UNITED STATES DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

TABLE DESCRIBING KNOWN METALLIFEROUS AND SELECTED NONMETALLIFEROUS MINERAL DEPOSITS IN CENTRAL ALASKA

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TO ACCOMPANY
OPEN-FILE MAP 77-168D

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TABLE DESCRIBING KNOWN METALLIFEROUS AND SELECTED NONMETALLIFEROUS MINERAL DEPOSITS IN CENTRAL ALASKA

(To accompany Open-file Map 77-168D)

By G. Donald Eberlein, Robert M. Chapman, Helen L. Foster, and Judith S. Gassaway

EXPLANATORY STATEMENT

This tabulation and accompanying map have been prepared under the Regional Alaska Mineral Resource Appraisal Program (RAMRAP) to provide the interested public with brief descriptions and locations of the known metalliferous and selected nonmetalliferous deposits, both lode and placer, in central Alaska. Specifically excluded are the fossil fuels (petroleum, natural gas and coal) and such widely distributed industrial materials as sand and gravel, and limestone whose production in large measure is dependent upon local demand. This, together with other publications in the OF-77-168 series, constitutes part of the data base being used in an analysis of central Alaska's mineral endowment and assessment of its potential resources now in progress and to be published separately.

The information presented derives primarily from an extensive literature search, consultations with geologist colleagues in both government and private sectors, discussions with mine operators, and the first-hand knowledge of the authors. The literature search was greatly facilitated by the availability of E. H. Cobb's mineral resource locality maps (published in 1972 as U.S. Geological Survey Miscellaneous Field Studies Maps, 1:250,000 scale) and his "Summaries of References to Mineral Occurrences" for many of the 1:250,000-scale topographic

quadrangles covering central Alaska (published as U.S. Geological Survey Open-file reports, 1975-1977). Unpublished documents in the technical files of the U.S. Geological Survey were also consulted. Information resulting from investigations completed and still in progress under the U.S. Geological Survey's Alaska Minerals Resource Appraisal Program (AMRAP) was likewise extremely useful in this study. Extensive use also was made of claim records maintained by the Alaska Division of Geological and Geophysical Surveys and claim location maps prepared by the U.S. Bureau of Mines. Information from all of these sources has been augmented and updated wherever possible by drawing upon data generously provided by our many professional colleagues and by current and former mine operators.

The "central Alaska region" as considered in this report embraces an area of approximately 245,000 square miles (156,800,000 acres; 634,000 km^2) that extends from the Canadian boundary (meridian 141°) on the east to the Bering Sea on the west, and from the approximate southern boundary of the Brooks Range on the north to the northern flank of the Alaska Range on the south (see index map on mineral deposits map). The region is covered by all or parts of 48 1:250,000-scale quadrangles, Alaska Topographic Series (see fig. 1), 31 of which contain known occurrences, prospects, or mines that are presently or were at some time(s) productive. Listed alphabetically, those containing no known mineral occurrences or deposits and therefore not included in the accompanying table are: Baird Inlet, Black, Black River, Cape Mendenhall, Chandalar (approximate southeastern one-quarter), Christian (approximate southern one-half), Fort Yukon, Hooper Bay, Kantishna River, Kateel River, Kuskokwim Bay, Kwiguk, Lime Hills (approximate northwestern one-half),

Marshall, Nunivak Island, Nushagak Bay (approximate western one-quarter), and St. Michael.

It should be emphasized that knowledge of Alaskan lode and placer deposits is far from complete and that the information sources upon which this map and tabulation are based range all the way from vague notations in the old literature to the results of well documented modern studies. Despite our efforts to make this inventory complete, certain occurrences have been omitted, because they are altogether unsubstantiated and it is inevitable that records for at least some deposits prospected and abandoned, especially before the turn of the century, have become lost.

Production data, especially for individual deposits, are woefully incomplete and are essentially unavailable after 1961. Accordingly, the tabulations include only fragmentary or generalized production figures in most instances and the authors' best judgment has been employed to assign some mines to a given size category as indicated by an appropriate symbol on the map. Dollar values reported in all cases are based on August 27, 1976 prices as follows:

Commodity	Price	Unit
Antimony (Sb)	$ 1.70	Pound
Copper (Cu)	$ 0.74	Pound
Gold (Au)	$104.70	Troy ounce
Lead (Pb)	$ 0.25	Pound
Mercury (Hg)	$110.00	76-pound (34.5-kg) flask
Platinum (Pt)	$180.00	Troy ounce
Silver (Ag)	$ 4.21	Troy ounce
Tin (Sn)	$ 3.96	Pound
Tungsten (W)	$110.48	Stu WO_3, 65 percent minimum

Dollar values for gold are equivalent to rounded-off approximate weights as follows:

$100,000 - 1,000 ounces -- 31,100 grams

$1,000,000 - 10,000 ounces -- 311,000 grams

EXPLANATION

TABLE HEADINGS

MAP NO. AND NAME (if known)

Individual deposits and occurrences are arranged alphabetically by quadrangle in the 1:250,000-scale Alaska Topographic Series and numbered to permit their location on the map. In some instances more than one deposit is grouped under the same number because of scale constraints. This is indicated parenthetically or in some cases by a separate entry in the correct alphabetical position that carries the assigned number.

MAP COORDINATES

LOCATION -- The coordinates indicate the location of each deposit on the map by the use of letters for each degree of latitude and numbers for each degree of longitude. Township and range designations are included to facilitate more accurate location within specific parallels and meridians using appropriate U.S. Geological Survey quadrangle maps in the Alaska Topographic Series.

DEVELOPMENT CATEGORY

A MINE is defined as a mineral deposit with recorded production, however small:

M -- mine with known or probable activity since 1960;

m -- mine with no known activity since 1960.

A PROSPECT is defined as a deposit that has been staked and been subject to exploratory and (or) development work, but has no known production:

P -- prospect with known or probable activity since 1960;

p -- prospect with no known activity since 1960.

An OCCURRENCE is defined as a deposit which has been the target of no known exploration or development work and in most instances has not been staked.

RESOURCE(S)

The main metallic commodity or commodities of interest are indicated in this column and beside its corresponding symbol on the map by conventional chemical symbol. Nonmetallic mineral commodities are spelled out. Byproducts produced in minor amounts, potential byproducts and significant minor constituents are similarly indicated parenthetically.

FORM

Physical configuration of the deposit.

TYPE

Deposit type is indicated in general terms commonly accepted among economic geologists. In many cases assignment to a highly refined classification scheme is not possible because the available information is inadequate or is controversial. Inasmuch as most metalliferous deposits are hydrothermal in their broadest sense, deposits that for one or another reason cannot be assigned to a more specific type are listed in the table as hydrothermal.

BRIEF DESCRIPTION

Entered in this column is a brief summary of the geology and mineralogy of the deposits. Where possible, information on history, development, production and resources is included.

PRINCIPAL REFERENCES

References and sources cited in abbreviated form are those considered

by the authors to be most informative about the individual deposits. For a complete list of references in the U.S.G.S., U.S.B.M., and A.D.G.G.S. literature the interested reader is referred to E. H. Cobb's "Summaries of Reference to Mineral Occurrences" published as U.S. Geological Survey Open-file Reports, 1975-1977. A master list of references cited, arranged alphabetically and in standard bibliographic style, follows the tabulation.

MAP NO. AND NAME(S) (if known)	MAP COORDINATES LOCATION	DEVELOPMENT CATEGORY	RESOURCES Minor constituent(s) or potential byproducts in parentheses	FORM	TYPE	BRIEF DESCRIPTION	PRINCIPAL REFERENCE(S)
1 Slate Creek	B,20 T.25N.,R.5W.	m(?)	Au	Disseminated	Placer	A few men reportedly mined placer gold from gravels of Slate Creek during the 1960's and 1980's. Production small to judge from extent of workings	Cobb, 1973, p.177
1 Trout Creek	B,20 T.25N.,R.5W.	0	(Mo,Zn)	not known	Lode (Type not known)	Single lot of quartz-sphalerite-molybdenite-pyrite specimens reportedly collected from Trout Creek were submitted to USGS in 1924. No other information on occurrence available. Trout and Slate Creeks controlled by fault contact between quartz monzonite of the Modzaas pluton (101±5 m.y. - Cretaceous) and lower Paleozoic pelitic schists. Samples of sulfide minerals may have come from the shear zone or from quartz veins in the monzonite. Molybdenite-bearing quartz veins reported in monzonite about 5 mi to the north in Trail Creek drainage area	Smith, 1942a, p. 197; Berg and Cobb, 1967, p. 240; Brosge, W. P., 1977 (oral comm.)

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1 Arsenic Creek (Corrigal/McCann; Rainy Creek)	H, 8 T.2S.,R.63W.	g	Hg(Au,As)	Vein	Hydrothermal (low temperature)	Quartz veins, associated with northeast-trending faults that dip steeply northwest contain cinnabar, realgar and small amounts of orpiment. Host is graywacke, shale and minor conglomerate of Early to Late Cretaceous Kuskokwim Group. Closely associated with hydrothermally altered diabase sills. 1969 USBM exploration program, consisting of 1499 ft of bulldozer trenches and 1439 ft of hand-dug cuts failed to reveal extensions of known deposits. Only recorded production was about 2000 lbs of "high-grade" cinnabar concentrate recovered and shipped during gold placer operations. Placer gold discovered 1911 and prospected 1912-1914. Mining reported 1914-1915 and in early 1940's. Total production probably small. Gold placers probably reconcentrated from glacial and/or glacio-fluvial deposits	Rutledge, 1948, 7 p.; Sainsbury and McKevett, 1965, p. 50-53
		a	Au,Hg	Disseminated	Placer		
2 Canyon Creek	H, 9 T.1N.,R.62W.	k	Au	Disseminated	Placer	Discovered 1913 and has been major producer of gold almost every year since, except during World War II. Production as recent as 1978. Initial hand operations recovered $2.00-$4.00/troy oz gold (based on old $20.67/troy oz price). Placer concentrations at bedrock in main channel and 10-ft-thick right limit benches gravels. Source may be auriferous quartz veins in hornfels zone that surrounds small Tertiary granitic pluton in Early Cretaceous (Aptian Group) graywacke, shale, argillite and mafic volcanic rocks. Incomplete production records show about 7500 crude ounces produced prior to World War II; about 800 fine	Maddren, 1915, p. 356-357; Moore and Cobb, 1977, p. 6
3 Columbia Creek	H, 8 T.6N.,R.45W.	g	Au	Disseminated	Placer	Claims prospected by New York Alaska Gold-Dredging Corp. in 1949 or 1950 using churn drill. No record of mining having been attempted. Bedrock consists of Jurassic sedimentary and volcanic rock intruded by a Tertiary granitic pluton and several rhyolitic bodies. No evidence that Columbia Creek valley was glaciated but it contains thick outwash deposits from the large glacier that formerly occupied the Kuskokwim Valley to the south	Moore and Cobb, 1950a; Moore and Cobb, 1977, p. 8
4,5 Cripple Creek	H, 9 T.7,8N.,R.59W.	a	Au	Disseminated	Placer	Discovery reported 1911 and sporadic mining until 1947, when activity closed down. Flood plain deposits mostly less than 6 ft deep reported to run about 33¢/yd. Left limit benches said to contain as much gold as the flood plain deposits. Fine flaky gold associated with abundant magnetite. Bedrock mainly graywacke and related rocks of Cretaceous Kuskokwim Group and small Tertiary albite rhyolite intrusives. Some left limit tributaries head in Tertiary granitic stock and surrounding hornfels zone of Cripple Mountains	Moore and Cobb, 1977, p. 9
6,7 Downtown Creek	H, 9 T.10N.,R.58W. T.10N.,R.57W.	p	Au	Disseminated	Placer	No record of production but staking of lower half of valley was essentially complete as of 1914. Fine colors reported near mouth of creek. Reputed to contain large amount of low-grade ground that may be suitable for dredging. Bedrock is graywacke and other clastics of Cretaceous Kuskokwim Group. Some right limit tributaries head in Tertiary granitic stocks of Mt. Plummer and Marvel Dome	Maddren, 1915, p. 336-338; Moore and Cobb, 1977, p. 10
8 Eureka Creek	H, 9 T.10N.,R.58W. (Approx.)	p	Au	Disseminated	Placer	Numerous claims located and small placer gold prospect located in glacial gravels but no mining reported as of 1914	Maddren, 1915, p. 339

9	Fisher Creek	M, 9 T.9N., R.58W.	p	Au	Disseminated	Placer	Left limit tributary to Salmon River. Drains Fisher Dome which is underlain by Tertiary albite rhyolite intrusives in altered graywacke and related sedimentary rocks of Cretaceous Kuskokwim Group. Six prospect holes to bedrock about 4 mi above creek mouth penetrated 15-30 ft of frozen silt and gravel. No reported mining or production as of 1914	Maddren, 1915, p. 346-347
10	Fisher Dome	M, 9 T.9N., R.59W.	o	Sb	Lode	Hydrothermal	Stibnite occurs in small quartz vein that cuts Tertiary albite rhyolite intrusive on top of Fisher Dome at head of Fisher Creek	Moore and Conrad, 1968a
11	Golden Butte Mines, Inc. (Golden Gate Falls, Royal Quartz Mines, Rigtagaitik River)	M, 8 T.5N., R.62W.	p	Cu, Au	Disseminated and vein	Hydrothermal(?)	Prospected in early part of century. Quartz veins, reported to carry some gold, said to have been traced for several hundred feet in 1929. Traces of copper minerals in Golden Gate fault zone that marks west boundary of ridge underlain by amphibole schist of Ordovician(?) to Devonian(?) age. No intrusive rocks noted in immediate area when mapped in 1949. Also a small amount of gold placer mining undertaken in riverbed. Probably all names refer to same locale	Smith, 1932, p. 22; Moore and Cobb, 1977, p. 16
12	Granite Creek	M, 8 T.10N., R.61W.	m	Au	Disseminated	Placer	Gold reportedly discovered in Granite Creek before being found on Bear Creek (Russian Mission quadrangle no. 2) about 1909. Mined 1938-1940 and 1946. Operations ceased 1947 after acquisition by New York-Alaska Gold Dredging Corp. Stream crosses contact between Cretaceous granitic pluton and Jurassic intermedded volcanic and sedimentary rocks	Maddren, 1915, p. 331; Moore and Cobb, 1977, p. 17
13	Kapon Creek	M, 8 T.1N., R.63W.	m	Au(Hg)	Disseminated	Placer	Discovered about 1911. A little ground sluicing 1914-1916. Coarse gravels. Low tenor. Gold "dingy" and flaky. Concentrates included magnetite, arsenopyrite and small cinnabar nuggets. Headwaters area underlain by sedimentary rocks of Kuskokwim Group (Cretaceous)	Moore and Cobb, 1977, p. 18
14	Marvel Creek	M, 9 T.9,10N., R.58W.	M	Au	Disseminated	Placer	Discovered in August 1911 and has been major, almost continuous, producer of placer gold in region until at least 1973 when a dredge, bulldozer and dragline were still operating. Values ranged from $2.00 to more than $3.25/sq ft bedrock. Mainly bench gravels 200-800 ft wide and 10 ft to more than 30 ft deep. Valley unglaciated. Creek drains contact zone between Tertiary granitic stock of Marvel Dome and hornfelsed clastic rocks of Kuskokwim Group (Cretaceous)	Maddren, 1915, p. 339-346; Moore and Cobb, 1977, p. 19-20
15	Robin Creek	M, 9 T.10,11N., R.58W. (Approx.)	p	Au	Disseminated	Placer	Stated for apparent similarity to Marvel Creek (No. 14) but unlike latter, valley is glaciated and plugged with poorly sized, coarse gravels, including boulders up to 5 ft in diameter, of morainal derivation. Numerous scattered placer prospects but no definite report of finding gold	Maddren, 1915, p. 337-339
16	Rocky Creek	M, 9 T.5N., R.59W.	p	Au,Hg	Disseminated	Placer	Prospected by one man in 1949. Stream flows through glacial drift and outwash as well as unaltered sedimentary rocks of Cretaceous Kuskokwim Group. Pan concentrates contained a few colors of gold and cinnabar	Moore and Conrad, 1959a; Moore and Cobb, 1977, p. 23
17, 18, 19	Tuluksak River	M, 8&9 T.10N., R.60, 61W.	M o (Cu)	Au(Ag,Pt,Cu)	Disseminated	Placer	A major producer of placer gold with minor amounts of silver and platinum. Dredge tailings reveal bedrock of andesitic volcanics of Late Jurassic Gemuk Group and contain traces of copper minerals. In 1959 annual production equivalent to about 13,000 oz. Last dredge in area shut down at end 1964 season. (See also Tuluksak River, Russian Mission quadrangle No. 7)	Moore and Conrad, 1959a; Moore and Cobb, 1977, p. 25

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1 Kanuti River	B,18 T.19N.,R.12.	o	(Pb,Ag,Zn,Cu)	Disseminated	Hydrothermal? Porphyry?	Disseminated galena and sphalerite occur as grains up to 5 mm long throughout an extensively oxidized pyritic zone (gossan) about 100 yd long in silicified rhyolite tuff and tuff breccia (early Tertiary?). Rhyolite rests on and probably intrudes biotite quartz monzonite of the Kanuti pluton (Cretaceous). Monzonite contains roof pendants of hornfelsic schist, quartzite, and phyllite (pre-Late Triassic). Composite grab samples along the gossan zone contain 700-20,000 ppm lead, <200 (trace)-1,000 ppm zinc, 3-30 ppm silver, and 70-500 ppm copper. Stream sediment samples from streams draining the mineralized zone contain as much as 700 ppm lead, 700 ppm zinc, and 3 ppm silver. No information on exploration or development work	Patton and Miller, 1970, p. 8-9
2 Sithylemenkat Lake pluton	B,17 T.18N.,R.16W.	o	U,Th	Disseminated(?)	Uraniferous igneous rocks(?)	Radioactivity anomaly over Sithylemenkat Lake pluton and nearby plutons suggests possible disseminated uranium and thorium deposits in the plutons and their wall rocks	Energy Research and Development Administration, 1976

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1 Sanner Creek	D,22 T.7S.,R.7E.	m	Au (Pb,W,Sn)	Disseminated	Placer	Bedrock in gold-producing area is rhyolite porphyry (Cretaceous?). Gold discovered in 1905 or shortly thereafter. Recovery by open-pit mining. Lower part of Buckeye Creek, Moore Creek, Hinkley Gulch, and Democrat Creek were also mined. Gold in the mining area in which Sanner Creek is included ranged from 639‰ to 786 in fineness. Galena, scheelite, tourmaline, and cassiterite have been found in placer concentrates from Buckeye Creek, and cassiterite has been identified from Hinkley Gulch. (Includes references to Buckeye Creek, Democrat Creek, Hinkley Gulch, and Moore Creek)	Saunders, 1963, p. 2, 4
2 Beaver Creek	D,22 T.7S.,R.7E.	m	Au(Sn)	Disseminated	Placer	Ground averaging $5 per sq ft (at 1976 price) was said to have been found in the winter of 1911-1912. Several windlass dumps were taken out. Scarce cassiterite occurs in the placers	Ellsworth and Davenport, 1913, p. 208; Joesting, 1942, p. 34
3 Blue Lead (see also Gray Lead and Grizzly Bear)	D,24 T.6S.,R10E.	m	Au(Pb,Sb,Ag)	Vein	Hydrothermal	Blue Lead is a mine on one of a group of gold-bearing quartz veins discovered near Tibbs Creek in the early 1930's. These quartz veins cut Cretaceous(?) granitic rocks and commonly occur near the contact of granitic and metamorphic rocks (Paleozoic and/or Precambrian?). Faults and shearing common. In general, free gold occurs in quartz containing pyrite, arsenopyrite, and (or) stibnite. Gold content of the veins decreases with an increase in sulfides. Veins pinch and swell and range from a width of about 4 in. to about 8 ft, but widths of 3 ft or less are most common. Other mines in the area are the Gray Lead, Grizzly Bear, Michigan Lead, and Hidden Treasure. There are also other small unnamed occurrences of gold and antimony. The Blue Lead is a gold-quartz vein about 2½ ft wide with jamesonite and a small amount of pyrite in granitic country rock. More than 100 tons were mined and milled in 1938. There are more than 775 ft of underground workings in the Blue Lead and Blue Lead extension. Mined closed down in fall of 1939. Total production from all mines in this area was about 32 oz gold and 25 oz silver from an estimated 150 tons. Renewed minor exploration in the general area in the 1970's	Saunders, 1967, p. 23; Thomas, 1970, p. 8
4 Boulder Creek (see also Blue Lead)	D,24 T.6S.,R.10E	p	Mo	Vein	Hydrothermal(?), porphyry(?)	Molybdenite occurs sparingly in small quartz veins in Cretaceous(?) granitic rock	Joesting, 1942, p. 29
5 Butte Creek (includes Twentymile Creek, a creek in the Salcha River drainage)	D,23 T.2S.,R.10E.	p(?)	Au	Disseminated	Placer	Bedrock is mostly garnetiferous quartz-mica schist and quartzite (Paleozoic and/or Precambrian?). Staked and some development work in 1905. About 20 ft of gravel overlain by 6 ft of muck. Considerable prospecting but little production. Prospecting also on Twentymile Creek, but no production reported	Prindle, 1906, p. 123-125
6 Caribou Creek	D,23 T.2,3S.,R.10E.	m	Au(W,Sn,Bi)	Disseminated	Placer	Bedrock is mostly amphibolite facies garnetiferous quartz-mica schist (Paleozoic and/or Precambrian?). First mining was in 1905. A dredge was installed in the 1940's and worked most of the length of the stream. Scarce cassiterite and scheelite and small amounts of native bismuth occur in the concentrates	Smith, 1941, p. 40, 43; Joesting, 1942, p. 34, 39
7 Central Creek	D,24 T.6S.,R.14E.	p(?)	Au	Disseminated	Placer	Exploratory work reported in 1927	Smith, 1930a, p. 26

8	Democrat Creek	D,22 T.7S.,R.7E.	p	Au	Vein(?)	Hydrothermal(?)	Explored in 1921. No known production, although a mill was built on the property	Saunders, 1965, p. 2
9	Gray Lead	D,24 T.6S.,R.18E.	m	Au	Vein	Hydrothermal	Explored and mined 1939 to 1941. About 1,450 ft of drifts, crosscuts, and raises driven. Mine developed along contact of granitic rocks (Cretaceous?) and gneissic schist (Paleozoic and/or Precambrian?); much faulted and sheared. Vein is about 2 ft wide and dips steeply west. Gold is fine and usually visible only on crushing and panning the ore. Renewed minor exploration and attempt at reworking tailings in area in 1970's.	Thomas, 1970, p. 7-9
10	Grizzly Bear	D,24 T.6S.,R.18E.	m	Au	Veins	Hydrothermal	Gold mined from quartz vein about 1½ to 2½ in. wide. Vein dips steeply south. Gold occurs near hanging wall and is coarser than in other veins in the area	Smith, 1939a, p. 30; Thomas, 1970, p. 11
11	Michigan Creek (includes Granite Creek)	D,24 T.9S.,R.16E.	m	Au	Disseminated	Placer	Gold discovered on Michigan Creek in 1915. Considerable prospecting on Michigan and Granite Creeks in 1916. (Both creeks flow into the South Fork Goodpaster River.) Stream gravel 13-25 ft thick. Gold very coarse. One nugget of about ½ oz found on Michigan Creek, but deposits generally low grade, and mining activity lasted only a short time	Brooks, 1918, p. 66; Thomas, 1970, p. 7
12	Nickel Creek	D,24 T.2S.,R.16E.	o	Ni,Cr	Pods and segregations	Magmatic	In silica-carbonate zone adjacent to serpentinized peridotite. Peridotite in this region is reported to have small areas with segregations of high-grade chromite 1 ft thick and 3 ft or so long, but for the most part the chromite content is less than 1 percent	Joesting, 1942, p. 14, 16
13	No Grub Creek	D,23 T.3S.,R.11E.	m	Au(Bi,W)	Disseminated	Placer	Bedrock is mostly quartz-mica schist (Paleozoic and/or Precambrian?). Mining intermittent from early 1900's to present (1977). Considerable native bismuth found in association with gold and subordinate scheelite	Smith, 1942b, p. 35
14	Pasco Creek	D,23 T.2S.,R.10E.	m(?)	Au	Disseminated	Placer	Indications of small placer mining operations, but period of activity not known	Foster, H. L., 1977, oral commun.
15	Pine Creek	D,22 T.2S.,R.7E.	m(?)	Au(Sn)	Disseminated	Placer	Scarce placer cassiterite reported. (Presence of gold assumed)	Joesting, 1942, p. 34
16	Redmond Creek	D,22 T.5,6S.,R.6E.	p	Au	Disseminated	Placer	Prospecting during the winter of 1908-1909. May have been a small amount of mining in the headwater tributaries	Ellsworth, 1910, p. 245; Wagon, 1954a, p. 11
17	Tenderfoot Creek	D,22 T.7S.,R.8E.	m	Au	Disseminated	Placer	Bedrocks are metasedimentary and metaigneous rocks with common small quartz veins and stringers. Gold discovered in 1905 and is very low grade. Gold has been found for about 3.75 mi along the stream. This stream was the largest producer in the Richardson gold district	Prindle and Katz, 1913, p. 113, 141
18	Tibbs Creek	D,24 T.6S.,R.19E.	m	Au	Disseminated	Placer	Limited placer mining, but most of the attention has been given to nearby lode deposits (see also Blue Lead, Gray Lead, and Grizzly Bear)	Cobb, 1973, p. 137

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1 West Fork Buckland River	C.8 T.1N.,R.9W.	P	U,Th	Disseminated	Uranium and thorium in igneous rocks; epigenetic(?)	Anomalous amounts of uranium and thorium in altered, andesite-rich trachyte. Minor fluorite	Miller, 1977, 9 p.

