NE1/4 of sec. 27, T. 24 N., R. 21 E., of the Kateel River Meridian. Location accurate to within 2000 ft. The site corresponds to locality 32 of Grybeck and Nelson (1981).

Commodities:

Main: As, Sn

Other: Bi

Ore minerals:

Gangue minerals:

Geologic description:

This occurrence consists of selected float samples of iron-stained Paleozoic schist and skarn. The source of the float probably is a contact-metamorphic zone adjacent to Devonian granite that crops out to the south. Selected samples contained up to 5000 ppm As, 20 ppm Bi, and 1000 ppm Sn (Grybeck and Nelson, 1981). This occurrence probably is similar in origin to other Devonian contact-metamorphic deposits in nearby areas of the Brooks Range (Newberry and others, 1986).

Alteration:

Contact metamorphism and skarn.

Age of mineralization:

Probably related to Devonian granite.

Deposit model:

Skarn (Cox and Singer, 1986; model 14b)

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

14b

Production Status: None

Site Status: Inactive

Workings/exploration:

Sampled during regional geologic mapping by the USGS in the late 1970s.

Production notes:

Reserves:

Additional comments:

Located within Gates of the Arctic National Park.

References:

Grybeck and Nelson, 1981; Newberry and others, 1986.

Primary reference: Grybeck and Nelson, 1981

Reporter(s): S.W. Nelson (Anchorage, Alaska)

Last report date: 09/20/99

Site name(s): Unnamed (south of Arrigetch Creek)

Site type: Occurrences

ARDF no.: SP016

Latitude: 67.43

Quadrangle: SP B-3

Longitude: 154.02

Location description and accuracy:

This site represents several occurrences that cover an area of 4 square miles south of Arrigetch Creek. The coordinates are for the approximate center of the area of occurrences, in sec. 5, T. 23 N., R. 22 E., of the Kateel River Meridian. The location is accurate to within one mile. The site corresponds to localities 33 through 35 of Grybeck and Nelson (1981).

Commodities:

Main: Ag, Cu, Pb, Sn, Zn

Other: As, Bi, F, W

Ore minerals: Chacopyrite, sphalerite

Gangue minerals: Calc-silicate minerals, magnetite

Geologic description:

This site consists of three contact-metamorphic (skarn) deposits adjacent to Devonian granite (Grybeck and Nelson, 1981). At one locality several tactite bodies up to 700 m long by 70 m thick at a granite-carbonate contact contain lenses and pods of magnetite, and minor disseminated chalcopyrite, sphalerite and unspecified tungsten minerals. At another locality, heterogeneous contact-metamorphic rocks include fluorite-magnetite rock, quartz-epidote skarn, epidote-garnet skarn and sphalerite-epidote skarn. Selected samples contain up to 150 ppm Ag, 1000 pm Bi, and more than 1 percent each of Sn, Pb, and Zn. A brief reconnaissance of a granite-phyllite contact revealed several tactite pods less than 5 m wide. The most prominent consists of magnetite with copper staining. Grab samples contain up to 1000 ppm each of As, Cu, Sn, and Zn. These occurrences probably are similar in origin to other Devonian contact-metamorphic deposits in nearby areas of the Brooks Range (Newberry and others, 1986).

Alteration:

Calc-silicate minerals.

Age of mineralization:

Devonian; related to the intrusion of Devonian pluton.

Deposit model:

Skarn (Cox and Singer, 1986; model 14b)

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

14b

Production Status: None

Site Status: Inactive

Workings/exploration:

Sites briefly visited during regional geologic mapping by the USGS in the late 1970s.

Production notes:

Reserves:

Additional comments:

Located within Gates of the Arctic National Park.

References:

Grybeck and Nelson, 1981; Newberry and others, 1986.

Primary reference: Grybeck and Nelson, 1981

Reporter(s): S.W. Nelson (Anchorage, Alaska)

Last report date: 09/20/99

Site name(s): Unnamed (west of Nahtuk Mountain)

Site type: Occurrence

ARDF no.: SP017

Latitude: 67.6011

Quadrangle: SP C-1

Longitude: 153.2719

Location description and accuracy:

This site is at an elevation of about 4400 feet, 3.75 miles west of Nahtuk Mountain. It is in the N1/2 of sec. 5, T. 25 N., R. 25 E., of the Kateel River Meridian. Accuracy of location is within 100 ft. The site corresponds to locality 37 of Grybeck and Nelson (1981).

Commodities:

Main: Cd, Zn

Other: Ag

Ore minerals: Sphalerite

Gangue minerals:

Geologic description:

This occurrence consists of small amounts of sphalerite in quartz veinlets and as disseminated grains in a prominent orange-weathering knob about 30 feet in diameter (Grybeck and Nelson, 1981). The knob consists of dark-gray limestone that is faulted(?) into a sequence of calcareous muscovite phyllite. Selected samples contain more than 1 percent Zn, 500 ppm Cd, and up to 2 ppm Ag. Apparently the mineralized rock is restricted to the knob.

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:

Site visited during regional geologic mapping by the USGS in the late 1970s.

Production notes:

Reserves:

Additional comments:

Located within Gates of the Arctic National Park.

References:

Grybeck and Nelson, 1981.

Primary reference: Grybeck and Nelson, 1981

Reporter(s): S.W. Nelson (Anchorage, Alaska)

Last report date: 09/20/99

Site name(s): Unnamed (west of upper Millichetah Creek)

Site type: Occurrence

ARDF no.: SP018

Latitude: 67.453

Quadrangle: SP B-1

Longitude: 153.466

Location description and accuracy:

This site is at an elevation of about 3800 feet on a ridge 1.5 miles SW of the head of Millichetah Creek. It is in the N1/2 of sec. 35, T. 24 N., R. 24 E., of the Kateel River Meridian. Location is accurate to within 1000 ft. The site corresponds to locality 40 of Grybeck and Nelson (1981).

