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Maps and descriptions of lode and placer deposits, prospects,
and occurrences in the Wiseman 1° by 3° Quadrangle, Alaska

by

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This report is preliminary and has not been reviewed for conformity with U.S. Geological Survey editorial standards and stratigraphic nomenclature. Any use of trade names is for descriptive purposes only and does not imply endorsement by the USGS.

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INTRODUCTION

These maps were prepared as part of the mineral resource assessment of the Wiseman 1° by 3° quadrangle. Production of metallic commodities in the quadrangle has been predominantly from gold placers; antimony and probably some associated gold has been won from lodes in the eastern part of the quadrangle. No other type of metallic production has been reported from the quadrangle.

The descriptions included here are divided into two parts; the first part addresses gold placers and the second metallic mineral and barite deposits, prospects, and occurrences. Stream basins or other areas containing gold placers are outlined on plate 1 and identified alphabetically or alphanumerically. Alphanumeric designation is used for adjacent gold placer areas. Lode deposits, prospects, and occurrences are shown as points and are identified numerically or alphanumerically on plate 2. Some points that have no information other than a commodity are shown on the map but are not otherwise described. Broader areas of occurrences of a given commodity are identified on the map (plate 2) but are not specifically described except for specific numbered localities within those areas.

GOLD PLACERS

Gold placers are identified by AREA OR BASIN NUMBER, is used in both the compilation and on plate 1. Undeveloped claims without known reserves are not included here. All gold placers in the Wiseman quadrangle are part of the Koyukuk District, which includes the drainage basins of the Koyukuk and Kanuti Rivers (Cobb, 1973, p. 156, fig. 52). The Koyukuk District also includes substantial areas outside of the Wiseman quadrangle. Descriptions of Koyukuk District gold placers in the Chandalar quadrangle, east of the Wiseman quadrangle, can be found in DeYoung (1978). Description of placers in the Koyukuk District for which estimates of deposit volumes and grades have been made can be found in Orris and Bliss (1985). It is unlikely that many rich placers at the surface, which are amenable to being worked, were overlooked by the numerous prospector of the gold rush; however, rich, undiscovered deposits may be buried under young sediments. Glaciation generally destroys gold placers, has significantly altered the surface in the quadrangle (Hamilton, 1978); some rich placers buried by glacial material have been found in the Koyukuk District (Nolan Creek).

The description in this compilation for each gold-placer deposit contains several responses. "Stream" given for PLACER TYPE(S) identifies the placer as part of, or adjacent to, the modern stream channel. Discharge data are from older literature and are recorded in the COMMENTS field. Note that one miner's inch equals 1.2 ft³/min (0.2 ft³/s) or 34 l/min (.57 l/s). The abbreviation "oz" refers to troy ounces. FINENESS is concerned with just the pure gold content only. Responses for BEDROCK SOURCE are taken from the references cited for each gold placer unless otherwise noted. Placer descriptions are sequenced alphabetically and alphanumerically by BASIN OR AREA NUMBER. To locate a specific placer, the next page provides an alphabetical list of gold placer names followed by the associated BASIN OR AREA NUMBERS:

<u>BASIN OR AREA NAME</u>	<u>NUMBER</u>
Agnes Creek.....	E1
Birch Creek.....	E2
Bourbon Creek.....	F
Clara Gulch.....	P2
Colorado Creek.....	A
Conglomerate Creek.....	G1
Crevice Creek.....	B
Eagle Cliff.....	O
Emma Creek.....	J2
Grubstake Bar - Hanshaw Bar.....	N
Hamil Bar.....	K
Hammond River ¹	H4
Kay Creek.....	E3
Kelly Gulch.....	J3
Lake Creek.....	D3
Mailbox Creek.....	L1
Mascot Creek.....	G2
Minnie Creek.....	I
Myrtle Creek and Slate Creek.....	P1
Nolan Creek ²	H3
Porcupine Creek - Quartz Creek.....	J4
Rye Creek - Jay Creek.....	E4
Sawyer Creek.....	J1
Spring Creek.....	D2
Sirr Creek.....	C
Smally Creek.....	M
Surprise Creek (Summit Creek).....	D1
Tramway Bar - Chapman Creek.....	L2
Twelve Mile Creek.....	J5
Union Gulch.....	H5
Vermont Creek.....	H2
Washington Creek.....	H1

1. Also includes workings on Goldbottom, Swift, and Steep Creeks; Bucky Gulch.
2. Also includes workings on Smith, Archibald, Fay, and Acme Creeks; Thompson Pup.

Following is a compilation of descriptions of gold placers found in the Wiseman quadrangle (Plate 1) organized by AREA OR BASIN NUMBER:

NAME: Colorado Creek Placer.

AREA OR BASIN NUMBER: A

LAT: 67°23' N. LONG: 152°45' W.

TNS: 29,30 N. RNG: 22 W.

COMPANY OR PLACER OPERATOR(S): E. Johnson and A. Johnson (1938)

METALS: Au.

CONTAINED METAL: N/A.

GRADE(S): N/A.

SIZE: N/A.

PLACER TYPE(S): Stream.

MINING METHOD(S): Booming, shovelling from small cut, mining called small scale by Smith and Mertie (1930); small-scale work in 1937.

PRODUCTION HISTORY: Active at least in 1937.

BEDROCK SOURCE: We suspect that gold may be derived from skarns located in the upper Colorado Creek basin.

FINENESS: Unknown.

OTHER GEOLOGY: Gold fine; concentrates include magnetite and garnet.

STREAM BASIN AREA: 52 km², includes large tributary basin joining Colorado Creek from the northwest.

STREAM GRADIENT: Average 7.3 percent from mouth to an elevation of 2,000 ft.

COMMENTS: None.

REFERENCES: Smith and Mertie, 1930, p. 334-335; Reed, 1938, p. 143; Cobb, 1976, p. 95; Cobb, 1981, p. A4.

NAME: Crevice Creek Placer.

AREA OR BASIN NUMBER: B

LAT: 67°21'18" N. LONG: 151°50'52" W.

TNS: 29 N. RNG: 19,20 W.

COMPANY OR PLACER OPERATOR(S): B. Fickus (1980's).

METALS: Au.

CONTAINED METAL: 3,800 g Au, 160 g Ag.

GRADE(S): N/A.

SIZE: N/A.

PLACER TYPE(S): Stream.

MINING METHOD(S): Sluice.

PRODUCTION HISTORY: Recorded production is \$2,500 in 1904; reported to have yielded 30 oz/yr. (930 g/yr); placer currently active (1980's).

BEDROCK SOURCE: Suspected to be from mineralization (galena, copper minerals) associated with Devonian Skajit Limestone; small mafic body reported to be within 0.5 mi. (0.8 km.)

FINENESS: Mosier and Lewis (1986) reported seven analyses of fineness of gold value between 803 to 982; median fineness is 958.

OTHER GEOLOGY: Gold primarily in crevices and pot holes; Mosier and Lewis (1986) reported that seven samples of gold contained a median of 4.2 percent Ag, 0.14 percent Cu, 0.008 percent Pb, and 0.47 percent Hg. Three samples contained detectable levels of Pd (greater than 2 ppm).

STREAM BASIN AREA: 32 km².

STREAM GRADIENT: Average 2.8 percent on main stem between 900 ft and 1,500 ft elevation.

COMMENTS: Bill Fickus reported stibnite in panned concentrate (Dillon, 1982); Ag production estimated using median Au content of samples (Mosier and Lewis, 1986)

REFERENCES: Maddren, 1913, p. 110; Cobb, 1976, p. 99; Dillon, 1982, p. 12. Cobb, 1981, p. A5; Mosier and Lewis, 1986, No. 31, p. 95.

NAME: Sirr Creek Placer.

AREA OR BASIN NUMBER: C

LAT: 67°32' N. LONG: 151°37' W.

TNS: 31,32 N. RNG: 18,19 W.

COMPANY OR PLACER OPERATOR(S): Ben Sirr.

METALS: Au.

CONTAINED METAL: N/A.

GRADE(S): N/A.

SIZE: N/A.

PLACER TYPE(S): Unidentified, probably stream.

MINING METHOD(S): Unidentified.

PRODUCTION HISTORY: Likely small, as worked by one person.

BEDROCK SOURCE: Unidentified.

FINENESS: Unidentified.

OTHER GEOLOGY: Chipp (1972) reported that five stream-sediment or soil samples from active sediments at water's edge along Surr Creek were collected at intervals of 480 to 900 meters. One sample (no. 64) was collected in a tributary on the east side of the valley. Composition of samples varied from 50 to 70 percent schist, 15 to 40 percent phyllite, and 5 to 15 percent vein quartz. Two samples contained graywacke (a trace in sample no. 64 and 5 percent in sample no. 66). Limestone was reported in the three upstream samples (nos. 65-67) and varied from 5 to 10 percent. Chipp (1972) reported no gold was found in these samples (detection limit of 0.1 ppm). Analytical data for 29 other elements were made and can be found in Chipp (1972).

STREAM BASIN AREA: 28 km².

STREAM GRADIENT: Unidentified.

COMMENTS: Extensive prospecting.

REFERENCES: Reed, 1938, p. 122; Chipp, 1972, nos. 63-67; Cobb, 1976, p. 152.

NAME: Surprise Creek (Summit Creek) Placer. AREA OR BASIN NUMBER: D1

LAT: 67°31' N. LONG: 151°31' W.

TNS: 31 N. RNG: 18 W.

COMPANY OR PLACER OPERATOR(S): J. Lamont, J. Mathews, A. Duffy, R.H. Creecy.

METALS: Au.

CONTAINED METAL: N/A.

GRADE(S): Probably in the range of 4 to 12 g/m².

SIZE: N/A.

PLACER TYPE(S): Modern stream (?).

MINING METHOD(S): Booming, shovelling in.

PRODUCTION HISTORY: Discovered 1904, mining erratic, small scale from 1904 to 1937; yielded \$6 per day (J. Lamont); boulders likely inhibited mining.

BEDROCK SOURCE: Unidentified.

FINENESS: 920 (Au).

OTHER GEOLOGY: Coarse, angular gravels; gold both flour and coarse, usually on or adjacent to bedrock; boulders numerous. Chipp (1972) reported that seven stream-sediment or soil samples from active sediments at water's edge (nos. 5-8,11) or below water (nos. 9-10) were collected along Surprise Creek from its mouth on Wild Lake (no. 5) to near its source (no. 11) on the flank of Raven Mountain. Composition of clastics in samples varied between 10 to 100 percent schist (100 percent calc-schist near the stream source (no. 11)). Phyllite was between 15 and 80 percent; the three upstream samples were reported to contain no phyllite (nos. 9-11). Vein quartz was reported to be between 5 and 15 percent of the samples with only trace amounts found in the upstream sites (nos. 10-11). Chipp (1972) reported that no gold was found in any of these samples (detection limit 0.1 ppm). Analyses for 29 other elements was made and can be found in Chipp (1972).

STREAM BASIN AREA: 6.8 km².

STREAM GRADIENT: 13.3 percent.

COMMENTS: Numerous gold nuggets; Reed (1938) estimated flow at about 0.4 ft³/s (11 l/s).

REFERENCES: Reed, 1938, p. 116-119; Chipp, 1972, nos. 5-11; Cobb, 1976, p. 158.

NAME: Spring Creek Placer.

AREA OR BASIN NUMBER: D2

LAT: 67°31' N.

LONG: 151°30' W.

TNS: 31 N.

RNG: 18 W.

COMPANY OR OPERATOR(S): U.S. Assoc., Homebrew Assoc., F.J. Smith, S. Hope; S. McGuire (1980's).

METALS: Au, Ag.

CONTAINED METAL: 137,000 g Au.

GRADE(S): 5.73 g/m³ Au, 0.37 g/m³ Ag.

SIZE: 14,600 m³.

PLACER TYPE(S): Stream; buried, average depth to bedrock is 25 ft.

MINING METHOD(S): Sluice, drift.

PRODUCTION HISTORY: Discovered 1903, total reported production through about 1938 was \$59,500 Au (89,500 g); value of square foot of bedrock varied between \$.18 and \$.90 (\$1.90 and \$9.70 Au/m²); some production after World War II seems likely.

BEDROCK SOURCE: Unidentified.

FINENESS: 920, 949-951 (Au, 1927-35); Mosier and Lewis (1986) reported that two samples from Spring Creek have fineness were 927 and 941; the average fineness is 934.

OTHER GEOLOGY: Coarse, water-worn gravels; gold is very coarse, unweathered, found in lower 3 ft of gravels and upper 1 ft of bedrock. Chipp (1972) reported that four fine-grained samples were collected along Spring Creek. Three samples were collected from active sediments at water's edge (nos. 1-3); one sample was collected above high water level (no. 4). Samples were spaced between 380 and 610 m apart. Composition of material in samples was dominantly schist (90 percent in all samples). The balance was vein quartz except at the sample site at the lowest elevation (no. 4) were the balance was equal parts vein quartz and graywacke. Chipp (1972) reported that no gold was found in these samples (detection limit of 0.1 ppm Au). Analytical data for 29 other elements can be found in Chipp (1972). Mosier and Lewis (1986) analysed two gold samples and found an average of 6.4 percent Ag, 0.26 percent Cu, 9 ppm Pb, 0.011 percent Sb, and 0.37 percent Hg. Detectable levels of As, Bi, and Ni were found in one of the samples.

STREAM BASIN AREA: 5.8 km².

STREAM GRADIENT: 6 to 8 percent.

COMMENTS: None.

REFERENCES: Maddren, 1913, p. 110; Reed, 1938, p. 191-121; Cobb, 1976, p. 157; Cobb, 1981, p. A14; Chipp, 1972, nos. 1-3; Mosier and Lewis, 1986, no. 30, p. 94.