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1 Alder Creek	C,25 T.5N.,R.20E.	m	Au	Disseminated	Placer	Eastern tributary of Webber Creek. Placer ground worked prior to 1942, but no information on production. Probably very small as, in general, Webber Creek had no commercial placers. Fineness based on 9 assays: 853 gold, 141 silver, 6 dross; decidedly lower than that occurring within Tertiary belt of nonmarine sedimentary rocks to north and east. Gold believed to have been concentrated directly in Quaternary gravels from pre-Tertiary metamorphic and igneous sources	Martin, 1942, p. 250,255-256
2 Alice Gulch	C,25 T.5N.,R21E.	m	Au	Disseminated	Placer	Productive placer mining reported as early as 1906 but none indicated more recently than 1912. No information on production but probably less than 1,000 fine ounces of gold. (See also Mineral Creek)	Brooks, 1907a, p. 203; Prindle and Martin, 1912, 203, 209-210
3 Sam Creek	C,25-26 T.5N.,R.23E. (approx.)	m?	Au	Disseminated	Placer	Small gold placer deposits occur on Sam Creek, tributary to Sam Creek. Fineness based on single assay: 896 gold, 100 silver, 4 dross. No data on production. Sam Creek Valley otherwise devoid of placers. (See also Sawyer Creek)	Martin,1942, p. 250,254
4 Coal Creek and tributaries	C,25 T.5-6N.,R.20E.	M	Au(Th)	Disseminated	Placer	Gold placers discovered 1902 or earlier and mined intermittently at least until 1975 when 4 cu ft bucket dredge was operating on Coal Creek proper and sluicing was underway on Boulder Creek. Dredge began operating in 1936 after prospect drilling delimited pay streak at least 2 mi long and 400-800 ft wide. Stream heads in (Mesozoic?) granitic (adamellite) and metamorphic rocks (late Precambrian-early Paleozoic?). Flows northward across belt of Upper Cretaceous to Pliocene(?) nonmarine sandstone, mudstone, and conglomerate that straddles the Tintina fault zone and from which most of the placer gold is believed to have been reconcentrated. No minable placers occur upstream from the southern limit of the Tertiary rocks and a sharp cutoff in values occurs near north limit of the Tertiary belt. Mean of 16 assays showed fineness of 897 gold, 96 silver, and 7 dross. Heavy concentrates also contain monazite. Production estimated to be well in excess of 10,000 fine ounces. Unconfirmed report of occurrence of galena-bearing quartz vein on Colorado Creek. (Includes references to Boulder Creek and Colorado Creek)	Prindle and Martin, 1912, p. 201, 208-209; Martin, 1930a, p. 165-166; Martin, 1930a, p. 251-254; Martin, 1942, p. 246-251, 254
5 Drayham Creek	C,25-26 T.3N.,R.23E. (Approx.)	p?	Au	Disseminated	Placer	Placer gold reported on Drayham Creek, but no mention in literature of development or production. In general this and other tributaries to the Charley River within the Tertiary belt have not produced any considerable amount of gold	Martin, 1942, p. 250
6 Fourth of July Creek	C,27 T.6N.,R.28E.	M	Au(Ag,Pt)	Disseminated	Placer	Placer gold discovered 1898. Mined with few interruptions from about 1900 until at least as recently as 1973, mainly by hydraulic methods. Auriferous benches along west side of valley have been prospected but not mined. Pay streak in present stream valley 400-600 ft wide and consists of 6-15 ft of gravel overlain by 2-7 ft of muck. Most of gold occurs close to or in bedrock of Late Cretaceous to Pliocene(?) auriferous conglomerate and other terrestrial sedimentary rocks. Ultimate source of the gold considered to be quartz veins in metamorphic rocks to the south. Gold mostly fine grained, but nuggets to ½ oz also have been recovered. Average fineness, based on 22 assays from production 1918-1935 was 892 gold, 99 silver. Gold also contains alloyed platinum metals	Prindle and Martin, 1912, p. 201, 206, 208; Martin, 1930a, p. 164-165; Martin, 1942, p. 246-250, 254, 257-259

7	Iron Creek	C,25 T.4N.,R.21E.	m	Au	Disseminated	Placer	Tributary to Woodchopper Creek on which placer gold has been mined on small scale intermittently for many years. Creek drains Late Cretaceous-Pliocene(?) area of continental sandstone, mudstone, and conglomerate that lies along the Tintina fault zone. Pay streak spotty and irregular, but gold reportedly coarse and high grade. One sample assayed about 904 fine. (See also Woodchopper Creek)	Martin, 1942, p. 250
2	Mineral Creek	C,25 T.5N.,R.21E.	m	Au	Disseminated	Placer	Tributary to Woodchopper Creek, about 2 mi long, that for many years was the most productive creek of the Woodchopper Creek basin. Initially staked 1896. Total production to 1906 about 870 fine ounces. 3 well defined benches on south wall of valley at altitudes of 20, 150, and 250 ft above present creek level. Gold present in lower benches 2-6 ft of gravel, made up chiefly of locally derived well rounded chert and quartz pebbles overlain by as much as 30 ft of muck. Pay streak in 3 parallel channels 12-14 ft wide, 1½-4 ft thick over width of 80-100 ft. Bedrock is mainly nonmarine conglomerate (Late Cretaceous to Pliocene?). Gold in creek bed bright colored; that from benches is dark. Gold mostly coarse; largest nugget about 1½ oz. Fineness ranged from 923 to 934 about highest reported from the region (See also Alice Gulch)	Brooks, 1907a, p. 203-204; Martin, 1938a, p. 255-257
8	Nugget Creek (Gulch)	C,26 T.4N.,R.27E. (approx.)	m	Au	Disseminated	Placer	Tributary to Washington whose drainage area is entirely underlain by Late Cretaceous to Pliocene(?) nonmarine conglomerate mudstone and sandstone. Placer gold known prior to 1906. Highly localized accumulations of coarse gold on bedrock. Proximal source of gold believed to have been the bedrock conglomerate. Production not known but probably small	Brooks, 1907a, p. 201; Martin, 1938a, p. 204
9	Ruby Creek	C,26 T.3N.,R.28E.	m	Au	Disseminated	Placer	Placer gold mining on small scale 1911-1913 and probably later. Creek tributary to Fourth of July Creek and is underlain by conglomerate (Late Cretaceous to Pliocene?) believed to be the proximal source of the gold. Depth to bedrock 12-15 ft. Gold occurs in about 20 in. of locally derived gravel next to bedrock. One 8" oz nugget reported from Washington Creek, but its placers generally nonproductive. No data on production. Includes references to Washington and Eagle Creeks	Prindle and Martin, 1912, p. 208
10	Sawyer Creek	C,25 T.5N.,R.23E. (Approx.)	m	Au	Disseminated	Placer	Tributary to Sam Creek on which small placer deposit found in early 1900's. Near southern boundary of belt of Late Cretaceous-Pliocene(?) continental sedimentary rocks thought to be proximal source of gold, but workable placers are not known to occur on Sam Creek proper. (See also Sam Creek)	Martin, 1942, p. 250
11	Tatonduk River	C,27 T.2,3N., R.32,33E.	P	Fe	Tabular	Sedimentary	Low grade banded hematitic red beds of sedimentary origin occur in the Tindir Group (late Precambrian). Although known for many years, there is no record of exploration prior to summer 1961, when claims staked by local people from Eagle and Boundary. Section considered to have the best potential for iron belongs to the upper part of the group (Unit C of Martin, 1933) and comprises about 1,600 ft of interbedded reddish-brown shale and argillite (in part dolomitic and cherty), jasper and tuff with minor conglomerate (in part tillite?). Hematite occurs in discrete beds a fraction of an inch to 1 in. thick, as replacement mineral of volcanic fragments and as a hematitic argillaceous cement. Basal conglomerate 400-800 ft thick has hematitic matrix. Sampling of 133 and 200 ft intervals judged to	Martin, 1933, p. 375-380; Kimball, 1968a, 11 p.; Eberlein, 1973, (unpublished information)

						have the highest iron content by the USBM in 1962 showed 20.10 percent and 21.85 percent soluble iron, respectively. One 3/4 in. slaty bed assayed 33.4 percent soluble iron, the maximum tenor found. Analyses of bulk samples indicate very little magnetite present; the iron is in form of very fine grained hematite and not presently amenable to magnetic or simple gravity separation. Beds sampled have an exposure area of about 6 sq mi, but the Tindir red-bed unit that contains the iron formation can be traced northward in discontinuous exposures for at least 30 mi	
7 Woodchopper Creek	C.25 T.5-6N.,R.21E.	M	Au(Pt,Th)	Disseminated	Placer	Placer gold discovered 1902 or earlier and continued with interruption at least through 1975. Dredge, constructed in 1936, shut down 1964. Headwaters of creek drain area underlain by late Precambrian(?) and Paleozoic(?) metamorphic rocks intruded by medium- to coarse-grained granitic pluton (Mesozoic?). Productive placers in or immediately downstream from area of conglomerate and related terrestrial rocks (Late Cretaceous to Pliocene(?)) considered to be proximal source of most of the gold. Gravel 11-30 ft thick overlain by 5-20 ft of muck. Pay streaks 1½-4 ft thick in as many as 3 parallel channels in width of 40 ft; abundant granitic boulders in gravel. Mean of 5 assays shows fineness of 932 gold, 62 silver, and 6 dross. Platinum group metals (Pt, Ir) alloyed with the gold. Heavy mineral concentrates include monazite. (See also Iron Creek)	Martin, 1926a, p. 254-256; Martin, 1947, p. 246-250, 254, 257-259
12 Unnamed Occurrence	C.26 T.3N.,R.25E.	o	Cu	Veins and disseminations		Small malachite and azurite(?) stained chalcopyrite-bearing quartz and carbonate veinlets and disseminations of pyrite and chalcopyrite in greenschist, greenstone, and thin marble beds (Precambrian and/or Paleozoic. Vein material estimated to be less than 3 percent of rock	Clark and Foster, 1968, unpublished field notes; Clark and Foster, 1971, p. 14

MAP NO. AND NAME(S) (if known)	MAP COORDINATES LOCATION	DEVELOPMENT CATEGORY	RESOURCES Minor constituent(s) or potential byproducts in parentheses	FORM	TYPE	BRIEF DESCRIPTION	PRINCIPAL REFERENCE(S)
1 Bachelor Creek	C,22 T.8N.,R.8E. (Approx.)	m	Au	Disseminated	Placer	Placer gold discovered 1908. Present stream gravels are unfrozen, average 7 to 8 ft thick, and consist mainly of schist with a considerable proportion of vein quartz and some granite porphyry. Only reported production was from low bench gravels 20 ft thick on east side of creek. Bedrock principally quartz mica, quartzitic, and carbonaceous schist (Paleozoic and/or Precambrian?) cut by sill-like body of granite porphyry (early Tertiary, about 58 m.y.?) 75 ft thick parallel to schistosity (N.70°E.)	Prindle, 1910a, p. 208-209
2 Bedrock Creek	C,23 T.8N.,R.13E.	o	(Ce,W,Th)	Disseminated	Porphyry(?)	Granitic intrusive (Late Cretaceous-early Tertiary) into mica schist (Paleozoic and/or Precambrian?). Sample of granite when concentrated contained 10 percent monazite and a small amount of scheelite. Also present were pyrrhotite, garnet, ilmenite, zircon, biotite, topaz and malachite. Fluorimetric tests indicated the presence of uranium in several minerals but not in amounts to be of economic interest	Nelson and others, 1954, p. 12
3 Birch Creek	C,24 T.8N.,R.15E.	m	Au	Disseminated	Placer	The only placer production recorded from Birch Creek proper has been from river bars, of which Buckley Bar probably was the most productive. Mining with rockers during periods of low water as early as 1908. No known recent activity or production	Brooks, 1907a, p. 192; Ellsworth and Davenport, 1913, p. 213
4 Bonanza Creek	C,23 T.8N.,R.12E.	m	Au(Pb)	Disseminated	Placer	Placer gold known to be present in valley of Bonanza Creek since early days of the Circle camp (1895-1896), but serious mining apparently was not undertaken until 1927. Mining reported most years 1929-1937. Pay streak in lower valley 75-150 ft wide. Locally derived gravel is well rounded, of moderate size, 3-6 ft thick, and overlain by 2-6 ft of muck. Bedrock is mostly blocky quartzite and quartz mica schist (Paleozoic and/or Precambrian?). Gold rather coarse with considerable intergrown quartz. Nuggets reported to 10½ oz. Little variation in fineness of the gold over a 10 year mining period (mean = 850 gold, 140 silver). Gold, zircon, garnet, ilmenite, pyrolusite, pyrrhotite, pyrite and galena present in heavy concentrate	Martin, 1932, p. 169; Martin, 1938a, p. 226-228
5 Bottom Dollar Creek	C,24 T.7N.,R.14E.	M	Au	Disseminated	Placer	Left limit tributary of Harrison Creek on which placer gold was discovered in winter 1909-1910. Prospecting or small-scale mining reported 1909-1910, 1912, 1936, 1938-1939. Sluicing activity 1975. Pay streak narrow and gold distribution spotty. Fineness reportedly ranged from 702-797 gold, 195-285 silver. No data on production. (See also Half Dollar Creek and Two Bit Gulch)	Ellsworth and Parker, 1913, p. 160, 164; Martin, 1938a, p. 231, 235
6 Boulder Creek	C,23 T.8N.,R.13E.	M	Au(Cu,RE's,U)	Disseminated	Placer	Good placer gold prospects reported in benches, 1916. Mining 1929 and possibly at other times, including 1975. Depths to bedrock about 8 ft, with most of the gold localized in lower 3½ ft of the gravel. Bedrock is schist intruded by granitic rocks of probable Late Cretaceous-early Tertiary age. Sample of the granite, when concentrated, contained 45 percent allanite and 15 percent chalcopyrite (by volume) and several other minerals which gave positive fluorimetric tests for the presence of uranium. Granitic bedrock also contains vugs of fluorite	Martin, 1932, p. 164; Nelson and others, 1954, p. 12-14

7	Butte Creek	C,23 T.7N.,R.11E.	m	Au	Disseminated	Placer	Left limit tributary to Birch Creek southwest of Gold Dust Creek. Placer mining reported 1916, 1937 and perhaps in 1932. No production data but weighted mean of all gold mined through 1937 was 900 parts gold, 88 parts silver per thousand. Stream drains bedrock area of quartz mica schist of Paleozoic and/or Precambrian(?) age	Brooks, 1918, p. 56; Martin, 1938a, p. 231
8	Charity Creek	C,22 T.7N.,R.7E.	m	Au	Disseminated	Placer	Placer gold discovered in early 1900's or earlier. Development work that had been underway for several years was not continued in 1909. No known recent activity. Creek drains area of schist intruded by granitic rocks of probable Late Cretaceous to early Tertiary age. (See also Homestake Creek)	Ellsworth, 1910, p. 233; Prindle and Katz, 1913, p. 140
9	Deadwood Creek (Placer)	C,23-24 T.7-8N., R.13-14E.	M	Au,Sn,W(Hg)	Disseminated	Placer	Placer gold discovered 1894 and mining has continued with few interruptions until present time. Dredge operated 1937-1938 but most production was by other methods. Some claims worked in 1896 yielded 2-3 oz gold per man per day. Production data conflicting, but undoubtedly total output was many tens of thousands of ounces. One source (Prindle, 1905) reports total production through 1903 was about 72,870 oz; another (Brooks, 1907) indicates about 33,850 oz 1894-1906. Gold placers in gravels of present creek and benches along northwest side of valley. Principal bedrock is massive quartzite schist and quartz mica schist with subordinate carbonaceous and chloritic schist (Paleozoic and/or Precambrian?) intruded in places by granitic rocks and their fine-grained equivalents (Late Cretaceous-early Tertiary). Mafic dikes also present. Alluvial deposits of valley floor range from 5-20 ft. Schist cut by numerous quartz veins, some of which contain metallic minerals. Gravel derived mostly from local bedrocks and 3-14 ft thick; overlain by a few inches to 8 ft or more of muck. Gold occurs both in the gravels and crevices in bedrock. Creek gold is generally flattened and in places rather flaky; nuggets to 6 oz. Bench gold is rougher and more lumpy. Mean fineness on basis of seven assays from 1934-1936 production is 796 gold, 198 silver. Fineness remains constant downstream from Switch Creek, but increases upstream. Gold of present stream placers derived from diverse and widely separated bedrock sources, as well as from benches. Minerals in placer concentrates include gold, cassiterite, wolframite (all three of which were recovered during mining), scheelite, cinnabar, arsenopyrite, galena, pyrite, tourmaline and garnet. Several of these heavy minerals contain small amounts of uranium. Gravels below Discovery Gulch contain wolframite and gold with pieces of quartz attached. Wolframite not known to occur in placers above this gulch. (See also Switch Creek)	Spurr, 1898, p. 293, 342-345; Prindle, 1905, p. 58-61; Brooks, 1907a, p. 188-193; Johnson, 1910, p. 246-250; Prindle, 1913, p. 60-62
	(Lode)	C,24 T.7N.,R.14E.	o	Pb,W,Au,Ag	Veins	Hydrothermal	Numerous small quartz-feldspar veinlets cut schist and porphyritic granite bedrock. Most are barren, but the rusty appearance of some betrays the former presence of sulfides. Mineralized fracture zone with veinlets of quartz, pyrite and argentiferous galena occurs in schist bedrock on upper part of creek; reportedly carried about $6 in gold and $8 in silver (1907 prices). Small wolframite-bearing vein in schist near wolframite- and cassiterite-bearing placers at junction with Discovery Gulch. Porphyritic granite contains fluorite in vugs	Martin, 1938a, p. 235-246
10	Deep Creek	C,22 T.6N.,R.7E.	m	Au	Disseminated	Placer	Right limit tributary to Faith Creek. Small placer mine operated in 1946 and possibly at other times. No information on production, but probably small to judge from workings. Creek drains schist bedrock (Paleozoic and/or Precambrian?) cut by bodies of granitic rocks (Late Cretaceous-early Tertiary). (See also Faith Creek)	Wedow and others, 1954a, p. 8

11	Dempsey Pub	C,22 T.6N.,R.6E. (Approx.)	p	Sb,Au(?)	Vein	Hydrothermal	Quartz vein containing small lenses and stringers of stibnite and possibly gold explored by several short tunnels about 1920. Bedrock is quartzitic schist (Paleozoic and/or Precambrian?). In 1942 only a few thin seams of stibnite could be seen in place. A few discontinuous veinlets of stibnite also were observed in about 50 tons of mineralized quartz on dumps. One dump reportedly contained a few hundred pounds of low-grade ore (1950). Assay of best material showed about 28 percent antimony. (Includes reference to antimony lode on Sourdough Creek)	Killeen and Mertie, 1951, p. 6, 13, 39
12	Eagle Creek and Mastodon Fork	C,23 T.7N.,R.11E.	M	Au	Disseminated	Placer	Placer gold discovered 1895. Mining reported nearly every year through 1975 when Dam camps were in operation. Production through 1906 about 29,000 fine ounces. Bedrock mainly quartzitic schist (Paleozoic and/or Precambrian?) cut by numerous quartz veins. Schistosity strikes N.60°E.; dips 30°-40°NW. Pay streak 150-200 ft wide extended down Mastodon Fork and Eagle Creek in present stream gravels 5-20 ft thick and overlain by 2-15 ft of muck. Gold in gravel and upper few feet of bedrock; coarse grained and intergrown with considerable quartz. Fineness about 883 gold, 108 silver, with overall general increase downstream. Grade is about highest reported for Mammoth and Diamond Creeks area	Spurr, 1898, p. 293, 354-355; Brooks, 1907a, p. 188-189, 191, 197; Prindle, 1913, p. 64-65, Mertie, 1938a, p. 228-231
10	Faith Creek	C,22 T.6N.,R.7E.	m	Au	Disseminated	Placer	First reported finding of placer gold in 1906. Upper part of valley prospected in 1909 with a view toward mining by hydraulic methods. Mined 1937-1940 and for several years about 1954, but no known current activity. No other specific information in literature. (See also Camp Creek)	Brooks, 1907a, p. 37; Prindle, 1910a, p. 208; Cobb, 1973, p. 129
13	Frying Pan Creek	C,23 T.6N.,R.11E.	p(?)	Au	Disseminated	Placer	Good values reported by prospectors during winter 1909-1910 in hole sunk about 20 ft deep to schist (Paleozoic and/or Precambrian?) bedrock. 4-5 ft of pay gravel beneath 15 ft of overburden. No record of any production	Ellsworth and Parker, 1911, p. 160, 164
14	Goldcdust Creek	C,23 T.7N.,R.11E.	M	Au	Disseminated	Placer	Gravel of Goldcdust Creek (tributary to Birch Creek) prospected by drilling during 1936. Two active placer operations during 1975 but little is known of geologic relations or productivity. Stream heads south of Mastodon Dome and drains area underlain by quartz mica schist (Paleozoic and/or Precambrian?)	Mertie, 1938a, p. 231
15	Greenhorn Creek (Gulch)	C,23 T.7N.,R.13E.	M	Au(Ag)	Disseminated	Placer	Small northward-flowing tributary to Boulder Creek. Mined as early as 1896 and as recently as 1975. Shortage of water a handicap to mining. Gravels about 4 ft thick on bedrock of schist. Fragments of vein quartz contain disseminated free gold and weathered sulfide minerals. One such fragment assayed 24 oz silver per ton	Spurr, 1898, p. 293, 345; Mertie, 1932, p. 164
5	Half Dollar Creek	C,24 T.7N.,R.14E.	m	Au(Sn,W)	Disseminated	Placer	Left limit tributary to Bottom Dollar Creek. Placer gold discovered winter 1909-1910. Prospecting and/or mining 1909-1914, 1935, 1938-1942 and probably a few other years. Pay streak narrow and gold distribution spotty. Cassiterite abundant and scheelite common in placer concentrates but no indication that either was recovered during mining. Granitic rocks (Late Cretaceous-early Tertiary) exposed in drainage basin contain allanite, garnet, hematite, limonite, pyrrhotite, sphene and zircon. Fluorometric tests indicate the presence of uranium in several of these minerals. (See also Bottom Dollar Creek and Two Bit Gulch)	Ellsworth and Parker, 1911, p. 164; Nelson and others, 1954, p. 12-14

16	Harrison Creek (Includes North Fork)	C,23 T.6-7N., R.12-13E.	M	Au(Sn)	Disseminated	Placer	Gold discovered at Pitts Bar (at mouth of North Fork) in 1893 and mined nearly every year up to present. The most productive placers are located on the North Fork, where four companies were reported to be operating in 1975. Bedrock mainly weathered quartz-mica and mica schist (Paleozoic and/or Precambrian?) cut by numerous quartz veins. Fragment of one such vein contained grains of gold as much as 3/16 in diameter. Gravel, mostly unfrozen, of moderate size and 4-12 ft thick, with little or no overlying muck. Gravel composed mostly of pebbles and cobbles of locally derived schist and subordinate granitic rocks. Gold in lower 3 ft of gravel and upper foot or two of bedrock. Gold in the gravel tends to be fine grained, flaky and bright; that on and near bedrock is fairly coarse. Mean fineness, based on 13 North Fork assays, is 837 gold, 154 silver. Distribution of gold values and occurrence of attached quartz suggest derivation from diverse local sources. Concentrates contain a little cassiterite and considerable garnet and pyrite	Spurr, 1898, p. 293-294; Mertie, 1938a, p. 231-235
17	Holden Creek	C,24 T.6N., R.15E.	m	Au	Disseminated	Placer	Small left limit tributary to Ketchem Creek on which gold discovered 1932. Mined 1933-1934. (See also Ketchem Creek)	Smith, 1934a, p. 38; Smith, 1936, p. 38
8	Homestake Creek	C,22 T.7N.,R.7E.	m	Au	Disseminated	Placer	Left limit tributary to Charity Creek. Placer gold mined in early 1900's. No mining reported in literature after 1912. Gravel 8 ft thick. Gold said to have been found in place along intrusive contact between schist (Paleozoic and/or Precambrian?) and granite porphyry (Late Cretaceous-early Tertiary). (See also Charity Creek)	Prindle, 1910a, p. 220
18	Hope Creek (Placer)	C,22 T.7N.,R.7E.	m	Au	Disseminated	Placer	Placer gold discovered early 1900's, but apparently never mined extensively	Brooks, 1907b, p. 37; Prindle and Katz, 1913, p. 149
	(Lode)	C,22 T.7N.,R.6E.	o	(Sb,Cu,Pb,Mo,W)	Vein and disseminations	Hydrothermal(?), porphyry(?)	Bedrock is quartz-mica schist (Paleozoic and/or Precambrian?) intruded by granitic rocks (Late Cretaceous-early Tertiary). Samples of granite near head of creek contains trace to small amounts of fluorite, galena, molybdenite, allanite(?), pyrite, pyrrhotite, scheelite, rutile, and stibnite. Stibnite deposit found 1926 while constructing bedrock drain; apparently later covered. Reported occurrence of quartz-pyrite-fluorite veins in the schist could not be confirmed by USGS in field examination, 1952. No bedrock in area found to contain more than 0.004 percent eU	Joesting, 1943, p. 12; Meadow and others, 1953, p. 3, 5; Nelson and others, 1954, p. 7, 10-11
19	Independence Creek	C,23 T.7-8N.,R.12E.	M	Au(Pb,Sn,RE's, U,W)	Disseminated	Placer	Branch of Mammoth Creek that drains northeastern part of Mastodon Dome. Gold placers have been worked since 1894 or 1895. Creek has been a steady large producer to present time, although its pay streak not as rich as the best part of the Mastodon Creek pay streak. Bedrock is mica schist, quartz-mica schist and quartzite schist (Paleozoic and/or Precambrian?) cut by numerous quartz veins. Pay gravels as much as 425 ft but generally no more than 125 ft wide, 4-8 ft thick, and overlain by 0-10 ft of muck. The gold is fine grained and lies mainly within 3 ft of the gravel-bedrock contact. In one part of creek weighted mean fineness (eight assays) was 783 gold, 201 silver; in another it was 810 gold, 175 silver (five assays representing 1500 oz of gold). Gold fineness increases progressively downstream. Source of gold believed localized in area of Mastodon Dome. Heavy minerals in placer concentrates wolframite, xenotime, zircon, garnet and hematite, some of which are slightly uraniferous. (See also Mammoth, Mastodon, and Miller Creeks)	Mertie, 1938a, p. 210-211, 213, 219-222; Nelson and others, 1954, p. 11-14

17	Ketchem Creek	C.24 T.8N.,R.15E.	M	Au(Sn,RE's,U,W)	Disseminated	Placer	Placer gold mined 1933-1940 and as recently as 1975. Creek drains contact zone between quartz-mica schist (Paleozoic and/or Precambrian?) and granitic intrusive (Late Cretaceous-early Tertiary). 4-17 ft of moderate sized gravel overlain by 3-7 ft of sand and muck. Granite boulders 3-4 ft diameter were a serious problem in the small-scale mining in the area just below Holden Creek. Gold in lower part of gravel, in the upper part of the bedrock, and in a fine-grained arkosic sand that locally covers the bedrock surface. Gold is fine grained, but pieces weighing 7-10 grains have been found. Some of the gold has considerable quartz attached. Fineness reported 783 parts gold and 207 parts silver per thousand. Heavy concentrates also contain scheelite, cassiterite, allanite, garnet, sphene, and zircon, some of which contain small amounts of uranium. (See also Holden Creek)	Martin, 1938a, p. 248-250, Wedow and others, 1954b, p. 5
20	Little Champion Creek	C.22 T.7N.,R.5E.	P	U	?	Epigenetic?	Anomalous amounts of uranium (as much as 570 ppm) were detected by USGM in sediment samples from springs localized along contact of the Mount Prindle granitic plutons (early Tertiary; 56.5-58.5 m.y. K/A biotite age) with quartzitic schist, micaceous quartzite and lesser amounts of quartz mica, phyllitic and calcareous schist (Paleozoic and/or Precambrian?). Stream sediments in area were found to contain up to 400 ppm uranium	Barker and Clautice, 1977
21	Loper Creek	C.23 T.9N.,R.10E. (Approx.)	P	Au	Disseminated	Placer	Good placer gold prospects reported as early as 1908 in unfrozen gravel less than 8 ft deep. Also prospected 1932, but no record of ever having produced	Brooks, 1909, p. 54; Smith, 1934a, p. 35
18	Mammoth Creek	C.23 T.8N.,R.12-13E.	m(?)	Au(Cu,Pb,RE's, U,Mo,W)	Disseminated	Placer	Tributary to Crooked Creek with wide valley formed by junction of Independence and Mastodon Creeks. Gold discovered 1894, a year after initial district discovery on Birch Creek. Mined mostly by hydraulic methods (before 1916); dredging 1915-1916, 1936-1940 and probably later but inactive at least since 1950. Production through 1906 almost 100,000 oz. Bedrock mainly quartzitic and micaceous schist (Paleozoic and/or Precambrian?) cut by granitic bodies (Late Cretaceous-early Tertiary). About 12 ft of locally derived gravel overlain by 3 ft overburden. Gold in upper valley fairly coarse and light colored. Fineness about 840, increasing downstream. Source of gold believed to be quartz veins and mineralized zones in the bedrocks. Sample of granite talus contained allanite, galena, molybdenite, scheelite, iron sulfide minerals and hematite, copper carbonate minerals, garnet and topaz. Presence of uranium detected by fluorimetric tests. (See also Independence, Mastodon, and Miller Creeks)	Prindle, 1905, p. 59, 61-62; Brooks, 1907a, p. 188-189, 193; Martin, 1938a, p. 205-208; Nelson and others, 1964, p. 11-14
19	Mastodon Creek	C.23 T.7-8N.,R.12E.	M	Au(Sn)	Disseminated	Placer	Major fork of Mammoth Creek. Mined 1894 to as recently as 1975. Dredges operated 1912-1913, 1918-1926. Total gold production well over 150,000 oz (largest producer in Circle district, without including Mammoth Creek). Bedrock mainly quartzite- and mica-schist (Paleozoic and/or Precambrian?) cut by numerous quartz veins and locally by granitic rocks (Late Cretaceous-early Tertiary). Closely folded impure limestone near mouth. Depth to bedrock 10-15 ft. Pay streak in lower valley about 200 ft wide and 7-10 ft thick in mostly unfrozen gravels. Gold coarsest near head of stream and contains much quartz. Downstream the gold becomes more flaky, carries less quartz and shows an increase in fineness (820-840). Source of gold appears to have been centered on Mastodon Dome although no granitic rocks are known to crop out there. Cassiterite reported in concentrates. (See also Mammoth, Independence, and Miller Creeks)	Spurr, 1898, p. 347-349; Prindle, 1913, p. 63; Martin, 1938a, p. 206-208, 210-218

19	Miller Creek	C,23 T.7-8N.,R.12E.	M	Au	Disseminated	Placer	Left limit tributary to Mammoth Creek about 7 mi long with asymmetric valley. Northwest valley wall benched. Placer gold mined intermittently from 1895 at least through 1975, but apparently has not been large producer. Bedrock mainly quartzite and quartzitic schist veined with quartz. Granitic dikes occur on divide between Miller and Eagle Creeks. Gravel 4-16 ft thick including about 4 ft of overlying admixed muck. Locally up to 3 ft of clay between bedrock and gravel contains most of the gold, but at most places gold found in lower few feet of gravel and upper part of decomposed bedrock. Pay streak has maximum width of about 50 ft. Weighted mean, based on seven assays of production 1919, 1920, 1923, 1924, 1928, representing 965 oz of gold, showed fineness 832 gold, 162 silver. No data on composition of concentrates. (See also Independence, Mastodon, and Mammoth Creeks)	Spurr, 1898, p. 349-350; Mertie, 1938a, p. 222-224
19	Miller House	C,23 T.8N.,R.12E.	O	(Cu,Pb)	Disseminated(?)	Hydrothermal(?)	Heavy-mineral fraction of sample of granite contained malachite, galena, pyrite, zircon, and iron-oxide minerals. eU of unconcentrated material was 0.007 percent. Samples with concentration ratios of 150:1 and 325:1 showed eU of 0.053 percent and 0.065 percent, respectively	Wedow and others, 1954b, p. 5
22	Nome Creek	C,22 T.6N.,R.4-5E.	M	Au(Sn,Th)	Disseminated	Placer	Placer gold discovered 1910. Dredging 1926-31, 1939-1940, 1946, and probably later. Mining in progress 1975. Creek heads in Mount Prindle area where small quartz monzonite stock (Late Cretaceous-early Tertiary) intrudes schist (Paleozoic and/or Precambrian?). Ground about 15 ft deep with 2-4 ft of pay gravel. No data on production, but workings suggest total is substantial. Concentrates also contain cassiterite, monazite, topaz and tourmaline. Heavy fraction reportedly contained eU of 0.012 percent	Ellsworth and Parker, 1911, p. 166; Cobb, 1975, p. 174
23	Palmer Creek	C,23 T.2N.,R.11E.	M	Au(W)	Disseminated	Placer	Placer mining produced a small amount of gold 1937-1941 and probably later. Concentrates contained abundant scheelite but no record that it was ever recovered. Source of the scheelite and gold probably in the numerous quartz veinlets that cut the schist country rock (Paleozoic and/or Precambrian?). No granitic rocks are known to occur in the drainage area	Smith, 1939b, p. 48; Smith, 1939a, p. 43-44, 46; Joesting, 1942, p. 39
24	Porcupine Creek	C,23 T.2N.,R.11E.	M	Au(Sn)	Disseminated	Placer	Placer gold discovered in 1890's but mining was intermittent and on small scale until 1930's. Some mining in late 1950's and/or early 1960's. Two operators active 1975. In 1936 placers consisted of about 13 ft of gravel overlain by about 2 ft of muck; mining over about 1000 ft of creek bed. Bedrock is quartzite schist and quartz mica schist (Paleozoic and/or Precambrian?) with nearby vertical foliation. Gravel composed mostly of bedrock material and has average size much less than 1 ft. Gold mainly on and in bedrock; coarse, ragged and spotty. Numerous nuggets; some to 2-3 oz, all with considerable quartz attached. Weighted mean of gold mined 1934 and 1935 shows a fineness of 822 gold, 168 silver. A little cassiterite occurs in the concentrates. Source of the gold and tin may be the mineralized zone of which the lode occurrence on Porcupine Dome is a part. (See also Porcupine Dome and Yankee Creek)	Spurr, 1898, p. 350-351; Mertie, 1938a, p. 224-226
25	Porcupine Dome	C,23 T.8N.,R.11E.	P(?)	Au,Ag,Sn	Vein	Hydrothermal	Quartz veins, containing gold, silver and cassiterite prospected in 1930's. Host rock is Birch Creek schist (Paleozoic and/or Precambrian?). No granitic rocks are known to crop out in area. (See also Porcupine Creek)	Mertie, 1938a, p. 225-226