Commodities:

Main: Ag, Cu, Pb, Sb, Zn

Other:

Ore minerals:

Gangue minerals:

Geologic description:

This occurrence consists of a grab sample of copper-stained, orange-weathering marble (Nelson and Grybeck, 1981). Marble unit is part of the Devonian and Silurian Skajit Limestone (Nelson and Grybeck, 1980). Sample of marble contained 500 ppm As, 15,000 ppm Cu, 5000 ppm Pb, 7000 ppm Sb, and 7000 Zn. No other mineralization observed in the area.

Alteration:

Age of mineralization:

Deposit model:

Copper-stained limestone

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

Production Status: None

Site Status: Inactive

Workings/exploration:

Brief examination of the area by the USGS in the late 1970s indicated no other mineralization.

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

Located within Gates of the Arctic National Park.

References:

Nelson and Grybeck, 1980; Grybeck and Nelson, 1981.

Primary reference: Grybeck and Nelson, 1981

Reporter(s): S.W. Nelson (Anchorage, Alaska)

Last report date: 09/21/99

Site name(s): Angunelechak Pass**Site type:** Occurrence**ARDF no.:** SP019**Latitude:** 67.35**Quadrangle:** SP B-5**Longitude:** 155.26**Location description and accuracy:**

This site as reported by Smith (1913), is in Angunelechak Pass. The map site is at an elevation of about 4000 feet, about 0.5 mile northeast of the pass. It is in the SW1/4 of sec. 35, T. 22 N., R. 16 E., of the Kateel River Meridian. The location is accurate to within 2000 ft. The site corresponds to location 42 of Grybeck and Nelson (1981).

Commodities:**Main:** Ag ?**Other:****Ore minerals:****Gangue minerals:****Geologic description:**

This occurrence consists of a prospector's report of silver prior to 1913 (Smith, 1913). There is no other substantiation of mineralization in the vicinity.

Alteration:**Age of mineralization:****Deposit model:****Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):****Production Status:** None**Site Status:** Inactive**Workings/exploration:**

Silver reported prior to 1913 by a propsector. No other substantiation of mineralization in vicinity.

Production notes:

Reserves:

Additional comments:

Located within Gates of the Arctic National Park.

References:

Smith, 1913; Grybeck and Nelson, 1981.

Primary reference: Grybeck and Nelson, 1981

Reporter(s): S.W. Nelson (Anchorage, Alaska)

Last report date: 09/21/99

Site name(s): Unnamed (east of Reed River)

Site type: Occurrence

ARDF no.: SP020

Latitude: 67.321

Quadrangle: SP B-5

Longitude: 155.036

Location description and accuracy:

This site is at an elevation of about 2500 feet, 1.25 miles east of the Reed River. It is in the W1/2 of sec. 11, T. 22 N., R. 17 E., of the Kateel River Meridian. Location is accurate to within 1000 ft. The site corresponds to locality 43 of Grybeck and Nelson (1981).

Commodities:

Main: Mo

Other:

Ore minerals:

Gangue minerals:

Geologic description:

This occurrence consists of grab samples of pyrite-bearing silicified granite along a fault zone (Grybeck and Nelson, 1981). The samples contain 200 to 700 ppm Mo.

Alteration:

Age of mineralization:

Devonian; possibly related to the emplacement of Devonian pluton.

Deposit model:

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

Production Status:

Site Status:

Workings/exploration:

Site briefly examined during regional geologic mapping by the USGS in the late 1970s.

Production notes:

Reserves:

Additional comments:

Located within Gates of the Arctic National Park.

References:

Grybeck and Nelson, 1981.

Primary reference: Grybeck and Nelson, 1981

Reporter(s): S.W. Nelson (Anchorage, Alaska)

Last report date: 09/21/99

Site name(s): Unnamed (north of Inyuilak Creek)

Site type: Occurrence

ARDF no.: SP021

Latitude: 67.311

Quadrangle: SP B-4

Longitude: 154.9491

Location description and accuracy:

This site is at an elevation of about 4000 feet on a ridge 3 miles north of Inyuilak Creek. It is in the N1/2 of sec. 18, T. 22 N., R. 18 E., of the Kateel River Meridian. The location is accurate to within 1000 ft. The site corresponds to locality 44 of Grybeck and Nelson (1981).

Commodities:

Main: Ag, Bi, Cu, Sn, Zn

Other:

Ore minerals:

Gangue minerals:

Geologic description:

This occurrence is a contact metamorphic deposit at the contact of Devonian granite and Paleozoic schist (Grybeck and Nelson, 1981). Selected samples contain up to 5 ppm Ag, 100 ppm Bi, 1 percent Cu, 30 ppm Sn, and 700 ppm Zn. The deposit is related to intrusion of the granite and is similar to other contact-metamorphic deposits in the Brooks Range (Newberry and others, 1986).

Alteration:

Age of mineralization:

Devonian; related to the intrusion of Devonian pluton.

Deposit model:

Skarn (Cox and Singer, 1986; model 14b)

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

14b

Production Status: None

Site Status: Inactive

Workings/exploration:

Site briefly examined during regional geologic mapping by the USGS in the late 1970s.

Production notes:

Reserves:

Additional comments:

Located within Gates of the Arctic National Park.

References:

Nelson and Grybeck, 1980; Grybeck and Nelson, 1981; Newberry and others, 1986.

Primary reference: Grybeck and Nelson, 1981

Reporter(s): S.W. Nelson (Anchorage, Alaska)

Last report date: 09/21/99

Site name(s): Unnamed (east of Kaluluktok Creek)

Site type: Occurrence

ARDF no.: SP022

Latitude: 67.362

Quadrangle: SP B-4

Longitude: 154.556

Location description and accuracy:

The site is at an elevation of about 5100 feet on a ridge about 3 miles east of Kaluluktok Creek. It is in the SW1/4 of sec. 25, T. 23 N., R. 19 E., of the Kateel River Meridian. Location accurate to within 1000 ft. The site corresponds to locality 46 of Grybeck and Nelson (1981).