NAME: Lake Creek Placer.

AREA OR BASIN NUMBER: D3

LAT: 67°29' N.

LONG: 151°30' W.

TNS: 31 N.

RNG: 18 W.

COMPANY OR PLACER OPERATEOR(S): Unknown.

METALS: Au; minor Sb, Bi, Cu, W.

CONTAINED METAL: 39,000 g Au.

GRADE(S): 33 g/m³ Au.

SIZE: 1,200 m³.

PLACER TYPE(S): Stream.

MINING METHOD(S): Sluice (?), drift.

PRODUCTION HISTORY: \$2,000 Au was produced 1903-04; production to 1937 was valued at \$26,000; total recorded production was 39,000 g Au; drift mining in alluvial fan, in 1980-85.

BEDROCK SOURCE: Suspected to be gold from numerous quartz veins in greenstone schist within the basin.

OTHER GEOLOGY: Gravels contain stibnite, scheelite (rare), native copper, bismuth, hematite, pyrite, and magnetite; gravels are 3 ft deep in channel; gold is both coarse and fine; bedrock 60 to 95 ft deep at head of alluvial fan. Chipp (1972) reported that seven samples were collected along Lake Creek and two from a tributary joining from the southeast. The clasts were irregular and included one with silty (no. 104), sandy (nos. 98, 101, 106), and more commonly gravelly (nos. 100, 102-103, 105) sediments. All samples were taken from active sediments at water's edge and spaced between 300 and 610 m apart. Phyllite was the dominant composition of sediment clasts (nos. 99-100, 103-104, 105-106). Schist only exceeds phyllite at two lower basin sample sites (nos. 98, 101). Occurrence of greenschist was more likely at low elevation sites (nos. 98-101, 105) and consisted of between 5 and 10 percent of the clasts. Vein quartz content was largely unchanged from one site to the next-usually at 10 percent of the clasts. A trace of limestone was noted at one site (no. 103) and graywacke at another (no. 106). Chipp (1972) reported that no gold was found in these samples (detection limit of 0.1 ppm Au). Analyses for 29 other elements can be found in Chipp (1972).

STREAM BASIN AREA: 7.2 km².

STREAM GRADIENT: Reed (1938) estimated average of 11.3 percent.

COMMENTS: Nuggets 4.4 - 7.3 oz (140-230 g).

REFERENCES: Maddren, 1913, p. 109; Dillon, 1982, p. 12; Reed, 1938, p. 123-126; Chipp, 1972, nos. 98-106; Cobb, 1976, p. 126.

NAME: Agnes Creek Placer.

AREA OR BASIN NUMBER: E1

LAT: 67°29' N. LONG: 151°20' W.

TNS: 31 N. RNG: 17 W.

COMPANY OR PLACER OPERATOR(S): Unknown.

METALS: Au; minor Ag (?).

CONTAINED METAL: N/A.

GRADE(S): N/A.

SIZE: N/A.

PLACER TYPE(S): Unknown.

MINING METHOD(S): Unkown.

PRODUCTION HISTORY: Mining occurred during early days.

BEDROCK SOURCE: Unidentified.

FINENESS: Unknown.

OTHER GEOLOGY: None given.

STREAM BASIN AREA: 36 km².

STREAM GRADIENT: Unidentified.

COMMENTS: None.

REFERENCES: Reed, 1938, p. 130.

NAME: Birch Creek Placer.

AREA OR BASIN NUMBER: E2

LAT: 67°26'26" N. LONG: 151°07'50" W.

TNS: 30 N. RNG: 17 W.

COMPANY OR PLACER OPERATOR(S): Mick Manns (1980's).

METALS: Au, Ag.

CONTAINED METAL: 38,000 g Au reported; 1,700 g Ag.

GRADE(S): N/A.

SIZE: N/A.

PLACER TYPE(S): Stream, bench.

MINING METHOD(S): Older workings consist of drifts, depth to bedrock 0-20 ft along stream, also several shafts on alluvial fan to unknown depths; currently in operation (1986).

PRODUCTION HISTORY: Discovered 1904; production in 1905-06 gave \$10,000 in gold; total production estimated to be between \$20,000 and \$30,000; activity reported to 1933; production renewed, possibly in 1981, produces approximately 50 oz/year of coarse gold.

BEDROCK SOURCE: Suspected to be gold found in quartz (?) veins in Hunt Fork Shale.

FINENESS: Mosier and Lewis (1986) reported seven analyses of gold with fineness between 860 and 970; the median fineness was 954.

OTHER GEOLOGY: Coarse and waterworn gravels with boulders; Mosier and Lewis (1986) reported seven gold samples contained 3 to 13 percent Ag. The median Ag was 4.5 percent. The median values for several other

metals found in the raw gold are 0.046 percent Cu, 5 ppm Pb, and 0.91 percent Hg. Three of the seven samples contained detectable Sb.

STREAM BASIN SIZE: 10 km².

STREAM GRADIENT: Average is 6 percent.

COMMENTS: Reed (1938) estimated minimum discharge in dry season around 4 ft³/s (110 l/s); Ag production estimated using median Ag content of gold samples (Mosier and Lewis, 1986). Nuggets up to 5 oz.

REFERENCES: Maddren, 1913, p. 109; Reed, 1938, p. 131-132; Cobb, 1981, p. A3; Mosier and Lewis, 1986, no. 29, p. 93.

NAME: Kay Creek Placer.

AREA OR BASIN NUMBER: E3

LAT: 67°25' N. LONG: 151°05' W.

TNS: 30N. RNG: 16,17 W.

SECTION: primarily in 17,
18,(13).

COMPANY OR PLACER OPERATOR(S): Unknown.

METALS: Au.

CONTAINED METAL: N/A.

GRADE(S): N/A.

SIZE: N/A.

PLACER TYPE(S): Stream or bench (?).

MINING METHOD(S): Panning, sluicing, others (?).

PRODUCTION HISTORY: Some mining during early days.

BEDROCK SOURCE: Unidentified.

FINENESS: Unknwn.

OTHER GEOLOGY: None given.

STREAM BASIN AREA: 4.8 km².

STREAM GRADIENT: Not identified.

COMMENTS: None.

REFERENCES: Reed, 1938, p. 136-137.

NAME: Rye Creek - Jay Creek Placers. AREA OR BASIN NUMBER: E4

LAT: 67°24' N. LONG: 151°19' W.

TNS: 30 N. RNG: 17 W.

OWNER OR PLACER OPERATOR(S): Fred and Pat Hall (Jay Creek, 1980's).

METALS: Au, minor Ag.

CONTAINED METAL: 110,000 g Au.

GRADE(S): 2.1 g/m³ Au, 0.032 g/m³ Ag.

SIZE: 81,000 m³.

PLACER TYPE(S): Modern stream, bench.

MINING METHOD(S): Sluice, drift, booming.

PRODUCTION HISTORY: Placers were discovered on Jay Creek in 1904 and mining began in 1912; 1,000 oz Au were produced from Jay Creek by 1935; Rye Creek, discovered 1937, produced \$55,000 Au by 1937; total recorded production of 110,000 g Au.

BEDROCK SOURCE: Suspected to be gold associated with stibnite(?) and quartz veins within drainage basin.

FINENESS: 971, 974 (Au); 15 (Ag); Mosier and Lewis (1986) reported that seven gold samples from Jay Creek had fineness between 929 and 990; the median fineness was 977.

OTHER GEOLOGY: Au is coarse, unworn, and dark; concentrates contain ilmenite, andalusite, kyanite, pyrite, zircon, chalcopyrite, monazite, galena, sphalerite, and scheelite; gravels are very coarse and subangular with Au found throughout the gravels and in the top 1 ft of bedrock. Mosier and Lewis (1986) reported that gold grains from Jay Creek contained a median of 2.2 percent Ag, 0.62 percent Cu, 7 ppm Pb, 20 ppm Sb, and 0.70 percent Hg as determined from seven samples.

STREAM GRADIENT: Reed (1938) estimated gradient at Claim No. 4 on Jay Creek of 8.3 percent; for Rye Creek below Jay Creek of 3.5 percent.

COMMENTS: Rye Creek produced only below junction with Jay Creek; stream basin area is 8.45 km²; Reed (1938) estimated Rye Creek discharge of 2 ft³/s (57 l/s).

REFERENCES: Reed, 1938, p. 134-136; Cobb, 1976, p. 119; Dillon, 1982, p. 11; Mosier and Lewis, 1986, no. 28, p. 92.

NAME: Bourbon Creek Placer.

AREA OR BASIN NUMBER: F

LAT: 67°17' N. LONG: 151°10' W.

TNS: 28 N. RNG: 17W,18W.

COMPANY OR PLACER OPERATOR(S): Unknown.

METALS: Au; minor Ag (?).

CONTAINED METAL: N/A.

GRADE(S): N/A.

SIZE: N/A.

PLACER TYPE(S): Unknown.

MINING METHOD(S): Unknown.

PRODUCTION HISTORY: Reported to have been mined extensively in the early days (around 1900); mined out by 1937.

BEDROCK SOURCE: Not identified.

FINENESS: Unknown.

OTHER GEOLOGY: Unknown.

STREAM BASIN AREA: 10 km².

STREAM GRADIENT: Average 6.9 percent between 1,600 and 2,000 ft elevation.

COMMENTS: None.

REFERENCES: Reed, 1938, p. 141.

NAME: Conglomerate Creek Placers. AREA OR BASIN NUMBER: G1

LAT: 67°30' N. LONG: 150°40' W.

TNS: 30N, 31N, 32N. RNG: 14W, 15W.

COMPANY OR PLACER OPERATOR(S): T. Bryant (1980's).

METALS: Au; Ag.

CONTAINED METAL: N/A.

GRADE(S): N/A.

SIZE: N/A.

PLACER TYPE(S): stream (?).

MINING METHOD(S): N/A.

PRODUCTION HISTORY: N/A.

BEDROCK SOURCE: N/A.

FINENESS: Mosier and Lewis (1986) found that two samples of yellow gold gave fineness between 902 and 980; the median fineness was 932; a fineness of 940 found for one white gold analysis.

OTHER GEOLOGY: Mosier and Lewis (1986) reported that six samples of yellow gold samples contain several metals including medians of 6.7 percent Ag, 0.05 percent Cu, 34 ppm Pb, 1.2 percent Hg, and 21 ppm Ni. Also detected were Zr (3 samples), Sb (2 samples), and Co, Mo, and B (one sample each).

STREAM BASIN AREA: 17.3 km².

STREAM GRADIENT: Average 1.6 percent between 1,300 and 1,600 ft.

COMMENTS: None.

REFERENCES: Mosier and Lewis, 1986, no. 27, p. 90-91.

NAME: Mascot Creek Placer.

AREA OR BASIN NUMBER: G2

LAT: 67°30' N.

LONG: 150°30' W.

TNS: 31 N.

RNG: 13 W.

COMPANY OR PLACER OPERATOR(S): Tom Bryant (1980's).

METALS: Au, minor Ag.

CONTAINED METAL: 230,000 g Au recovered (substantial additional gold produced but unrecorded).

GRADE(S): 13 g/m³ Au, 0.73g/m³ Ag.

SIZE: 27,000 m³.

PLACER TYPE(S): Stream, bench.

MINING METHOD(S): "Shovelling"; heavy equipment present 1981-82.

PRODUCTION HISTORY: Ground values varied from \$1.25 Au/ft² (\$13.40 Au/m²) to \$6.94 Au/ft² (\$74.60 Au/m²) (1938); total recorded Au production through 1910 was worth \$150,200 (230,000 g); mining intermittent through 1950's.

BEDROCK SOURCE: Suspected to be from quartz stringers in the stream basin.

FINENESS: 965 (Au); Mosier and Lewis (1986) found that five gold nuggets coated with iron and manganese oxides had fineness between 942 and 945; the median fineness was 942. In the case of 17 samples of minus-35-mesh gold with some grains coated like the nuggets, the gold fineness was between 859 and 977; the median fineness was 977.

OTHER GEOLOGY: Some production from an old channel 30 ft (9.1 m) above the creek; stream gravels are thin (3 ft (0.9 m) or less); gravels are water worn with few boulders; Au is 10 percent fine; 90 percent coarse, concentrated on bedrock. Mosier and Lewis (1986) found that in 14 samples of nuggetty gold with coating as described previously also contained other metals at these median values: Ag=5.6 percent, Cu=0.08 percent, Pb=41 ppm, Sb=40 ppm, Hg=1.1 percent, Ni=25 ppm, Co=41 ppm, Ba=54 ppm. In the case of 17 gold samples of minus-35-mesh, with unidentified white coating, the median values were: Ag=7 percent, Cu=.050 percent, Pb=.020 percent, Bi=5 ppm, Hg=0.94 percent, Ni=20 ppm, Co=8 ppm, and Zr=55 ppm.

STREAM BASIN AREA: 18 km².

STREAM GRADIENT: Reed (1938) estimated gradient between 1.05 and 2.5 percent.

COMMENTS: Nuggets valued at as much as \$100 or 4.8 oz (150 g) recovered in 1938. Reed (1938) estimated average discharge to be 20 ft³/s (570 l/s).

REFERENCES: Maddren, 1913, p. 108-109; Reed, 1938, p. 82-87; Cobb, 1976, p. 133; Dillon, 1982, p. 12; Mosier and Lewis, 1986, no. 26, p. 86-89.

NAME: Washington Creek Placer.

AREA OR BASIN NUMBER: H1

LAT: 67°31' N. LONG: 150°16' W.

TNS: 12 W. RNG: 31 N.