26	Portage Creek (Placer)	C,24 T.7-8N.,R.15E.	M	Au(W,RE's,Sn)	Disseminated	Placer	Gold discovered in early 1900's. About 10 oz said to have been recovered from one claim in 1906. Sustained mining began about 1933. Mining hampered by many large boulders. Two operators active 1975. Bedrock is quartz monzonite porphyry (71 m.y. strontium/rubidium date on biotite). Cassiterite a common constituent of placer concentrates. No data on production or occurrence of the gold. Heavy concentrates also include allanite, zircon, apatite, magnetite, sphene, garnet, scheelite, cassiterite, bismuthinite, wolframite, and topaz	Brooks, 1907a, p. 198; Ellsworth and Davenport, 1913, p. 213; Nelson and others, 1954, p. 11-15
	(Lode)	C,24 T.7N.,R.15E.	a	(Zn,RE's,W)	Disseminated	Porphyry?	Samples of quartz monzonite porphyry contain sphalerite, allanite, garnet, limonite, scheelite, sphene, topaz, zircon and traces of cerite. Fluorite also occurs in vugs and one water sample contains an anomalous amount of uranium (40.2 ppb). No exploratory or development work	
27	Shamrock Creek	C,23 T.2N.,R.11E.	m	Au	Disseminated	Placer	Left limit tributary of Chena River. Placer mining 1938-1939. No known current activity. Data on production lacking. Bedrock is schist of Paleozoic and/or Precambrian(?) age	Smith, 1941, p. 43
28	Sourdough Creek (Gulch)	C,22 T.8N.,R.6E.	M	Au(Sn,W,Sb)	Disseminated	Placer	Placer gold mined 1932-1940 and intermittently 1946-1959. Prospecting and maintenance work, 1966. Total production not known, but about 2850 oz gold reportedly produced 1937-1941. 200 oz cleanup reported from single 300 ft by 150 ft cut on discovery claim. Little if any ground prospected ahead of mining. A few blocks of worked ground remain sidevalley but creek has been largely mined. Gravel 10-11 ft thick. Gold reported to be mostly fine, 3/16 in. to flour size. Largest nugget 1/4 in. by 1/4 in. and flat. Bedrock Birch Creek schist (Paleozoic and/or Precambrian?) cut by granitic pluton (Late Cretaceous-early Tertiary) near head of creek. Placer concentrates contain gold, stibnite, and sparse cassiterite. Stibnite and scheelite identified in samples of granitic rocks (talus). (See also Dempsey Pup)	Joesting, 1942, p. 14, 22; Smith, 1942b, p. 29 Nelson and others, 1954, p. 10-11; Chapman, 1966, unpub. data
29	Sawmill Creek (Gulch)	C,24 T.6-7N.,R.13E.	M(?)	Au	Disseminated	Placer	Left limit tributary to Harrison Creek on which gold was discovered as early as 1894. Prospected and mined on small scale. Currently being mined at junction with Harrison Creek	Brooks, 1907a, p. 195; Mertie, 1938a, p. 231
9	Switch Creek	C,23-24 T.7N.,R.13E.	m	Au(Pb,W?)	Disseminated	Placer	Tributary of Deadwood Creek that was important source of placer gold from 1906 intermittently until World War II and 1942-1956. Both drift and hydraulic mining. Bedrock is mainly quartzitic schist and quartz mica schist (Paleozoic and/or Precambrian?) cut by numerous quartz-feldspar veins and intruded by granitic plutons (Late Cretaceous-early Tertiary). Some of the quartz-feldspar veins also carry arsenopyrite. Schist garnetiferous near contacts with granitic rocks. Both present creek and bench gravels carry gold. Gold coarse; larger nuggets have quartz attached. Weighted mean of eight assays showed fineness of 760 gold, 231 silver (somewhat lower than that from Deadwood Creek). Concentrates contain gold, arsenopyrite, pyrite, galena, magnetite, ilmenite, garnet, tourmaline, and limonite. One report (Johnson, 1910) states wolframite and cassiterite found in Deadwood Creek contentrates but not Switch Creek. Another (Joesting, 1942) reports wolframite on lower Switch Creek. (See also Deadwood Creek)	Johnson, 1910, p. 248-250; Mertie, 1938a, p. 236-238; Joesting, 1942, p. 37, 41

5	Two Bit Gulch	C,24 T.7N.,R.14E.	m	Au	Disseminated	Placer	Good placer gold prospects found and profitable mining during winter 1909-1910. Any other activity in this gulch probably was reported under Half Dollar Creek. (See also Half Dollar Creek)	Ellsworth and Parker, 1911, p. 164
24	Yankee Creek	C,23 T.8N.,R.11E.	M?	Au(Sn)	Disseminated	Placer	Small camp established in 1932 near junction with Porcupine Creek. Probably mined more recently. Cassiterite associated with the placer gold. Source of both believed to be mineralized belt on Porcupine Dome. (See also Porcupine Creek, Porcupine Dome)	Smith, 1934a, p. 35; Burand, 1968, p. 29
30	Van Cuylers Bar	C,23 T.2N.,R.11E.	m	Au	Disseminated	Placer	Small dredge operation resulting in moderate production for many years prior to 1963. Details lacking	Cobb, 1973, p. 129

MAP NO. AND NAME(S) (if known)	MAP COORDINATES LOCATION	DEVELOPMENT CATEGORY	RESOURCES Minor constituent(s) or potential by-products in parentheses	FORM	TYPE	BRIEF DESCRIPTION	PRINCIPAL REFERENCE(S)
1 Pass Creek	A,26 T.34N.,R.23E. (Approx.)	a	Au	Disseminated	Placer	Placer gold reported to occur in Pleistocene deposits on Pass Creek (tributary to Coleen River) prior to 1930, but not in concentrations minable at time. Gold also reported on bars of Coleen River but their location is not specified	Mertie, 1930b, p. 138; Cobb, 1973, p. 172
2 Napto River tributary	A,27 T.32N.,R.29E.	a	(U)	Disseminated	Placer	Stream gravel concentrates (concentration ratio of 2700:1) contains 0.052 percent eU in heavy-mineral fraction. Mineral containing the uranium has optical properties resembling those of aeschynite. Creek drains area underlain by biotite granite and quartz monzonite of Carboniferous age	White, 1952, p. 8
3 Sunag(n)um Creek	A,27 T.31N.,R.30E.	a	(U)	Disseminated	Placer and uranium-bearing minerals in igneous rocks	Concentrates from stream gravels with concentration ratios of 1000:1 and 2700:1 contained 0.010 and 0.052 percent eU, respectively. Concentrates from samples of bedrock of "disintegrated rhyolitic dike" and granitic bedrock (Carboniferous?) contained range of 0.060 percent eU (2000:1 concentration ratio) to 0.002 percent eU (concentration ratio = 10:1). Uranium-bearing minerals included Clarkeite(?), hematite, three unidentified species, and secondary coating on pyrite. Area not considered by White (1952) to be a potential commercial source of uranium ore	White, 1952, p. 8-9

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1 Humble Oil and Refining Co. (Kemuk Mountain)	I,11 T.5S.,R.49W. and vicinity	p	Fe(Ti)	Disseminated	Magnetic	Buried titaniferous magnetite deposit discovered in 1958 on the basis of a 35,000 gamma magnetic anomaly (above regional values) identified in an airborne magnetometer survey. Based on ground geophysical surveys, including gravity, and diamond core drilling (18 holes to maximum depth of 2000 ft) it is estimated that a tabular, steeply southwestward dipping magnetite-bearing pyroxenite intrusive at least 4000 ft thick occurs under an area of 4 sq mi or more. Host rock is silicified argillite, quartzite and limestone of Permian or perhaps Jurassic age. The deposit is believed to contain about 2.4 billion long tons of hypothetical resources averaging 15-17 percent total iron and 10.5-12 percent magnetic iron. Beneficiation tests indicate the feasibility of producing a high grade concentrate (65 percent Fe) that averages 2-3 percent SiO_2, 0.005-0.016 percent P_2O_5 and 2-3 percent TiO_2. The pyroxenite body is overlain by 90-400 ft of glacial deposits	Berg and Cobb, 1967, p. 11; Eakins, 1968, p. 8; Ralph E. Taylor, 1963 (written commun.)
2 Lake Nerka	I,10 T.8S.,R.56W. (Approx.)	o	Au	Disseminated	Placer	A little placer gold reportedly found at a small lake between the two arms of Lake Nerka	Eakins, 1968, p. 8
3 Marsh Mountain (Red Top)	I,10 T.10S.,R.65W.	m	Hg	Vein, disseminations and breccia filling	Hydrothermal (low temperature)	Cinnabar occurs disseminated and in pods and veins up to 4 in wide and more than 40 ft long in relatively brittle graywacke of the Gemuk Group (Carboniferous to Early Cretaceous) where a steep northwest-trending, right-lateral regional fault intersected an open southward-plunging syncline and produced a complex zone of shears and breccia more than 100 ft wide that can be traced on surface for at least 2000 ft. Explored by 10,000 ft of trenches and about 1500 ft of underground workings from two adits, the lowest of which is about 150 ft below surface exposures. Lode production reportedly 60 flasks 1953 to 1959 with enough ore stockpiled to yield again that much in 1959. Stockpiled ore being hand sorted as recently as 1967	Sainsbury and MacKevett, 1965, p. 57-68
4 Mahlung Hills	I,10 T.9S.,R.53W. (Approx.)	o	Au	Disseminated	Placer	Coarse gold reportedly found in a tributary of the Kokwok River along northeast slopes of Mahlung Hills	Martin, 1938b, p. 91
5 Silver Horn	I,10 T.8S., R.56W.	o	Mo	Vein?	Lode?	Molybdenite reportedly found by B. H. Polley near head of Silver Horn on Lake Beverly in 1934	Written commun., F. H. Wasley, Jan. 7, 1935

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1 Alder Creek	D,26 T.2N.,R.27E.	M	Au	Disseminated	Placer	Creek heads in quartzitic metamorphic rocks of the greenschist facies and a small Mesozoic(?) granitic intrusion. The lower course of the stream is in quartzite and quartz-mica schist cut by felsic, mafic, and ultramafic dikes. Mining in progress before 1912 and has continued intermittently to the present. Hydraulic operations in the 1920's. Some large nuggets (nearly 1 oz) found. Mean of nine assays indicate a fineness of .841 gold and 153 silver	Prindle, 1913, p. 79; Martin, 1938a, p. 191-193
2 American Creek (includes Teddy's Fork, Discovery Fork, and small tributaries Star Gulch and Gravel Gulch)	D,27 T.2S.,R.32E.	M	Au(Th)	Disseminated	Placer	American Creek is the largest tributary of Mission Creek. (Mission Creek enters the Yukon near Eagle.) About 13 km above its mouth, American Creek divides into two branches, Teddy's Fork entering from the west and and Discovery Fork entering from the southeast. Star Gulch and Gravel Gulch are small tributaries entering from the southeast. Teddy's Fork, Discovery Fork, Star Gulch, and Gravel Gulch head in greenschists, greenstone, marble, quartzite, and carbonaceous schist. The lower course of American Creek is in a canyon cutting serpentinized peridotite and to the north conglomerate and sandstone of Tertiary(?) age. American Creek has been mined since 1898. The lower end of Teddy's Fork has had the most activity in recent years and is still being mined on a small scale. Mean assays of gold upstream from the Tertiary(?) 0.865 gold, 0.130 silver. Concentrates contain monazite	Martin, 1938a, p. 199-201; Martin, 1942, p. 247, 256
3 Barney Creek	D,27 T.2N.,R.28E.	M	Au	Disseminated	Placer	Drains Late Cretaceous-Pliocene(?) nonmarine conglomerate and sandstone. Rock locally brecciated near mouth of Barney Creek in Tintina fault zone. Gold apparently derived from erosion of the terrestrial rocks. Mined as early as 1872 and as recently as 1940. Both present stream and bench gravels mined on a small scale; bench gravels richer. An assay yielded a fineness of 875 gold and 122 silver parts per thousand	Martin, 1938a, p. 183; Martin, 1942, p. 246-249, 254; Hansen, B., 1977, oral commun.
4 Ben Creek (includes Slate Creek)	D,26 T.3S.,R.25E.	M	Au(Th,RE's)	Disseminated	Placer	Drains schist, quartzite, and and Mesozoic granitic rocks. Some small-scale placer gold mining. Heavy mineral concentrates from near mouth of Ben Creek and on Slate Creek just above mouth of Ben Creek contained monazite and allanite. Early reports of uranium on Ben Creek were not confirmed by later field checking	Wadow and others, 1954b, p. 19-20
5 Bonanza Creek	D,26 T.2N.,R.26E.	P	Au	Vein	Hydrothermal(?)	Mineralization in 63-ft-wide limonite stained contact zone between serpentinite and a fine-grained mafic intrusive rock. Siliceous and calcareous veinlets cut both the serpentinite and intrusive rock. Channel samples yielded up to 11 ppm gold. Gold in Bonanza Creek too deep for placer mining	Clark and Foster, 1971, p. 10
6 Boundary Creek	D,27 T.3S.,R.33E.	M	Au	Disseminated	Placer	In Paleozoic(?) metamorphic rocks which include greenschist, marble, quartzite, and carbonaceous schist. Mining reported in 1902. Fineness 850 gold, 145 silver	Martin, 1938a, p. 201; Martin, 1942, p. 249, 256

7	Broken Neck Creek	D,27 T.1N.,R.30E.	m	Au(Pt)	Disseminated	Placer	Bedrock is Late Cretaceous-Pliocene(?) conglomerate and sandstone. Stream valley is narrow with precipitous walls. Originally worked for about 0.6 mi upstream from mouth. Pay streak 10-50 ft wide at mouth of canyon but narrower upstream. Gravel 1-10 ft thick but most of gold close to bedrock. Bench gravel also mined. Average fineness, based on production for 1929, 1933, 1934, and 1935, 820 gold, 165 silver	Mertie, 1938a, p. 196; Mertie, 1942, p. 257-259
8	Bruce prospect	D,27 T.27N.,R.18E.	P	(Ag,Au)	Vein	Hydrothermal	Adit beneath Taylor Highway in metamorphic rocks near contact with Mesozoic(?) granitic rocks. Silver occurs in veinlets cutting marble and other metamorphic rocks. Exploration in 1960's and 1970's. Mineralized float assayed at 0.02 oz gold and 0.68 oz silver per ton and 0.1 percent copper and 0.2 percent lead	Smith, 1968, p. 2, 15
9	Bryan Creek (Happy New Year Creek or Sixty Creek)	D,26 T.4S.,R.26E.	P	Asbestos	Cross Fiber	Metamorphic(?)	Elongate mass of serpentinized peridotite (Paleozoic or Mesozoic) surrounded by complexly deformed greenschist facies metamorphic rocks, including abundant quartzite. Closely spaced subparallel veins and veinlets of cross fiber chrysotile asbestos 1-8 in. wide cut large joint blocks of dark-gray, black, and greenish-black massive serpentine (antigorite). Limited exploration in 1970. In 1976 and 1977, exploration and evaluation, including drilling	Foster, H. L., 1969b, p. 6
10	Buckskin Creek	D,27 T.8S.,R.29E.	m	Au	Disseminated	Placer	A little mining in 1905, 1914, and 1925. Creek drains bedrock area of biotite gneiss and amphibolite (Paleozoic and/or Precambrian?). Pay streak reportedly 200-300 ft wide; 12-16 ft of overburden. Gold has a fineness of only 620 and is, therefore, about 26 percent lower in grade than most of the gold from other creeks in the Fortymile district	Mertie, 1938a, p. 185
11	Calico Bluff	D,27 T.1N.,R.32E.	U	U(V)	Disseminated	Epigenetic	Selected samples of black shale in the Calico Bluff Formation (Upper Mississippian and Lower Pennsylvanian) contained 0.001-0.006 percent uranium. The Calico Bluff Formation was tested for radioactivity at other outcrops along the Yukon River downstream to the Tatonduk River. A sample of shale taken between Sulphur Bend and the Seventymile River yielded 0.009 percent U, 0.68 percent V_2O_5, and 1.9 percent P_2O_5	Weeks and others, 1954b, p. 3-5
12	Camp Creek	D,27 T.27N.,R.22E.	M	Au	Disseminated	Placer	Reports of small-scale mining in 1915 and probably in early 1900's. Minor prospecting in 1960's and small-scale mining in 1970's	Prindle, 1909, p. 42; Brooks, 1916a, p. 62
13	Canyon Creek (Fortymile district)	D,27 T.27,28N.;T.8S., R.22,23E.	M	Au	Disseminated	Placer	Bedrock is mostly schist, marble, and quartzite (Paleozoic and/or Precambrian?) cut by a small granitic intrusion. Mining from before 1900 to present (1977). Early mining included the lower part of the creek, but recent mining has been only on the upper part. Mining mostly in stream gravels but some in bench gravels. In the early 1900's, a steam scraper worked on the lower part of the creek	Ellsworth and Parker, 1911, p. 169
14	Canyon Creek (Seventymile district)	D,27 T.1N.,R.29E.	m	Au(Hg)	Disseminated	Placer	Stream heads in metamorphosed sedimentary rocks and greenstone, but downstream crosses terrestrial conglomerate (Late Cretaceous-Pliocene?) for more than a mile but is in quartz-mica schist (Permian) near the mouth. Small-scale placer mining for gold. Cinnabar pebbles in sluice boxes near mouth. Trenching and test pitting in 1942 found a little cinnabar in gravel; none in bedrock	Malone, 1982, p. 50-51

15	Champion Creek	0,27 T.5S.,R.30E.	a	Asbestos	Vein	Metamorphic(?)	Veinlets of asbestos up to 1½ in. wide in float in vicinity of serpentinized ultramafic rock. Potential considered low	Foster, H. L., 1969b, p. 6
16	Cherry Creek	0,27 T.26N.,R.22E.	M	Au	Disseminated	Placer	Prospecting or small-scale mining reported in 1903, 1910-1911. New development and small-scale mining in 1970's	Pringle, 1905, p. 43, 44; Ellsworth and Parker, 1911, p. 169; Porter, 1912, p. 215
17	Chicken Creek (Includes Stonehouse Creek)	0,27 T.27N.,R.18E.	M	Au(W)	Disseminated	Placer	Lower part of creek crosses vertical Tertiary nonmarine sedimentary rocks which include coal and tuffaceous sandstone. Basalt dikes and flows (Tertiary) cut and overlie the sedimentary rocks. Stonehouse Creek, the major branch of upper Chicken Creek crosses metamorphic rocks and heads in quartz monzonite of the Taylor Mountain batholith (190 m.y; $^{87}Sr/^{87}Sr$ age determination on biotite). Both stream and bench gravels are mined on Stonehouse Creek. Mining has been almost continuous since about 1897. Much of early mining was by drifting. Production (1904 through 1907, including that from Myers Fork and Lost Chicken, Stonehouse, and Ingle Creeks, totaled about 18,835 fine oz. In 1960's a dredge operated in the lower part of the valley. Present mining is a hydraulic operation working present creek gravels and bench about 200 ft above present creek. Gold is bright, occurs as small (3-4 mm) flattened flakes and is only slightly rounded on edges. Largest grains (about 1 pennyweight) have quartz attached. Gold mined in 1935 from one mine averaged 835 gold and 158 parts silver per thousand. Scheelite has been reported in the concentrates	Martin, 1930c, p. 136, 137; Martin, 1938a, p. 157, 170-175; Eberlein, G. Donald, and Foster, H. L., 1977, unpub. field notes
18	Copper Creek	0,25 T.1S.,R.22E.	P	Cu(Au,Ag,Pb,W)	Tactite	Contact metamorphic and hydrothermal(?)	Metamorphosed sedimentary rocks adjacent to Mesozoic granitic pluton consist mostly of lime-silicate rock and amphibolite. Metallic minerals include chalcopyrite, bornite, malachite, azurite, and galena. A minor amount of uranium apparently occurs as an impurity in bornite and malacaite. Traces of gold, silver, and tungsten also reported in assays. Occurrence explored by adit with ore showings in only the first 43 ft. Samples of stream gravel contained a trace of monazite. Staked and prospected by Hudson brothers in early 1900's. Only cursory reconnaissance since that time	Hudson and others, 1964b, p. 7-9
19	Crooked Creek	0,27 T.1N.,R.30E.	M	Au	Disseminated	Placer	Creek drains area of nonmarine sedimentary rocks (Late Cretaceous-Pliocene?), mostly conglomerate, but cut by a few trachyte porphyry and other dikes. Area lies within the Tintina fault zone. Discovered in 1888 and mining since late 1800's and major part in early 1900's. Gold has mean fineness of 902 parts per thousand (purest of Seventymile area). Gold distributed through 5-7 ft gravel over a width of 300 ft. Mining from 1909 to about 1940 mainly hydraulic. Creek fairly thoroughly mined, but some renewed activity in 1976 and 1977. Largest producer in Seventymile region	Martin, 1938a, p. 157, 159; Clark and Foster, 1971, p. 11
20	Davis Creek	0,27 T.26,27N.,R.22E.	M	Au	Disseminated	Placer	Headwater fork of Walker Fork. Bedrock is quartzite and quartz-mica schist. Gold discovered in 1886 and nearly mined out in early 1900's. Small-scale mining activity in the 1970's	Martin, 1938a, p. 152-159

21	Dennison Fork	0,27 T.26N.,R.18E.	p	Au(W)	Disseminated	Placer	Creek mainly in granodiorite of Taylor Mountain batholith (190 m.y., $^{87}Sr/^{87}Rb$ age determination on biotite) which has shown little indication of mineralization, but bench near mouth reported to carry gold. Considerable prospecting in early 1900's and a ditch constructed, but no record of mining except at mouth on Mosquito Fork. Sample from foot of bluff at mouth contained a trace of scheelite	Porter, 1912, p. 214
22	Dome Creek (tributary to O'Brien Creek)	0,27 T.6S.,R.32,33E.	M	Au	Disseminated	Placer	Bedrock is quartz-mica schist, marble, and quartzite (Paleozoic and/or Precambrian?). Gold discovered in 1893. Principal mining, particularly of high bench gravels in early 1900's, by hydraulic methods. Little Miller Creek, a small tributary cut through the bench and reconcentrated gold from the bench, resulting in a rich stream placer which was mined out in the early 1900's. Bench gravels along Dome Creek are as much as 86 ft thick and extend for several thousand feet along the north wall of the valley. In 1977, there was a small mining operation near the mouth of Dome Creek which has been active for the past few years. Assay of gold indicated 885 gold and 107 silver. (Includes references to Little Miller Creek	Martin, 1935a, p. 188-190; Cobb, 1973, p. 133-136
23	Eagle Bluff (Jenkins prospect)	0,27 T.1S.,R.33E.	o	(Cu,Ni,Pb,Zn,Ag,Sn)	Disseminated	Syngenetic	Dominantly greenstone, argillite, and limestone near Tintina fault zone. Locally high but sporadic concentrations of copper, nickel, lead, zinc, and tin. Silver reported in soil sample	Clark and Foster, 1971, p. 16
24	Excelsior Creek (Twelvemile Creek, old name)	0,27 T.1S.,R.31E.	p(?)	(Au)	Disseminated	Placer	Prospecting for gold in 1896 reported. No record of production. Trace of monazite in sample of Mesozoic(?) granitic rock	Wedow and others, 1954b, p. 6
25	Flat Creek	0,27 T.7S.,R.32E.	m	Au	Disseminated	Placer	Small tributary to the Forty-mile River that drains bedrock area of quartz-mica gneiss, hornblende gneiss, and quartzite (Paleozoic and/or Precambrian?) that had small-scale sporadic mining from 1905-1915	Brooks, 1905, p. 63; Brooks, 1916a, p. 62
26	Flump Creek (Placer)	0,28 T.1,2N.,R.28E.	m	Au	Disseminated	Placer	Mouth of creek cut in serpentinized peridotite (Paleozoic-Mesozoic), associated silica carbonate rock, and diorite (Paleozoic). Upper part of creek and tributary Arctic Creek cut greenschist quartzite and greenstone (Paleozoic?). Sporadic placer gold mining near mouth from early 1900's to 1930's. Placer gold reported on Arctic Creek	Martin, 1935a, p. 191, 193-194; Clark and Foster, 1971, p. 7-10; Foster and Keith, 1974, p. 660
	(Lode)		p	Au(Ag)	Vein	Hydrothermal	Adit driven into altered diorite upstream from the ultramafic body. Quartz veins that cut the diorite contain up to 6 ppm gold. Traces of gold also found in shear zones and in other quartz-carbonate veins. Mineralization may have been localized by the fault zone. Traces of gold (0.9 ppm) and silver (0.5 ppm) reported in silica-carbonate rock associated with the serpentinized peridotite	
27	Fortyfive Pup (Gulch)	0,28 T.8S.,R.28E.	M	Au(W,Sn)	Disseminated	Placer	Country rock is quartz-mica schist, quartzite, and marble with Mesozoic(?) granitic rocks in the headwaters. Mined intermittently since 1910. Actively mined from 1960's to present. Gold of low fineness (620). Concentrates contain scheelite and rare cassiterite	Prindle, 1908, p. 36, 42-43; Ellsworth and Parker, 1911, p. 170-171

28	Fortymile River	0,27 T.7S., R.32,33,34E.	M	Au	Disseminated	Placer	Major stream flowing in deep canyon entrenched in quartz-biotite gneiss, amphibolite gneiss, marble and quartzite (Paleozoic and/or Precambrian). Foliation and metamorphic layering locally transverse to stream course forming natural riffles which concentrate the gold. Placer gold also occurs on bars (such as Bonanza Bar). Sniping used to be common following floods because placers are naturally renewed. Dredge operated in the early 1900's near the international boundary. Recent small-scale mining has been near the mouth of Steele Creek and at several localities downstream from Steele Creek. Small suction dredge activity common on the river near the bridge where the Taylor Highway crosses the river. (See also South Fork and North Fork. Includes references to Bonanza Bar)	Cobb, 1973, p. 136
29	Fox Creek	0,27 T.1N.,R.30E.	M	Au(Sn,Pt)	Disseminated	Placer	Entire drainage in Late Cretaceous-Pliocene(?) sedimentary rocks, mostly nonmarine conglomerate and sandstone. Western tributary is Lucky Gulch. Mouth of creek near splay of Tintina Fault. Gold in both stream and bench gravels. Concentrates contain a little cassiterite. Gold from a bench 75 ft above stream below mouth of Lucky Gulch is fine grained and high grade. Assay of gold recovered in 1933 and 1934 shows 884 parts of gold and 110 parts silver per thousand. Renewed activity reported in 1970's. Platinum reported from the placers of Lucky Gulch. (Includes references to Lucky Gulch)	Martin, 1938a, p. 191, 198-199
30	Franklin Creek (Gulch)	0,27 T.20N.,R.18E.	M	Au(Ag,Pb,Hg)	Disseminated	Placer	Bedrock is quartz-mica schist, marble, and quartzite (Paleozoic and/or Precambrian?) with granitic (Jurassic-Triassic) rocks in the headwaters. Lower part of creek, site of most mining, is narrow, steep walled and has a steep gradient. Gold discovered in 1886 and mined until 1925 when a disastrous flood destroyed mining developments. Production 1904 through 1907 reportedly about 1,960 fine ounces. Heavy minerals in concentrates include native silver and lead, cinnabar, galena, barite, and much magnetite	Martin, 1938a, p. 181-182
31	Gillilland Creek	0,27 T.8S.,R.32E.	M	Au	Disseminated	Placer	Bedrock is quartz-mica schist and quartzite with irregular shaped masses of metadiorite and metagabbro (Paleozoic and/or Precambrian?). Mined during 1930's and probably at other times. Gold is coarse. Assays show fineness of 8654 parts gold and 129 parts silver per thousand	Martin, 1938a, p. 168, 169
32	Gold Run	0,26 T.4S.,R.29E.	M	Au	Disseminated	Placer	Creek mainly in metamorphic rocks (Paleozoic and/or Precambrian?) but near its head is in contact with terrestrial conglomerate (Late Cretaceous-Pliocene?) and felsic intrusive rocks. Mined on small scale in early 1900's	Foster and Clark, 1970, p. M19
33	Healy River (Johnson prospect)	0,25 T.6S.,R.19E.	G	Mo	Vein	Hydrothermal	Quartz vein in granitic rock of the Mt. Harper batholith (Mesozoic?) contains sparingly scattered and evenly distributed bunches of molybdenite. A selected sample contained 1.2 percent molybdenum, but average of the deposit much lower. No development work	Chapin, 1919a, p. 329; Joesting, 1942, p. 29
34	Hutchinson Creek	0,26 T.7S.,R.27E.	G	Au	Disseminated	Placer	Montana and Confederate Creeks are tributaries to Hutchinson Creek; drain area of metamorphic rocks cut by felsic dikes and lenses. Small placer gold production from all three creeks in the early 1900's. (Includes references to Montana and Confederate Creeks)	Prindle, 1913, p. 80