Commodities:

Main: Cu

Other: Ag, Sn

Ore minerals: Chalcopyrite

Gangue minerals: Quartz

Geologic description:

This occurrence consists of a network of quartz veins that cut Paleozoic dolomitic marble. The veins contain small amounts of chalcopyrite and arsenopyrite. Samples of the veins contained 30 ppm Sn and 2 ppm Ag (Grybeck and Nelson, 1981).

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:

Production notes:

Reserves:

Additional comments:

Located within Gates of the Arctic National Park.

References:

Grybeck and Nelson, 1981.

Primary reference: Grybeck and Nelson, 1981

Reporter(s): S.W. Nelson (Anchorage, Alaska)

Last report date: 09/21/99

Site name(s): Unnamed (headwaters of Kobuk River)

Site type: Occurrences

ARDF no.: SP023

Latitude: 67.31

Quadrangle: SP B-3

Longitude: 154.39

Location description and accuracy:

This site represents two occurrences in an east-trending mile-long area near the headwaters of the Kobuk River. The map site is at the center of the area, sec. 15, T. 22 N., R. 20 E., of the Kateel River Meridian. Location is accurate to within 2000 ft. The site corresponds to localities 47 and 48 of Grybeck and Nelson (1981).

Commodities:

Main: Sn

Other: As, Be, Bi, Sb

Ore minerals:

Gangue minerals: Calc-silicates

Geologic description:

The occurrences consist of sparse float of vein or segregation quartz in foliated porphyritic granite of Devonian age (Nelson and Grybeck, 1980) and of abundant skarn near the contact of the granite with Paleozoic carbonates (Nelson and Grybeck, 1981). Selected samples of float contain 5000 ppm As, 200 ppm Be, 30 to 100 Bi ppm, 200 ppm Sb, and 500 to 1000 ppm Sn. These occurrences are similar to other contact-metamorphic deposits elsewhere in the Brooks Range (Newberry and others, 1986).

Alteration:

Skarn.

Age of mineralization:

Devonian; related to the intrusion of the Devonian pluton.

Deposit model:

Skarn (Cox and Singer, 1986; model 14b)

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

14b

Production Status: None

Site Status: Inactive

Workings/exploration:

Production notes:

Reserves:

Additional comments:

Located within Gates of the Arctic National Park.

References:

Nelson and Grybeck, 1980; Grybeck and Nelson, 1981; Newberry and others, 1986.

Primary reference: Grybeck and Nelson, 1981

Reporter(s): S.W. Nelson (Anchorage, Alaska)

Last report date: 09/21/99

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

Site type: Occurrence

ARDF no.: SP024

Latitude: 67.262

Quadrangle: SP B-3

Longitude: 154.466

Location description and accuracy:

This occurrence is at an elevation of about 4900 feet on a ridge about 4 miles north of Walker Lake. It is in S1/2 of sec. 32, T. 22 N., R. 20 E., of the Kateel River Meridian. Location is accurate to within 500 ft. The side corresponds to locality 49 of Grybeck and Nelson (1981).

Commodities:

Main: Cu

Other:

Ore minerals: Chalcopyrite

Gangue minerals: Quartz, tourmaline

Geologic description:

This occurrence consists of a zone about 10 feet thick in Paleozoic calc-silicate rocks (Grybeck and Nelson, 1981). The zone consists of white quartz interlayered with limonitic gossan. The quartz contains disseminated chalcopyrite and tourmaline.

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:

Production notes:

Reserves:

Additional comments:

Located within Gates of the Arctic National Park.

References:

Nelson and Grybeck, 1980; Grybeck and Nelson, 1981.

Primary reference: Grybeck and Nelson, 1981

Reporter(s): S.W. Nelson (Anchorage, Alaska)

Last report date: 09/21/99

Site name(s): Unnamed (northwest of Takahula River)

Site type: Occurrences

ARDF no.: SP025

Latitude: 67.36

Quadrangle: SP B-2

Longitude: 153.99

Location description and accuracy:

The site represents two occurrences in a northeast-trending, two-mile-long area, about 2.5 miles northwest of the Takakula River. The approximate center of the area is in the NW1/4 of sec. 33, T. 23 N., R. 22 E., of the Kateel River Meridian. The location is accurate to within 2000 ft. The site corresponds to localities 50 and 51 of Grybeck and Nelson (1981).

Commodities:

Main: Sn, Zn

Other: Be, Bi, Mo

Ore minerals:

Gangue minerals:

Geologic description:

Both occurrences are in or adjacent to Devonian granite near the contact with Paleozoic rocks (Nelson and Grybeck, 1980). The occurrences consist of a grab sample of black phyllite about 100 m from altered granite and several samples of marble, calc-silicate rocks, and gneissic granite. Selected samples contain 200 ppm Be, 30 and 50 ppm Bi, 20 ppm Mo, 100 and 5000 ppm Sn, and 700 ppm Zn. The occurrences are similar to other skarn deposits in the Brooks Range (Newberry and others, 1986).

Alteration:

Contact metamorphic.

Age of mineralization:

Devonian; related to the intrusion of Devonian pluton.

Deposit model:

Skarn (Cox and Singer, 1986; model 14b)

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

14b

Production Status: None

Site Status: Inactive

Workings/exploration:

Production notes:

Reserves:

Additional comments:

Located within Gates of the Arctic National Park.

References:

Nelson and Grybeck, 1980; Grybeck and Nelson, 1981; Newberry and others, 1986.

Primary reference: Grybeck and Nelson, 1981

Reporter(s): S.W. Nelson (Anchorage, Alaska)

Last report date: 09/21/99

Site name(s): Unnamed (near headwaters of Takahula River)

Site type: Occurrence

ARDF no.: SP026

Latitude: 67.32

Quadrangle: SP B-2

Longitude: 153.99

Location description and accuracy:

This site is at an elevation of about 3500 feet near the headwaters of the Takahula River. It is in the N1/2 of sec. 9, T. 22 N., R. 22 E., of the Kateel River Meridian. The location is accurate to within 2000ft. The site corresponds to locality 52 of Grybeck and Nelson (1981).