COMPANY OR PLACER OPERATOR(S): Unknown.

METALS: Au.

CONTAINED METAL: At least 7,500 g Au.

GRADE(S): N/A.

SIZE: N/A.

PLACER TYPE(S): Modern stream, bench.

MINING METHOD(S): Small scale--probably panning, sluicing.

PRODUCTION HISTORY: Discovered in 1902, total value (1900-1909) was estimated at \$5,000; benches were prospected with unknown results; heavy equipment was reported being moved from Mascot Creek to here in either 1982 or 1983.

BEDROCK SOURCE: Unidentified.

FINENESS: Unknown.

OTHER GEOLOGY: Gold reported to be coarse and smooth.

STREAM BASIN AREA: 7.7 km².

STREAM GRADIENT: Average 3.4 percent from 1,500 to 2,000 ft (460 to 610 m) elevation.

COMMENTS: Reed (1938) estimated that average discharge is 10 ft³/s (285 l/s); additional production and (or) reserves suspected.

REFERENCES: Maddren, 1913, p. 108; Reed, 1938, p. 81-82.

NAME: Vermont Creek Placer. AREA OR BASIN NUMBER: H2

LAT: 67°30'51" N. LONG: 150°05'44" W.

TNS: 31 N. RNG: 12 W.

COMPANY OR PLACER OPERATOR(S): Unknown.

METALS: Au; minor Ag; Sb (?).

CONTAINED METAL: 12,700 g Au.

GRADE(S): 7.5 g/m³ Au, 0.49 g/m³ Ag.

SIZE: 980 m³.

PLACER TYPE(S): Modern stream; buried placer at stream mouth adjacent to the Hammond River, at a depth of 30 to 80 ft (9 to 24 m).

MINING METHOD(S): sluice, drift, open-pit.

PRODUCTION HISTORY: discovered August 25, 1901; total value 1900-09 production was \$172,000 Au; present channel runs \$0.13 Au/ft² (\$1.40 Au/m²) with deep channel as high as \$5 Au/ft² (\$54 Au/m²); total reported production is 8,300 g Au.

BEDROCK SOURCE: Unknown.

FINENESS: 935 (Au); Mosier and Lewis (1986) found in 15 samples of unsorted gold fineness between 892 to 952; median fineness was 928.

OTHER GEOLOGY: Au is fine, few nuggets; gravels are coarse, subangular, and poorly-sorted; pyrite is found in modern channel. Mosier and Lewis (1986) found a variety of other metals including 7 percent Ag, 0.021 percent Cu, 28 ppm Pb, 40 ppm As, and 2.8 percent Hg in unsorted gold samples.

COMMENTS: Denis Stacy and Pelham Jackson found a cobble of stibnite with quartz and 1 percent gold (Dillon, 1982, no. 25).

STREAM BASIN AREA: 2.8 km².

STREAM GRADIENT: Average 5 percent away from Hammond River.

REFERENCES: Maddren, 1913, p. 97; Reed, 1938, p. 55-56; Dillon, 1982, no. 25, p. 7; Mosier and Lewis, 1986, no. 17, p. 57-58.

NAME: Nolan Creek Placers.

AREA OR BASIN NUMBER: H3

LAT: 67°30' N.

LONG: 150°10' W.

TNS: 31 N.

RNG: 12 W.

COMPANY OR PLACER OPERATOR(S): D. Solecki, A. Cook, P. Pasqual, H. Leonard, R. Burggraff, R. Swoboda (1980's).

METALS: Au; minor Ag, Sb.

CONTAINED METAL: 2,000,000 g Au.

GRADE(S): 12 g/m³ Au, 1.1 g/m³ Ag.

PLACER TYPE(S): Stream, bench (50 to 200 ft (15 to 61 m) above valley on Nolan Creek), buried.

MINING METHOD(S): Drift, Nolan Creek shaft depth between 20 and 190 ft. (6 and 58 m); Smith Creek bedrock between 6 and 135 ft (2 and 41 m) below surface; hydraulicking (benches) on Smith Creek.

PRODUCTION HISTORY: Discovered 1901; most production from buried placers; Reed (1938) reported \$1.15-\$15 Au/ft² (\$12.40-\$160 Au/m²) from gravel on bedrock in Nolan Creek, bench gravels reported to be \$4.20 (\$20 gold); bench gravels on Smith Creek run at \$1.81 Au/ft² (\$19.50 Au/m²); total reported production of 2 tonnes Au.

BEDROCK SOURCE: Suspected to be gold associated with stibnite veins.

FINENESS: 850 (Au, deep channel); 950 and 953-962 (Au, bench) on Nolan Creek; 950 (Au) in stream and at least one bench on Smith Creek; Mosier and Lewis (1986) made over 120 analyses of gold from seven localities summarized by their location numbers (No.) as follows:

No.	Location	Gold Status	No. of samples	Gold fineness		
				Median	Lowest	Highest
18	Webster Gulch	Unsorted	5	880	883	878
19	Thompson Pup	Unknown	1	844	-	-
20	Thompson	Plus 35-mesh	7	896	777	926
20	do	Minus 35-mesh	7	838	782	921
21	Faye Creek	Unknown	1	842	-	-
22	Archibald	Plus 20-mesh	10	938	846	973
22	do	Minus 20-mesh & Plus 35-mesh	10	920	838	971
22	do	Minus 35-mesh & Plus 60-mesh	10	903	793	949

22	Archibald	Minus 60-mesh & Plus 100-mesh	10	898	866	929
22	do	Minus 100-mesh	1	902	-	-
22	do	Round, well-worn gold grains	5	910	846	953
22	do	Angular gold	7	897	947	913
22	do	Gold with visible mineral contaminants	10	916	898	929
23	Smith Creek	Unknown	12	932	927	985
24	do	1982 sampling	20	941	888	990
		1983 sampling	2	979	973	985
24	do	White gold	5	980	917	981

OTHER GEOLOGY: Best ore was in buried placers in V-shaped gulch; Au in deep channel was coarse and rounded, nuggets were rare. Clasts in buried gravels are water worn and fairly fine with scattered large boulders; most gold directly on bedrock; debris deposited over gravels thought to occur when glacier dammed Middle Fork of the Koyukuk River. Mosier and Lewis (1986) found other metals in the raw gold samples which are summarized as follows:

Mosier and Lewis No.	Location	Gold Status	No. of Samples	Median					
				-(%) Ag	-(ppm) Cu	-(ppm) Pb	-(%) Sb	-(%) Hg	-(ppm) Others
18	Webster Gulch	Unsorted	5	12	150	5	25	.61	-
19	Thompson Pup	Unknown	1	15	290	51	590	2.9	Zn=5900
20	Thompson	Plus 35-mesh	7	10	180	2	-	2.0	-
20	do	Minus 35-mesh	7	16	200	15	31	1.0	Bi=7
21	Faye Creek	Unknown	1	16	94	16	-	.625	-
22	Archibald	Plus 20-mesh	10	6.0	210	320	40	1.9	Ni=12
22	do	Minus 20-mesh & Plus 35-mesh	10	7.8	330	64	19	1.0	As=38 Ni=12 Co=8
22	do	Minus 35-mesh & Plus 60-mesh	10	10	48	350	28	2.0	Ni=15
22	do	Minus 60-mesh & Plus 100-mesh	10	10	500	100	20	1.2	As=80 Ni=12
22	do	Minus 100-mesh	1	9.6	190	67	48	1.44	As=.67

22	do	Rounded, well-worn gold grains	5	8.9	200	80	-	.70	-
22	do	Angular gold	7	8.5	280	70	28	1.9	Zr=4
22	do	"White gold"	1	12	80	17	-	8.3	Bi=8
22	do	Gold with variable contaminants	10	8.2	480	200	30	2.0	As=40 Ni=20
23	Smith Creek	Unknown	12	6.7	600	240	50	0.82	Bi=12 La=20
24	Smith Creek	do	20	5.8	480	56	19	0.81	-
24	Smith Creek	Collected '83	2	2.0	700	32	-	1.0	-
24	Smith Creek	White Gold	5	1.1	2,200	240,000	-	.098	Bi=440 Sn=24 %

Among the seven samples of plus-35-mesh gold from Thompson Pup (Mosier and Lewis (1986) locality no. 20), two contained detectable As or Ni, and one each contained detectable Ba or Sb. Among the seven samples of minus-35-mesh gold from Thompson Pup (locality no. 20), two contained detectable As or Ni, and one each contained Zn or Co. For Archibald Creek (locality no. 22), nine different types of gold were analyzed. In addition to the elements given above, a variety of other elements were found in these samples and listed on the following table by gold type. Followed gold type is a list of elements detected and the number of times this was the case.

Archibald Creek (locality no. 22)

<u>Gold Type</u>	<u>Total No. of Analyses</u>	<u>Element(s) (numbers of times above detection limit if not once.)</u>
Plus 20-mesh	10	Bi(5); As(3); Co(2); Zn, Sn, Sr, Zr, V, Y, B(1).
Minus 20-mesh Plus 35-mesh	10	Cr, B(2); Zn, Cd, Bi, Sn, Ba, B(1).
Minus 35-mesh Plus 60-mesh	10	As(5); Bi(3); Zn, Co, Sn, Zr, B(2); Y (1).
Minus 60-mesh Plus 100-mesh	10	Co(3); Zn, Bi(2); Sn, Y, La (1).
Rounded, well-worn gold grains	5	As, Sb, Bi, Ni, Co, Ba, Zr, Y, B(1).
Angular gold	7	Bi(3); As, Ni, Ba (Z); Te, Mo, Cr, Y, B (1).
Gold with visible mineral contaminants	10	Co(4); Bi(3); Zn(1)

Among the 12 samples from Smith Creek (locality no. 23), five contained detectable Ni, three contained detectable As or Bi, two contained detectable Zn, Cd, Co, or Cr, and one each contained Sr, Zr, or V. Among the 20 samples collected in 1982 from Smith Creek (locality no. 24), nine contained detectable levels of Bi, seven contained detectable Ni, six contained Bi or As, five contained Co, four contained Zr, three contained Cr or B, two contained Zn, Te, Sn, or V. For the two samples collected on Smith Creek in 1983, one each contained detectable levels of Sb or Ni. Among the five analyses of samples identified as white gold (locality no. 24), two contained detectable levels of Ni and one contained a detectable level of Sb.

STREAM BASIN AREA: 6.2 km² (includes Acme Creek basin which yielded only a small quantity of gold).

STREAM GRADIENT: Nolan Creek (at surface) 2.5 percent, buried channel on bedrock 4.5 percent; Workman channel, a bench along Nolan Creek, 5 percent; Smith Creek (lower 0.75 mi (1.2 km)) 4.5 percent; buried channel on bedrock 8 percent.

COMMENTS: Includes placers on Smith Creek, Archibald Creek, Fay Creek, Thompson Pup, and Acme Creek; average discharge of Nolan Creek is 4 ft³/s (110 l/s); stibnite found in concentrates for Smith Creek.

REFERENCES: Maddren, 1913, p. 92-94; Reed, 1938, p. 62-79; Cobb, 1976, p. 141-142; Mosier and Lewis, 1986, nos. 18-24, p. 59-84.

NAME: Hammond River Placers.

AREA OR BASIN NUMBER: H4

LAT: 67°30' N.

LONG: 150°03' W.

TNS: 31 N.

RNG: 11 W.

COMPANY OR PLACER OPERATOR(S): Detroit Mining Co.; Anglick, Brady, Collins, and others (1910-1930's); S. Munjar, S. Cook, H. Leonard, J. Giles (1980s).

METALS: Au; Ag, Sb (?).

CONTAINED METAL: 1,800,000 g Au, 110,000 g Ag.

GRADE(S): 5.1 g/m³ Au, 0.32 g/m³ Ag.

SIZE: 210,000 m³.

PLACER TYPE(S): Buried, modern stream, bench (40-50 ft (12-15 m)) above present stream).

MINING METHOD(S): Drift, sluice (?).

PRODUCTION HISTORY: Discovered 1900; Buckeye Gulch produced \$6-\$10 per day per man (daily wage scale of the district); Marshall suggested that the Hammond River valley produced \$1 million (1.18 tonnes) Au; Goldbottom Gulch produced between \$5,000-\$6,000 Au; gold from river is coarse; Reed (1938) reported average ground assay of \$0.12-\$0.70 Au/ft² (\$1.29-\$7.50

Au/m²) to \$1.46 Au/bedrock ft (\$4.79 Au/bedrock m); most gold recovered from buried channel; 1.2 tonnes total Au production reported, but total production may have been as large as 1.8 tonnes Au.

BEDROCK SOURCE: Unknown.

FINENESS: 890, 961, and 936 (Au); Mosier and Lewis (1986) made numerous determinations on gold from this area; their results are summarized below:

Mosier and Lewis No.	Location	No. of Analysis	Status of Au	Au Fineness		
				Median	Lowest	Highest
13	Hammond River	14	Unsorted	900	845	929
14	Gold Bottom Gulch	1	Unknown	912	---	---
15	Swift Ck (bench)	3	Unknown	880	877	898
16	Swift Ck (modern)	8	Plus 35-mesh	924	919	941
16	Do	8	Minus 35-mesh	918	892	969
16	Do	4	Au with visible contaminants	928	926	931

OTHER GEOLOGY: Au in Swift Gulch was white coated; in Hammond River gold was coarse and waterworn, locally associated with galena and pyrite; gravels average 9 ft (2.7 m) thick; Au found directly on bedrock; buried channel can be as deep as 115 ft (35 m) with pay gravels 3 to 10 ft (0.9 to 3 m) wide containing small boulders and large cobbles with minor sand and clay as matrix. Mosier and Lewis (1986) made numerous determinations on other metals in gold samples from this area and the median contents are summarized as follows:

Mosier and Lewis No.	Location	No. of Analysis	Status of Au	Median					
				Ag	Cu	Pb	Sb	Hg	Other
				-(%)	-(ppm)	-(ppm)	-(%)	-(ppm)	-(ppm)
13	Hammond River	14	unsorted	9.7	300.	160.	21.	1.0	Ni=20. As=50. Bi=75.
14	Gold Bottom Gulch	1	Unknown	8.7	600.	260.	---	0.43	Ni=17.
15	Swift Ck (bench)	3	do	12.	220.	400.	330.	1.0	Ni=20. Bi=56.
16	Swift Ck (modern)	8	Plus 35-mesh	7.5	300.	10.	---	.86	As=55.
16	Do	8	Minus 35-mesh	8.0	200.	30.	---	1.2	Bi=33.
16	Do	4	Au with visible contaminants	7.0	300.	570.	50.	2.4	Sn=17. Bi=23.