35	Ingle Creek and tributary Lilliwig Creek (Placer)	0.26 T.27N.,R.17E.	M	Au	Disseminated	Placer	Bedrock is greenschist, argillite, and quartzite (Paleozoic?) and probably some granodiorite (Jurassic-Triassic). Small placer mine has operated on Ingle Creek near mouth for many years and is presently active. Placer gold is coarse, showing fineness of 851 gold and 144 silver. Much in crevices in bedrock	Martin, 1930c, p. 141; Smith, 1968, p. 2
	(Lode)		P	(Au,Ag,Cu)	Vein	Hydrothermal	Quartz and calcite veins near head of Ingle Creek reported to carry free gold. Reported lode on Lilliwig Creek consists of sericitized quartz diorite with small parallel stringers of quartz and calcite containing gold-bearing sulfides which assayed 1.87 oz gold, 2.05 oz silver, and 0.76 percent copper to the ton. No development of lodes	
36	Lost Chicken Creek (Lost Chicken Hill)	0.27 T.26N.,R.18E.	M	Au	Disseminated	Placer	Bedrock granitic and contact rocks. Discovered about 1895 and mined from 1896 intermittently to present. Mined by drift and hydraulic methods. Gold is fine and occurs mostly in small flattened pieces. Similar to that from Chicken Creek. Many of assays showed fineness of 842 gold, 144 silver. Most of gold has come from older bench gravel. Present mining in 8-10 ft of gravel. Frozen muck cover commonly 20 ft thick	Martin, 1938a, p. 171; Eberlein, G. Donald, and Foster, H. L., unpub. field notes
37	Lowry's Lodge	0.27 T.26,27N.,R.22E.	O	Au	Vein	Hydrothermal	Quartz vein in schist contains free gold and minute specks of "iron and copper pyrites." No record of any activity since 1896	Spurr, 1898, p. 292
38	Mission Creek	0.27 T.1,2,3S., R.31,32E.	M	Au(Th)	Disseminated	Placer	Stream heads in metamorphic rocks, including greenschist, quartzite, and marble (Paleozoic) and crosses greenstone (Paleozoic) and nonmarine Late Cretaceous-Pliocene(?) conglomerate and sandstone. Stream gravels contain gold and have been mined in places, but recovery was not profitable in the 1930's. Monazite identified in the heavy mineral fraction of samples from near mouth of the creek. Colorado Creek, a small tributary, mined on small scale in 1902. (Includes references to Colorado Creek)	Martin, 1938a, p. 201; Mardow and others, 1954b, p. 7, 9
39	Mitchell	0.25 T.27N.,R.12E.	P	Cu(Ag,Au,Zn,Pb,Sn,Mo)	Vein and disseminations	Hydrothermal (Porphyry?)	Quartz-bornite-chalcopyrite vein 4 ft wide and earthy material consisting largely of malachite exposed in trenches in a schist roof pendant in a large granitic body (Late Cretaceous?). Grab sample contained 0.04 oz gold and 79.98 oz silver per ton and 19.61 percent copper. A channel sample across 4 ft was much leaner. Some samples are high in zinc and lead with traces of tin and molybdenum. Granitic rocks contain disseminated sulfide minerals	Saunders, 1962, p. 85-88; Foster and Clark, 1970, p. M28
40	Mogul Creek	0.27 T.1N.,R.30E.	O	Hg	Disseminated	Placer	Placer cinnabar present in stream concentrates never recovered. No lode source found	Cobb, 1973, p. 126
41	Mt. Harper	0.25 T.28N.,R.9E.	O	Asbestos	?	Metamorphic?	Asbestos in float around partially serpentinized peridotite. Fiber about 2 in. long; probably slip fiber	Foster, H. L., 1969b, p. 6
42	My Creek	0.25 T.27N.,R.11E.	P	(Sb,Ag,Fe,Pb,Cu,Zn,Cd)	Veins and skarn zone	Contact metamorphic and porphyry(?)	Quartz-biotite gneiss (Paleozoic) high in disseminated sulfides cut by vuggy quartz veins which contain stibnite. Gneiss intruded by bodies of syenitic rocks (Jurassic). Nearby traces of silver found associated with marble. Originally discovered in 1918; restaked in 1938 and 1941. Test pits dug in 1941 and 1942 and further exploration in the late 1960's and early 1970's. Some samples contain anomalous amounts of copper, zinc, cadmium, as well as antimony, silver, lead, and a trace of gold. A contact metamorphic deposit of magnetite in marble, 15 ft thick and traced on surface for 300 ft has been reported. Numerous pits and trenches in area between My and Our Creeks and north of My Creek; samples from some have as much as 1,000 ppm silver. (May also include references to Mt. Vetz)	Joesting, 1943, p. 15-16; Mardow and others, 1954b, p. 18-19; Berg and Cobb, 1967, p. 222; Foster and Clark, 1970, p. M24

43	Myers Fork	D,27 T.27N.,R.18E.	M(?)	Au(W)	Disseminated	Placer	Bedrock mainly deeply weathered Tertiary basalt. Mining mostly on bedrock benches that had no surface expression before mining. Concentrates contain magnetite, ilmenite, some barite, garnet, zircon, and scarce scheelite. Principal mining from 1901 to 1940. Renewed mining activity in 1977. Fineness is 833 gold and 160 silver from weighted mean of 17 assays	Mertie, 1938a, p. 170
44	Napoleon Creek	D,27 T.27N.,R.19E.	m	Au	Disseminated	Placer	Lower part of valley is cut in Late Cretaceous-early Tertiary conglomerate, sandstone, and coal-bearing shale. Upstream are quartz-biotite gneiss, amphibolite, and minor marble (Paleozoic and/or Precambrian). The stream heads in granitic rocks. Gold discovered in 1893. Gold mined in present stream gravels occurs mainly on and in cracks in bedrock. Production 1904 through 1907, combined with that from Montana, Buckskin, Dome, Eagle, and Twin Creeks, totaled about 122 fine ounces. Gold is irregular and coarse; nuggets up to 6 in. diameter or more not uncommon. Fineness reportedly about 870. A high bench on north side of stream had rich pockets of gold on basaltic bedrock	Mertie, 1938a, p. 183-185; Eberlein and Foster, 1977, unpub. field notes
45	North Fork, Fortymile River	D,26 T.6S.,R.29E.	m	Au(Sn)	Disseminated	Placer	About the only mining activity has been at the "kink", an artificially cut off (in 1903) meander. Attempts to dredge there unsuccessful. Placer cassiterite reported common at "kink"	Mertie, 1938a, p. 185; Joesting, 1943, p. 19
46	Nugget Creek	D,26 T.1N.,R.28E.	m	Au	Disseminated	Placer	Small-scale mining near mouth from about 1903 to 1936. Gold (one assay) was 857 fine	Prindle, 1905, p. 56,57; Mertie, 1942, p. 249
47	Nugget Gulch	D,27 T.7S.,R.33E.	m	Au	Disseminated	Placer	Small creek in quartz-biotite gneiss and hornblende gneiss with mafic rocks in headwaters. Crosses high terrace of Fortymile River. Gold probably reconcentrated from high gravels. Several hundred ounces of gold produced in late 1800's and early 1900's	Prindle, 1909, p. 27
48	Pleasant Creek	D,26 T.2N.,R.28E.	o	Au	Disseminated	Placer	Bench gravels said to carry gold, but successful mining has never been reported. Creek near Tintina fault	Ellsworth and Davenport, 1913, p. 219-220
49	Poker Creek	D,27 T.26N.,R.22E.	m	Au	Disseminated	Placer	Headwater tributary of Walker Fork. Bedrock mostly quartzitic schist, in part carbonaceous (Paleozoic?) and cut by numerous quartz veins. Discovered in 1889 and essentially mined out before 1936. In 1912 dredge from Walker Fork mined up Poker Creek a few hundred feet and was dismantled. Assay showed fineness of 872 gold and 122 silver	Mertie, 1938a, p. 157-160
50	Purdy Quartz Mine	D,27 T.27N.,R.18E.	M	Au(Ag,Bi,Sb)	Vein		Rich vein of gold in calcite and quartz in Paleozoic phyllite and quartzite extended to depth of about 6 ft was mined on ridge between Stonehouse Creek and Myers Fork. Extensive additional prospecting has revealed only a few small calcite veins and veinlets carrying specks of gold. In the 1970's, veined bedrock in the area was mined and milled with minor gold production. Silver, copper, bismuth, and antimony also occurs in minor amounts	Foster, H. L., 1969a, p. G28
51	Rock Creek	D,27 T.1N.,R.31E.	p	Au	Disseminated	Placer	Coarse gold on bedrock at a depth of 52 ft could not be worked at a profit (1910)	Ellsworth and Parker, 1911, p. 171

52	Ruby Silver Claim	D,25 T.27N.,R.11E.	P	Pb	Vein	Hydrothermal(?)	Quartz vein in biotite schist (Paleozoic) contains hematite, pods of galena, partly altered to cerussite and calcite. No silver was detected in this sample, but traces of silver have been reported in other samples from this area. (See also Fly Creek)	Wedow and others, 1954a, p. 18
53	Seventymile River	D,27 T.1N.,R.29E.	M	Au	Disseminated	Placer	Most of the mining in the drainage of the Seventymile River has been on tributaries which are treated separately in this tabulation. However, there has been some mining on the main stream in gravel on low benches, particularly on the north side of the river above the "falls". Also, the bars of the Seventymile River have been worked in a small way, mostly by sniping.	Martin, 1938a, p. 191-195
54	Smith Creek	D,27 T.7,8S.,R.34E.	M(?)	Au	Disseminated	Placer	Mining reported in 1932, probably at the mouth of Smith Creek on a bar in the Fortymile River. No data on production or relationships	Smith, 1934a, p. 37
55	Samickson Creek	D,27 T.1N.,R.29E.	M	Au	Disseminated	Placer	Mining near mouth in early 1900's and probably in 1914. Creek drains area underlain mainly by nonmarine conglomerate and sandstone (Late Cretaceous-Pliocene(?)) and metamorphic rocks of Early Paleozoic and/or Precambrian (?) age. Granitic rocks (Mesozoic-Tertiary) also crop out in headwaters area	Pringle, 1905, p. 55-56
56	Squaw Gulch	D,27 T.27N.,R.22E.	M	Au	Disseminated	Placer	Tributary of Canyon Creek on which there has been intermittent mining since early 1900's. Creek gravels 3-10 ft thick with many large boulders. Gold mostly flaky, but some coarse pieces	Pringle, 1909, p. 41-42
57	South Fork (of Fortymile River)	D,27 T.26,27N., R.18E.	M	Au	Disseminated	Placer	Mining since early 1900's. A dredge began operation near the mouth of Lost Chicken Creek in 1936 and worked upstream about 2 mi. Gold recovered in 1936 was fine grained and light with a fineness of 900. Small suction dredges commonly carry on small operations at present. (Includes references to Mosquito Fork and Atwater Bar)	Martin, 1938a, p. p. 173
58	Tweedam	D,26 T.27N.,R.16E.	P	Au	Vein	Lode	Small iron-stained quartz veins in greenstone and greenschist (Paleozoic) near contact with diorite pluton (Late Cretaceous-Early Tertiary?) at mouth of Gold Creek. Tunnel about 30 ft long driven and arrastre built. Abandoned in 1911. Gold was too fine grained to be recovered profitably	Porter, 1912, p. 213-214
59	Twelvemile Creek	D,27 T.27N.,R.21E.	M(?)	Au	Disseminated	Placer	Tributary to Walker Fork in quartz biotite gneiss, hornblende gneiss, quartzite, and marble (Paleozoic and/or Precambrian?). Minor activity in early 1900's. Additional prospecting and possibly some mining in 1960's and 1970's	Foster, H. L., 1977, oral commun.
60	Twin Creek	D,27 T.7S.,R.33E.	M	Au	Disseminated	Placer	Minor production sometime between 1904 and 1907	Prindle, 1908a, p. 197
61	Uhler Creek	D,27 T.8S.,R.31E.	M	Au	Disseminated	Placer	Small mining operations in early 1900's. Small-scale mining in 1960's and 1970's	Foster, H. L., 1977, oral commun.
62	Wade Creek	D,27 T.27N.,R.20E.	M	Au(Sn,W,Hg)	Disseminated	Placer	Bedrock is quartz-mica schist, amphibolite, quartzite, and marble (Paleozoic and/or Precambrian?). Gold mainly on bedrock and in crevices in bedrock. Some frozen bench ground. Gold coarse and many large nuggets found. Placer gold discovered 1895 and mined from about 1898 to present. Production 1904 through 1907 alone totaled about 16,230 fine ounces. Dredge operated in 1936-1940. Concentrates contain barite, cassiterite, scheelite, and cinnabar. Average fineness in the upper part of Wade Creek valley is 830 parts of gold and 165 parts of silver per thousand, but the fineness for the creek as a whole is somewhat variable	Martin, 1938a, p. 163-170

63	Walker Fork and tributaries	D,27 T.26,27N.,R.18, 19,20,21,22E.	M	Au	Disseminated	Placer	Bedrock mainly quartz-biotite gneiss and schist, hornblende gneiss, quartzite, and marble (Paleozoic and/or Precambrian?), with a few small granitic intrusive bodies (Late Cretaceous-Early Tertiary?). Gold discovered in 1889. Intensive mining in early 1900's. Production 1904 through 1907, combined with that from Poker and Davis Creeks totaled about 4,015 fine ounces. Intermittent mining to present. Dredges operated in 1907-1912, 1934-1936. Mostly locally derived frozen gravel of subangular pebbles and cobbles 4-12 ft thick overlain by 0-10 ft of frozen muck. Pay streak locally as much as 600 ft wide. Gold occurs mostly as small flat pieces but nuggets to 1 oz recovered in early mining. Some of the gold is rusty or even black, especially in upper part of pay streak. Fineness is reported from 830 to 890 parts of gold per thousand	Mertie, 1938a, p 157-163
64	Washington Creek (shown on present maps as Little Washington Creek)	D,27 T.1,2N.,R.29E.	m	Au	Disseminated	Placer	Prospecting and a little small-scale mining near mouth, 1911-1914. Creek drains bedrock area mainly of nonmarine conglomerate and sandstone (Late Cretaceous to Pliocene(?)) considered to be the proximal source of many significant placer gold deposits along this part of the Tintina Fault zone	Porter, 1912, p. 218
65	Wolf Creek	D,27 T.1,2S.,R.22E.	m	Au(Cr)	Disseminated	Placer	A little small-scale mining. Upper part of creek drains contact zone between serpentinized peridotite (Jurassic?) and greenstone (Paleozoic). Lower part of creek drains area of terrestrial conglomerate and sandstone (Late Cretaceous-Pliocene(?)). Chromite in concentrates derived from ultramafic body. Heavy minerals include traces of rutile, tourmaline, and monazite	Smith, 1941, p. 54; Wedow and others, 1954b, p. 7, 9
66	Woods Creek	D,27 T.27N.,R.22E.	M	Au	Disseminated	Placer	Headwater fork of Canyon Creek. Mining reported in early 1900's and in 1960. Production (combined with Squaw, Camp, and Canyon Creeks) 1904 through 1907 totaled about 447 fine ounces	Prindle, 1908a, p. 197; Asher, 1970, p. 6
67	Unnamed	D,26 T.2S.,R.25E.	o	Au,Ag	Vein	Hydrothermal(?)	Mineralized quartz vein in granodiorite (Late Cretaceous; 89, 93 m.y. K/Ar age determinations on hornblende and biotite, respectively) near head of State Creek 2-6 ft wide. Contains up to 0.08 ppm gold and as high as 0.7 ppm silver. Tungsten and tin detected by semiquantitative spectrographic examination. No development work	Foster, 1970, p. 5
68	Unnamed	D,27 T.4S.,R.31E.	o	(Pb,Zn,Ag,Cd,Cu)	Float		Sample of float in covered area contains >20,000 ppm lead, >10,000 ppm zinc, 30 ppm silver, 150 ppm cadmium, 700 ppm copper, >20 percent iron	Foster and Clark, 1970, p. M12

MAP NO. AND NAME(S) (if known)	MAP COORDINATES LOCATION	DEVELOPMENT CATEGORY	RESOURCES Minor constituent(s) or potential byproducts in parentheses	FORM	TYPE	BRIEF DESCRIPTION	PRINCIPAL REFERENCE(S)
1 Antimony Ridge	0,21 T.2N.,R.1W.	P	Sb,(Au)	Shear zone and vein	Hydrothermal	Mineralized shear zone and fault in schistose quartzite and mica schist. Stibnite occurs in lens and nodules in the brecciated rock. Channel samples contained 3.4 to 69.0 ppm gold and averaged 16.1 ppm. Prospected by open cut and shallow shaft. Probably no production in 1965-1967	Chapman and Foster, 1969, p. 014; Pilkington and others, 1969, p. 4-6
2 Barker & McQueen (Includes Cottonblossom, St. Jude)	0,20 T.1N.,R.3W.	m	Au,Sb	Veins and sheared fault zone	Hydrothermal	Barker & McQueen mined about 1911-1913. Quartz vein with gold and very little sulfides, yielded "fair return" on about 4 tons of ore. About 200 ft of workings on a vein that ranged from thin to about 4 ft in width. Long inactive. Cottonblossom, probably known in 1931 as St. Jude, is adjacent claim that included a fault zone carrying gold and stibnite with quartz. Workings were two shafts 60 ft and 70 ft deep, and about 100 ft of drifts. No record of production. Probably not active after 1931	Smith, 1913a, p. 208-209; Chapin, 1914, p. 352-353
3 Big Eldorado Creek	0,21 T.2N.,R.1W.	m	Au	Disseminated	Placer	Mining between 1907 and 1916; possibly some in later years. Production 1907-1910 was $250,000 (at 1978 price). Pay streak said to be narrow. Depth to bedrock is reported to be 54-98 ft, including 20-38 ft of muck. Bedrock is schist	Prindle, 1908b, p. 191
4 Billy Sunday mine (Includes Smith & McGloan, Lost Fraction)	0,21 T.1S.,R.2W.	m	Au,(Sb,Pb,Zn)	Veins and shear zones	Hydrothermal	Mine operated from about 1918 through 1923. Probably inactive since. About 2400 fine ounces of gold reported produced from 1900 tons of ore. Mined, from inclined shaft on three levels, on two main veins 2-5 ft in width. Ore contains gold, arsenopyrite, stibnite, cervantite, sphalerite, and some galena, in quartz vein and crushed schist. Bedrock is largely quartzite schist	Martin, 1918b, p. 412-413; Hill, 1933, p. 139-142
5 Blossom	0,21 T.1N.,R.1E.	p	W	Veins and granitic dikes	Hydrothermal	Property discovered and developed in 1916 by two shafts about 20 ft deep and trenches and prospect pits. No record of production. Probably inactive until extensive prospecting by bulldozer trenching was done in 1950-1951, but no minable reserves were developed and property has been inactive since early 1950's. Scheelite is in thin quartz veinlets, and in schist in contact with the veinlets. One zone of veined schist 3-4 ft thick reported. Quartz vein type deposit; no limestone skarn. Selected samples from dumps contained 1.44 percent and 2.02 percent WO_3. Bedrock is mica, quartz-mica, and quartzitic schists, minor amphibolite schist, and granite dikes. Overall the deposit is low grade, and the absence of limy beds is unfavorable	Byers, 1957, p. 201, 203-204
6 Blue Bonanza (Includes Grant and Midnight Sun)	0,20 T.1N.,R.3W.	m	Au,Sb,Ag,Pb	Quartz vein	Hydrothermal	Quartz vein 18 in. thick that thins with depth; rich gold pockets in top 12-15 ft. Sulfides present--galena, pyrite, stibnite, and silver-bearing tetrahedrite. Two periods of vein formation. Shaft 130 ft deep and some stopes. Ten tons of ore reported mined; sample from dump assayed 0.45 oz per ton in gold. Gold content decreases with depth. Mining at times between about 1912 and 1930, probably inactive since about 1930	Smith, 1913a, p. 197; Hill, 1933, p. 122
7 Bonanza Creek	0,20 T.2S.,R.4W.	M(?)	Au(?)	Disseminated	Placer	Probable gold placer operation reported to be active in 1975. No other information	Carnes, 1976, p. 12
8 Bunker Hill	0,21 T.2N.,R.1W.	m	Au	Vein	Hydrothermal	Gold-quartz vein 2-12 in. thick in schist. Vein narrows to 2 in. at depth of 50 ft. Workings to depth of 102 ft. Eight tons of ore reported to have yielded 13 oz of gold. Grab sample of ore on dump assayed 1.16 oz per ton in gold. Mining about 1912-1913; inactive in 1931 and later	Hill, 1933, p. 153-154

9	Clipper	D,2D T.1N.,R.2W.	m(?)	Sb,Au	Vein	Hydrothermal	Worked by a tunnel 500 ft long that follows a small, faulted quartz vein. Most of work probably between late 1920's and 1940. No record of production. Stibnite, jamesonite(?), and gold present. Gold reported as about $60 per ton (at 1976 price). Stibnite ore sampled contained 56.58 percent antimony; one lens of stibnite was 2-12 in. thick, 3 ft wide, and about 10-15 ft long. Probably about 1 ton of ore estimated in 1942	Hill, 1933, p. 152; Killeen and Martin, 1951, p. 12, 14, 16, 63
10	Columbia group (Includes Columbia Cross prospect)	D,2I T.2N.,R.1E.	p	W,Au(?)	Veins	Hydrothermal	Lodes in schist marginal to granite body. Scheelite in quartz stringers explored about 1915-1918. Inactive since. Workings consisted of two adits, a pit, and four trenches. One scheelite zone about 3 ft thick. Probably no production. Nearby, between forks of Columbia Creek, an adit 100 ft long was driven, in 1912 or earlier, on a quartz vein that reportedly yielded low-grade, free-milling gold ore	Smith, 1913a, p. 210; Martin, 1918b, p. 422-423; Byers, 1957, p. 201, 205-206
11	Cripple Creek (Includes Gold Hill)	D,2I T.1S.,R.2W.	M	Au,(Sn)	Disseminated	Placer	Gold discovered about 1906, mined by drift methods intermittently until 1930's. About 2400 fine ounces gold produced in 1908-1910. Preparations (stripping and thawing) for dredging in 1936-1939; dredging began 1940 and continued in most years through 1965. Inactive since, but property and dredge are maintained. Economically productive ground probably mostly worked out. Ground is generally about 100 ft deep. Bedrock is schist. Gold source undoubtedly ore on Ester Dome. Cassiterite is rare in concentrates. One of the major gold producing creeks in the Fairbanks district. Production figures not available	Prindle, 1908b, p. 29, 44-45; Prindle and Katz, 1913, p. 110, 112-113; Smith, 1942b, p. 38-40, 67
9	Dorothy & Darice	D,2D T.1N.,R.2W.	p	Sb,Au(?)	Vein	Hydrothermal	Vein explored by shaft of unknown depth; may contain gold; stibnite in chunks as much as 2 ft across found in float but source not found. No recorded production. Work done about 1913	Chapman and Foster, 1960, p. 018
12	Elmer mine (Also known as Happy Creek, and Nikiteff)	D,2I T.1N.,R.2W.	m	Au	Vein	Hydrothermal	Exploration on quartz-gold veins in mica schist in 1926; development and mining until 1929; inactive 1930 to about 1936. Reactivated in 1937, some production until 1940 or possibly later. Inactive 1950's to present. Production, but amount unknown. Grab sample from ore bin assayed 0.42 oz per ton in gold	Hill, 1933, p. 150
13	Emma Creek	D,2D T.1S.,R.2W.	m(?)	Au(?)	Disseminated	Placer	Some prospecting and possibly small mining reported in 1910	Ellsworth and Parker, 1917, p. 158
14	Engineer	D,2I T.1N.,R.1E.	p	Au	Vein	Hydrothermal	Two iron-stained quartz veins in schist near small felsic intrusive contain arsenopyrite, and gold assaying $14.30 per ton (at 1976 price)	Hill, 1933, p. 153
15	Engineer Creek	D,2I T.1N.,R.1E.-R.1W.	m	Au	Disseminated	Placer	Placer mining, by drifting method, from 1907-1916, or possibly later. Production 1907-1910 was about $8,000,000 (at 1976 price). Ground acquired in 1931 by USSR & M Co., and preparations were made for dredging. Dredged over length of about 2.5 mi; work completed by about 1955; no production figures available for this work. Ground was 50->100 ft deep, gold was in lower 4-7 ft of gravel and pay streak was 30-100 ft wide. Reported from early mining to run $5-$30 per sq ft of bedrock (at 1976 price). Bedrock schist with dikes(?) of granitic rock. Creek is probably essentially mined out	Prindle and Katz, 1913, p. 105-106, 110-111, 113; Smith, 1913a, p. 33
16	Ester Creek	D,2D T.1S.,R.2-3W.	M	Au,(Sb,W)	Disseminated	Placer	Placer gold deposits, both stream and bench, deeply buried (generally about 100 ft). Gold distribution apparently not related to present stream course. Some stibnite and scheelite in concentrates. Mined from 1905-1961 in most years. Mining from 1937-1961 was by dredge. This was one of the outstanding gold producing creeks in the Fairbanks district. Complete production figures not available, but much more than 195,000 oz of gold was produced. Some marginal reserves may remain. Lode source of gold no doubt in the Ester Dome area. Mining inactive since 1963	Prindle and Katz, 1913, p. 103-105, 110, 112-113; Cobb, 1973, p. 128-129

17	Eva Creek (near Ester)	D,20 T.1S.,R.2W.	M	Au	Disseminated	Placer	Rich gold placers found in 1911; in 1912 about 24,000 oz of gold was produced. Mined at least until 1915; some of later mining was included with that from Ester Creek. Small-scale open-cut mining in higher ground above mouth done intermittently from about 1965-1977	Ellsworth and Davenport, 1913, p. 209
4	Fair Chance mine (Includes Blue Bird No. 2)	D,21 T.1N.,R.2W.	M	Au	Sheared zone and vein	Hydrothermal	Mineralized zone of crushed schist, quartzite, quartz, clay gouge, and free gold. Developed about 1913 to about 1931. Total production, mainly from gold-quartz ore, about 100 fine ounces. Probably inactive since 1930's	Chapin, 1914, p. 353-354; Hill, 1933, p. 139
18	Farmer	D,20 T.1N.,R.3W.	M	Au	Sheared breccia zone and vein	Hydrothermal	Quartz vein, schist, and fault breccia with visible gold and pyrite. Zone about 3.5 ft wide, mined from 60 ft inclined shaft. Production, amount unknown, about 1912-1913; inactive since. Sample from a pillar in shaft assayed 0.34 oz gold per ton	Smith, 1913a, p. 198; Hill, 1933, p. 122-123
9	First Chance mine	D,20 T.1N.,R.2W.	M	Au	Vein	Hydrothermal	Vein in schist ranges from 6 in. to 4 ft in thickness, averaged 1 ft in stoped part. Shaft 120 ft deep and stopes yielded 520 tons of ore worth about $130,000 in gold (at 1976 price). Production probably all in 1924-1928. Mining apparently was limited by a fault that cut off the vein to the north and by a southward gradation to uneconomic-grade ore. Apparently inactive since 1931	Hill, 1933, p. 147-148
19	First Chance Creek	D,21 T.2N.,R.1E.	M	Au,W,(Sn)	Disseminated	Placer	Placer gold discovered in 1906, mining at least through 1915, and in 1936-1940; some small-scale mining at times in 1940's to 1950's. Probably inactive since 1959. Ground probably not more than 45 ft deep. Later work by open cut. Gold yield not recorded. Scheelite abundant in concentrates, derived from lodes on ridges at head of creek. Cassiterite rare. Creek mined over distance of 3 mi from mouth	Joesting, 1942, p. 32, 39-41; Chapin, 1914, p. 358
20	Flume Creek	D,21 T.2N.,R.1E.	M(?)	Au	Disseminated	Placer	Open-cut placer gold mining in 1915, and probably in other years (probably included with production from Pedro Creek). Mined over distance of about 0.5 mi above mouth. Small-scale mining in a few years in 1960's. Amount of gold produced unknown	Brooks, 1915, p. 50; Chapman and Foster, 1969, pl. 2
21	Fox Creek	D,21 T.2N.,R.1E.	M	Au,W	Disseminated	Placer	Gold mined sporadically from 1908-1926; probably some dredging at the mouth in 1930's, and possibly small-scale operation in upper course of creek in 1940's. Long inactive. Ground 6-19 ft deep. Scheelite is particularly abundant in upper part of creek; formed as much as 90 percent of the concentrates. Scheelite probably derived from lode source in the schist-granite contact zone in headwaters. Gold produced through 1910 worth $155,000 (at 1976 price)	Prindle and Katz, 1913, p. 105-106.
22	Gale	D,20 T.1S.,R.3W.	M	Au	Vein	Hydrothermal	Quartz veins in an iron-stained schist, explored by a pit 20 ft in depth. Material is reported to contain some gold	Smith, 1913a, p. 204, 206
23	Gilmore Dome mine (Includes Colbert, Stapovich, and Scheelite and Tungsten claims)	D,21 T.2N.,R.2E.	M	W,(Be,Mo)	Tactite and pegmatite dike	Hydrothermal	Scheelite deposits largely confined to two parallel lodes (Stapovich and Colbert) that have linear continuity for 2,000-3,000 ft. Widths of lodes range from several feet to about 50 ft, extend to depths of ±200 ft. Some scattered, fine-grained scheelite, but rich ore is in lenses, pockets and stringers as replacement of limestone and limy schist, and in quartz pegmatite dikes and stringers. Limestone (marble) is in discontinuous bodies that have average thickness of 2 ft, but some are as much as 10 ft thick. Scheelite is a replacement in many of these, and is also localized at intersections of quartz pegmatites and limestone. Lower grade scheelite deposits in the limy or silicated schists. Deposits discovered 1915-1916; production in 1916-1918 and 1942-1944 of about 4000 units of WO_3. Minor prospecting at other times, but no active mining. Property reactivated in 1950-1951 and considerable underground exploration was done for several years; about 1955 a small mill was installed and a few tons of ore were concentrated but probably not marketed.	Martin, 1918b, p. 419-421; Byers, 1957, p. 188-200