Commodities:

Main: F, Sn, Zn

Other: As, Be, Bi, Sn

Ore minerals: Fluorite, sphalerite

Gangue minerals: Calc-silicate minerals

Geologic description:

This occurrence consists of a skarn deposit in an approximately 1000 x 500 ft. area at the contact of Devonian granite with Paleozoic calcareous rocks (Nelson and Grybeck, 1980). Epidote-garnet, magnetite-quartz-hornblende, and magnetite-hornblende skarns contain erratically distributed sphalerite and fluorite. Analyses of numerous grab samples show as much as 7000 ppm As, and most show 700 to 1000 ppm Be, 100 to 200 ppm Bi, and 500 to 1000 ppm Zn. Sn values range from 500 to more than 1000 ppm Sn, but petrographic examination indicates that the Sn is not present as an oxide or sulfide. This occurrence is one of many skarn deposits adjacent to the Devonian granite and is similar to others elsewhere in the Brooks Range (Newberry and others, 1986).

Alteration:

Contact metamorphic.

Age of mineralization:

Devonian; related to the intrusion of Devonian pluton.

Deposit model:

Skarn (Cox and Singer, 1986; model 14b)

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

14b

Production Status: None**Site Status:** Inactive**Workings/exploration:****Production notes:****Reserves:****Additional comments:**

Located within Gates of the Arctic National Park.

References:

Nelson and Grybeck, 1980; Grybeck and Nelson, 1981; Newberry and others, 1986.

Primary reference: Grybeck and Nelson, 1981**Reporter(s):** S.W. Nelson (Anchorage, Alaska)**Last report date:** 09/21/99

Site name(s): Unnamed (near head of Kobuk River)

Site type: Occurrences

ARDF no.: SP027

Latitude: 67.31

Quadrangle: SP B-3

Longitude: 154.02

Location description and accuracy:

This site represents two occurrences in a north-trending, mile-long area near the head of the Kobuk River. The center of the area is in the N1/2 of sec. 17, T. 22 N., R. 22 E., of the Kateel River Meridian. The location is accurate to within 2000 ft. The site corresponds to localities 53 and 54 of Grybeck and Nelson (1981).

Commodities:

Main: Sn, W, Zn

Other: Be, Bi

Ore minerals:

Gangue minerals:

Geologic description:

The occurrences consist of small skarn deposits adjacent to Devonian granite and Paleozoic metamorphic rocks (Nelson and Grybeck, 1980). Selected float samples contain 200 ppm Be, 200 to 500 ppm Bi, 500 ppm W, 1000 ppm Sn, and 500 to 2000 ppm Zn. The occurrences are similar to other skarn deposits in the Brooks Range (Newberry and others, 1986).

Alteration:

Calc-silicate minerals.

Age of mineralization:

Devonian; related to the intrusion of Devonian pluton.

Deposit model:

Skarn (Cox and Singer, 1986; model 14b)

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

14b

Production Status: None

Site Status: Inactive

Workings/exploration:

Production notes:

Reserves:

Additional comments:

Located within Gates of the Arctic National Park.

References:

Nelson and Grybeck, 1980; Grybeck and Nelson, 1981; Newberry and others, 1986.

Primary reference: Grybeck and Nelson, 1981

Reporter(s): S.W. Nelson (Anchorage, Alaska)

Last report date: 09/21/99

Site name(s): Unnamed (northwest of tributary to Mauneluk River)

Site type: Prospect

ARDF no.: SP028

Latitude: 67.208

Quadrangle: SP A-6

Longitude: 155.955

Location description and accuracy:

This prospect is at an elevation of about 3500 feet in a pass northwest of a tributary to Mauneluk River. It is in the N1/2 of sec. 22, T. 21 N., R. 13 E., of the Kateel River Meridian. The location is accurate to within 1000 ft. The site corresponds to locality 55 of Grybeck and Nelson (1981).

Commodities:

Main: Ag, Cu, Pb, Zn

Other:

Ore minerals: Galena, sphalerite

Gangue minerals:

Geologic description:

The deposit consists of sulfide-bearing carbonates, probably the Skajit Limestone (Nelson and Grybeck, 1980). More than forty, 1 to 5 cm bands of galena and sphalerite with copper and silver values were intersected in 122 m of diamond drill hole. There was considerable staking in the area and limited diamond drilling in 1976.

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:

122 m of diamond drilling at site.

Production notes:

Reserves:

Additional comments:

References:

Nelson and Grybeck, 1980; Grybeck and Nelson, 1981.

Primary reference: Grybeck and Nelson, 1981

Reporter(s): S.W. Nelson (Anchorage, Alaska)

Last report date: 10/26/99

Site name(s): Sharp Creek**Site type:** Prospect**ARDF no.:** SP029**Latitude:** 67.19**Quadrangle:** SP A-6**Longitude:** 155.78**Location description and accuracy:**

This prospect, locally called Sharp Creek, is at an elevation of about 3000 feet, approximately 6.5 miles northwest of Mauneluk River. It is in the SW1/4 of sec. 21, T. 21 N., R. 14 E., of the Kateel River Meridian. Location accurate to within 2000 ft. The site corresponds to locality 56 of Grybeck and Nelson (1981).

Commodities:**Main:** Cu**Other:****Ore minerals:** Chalcopyrite**Gangue minerals:****Geologic description:**

The Sharp Creek prospect consists of minor chalcopyrite in surface exposures of Paleozoic chlorite-muscovite schist that occur within the Skajit Limestone (Nelson and Grybeck, 1980).

Alteration:**Age of mineralization:****Deposit model:**

Chalcopyrite in metamorphic rocks.

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):**Production Status:** None**Site Status:** Inactive**Workings/exploration:**

Minor mapping and surface exploration by industry (Grybeck and Nelson, 1981).