Among the 14 samples from the Hammond River (Mosier and Lewis (1986) locality no. 13), six contained detectable Co, four contained detectable Sn, and one each contained Pt, Ba, Cr, Y, La, or W. Among the eight samples of plus-35-mesh gold from Swift Creek (locality no. 16), three detectable Sb, three contained detectable B, one contained detectable Co. Among the eight samples of minus-35-mesh gold from Swift Creek (locality no. 16), four contained detectable Sb, three contained detectable As, two contained detectable Zr or B, and one contained detectable Co. Among the three samples of Au with visible mineral contaminants (Locality no. 16), two contained detectable Ni or Co and one contained detectable Zr.

COMMENTS: Placer area includes Goldbottom (or Gold Bottom), Swift and Steep Creeks and Buckeye Gulch; a 19 oz (590 g) nugget was found in Goldbottom Creek; Reed (1938) estimated average discharge of 60 ft³/s (1,700 l/s).

STREAM GRADIENT: Modern stream 0.5 percent; deep channel 1.3 percent.

REFERENCES: Maddren, 1913, p. 95-97; Marshall, 1933, p. 42; Reed, 1938, p. 49-55; Mosier and Lewis, 1986, no. 13-16, p. 50-56.

NAME: Union Gulch Placer.

AREA OR BASIN NUMBER: H5

LAT: 67°25' N. LONG: 150°10' W.

TNS: 31 N. RNG: 11 E.

COMPANY OR PLACER OPERATOR(S): Vern Watts (1910-1940 (?)); Harry Leonard (1980s).

METALS: Au, Ag.

CONTAINED METAL: 1,750 g Au, 160 g Ag.

GRADE(S): N/A.

SIZE: N/A.

PLACER TYPE(S): Stream.

MINING METHOD(S): Booming, shovelling.

PRODUCTION HISTORY: Total value of gold produced between 1900-1909 estimated to be \$35,000; mining also in 1934, 1937, 1980-1982.

BEDROCK SOURCE: Unknown.

FINENESS: Mosier and Lewis' (1986) analyses of gold sample gave a fineness of 907.

OTHER GEOLOGY: Gold reported to be coarse; Mosier and Lewis' (1986) analyses of other metals in gold samples found the following values: 9.2 percent Ag, 9.3 ppm Cu, 9 ppm Pb, and 0.56 percent Hg.

STREAM BASIN AREA: .88 km².

STREAM GRADIENT: Average 10 percent from 1,800 to 2,500 ft (550 to 760 m) elevation.

COMMENTS: None.

REFERENCES: Maddren, 1913, p. 95; Reed, 1938, p. 59; Cobb, 1981, p. A14; Mosier and Lewis, 1986, no. 25, p. 85.

NAME: Minnie Creek Placer. AREA OR BASIN NUMBER: I

LAT: 67°25' N. LONG: 150°00' W.

TNS: 30 N. RNG: 11 W.

COMPANY OR PLACER OPERATOR(S): Unknown.

METALS: Au.

CONTAINED METAL: 2,300 g Au.

GRADE(S): 5.5 g/m³ Au.

SIZE: 420 m³.

PLACER TYPE(S): Stream.

MINING METHOD(S): Drift, sluice (?).

PRODUCTION HISTORY: \$500 Au was produced from drift mining; \$400 Au was produced in 1906; out of a total of \$1,000 Au produced by two men, total recorded production of 1,500 oz Au; active at least in 1912, 1916, 1930.

BEDROCK SOURCE: Unknown.

STREAM BASIN AREA: 130 km².

STREAM GRADIENT: Average 2.3 percent between 1,200 and 1,400 ft (360 and 430 m) elevation.

COMMENT: Water on bedrock made mining/prospecting difficult; gold reported to be coarse.

REFERENCES: Maddren, 1913, p. 94-95; Cobb, 1976, p. 138; Cobb, 1981, p. A11.

NAME: Sawyer Creek Placer. AREA OR BASIN NUMBER: J1

LAT: 67°21' N. LONG: 150°09' W.

TNS: 30 N. RNG: 12,13 W.

COMPANY OR PLACER OPERATOR(S): N/A.

METALS: Au; Ag.

CONTAINED METAL: N/A.

GRADE(S): N/A.

SIZE: N/A.

PLACER TYPE(S): Stream (?).

MINING METHOD(S): N/A.

PRODUCTION HISTORY: N/A.

BEDROCK SOURCE: N/A.

FINENESS: Mosier and Lewis (1986) found fineness between 830 and 961 in five gold samples; the median fineness was 897.

OTHER GEOLOGY: Mosier and Lewis (1986) reported medians of 10 percent Ag, 0.019 percent Cu, 5 ppm Pb, and 0.51 percent Hg in five raw gold samples. Two samples contained detectable Ni and Sb and one detectable Bi.

STREAM BASIN AREA: 1 km².

STREAM GRADIENT: Average 15 percent between elevations 1,500 and 2,500 ft (460 and 760 m).

COMMENTS: None.

REFERENCES: Mosier and Lewis, 1986, no. 32, p 96.

NAME: Emma Creek Placer.

AREA OR BASIN NUMBER: J2

LAT: 67°19'34" N. LONG: 150°15'44" W.

TNS: 29 N. RNG: 12 W.

COMPANY OR PLACER OPERATOR(S): J.R. Loane, J.L. Wilson (1920-1930's); W. Nordeen (1980's).

METALS: Au, Ag.

CONTAINED METAL: 240,000 g Au; 23,000 g Ag.

GRADE(S): N/A.

SIZE: N/A.

PLACER TYPE(S): stream.

MINING METHOD(S): Sluice, bench, drifting on bench, open cut; placer workings extend 2.75 mi (4.4 km) along modern stream.

PRODUCTION HISTORY: Total reported production (1900-1909) estimated to be \$160,000; bench production up to 1928 yielded \$12,000; two operators using suction dredge in 1982.

BEDROCK SOURCE: Suspected to be gold from numerous quartz veins found in the stream basin.

FINENESS: For three gold samples, Mosier and Lewis (1986) found fineness was between 985 and 942; the median fineness was 905.

OTHER GEOLOGY: Bedrock is marble, including thermally altered marble, and schist; bench gravels contain granite, marble boulders, are 5 to 91 ft (1.5 to 28 m) deep and about 30 ft (9 m) above modern stream channel. Mosier and Lewis (1986) reported that three gold samples contained medians of 0.047 percent Cu, 50 ppm Pb, 80 ppm Sb, and 0.31 percent Hg.

STREAM BASIN AREA: 17 km².

STREAM GRADIENT: Average 5.6 percent on main stream between 1,200 and 2,000 ft (360 and 610 m) elevation.

COMMENTS: Gold reported to be coarse and angular with quartz commonly attached; nuggets varied from .012 oz (.37 g) to .048 oz (1.5 g) in bench; most production before 1930; some mining also in 1974.

REFERENCES: Maddren, 1913, p. 90; Reed, 1938, p. 88-90; Cobb, 1976, p. 103; Cobb, 1981a, p. A5-A6; Mosier and Lewis, 1986, no. 33, p. 97.

NAME: Kelly Gulch Placer.

AREA OR BASIN NUMBER: J3

LAT: 67°20' N. LONG: 150°15' W.

TNS: 29 N. RNG: 12 W.

COMPANY OR PLACER OPERATOR(S): Unknown.

METALS: Au.

CONTAINED METAL: 750 g Au.

GRADE(S): N/A.

SIZE: N/A.

PLACER TYPE(S): Stream or bench (?).

MINING METHOD(S): Sluice and drift.

PRODUCTION HISTORY: About \$1,500 produced in 1901; cut made in 1937 but abandoned shortly thereafter.

BEDROCK SOURCE: Unidentified.

FINENESS: Unknown.

OTHER GEOLOGY: None.

STREAM BASIN AREA: 5.1 km².

STREAM GRADIENT: Average 13 percent between 1,200 ft and 2,000 ft (360 and 610 m) elevation.

COMMENTS: None.

REFERENCES: Maddren, 1913, p. 89; Cobb, 1976, p. 124.

NAME: Porcupine Creek - Quartz Creek Placers AREA OR BASIN NUMBER: J4

LAT: 67°30' N. LONG: 150°10' W

TNS: 28 N. RNG: 12 W.

COMPANY OR PLACER OPERATOR(S): N. Pendleton, D. O'Keefe, Stannich Brothers, others; A. Miscovitch (1980's).

METALS: Au.

CONTAINED METAL: 11,000 g Au.

GRADE(S): 17 g/m³ Au, 1.2 g/m³ Ag.

SIZE: 660 m³.

PLACER TYPE(S): Modern stream, buried.

MINING METHOD(S): Drift, ground sluicing, shovelling, caterpillar tractor.

PRODUCTION HISTORY: In 1901, four men produced \$8 Au per man per day on Porcupine Creek; total reported production of 7,500 g Au; Quartz Creek production reported to be \$2,500 (120 oz, 3,800 g); intermittant activity 1900-1974.

BEDROCK SOURCE: Unknown.

FINENESS: 910 - 931 (Au, average = 927, 1933-34), 40 - 79 (Ag, average = 63, 1933-34); Mosier and Lewis (1986) found gold in six samples from Porcupine Creek with fineness between 859 and 905; median fineness was 894.

OTHER GEOLOGY: Gravels as much as 130 ft deep contain many boulders; Mosier and Lewis (1986) found gold in six samples with medians of 10.5 percent Ag, 0.036 percent Cu, 6 ppm Pb, 41 ppm Sb, and 0.33 percent Hg. One sample each contained detectable Ni or B.

STREAM BASIN AREA: 7.4 km².

STREAM GRADIENT: Reed (1938) estimated gradient of 2 percent for Porcupine Creek between junction with Quartz Creek and mouth.

COMMENTS: Few nuggets in gravel at bedrock (Porcupine Creek); Reed (1938) estimated discharge of 20 ft³/s (570 l/s) during driest season; bedrock about 3 ft (0.9 m) deep (Quartz Creek).

REFERENCES: Maddren, 1913, p. 86, Reed, 1938, p. 101-104; Cobb, 1976, p. 146-147; Cobb, 1981, p. A12. Mosier and Lewis, 1986, no. 38, p. 107.

NAME: Twelve Mile Creek Placer.

AREA OR BASIN AREA: J5

LAT: 67°11' N. LONG: 150°27' W.

TNS: 27,28 N. RNG: 13 W.

COMPANY OR OPERATOR(S): C. Irish, T. Kovich, I. Spinks, M. Angelich, others (1910-1930's); L. Brown (1980's).

METALS: Au; minor Ag.

CONTAINED METAL: 11.5 kg Au.

GRADE(S): 1.2 g/m³ Au.

SIZE: 9,600 m³.

PLACER TYPE(S): Modern stream, bench, buried.

MINING METHOD(S): Drift, sluice, hydraulic.

PRODUCTION HISTORY: Production from high bench was valued at \$0.75 Au/yd³ (\$0.98 Au/m³); a grade of \$.35 Au/ft² (\$3.80 Au/m³) for gravels 2.5 ft (0.76 m) thick was also reported; total reported Au production was 7,500 oz (230,000 g). Recent production not included.

BEDROCK SOURCE: Unidentified.

FINENESS: 914 (Au); Mosier and Lewis (1986) analyses of gold from three location are summarized as follows:

<u>Mosier and Lewis No.</u>	<u>Number of Analysis</u>	<u>Status of Gold</u>	<u>Au fineness</u>		
			<u>Median</u>	<u>Lowest</u>	<u>Highest</u>
39	4	Plus 20-mesh	923	907	969
39	4	Minus 20-mesh	867	837	926
39	1	Minus 20-mesh, Gold spheres	861	-	-
39	2	Delicate, little- worn grains	867	836	898

39	4	Plus 20-mesh	862	814	910
39	4	Minus 20-mesh & Plus 60-mesh	902	886	922
39	2	Blocks (nearly cubic)	864	856	873
39	4	Delicate, arborescent little-worn grains	878	837	910
40	2	Unknown	894	893	894
41	14	do	902	817	981

OTHER GEOLOGY: Mosier and Lewis (1986) analyzes for other metals are summarized as follows:

Mosier and Lewis No.	Number of Analyses	Status of gold	-----Median-----					
			-(%) - Ag	-(ppm) - Cu	-(ppm) - Pb	-(%) - Sb	-(%) - Hg	-(ppm) - Others
39	4	Plus 20-mesh	7.2	200	2	-	5.0	-
39	4	Minus 20-mesh	12	300	2	-	5.0	Ba=4
39	1	Minus 20-mesh with spheres	13	190	19	-	7.6	-
39	2	Delicate, little-worn grains	12	170	28	-	5.4	Ba=4
39	4	Minus 20-mesh & Plus 60-mesh	9.6	210	4	-	3.6	Ba=5
39	2	Blocks(nearly cubes)	12	150	-	44	8.8	-
40	2	Unknown	10	260	28	26	0.65	-
41	14	do	9.7	270	7	30	.52	-

STREAM BASIN AREA: 57 km².