							Minable reserves were not developed in this work and the price of tungsten dropped; and thus no further work was done. Reportedly the property was being maintained in 1977. Outlook for any future production is very uncertain	
24	Gilmore Creek	0,21 T.2N.,R.1E.	M	Au,(Bi,W)	Disseminated	Placer	Creek has been mined over length of 2.5-3.0 mi up from mouth from 1905-1941, and on a small scale in some years between 1946 and 1977. Ground ranges from a depth of a few feet near head to about 60 ft near mouth; most productive ground is largely mined out, from creek and bench deposits. Bedrock in mining area is schist, but near head the creek drains a mineralized contact zone of granitic rocks. Only gold has been produced, but bismuth intergrown with gold, and considerable scheelite are present. Gold nuggets of about 1 oz are reported. Production 1906-1910 was about 5800 oz (872 fine), and in 1916 about 1925 oz. Total production is unknown, but obviously it has greatly exceeded 10,000 oz	Prindle, 1908b, p. 39-40; Prindle and Katz, 1913, p. 105-106, 109, 111, 113; Byers, 1957, p. 188, 210-211
25	Goldstream Creek	0,21 T.1-2N.,R.1E. and R.1W.	M	Au,(Sn,W)	Disseminated	Placer	One of the major gold producing creeks in the Fairbanks district. Mined by underground drifting and some open cuts from 1903-1927 at least, and by dredging from 1928-1942 and about 1955 to about 1958. Probably some small-scale open-cut mining in late 1960's. Little or no mining since 1959. Ground was generally 30 ft to as much as 200 ft deep; bedrock is largely schist and quartzite. Between Gilmore and Fox Creeks rich gold-bearing ground was 6 ft thick, and 225 ft wide, and yielded about $6 per sq ft (at 1976 price). Total gold production is difficult to establish because early production figures included gold mined from tributaries as well as main stream, and figures for later dredging production were not published. It is estimated that considerably more than 200,000 fine ounces was produced. Future potential is unknown; probably little minable ground remains in the valley above Engineer Creek, but some lower grade ground (unmined) is present downstream from Engineer Creek. Both cassiterite and scheelite are present but scarce in concentrates	Prindle and Katz, 1913, p. 105, 109-111, 113; Cobb, 1973, p. 128-129
8	Goodwin	0,21 T.2N.,R.1W.	m(?)	Au	Vein and breccia zone	Hydrothermal	A 50-ft-wide iron-stained breccia zone in schist, and associated vein quartz was cut by an adit. Caved and inactive in 1931. Dump material assayed $1.15 per ton in gold (at 1976 price). Located about 0.25 mi west-northwest of Bunker Hill mine	Hill, 1933, p. 153-154
12	Great mine (Happy Creek) (Includes Trishman)	0,21 T.1N.,R.2W.	m	Au	Vein and fault zone	Hydrothermal	Crushed quartz vein along fault zone, 5-6 ft thick discovered in 1929 in the bottom of a placer prospect shaft. Mined on two levels with 250 ft of drifts until 1937; produced 500-600 tons of ore that assayed about 0.75-1.00 oz per ton in gold. Occasional work has been done since 1937, but probably none since about 1960	Hill, 1933, p. 150-151; Chapman and Foster, 1969, p. 017
26	Green Mountain (Includes Woodpecker)	0,21 T.2N.,R.1E.	p	Au	Veins and breccia zone	Hydrothermal	On Green Mountain claim tunnel and open cut exposed a 15-ft-wide zone of small quartz veins and brecciated schist. Free gold can be panned from the crushed rock. Nearby on Woodpecker claim prospecting was done on quartz- and quartz-feldspar-veined granite, from which gold can be panned. No evidence of production in 1913	Chapin, 1914, p. 345-346
27	Happy Creek	0,21 T.1N.,R.2W.	m	Au	Disseminated	Placer	Gold was discovered in 1913 and mined through 1916; mining reactivated in 1938-1940; possibly some small amount done after 1940. No records of amount produced. Ground is as much as 140 ft deep, and mining was by drift method	Chapin, 1914, p. 360; Smith, 1942b, p. 39

28	Hill Creek	D,21 T.2N.,R.2E.	m	Au	Disseminated	Placer	Small volume of placer ground, narrow pay streak. Bedrock at head of creek is granite, and schist in lower course. Gold derived from the granite contact zone cut by creek. Amount of gold produced not recorded, but probably was relatively small. Mining 1907 to about 1910, possibly a few other years, and small operation in early 1950's. Inactive since	Prindle, 1908b, p. 40; Chapman, R. M., 1950-1966, unpub. field data
29	Iowa Creek	D,21 T.1N.,R.3E.	p	Au	Disseminated	Placer	Prospecting and possibly small amount of mining. Only documentation is a reported sample of gold from this creek; said to be about 919 fine	Prindle and Katz, 1913, p. 113
30	Janiksela	D,21 T.2N.,R.1E.	p	Sn(?)	Pegmatite dike, and vein(?)	Lode	Cassiterite reported, but not seen, in a pegmatite stringer on contact between mica schist and black graphite schist	Hill, 1933, p. 154
9	Killarney	D,20 T.1N.,R.2W.	m	Au	Vein	Hydrothermal	Fractured and recemented gold-quartz veins in micaceous schist. Gold production reported in 1939. Near Clipper mine	Chapman and Foster, 1969, p. D18
22	Koegley	D,20 T.1S.,R.3W.	m(?)	Au	Veins	Hydrothermal	Gold-quartz stringers in mineralized schist; most of gold in the quartz but both quartz and schist reported to warrant milling. Amount produced unknown. Worked about 1912	Smith, 1913a, p. 206
4	Last Chance mine	D,21 T.1N.,R.2W.	m	Au,Sb	Vein	Hydrothermal	Gold was produced about 1921-1922 from a quartz vein 2 ft thick that contains free gold, stibnite, and arsenopyrite. Closely related to Fair Chance mine	Chapman and Foster, 1969, p. D18
31	Last Chance Creek	D,21 T.2N.,R.3E.	m	Au	Disseminated	Placer	Placer mining in 1911-1914. No information on occurrence or tenor	Ellsworth, 1912, p. 243; Eakin, 1915a, p. 233
12	Lincoln	D,21 T.1N.,R.2W.	p	Au	Vein(?)	Hydrothermal	Grab sample from dump (about 1932-1933) assayed 4.57 oz per ton in gold. No other information	Chapman and Foster, 1969, p. D18
9	Little Flower (May be same as Flower)	D,20 T.1N.,R.2W.	m	Au	Vein	Hydrothermal	Gold was produced from a vein	Chapman and Foster, 1969, p. D17; Hill, 1933, p. 152
32	Lookout	D,20 T.1S.,R.3W.	m	Au	Vein	Hydrothermal	Gold produced, probably small amount, from a gold-bearing felsic dike that cuts a vein. Probably worked in late 1930's	Chapman and Foster, 1969, p. D19
33	Maloney	D,20 T.1S.,R.3W.	p	Sb	Vein	Hydrothermal	Shaft 90 ft deep, inactive in 1931 and probably no mining since. A vein, reported to be as much as 12-14 ft thick, contains quartz, stibnite and arsenopyrite with clay gouge; country rock is quartzite schist	Hill, 1933, p. 123
4	McDonald and Morton (Includes Blue Bird, Blue Bird Fraction, Combination, and McDonald claims; Crown Point)	D,21 T.1S.,R.2W.	m	Au,Sb	Veins and fault(?) zone	Hydrothermal	Worked, probably intermittently, between 1917 and 1937. Several groups of workings on four claims. Two shafts 80 and 100 ft deep at least. Several veins of gold quartz, some with arsenopyrite and stibnite; one is along contact between quartz porphyry and a limy silicate schist. Veins generally 8-12 in. thick but some as much as 3 ft. In 1931, 240 tons of ore assaying 0.91 oz per ton of gold was produced; no amounts given for other production. Combination claim vein carried abundant stibnite-arsenopyrite; also some on McDonald claim in four veins. Faults terminate some veins. Crown Point had two thin quartz veins with visible gold, associated with fault(?) in chloritic schist	Hill, 1933, p. 133-135; Chapin, 1914, p. 353
34	McGrath	D,21 T.1N.,R.1E.	p	Au	Vein	Hydrothermal	Low-grade gold-quartz vein, 7 in. wide, in schist	Chapman and Foster, 1969, p. D16
2	McQueen (Also Jennie C. and Black Diamond Lode)	D,20 T.1N.,R.3W.	m	Sb	Vein	Hydrothermal	Iron-stained quartz vein 18-24 in. thick, contains shoots and kidneys of stibnite; prospected in 1915, mined 1916-1918. Production of at least 3 tons and possibly as much as 100 tons. Some prospecting but probably no mining in late 1960's	Hill, 1933, p. 157; Killeen and Mertie, 1951, p. 12, 14, 19-20
6	Michley	D,20 T.1N.,R.2W.	m	Au	Vein	Hydrothermal	Quartz vein 2-12 in. wide, and several other small veins in flat-lying quartz-mica schist. Developed by short drifts from adit. Ore from a small stope milled, yielded about 0.5 oz per ton in gold	Hill, 1933, p. 149

4	Mohawk mine	D,21 T.1N.,R.2W.	m	Au,Sb,(Pb,Zn)	Veins	Hydrothermal	Property consists of eight full and one fractional claims; most of mining done on two claims. Production started about 1913, most of it was between 1925 and 1931; total to 1931 was about 30,000 fine ounces of gold. A few tons of stibnite was mined, and about 5 tons was sold. Quartz veins, with associated clayey gouge, contain free gold, arsenopyrite, stibnite, galena, and sphalerite. Most mining on Mohawk vein over length of 1300 ft and to a depth of 232 ft by 1931; average thickness was 3 ft; ore averaged more than 1 oz per ton in gold. Mine operated to 1940, or possibly later, intermittently. Data lacking on total production. Mine was one of the large lode producers in the Fairbanks district	Martin, 1918b, p. 413-414, Hill, 1933, p. 142-147, Joesting, 1943, p. 11
35	Monte Cristo Creek	D,21 T.2N.,R.2E.	m	Au	Disseminated	Placer	Small amount of mining done near mouth of this small tributary of Barnes Creek in 1914, and possibly a few other years. Probably mined to the practical upstream limit of placer operation	Eakin, 1915a, p. 233
36	Moose Gulch (or Creek)	D,20 T.1S.,R.3W.	p	Sb,Au(?)	Disseminated	Placer	Stibnite in cobbles as much as 6 in. in diameter in old placer workings. No other data on mining on this creek. Probably some gold was present	Killeen and Martin, 1961, p. 12, 20, 42
37	Mother group (Also called Murphy mine)	D,20 T.1N.,R.3W.	p,m(?)	Au	Quartz vein and breccia zone	Hydrothermal	A nearly vertical zone of iron-stained, brecciated quartz in schist has been extensively prospected by three adits and open cuts. Zone is about 20 ft thick; one sample across zone assayed 0.02 oz per ton in gold and another part of zone reportedly assayed 1.0 oz per ton. Some high-grade free-gold ore was noted in 1931. Amount of work later than 1931 is not known	Hill, 1933, p. 120-122
38	Nugget Creek (Tributary to Goldstream Creek)	D,20 T.1N.,R.3W.	m	Au	Disseminated	Placer	Small-scale gold placer mining in 1938-1940 and possibly a few other years. Amount of production unknown, but probably not large. Mining was done just downstream from area of schist intruded by several felsic rock bodies	Smith, 1939a, p. 43; Smith, 1942b, p. 39; Chapman and Foster, 1969, pl. 1
39	Nugget Creek (Tributary to Smallwood Creek)	D,21 T.2N.,R.2E.	m,P(?)	Au	Disseminated	Placer	Small-scale mining done prior to 1948, and probably some prospecting or mining in late 1950's or early 1960's. Probably no activity since 1965. Mining is in granite-quartz monzonite of Gilmore Dome pluton, its contact zone, and schist adjacent; placer ground is shallow and confined to narrow creek valley. Production was probably small	Chapman and Foster, 1969, pl. 1
40	O'Connor Creek	D,21 T.2N.,R.2W.	m	Au	Disseminated	Placer	Mining near head of creek in 1907 and possibly a few later years. Ground 100-130 ft deep. Creek drains terrane of schist with some felsic rock intrusives. About 56 oz of gold produced in 1907	Prindle and Katz, 1913, p. 106
6	Parker	D,20 T.1N.,R.3W.	p	Au	Vein	Hydrothermal	Irregular quartz vein 1-6 in. thick, contains some gold	Chapman and Foster, 1969, p. 019
41	Pearl Creek	D,21 T.2N.,R.2E.	m	Au,(Bi,W)	Disseminated	Placer	Placer gold mined 1911-1914, 1938-1940; probably inactive since about 1941. Concentrates contain abundant scheelite and some wolframite and native bismuth. Creek heads in Gilmore Dome area of several scheelite lode deposits. Productive gravels probably largely mined out; potential for tungsten probably very limited	Joesting, 1942, p. 39-40
42	Pedro Creek	D,21 T.2N.,R.1E.	m	Au,(Sn)	Disseminated	Placer	Site of original gold discovery in Fairbanks district, 1902. Extensive mining by open cut and drifting 1903-1929, dredging 1930-1941 and in 1952 through 1958. Probably largely mined out, except for a few small pockets, by late 1950's. Depth of ground was 8-40 ft over schist bedrock with some granitic and gneissic rock. One of the major gold producing creeks in the district; production figures generally lumped with Goldstream basin and not separately recorded. About half of the mined part of creek is in Livengood quadrangle. Gold derived from lode deposits in zone around Pedro Dome. Production 1903-1910 from entire creek was about 60,100 oz of gold	Prindle, 1905, p. 67, 75-77, 83-84; Prindle and Katz, 1913, p. 105-106, 109, 111, 113

43	Perrault & Murphy (Also called American and American Eagle)	0,2I T.2N.,R.2E.	p	Au,(W)	Veins and brecciated zone	Hydrothermal	Quartz veins and brecciated schist partly cemented by quartz. Gold can be panned from most samples of quartz. Some scheelite in material on dump. Worked by two inclined shafts. Several tons of ore, about 1.15 oz per ton in gold, mined from one shaft, and 20 tons mined from another in 1911 and said to run 1.2 oz per ton. Veins averaged about 2 ft in width. Inactive and caved in 1931; no later work known	Smith, 1913a, p. 166; Chapin, 1914, p. 329-330
9	Prometheus (Includes Big Blue)	0,2O T.1N.,R.2W.	e	Au,Ag,(Sb,Cu)	Vein and probable fault zone	Hydrothermal	Main production from a quartz vein, possibly as much as 5 ft wide, that contains two generations of quartz, and gold, stibnite, jamesonite, arsenopyrite, tetrahedrite, covellite, and chalcopyrite. High silver content (6.4 oz/ton) in grab sample. Also a crushed schist, quartz, and fault-gouge zone. About 60 tons of ore on dump in 1931; no record of amount of ore milled or sold. Probably long inactive	Smith, 1913a, p. 208; Hill, 1933, p. 71, 148
22	Ready Bullion group (Includes Hudson mine and some other small properties)	0,2O T.1S.,R.3W.	u	Au,Sb	Veins and shear zones	Hydrothermal	Property, including several older mines and prospects, was unitized in eighteen claims in 1926 that cover about 5000 ft of a vein system. Ore is in veins and stringers of quartz, and in sheared zones of mineralized schist, which range from several inches to about 8 ft in width. Ore minerals are free gold, arsenopyrite, stibnite, and antimony sulfosalts. Mine developed from two adits 600 ft and 1200 ft long, and several shafts and other workings totaling several hundred feet. Mining reported in 1912-1913, 1926-1933, and possibly some later; total production not given. One stope produced about 3600 tons of ore reported to assay 0.3 oz per ton in gold; and reportedly much ore was richer than this. Potential reserves remaining are unknown	Smith, 1913a, p. 203-206; Chapin, 1914, p. 325, 350-352; Hill, 1933, p. 123-127
44	Ready Bullion Creek	0,2O T.1S.,R.2W.	M	Au	Disseminated	Placer	Ground about 80 ft deep in lower part of creek, and as much as 200 ft deep in part of valley. Mining from 1907-1914 reported; some later than this may have been lumped with Ester Creek. Actively mined by open cuts in most years between 1940's and at least 1966; activity in past 10 years unknown. Production 1907-1914 was about 25,000 fine ounces; total production unknown, but is considerably greater. Several hundred tons of ore said to have been mined from veins and mineralized zones in the schist bedrock on valley slopes	Prindle and Katz, 1913, p. 110, 112-113; Chapman and Foster, 1969, p. D19, pl. 1; Chapman, 1950-1966, field observations
45	Ridge	0,2I T.1N.,R.1E.	p	Au	Quartz vein	Hydrothermal	Two 15 ft shafts sunk in 1930-1931 on a 14 in. wide quartz vein. No further work done. Grab sample from dump assayed 0.77 oz per ton in gold. Country rock is schist	Hill, 1933, p. 153
46	Rose Creek lode	0,2I T.2N.,R.1E.	p	Sb	Felsic vein or dike	Hydrothermal	Thin veinlets of stibnite occur in a quartz-feldspar vein or dike that is 6-8 in. wide; explored by a 15 ft shaft and several pits in 1912. No further work was done. In a contact zone of schist and granitic rock	Chapin, 1914, p. 346
47	Rose Creek placer	0,2I T.2N.,R.1E.	m	Au,W	Disseminated	Placer	Small amount of mining at least in 1912-1913; some small-scale prospecting and possibly mining in 1950's. Production is unknown, but probably small. Creek drains granite contact zone that includes small scheelite and other metalliferous lodes. Gold reported to be coarse	Prindle and Katz, 1913, p. 113; Byers, 1957, p. 188, 210-211
12	Royal Flush mine (Also called Adler mine)	0,2I T.1N.,R.2W.	m	Au	Vein	Hydrothermal	A quartz vein 3 ft wide produced 208 tons of ore that averaged 1.37 oz gold per ton. Mined about 1937. No record of exact years of activity. Inactive since 1940's at least	Smith, 1939b, p. 25; Chapman and Foster, 1969, p. D18

4	Ryan group	0,21 T.1N.,R.2W.	m	Au,Sb	Fault zone and quartz veins	Hydrothermal	Fault zone of crushed schist and quartz veins 40-70 ft wide is in hanging wall of a major shear zone 750-1500 ft wide. Major metallic minerals are gold, arsenopyrite, and stibnite. Discovered in 1911; extensive underground and surface exploration at various times through late 1960's; currently maintained but inactive. Minor production reported in 1911 and 1938. Sampling, reported in 1931, indicated considerable tonnage of low-grade ore, and a few tens of thousands of tons of $50 per ton gold ore (at 1976 price). Group includes 7½ patented claims	Mertie, 1918b, p. 413, Hill, 1933, p. 135-138; Warfield and Thomas, 1972
48	St. Patrick Creek	0,21 T.1N.,R.2W.	m	Au	Disseminated	Placer	Mining and prospecting 1909-1916, probably by drifting method. No good production data; one report of about 817 oz of gold produced in 1910. Creek probably long inactive	Prindle and Katz, 1913, p. 112-113
9	St. Paul	0,20 T.1N.,R.2W.	m	Au,Sb	Vein	Hydrothermal	Quartz vein in quartz-mica and biotite schists; gold mineralization followed an earlier barren quartz vein that had been shattered. Stibnite along footwall of faulted vein. Mined from 1916 to at least 1919; inactive in 1931 and probably since. About 1000 tons of gold ore that averaged 1.44 oz per ton was mined	Mertie, 1918b, p. 409-410; Hill, 1933, p. 128-129
49	Sanford (Also called Lone Tree)	0,20 T.1N.,R.2W.	m	Au	Vein	Hydrothermal	Gold-quartz vein mined from inclined shaft, drifts and stope to depth of 105 ft. About 150 tons of ore milled yielded 322 oz of gold; some ore averaged 2.5 oz per ton. Mined prior to 1931	Hill, 1933, p. 149
50	Schubert (Includes Franklin and Ptarmigan claims, and Zimmerman)	0,21 T.2N.,R.2E.	p	W	Tactite	Replacement	Sparsely scattered grains of scheelite in silicated limestone and limy schist layers; replacement deposit near contact between schist and porphyritic granite/quartz monzonite. Mineralized zone is 7 ft to about 20 ft wide. This deposit is along trend of Colbert and Stepovich lodes just to the east, but is lower grade	Chapin, 1919b, p. 327; Eyers, 1957, p. 189, 201
51	Sheep Creek (Includes Little Nugget or Little Sheep Creek)	0,21 T.1N.,R.2W.	M	Au	Disseminated	Placer	Gold dredging over length of about 1 mi following pay streak to west of present course of Sheep Creek, and including some ground near mouth of creek immediately west which is known as either Little Nugget or Little Sheep Creek. No data on gold production. Dredging from 1958 to 1961. Inactive since	Chapman and Foster, 1969, pl. 1
2	Silver Dollar	0,20 T.1S.,R.3W.	m	Au	Vein	Hydrothermal	A quartz vein about 5 ft wide, crushed by postmineral faulting, was worked in 1920's and produced, as late as 1930, about 200 oz of gold. A sample taken in 1931 across width of vein assayed 0.46 oz per ton, and a grab sample from about 10 tons of ore on dump assayed 3.6 oz per ton in gold. Probably little or no activity since 1931	Hill, 1933, p. 127-128
52	Smallwood Creek	0,21 T.1N.,R.2E.	m	Au	Disseminated	Placer	Bedrock is schist in most of course of valley, but granite-quartz monzonite of the Gilmore Dome pluton in upper part of valley. Creek drains the contact zone. Placer ground is about 40 ft deep near head of creek, increases downstream to more than 300 ft. Gold occurs in basal 3-4 ft of gravel and top part of bedrock. Mined by underground method from 1907-1916, in 1927, and possibly a few other years. Inactive since about 1928. Pay streak reported to be 120 ft wide in places. Nuggets ranging from 0.13 to 0.55 oz reported. Total production not recorded, but reportedly about 575 oz of gold (876 fine) was produced in 1908	Prindle and Katz, 1913, p. 103, 110, 112-113
22	Social Security	0,20 T.1S.,R.3W.	p	Au	Vein(?)	Hydrothermal	Gold prospects found in a lode deposit. Apparently small and no further development. Work probably done in late 1930's	Chapman and Foster, 1969, p. D19

10	Spruce Hen	D,21 T.2N.,R.1E.	p	W,(Mo)	Tactite, and quartz veinlets	Replacement	Several scheelite-bearing tactite zones formed by replacement of limestone and limy beds in schist; bedrock also includes minor amount of amphibolite. Main mineralized tactite zone is about 3-4 ft thick; others are thin, ±6 in. Samples have shown 1-2 percent scheelite, or about 0.64 percent WO_3. Some scheelite-bearing quartz veinlets. Tactites include scheelite, pomellite, fluorite, garnet, some molybdenite, and various contact-metamorphic minerals. First explored about 1915-1918 by pits, trenches, and a 70 ft inclined shaft. No record of production. Extensively prospected by bulldozer trenching 1950-1953; small-scale mining attempted in about 1953-1954 but discontinued without known production. Inactive since	Martin, 1918b, p. 422-423; Byers, 1957, p. 188, 201-203
4	Stay (Also called Little Eva)	D,21 T.1S.,R.2W.	m	Au,(Sb?)	Vein and felsic dike(?), fault zones	Hydrothermal	Developed by several adits, shafts, stopes, and open cuts in 1910-1913, 1930-1931, 1933, 1936, and probably in some of the intervening years. Probably inactive since 1936. Quartz veins 6-18 in. wide plus schist wallrock have produced gold; total production not known, but in 1930-1931 about 700 tons of ore yielded about 770 oz of gold. In 1931 Hill calculated that about 1350 tons of $75 per ton ore (at 1976 price) remained in the main vein; at least some of this probably was mined later. Some minor amounts of stibnite are reported to occur in quartz veins near a shattered iron-stained quartz porphyry intrusive	Hill, 1933, p. 128-133
26	Steele Creek lode	D,21 T.1-2N.,R.1E.	p	Au	Veins	Hydrothermal	Several prospects on quartz veins on ridge east of headwater portion of Steele Creek reported to contain small amounts of low-grade gold. Prospecting about 1912	Smith, 1913a, p. 210
53	Steele Creek placer	D,21 T.1N.,R.1E.	m	Au	Disseminated	Placer	Deeply buried gold placer ground mined by drifting in early days. Reportedly not very profitable. Claims were patented. Bedrock is schist. Gold probably derived from the small, low-grade gold-quartz veins in the hills at head of creek. Minor amount of scheelite might be expected	Mulligan, 1974, p. 14
9	Stibnite	D,20 T.1N.,R.2W.	m	Sb	Vein and shear zone	Hydrothermal	Massive stibnite lenses, largest 100 ft long, 7 in. wide, 4 in. thick; mixed with schist in a shear zone including an iron-stained quartz vein. Produced 300 tons of ore in 1915 and 1926; 1915 shipment contained 51.5 percent antimony. Deposit probably mined out	Brooks, 1916b, p. 17, 38-39; Killeen and Martin, 1951, p. 12, 14-15
5	Tanana (Includes Tungsten Hill, and Anderson)	D,21 T.1N.,R.1E.	p	W,Au	Veins	Hydrothermal	Scheelite-bearing quartz veinlets, and a gold-quartz vein at Tanana prospect are in weathered quartzite schist. Mineralized zone about 3 ft thick. Close to contact with granitic pluton. Prospecting in 1916; long inactive to 1942. Tungsten Hill property is nearby; includes four scheelite zones as much as 18 ft wide in weathered schist. Specimens from dump show as much as 8 percent WO_3. Both deposits probably of small extent and only very locally high grade	Martin, 1918b, p. 422-424
54	Tyndall & Finn (Includes Vuyovich near Ester)	D,20 T.1S.,R.2W.	p,(m?)	Au,(Sb)	Veins and shear zone	Hydrothermal	Tyndall and Finn explored on several claims with two adits and other workings about 1912. A small gold-quartz vein was found; no record of production. Nearby the Vuyovich property was explored by a 100 ft long adit on a zone of crushed, mineralized schist and quartz veinlets. Free gold, and lenses of arsenopyrite, pyrite, and stibnite are present. No record of production	Smith, 1913a, p. 208; Hill, 1933, p. 128
2	Unnamed occurrence	D,20 T.1N.,R.3W.	p	Sb	Vein	Hydrothermal	Stibnite in quartz vein cutting quartz-mica schist. Vein appeared to be 2-3 ft wide. Prospected by 75-ft-long open cut prior to 1916	Brooks, 1916b, p. 41
55	Vogt	D,21 T.2N.,R.2E.	p	Bi,Au,W	Veins	Hydrothermal	Quartz veins cutting porphyritic biotite granite near border of Gilmore Dome pluton. Prospected on small scale about 1913-1915; probably no production. In vein bismuth and bismuthinite are intergrown with gold; scheelite also occurs, and tellurium was detected in chemical analysis. Prospect has long been inactive	Chapin, 1914, p. 325, 330-331; Martin, 1918b, p. 412