Production notes:

Reserves:

Additional comments:

References:

Nelson and Grybeck, 1980; Grybeck and Nelson, 1981.

Primary reference: Grybeck and Nelson, 1981

Reporter(s): S.W. Nelson (Anchorage, Alaska)

Last report date: 10/26/99

Site name(s): Unnamed (northwest of Mauneluk River)

Site type: Occurrence

ARDF no.: SP030

Latitude: 67.15

Quadrangle: SP A-6

Longitude: 155.86

Location description and accuracy:

This site is on a ridge at an elevation of about 3800 feet, approximately 5.5 miles northwest of Mauneluk River. It is in the SW1/4 of sec. 8, T. 20 N., R. 14 E., of the Kateel River Meridian. Location accurate to within 2000 ft. The site corresponds to locality 57 of Grybeck and Nelson (1981).

Commodities:

Main: Ag, Au, Cu, Pb, Zn

Other:

Ore minerals:

Gangue minerals:

Geologic description:

This occurrence consists of unspecified ore minerals in a thick sequence of low to medium grade, Paleozoic metamorphic rocks known as the 'Ambler schist belt' (Hitzman and others, 1986). Selected samples contain 2.5 ppm Au, 35 ppm Ag, 7250 ppm Cu, 1750 ppm Pb, and 1000 ppm Zn (Grybeck and Nelson, 1981). The Ambler schist belt locally hosts stratiform volcanogenic massive sulfide deposits, of which this occurrence may be an example.

Alteration:

Age of mineralization:

Deposit model:

Kuroko massive sulfide ? (Cox and Singer, 1986; model 28a)

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

28a ?

Production Status: None

Site Status: Inactive

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:

Garland and others, 1975 (ADGGS OFR 64); Grybeck and Nelson, 1981; Hitzman and others, 1986.

Primary reference: Garland and others, 1975 (ADGGS OFR 64)

Reporter(s): S.W. Nelson (Anchorage, Alaska)

Last report date: 09/22/99

Site name(s): Jerry Creek (BT claim group)**Site type:** Prospect**ARDF no.:** SP031**Latitude:** 67.125**Quadrangle:** SP A-6**Longitude:** 155.957**Location description and accuracy:**

The Jerry Creek (BT) prospect is at an elevation of about 3100 feet on a ridge northwest of Avaraart Lake. It is in the N1/2 of sec. 23, T. 20 N., R. 13 E., of the Kateel River Meridian. The location is accurate to within 1000 ft. The site corresponds to locality 58 of Grybeck and Nelson (1981).

Commodities:**Main:** Ag, Cu, Pb, Zn**Other:****Ore minerals:** Chalcopyrite, galena?, pyrite, sphalerite**Gangue minerals:** Actinolite, calcite, epidote, garnet, quartz**Geologic description:**

The Jerry Creek (BT) deposit consists of stratiform, fine-grained, weakly disseminated pyrite, sphalerite, and chalcopyrite that occur over a strike distance of at least 3600 ft. The BT claim group covers three fault-bounded blocks of pelitic, volcanic, and carbonate strata which have undergone two major folding events accompanied by synkinematic metamorphism. The northern fault block consists of pelitic schist that grades upward to calcareous schist and marble; it contains a 30-60-foot-thick horizon of intercalated feldspathic, calcareous, and graphitic pelitic schist, along with compositionally banded layers of quartz, actinolite, epidote, garnet, calcite, apatite, and actinolite. The sulfides are disseminated in the feldspathic schists and in the compositionally banded rock (Hitzman, 1978). Selected samples contain up to 0.72 percent Cu, 2.15 percent Zn, and 0.40 oz Ag/ton. BT is one of several volcanogenic deposits in the Ambler schist belt along the south flank of the Brooks Range. These deposits may be part of a rifted continental margin (Schmidt, 1981).

Alteration:**Age of mineralization:**

Host rock is Devonian-Mississippian in age.

Deposit model:

Kuroko massive sulfide (Cox and Singer, 1986; model 28a)

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

28a

Production Status: None

Site Status: Inactive

Workings/exploration:

Some unpublished detailed mapping and surface sampling by industry.

Production notes:

Reserves:

Additional comments:

References:

Hitzman, 1978; Hitzman, 1980; Grybeck and Nelson, 1981; Schmidt, 1981

Primary reference: Hitzman, 1978

Reporter(s): S.W. Nelson (Anchorage, Alaska)

Last report date: 09/22/99

Site name(s): BTcc**Site type:** Prospects**ARDF no.:** SP032**Latitude:** 67.11**Quadrangle:** SP A-6**Longitude:** 155.86**Location description and accuracy:**

This site represents several prospects in about a 6-square-mile area about 5 miles north-west of the Mauneluk River. The coordinates are for the center of the area in sec. 29, T. 20 N., R. 14 E., Kateel River Meridian. Accuracy of location is 2000 ft. The site includes localities 59 and 60 of Grybeck and Nelson (1981).

Commodities:**Main:** Ag, Cu, Pb, Zn**Other:** Ba**Ore minerals:** Chalcopyrite, cymrite, sphalerite, tennantite**Gangue minerals:****Geologic description:**

The BTcc group of prospects explore silver-base metal volcanogenic massive sulfide deposits in a sequence of low to medium grade, metamorphosed basaltic and rhyolitic rocks, submarine ash flow tuffs, and pelitic and carbonaceous sedimentary rocks known as the Ambler schist belt. The deposits are Devonian or Mississippian based on fossil evidence and U-Pb radiometric dating (Hitzman, 1978; Hitzman and others, 1986). There are numerous prospect pits and diamond drill sites in the area dating to the late 1970's. Surface mapping has shown that the deposits extend 10 km to the west along the same stratigraphic horizon.

Alteration:**Age of mineralization:**

Syngenetic deposit in Devonian or Mississippian host rocks (Hitzman and others, 1986).

Deposit model:

Kuroko massive sulfide (Cox and Singer, 1986; model 28a)

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

28a

Production Status: None**Site Status:** Active?**Workings/exploration:**

Surface mapping and drilling.