STREAM GRADIENT: Average 1 percent on main stream from mouth to junction with Middle Fork; average 2 percent on the Middle Fork.

COMMENTS: Reed, 1938, estimated discharge at mouth on Middle Fork of the Koyukuk River to be greater than 200 ft³/s (5,700 l/s); flooding presented problems for drift mining.

REFERENCES: Maddren, 1913, p. 85; Reed, 1938, p. 105-110; Mosier and Lewis, 1986, nos. 39-41, p. 115-118.

NAME: Hamil Bar Placer. AREA OR BASIN NUMBER: K

LAT: 67°05' N. LONG: 150°35' W.

TNS: 26 N. RNG: 14 W.

COMPANY OR PLACER OPERATOR(S): Unidentified.

METALS: Au.

CONTAINED METAL: N/A.

GRADE(S): N/A.

SIZE: N/A.

PLACER TYPE(S): Modern stream.

MINING METHOD(S): Hand mined.

PRODUCTION HISTORY: Worked in early days (around 1900), no production data.

BEDROCK SOURCE: Bench gravels, Cretaceous conglomerates.

FINENESS: Unknown.

OTHER GEOLOGY: Small alluvial fan made up of reworked material adjacent to the Koyukuk River.

STREAM BASIN AREA: 3.2 km².

STREAM GRADIENT: Unidentified.

COMMENTS: None.

REFERENCES: Reed, 1938, p. 148; Cobb, 1976, p. 113.

NAME: Mailbox Creek Placer. AREA OR BASIN NUMBER: L1

LAT: 67°06' N. LONG: 150°29' W.

TNS: 27,28 N. RNG: 13,14 W

COMPANY OR PLACER OPERATOR(S): Unknown.

METALS: Au.

CONTAINED METAL: N/A.

GRADE(S): N/A.

SIZE: N/A.

PLACER TYPE(S): Stream or bench (?).

MINING METHOD(S): Ground sluicing and shovelling in.

PRODUCTION HISTORY: Active at least in 1934; two operators around 1938; gravels ran \$.75 Au/ft² (\$6.10 Au/m²) (1937).

BEDROCK SOURCE: Suspected to be Cretaceous conglomerates and Quaternary gravels.

FINENESS: 898 (Au).

OTHER GEOLOGY: Gold fine, flaky in upper (?) stream gravels, coarse near bedrock which is false, consisting of clay; conglomerate with coal.

STREAM BASIN AREA: Basin boundaries are poorly defined.

STREAM GRADIENT: Average 2.4 percent between elevation 900 ft and 1,500 ft (270 and 460 m).

COMMENTS: Reed (1938) estimated flow to be 1.6 ft³/s (46 l/s).

REFERENCES: Reed, 1938, p. 148-149; Cobb, 1976, p. 131.

NAME: Tramway Bar - Chapman Creek Placers. AREA OR BASIN NUMBER: L2

LAT: 67°06' N. LONG: 150°30' W.

TNS: 26 N. RNG: 12 W, 13 W.

COMPANY OR OPERATOR(S): G. Bouton (1980's).

METALS: Au.

CONTAINED METAL: 72,000 g Au.

GRADE(S): 24 g/m³ Au, 2.4 g/m³ Ag.

SIZE: 46,000 m³.

PLACER TYPE(S): Bench.

MINING METHOD(S): Sluice, panning (?), ground sluicing.

PRODUCTION HISTORY: \$5,000 Au was produced in 1900; total production to 1909 was estimated at \$8,000; values of \$0.02-\$0.03/pan reported; 72,000 g total Au production reported; Chapman Creek examined 0.25 to 1 mi (0.4 to 1.6 km) above mouth, with 9-14 ft (2.7-4.3 m) shafts.

BEDROCK SOURCE: Probably from Cretaceous conglomerates.

FINENESS: 940 (Au); Mosier and Lewis (1986) found gold fineness between 858 and 903 for five samples; the median fineness was 893.

OTHER GEOLOGY: Tramway Bar placers are on a bench cut into conglomerates and sandstones 80-100 ft (24-30 m) above the creek; Au both coarse and fine; Chapman Creek shafts contain gold in gravel of schistose material on clay; bench 2 mi (3.2 km) above mouth ran \$0.25 to \$0.10 per pan in blueschist gravels 1 to 3 ft (0.3 to 0.9 m) thick; Mosier and Lewis (1986) found the following median values for other metals in five raw gold samples: 10 percent Ag, 0.029 percent Cu, 17 ppm Pb, 48 ppm Sb, and 1 percent Hg. Detectable levels of As, Ni, Zr, and Y were found in one sample; Cd in another.

COMMENTS: Placer area includes the Hughes and Florence bars; nuggets uncommon, largest was 20 g; Chapman Creek usually contains insufficient water for sluicing.

REFERENCES: Maddren, 1913, p. 84-85; Reed, 1938, p. 149-151; Mosier and Lewis, 1986, no. 42, p. 119.

NAME: Smally Creek Placer.

AREA OR BASIN NUMBER: M

LAT: 67°01' N. LONG: 150°33' W.

TNS: 25,(26) N. RNG: 13,(14) W.

SECTION: 6,7,(1,2,11,12).

COMPANY OR PLACER OPERATOR(S): C. Dunlap (1980's).

METALS: Au.

CONTAINED METAL: N/A.

GRADE(S): N/A.

SIZE: N/A.

PLACER TYPE(S): Stream.

MINING METHOD(S): Probably sluice.

PRODUCTION HISTORY: Worked in early days (around 1900); 1937 most recent (?).

BEDROCK SOURCE: Suspected to be gold from Cretaceous conglomerates.

FINENESS: Mosier and Lewis (1986) found gold fineness between 853 and 933 in five samples; median fineness was 895.

OTHER GEOLOGY: Gold fine and flat; Mosier and Lewis (1986) found other metals in five raw gold samples. They contained medians of 10 percent Ag, .031 percent Cu, 8 ppm Pb, 20 ppm Sb, and 0.16 percent Hg.

STREAM BASIN AREA: 3.2 km².

STREAM GRADIENT: Estimated to be around 4 percent.

COMMENTS: None.

REFERENCES: Reed, 1938, p. 158-160; Cobb, 1976, p. 154; Mosier and Lewis, 1986, no. 43, p. 120.

NAME: Grubstake Bar - Hanshaw Bar Placers. AREA OR BASIN NUMBER: N

LAT: 67°00' N. LONG: 150°26' W.

TNS: 25 N. RNG: 13 W.

COMPANY OR PLACER OPERATOR(S): Unidentified.

METALS: Au.

CONTAINED METAL: 6,000 g Au.

GRADE(S): 4.9 g/m³ Au.

SIZE: 1,200 m³.

PLACER TYPE(S): Modern stream, low benches.

MINING METHOD(S): Sluices.

PRODUCTION HISTORY: Grubstake Bar in 1900-1901 produced \$2,000; in 1900-1909 produced \$4,000; grade at Hanshaw Bar averaged \$2.50 Au/yd³ (\$3.30 Au/yd³) (.12 oz/yd³ or 4.9 g/m³); active in the 1970's and 1980's.

BEDROCK SOURCE: Not identified.

FINENESS: Unknown.

OTHER GEOLOGY: Bars in modern river; gravels at Hanshaw Bar on false bedrock of clayey sand; gold fine, flaky.

STREAM BASIN AREA: Not appropriate.

STREAM GRADIENT: Not appropriate.

COMMENTS: Grubstake and Hanshaw Bars are reported to be similar.

REFERENCES: Maddren, 1913, p. 70, 107; Reed, 1938, p. 155; Cobb, 1976, p. 112, 116.

NAME: Eagle Cliff Placer. AREA OR BASIN NUMBER: O

LAT: 67°03' N. LONG: 150°01' W.

TNS: 26 N. RNG: 12 W.

COMPANY OR PLACER OPERATOR(S): Unknown.

METALS: Au.

CONTAINED METAL: 120 g Au.

GRADE(S): N/A.

SIZE: N/A.

PLACER TYPE(S): Bench.

MINING METHOD(S): Unknown, probably sluicing.

PRODUCTION HISTORY: Active through 1910, \$2,500 produced.

BEDROCK SOURCE: Possibly Cretaceous conglomerates.

FINENESS: Not identified.

OTHER GEOLOGY: Gravels well washed; gold wheat-grain size, rounded.

STREAM BASIN AREA: Not appropriate.

STREAM GRADIENT: Not appropriate.

COMMENTS: 10-12 ft (3-3.7 m) above South Fork of the Koyukuk River.

REFERENCES: Maddren, 1913, p. 70, 107; Reed, 1938, p. 156; Cobb, 1976, p. 100.

NAME: Myrtle Creek and Slate Creek Placers. AREA OR BASIN NUMBER: P1

LAT: 67°15' N. LONG: 150°00' W.

TNS: 28 N. RNG: 11,12 E.

COMPANY OF PLACER OPERATOR(S): M. Fleming, R. Bralle, R. Beck (1980's); Fairbanks Earthmovers.

METALS: Au, Ag.

CONTAINED METAL: 270,000 g Au.

GRADE(S): 20 g/m³ Au, 1.2 g/m³ Ag.

SIZE: 21,000 m³.

PLACER TYPE(S): Stream, bench.

MINING METHOD(S): Early drift mining, sluice, hydraulic, dragline (both Myrtle and Slate Creeks).

PRODUCTION HISTORY: Discovered 1899; \$182,000 Au was produced 1900-1909; an average of \$5-\$15 per day per man was recovered; placers on Slate Creek produced \$3,000 Au; Slate Creek (1938) yielded \$3-\$4 per day per man using a rocker; total reported production of 270,000 g Au; intermittently active up as recently as 1985; current activity not known.

BEDROCK SOURCE: Suspected to be gold associated with numerous quartz veins and altered dikes in bedrocks of the basin.

FINENESS: 870-953 (Au, average = 935, 1933-35), 40-76 (Ag, average = 55, 1933-35); Mosier and Lewis (1986) analyses of raw gold from three locations are summarized as follows:

No.	Location	Gold Status	No. of samples	Gold fineness		
				Median	lowest	highest
36	Myrtle Creek	Plus 35-mesh	9	889	830	910
35	do	Minus 35-mesh	1	840	-	-
36	Slate Creek	Plus 35-mesh	5	952	923	980
36	do	Minus 35-mesh	1	899	-	-
37	do	Unknown	12	897	814	910

OTHER GEOLOGY: Best gravels were 2-4 ft (0.6-1.2 m) thick; gravels clean and slabby; Au coarse (wheat grain or shot size) and concentrated in bottom of gravels; Mosier and Lewis (1986) analyzed raw gold for other elements from three locations and the results are summarized as follows:

Mosier and Lewis No.	Location	Gold Status	No. of Samples	Median					
				-(%) Ag	---(ppm) Cu	---(ppm) Pb	---(ppm) Sb	-(%) Hg	-(ppm) Others
35	Myrtle Ck	Plus 35-mesh	9	11.	170	40	-	.66	-
35	do	Minus 35-mesh	1	16.	93	930	-	.13	As=300 Bi=20
36	Slate Ck	Plus 35-mesh	5	4.8	480	5	96	.36	Ba=10 B= 6
36	do	Minus 35-mesh	1	10.	100	20	-	.5	Cd= 4
37	do	Unknown	12	10.	200	15	-	.28	-

Among the nine samples of plus-35-mesh gold (locality no. 35), four contained detectable Ni, three contained detectable Sn, and two each detectable As or Co. Among the five samples of plus-35-mesh gold (locality no. 36), two contained detectable Cr, and one each detectable Ni or V.

STREAM BASIN AREA: 55 km².

STREAM GRADIENT: 1.05 percent (lower reach of Slate Creek).

COMMENTS: Nuggets usually are as heavy as 1 oz (31 g), one was 23 oz (700 g); Myrtle Creek in the Chandalar quadrangle; Reed (1938) estimated

average flow of Slate Creek to be 100 ft³/s (2,800 l/s).

REFERENCES: Maddren, 1913, p. 86-89; Reed, 1938, p. 91-100; Cobb, 1981, p. A11; Mosier and Lewis, 1986, no. 35-37, p. 100-106.

NAME: Clara Gulch Placer. AREA OR BASIN NUMBER: P2

LAT: 67°18'24" N. LONG: 150°08'23" W.

TNS: 28 N. RNG: 12 W.

COMPANY OR PLACER OPERATOR(S): Larry Brown (1980s).

METALS: Au, Ag.

CONTAINED METAL: 6,900 g Au, 900 g Ag.

GRADE(S): 5.5 g/m³ Au, 0.72 g/m³ Ag.

SIZE: 1,250 m³.

PLACER TYPE(S): Stream.

FINENESS: Mosier and Lewis (1986) found fineness of 889 and 852 for two samples of minus 35-mesh gold.

OTHER GEOLOGY: Mosier and Lewis (1986) found other metals in two samples of minus 35-mesh raw gold samples. They contained medians of 13 percent Ag, 12 ppm Pb, and 1.2 percent Hg.

MINING METHOD(S): Sluice.

PRODUCTION HISTORY: Discovered 1900, gulch was placered 1900-1901 by six men and produced \$3,000 Au; active in 1934.

BEDROCK SOURCE: Unknown.

STREAM BASIN AREA: 10 km².