18	Vuyovich (head of Rosey Bullion Creek)	0.21 T.1N.,R.2-3W.	m	Au	Vein	Hydrothermal	Some very rich gold ore reportedly mined prior to 1931 from an adit driven on a 6 in. wide gold-quartz vein that cuts dark mica schist. Crushed, iron-stained quartz on dump contained free gold and arsenopyrite	Hill, 1933, p. 128
9	Wandering Jew	0.20 T.1N.,R.2W.	m	Au	Vein	Hydrothermal	Gold ore mined from a quartz vein 4-18 in. thick. Worked from a 50 ft shaft, 60 ft of drifts, and a stope to the surface; developed prior to 1930, and some mining in 1930-1931; possibly some work after 1931, but inactive for about 40 years. Sample of vein assayed 1.22 oz per ton in gold. Total production is unknown, but 75 tons of $105 per ton and 45 tons of $50 per ton ore (at 1976 price) were produced in 1930-1931	Hill, 1933, p. 147
43	White Association (May be same as Murphy claim)	0.21 T.2N.,R.2E.	s	W	Tactite(?) and/or vein	Replacement(?) and/or hydrothermal	Hornblende schist and mica schist are impregnated or replaced(?) with sheets of scheelite along foliation planes. Lodes found in bedrock uncovered in placer mining. Three prospect shafts dug, one to a depth of 30 ft, about 1916. Probably no production. In 1917 on the Murphy claim, which may be at same location, a 4 ft vein containing scheelite was being explored. No record of tungsten production. No activity here in 1940's or later	Martin, 1916a, p. 421; Chapin, 1919b, p. 326
43	Yellow Pup	0.21 T.2N.,R.2E.	m	W	Pegmatite dike and tactite	Hydrothermal and replacement	This deposit is apparently an extension of the Colbert lode on Gilmore Dome. Discovered in 1943. Scheelite-bearing zone 1-2 ft wide. Ore is in quartz pegmatite and adjacent garnet-scheelite tactite and silicated schist. Worked by pits and 12 ft adit. Some small-scale prospecting in late 1940's and early 1950's. Probably no further work done since 1950's. Ore from tunnel was about 35 tons, part of which was milled to yield 225 lbs of 70 percent WO_3 concentrate. A sample from ore pile contained 0.58 percent WO_3	Byers, 1957, p. 189, 200-201; Thorne and others, 1948, p. 4, 6, 8-9, 14-16

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1 Bear Creek	I, 7 T.9S.,R.70W.	m	Au,Pt	Disseminated	Placer	Apparently first staked in 1916 and first worked in 1917. Mining reported 1917, 1919, 1920, 1926-1931, 1934 and 1936. Small amounts of platinum recovered with the gold. Platinum considered postglacial concentrations from veinlets related to Tertiary (69.5 m.y.) granitic intrusives into fetid limestone, calcareous argillite, sandstone, grit and fine-grained mafic volcanics all of the Gemuk Group (Permian fossil locality nearby). Pt analysis shows 72.82 percent Pt, 15.58 percent Ir, 8.17 percent Os, 5.06 percent Ru, 0.78 percent Rh, 0.36 percent Pd	Harrington, 1921, p. 222-224, 226-227; Martin, 1969, p. 89-90
2 Butte Creek (Huff)	I, 7 T.8S.,R.72W.	m	Au,Pt	Disseminated	Placer	Gold placer mining with few interruptions from about 1906 at least until 1940. One of most productive creeks in area. Total production through 1919 was about 34,000 troy oz. A few ounces of platinum also recovered. Most of valley in glacial outwash but placers considered pre-Pleistocene. Gold occurs in false bedrock that resembles till; true bedrock reported to be 15-25 ft deeper. Placer gravels of local derivation. Precambrian (+1050 m.y.) metamorphic rocks of Kuskokwim terrane exposed near head of creek. Source of platinum probably Tertiary mafic rocks exposed about 4 mi to south. Pt analysis shows 59.07 percent Pt, 15.38 percent Ir, 14.82 percent Os, 9.31 percent Ru, 0.96 percent Rh, 0.46 percent Pd	Harrington, 1921, p. 220-222, 227; Martin, 1969, p. 89-90
3 Canyon Creek	I, 7 T.9S.,R.70W.	p	Au	Disseminated	Placer	Placer prospect below confluence with Bear Creek. Bedrock mainly sedimentary and volcanic rocks of Gemuk Group (Permian fossil locality nearby) with small Tertiary (69.5 m.y.) granitic intrusives. Production, if any, probably small	Moore and Coonrad, 1961
4 Domingo Creek	I, 7 T.8S.,R.72W.	m	Au	Disseminated	Placer	No data on history or production. Placer deposits probably pre-Pleistocene but were protected from glacial erosion by Island Mountain. Bedrocks in headwaters area are Tertiary granitic body and band of serpentinized Tertiary ultramafic rocks. Most rocks are sedimentary (including limestone) and volcanic rocks of Gemuk Group (Carboniferous to Cretaceous)	
5 Fox Creek	I, 7 T.8S.,R.71W.	p?	Au	Disseminated	Placer	Signs of old placer activity reported by W. L. Coonrad, 1953	Coonrad, oral commun., 11/10/53
6 Fox Gulch	I, 7 T.9S.,R.70W.	m	Au	Disseminated	Placer	"Small" output reported in 1936. No other data on deposit or production. Valley floored in glacial drift. Uplands expose bedrock of sedimentary and volcanic rocks of Gemuk Group (Carboniferous to Cretaceous)	Smith, 1938, p. 59
7,8,9 Goodnews Bay	I, 7 T.12,13S., R.76W.	p	(Au,Cr,Mg,Pt)	Disseminated	Beach placer	Twenty-four auger holes and 23 shovel samples by USBM, 1958 and 1959, to maximum depth of 7.5 ft demonstrated natural surface concentrates ran 13.8 percent acid soluble Fe, 12.1 percent Cr_2O_3, no eU, and <0.02 troy oz per ton of Pt, Au and Ag. Core sampling program in 1969 by industry demonstrated detectable amounts of platinum, as well as native mercury and cinnabar. Also one tiny diamond. Best values along north side of bay south of Beluga Peak, which consists of altered mafic volcanics and volcaniclastic rocks (Carboniferous to Cretaceous Gemuk Group). Aeromagnetic survey and a more extensive sampling program undertaken in 1970 but results not known. Source of platinum conjectural because values decrease eastward toward Goodnews River and southward toward Red Mountain (Kagemeister Island quad.) where Goodnews Bay platinum placer mine located	Hoare and Cobb, 1977, p. 15

10	Jacksmith Creek Tributary	I, 7 T.9S., R.73W.	o	Au	Disseminated	Placer	Signs of old placer activity reported by W. L. Conrad	Conrad, oral commun., 11/10/53
11	Kagati Lake (Atmuglak Creek) (Mount Oratia) (Bethel Exploration Co.) (Geiger) (Jackson and Long) (Sunshine Mining Co.)	I, 9 T.3S., R.62W.	o	Hg,Sb	Vein	Hydrothermal (low temperature)	Prospect initially staked and now-caved adit driven 1927. Restaked 1956 and explored for 3 years (DMEA program). Explored by about 15 prospect pits and trenches up to 20 ft long and 4 ft deep, and bulldozer stripping over several hundred square feet. Deposits occur in jointed Tertiary (69.3 m.y.) monzonite and granodiorite stock that intrudes graywacke, shale and volcanic rocks of upper of the Gemuk Group (here of Jurassic to Cretaceous age). Cinnabar, associated with stibnite, realgar and rare orpiment, fills veinlets and coats fractures and fault gouge in main shear zone that strikes N.20°W. within the intrusive. Ore bodies are 2 in. to 2 ft thick but none have been traced more than 10 ft due to poor exposures. Assay data indicate some of the veins were of economic grade in 1956, when price averaged about $225 per 76-lb flask, but small size of ore bodies precluded outlining sufficient ore to warrant installation of production facilities	Malone, 1962, p. 52; Salisbury and MacKevett, 1965, p. 53-56
12	Kemuk River	I, 9 T.6S., R.62W.	o	Cu	Disseminated	Hydrothermal(?)	Trace amounts of copper minerals disseminated in northwest-trending fault zone that cuts fine-grained tuffaceous sedimentary rocks of Gemuk Group (Carboniferous to Cretaceous). Anomalous copper values in stream sediments throughout large surrounding area	Moore and Cobb, 1977, p. 39
13	Kemuk Creek	I, 7 T.8S., R.71, 72W.	m	Au,Pt	Disseminated	Placer	Placer gold discovered and mined at least until World War II. A major producer in Arctic Basin. A small amount of platinum also recovered; 6-7 ft of overburden, 1-4 ft of gravel, 8-15 in. fine gravel on false bedrock resembling glacial till. Gravels lithologically of local derivation. Placers pre-Pleistocene. Creek drains area underlain by Tertiary mafic intrusive rocks that intruded chert, clastic and mafic volcanic rocks of the Gemuk Group (Carboniferous to Cretaceous)	Harrington, 1921, p. 221-222, 227; Moore and Conrad, 1961
14	Lake Elva	I, 9 T.6S., R.58W.	o	Au	Disseminated	Placer	Prospectors reported to have found a little placer gold in streams entering Lake Elva	Eakins, 1968, p. 8
15	Malaria Creek	I, 7 T.10S., R.71W.	pl	Au?	Disseminated	Placer	Prospecting reported in 1934 but no information available on results	Smith, 1938, p. 59
16	Olympic Creek	I, 7 T.10S., R.71W.	m	Au	Disseminated	Placer	Mining reported 1926-1931; one man operation in 1930. Creek in glacial drift. Basin underlain by Gemuk Group clastic and mafic volcanic rocks (Carboniferous to Cretaceous) intruded by Tertiary granitic pluton with well developed hornfels zone. No production figures	Smith, 1933b, p. 44; Moore and Conrad, 1961
17	Sam Creek	I, 8 T.1S., R.67W.	p	Au	Disseminated	Placer	Small sluice box and diggings abandoned prior to 1950. No record of production. Creek cut in glacial drift and drains bedrock area of southeastward-dipping Cretaceous sandstone, shale and conglomerate (Gemuk Group), Precambrian metamorphic rocks and a small Tertiary mafic pluton	Moore and Conrad, 1961; Moore and Cobb, 1977, p. 45
18	Slate Creek	I, 7 T.10S., R.71W.	M	Au	Disseminated	Placer	Tributary of Goodnews River into which Wattamuse Creek flows that has been mined from 1916 until at least as recently as 1961. Most of production came from Wattamuse Creek. Extensive drilling and exploration. Both bench and present stream gravels productive. Stream cut in glacial drift. Bedrock consists mainly of clastic and mafic volcanic rocks of Gemuk Group, which is of probably Permian age in this area. Gold may have been derived from sizable Tertiary (69.5 m.y.) granitic pluton and associated hornfels zone to northwest	Cobb, 1973, p. 48; Moore and Conrad, 1961

19	Snow Gulch	I, J T.7S., R.71W.	m	Au,Pt	Disseminated	Placer	Placer operations reported as early as 1913. Mined at least until World War II. Intermediate production category. Some platinum also recovered and included with Goodnews platinum placer (Hagemeister Island quad, No. 6) production figures. Creek controlled by northeast-trending fault zone in Precambrian metamorphic rocks. Placer gold may have been derived from mineralized zones along the fault. Source of the platinum is conjectural	Moore and Cobb, 1977, p. 47; Moore and Coonrad, 1961
20	Sunshine Valley	I, 7 T.8S., R.58W.	o	Au	Disseminated	Placer	A little placer gold reported by prospectors from streams draining ridge southwest of valley. Valley in flood plain alluvium and glacial drift. Tributary streams in drift that overlies undifferentiated Gemuk Group sedimentary and volcanic rocks (Carboniferous to Cretaceous)	Eakins, 1968, p. 8
21	Togiak Lake	I, 9 T.6S., R.61W.	o	Cu	Vein	Hydrothermal	Occurrence of chalcopyrite and malachite in small quartz vein in hornfels near contact with Tertiary quartz diorite intrusive into fine-grained sedimentary rocks of Gemuk Group (Carboniferous to Cretaceous). Stream sediment samples from approximately 150 sq mi surrounding area yield anomalously high copper values	Moore and Cobb, 1977, p. 49; Moore and Coonrad, 1961
22	Togiak River	I, 8 T.10S., R.65W.	o	Zn,(Cu)	Vein	Hydrothermal	Quartz vein, 12-15 in. thick and exposed for about 25 ft on west side of river, contains about 30 percent dark, coarsely crystalline sphalerite (marmatite), and a little chalcopyrite and pyrite. Host rocks are pillow flows of Gemuk Group (Carboniferous to Cretaceous). Small gabbro intrusive crops out on opposite side of river	
23	Trail Creek	I, 9 T.2S., R.60W.	m	Au	Disseminated	Placer	Small-scale gold placer mining reported for a few years before World War II. Placers derived by reconcentration of glacial gravels. Bedrocks are sedimentary and volcanic rocks of Gemuk Group (Carboniferous to Cretaceous). No granitic rocks known in vicinity	Moore and Coonrad, 1961
24	Tyone Creek	I, 7 T.7S., R.71W.	m	Au	Disseminated	Placer	Evidence of placer mining but additional information lacking. Bedrocks are Precambrian metamorphics	Moore and Coonrad, 1961
25	Wattamma Creek	I, 7 T.10S., R.71W.	m	Au	Disseminated	Placer	Placer gold discovered 1917 and mined at least until 1961. Operations included extensive exploratory drilling. Dredge installed 1938 and operated at least until 1940. A major producer of rich, course gold. Both bench and creek gravels worked. Values concentrated in 1-2 ft of gravel below 2-6 ft of overburden and in top 6 in. of bedrock. Source of gold considered to be auriferous quartz veins in contact zone of large Late Cretaceous-early Tertiary (69.5 m.y.) granitic pluton that intruded argillite, chert, graywacke and mafic volcanic rocks of the Gemuk Group that here are of probable Permian age. (See also Slate Creek, No. 18)	Harrington, 1921, p. 221-223, 225-226; Moore and Coonrad, 1961

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1 Chagvan Bay —	J,7 T.15,16S. R.75W.	p	Cr,Fe	Disseminated	Beach placer	Five USBM reconnaissance auger hole samples to maximum depth of 7.3 ft in 1958-1959 revealed magnetite and chromite to be major constituents (>10 percent) but only trace amounts of gold and platinum. No commercial interest shown as of 1971	Berryhill, 1963, p. 13-16
2,3 Hagemeister Strait	J,7 T.17S.,R.73W. T.16S.,R.72W.	o	Cr	Disseminated	Beach placer	Trace quantities of chromite noted in shovel and auger-hole samples to 11.4 ft depth during USBM sampling program, 1958-1959. No precious metals reported	Berryhill, 1963, p. 17-18
4 Platinum-Salmon River beach	J,7 T.15,16S., R.75W.	p	Cr	Disseminated	Beach placer	Extensive drilling and manual prospecting along beach west of Red Mountain revealed chromite in excess of 10 percent but only trace to detectable amounts of gold and platinum. Lack of economically significant placers probably due to fact the strand line at time the placer deposits were formed lay far to west of present strand at time of lower sea level	Berryhill, 1963, p. 13-16; Mertie, 1969, p. 80-81
5 Red Mountain	J,7 T.14S.,R.75W.	p?	Pt,Cr	Disseminated	Placer	USBM 1958-1959 shovel samples and pan concentrates from streams draining west slopes of Red Mountain show in excess of 10 percent chromite and traces of both platinum and gold. A little platinum was recovered from small amphitheater-like opening in the mountain's south wall a short distance north of the low pass at the head of Platinum Creek	Berryhill, 1963, p. 13-16; Mertie, 1969, p. 80-81
6 Salmon River and tributaries (Including: Clara Creek, Dowry Creek, Fox Gulch, Platinum Creek, Squirrel Creek)	J,7 T.14,15S., R.74,75W.	M	Pt,Au(Cr)	Disseminated	Placer	Placer platinum discovered in 1926 at mouth of Fox Gulch and mining (including one dredge built in 1937) continued into 1975, when operations were terminated. Goodnews Bay Mining Co. has been the sole operating company since 1940. Total production estimated to be over 650,000 troy oz of platinum plus about 15,600 oz of gold. Platinum so far found has been confined to placers of the Salmon River and its western tributaries that drain the Red Mountain dunite intrusive (Jurassic?). Tributaries that drain Susie Mountain pyroxenitic intrusive contained no workable ground and those draining the Paleozoic sedimentary and overlying volcanic were found to be devoid of platinum. Pay streak of present Salmon River valley floor consists of alluvial materials of fluvial and glaciofluvial origin and reportedly became noncommercial at lower end of Claim 15 below Discovery after having been worked over a distance of about 6 mi. Bench pay streak on left limit of river was formed in early Pleistocene time and has been dredged over a distance of about 2 1/2 mi. Drilling demonstrates that it extends farther southeastward but test holes about near Chagvan Bay failed to encounter platinum metals. Platinum metals in the form of platinum and osmium-iridium pseudoeutectically intergrown. Weighted chemical means run Pt - 73.62; Ir - 9.94; Os - 1.89; Ru - 0.15; Rh - 1.15; Pd - 0.34; Au - 2.06; impurities 10.85 percent. Ultimate source of the gold considered to be of glacial derivation from Jurassic dioritic intrusive rocks that underlie the ridge southeast of the headwaters of Small River	Mertie, 1969, p. 77-80; 1978, p. 23-30
7 Smalls River	J,7 T.14S.,R.75W.	p	Pt,(Au)	Disseminated	Placer	Exploratory drill hole sunk in Smalls River valley 2.6 mi S.52°E. of Platinum reached bedrock at 192 ft and yielded both platinum and gold, but led to no extension or workable ground. Significant resources not likely because of deep scouring by Illinoian(?) glacier	Mertie, 1976, p. 5; 1969, p. 81

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1 Flat Creek (Hitt, Stuyahok Creek, Stuyahok River, Stuyahok Valley)	F,8 T.23N.,R.64W.	a	Au(Hg)	Disseminated	Placer	Placer gold discovered 1918 and mined 1921 to about 1940. Production data poor, but possibly as much as 30,000 fine oz were recovered. Country rocks are lawsonitized Jurassic tuffaceous rocks, overlain by relatively flat-lying andesitic, trachytic and rhyolitic flows and pyroclastics of Late Cretaceous-early Tertiary age. Local quartz monzonite and diorite plugs of same age. Placer ground shallow, unfrozen. Valley unglaciated. (Not to be confused with placer deposits in vicinity of Flat, Iditarod quadrangle)	Cobb, 1976a, p. 64; Moore, J. M., 1977 (oral commun.)
2 Wolf Creek Mountain	F,7 T.28N.,R.65W.	o	(Hg,Sb)	Disseminated	Hydrothermal	Discovered 1962 by USGS field party. Thin films of "gruty" cinnabar with blebs of stibnite in highly altered rhyolite about 2 mi north of Wolf Creek Mountain. Rhyolite belongs to gently dipping volcanic complex of flows and pyroclastics, with intrusive phases, of Late Cretaceous to early Tertiary age and that ranges in composition from basalt through andesite and trachyte to rhyolite. Panning of streams draining the area failed to yield recognizable cinnabar or stibnite. Although apparently uneconomic, this occurrence does extend the known area of quicksilver mineralization approximately 100 mi northwest of previously known occurrences in the vicinity of the Iditarod and Kuskokwim Rivers	U.S. Geological Survey, 1963, p. A-5; J. M. Moore, 1977 (oral commun.)

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1 Bear Creek (Magatia)	B,13 T.9N.,R.14, 15E.	M	Au(Sn,Pt)	Disseminated	Placer	Auriferous gravels derived from glaciofluvial deposits laid down by streams emanating from lobe of glacier that moved eastward down Clear Creek and crossed divide into Bear Creek. Source of gold believed to be concealed contact between porphyritic monzonite (Late Cretaceous) and andesitic volcanic rocks (Jurassic?-Cretaceous). Cassiterite and platinum group metals identified in samples collected early 1920's. Dredge installed 1957 and operated 1975	Miller and Ferrians, 1968, p. 9; Cobb, 1973, p. 144-145
2 Black Creek	B,15 T.8N.,R.24E.	o	Cu(Au)	Disseminated	Hydrothermal	Disseminated pyrite and chalcopyrite in metavolcanics (Jurassic? and Early Cretaceous) and late stage aplites near granodiorite-quartz monzonite pluton (Late Cretaceous-Early Cretaceous) at head of Black Creek. Grab samples show up to 0.1 percent Cu (but 0.04 oz Au). No indication of significant exploratory work	Miller and Ferrians, 1968, p. 5-6
3 Black Creek	B,15 T.8N.,R.24E.	m	Au	Disseminated	Placer	Gold placer deposits probably derived from contact zone (see 2 above). Main pay streak about 12 ft wide. Depth to bedrock about 20 ft	Eakin, 1916, p. 83-84
7 Felix Fork	B,15 T.8N.,R.24E.	m	Au	Disseminated	Placer	Auriferous gravels discovered 1910. Record of production 1911 and 1917. Included here with Indian River (No. 7)	Smith, 1913b, p. 143; Martin, 1919, p. 39
4 Hughes Bar	B,14 T.7N.,R.22E.	m	Au	Disseminated	Placer	Fine gold discovered on bar of Koyukuk River in early 1890's. Total production probably about 200 oz (?)	Smith, 1913b, p. 142; Reed, 1938, p. 163
5 Indian River	B,15 T.8N.,R.24E.	o	(Mo)	Disseminated?	Hydrothermal	Molybdenite "deposit" (5) discovered during placer mining reportedly contained high grade ore. Location is in Late Cretaceous granodiorite of Indian Mountain pluton. At (5), sphalerite occurs in altered intrusive rocks and andesite (Jurassic?-Cretaceous)	(5) Joesting, 1942, p. 29
6 Indian River	T.7N.,R.24E.	o	(Zn)	Disseminated	Hydrothermal		(6) Miller and Ferrians, 1968, p. 5
7 Indian River	B,15 T.8N.,R.24E.	M	Au(Mo)	Disseminated?	Placer	Mined 1911 to at least 1965. Large scale nonfloat operations ceased in 1961. Total production through 1917 at least 5400 oz. Gravels 2-6 ft deep and about 50 ft wide in area underlain by granodiorite-quartz monzonite pluton (81.5 ± 3 m.y.). See also Utopia Creek (Malozitna quadrangle, No. 8)	Eakin, 1916, p. 82-84; Joesting, 1942, p. 16; Miller and Ferrians, 1968, p. 5-6
8 Pocahontas Creek	B,15 T.7N.,R.23E.	p	(Au)	Disseminated	Placer	Placer prospects reported by Eakin (1916). Stream heads against headwaters of Indian River (7) and Utopia Creek (Malozitna No. 8)	Eakin, 1916, p. 83
9 Red Mountain	B,15 T.10N.,R.23E. (Approx.)	p	Au	Disseminated	Placer	A small amount of gold recovered from south bank of Koyukuk River in 1913	Eakin, 1914a, p. 383
10 Red Mountain Creek	B,15 T.10N.,R.23E.	o	(Au,Zn)	Disseminated	Hydrothermal(?)	Small pyritic hypabyssal latite porphyry intrusive (Cretaceous?) on crest of anticline in graywacke and mudstone (Late Early Cretaceous) marked by extensive limonitic gossan. Contains trace amounts of gold and zinc	Berg and Cobb, 1967, p. 228
11 Unnamed	B,13 T.10N.,R.14E.	P	U,(Th,RE's)	Disseminated	Uraniferous igneous rocks	Uraniferous nepheline syenite and bostonite dikes cutting andesitic (Early Cretaceous) hornfels east of Zane Hills pluton (Late Cretaceous; 81.9 m.y., K-Ar date on hornblende) in the Clear Creek area contain as much as 400 ppm uranium and 550 ppm thorium. Betafite and allanite are the principal uranium-bearing minerals	Miller and Elliott, 1977
12 Zane Hills	B,13 T.9N.,R.14E.	P	U,Th(RE's)	Disseminated	Uraniferous igneous rocks	Uranium- and thorium-rich monzonitic border phase of Zane Hills pluton (Late Cretaceous; 81.9 m.y. K-Ar date on hornblende). Radioactive minerals (principally uranothorianite, betafite, and allanite) are disseminated throughout the monzonite which contains as much as 100 ppm uranium and 270 ppm thorium	

MAP NO. AND NAME(S) (if known)	MAP COORDINATES LOCATION	DEVELOPMENT CATEGORY	RESOURCES Minor constituent(s) or potential byproducts in parentheses	FORM	TYPE	BRIEF DESCRIPTION	PRINCIPAL REFERENCE(S)
1 Beaver Creek	F,11 T.27N.,R.44W. (?)	M	Au	Disseminated	Placer	Gold placer mining reported in 1911. No information on specific location, characteristic of ground, or production (if any)	Brooks, 1912, p. 40
16 Black Creek (Black Gulch) (Placer)	F,11 T.27N.,R.47W.	M	Au(Hg,Sn,W)	Disseminated	Placer	Placer operations from 1910 at least through 1966 and probably later. Dredge installed 1916, operated one season before being moved to Otter Creek. USBM sampling programs 1956, 1967. Placers generally discontinuous and shallow; 12-16 ft deep with thin cover of muck that is locally frozen. Abundant cinnabar in concentrates plus lesser amounts of cassiterite and rare scheelite. Source of gold believed to be gold-quartz veins distributed in zones throughout Tertiary monzonite plutons that intrude Late Cretaceous sandstone and shale. Scheelite not found in place	Smith and Maddren, 1915, p. 286; Brooks, 1916b, p. 48-49; Joesting, 1942, p. 26, 35
(Lode)		P	(Sb,Hg)	Vein	Hydrothermal	Placer operations disclosed quartz veins in underlying monzonite 2-12-in. thick that contained stibnite and a little cinnabar and pyrite. Also short adit on a similar vein that probably did not intersect ore	
2 Chicken Creek (Placer)	F,11 T.26N.,R.47W.	M	Au(Hg,Sb,Ag,W,RE)	Disseminated	Placer	Creek about 3 mi long that heads in same monzonite pluton (early Tertiary) as Flat and Happy Creeks. Production 1915-1966 lumped with that from Prince, Happy, and Willow Creeks was 106,486 oz of gold. Mined from 1911 at least through 1940, initially by drift and later by hydraulic methods. Both bench and semiresidual placers, mostly unfrozen. Placer gold fine, angular, and equidimensional. Average of five assays from 1929 production showed 862 gold, 128 silver per thousand. Weathered monzonite at head of creek may constitute a significant gold resource	Brooks, 1916b, p. 46; Martin, 1936, p. 213-215; Cady and others, 1955, p. 107; Maloney, 1962a, p. 8, 16-17, 21
(Lode)		O	Au,Hg,Sb	Vein	Hydrothermal	Small quartz veins in monzonite near head of creek contain gold, cinnabar, and stibnite	
3 Decourcy	F,10 T.33N.,R.50W.	M	Hg(Sb)	Vein	Hydrothermal (low temperature)	Discovered 1910-1911 and operated intermittently until 1950. Total production 1,534 flasks. About 1,375 ft of underground workings, plus numerous pits and trenches mostly cut by USBM in 1943. DMEA diamond drilling, totaling 2,814 ft 1953-1954, demonstrated cinnabar mineralization continuous at least 100 ft below land surface in the area of Tunnel, Retort, and Top veins. Ore bodies in zone about 2,000 ft long, 250 ft wide have form of small, irregular lenses, veins, and veinlet networks localized in breccia zones, along contacts between altered mafic dikes and sills and host rock sandstone and shale (Cretaceous Kuskokwim Group) and along bedding planes. Largest producer was Tunnel vein, averaging 3.2 ft thick, 200 ft long at surface, and extending to depth of 130 ft. Cinnabar with minor stibnite, cervantite, and arsenopyrite in gangue of silica, carbonate, and clay minerals. Additional underground exploration may develop minable ore, especially beneath the Tunnel and Top veins where tested by diamond drilling. Placer cinnabar resources in a tributary of Return Creek unassessed	Cady and others, 1955, p. 2, 105, 108, 111-113; Sainsbury and MacKevett, 1965, p. 2-3, 43-46

4	Donlin Creek (Placer)	F.10 T.22-24N.,R.48-49W.	m	Au(Hg,W,Sn,Sb)	Disseminated	Placer	Gold discovered on Crooked Creek (Snow Gulch) 1909. Mined from 1910 until at least 1956, including dredging. Placers extended upstream from Omega Gulch almost to head of Donlin Creek and included almost all the left limit tributaries. Present stream, bench, and old channel deposits. Best ground developed where left limit gulches cut into benches and further concentrated the gold. Such deposits tended to be high grade but restricted in extent. Gold rough and coarse; pinhead to pea size. Some nuggets to 5 oz, 902 to 910 fine. Concentrates included magnetite, scheelite, cassiterite, cinnabar, stibnite, pyrite, and garnet in addition to gold. Some nuggets contained both cinnabar and gold	Cady and others, 1955, p. 68-69, 116, 118
	(Lode)		s	Au,Sb,Ag	Vein	Hydrothermal	At least two known lodes: stibnite-quartz; gold-silver quartz. Source of placer gold considered to be auriferous quartz veins near contacts of silicified Tertiary albite rhyolite intrusives with Cretaceous graywacke and shale (Kuskokwim Group). (Includes references to Crooked Creek, Lewis Gulch, Quartz Creek, Queen Gulch. See also Crooked Creek, Sleetmute quadrangle)	
5	Flat Creek (Placer)	F.11-12 T.27N.,R.47W.	m	Au(Ag,Hg,Sb,W)	Disseminated	Placer	Placer mining began in 1910 following discovery of gold on Otter Creek (No. 16) in 1908. Most of creek mined more than once by hydraulic methods and up to two dredges. Dredging terminated about 1957, but some ground still being worked in 1975. Production since 1915 in excess of 241,000 fine ounces. Deeply weathered early Tertiary monzonite constitutes residual placer which grades into alluvial, bench, and then into stream placers. Fineness decreases downstream, suggesting gold derived from diverse source, including reworking of older bench placers. Concentrates include cinnabar, arsenopyrite, stibnite, and scheelite	Martin and Harrington, 1916, p. 253, 255-258; Martin, 1936, p. 198-208; Kimball, 1980b, 38 p.
	(Lode)		m	Au(Hg,W)	Stockworks	Hydrothermal	Deeply weathered early Tertiary monzonite stock intrudes Late Cretaceous sandstone, shale, and argillite and contains many free gold-bearing quartz veins up to 2 in. thick. Veins also contain metallic sulfides and scheelite. Some of the weathered monzonite and gold-bearing quartz veins have been mined. More than 500 lbs sent to smelter in 1915. USBM sampling program in 1967 concluded the gold occurs in limited zones within the monzonite rather than being disseminated throughout	
6	Fourth of July Creek	F.11 T.29N.,R.42W.	m	Au	Disseminated	Placer	Placer mining as early as 1911. Production not known but probably small. Extensively drilled by Fairbanks Exploration Co.; results not known. Creek transects small granitic pluton of Late Cretaceous-early Tertiary age that intruded Cretaceous clastic rocks	Brooks, 1912, p. 40; Smith, 1939b, p. 59