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

Hitzman, 1978; Hitzman, 1980; Grybeck and Nelson, 1981; Hitzman and others, 1986.

Primary reference: Hitzman, 1978**Reporter(s):** S.W. Nelson (Anchorage, Alaska)**Last report date:** 09/22/99

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

Site type: Prospect

ARDF no.: SP033

Latitude: 67.118

Quadrangle: SP A-6

Longitude: 155.734

Location description and accuracy:

This prospect is at an elevation of about 3600 feet on a ridge 5 miles north of Avaraart Lake. It is in sec. 23, T. 20. N., R. 14 E., of the Kateel River Meridian. The location is and accurate to within 1000 ft. The site corresponds to locality 61 of Grybeck and Nelson (1981).

Commodities:

Main: Ag, Cu, Pb, Zn

Other:

Ore minerals:

Gangue minerals:

Geologic description:

This prospect explores a silver-basemetal volcanogenic massive sulfide deposits in a sequence of low to medium grade metamorphosed basaltic and rhyolitic rocks, submarine ash flow tuffs, and pelitic and carbonaceous sedimentary rocks known as the Ambler schist belt. The deposit is Devonian or Mississippian in age, based on fossil evidence and U-Pb radiometric dating (Hitzman and others, 1986). Numerous copper-stained zones in the schists have been explored by prospect pits and several diamond drill holes. The deposit is similar to, and probably an extension of, the deposits at SP032.

Alteration:

Locally prominent copper-staining.

Age of mineralization:

Syngenetic massive sulfide deposit in Devonian or Mississippian host rocks.

Deposit model:

Kuroko massive sulfide (Cox and Singer, 1986; model 28a)

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

28a

Production Status: None

Site Status: Probably inactive

Workings/exploration:

The deposit has been explored by a number of prospect pits and several diamond drill holes.

Production notes:

Reserves:

Additional comments:

References:

Grybeck and Nelson, 1981; Hitzman and others, 1986.

Primary reference: Grybeck and Nelson, 1981

Reporter(s): S.W. Nelson (Anchorage, Alaska)

Last report date: 09/22/99

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

Site type: Prospects

ARDF no.: SP034

Latitude: 67.13

Quadrangle: SP A-6

Longitude: 155.54

Location description and accuracy:

This site represents several prospects in about a 3-square-mile area, approximately 7 miles northeast of Avaraart Lake. The coordinates are for the center of the area, at the intersection of sections 14, 15, 22, and 23, T. 20 N., R. 15 E., of the Kateel River Meridian. Accuracy of location is 2000 ft. The site corresponds to locality 62 of Grybeck and Nelson (1981).

Commodities:

Main: Ag, Cu, Pb, Zn

Other:

Ore minerals:

Gangue minerals:

Geologic description:

These prospects explore a silver-basemetal volcanogenic massive sulfide deposit in a sequence of low to medium grade metamorphosed basaltic and rhyolitic rocks, submarine ash flow tuffs, and pelitic and carbonaceous sedimentary rocks known as the Ambler schist belt. The deposit is a Devonian or Mississippian in age, based on fossil evidence and U-Pb radiometric dating in the region (Hitzman and others, 1986). Rocks are commonly iron stained in the area. The deposit has been explored by numerous prospect pits and surface mapping.

Alteration:

Rocks in area commonly are iron stained.

Age of mineralization:

Syngenetic massive sulfide in Devonian or Mississippian host rocks.

Deposit model:

Kuroko massive sulfide (Cox and Singer, 1986; model 28a)

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

28a

Production Status: None**Site Status:** Active?**Workings/exploration:**

Numerous prospect pits and surface mapping.

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

Grybeck and Nelson, 1981; Hitzman and others, 1986.

Primary reference: Grybeck and Nelson, 1981**Reporter(s):** S.W. Nelson (Anchorage, Alaska)**Last report date:** 09/22/99

Site name(s): Unnamed (west of Beaver Creek)

Site type: Prospect

ARDF no.: SP035

Latitude: 67.109

Quadrangle: SP A-5

Longitude: 155.402

Location description and accuracy:

This site is at an elevation of about 3500 feet on a ridge about 4 miles west of Beaver Creek. It is in the NE1/4 of sec. 29, T. 20 N., R. 16 E., of the Kateel River Meridian. The location is accurate to within 1000 ft. The site corresponds to location 67 of Garland and others (1975, DGGS OFR 67).

Commodities:

Main: Ag, Pb, Zn

Other: Bi, Sb

Ore minerals: Galena, sphalerite

Gangue minerals: Quartz

Geologic description:

This deposit is associated with skarns in medium-grade metamorphic rocks, irregular quartz veins or segregations containing galena and sphalerite. The deposit crops out in an area of at least 10 x 40 feet. The deposit may be related to a small granite pluton nearby. Samples from surface trenching contained 2800 ppm Ag and 5000 ppm Zn (Garland and others, 1975, DGGS OFR 67). Other analysis of massive galena indicates up to 1000 ppm Ag and 700 ppm Sb (Grybeck and Nelson, 1981). The deposit was staked in about 1976; work apparently was limited to surface trenching.

Alteration:

Age of mineralization:

Deposit model:

Skarn ? (Cox and Singer, 1986; model 18)

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

18?

Production Status: None

Site Status: Active?

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:

Garland and others, 1975 (ADGGS OFR 67); Grybeck and Nelson, 1981.

Primary reference: Garland and others, 1975 (ADGGS OFR 67)

Reporter(s): S.W. Nelson (Anchorage, Alaska)

Last report date: 09/22/99

Site name(s): Unnamed (west of Beaver Creek)

Site type: Occurrence

ARDF no.: SP036

Latitude: 67.103

Quadrangle: SP A-5

Longitude: 155.313

Location description and accuracy:

This occurrence is at an elevation of about 3000 feet on a ridge approximately 1.5 miles west of Beaver Creek. It is in the W1/2 of sec.26, T. 20 N., R. 16 E., of the Kateel River Meridian. The location is accurate to within 1000 ft. The site corresponds to locality 65 of Grybeck and Nelson (1981).