STREAM GRADIENT: Average 6.8 percent on main stream; between elevations 1,200 to 2,000 ft (360 to 610 m), average 6.8 percent.

COMMENTS: Placer area is 3 mi (4.8 km) long; a nugget discovered in 1900 estimated to be 18 oz (560 g) and 940 fine (Au); Cobb (1976) estimated production not greater than 175 oz (5,400 g); Ag production and grade estimated using median Ag content in gold samples (Mosier and Lewis, 1986).

REFERENCES: Maddren, 1913, p. 69; Reed, 1938, p. 91; Cobb, 1976, p. 94. Cobb, 1981, p. A4; Mosier and Lewis, 1986, no. 34, p. 99.

METALLIC LODE DEPOSITS, PROSPECTS, AND OCCURRENCES

The Wiseman quadrangle contains few identified lode deposits, although the Chandalar quadrangle to the east contains several lode deposits and the Survey Pass quadrangle to the west has at least one major lode. Location numbers are given on plate 2 as well as in the compilation which follows. Most of the localities described are taken from compilations by Cobb (1972, 1976, 1981) and Dillon and others (1981). Some entries are gossan occurrences. A compilation by Ken Leonard for the Federal Mineral Land Information System and housed in the U.S. Geological Survey's Minerals Resources Data System (MRDS) has been particularly useful in preparing this section. Most entries include a name and extent of workings as described in the literature. The references cited in each entry should be consulted concerning the definition of "anomalous" used to describe the geochemistry associated with some occurrences. Some locations have commodities listed which are not consistent with identified mineralogy; this was done to be consistent with source documents.

COMMODITY: Pb LAT: 67°51'17"N. LONG: 152°35'43"W. LOCATION NO.: 1

DESCRIPTION: Galena in quartz vein hosted by Devonian black phyllite and shale.

REFERENCES: Brosgè and Reiser, 1960; Cobb, 1972, no. 2; Cobb, 1976, p. 117.

COMMODITY: Pb,Au,Cu LAT: 67°50'07"N. LONG: 152°34'49"W. LOCATION NO.: 2

DESCRIPTION: Galena in quartz vein hosted by Devonian black phyllite and shale.

REFERENCES: Brosgè and Reiser, 1960; Cobb, 1972, no. 3; Cobb, 1976, p. 117.

COMMODITY: Cu LAT: 67°40'N. LONG: 152°57'W. LOCATION NO.: 3

DESCRIPTION: Copper sulfide minerals and malachite staining in Devonian phyllite.

REFERENCES: Cobb, 1972, no. 1; 1976, p. 186; Brosgè and Reiser, 1960.

COMMODITY: Sn LAT: 67°27'12"N. LONG: 152°51'12"W. LOCATION NO.: 4

DESCRIPTION: Disseminated cassiterite hosted by medium-grained, muscovite-granite orthogneiss near contact with country rock; analysis of rock grab sample from outcrop gave anomalous Be (7 ppm), Sn (50 ppm), and Y (100 ppm).

REFERENCES: Dillon and others, 1981, pl. 1, no. 289, p. 25-27, 80.

COMMODITY: Fe,Mn,W LAT: 67°28'51"N. LONG: 152°38'06"W LOCATION NO.: 5

DESCRIPTION: Hematite hosted by maroon, medium-grained quartz-calcite schist; analysis of rock grab sample from outcrop gave anomalous Fe (20 percent), Mn (0.7 percent), and W (greater than 50 ppm).

REFERENCES: Dillon and others, 1981, pl. 1, no. 83, p. 10-12, 60.

COMMODITY: Zn,Pb LAT: 67°25'35"N. LONG: 152°51'06"W. LOCATION NO.: 6

DESCRIPTION: About 5 percent oxidized pyrite, sphalerite, and galena (?) hosted by a maroon, fine-grained felsic schist; analysis of rock grab sample from outcrop gave anomalous Zn (500 ppm).

REFERENCES: Dillon and others, 1981, pl. 1, no. 55, p. 10-12, 57.

COMMODITY: Fe,Zn LAT: 67°24'46"N. LONG: 152°52'18"W. LOCATION NO.: 7

DESCRIPTION: Tactite on contact with granitic pluton with magnetite, sphalerite, and pyrite hosted by fine-grained, dark-green pyrite-magnetite rocks; analysis of rock grab sample from outcrop gave anomalous Zn (500 ppm), and Fe (greater than 20 percent).

REFERENCES: Dillon and others, 1981, pl. 1, no. 57, p. 10-12, 57.

COMMODITY: Sn LAT: 67°23'45"N. LONG: 152°53'24"W. LOCATION NO.: 8

DESCRIPTION: Disseminated fluorite and cassiterite hosted by light-olive-green, medium-grained, schistose chlorite-muscovite metagranite; likely contact facies; analysis of rock grab sample from outcrop gave anomalous Sn (20 ppm).

REFERENCES: Dillon and others, 1981, pl. 1, no. 172, p. 18, 68.

COMMODITY: Pb,Zn LAT: 67°23'54"N. LONG: 152°40'06"W. LOCATION NO.: 9
Ag,As,Sb

DESCRIPTION: Massive pyrite, arsenopyrite, pyrrhotite (?), galena, and chalcopyrite as layers and veins hosted by calcareous muscovite-quartz schist adjacent to contact with granite gneiss and marble; analysis of composite rock outcrop sample gave anomalous Ag (37.7 ppm), As (13 percent), Pb (3.8 percent), Zn (1.8 percent), and Sb (315 ppm).

REFERENCES: Dillon and others, 1981, pl. 1, no. 480, p. 43-44, 99.

COMMODITY: Cu,Zn,Ag,Sn LAT: 67°24'21"N. LONG: 152°45'54"W. LOCATION NO.: 10

DESCRIPTION: Malachite and azurite staining on sulfide-bearing rock in contact between white, medium-grained leucogranite and graphic granite gneiss; analysis of rock grab sample from outcrop gave anomalous Ag (20 ppm), B (2,000 ppm), Be (20 ppm), Bi (200 ppm), Cd (100 ppm), Cu (0.5 percent), Sn (700 ppm), and Zn (1,500 ppm).

REFERENCES: Dillon and others, 1981, pl. 1, no. 224, p 19-21, 73.

COMMODITY: Sn LAT: 67°23'36"N. LONG: 152°45'03"W. LOCATION NO.: 11

DESCRIPTION: Disseminated fluorite and cassiterite hosted by banded, pale-green and white, medium-grained fluorite-muscovite granite gneiss; interpreted to be contact facies; analysis of rock grab sample from outcrop gave anomalous Sn (70 ppm).

REFERENCES: Dillon and others, 1981, pl. 1, no. 169, p. 18, 67.

COMMODITY: Cu,Zn,Sn LAT: 67°23'57"N. LONG: 152°45'54"W. LOCATION NO.: 12

DESCRIPTION: Malachite and azurite-staining on bornite and sphalerite hosted by a green, coarse-grained garnet-epidote skarn; analysis of rock grab sample from outcrop gave anomalous Ag (7 ppm), Bi (200 ppm), Cu (0.5 percent), Sn (0.1 percent), and Zn (0.3 percent).

REFERENCES: Dillon and others, 1981, pl. 1, no. 225, p. 19-21, 73.

COMMODITY: Sn LAT: 67°23'16"N. LONG: 152°48'30"W. LOCATION NO.: 13

DESCRIPTION: Disseminated fluorite and cassiterite from granite-marble injection migmatite; host described as fine-grained, blastoporphyritic muscovite-granite gneiss; analysis of rock grab sample from outcrop gave anomalous Sn (50 ppm).

REFERENCES: Dillon and others, 1981, pl. 1, no. 414, p. 34-36, 92.

COMMODITY: Pb LAT: 67°21'21"N. LONG: 152°58'00"W. LOCATION NO.: 14

DESCRIPTION: Pyrite and galena (?) lenses as much as 6 cm long hosted by pale-green, fine-grained chlorite-talc-quartz schist; analysis of rock grab sample from outcrop gave anomalous Pb (150 ppm).

REFERENCES: Dillon and others, 1981, pl. 1, no. 54, p. 10-12, 56.

COMMODITY: Zn,Pb,Ag, LAT: 67°19'00"N. LONG: 152-55-00"W. LOCATION NO.: 15
Sb

DESCRIPTION: About 20 percent of the rock is made up of disseminated pyrite, arsenopyrite (?), sphalerite, and galena hosted by gray, coarse-grained muscovite-calcite quartzite; analysis of rock grab sample from outcrop gave anomalous Ag (100 ppm), Pb (1 percent), Sb (100 ppm), and Zn (4 percent).

REFERENCES: Dillon and others, 1981, pl. 1, no. 218, p. 19-21, 72.

COMMODITY: Ti,Cr,Ni LAT: 67°18'12"N. LONG: 152°47'48"W. LOCATION NO.: 16

DESCRIPTION: Lenses of rutile, fuchsite, and siderite (some are pebble-sized) hosted by mixed greenschist and graphitic schist; analysis of composite rock sample from outcrop gave anomalous Ti (greater than 1 percent), Ba (0.3 percent), Cr (0.1 percent), Nb (50 ppm), and Ni (700 ppm).

REFERENCES: Dillon and others, 1981, pl. 1, no. 236, p. 22-23, 74.

COMMODITY: Ag,Ba LAT: 67°04'00"N. LONG: 152°53'57"W. LOCATION NO.: 17

DESCRIPTION: Gray chert outcrop from which a grab sample gave anomalous Ag (5.0 ppm) and Ba (greater than 0.5 percent).

REFERENCES: Dillon and others, 1981, pl. 1, no. 202, p. 19-21, 70.

COMMODITY: Cu,W LAT: 67°06'22"N. LONG: 152°18'06"W. LOCATION NO.: 18

DESCRIPTION: Fine-grained, disseminated chalcopyrite and azurite hosted by brown-green aphanitic greenstone; analysis of rock grab sample from outcrop gave anomalous W (greater than 50 ppm).

REFERENCES: Dillon and others, 1981, pl. 1, no. 78, p. 10-12, 59.

COMMODITY: Pb LAT: 67°11'09"N. LONG: 152°25'36"W. LOCATION NO.: 19

DESCRIPTION: Disseminated galena and limonite (after pyrite ?) hosted by gray, medium-grained epidote-muscovite-feldspar-quartz schist; analysis of rock grab sample from outcrop gave anomalous Pb (150 ppm).

REFERENCES: Dillon and others, 1981, pl. 1, no. 199, p. 20, 70.

COMMODITY: V,Zn,Mo LAT: 67°11'01"N. LONG: 152°34'45"W. LOCATION NO.: 20
Zn

DESCRIPTION: About 3 percent of sample consists of disseminated, oxidized sulfide minerals hosted by a black, fine-grained, graphitic muscovite-albite-quartz schist; analysis of rock grab sample from outcrop gave anomalous Ba (0.3 percent), Mo (20 ppm), V (0.1 percent), and Zn (500 ppm).

REFERENCES: Dillon and others, 1981, pl. 1, no. 14, p. 7-9, 52.

COMMODITY: Cu,Ni(?) LAT: 67°12'48"N. LONG: 152°35'00"W. LOCATION NO.: 21

DESCRIPTION: Disseminated chalcopyrite (1 percent of rock) associated with small gossan hosted by banded, gray and white, graphitic clinozoisite-chlorite-quartz schist.

REFERENCES: Dillon and others, 1981, pl. 1, no. 524, p. 104.

COMMODITY: Cu,Pb,Sb LAT: 67°16'44"N. LONG: 152°28'15"W. LOCATION NO.: 22
Zn

DESCRIPTION: Quartz-vein stockwork with malachite, azurite, galena, and possibly bornite hosted by dolomite, near contact with greenschist; analysis of rock grab sample from outcrop gave anomalous Cu (1,500 ppm), Sb (1,000 ppm), and Zn (500 ppm).

REFERENCES: Dillon and others, 1981, pl. 1, no. 80, p. 12, 59.

COMMODITY: Sn,Zn,As LAT: 67°15'44"N. LONG: 152°13'45"W. LOCATION NO.: 23
W

DESCRIPTION: Skarn mineralization in calc-schist adjacent to intrusive; analysis of rock chip sample from outcrop gave anomalous Fe (20 percent), As (500 ppm), B (700 ppm), Bi (50 ppm), Sn (700 ppm), W (greater than 50 ppm), and Zn (3,000 ppm)

REFERENCES: Dillon and others, 1981, pl. 1, no. 82, p. 10-12, 60.

COMMODITY: Fe,As,Sb LAT: 67°19'04"N. LONG: 152°20'10"W. LOCATION NO.: 24

DESCRIPTION: Massive arsenopyrite and pyrite as strata-parallel bands as much as 10 cm thick and 20 m long hosted by quartzite layer interbedded with marble; other occurrences observed along strike, some as far as 1 km apart; analysis of composite rock sample from outcrop gave anomalous Fe (23 percent), As (500 ppm), and Sb (219 ppm).

REFERENCES: Dillon and others, 1981, pl. 1, no. 519, p. 49-50, 103.

COMMODITY: Cu,Zn LAT: 67°21'02"N. LONG: 152°26'48"W. LOCATION NO.: 25

DESCRIPTION: A few chalcopyrite grains hosted by an off-white, fine-grained albite-chlorite-muscovite-quartz schist; analysis of rock grab sample from outcrop gave anomalous Zn (0.5 percent).

REFERENCES: Dillon and others, 1981, pl. 1, no. 280, p. 25-27, 79.