7	Ganes Creek and tributaries	F.12 T.33-34N., R.38W.	M	Au	Disseminated	Placer	Workable deposits discovered 10 mi above mouth in 1906, followed by stampede in 1907. Early drift mining, followed by as many as two dredges during interval 1923 at least until 1965. Nonfloat activity reported 1975. One of the major producing streams of region but total not known. Upper part is beheaded segment of Beaver Creek and is essentially barren. Richest ground appears to have been bench gravels 60-100 ft above present stream deposits. Gravels 5-30 ft thick and covered by 10-20 ft of partly frozen muck. Gold tends to be coarse and unflattened, commonly with quartz attached. Derivation probably local bedrocks (Cretaceous slate and related clastics cut by numerous dikes of altered andesite and dacite). One assay reported fineness of 888. (See also Ganes Creek, No. 9, Ophir quadrangle)	Maddren, 1910, p. 21-23, 64, 67-72, 74; Laxin, 1914b, p. 35, 37-38, 40; Martin, 1936, p. 174-175, 184-188
16	Garnet	F.11 T.27N., R.47W.	P	Au	Vein	Hydrothermal	Narrow vein of gold-bearing quartz reportedly found during active prospecting in 1929. Probably relates to Golden Horn (No. 8 below)	Smith, 1932, p. 23
16	Glen Gulch (Placer)	F.11 T.27N., R.47W.	M	Au(Hg,Sb,W)	Disseminated	Placer	Gold placer deposits developed on weathered early Tertiary monzonite which contains gold-cinnabar-stibnite-scheelite-bearing quartz veins, mined from 1911 at least until 1933. Production, lumped with that from Black, Granite, and Slate Creeks and Malamute Gulch, totaled 21,011 oz. Concentrates carry abundant cinnabar (nuggets to 10 lbs), with subordinate stibnite and scheelite. (See also Otter Creek, No. 16 below)	Smith and Maddren, 1915, p. 287; Brooks, 1916b, p. 46-49
	(Lode)		P	(Au,Hg,Sb,W)	Vein	Hydrothermal	Some quartz veins in monzonite contain good values of gold, plus cinnabar, stibnite, and scheelite. One vein 2-12 in. thick contains granular aggregates and kidneys of stibnite with minor cinnabar and pyrite. USBM bedrock trenching and sampling program in 1966 disclosed no significant quicksilver mineralization. (See also Golden Horn, No. 8; Minnie Gulch, No. 8)	Malone, 1962, p. 57; Maloney, 1962a, p. 8-9, 12, 17-20
8	Golden Horn	F.11 T.27N., R.47W.	M	Au,Ag,Pb(Zn,Sb, Hg,W)	Vein	Hydrothermal	The only productive lode mine in the area with recorded production in 1922, 1935, 1936, 1937. Total of 528 tons of ore shipped to smelter contained 2,706 oz gold, 2,820 oz silver, 9,326 lbs lead, and 653 lbs zinc. Reportedly developed by 200 ft shaft, 350 ft of adits, 1,000 ft of drifts, and 200 ft of raises. USBM trenching and sampling program in 1955. Irregularly distributed quartz veins at or near contact of early Tertiary (60 m.y.) quartz monzonite stock with Late Cretaceous sandstone and shale carry gold, stibnite, cinnabar, scheelite, and base metal sulfides. (See also Glen Gulch, No. 8; Garnet, No. 16)	Smith and Maddren, 1915, p. 287; Martin, 1936, p. 242; Smith, 1939, p. 32-33; Maloney, 1962a, p. 4-5, 8-9, 17-18
16	Granite Creek	F.11 T.27-28N., R.47W.	M	Au(Cr)	Disseminated	Placer	Mined almost continuously from 1920 at least until 1940 by nonfloat methods. Production 1915-1966, lumped with that from Black and Slate Creeks, and Malamute and Glen Gulches, totaled 21,011 oz. Valley carved mainly in Late Cretaceous sandstone and shale with granitic dikes and gold-bearing quartz veins in headwaters area. Chromite in concentrates probably derived from small ultramafic dikes. Pay streak about 180 ft wide in present stream gravels 8-15 ft wide in present stream gravels 8-13 ft thick near and up to 2 ft into bedrock. Gold rather fine grained but shotty and commonly iron stained. Three assays showed fineness of 863 gold and 134 silver	Martin, 1936, p. 220-221; Kimball, 1969b, p. 6

9	Hadley Creek (Gulch)	F,10-11 T.27N.,R.47W.	m	Au(Hg,Sb,Ag,Cr,Sn, Th,W)	Disseminated	Placer	Placer mining began 1910 and continued at least until 1940. Initial drift mining efforts unsuccessful because most of ground unfrozen. Reportedly the richest creek in area. Creek heads in some deeply weathered early Tertiary Quartz monzonite stock with gold-bearing quartz veins at Flat Creek and crosses contact zone with enclosing Late Cretaceous sandstone, shale and argillite. Weathered monzonite constitutes residual placer that grades downstream into an eluvial and then into bench and stream placers. Pay streak 100-500 ft wide, 12-18 ft of overburden. Gravel poorly sorted. Lower 2-3 ft of gravel and up to 7 ft of bedrock sluiced. Some gold well worn; some rough and crystalline. Gold generally coarser than that from Willow Creek (No. 20). Largest nugget about 1 2/3 oz. Average of eight assays from 1930, 1931, and 1932 showed a fineness of 864 gold, 126 silver, with a gold range of 866-876 parts per thousand. Abundant cinnabar in concentrates; also scheelite, stibnite, chromite, magnetite, monazite, realgar, radioactive zircon and traces of cassiterite	Maddren, 1911, p. 256, Mertie, 1936, p. 211-213, Kimball, 1969b, p. 6, 8-9
10	Julian Creek	F,11 T.25N.,R.44W.	m	Au(Hg,Sn,Th)	Disseminated	Placer	Placer mining intermittently from 1911-1939. Operations reportedly more extensive than those at Opalia Creek (No. 4). Bedrock includes early Tertiary albite rhyolite and (or) porphyritic granite dikes that transect Cretaceous graywacke and shale (Kuskokwim Group). Lode source for gold and other heavy minerals believed to be quartz fracture fillings in breccia zones near the altered intrusives. Concentrates contain gold, cinnabar, cassiterite, pyrite, and monazite. One concentrate reportedly contained 5 percent monazite and 80 percent pyrite. (Includes references to George River, Juslin Creek, and Julian Creek)	White and Sikes, 1953, p. 16, 18; Cady and others, 1955, p. 71, 118, 119
11	Kaatz	F,12 T.33N.,R.38W.	p	Sb	Vein	Hydrothermal	8-10 ft wide quartz vein, N.30°E., 75°S., cuts Cretaceous sandstone (Kuskokwim Group). Extension of vein is rhyolite dike. Dike and vein traceable for several thousand feet. Specks of stibnite occur throughout vein but are most abundant within about 1 ft of footwall, where they form granular aggregates. Sample across face yielded only trace of gold and silver	Brooks, 1916b, p. 49-50
12	Little Creek	F,10 T.22N.,R.51W.	p?	Au(Hg)	Disseminated	Placer	Placer gold prospects reported as early as 1910. Creek prospected over distance of about 2 mi midway between mouth and head. Test shafts sunk 12 ft to bedrock with crosscuts at 1/2 mi intervals. Pans reportedly range from few cents to $3.00 per square bedrock foot. Gold evenly distributed in continuous pay streak. Production, if any, not known. Abundant cinnabar in concentrates. Bedrocks are interbedded Cretaceous graywacke and shale (Kuskokwim Group) that dip beneath lava flows of the Iditarod Basalt (Late Cretaceous) in northeast-trending syncline and are intruded by sill-like bodies of basalt altered to silica-carbonate rock. No intrusives occur upstream from reported head of pay streak	Maddren, 1911, p. 267, 270; Cady and others, 1955, p. 120

13	Malamute Creek (Gulch) (Pup) (Placer)	F,11 T.27N.,R.47W.	m	Au(Hg,Cr,Sn,W,RE's)	Disseminated	Placer	Placer reportedly mined from 1926-1934. Production, included with that from Granite, Black, and Slate Creeks and Glen Gulch, totaled 21,011 oz gold. Bedrock is the early Tertiary quartz monzonite pluton of Otter Creek and is overlain by about 35 ft of poorly sized angular wash that consists mainly of locally derived vesicular basalt in a sandy matrix. Gold mainly on or near bedrock. USBM placer concentrate sample showed, among other minerals, cinnabar, scheelite, ferberite, chromite, realgar, ilmenite, and cassiterite	Martin, 1936, p. 220-221, 242-243, Maloney, 1962a, p. 5
	(Lode)		s	Au(Hg)	Vein	Hydrothermal	Lode prospect located on north side of Otter Creek about 100 yds below mouth of Malamute Creek. N.25°E.-trending quartz-calcite vein and associated stringers explored by adit 70 ft long (now caved) and reported to contain arsenopyrite, cinnabar, and "considerable" gold. Another vein on nearby ridge explored by small shaft. No indication of any production	
8	Minnie Gulch	F,11 T.27N.,R.47W.	p	Au(Hg)	Vein	Hydrothermal	USBM trenching program (1956) uncovered a few thin quartz veinlets in weathered quartz monzonite. One contained small pockets of visible cinnabar. Another assayed 0.24 oz gold per ton--the highest tenor reported for the trench samples	Maloney, 1962a, p. 8-9
14	Moore Creek	F,11 T.29N.,R.42W.	m	Au(Hg,Cr,W)	Disseminated	Placer	Placer gold discovered 1910, staked 1911, and mined at least until 1967. For several years (1933-1937) was largest producer in McGrath district. Operations included dredging. Creek placers have 12-18 ft and bench placers have 5-7 ft of overburden, upper 2 ft or so being of vegetation and clay. Gold occurs at base of gravels and in upper 1½ ft of bedrock, tends to be well worn and is associated with considerable vein quartz. Two assays showed fineness 767 gold, 225 silver. Principal source considered to be small quartz monzonite pluton that intrudes steeply dipping sandstone and slaty shale of Kuskokwim Group (Cretaceous) Concentrates contain abundant cinnabar with lesser amounts of chromite, pyrite, scheelite, and zircon	Martin and Harrington, 1916, p. 252-253; Martin, 1936, p. 223-224; White and Killeen, 1963, p. 16, 18
15	Mt. Joaquin	F,12 T.32N.,R.37W.	o	Hg	Disseminated(?)	Hydrothermal(?)	Two claims staked on limestone "inclusion" in monzonite pluton (Late Cretaceous-early Tertiary) that contains cinnabar. No recorded production	Malone, 1962, p. 46
16	Otter Creek and minor tributaries (Placer)	F,10-11 T.27N.,R.47W.	m	Au(Cr,Sb,Pb,Hg, Ag,Sn,W)	Disseminated	Placer	Discovery creek in Flat area Christmas day 1908. Mining followed in 1909 and continued until at least as recently as 1975. Creek has now been dredged throughout most of its length even though most of it previously had been mined by other methods. Production 1915-1966 totaled 265,125 oz gold. Small Tertiary quartz monzonite pluton underlies drainage area about 2 mi above Flat Creek and intrudes steeply northward dipping Cretaceous sandstone and shale (Kuskokwim Group). Placers begin toward upper end of the monzonite body and extend downstream to a point below Flat Creek. Productive ground forms pay streak 1/4-1/2 mi wide south of present channel. Placers are mainly shallow stream deposits, but bench placers grade imperceptibly into those of present valley floor so that both ancient and recent placers may be present. Gold occurs within shallow gravels near or at bedrock and within the underlying highly altered monzonite. Assays show progressive decrease in fineness downstream (854-824 parts gold per thousand) due to increase in dross (12-43) rather than normal corresponding increase in silver. Concentrates contain gold, cinnabar, arsenopyrite, scheelite, stibnite, chromite, ilmenite, magnetite, galena, pyrite, garnet and cassiterite. One dredge concentrate sample assayed 16.1 percent Hg; 30.2	Maddren, 1911, p. 238, 240, 253-255, 262, 267; Martin, 1936, 216-220; Kimball, 1969b, 39 p.

							percent Sb, 0.48 percent WO_3, in addition to gold and silver. (See also Granite Creek, Glen Gulch)	
	(Lode)		o	Au,Sb,Hg,W	Vein	Hydrothermal	Two types of gold-bearing veins, for most part uncovered during placer mining: (1) quartz stringers in or near the monzonite pluton with relatively high grade gold and minor scheelite; (2) stibnite-cinnabar-bearing quartz veins with lower fineness gold in country rock at greater distance from intrusive. (See also Granite Creek)	
17,18	Prince Creek	F,11 T.26N.,R.47W.	M	Au(Hg)	Disseminated	Placer	Creek flows southeastward into Bonanza Creek and heads in same quartz monzonite stock as Happy, Flat, and Chicken Creeks. Mining reported for 1932, 1933, 1937, 1966 and 1975 but undoubtedly carried on other years also. Production, lumped with Chicken, Happy, and Willow Creeks, totaled 106,486 oz gold, but Martin (1933) indicates no part of the valley was a large producer. All placers at upper and lower ends developed over banded argillite (Cretaceous Kuskokwim Group) bedrock. 22-30 ft of overburden overlies gravel consisting of argillite, sandstone, and monzonite clasts. Some gold occurs on bedrock of false clay. Abundant cinnabar in heavy concentrates from upper part of creek	Martin, 1936, p. 216; Maloney, 1962a, p. 5, 18, 22
19	Slate Creek	F,11 T.27N.,R.47W.	M	Au(Ag,Hg,Sb,W)	Disseminated	Placer	Tributary to Otter Creek from south. Gold discovered at mouth. Mined as early as 1916 and from 1933 until at least 1940. Probably more recent activity. Small production of fine-grained gold, with very few nuggets. Bedrock mainly slate with granitic dikes and quartz veins, one of which contains stibnite. Gold localized in lower part of gravel which may be as much as 10 ft thick under 30 ft of overburden. Analyses (USBM) of concentrate samples showed as much as 8.81 oz gold and 2.61 oz silver with enough mercury and tungstic oxide to suggest the presence of small amounts of cinnabar and scheelite	Martin, 1936, p. 222-223; Maloney, 1962, p. 17
20	Willow Creek	F,10 T.26-27N.,R.47, 48W.	M	Au	Disseminated	Placer	Placer gold discovered 1910; mining reported most years thereafter until 1940. Production included with that from Chicken, Prince, and Happy Creeks totaled 106,486 over interval 1915-1966. Gold very fine grained. Largest nugget reported weighed less than ½ oz. Four assays showed fineness of 877½ gold, 115 silver, decreasing somewhat downstream. Both bench and present creek placers. Bedrock mostly Cretaceous slate (Kuskokwim Group) but major headwater tributary (Happy Creek) drains area underlain by Tertiary quartz monzonite intrusive and its contact aureole. Gold mostly in lower 1-2 ft of gravel up to 5 ft or so thick which contain very little monzonite. Overburden about 12 ft thick, the upper 7 ft of which is muck	Martin and Harrington, 1918, p. 253, 256, 266; Martin, 1936, p. 208-211
21	Yankee Creek	F,12 T.34N.,R.37,38W.	M	Au	Disseminated	Placer	Placer ground (initially staked about same time as other creeks near Ophir, but gold in paying quantities not found until 1909. Gold in upper 1-2 ft of decomposed bedrock of slate, sandstone, and quartz monzonite and at base of gravels 5-8 ft thick, overlain by 10-12 ft of essentially unfrozen muck. Mining in upper part of creek 1975. (See Yankee Creek, No. 16, Ophir quadrangle for additional notes)	Maddren, 1911, p. 252-253; Martin, 1936, p. 188-190

MAP NO. AND NAME(S) (if known)	MAP COORDINATES LOCATION	DEVELOPMENT CATEGORY	RESOURCES Minor constituent(s) or potential byproducts in parentheses	FORM	TYPE	BRIEF DESCRIPTION	PRINCIPAL REFERENCE(S)
1 Alabama Creek	C,20 T.9N.,R.4W.	p	Au	Disseminated	Placer	Good prospects for fine gold reported in 1916. Muck and gravel 52 ft deep 1 mi above mouth; 1.5 mi above mouth and on slope gravel was >125 ft thick. Bedrock mostly covered, no mineralized bedrock found; rock is mainly Ordovician chert with possibly some limestone and dolomite. No mention of mining or prospecting after 1915	Brooks, 1916c, p. 207-208
2 Alaska group (Includes references to Furstenau, Genki, Gladstone, Jupiter-Mars, Empire	C,21 T.3N.,R.2E.	m	Au	Quartz vein	Lode	Gold-bearing quartz veins produced a few tons of ore reported to assay $150-$200 per ton (1976 price). Other samples assayed $2.15-$64.40 per ton (1976 price). There are several quartz veins, ranging from 10 in. to 5 ft in width, that are complicated by faulting; they contain few sulfide minerals but commonly are arsenic- and iron-stained. Mining and prospecting was intermittent between 1910 and 1931 or possibly a few years later. Country rock is schist of early Paleozoic and/or Precambrian age. Potential for future significant gold production apparently is small	Smith, 1913a, p. 175; Chapin, 1914, p. 337; Hill, 1933, p. 75
3 Alaska Flyer	C,21 T.2N.,R.1E.	p	Au	Quartz vein	Lode	A 30 ft shaft was sunk, about 1912, on a gold-bearing quartz vein. No later reports. Bedrock schist, near contact with Tertiary-Cretaceous granodiorite	Smith, 1913a, p. 194
4 Alder Creek	C,21 T.3N.,R.3E.	m	Au	Disseminated	Placer	Mining of shallow ground by open-cut method at various times between 1912 and 1940 and possibly later. Probably no mining after 1959. Worked over a distance of about 0.5 mi from the mouth. No record of production or tenor. Some of the production probably included with Fairbanks Creek. Bedrock quartz-mica schist and quartzite	Ellsworth and Davenport, 1913, p. 208; Smith, 1942b, p. 39
5 Amy Creek (Includes tributaries Kabich, Bachner, Moose, and Fanny Gulches)	C,20 T.8N.,R.4W.	M	Au,(Sb,Cr)	Disseminated	Placer	Mined extensively and was major gold producer in this district in many years but not continuously between 1918 and 1968; has been essentially inactive since 1968. Most of mining is on a bench on east side of valley and at mouths of several gulches. Muck and gravel 25-100 ft thick; pay streaks 40-160 ft wide, gold chiefly in 3 ft of gravel. Bedrock in mining area (lower 1.5 mi of valley) is chert, dolomite and limestone, with some argillite, basalt, and one small granite body. Basaltic rocks and serpentinite are the chief bedrock in upper part of valley. Major part of the potentially minable ground has probably been mined by drifting and open cuts	Martin, 1918a, p. 268-269; Overbeck, 1920, p. 181
2 Anne-Mary	C,21 T.3N.,R.2E.	p	Au,Ag,Pb,Sb	Shear zone	Lode	Lode, prospected in 1931, of crushed schist and clay gouge is 4-8 ft wide, strikes N.70°W., and dips 70°S. Includes crushed, iron-stained quartz and silver-bearing galena and arsenopyrite. A channel sample across 5 ft width of this zone assayed $2.30 per ton in gold (1976 price). No data are available on tenor or mode of gold occurrence, and a second lode 100 ft away was poorly exposed. Apparently little, if any, later work was done here	Hill, 1933, p. 100
6 Banner (See also Homestake)	C,21 T.3N.,R.2E.	p	Au	Vein(?)	Lode	Ore carrying free gold was reported to have been found in a shaft prior to 1912. Shaft and ore zone not accessible in 1912	Smith, 1913a, p. 171
7 Bedrock Creek	C,21 T.3N.,R.1E.	m	Au,Sn,W	Disseminated and quartz veins	Placer and lode	Placer mining for gold probably in early 1900's and possibly a small amount as late as 1950's. Cassiterite and scheelite associated in probably noneconomic amounts in the placers. Bedrock uncovered in placer apparently contained some gold-bearing quartz veins that were mined in open cuts and this ore was milled at the nearby Cleary Hill mill. Placer ground mined over 0.5 mi up from mouth. Lode sources on all slopes in this creek basin. Placers probably mined out	Brooks, 1923, p. 30; Joesting, 1942, p. 32, 37; Byers, 1957, p. 188, 210

8	Bobbie	C,21 T.3N.,R.2E.	p	Sb,Pb,Ag	Vein	Hydrothermal	Prior to 1912 prospecting was done on this small vein of stibnite and silver-bearing galena, with some pyrite. The prospect was inactive in 1912, and there is no record of later development. Probably this lode is incorporated in claims staked in the 1950's and 1960's covering several similar occurrences in this area. Economic potential of such small deposits is minimal	Smith, 1913a, p. 177; Brooks, 1916b, p. 35
9	Brandolm-Jenkins (Also known as Leimdecker, McNeil)	C,21 T.3N.,R.2E.	m	Sb,Pb	Vein	Hydrothermal	Prospecting and some mining intermittently between 1915 and about 1929. A quartz vein of unstated size and extent, attitude N.60°W., 70°S., contains arsenopyrite, jamesonite, and galena. Bedrock quartz-mica schist. Probably inactive since 1930. Part of the mineral-veined area between Moose and Wolf Creeks	Hill, 1933, p. 104
10	Burnet (Includes Bradley, Burnet Galena, Gospfort, Big Lead, North Star, Central Star, North Star Extension, SS, Thompson & Burns, Shoogy Gulch)	C,21 T.2N.,R.1E.	p,m	Au,Ag,Pb,Sb	Quartz veins and breccia zones	Lode	A number of quartz veins and quartz-filled breccia zones on Shoogy Gulch, prospected and mined by several operators at various times between 1908 and 1931, or possibly a few years later. Geologic setting is in contact between schist and granodiorite and quartz monzonite of Pedro Dome with related dikes and quartz veins. Mineralized veins and breccia zones range from several inches to several, or possibly 75, feet in width. Some carry only gold, some have gold with silver-bearing galena, stibnite, and other sulfides, and others have various sulfide minerals but lack gold. Exact production and grade are poorly known. Some gold assays show $18.30-$20.00 per ton (1976 price). A 1-6 in. vein said to have produced $25,000 in gold (1976 price) in 1916. This and similar geologic settings around Pedro Dome offer favorable sites for small, locally rich gold, silver-lead, antimony deposits, but probably have very limited economic potential	Smith, 1913a, p. 208-203; Hill, 1933, p. 74, 116-118
11	Dusty Belle (Also called Silver Fox) (Includes Freeman and Scherf, Silvertone)	C,21 T.2N.,R.1E.	P,m	Pb,Ag,Sb,(Au,W, Mo?,Zn)	Quartz and sulfide veins	Lode	Sulfide veins and gold-sulfide-quartz veins cut granodiorite-quartz diorite and adjacent schist in contact zone of Pedro Dome pluton. Early development by Freeman and Scherf 1911-1912 and possibly in following few years. Inactive until small-scale prospecting and mining were done in 1950's by surface methods. Surface and underground exploration reactivated in 1966-1967, but little or no work done since. Silver-bearing galena and possibly some gold mined 1911-1912+, but no record of production. About 60 tons of hand-sorted galena-jamesonite ore shipped in 1950's and 25 tons stockpiled. Channel samples contained 2-5 percent lead, 2.9-6.8 oz silver, 0.06-0.36 oz gold per ton. Samples from vein and altered rock showed gold ranging from 0.13-23.0 ppm. Scheelite and powellite occur as thin coatings and in thin calcite veinlets along joints and fractures	Smith, 1913a, p. 198; Berry and Cobb, 1967, p. Z18; Forbes and others, 1968, p. 4-5; Chapman and Foster, 1969, p. D13
8	Butler (& Petree) (Includes S.P., Mazeppa, Reese, Rex Mining Co.)	C,21 T.3N.,R.2E.	m	Sb,Au,Pb,Zn	Shear zone	Lode	The underground development work and an unrecorded production were mainly in 1908-1912. An adit 320+ ft long, about 200 ft south of the old workings, was put in about 1930-1931, to explore extensions of surface prospects on shear zones and veins; no later reports of mining. A shear zone 6± ft thick in mica schist that dips 45-70°SW. contains pyrite, arsenopyrite, galena, sphalerite, and stibnite, and associated quartz veins also contain these minerals plus tourmaline in border zones. Free gold is found in upper, more oxidized part of the mineralized zone, and in the lower, less oxidized parts the values are in sulfide minerals	Prindle, 1910b, p. 226-227; Hill, 1933, p. 98-99