Commodities:

Main: Mo

Other:

Ore minerals:

Gangue minerals:

Geologic description:

This occurrence consists of a small stock of foliated Devonian(?) granite that has intruded and metamorphosed shale (Nelson and Grybeck, 1980; Grybeck and Nelson, 1981). A grab sample of the metamorphosed shale contained 200 ppm Mo.

Alteration:

Age of mineralization:

Probable age of granite is Devonian.

Deposit model:

Skarn ? (Cox and Singer, 1986; model 18)

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

18?

Production Status: None

Site Status: Active?

Workings/exploration:

Visited briefly as part of a regional geologic mapping program by the USGS in the late 1970s (Nelson and Grybeck, 1980).

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

Nelson and Grybeck, 1980; Grybeck and Nelson, 1981.

Primary reference: Grybeck and Nelson, 1980

Reporter(s): S.W. Nelson (Anchorage, Alaska)

Last report date: 10/04/99

Site name(s): Unnamed (west of Beaver Creek)

Site type: Occurrence

ARDF no.: SP037

Latitude: 67.167

Quadrangle: SP A-5

Longitude: 155.225

Location description and accuracy:

This occurrence is at an elevation of about 2300 feet on a ridge approximately 1.5 miles west of Beaver Creek. It is in the N1/2 of sec. 6, T. 20 N., R. 17 E., of the Kateel River Meridian. Site location is accurate to within 1000 ft. The site corresponds to locality 66 of Grybeck and Nelson (1981).

Commodities:

Main: Au

Other:

Ore minerals:

Gangue minerals:

Geologic description:

This occurrence consists of an unidentified grab sample that contained 3 ppm gold (Garland and others, 1975, ADGGS OFR 67).

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:

Unidentified grab sample contained 3 ppm Au.

Production notes:

Reserves:

Additional comments:

References:

Garland and others, 1975 (ADGGS OFR 67); Grybeck and Nelson, 1981.

Primary reference: Garland and others, 1975 (ADGGS OFR 67)

Reporter(s): S.W. Nelson (Anchorage, Alaska)

Last report date: 10/04/99

Site name(s): Unnamed (east of Beaver Creek)

Site type: Occurrence

ARDF no.: SP038

Latitude: 67.12

Quadrangle: SP A-5

Longitude: 155.09

Location description and accuracy:

This occurrence is at an elevation of about 3700 feet, on a ridge approximately 2.5 miles east of Beaver Creek. It is in the NW1/4 of sec. 23, T. 20 N., R. 17 E., of the Kateel River Meridian. Location is accurate to within 2000 ft. The site corresponds to locality 67 of Grybeck and Nelson (1981).

Commodities:

Main: Au

Other:

Ore minerals:

Gangue minerals:

Geologic description:

This occurrence consists of an unidentified grab sample that contained 1.5 ppm Au (Garland and others, 1975, ADGGS OFR 67).

Alteration:

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:

Garland and others, 1975 (ADGGS OFR 67); Grybeck and Nelson, 1981.

Primary reference: Garland and others, 1975 (ADGGS OFR 67)

Reporter(s): S.W. Nelson (Anchorage, Alaska)

Last report date: 10/04/99

Site name(s): Sun; Picnic Creek; Hot**Site type:** Prospects**ARDF no.:** SP039**Latitude:** 67.07**Quadrangle:** SP A-5**Longitude:** 155.04**Location description and accuracy:**

This site represents several prospects in an approximately 12-square-mile area northeast of Beaver Creek. The coordinates are for the center of the area in the SE1/4 of sec. 1, T. 19 N, R. 17 E., of the Kateel River Meridian. The location is accurate to within 2000 ft. The site corresponds to localities 68 and 69 of Grybeck and Nelson (1981).

Commodities:**Main:** Ag, Au, Cu, Pb, Zn**Other:****Ore minerals:** Arsenopyrite, bornite, chalcopyrite, enargite, galena, sphalerite**Gangue minerals:** Actinolite, barite, cymrite, ferroan calcite, ferroan dolomite, ferrostilpnomelane, muscovite, tremolite, quartz**Geologic description:**

The deposit consists of stratiform, banded, massive to semi-massive sulfides in a series of elongate, SW-plunging, lenticular bodies along three distinct mineral horizons. An upper horizon is Ag-Pb-Zn rich, a middle horizon is Cu-rich, and a lower horizon is Cu-Zn rich. According to Zdepski (1980), the Sun prospect is in a 5000-foot-thick sequence of Devonian felsic to andesitic volcanic, volcanoclastics, and intercalated pelitic sedimentary rocks separated into upper and lower units by calcareous metabasite beds of variable thickness. The upper unit of metarhyolite and related rocks contains all of the identified massive sulfides; the lower unit is dominantly pelitic schist and metarhyolite.

Alteration:**Age of mineralization:**

Devonian, based on radiometric and fossil determinations.

Deposit model:

Kuroko massive sulfide (Cox and Singer, 1986; model 28a)

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

28a

Production Status: None**Site Status:** Active?**Workings/exploration:**

Drilling and unpublished detailed mapping by industry until the late 1970's.

Production notes:**Reserves:**

According to D. Heatwole (oral communication, 1979), the Sun deposit has a gross metal value of about \$1.6 billion and the deposit is still open on two sides.

Additional comments:**References:**

Garland and others, 1975 (ADGGS OFR 67); Sicherman, Russel, and Fikkan, 1976; Marrs, 1978; Smith and others, 1977; Smith and others, 1979; Zpedski, 1980; Grybeck and Nelson, 1981.