COMMODITY: Cr,As,Ni LAT: 67°28'05"N. LONG: 152°16'18"W. LOCATION NO.: 26
Pb,Cu

DESCRIPTION: About 1 percent disseminated arsenopyrite or galena plus some pyrite with chalcopyrite cores hosted by a beige-colored, medium-grained fuchsite-quartz dolomite; analysis of rock grab sample from float gave anomalous As (0.15 percent), Cr (0.15 percent), Ni (500 ppm), and Pb (200 ppm).

REFERENCES: Dillon and others, 1981, pl. 1, no. 20, p. 7-9, 53.

COMMODITY: Cu,Ag,Pb LAT: 67°30'54"N LONG: 152°18'33"W. LOCATION NO.: 27

DESCRIPTION: Azurite, malachite, and chalcocite veins (more than 2 cm thick) hosted by metamorphosed conglomerate, sandstone, and slate unit beneath marble; analysis of rock grab sample from rubbly outcrop gave anomalous Ag (22 ppm), Cu (66 percent), and Pb (61 ppm).

REFERENCES: Dillon and others, 1981, pl. 1, no. 518, p. 49-50, 103.

COMMODITY: Cu LAT: 67°32'N. LONG: 152°16'W. LOCATION NO.: 28

DESCRIPTION: Copper sulfide minerals and malachite in Skajit Limestone, which is locally broken by thrusts and steep faults.

REFERENCES: Cobb, 1972, no. 5; Cobb, 1976, p. 181; Brosgè and Reiser, 1960.

COMMODITY: Cu,Zn,Sb LAT: 67°36'31"N. LONG: 151°54'06"W. LOCATION NO.: 29

DESCRIPTION: Chalcopyrite layer with sparse cuprite and sphalerite hosted by fine-grained quartz; analysis of rock chip sample from outcrop gave anomalous Cu (2 percent) and Sb (greater than 100 ppm).

REFERENCES: Dillon and others, 1981, pl. 1, no. 348, p. 28-30, 85.

COMMODITY: Cu,Pb LAT: 67°35'N. LONG: 151°54'W. LOCATION NO.: 30

DESCRIPTION: Quartz vein with copper sulfide minerals, galena, and malachite in unnamed phyllite and siltstone Devonian unit below Devonian Skajit Limestone.

REFERENCES: Cobb, 1972, no. 8; Cobb, 1976, p. 188; Brosgè and Reiser, 1960.

COMMODITY: Fe,Ti,Zn, V LAT: 67°35'31"N. LONG: 151°53'42"W. LOCATION NO.: 31

DESCRIPTION: Abundant hematite and sphalerite hosted by brown, cross bedded metasandstone (similar to location 34); analysis of rock grab sample from outcrop gave anomalous Fe (20 percent), Ti (greater than 1 percent), Sc (70 ppm), V (700 ppm), and Zn (500 ppm).

REFERENCES: Dillon and others, 1981, pl. 1, no. 245, p. 22-24, 75.

COMMODITY: Ag,Cu,Mo, Zn,Pb LAT: 67°35'26"N LONG: 151°53'30"W. LOCATION NO.: 32

DESCRIPTION: Disseminated chalcopyrite, sphalerite, and galena with malachite staining hosted by carbonate- and quartzite-clast conglomerate found at facies change from quartzose metaclastic to metacarbonate rock; analysis of rock grab sample from outcrop gave anomalous Ag (10 ppm), Cu (0.7 percent), and Mo (100 ppm).

REFERENCES: Dillon and others, 1981, pl. 1, no. 244, p. 22-23, 75.

COMMODITY: Cu LAT: 67°34'59"N. LONG: 151°55'17"W. LOCATION NO.: 33

DESCRIPTION: Malachite, azurite, and chalcopyrite disseminated in quartzose chloritic schist and as small pods in limestone; adjacent to thrust fault separating Skajit Limestone from hosting chloritic schist. Mineralized horizon about 5 ft thick and no more than a few tens of feet along strike.

REFERENCES: Degenhart and other, 1978, fig. 31.

COMMODITY: Cu LAT: 67°34'N. LONG: 151°59'W. LOCATION NO.: 34

DESCRIPTION: Copper sulfide minerals and malachite staining in conglomerates which are part of a black phyllite Devonian unit. Occurrence is adjacent to fault contact with Devonian Skajit Limestone.

REFERENCES: Cobb, 1972, no. 7; Cobb, 1976, p. 185; Brosgè and Reiser, 1960.

COMMODITY: Cu LAT: 67°33'38"N. LONG: 152°00'00"W. LOCATION NO.: 35

DESCRIPTION: Disseminated cuprite (?) with malachite staining hosted by dark, fine-grained, graphitic chlorite-sericite-quartz schist and quartz vein; analysis of composite rock sample from outcrop gave anomalous Cu (0.5 percent).

REFERENCES: Dillon and others, 1981, pl. 1, no. 304, p. 25-27, 81.

COMMODITY: Cu,Mo LAT: 67°32'50"N. LONG: 152°02'42"W. LOCATION NO.: 36

DESCRIPTION: Disseminated covellite and bornite with malachite in quartz vein hosted by pale-green, medium-grained, muscovite-chloritoid-quartz calc-schist; analysis of composite rock sample from outcrop gave anomalous Cu (0.5 percent), and Mo (10 ppm).

REFERENCES: Dillon and others, 1981, pl. 1, no. 284, p. 25-27, 79.

COMMODITY: Cu LAT: 67°32'55"N. LONG: 152°03'24"W. LOCATION NO.: 37

DESCRIPTION: Minor chalcopyrite, bornite, and malachite staining in reefoid limestone in mid-Devonian Skajit Limestone, which overlies Upper Devonian phyllite, and chlorite quartz; sampling and prospecting at site by at least four companies.

REFERENCES: Brosgè and and Reiser, 1960; Cobb, 1972, no. 6; 1976, p. 184; 1981, p. A15.

COMMODITY: Ag,Cu LAT: 67°32'30"N. LONG: 152°03'42"W. LOCATION NO.: 38

DESCRIPTION: Abundant bornite and subordinate covellite with trace of chalcopyrite altered to malachite in quartz vein hosted by calcareous schist; analysis of rock grab sample from outcrop gave anomalous Ag (100 ppm) and Cu (greater than 2 percent).

REFERENCES: Dillon and others, 1981, pl. 1, no. 84, p. 10-12, 60.

COMMODITY: Cu,Pb,Mo LAT: 67°30'38"N. LONG: 151°57'33"W. LOCATION NO.: 39

DESCRIPTION: Malachite, bornite, and galena disseminated and in quartz stockwork hosted by calcite-quartz schist; analysis of rock grab sample from outcrop gave anomalous Cu (1 percent), and Mo (30 ppm).

REFERENCES: Dillon and others, 1981, pl. 1, no. 11, p. 7-9, 52.

COMMODITY: Cu,As,Co, LAT: 67°21'25"N. LONG: 151°49'18"W. LOCATION NO.: 45
Pb,V,Zn

DESCRIPTION: Fine-grained, disseminated chalcopyrite with malachite staining hosted by banded, medium-grained, calcareous muscovite-quartz schist; analysis of rock grab sample from outcrop gave anomalous As (500 ppm), Co (300 ppm), Cu (0.2 percent), Pb (200 ppm), V (0.1 percent), and Zr (500 ppm).

REFERENCES: Dillon and others, 1981, pl. 1, no. 257, p. 22-24, 76.

COMMODITY: Cr,Ni,Pb, LAT: 67°21'05"N. LONG: 152°52'18"W. LOCATION NO.: 46
Zn

DESCRIPTION: Fuchsite-muscovite-calcite quartzite; analysis of rock grab sample from outcrop gave anomalous Cr (1,000 ppm), Ni (200 ppm), Pb (200 ppm), and Zn (500 ppm).

REFERENCES: Dillon and others, 1981, pl. 1, no. 71, p. 10-12, 58.

COMMODITY: Zn,Au,Ag LAT: 67°14'55"N. LONG: 151°34'39"W. LOCATION NO.: 47
Fe,Sb,Cu,As

DESCRIPTION: Two samples from this area: One contains a little chalcopyrite and sphalerite in veins hosted by fine-grained actinolite marble; analysis of rock grab sample from outcrop gave anomalous Sr (2,000 ppm), and Zn (200 ppm). The other contains a stockwork (some veins 10 cm thick) of arsenopyrite and sphalerite with a little chalcopyrite hosted by gray marble; analysis of rock grab sample from outcrop gave anomalous Fe (20 percent), Ag (15 ppm), As (10 percent) Au (15 ppm), Bi (50 ppm), and Sb (300 ppm).

REFERENCES: Dillon and others, 1981, pl. 1, nos. 50, 51, p. 10-12, 56.

COMMODITY: Zn (?) LAT: 67°16'23"N. LONG: 151°44'12"W. LOCATION NO.: 47a

DESCRIPTION: Layers of 10 percent sulfide minerals, possibly sphalerite, replacing pyrite (?) hosted by banded, medium-grained marble.

REFERENCES: Dillon and others, 1981, pl. 1, no. 88, p. 60.

COMMODITY: Zn,As LAT: 67°17'01"N. LONG: 151°17'00"W. LOCATION NO.: 48

DESCRIPTION: Disseminated pyrite and sphalerite in veins hosted by dark-green, fine-grained, silicified pyrite-garnet greenschist; analysis of rock grab sample from outcrop gave anomalous As (500 ppm).

REFERENCES: Dillon and others, 1981, pl. 1, no. 52, p. 10-12, 56.

COMMODITY: Pb,Ag,Au LAT: 67°17'32"N. LONG: 151°19'15"W. LOCATION NO.: 49

NAME: Silver King Prospect

WORKINGS: Prospecting included 75 ft adit on north side of Michigan Creek, 100 ft north of and 50 ft above creek; about 2.5 mi (4 km) above junction with Wild River; no indication of quartz or galena in dump; trench 6 ft (1.8 m) wide and 10 ft (3 m) long exposed quartz vein with galena (Reed, 1938, p 139-140).

DESCRIPTION: Galena with possible gold and (or) silver in one or more quartz veins hosted by various rock types including limestone, phyllite, and slate.

REFERENCES: Smith and Mertie, 1930, p. 343; Reed, 1938, p. 139-140; Brosgè and Reiser, 1960; Cobb, 1972, no. 15; Cobb, 1976, p. 136.

COMMODITY: Cu,Sn,Ti, LAT: 67°18'24"N. LONG: 151°14'12"W. LOCATION NO.: 50
Sn,Co

DESCRIPTION: Massive pyrrhotite altering to marcasite, abundant chalcopyrite, some cassiterite, rutile, and trace sphalerite hosted by actinolite-biotite felsite with interlayers of marble and garnet-quartz-muscovite schist; analysis of rock grab sample from outcrop gave anomalous As (500 ppm), Co (150 ppm), Cu (1,365 ppm), Zn (330 ppm), and Sn (50 ppm).

REFERENCES: Dillon and others, 1981, pl. 1, no. 467, p. 43-44, 98.

COMMODITY: Cu,Zn,As, LAT: 67°18'30"N. LONG: 151°14'18"W. LOCATION NO.: 51
Co,Ag,Pb

DESCRIPTION: Four samples taken near this location: Sample no. 468 was layer and veins (some 30 cm thick) of massive pyrrhotite, arsenopyrite, sphalerite, and chalcopyrite hosted by marble interlayered with rounded structures, which may be fossils; analysis of rock grab sample from outcrop gave anomalous As (6,500 ppm) and Co (300 ppm).

Sample no. 469 has similar mineralogy, sulfide thickness, and host as the previous sample with the addition of some pyrite and (or) arsenopyrite filling fractures; analysis of composite rock sample from outcrop gave anomalous As (0.72 percent), Ag (8.28 ppm), Co (300 ppm), Cu (0.13 percent), and Pb (135 ppm).

Sample no. 470 consists of massive pyrrhotite, chalcopyrite, and arsenopyrite in layers hosted by calcite-muscovite-quartz schist; analysis of rock grab sample from outcrop gave anomalous As (518 ppm), Co (200 ppm), and Cu (0.14 percent).

Sample no. 471 consists of arsenopyrite, chalcopyrite, and a black, sooty material hosted by actinolite-biotite felsite with interlayers of marble and garnet-albite-muscovite schist; analysis of composite rock sample from outcrop gave anomalous As (8.2 percent), Co (700 ppm), and Cu (1,260 ppm).

REFERENCES: Dillon and others, 1981, pl. 1, no. 468-471, p 43-44, 99.

COMMODITY: Zn,Pb, Ag, LAT: 67°19'46"N. LONG: 151° 18'18"W. LOCATION NO: 52
Fe,As

DESCRIPTION: Gossan at contact between calcareous rocks and granite; analysis of composite sample from float gave anomalous Fe (>20 percent), Ag (20 ppm), As (0.1 percent), Ba (0.5 percent), Pb (1,500 ppm), and Zn (1,800 ppm).

REFERENCES: Dillon and others, 1981, pl. 1, no. 380, p. 31-33, 89.

COMMODITY: La LAT: 67°19'24"N. LONG: 151°20'39"W. LOCATION NO.: 52a

DESCRIPTION: Sample with 3 percent unidentified sulfide minerals (partly oxidized) hosted by cream-colored, fine-grained, quartz monzonite gneiss in contact with calc-schist, local skarn; analysis of rock grab sample from outcrop gave anomalous La (200 ppm).

REFERENCES: Dillon and others, 1981, pl. 1, no. 127, p 13-15, 64.

COMMODITY: Cu,Ag,Mo LAT: 67°25'36"N. LONG: 151°16'54"W. LOCATION NO.: 53

DESCRIPTION: Disseminated chalcopyrite and tetrahedrite (?) hosted by fine-grained actinolite-epidote-quartz-chlorite-biotite-albite greenschist; analysis of rock grab sample from outcrop gave anomalous Ag (11 ppm), Copper (0.14 percent), and Mo (320 ppm).