Primary reference: Zpedski, 1980**Reporter(s):** S.W. Nelson (Anchorage, Alaska)**Last report date:** 10/04/99

Site name(s): Unnamed (west of Walker Lake)

Site type: Occurrence

ARDF no.: SP040

Latitude: 67.15

Quadrangle: SP A-4

Longitude: 154.56

Location description and accuracy:

This occurrence is at an elevation of about 3200 feet on a ridge 2.5 miles west of Walker Lake. It is in the E1/2 of sec. 7, T. 20 N., R. 20 E., of the Kateel River Meridian. Location is accurate to within 2000 ft. The site corresponds to locality 70 of Grybeck and Nelson (1981).

Commodities:

Main: Fe

Other:

Ore minerals: Goethite

Gangue minerals: Calcite

Geologic description:

This occurrence consists of rubble in an area at least 600 square feet in diameter. About 25-50% of the rubble consists of large, irregular masses of botryoidal goethite that replaces or fills open spaces in marble (Grybeck and Nelson, 1981).

Alteration:

Age of mineralization:

Deposit model:

Goethite in marble.

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

Production Status: None

Site Status: Inactive

Workings/exploration:

This area briefly examined during regional geologic mapping by the USGS in the late 1970s.

Production notes:

Reserves:

Additional comments:

References:

Grybeck and Nelson, 1981.

Primary reference: Grybeck and Nelson, 1981

Reporter(s): S.W. Nelson (Anchorage, Alaska)

Last report date: 10/04/99

Site name(s): Unnamed (west of Walker Lake)

Site type: Occurrences

ARDF no.: SP041

Latitude: 67.11

Quadrangle: SP A-3

Longitude: 154.42

Location description and accuracy:

This site represents a northwest-trending 2-mile-long area along a ridge 1.5 miles west of Walker Lake. The coordinates are for the center of the area, in the N1/12 of sec. 26, T. 20 N., R. 20 E., of the Kateel River Meridian. Location is accurate to within 2000 ft. Localities 71 and 72 of Grybeck and Nelson (1981) are at either end of the area.

Commodities:

Main: Ag, Au, Cu

Other: Ba, Mo, V

Ore minerals:

Gangue minerals:

Geologic description:

These occurrences consist of grab samples that contained up to 2.5 ppm Au, 2 ppm Ag, 1000 ppm Ba, 810 ppm Cu, 30 ppm Mo, and 2000 ppm V. Some samples are not described, others include iron-stained greenschist (Garland and others, 1975, ADGGS OFR 66).

Alteration:

Local iron staining.

Age of mineralization:

Deposit model:

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

Production Status: None

Site Status: Inactive

Workings/exploration:**Production notes:****Reserves:****Additional comments:****References:**

Garland and others, 1975 (ADGGS OFR 67); Degenhart and others, 1978; U.S. Bureau of Mines, 1978; U.S. Bureau of Mines, 1979; Grybeck and Nelson, 1981.

Primary reference: Degenhart and others, 1978

Reporter(s): S.W. Nelson (Anchorage, Alaska)

Last report date: 10/04/99

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

Site type: Occurrence

ARDF no.: SP042

Latitude: 67.15

Quadrangle: SP A-3

Longitude: 154.17

Location description and accuracy:

This site is at an elevation of about 3700 feet, on a ridge about 4.5 miles east of Walker Lake and 2 miles northwest of the Kobuk River. It is in the NW1/4 of sec. 12, T. 21. N., R 21 E., of the Kateel River Meridian. The location is accurate to within 2000 ft. The site corresponds to locality 73 of Grybeck and Nelson (1981).

Commodities:

Main: Ag, Cu, Pb, Mo

Other:

Ore minerals:

Gangue minerals:

Geologic description:

This occurrence consists of a 100-foot-thick section of Mn-stained graphitic schist, from which grab samples assayed up to 5 ppm Ag, 500 ppm Cu, 70 ppm Mo, and 70 ppm Pb. The schist is Devonian in age (Grybeck and Nelson, 1981). Grybeck and Nelson (1981) note that the occurrence is probably similar to volcanogenic massive sulfide deposits elsewhere in the Survey Pass quadrangle.

Alteration:

Age of mineralization:

Devonian, based on the age of the host rocks.

Deposit model:

Kuroko massive sulfide (Cox and Singer, 1986; model 28a)

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

28a

Production Status: None

Site Status: Inactive

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:

Garland and others, 1975 (ADGGS OFR 66); Grybeck and Nelson, 1981.

Primary reference: Garland and others, 1975 (ADGGS OFR 66)

Reporter(s): S.W. Nelson (Anchorage, Alaska)

Last report date: 10/04/99

Site name(s): Helpmejack Creek**Site type:** Prospect**ARDF no.:** SP043**Latitude:** 67.01**Quadrangle:** SP A-2**Longitude:** 153.55**Location description and accuracy:**

The location of this site is not well known because there has been no placer activity along Helpmejack Creek since 1898 (Mendenhall, 1902). The map site is arbitrarily placed on Helpmejack Creek, about 1.5 miles south of the junction of Lake Creek, in the NW1/4 of sec. 35, T. 19 N., R. 24 E., of the Kateel River Meridian. Location is probably accurate to within one mile. The site corresponds to location 76 of Grybeck and Nelson (1981).

Commodities:**Main:** Au**Other:****Ore minerals:** Placer gold**Gangue minerals:****Geologic description:**

Helpmejack Creek was prospected for placer gold around 1900, but little or no work apparently has been done since then (Mendenhall, 1902). Some gold may have been recovered during the early work, but in view of the exhaustive gold prospecting in central Alaska since then, it is unlikely that any significant placer gold remains to be found at this site.

Alteration:**Age of mineralization:****Deposit model:**

Placer gold (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:

Some prospecting and possibly some minor placer gold production somewhere along Helpmejack Creek around 1900.

Production notes:

Possible minor placer gold production around 1900.

Reserves:

Additional comments:

References:

Mendenhall, 1902; U.S. Bureau of Mines, 1978; Grybeck and Nelson, 1981.

Primary reference: Mendenhall, 1902

Reporter(s): S.W. Nelson (Anchorage, Alaska)

Last report date: 10/04/99

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