REFERENCES: Dillon and others, 1981, pl. 1, no. 477, p. 43-44, 99.

COMMODITY: Zn,Pb,Mn LAT: 67°26'40"N. LONG: 151°28'30"W. LOCATION NO.: 54

DESCRIPTION: Sphalerite and pyrite in replacement layers or veins (as much as 8 cm thick) hosted by orange, coarse-grained dolomite layers in gray marble; analysis of rock grab sample from outcrop gave anomalous Mg (7 percent), Mn (>> 5,000 ppm), Pb (200 ppm), and Zn (10.3 percent).

REFERENCES: Dillon and others, 1981, pl. 1, no. 478, p. 43-44, 99.

COMMODITY: Cu,Ag,Nb LAT: 67°28'24"N. LONG: 151°28'48"W. LOCATION NO.: 55

DESCRIPTION: Grab sample taken from schist outcrop contained trace of malachite and anomalous Cu (2.1 percent), Ag (14 ppm), and Nb (20 ppm).

REFERENCES: Dillon and others, 1981, plate 1, no. 502, p. 45-47, 101.

COMMODITY: Cu,Ag LAT: 67°28'24"N. LONG: 151°28'45"W. LOCATION NO.: 55a

DESCRIPTION: Bornite and malachite in vein quartz; analysis of selected grab sample gave 0.5 percent Cu and 4.1 ppm Ag.

REFERENCES: Chipp, 1972, no. 135.

COMMODITY: Cu LAT: 67°30'N. LONG: 151°31'W. LOCATION NO.: 56

DESCRIPTION: Quartz vein with malachite.

REFERENCES: Cobb, 1976, p. 178; Chipp, 1972, no. 139.

COMMODITY: Cu,Pb,Ag, Au LAT: 67°30'N. LONG: 151°30'W. LOCATION NO.: 57

DESCRIPTION: Quartz vein with tetrahedrite and limonite; analysis of selected grab sample gave 6.5 ppm Au, 0.24 percent Cu, 13 ppm Ag, and 0.2 percent Sb.

REFERENCES: Chipp, 1972, no. 138; Cobb, 1976, p 189; Brosgè and Reiser, 1960.

COMMODITY: Cu LAT: 67°29'N. LONG: 151°41'W. LOCATION NO.: 58

DESCRIPTION: Quartz vein with sulfide minerals and malachite hosted by dolomite; analysis of select grab sample gave 0.21 percent Cu.

REFERENCES: Cobb, 1976, p. 177; Chipp, 1972, nos. 129, 130.

COMMODITY: Cu LAT: 67°30'N. LONG: 151°45'W. LOCATION NO.: 59

DESCRIPTION: Copper sulfide minerals and malachite staining on phyllite and siltstone.

REFERENCES: Cobb, 1972, no. 12, 1976, p. 179; Brosgè and Reiser, 1960.

COMMODITY: Ag,Cu,Pb,Zn LAT: 67°31'18"N LONG: 151°35'15"W. LOCATION NO.: 60
As,Nb,Sb

DESCRIPTION: Sulfide minerals in altered calc-schist; analysis of rock grab sample from outcrop gave anomalous Ag (31 ppm), As (500 ppm), Bi (20 ppm), Cu (1 percent), Nb (20 ppm), Pb (0.24 percent), Sb (1 percent), and Zn (0.1 percent).

REFERENCES: Dillon and others, 1981, pl. 1, no. 493, p. 45-47, 100.

COMMODITY: Cu,Pb,Ag LAT: 67°31'51"N. LONG: 151°35'15"W. LOCATION NO.: 61

DESCRIPTION: Quartz-vein stockwork with minor malachite and galena; analysis of random composite sample gave 0.6 ppm Ag, 68 ppm Pb.

REFERENCES: Cobb, 1976, p. 187; Chipp, 1972, no. 124.

COMMODITY: Cu,Au,Ag LAT: 67°32'15"N. LONG: 151°29'30"W. LOCATION NO.: 62

DESCRIPTION: Quartz vein with bornite and malachite; grab sample gave 0.14 ppm Au, 3.1 ppm Ag, and 0.27 percent Cu.

REFERENCES: Cobb, 1976, p. 183; Chipp, 1972, nos. 116, 117.

COMMODITY: Cu LAT: 67°32'N. LONG: 151°27'W. LOCATION NO.: 63

DESCRIPTION: Copper and malachite staining on Devonian (?) calcareous schist.

REFERENCES: Cobb, 1972, no. 14; Cobb, 1976, p. 182; Brosgè and Reiser, 1960.

COMMODITY: Pb LAT: 67°34'29"N. LONG: 150°47'36"W. LOCATION NO.: 64

DESCRIPTION: Quartz vein with galena in Middle (?) Devonian phyllite and siltstone unit.

REFERENCES: Cobb, 1972, no. 16; Cobb, 1976, p. 190; Brosgè and Reiser, 1960.

COMMODITY: Cu,Zn LAT: 67°31'11"N. LONG: 150°13'48"W. LOCATION NO.: 65

NAME: Vermont Dome occurrence.

DESCRIPTION: Copper and zinc staining on quartz vein float, some light-brown vein quartz with sparse iron sulfide, minute pods of goethite and light-green stain along fracture planes; fragment of large quartz crystal also present in schist talus. Analysis of vein sample on Vermont Dome (Brosgè and Reiser, 1970) detected no significant amounts of base or precious metals.

REFERENCES: Mulligan, 1974, no. 3, p. 7; Brosgè and Reiser, 1960, 1970.

COMMODITY: Sb,Au,Ag LAT: 67°29'34"N. LONG: 150°09'25"W. LOCATION NO.: 66

NAME: Fay Creek (Smith Creek Dome prospect)

WORKINGS: Small prospect pit with dump.

DESCRIPTION: Stibnite, cervantite, stibiconite, and kermesite in dump adjacent to pit with 6 in. (16 cm) wide stibnite vein striking N 5° E and hosted by schist (Mulligan, 1974). Extensively sampled in traverse under 1 mi (1.6 km) long and north of the prospect pit; 20 rock samples, of which 12 are from veins and 8 from bedrocks (Brosgé and Reiser, 1970). Vein samples no. 9 and 23 gave the highest gold values--9.2 ppm and 5.8 ppm, respectively. Duplicate analysis of no. 23 gave 0.97 ppm Au. The median gold concentration for all vein samples is about 0.02 ppm; the median gold concentration for all bedrock samples is less than 0.02 ppm. The highest silver concentration of 1.4 ppm was for bedrock sample no. 28. Silver appears to be higher in the bedrock samples (median of 0.20 ppm) than in the veins (median of 0.12 ppm). Silver concentrations appear also to be independent of Au. The highest Sb concentration (Sample no. 9) is also the one with the highest Au. The second highest Au sample (no. 23) has very low Sb (15 ppm). Vein sample concentrations (median of 43 ppm Sb) have about one-third more Sb than that found in bedrock samples (median of 28 ppm Sb).

REFERENCES: Brosgé and Reiser, 1970; 1972, fig. 5, p. 10; Mulligan, 1974, no. 5, p. 7.

COMMODITY: Sb,Au,Ag LAT: 67°28'14"N LONG: 150°12'53"W LOCATION NO.: 67

NAME: Jones & Boyle.

WORKINGS: Site is composite lode and placer and located on lower Smith Creek.

DESCRIPTION: Ebbley and Wright (1948) described six parallel veins with a spacing of 1 to 40 ft (0.3 to 12 m). Stibnite-bearing quartz veins are vertical and 3-4 in. (8-10 cm) thick. Stibnite is concentrated in the core of the veins (between 1 and 2 in. (2.5 and 5 cm) thick) bounded on each side by quartz (Ebbley and Wright, 1948). W.W.Patton Jr. (U.S.Geological Survey field notes, 1953) reported that the quartz veins were as thick as 1 ft (0.3 m) and stibnite as thick as 4 in (10 cm). Veins follow straight joints locally offset by cross faults. Phyllite adjacent to the veins was bleached. Mulligan (1974) reported that a sample across vein gave between 33.8 and 44.5 percent Sb.

Of the eight samples in and adjacent to this property collected by Brosgé and Reiser (1970, 1972), two of the eight samples were from bedrock, and the remaining six from veins. All vein samples had detectable gold; values ranged from 0.2 to 0.06 ppm, the median was 0.035 ppm. Vein samples contain Ag from just below the detection limit (0.1 ppm) to 0.2 ppm. Five out of six vein samples contained more than 10,000 pm Sb.

Gold concentrations in two samples of bedrock were 0.03 ppm Au and Ag concentrates were also between 0.1 to 0.15 ppm. Two veins samples gave 150 ppm and 40 ppm Sb.

Joesting (1943) reported that five tons of stibnite (4.5 tonnes) were recovered from ground sluicing, which Cobb (1973) reported was done during World War II.

REFERENCES: Brosgè and Reiser, 1970, 1972, fig. 4, p. 3; Cobb, 1976, p. 121; Cobb, 1973, p. 160; Mulligan, 1974, no. 10, p 8.; Ebbley and Wright, 1948, fig. 17, p. 37; Joesting, 1943, p. 16-17.

COMMODITY: Sb,Ag,Au LAT: 67°28'18"N. LONG: 150°13'39"W. LOCATION NO.: 68

NAME: Wannemaker & Wortman prospect.

WORKINGS: Vein exposed for 8 ft (2.4 m) along strike during trenching for gold placer mining on the south side of lower Smith Gulch. W.P. Brosgè (U.S. Geological Survey field notes, 1982) observed a vertical trench about 10 ft. (3 m) wide and 50 ft. (15 m) long with fragments of vein quartz and stibnite on both walls. Ore saved in several barrels; mostly stibnite in quartz or stibnite in phyllite.

DESCRIPTION: A 3-4 in. wide stibnite-bearing vein in fissure which cuts across the cleavage of phyllite; vein chip sample gave 58.3 percent Sb (Mulligan, 1974). W.P. Brosgè (U.S. Geological Survey field notes, 1982) observed joints striking N 40° E. Phyllite cleavage and bedding strike east. Stibnite veins are between 0.25 (0.64 cm) and 2 in. (5 cm) thick. Two samples were taken from the bedrock in and adjacent to this property (Brosgè and Reiser, 1970). They gave 0.5 and 0.65 ppm Ag, detectable Au (but less than 0.02 ppm), and 150 and 20 ppm Sb. Stibnite occurs between terminated quartz crystals on fissure walls (Ebbley and Wright, 1948).

REFERENCES: Cobb, 1976, p. 168; Ebbley and Wright, 1948, no. 17, p. 38; Brosgè and Reiser, 1960, 1970, 1972; Mulligan, 1974, no. 12, p. 8.

COMMODITY: Sb,Au,Ag LAT: 67°28'N. LONG: 150°09'W. LOCATION NO.: 69

NAME: Ferguson (also Midnight Dome)

WORKINGS: Ebbley and Wright (1948) described the site as containing at least two shallow pits with dump.

DESCRIPTION: The site is between the heads of Smith and Union Gulches and contains kernels of stibnite in quartz vein hosted by earthy yellow matrix interpreted as Sb oxide. Brosgè and Reiser (1972) detected Au in samples from veins. Four samples were taken by Brosgè and Reiser (1970) of which three were vein samples and one was from the host bedrock. Vein samples contained between 0.03 and 0.04 ppm Au, less than 0.1 ppm to 0.15 ppm Ag, and from 0.7

to greater than 1 percent Sb. A sample of the bedrock contained more Au (0.05 ppm) than the vein samples, similar Ag (0.1 ppm), and much less Sb (0.03 percent). Mulligan (1974) described stibnite as coarsely crystalline, and an analysis (of presumably of vein material) gave 62 percent Sb.

REFERENCES: Cobb, 1976, p. 107; Cobb, 1972, no. 20; Ebbley and Wright, 1948, p. 37; Brosgè and Reiser, 1970, 1972; p 9; Mulligan, 1974, no. 18, p. 8.

COMMODITY: Cu, Gypsum LAT: 67°24'43"N. LONG: 150°07'24"W. LOCATION NO.: 70

DESCRIPTION: Trace amount of chalcopyrite and chrysocolla from float derived from quartz-gypsum vein hosted by mica schist.

REFERENCES: Brosgè and Reiser, 1960; Mulligan, 1974, p. 9, no. 21; Cobb, 1972, no. 19.

COMMODITY: Cu LAT: 67°24'N. LONG: 150°09'W. LOCATION NO.: 71

DESCRIPTION: Copper sulfides and malachite staining on Devonian schist and marble.

REFERENCES: Brosgè and Reiser, 1960; Cobb, 1972, no. 18, p. 98.

COMMODITY: Cu, Zn LAT: 67°22'56"N. LONG: 150°09'37"W. LOCATION NO.: 72

DESCRIPTION: Copper and zinc detected in quartz veinlets hosted by dolomite and limestone; match-head size bornite bleb found in freshly broken quartz.

REFERENCES: Mulligan, 1974, no. 22, fig. 3, p. 9.

COMMODITY: Au, Ag, Cu LAT: 67°19'27"N. LONG: 150°25'11"W. LOCATION NO.: 73

DESCRIPTION: Gold and silver in quartz vein hosted by Devonian schist and marble; analyses of sample gave 19 ppm Ag and 0.04 ppm Au; copper sulfides with malachite at contact between two rock types.

REFERENCES: Brosgè and Reiser, 1960; Brosgè and Reiser, 1970, no. 96; Brosgè and Reiser, 1972, p. 20, fig. 3, 13; Cobb, 1972, no. 17; Cobb, 1976, p. 175.

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