12	Chatanika River	C,2) T.3N.,R.1E. AR.1W.	M	Au(Ag)	Disseminated	Placer	Gold produced from 1907 through 1963 by drift mining (as late as 1938) and dredging, with some years of inactivity. Gold-bearing ground is 65-200 ft deep along south side of valley between Cleary and Vault Creeks; most of mining was at and below mouth of Cleary Creek and near mouths of Dome and Vault Creeks. Production 1907-1910 was $6,225,000 (1976 price). Bedrock is schist, and the gravel is largely quartzite, intrusive igneous rocks, and vein quartz. Muck overlying the gravel is approximately 20-30 ft thick. The probable lode source for much of the gold was in the Pedro Dome area 4-6 mi to the south. Probably some deep and relatively low-grade placer ground remains unmined	Ellsworth and Parker, 1911, p. 166; Prindle and Katz, 1913, p. 107; Smith, 1939b, p. 46-48
6	Chatham mine	C,2) T.3N.,R.2E.	M	Sb,Au	Quartz veins and shear zone	Hydrothermal(?)	Produced both stibnite and gold intermittently during period 1911 to about 1936; some stibnite from dump was shipped in 1942. Quartz veins contain gold, but few sulfides; main vein 6-8 in. wide is cut by shear zone 10-15 ft wide containing shoots and pods of stibnite as much as 12 ft long. More than 1000 ft of underground workings. Gold ore reported to be $125-$200 per ton (1976 price). Stibnite mined 1915-1916, extended to depth of 120 ft; assay showed about 39 percent antimony; at least 100 tons shipped. Typical of the gold, stibnite, jamesonite deposits in the area at head of Chatham, Wolf and Fairbanks Creeks	Smith, 1913a, p. 172-173; Chapin, 1914, p. 335-336; Hill, 1933, p. 76; Killeen and Martin, 1951, p. 14, 31-32, 41
13	Chatham Creek	C,2) T.3N.,R.2E.	M	Au,(Sb,Sn,W)	Disseminated	Placer	Placer mining for gold chiefly by open cut methods in relatively shallow ground 1903-1916; production 1903-1910 was about $1,500,000 (at 1976 price). Dredged from about 1927-1934. Bedrock is schist, and contains a number of stibnite veins; concentrates contained stibnite, scheelite and cassiterite apparently in uneconomic amounts. Mined from mouth about 1 mi upstream. Gold near head of stream is rough. The potentially economic placer ground is probably mined out	Prindle, 1904, p. 68; Prindle, 1906, p. 114; Prindle and Katz, 1913, p. 98
14	Chechako No. 1 (Also called Eldorado Mining & Milling Co., Mastonvitch) (Includes Steil, and Moore-Shaldon)	C,2) T.3N.,R.1E.	M	Sb,Pb,Ag,Au (Cu,Zn)	Quartz veins and replacement of limestone	Hydrothermal	Stibnite, silver-bearing galena, and gold, with minor copper and zinc sulfide minerals; in veins, shear zones, and as replacements in marble and calcareous schist. Veins and mineralized zones 3-15 ft thick. Probably there was some production, but records are lacking. Apparently mineral deposits are locally rich but are not extensive enough to produce economically	Smith, 1913a, p. 186-187; Martin, 1918b, p. 416; Chapin, 1919b, p. 324; Hill, 1933, p. 71-73, 89-90
15	Cheyenne (Includes Emma, Jackson, and Wachavitz)	C,2) T.3N.,R.2E.	M	Sb,Pb,Ag,Au	Vein and fracture filling; sulfide and quartz	Hydrothermal	Several small workings all apparently on same type of deposit. Veins and fracture fillings of stibnite, silver-bearing galena, jamesonite, and gold-bearing quartz veins; associated arsenopyrite and pyrite. In quartz-mica and quartzite schists, and closely related to a granitic dike, in a zone peripheral to the Pedro Dome pluton. Worked by open cuts and shallow underground shafts and drifts. Veins and ore shoots generally not more than 12 in. thick. One gold assay showed $80 per ton (1976 price). Some production, particularly of antimony, lead and silver, at various times between 1909 and late 1960's; no figures available. These deposits are similar to many in the Pedro Dome area. Potential reserves very small	Smith, 1913a, p. 182-183, 185-186; Chapin, 1914, p. 338-340; Martin, 1918b, p. 416-417; Chapman and Foster, p. D10-D12
16	Cleary Creek (Near Pedro Dome)	C,2) T.3N.,R.1-2E.	M	Au,Ag(Sb,Sn,W)	Disseminated	Placer	This creek, with some of its tributaries, had the largest gold production of any creeks in the Fairbanks district. Between 1903 and 1963 there was some gold produced from various parts of the 6-mi course of this stream. From 1903-1924 about 1,129,850 fine ounces of gold, plus the alloyed silver were produced chiefly from placer drift mines. From 1925-1941, and about 1946-1963 dredging was done. Concentrates contained, in addition to gold, stibnite, scheelite, and cassiterite, none	Prindle, 1906, p. 111; Prindle and Katz, 1913, p. 98-99; Eakin, 1915a, p. 230-232; Hill, 1933, p. 84

							of the latter three were in economic quantities. Lode sources are chiefly in the hills between Pedro Dome and Wolf Creek. The placer ground in this creek is essentially mined out. Small-scale mining reported in 1975	
17	Cleary Creek (Near Livengood)	C,20 T.8N.,R.4W.	p	Au	Disseminated	Placer	Gold prospects reported here in 1915. Apparently ground was very low grade as no later prospecting or mining was reported. Bedrock is chiefly Devonian clastic rock	Brooks, 1916c, p. 208
18	Cleary Hill mine (Also called Free Gold, Rhoads and Hall, etc.)	C,21 T.3N.,R.2E.	m	Au,Sb,(Ag,Pb,Cu, Sn,W,Zn)	Veins and fault zones	Hydrothermal	This deposit was one of the largest lode producers in the Fairbanks district. Discovery was in 1908, and mining was done 1909-1916, 1927, 1929-1942, 1949, and possibly on a small scale in a few other years. Hill has operated on ores from other mines since 1960, but the mine has not been worked. Principal gold-quartz vein ranged from 1-3 ft in thickness and some smaller veins and shear zones are mineralized; a few tons of stibnite ore was produced from an intersecting vein. Some arsenopyrite, sphalerite, galena, chalcopyrite, jamesonite, cassiterite, covellite, and scheelite are associated in uneconomic amounts. Total gold production is not known, but as of 1931 it was about $5,000,000 (at 1978 price). Gold fineness was 818, with 169 silver. Exploration and mining were complicated by numerous faults that offset the ore veins. Underground workings consist of three tunnels totaling at least 3500 ft in length, plus many drifts, raises and shafts. Future potential is unknown. Bedrock is schist with some limestone	Smith, 1913a, p. 177-182; Hill, 1933, p. 93, 96; Byers, 1957, p. 206, 208-209
19	Coffee Dome (Includes Charles and Eureka)	C,21 T.3N.,R.3E.	p,m	Au,Ag,Pb	Veins	Hydrothermal	Small vein prospects on and just west of Coffee Dome, worked by open cuts and shallow shaft. Quartz veins containing gold, and others with silver-bearing galena and some gold. Ore vein on Eureka property reported to be 3 ft thick, and some ore from here probably was produced. Potential for economic development apparently very small	Brooks, 1912, p. 31; Chapman and Foster, 1969, p. 07
2	Colbert and Marmgold	C,21 T.3N.,R.2E.	p	Au	Vein	Hydrothermal	Prospecting in early 1930's showed several small gold-bearing quartz veins in schist. No further development recorded. Part of mineralized zone contributory to deposits on Chatham Creek	Chapman and Foster, 1969, p. 09
4	Crane Creek	C,21 T.3N.,R.2E.	m	Au	Disseminated	Placer	About 1765 fine ounces of gold produced in 1908. Mining was probably near mouth of creek. No later production recorded, but if any further mining was done it may have been included with Fairbanks Creek	Prindle and Katz, 1913, p. 112-113
20	Dawson Creek	C,19 T.7N.,R.12W.	m	Au	Disseminated	Placer	Small placer production in 1909-1913 and possibly later. Tributary to Hunter Creek, a much bigger gold producer. Apparently economically workable gold deposits do not extend farther up Hunter Creek than Dawson Creek. Concentrates contain magnetite, ilmenite, hematite, barite, pyrite, pirotite, cinnabar, galena, cassiterite, and native copper (roughly in decreasing order of abundance). Bedrock is chert, slate and basalt of the Paleozoic-Triassic Rampart Group. Gold may be locally derived from the Idaho Bar high-level gravels just to the southwest. (See also Hunter Creek, No. 19, Tanana quadrangle)	Ellsworth, 1910, p. 240; Chapin, 1914, p. 362

21	Dome Creek	C,21 T.2-3N.,R.1E. &R.1W.	m	Au,(Ag,Sn,W)	Disseminated	Placer	Mined by underground drift method from 1905-1941, and by dredging 1955-1959. Essentially inactive since 1960. Gold deposits concentrated in upper 2 mi and within 2 mi of mouth. In the intervening 2-3 mi gold content is very low to absent. Ground is 30-200 ft deep, and pay streak was 130-165 ft wide and 5 ft thick. Production of gold 1903-1920 was 394,245 fine ounces. Figures for later production are lacking, but no doubt production was significantly large. This was one of the major gold producing creeks in the district. In addition to alloyed silver, scheelite was abundant (but not economic), and cassiterite was present. The apparent lode source for the gold in the upper valley is in the area peripheral to the Pedro Dome pluton. The gold on the lower part of the creek may be, in part at least, related to the placer deposits on the south side of Chatanika River. Apparently no lode sources are present in the middle course of the Dome Creek valley or in the hills between Dome and Spruce Creek to the east. Possibly some potentially productive gravels may remain in the deep ground near the mouth, but the upper valley is probably largely mined out	Prindle, 1908b, p. 29; Prindle and Katz, 1913, p. 100-101, 108, 112-113; Cobb, 1973, p. 128-129
22	Earth Resources	C,20 T.7N.,R.5W.	p	Cu,Mo	(?)	Lode	Copper-molybdenum prospect discovered in 1972 was drilled at several locations. Work discontinued, no activity in following years. Geologic setting is Cretaceous clastic rocks intruded by felsic dikes(?)	Eakins, 1974, p. 2; Chapman, Weber and Tuber, 1971
10	Egan (Twin Creek)	C,21 T.2N.,R.1E.	p	W	Pegmatite	Lode	Scheelite as sparsely disseminated grains in thin pegmatite dikes intruding granodiorite. Intrusives related to porphyritic granite nearby. Small development; grade very low	Byers, 1957, p. 204
23	Egan & Egan	C,21 T.3N.,R.3E.	p	Au	Quartz veins and shear zones	Hydrothermal	Quartz veins and sheared zone in biotite schist; four to five veins ≤20 in. wide and sheared quartz-schist zone 8 ft wide. Channel sample across 20 in. vein assayed $36.90 (1976 price). Explored 1930-1931; probably inactive since	Hill, 1933, p. 158
24	Ester Creek	C,21 T.8N.,R.4-5W.	m	Au,(Hg)	Disseminated	Placer	Small amount of mining by drift method and also open cut. Discovered 1915; some mining until 1929 at least. Prospect drilling done about 1960, but no mining done since. Mining was probably inactive most of years between 1930-1960. Placer ground 20 ft deep in upper part of creek and 90 ft near mouth. Cinnabar is present in minor amount. Bedrock is Devonian clastic rocks in lower valley, and mafic rocks and serpentine in upper part of valley	Martin, 1918a, p. 271-272
25	Excelsior	C,21 T.3N.,R.2E.	m	Pb,Sb,(Au?,Ag?)	Vein	Hydrothermal	Two veins carrying minor amounts of galena, arsenopyrite, and stibnite and possibly a little gold and silver intrude quartzite schist and graphitic schist. Reported production was probably very small. Veins might be related to a nearby small granitic body	Brooks, 1911, p. 34; Smith, 1913a, p. 161-162
26	Fairbanks Creek (Includes Omega Creek, and parts of other tributaries)	C,21 T.3N.,R.2-3E.	M	Au,Ag,(Sb,Sn,W)	Disseminated	Placer	Placer ground 15-110+ ft thick overlying chiefly schist bedrock. Small-scale open cut and drift mining began in 1903, and dredging in 1911. Some mining continued into the 1960's. Probably ranks third in total gold production in the district; in excess of $40,000,000 (at 1976 price). Some mineralized veins exposed in bedrock during mining. Creek drains a widely mineralized area. In addition to gold, concentrates contained noneconomic amounts of scheelite, wolframite, stibnite, and cassiterite. The economically minable placer ground is probably nearly worked out	Prindle, 1906, p. 111, 116; Prindle and Katz, 1913, p. 102, 108-109, 112-113

27	Fish Creek	C,21 T.2N.,R.2E.	M	Au,(Sb,Bi,Sn,W)	Disseminated	Placer	Placer ground depth ranges from about 25 ft to >100 ft, and has been mined over a distance of at least 2.5 mi in the upper valley, and also at and just below the mouth of Fairbanks Creek. Bedrock chiefly schist. Mining by drifting, open cut, and dredging has been done on various scales and in most years between 1909 and 1977. One small open-cut operation active at mouth of Pearl Creek in 1977. Total production figures not available, but gold yield has been significantly large. Future potential probably small. Minor amounts of stibnite, bismuth, cassiterite, and scheelite occur	Prindle and Katz, 1913, p. 102-103, 112-113; Chapman and Foster, 1969, Pl. 1
28	Franklin Creek	C,20 T.8N.,R.5W.	M	Au	Disseminated	Placer	Shallow placer open-cut mining about 1915. Production small	Brooks, 1916c, p. 208
29	Fredericks mine (Friederich)	C,21 T.2N.,R.1W.	M	Sb,Au	Vein and fracture zone	Hydrothermal	Two shafts sunk to 300 ft depth on a vein within a fractured zone of schist that is cut in one place by a 7 ft wide granitic dike. Drifts at three levels, extending at least 150 ft along vein strike. Stibnite ore shipped in 1916; from vein 20-42 in. wide. Some gold reported milled in 1910. Worked approximately 1910-1918; long idle in 1931; some stibnite may have been taken from dump later. No mining since 1931. Future potential unknown, but probably is small	Smith, 1973c, p. 194-196; Hill, 1933, p. 80-81
30	Gertrude Creek (Includes Glen Gulch)	C,20 T.8N.,R.5W.	M	Au	Disseminated Stratabound	Placer Lode	Shallow bench and creek placers mined intermittently 1916-1918, 1930-1940's. Probably inactive since 1969 or earlier. Bedrock at mouth metabasalt; chert and silicified dolomite in middle course; serpentinite near head. Gold (0.8 ppm) in massive, iron-stained, silica-carbonate rock 0.25 mi above mouth. Moderate gold production. Placer ground probably essentially mined out. Lode source of gold apparently localized in this drainage basin. Gold is fine, angular and shotty; one piece worth about $5 (1976 price) is reported	Martin, 1916a, p. 269; Foster, 1968a, p. 1-2, 10-11
29	Gilmer	C,21 T.2N.,R.1W.	M	Sb,Pb,Ag,Au	Fractured shear zones and quartz vein	Hydrothermal	Fractured shear zone in schist traced 600-700 ft and is 3-5 ft wide; shoots and kidneys of stibnite as much as 4 ft in thickness. Fractured quartz cemented by stibnite. Some silver-bearing galena. Ore samples assayed 0.2-0.75 oz gold and trace to 1.9602 oz silver per ton. Sacked ore, 2-6 tons of high-grade stibnite, and some lower grade ore on dump in 1942. Property long inactive in 1941, and not operated since. Potential and amount of exploration unknown. Future potential unknown, but probably small	Brooks, 1916a, p. 17, 29-30; Killeen and Martin, 1951, p. 12, 14, 23
31	Goodluck Creek (Also called Lucky Creek, Lucky Gulch)	C,20 T.8N.,R.4W.	M,P	Au,(Cr,U,Th,Hg, Sn,RE's)	Disseminated	Placer	Placer ground generally about 50-60 ft thick, much of which is muck. Gold is flaky, porous, fine; a minor amount of fine gold reported to be washed in from hillslope and deposited within the muck. Bedrock is chert, silicified limestone, and some greenstone. Chromite in concentrates derived from serpentinite near head of creek. Other minor constituents of concentrates include magnetite, spinel, ilmenite, cinnabar, cassiterite, and rare earth and uranium-thorium minerals. Gold production not known; mining at times 1916-1940; some prospecting in 1960's. Potentially minable ground is relatively small, but may not be well prospected	Martin, 1916a, p. 268; Meadow and others, 1954b, p. 2-3
32	Goodwin mine (Includes Goodwin and Independence Creek prospects)	C,21 T.2N.,R.1W.	M,P	Sb	Fractured shear zone and vein(?)	Hydrothermal	Several pits, a tunnel, and a shaft on a sheared zone of schist, as much as 48 ft wide, that includes 3-4 ft lenses of stibnite. Zone strikes N.80 E. and dips 45 S., and is an eastward extension of the Scrafford mine stibnite zone. Stibnite ore reported shipped in either 1916 or 1926. Ore is in a clayey gouge and brecciated quartz and schist. Stibnite from dump assayed 32.95 percent antimony. Inactive in 1931; some prospecting has been done at times between 1940's and 1970. Future potential unknown, but probably small	Hill, 1933, p. 152; Joesting, 1943, p. 10; Killeen and Martin, 1951, p. 12, 22-23; Chapman and Foster, 1969, p. D14

33	Griffin	C,20 T.8N.,R.5W.	p	Au,Cr,Ni	Disseminated sulfides and quartz vein	Hydrothermal	Massive, sulfide-bearing green-stained, silica-carbonate-talc rock, veined by quartz. Contains as much as 3.9 ppm gold; 1,000 ppm nickel, 1,000 ppm chromium. Silica-carbonate rock is close to contact with pyritiferous metasedimentary rocks. Explored prior to 1942 by adit and pits. Probably no production	Foster, 1968a, p. 2, 10-11; Foster, 1968b, p. 2, 8, 17
34	Gunnison Creek	C,19 T.7N.,R.10W.	m	Au,(W)	Disseminated	Placer	Gold mining reported in 1904 and 1918; probably some in other years; some prospecting or mining reported near mouth in late 1960's. Concentrates contain magnetite, ilmenite, scheelite, and pyrite. Creek drains granitic contact zone on north side Sawtooth Mountain; bedrock mainly quartzite, phyllite, slate, chert	Martin, 1934, p. 192; Waters, 1934, p. 235-236
35	Hidden Treasure	C,21 T.3N.,R.1E.	m	Au	Quartz veins	Hydrothermal	Developed and mined 1910 to about 1914. Long inactive in 1931, and no known exploration since. Nonpersistent quartz gash veins in a west-trending mineralized fault zone in schist; largest vein about 3 ft wide	Brooks, 1911, p. 26; Chapin, 1914, p. 342-343
36	Hirschberger & Zimmerman	C,21 T.2N.,R.1E.	m	Au	Quartz vein	Hydrothermal	Gold ore shipped in 1911; mined from a vein reported to be 1-5 ft wide. Geologically similar setting to that of Rainbow mine	Brooks, 1912, p. 32
37	Hi-Yu mine (Also called Crites and Feldman, and includes several adjacent properties	C,21 T.3N.,R.2E.	m,Pt	Au,Sb,(Ag,Pb,Zn)	Quartz and sulfide veins, and disseminated deposits in silicified schist	Hydrothermal	Many quartz veins, some along faults and many that are offset by faults, contain free gold and sulfides including stibnite, silver-bearing galena, arsenopyrite, pyrite, and sphalerite. Oxidation and surface enrichment of mineral zones are common. Some of the silicified schist between veins might be low-grade gold ore. More than 1 mi of underground workings, plus a mill. Operated almost continuously from 1913 to 1940, and in a few years between 1941 and 1951. Probably inactive since 1951, but property is maintained. Gold was the main metal produced; some rich ore yielded $550 per ton (at 1976 price); mill production through 1931 was about $1,260,000 (at 1976 price) from 8200 tons of ore. Some antimony produced; sulfide concentrates shipped to smelter after 1936. Probably the second or third most productive mine in the district	Smith, 1913a, p. 166-169; Chapin, 1914, p. 327-329; Martin, 1918b, p. 404-405, 407-408; Hill, 1933, p. 49, 62, 63, 70, 104, 108-113
38	Hoal Bros., Johnson & Witmer	C,21 T.2N.,R.1W.	m	Au	Veins	Hydrothermal	Developed and mined about 1910; probably small production, and no activity after 1912. A 30 ft vein with low gold value and a richer vein 8-24 in. wide worked from a 280 ft shaft and 60 ft drift. Bedrock schist and quartzite	Brooks, 1912, p. 32
6	Homestake (Includes Keystone group, Mordale mine, Rexall, Jamesonite, Solomon, and others)	C,21 T.3N.,R.2E.	M	Sb,Au,Ag,(Pb,Cu,Zn)	Quartz and sulfide veins, sheared zones	Hydrothermal	Several mines, both underground and open pit, have operated on various parts of this property at many times between 1910 and 1970. Some exploration has been done since 1970, but probably no production. Deposits are in gold-quartz, and gold-quartz-sulfide veins and shear zones. Minerals include jamesonite, stibnite, silver-bearing galena, freibergite, pyrite, chalcocite, chalcopyrite, sphalerite, and free gold. Some rich gold ore was about $550 per ton (at 1976 price); one large vein yielded $185 per ton (at 1976 price). Over 2300 ft of underground workings, and several large open cuts. Prior to 1931 approximately $300,000 of gold (at 1976 price) was produced. Deeper workings encountered large volume of water that hampered mining. Some potentially minable ore may remain; exploration incomplete. Structural complexities and degree of surface enrichment not fully understood	Smith, 1913a, p. 168, 170-171; Chapin, 1914, p. 325, 331, 333-335; Hill, 1933, p. 75, 101-102; Mertfield, 1970
10	Hoover (claim) (Also known as Birch and Anderson)	C,21 T.2N.,R.1E.	m,P	Au,Sb(Pb?)	Veins with sheared and brecciated zones	Hydrothermal	Quartz veins in sheared, brecciated zones in schist; some gneissic schist indicative of proximity to granitic rock contact. Veins contain gold, stibnite, pyrite, arsenopyrite, and possibly some galena. Some ore reported to contain $40 per ton in gold (at 1976 price). Worked from a 390 ft tunnel and a shallow shaft. Prospected by bulldozer trenching in 1968. Bedrock is quartz-mica schist, quartzite, and migmatite	Chapin, 1914, p. 347-348; Hill, 1933, p. 119-120

20	Hunter Creek	C,19 T.8N.,R.12W.	m	Au,(Cu,Pb,Hg,Sn)	Disseminated	Placer	Most of the mining on this creek is downstream in the Tanana quadrangle. Section near mouth of Dawson Creek shows 20-30 ft muck over 8-10 ft of gravel. Bedrock is shattered greenstone and chert of the Rampart Group (Permian and Triassic). Minor amounts of barite, pirotite, cinnabar, galena, cassiterite, native copper, and several iron minerals in the concentrates. Ground in this area apparently mined out, and little gold is present upstream from Dawson Creek. Mining inactive here in 1969 and later	Martin, 1934, p. 165; Prindle and Hess, 1906, p. 31-33
38	Idaho Bar	C,19 T.7N.,R.12W.	M(?)	Au	Disseminated	Placer	Deposit is a high-level gravel (Pliocene? age) as much as 100 ft thick. Gold is coarse and shotty; reported to yield as much as $5 per sq ft (at 1976 price). Lack of water hampers efficient mining. Bedrock is chert and greenstone same as on Hunter Creek. Worked in early 1980's, and some work reported as late as 1975. Inactive in 1969	Prindle and Hess, 1905, p. 113; Martin, 1934, p. 183-184
9	Independence mine (Also known as Harrais, Harry Woods, Twin Lode) (Includes also Moonlight and Sunlight claims)	C,21 T.2N.,R.1E.	m,P	Au(Pb)	Veins, fracture zones	Hydrothermal	Gold-bearing quartz veins in granitic and schist bedrock; quartz crushed in part; joints and fracture zones also mineralized. Free gold, pyrite, arsenopyrite, and galena present; some gold also in the sulfide minerals. Samples have assayed $20-$190 of gold per ton (at 1976 price). Veins 4-10 in. thick. Production unknown but probably small. Some surface prospecting in 1960's. Geologic setting is a contact zone between granite and schist	Smith, 1913a, p. 201; Brooks, 1916a, p. 60-61; Brooks, 1918, p. 410-411; Hill, 1933, p. 114-116
9	Kallen	C,21 T.3N.,R.2E.	p	Au,Sb	Vein	Hydrothermal	Small low-grade gold-quartz veins in schistose quartzite; stibnite in one brecciated quartz vein. Prospected about 1912; no production	Smith, 1913a, p. 163-164
39	Kokomo Creek	C,21 T.3N.,R.3E.	m	Au	Disseminated	Placer	Gold discovered in 1921; mining reported in 1937-1940. Probably inactive since 1940. Grade and production unknown	Brooks, 1923, p. 6, 29; Smith, 1942b, p. 39
40	Lillian Creek	C,20 T.8N.,R.5W.	M,D	Au,(Cr,Sb,Hg, Ni,Ag,W)	Disseminated Veins	Placer Hydrothermal	Placer gold mined largely by open-cut methods since 1915; inactive in some years; mined on small scale in most years between 1965-1977. Stream and bench placers 4-30 ft thick overlie an irregular-surfaced, steeply sloping bedrock of graywacke, shale and slate with some limestone, and some greenstone near mouth. Gold is coarse and angular, probably derived from lode sources (felsic dikes) near head of creek; concentrates also contain magnetite, ilmenite, picotite, chromite, cinnabar, scheelite, pyrite, stibnite, barite, arsenopyrite. A small stibnite vein is present near the head; nickel sulfides and silicates occur in a band of serpentinite; several small arsenopyrite-quartz-scorodite veins show as much as 40 ppm gold and 2 ppm silver	Martin, 1918a, p. 270-271; Overbeck, 1920, p. 181-183; Foster, 1968a, p. 1-2
41	Little Eldorado Creek	C,21 T.3N.,R.1E.	m	Au,(Sn,W)	Disseminated	Placer	Mined from 1907-1941 with a few inactive years, and some production in the period 1948-1954; inactive since 1954. Worked by underground drift methods in lower part of valley where ground is about 85-175 ft deep, and by drift mining and later dredging in upper part of valley. Bedrock is schist and creek heads in the contact zone of the Pedro Dome pluton. One of the more significant gold producing creeks, and possibly some potentially minable ground remains in lower part of valley. Production from 1907 through 1925 was about 116,800 fine ounces. One 20 oz gold nugget reported. Concentrates also contain cassiterite, scheelite, and wolframite	Prindle and Katz, 1913, p. 100, 107, 112-113

42	Livengood Creek (Includes Myrtle Creek)	C,20 T.8N.,R.4-5W.	M	Au,(Sb,Sn,W, Cr,RE's)	Disseminated	Placer	Gold was discovered in 1914; initial discovery in this district. Most of gold is in a buried channel under a bench on northerly side of creek and has a linear extent of at least 4 mi. Average depth to bedrock is 80 ft, and average width of channel is about 125 ft. Bedrock mainly chert, silicified limestone/dolomite, and greenstone. Gold is in basal part of gravel and weathered, fractured top part of bedrock. Numerous other metallic minerals in concentrates, including pyrite and other iron minerals, barite, chromite, arsenopyrite, cassiterite, scheelite, and monazite. Small stibnite vein discovered in bedrock exposed by gold mining. Placer mining by underground and opencut methods between 1914 and 1977, with probably a few inactive years. Lower part of creek was dredged 1940-1941, 1945 to about 1950. Large-scale mining underway in 1976-1977. One reserve estimate based on data from 640 drill holes indicates about 17 million cu yds of placer gravel that would average about $2.10 per cu yd in gold (at 1976 price). Geologic history of placer deposits not fully understood; lode source probably mainly on south side of creek; drainage in past from upper Hess Creek has influenced gold deposition and concentration. This creek has been the largest gold producer in the district, and has probably produced at least half of the reported 300,000 fine ounces attributed to the entire district	Martin, 1918a, p. 260-268; Overbeck, 1920, p. 178-191; Foster, 1968a, p. 1, 3
30	Lucille Creek	C,20 T.8N.,R.4W.	P	Au,Cr	Disseminated	Placer	Some prospecting on this small creek in 1916, 1934 and possibly other years, but no record of mining. Stream sediment sample showed 2.3 ppm gold, an anomalous amount. Chromite reported. Potentially minable placer ground is relatively small, and water supply is small. Bedrock is silicified limestone/dolomite, chert, and greenstone	Martin, 1918a, p. 289; Foster, 1968a, p. 3
43	Markovich (Includes Hindenberg mine, Ohio prospect)	C,21 T.3N.,R.1E.	M	Au,Sb	Veins	Hydrothermal	Crushed iron- and manganese-stained quartz contains stibnite and arsenopyrite; sample assayed $20.90 per ton in gold (at 1976 price). At least two veins worked for stibnite, and 200 tons of stibnite ore shipped in 1916, and 16.5 tons in 1949. Gold ore reportedly produced in 1918. Over 500 ft of workings	Martin, 1918b, p. 415; Hill, 1933, p. 83; Killeen and Martin, 1951, p. 12, 14, 25, 41
44	McCarty (Includes Henry Ford, Pioneer, and other named veins and claims at head of Fairbanks Creek)	C,21 T.3N.,R.2E.	M,P	Au,Sb,(Zn,Pb)	Veins and shear zones	Hydrothermal	This property has been operated as various small mines and as various larger units since about 1912; active until 1940's; some mining, prospecting, and development done in 1950-1970. Probably now inactive; was one of the more productive properties for gold and sulfide minerals in 1920's to 1942. Main veins are Pioneer, McCarty, Henry Ford, and American Eagle; other smaller veins and shear zones. Mined mostly underground but some open cuts also. Veins contain gold, stibnite, jamesonite, arsenopyrite, and some sphalerite. Total production not known. Gold averaged more than $107.30 per ton (at 1976 price) in 1225 tons of ore mined in 1929-1930. Some stibnite produced; 15 tons stockpiled in 1942 and 5 tons shipped. Between 1910 and about 1917 Pioneer vein yielded about $120,000 in gold (at 1976 price). In 1931, $70,000 gold produced from Pioneer claim and $50,000 from Pennsylvania claim (at 1976 price); some stibnite was produced. This mineralized area is similar to, and semicontinuous with, the Homestake group (No. 46). Keystone Mines Co. attempted to unitize all of these properties in late 1960's. Probably some potentially minable reserves are present. Geologic setting not fully known; further exploration needed	Smith, 1913a, p. 164-167; Hill, 1933, p. 52, 75, 102-106; Killeen and Martin, 1951, p. 12-14, 33-35, 41-42

9	Mizpah mine (Includes Ohio mine, Gilmore Mill)	C,21 T.3N.,R.2E.	m	Au,Sb,(Ag,Pb,W)	Veins, and shear zones	Hydrothermal	Several quartz veins in schist; some follow faults, veins 3 in. to 3 ft wide. Gold, stibnite, silver-bearing galena, scheelite, pyrite, arsenopyrite present; gold ore is richest where stibnite is also present; gold and scheelite are mutually exclusive. Mines worked underground from about 1912 to early 1920's, or possibly 1931. Total gold production unknown; ore reported to have averaged $150-$200 per ton (at 1976 price); 350 tons of ore milled in 1915. Some small amounts of stibnite and scheelite produced	Smith, 1913a, p. 162-163; Mertie, 1918b, p. 405-406, 406-409; Hill, 1933, p. 107-108
35	Mohawk (Includes Dome View)	C,21 T.3N.,R.1E.	m	Au,Sb	Veins	Hydrothermal	Several quartz veins, some brecciated 12 in. to as much as 8 ft thick; contain gold, stibnite, pyrite, and arsenopyrite. Bedrock schist, close to contact with quartz diorite of Pedro Dome pluton. Gold production in 1912, 1916-1918, and possibly later; development work 1930-1931. Total production not known but probably relatively small; at least 50 tons of gold ore produced from Mohawk. Ore in Dome View probably is $25.00 per ton (at 1976 price); 1300 tons reported present	Mertie, 1918b, p. 407; Hill, 1933, p. 75, 82-84
45	Mother Lode (Dome Creek)	C,21 T.3N.,R.1E.	p	Cu	Disseminated sulfide	Hydrothermal	Graphitic limestone with disseminated pyrite, chalcopyrite, and arsenopyrite. Exploration by two shafts 147 ft and 215 ft deep. Probably a minor and uneconomic deposit	Smith, 1913a, p. 194
14	Mother Lode (Willow Creek)	C,21 T.3N.,R.1E.	p,m?	Sb,(Au)	Veins and granitic dike	Hydrothermal	Horizontal stibnite vein deposited along contact between sericitized granite porphyry dike and mica schist. Samples assayed contained no more than $5 per ton in gold (at 1976 price). Deposit is small, probably was not a producer, and has long been inactive	Prindle, 1910b, p. 221; Brooks, 1916a, p. 32-33
14	Newsboy mine (Includes Newsboy Extension)	C,21 T.3N.,R.1E.	m	Au,Sb,(Cu,Zn)	Veins and shear zones	Hydrothermal	Deposit consists of quartz veinlets, and veins 4-14 ft wide, in crushed iron-stained schist; minable over widths of 8-12 ft generally. Gold and stibnite are common, and chalcopyrite and sphalerite are present; considerable arsenopyrite and pyrite. Extensive workings on five levels to depth of at least 350 ft. Production was probably large, but records were lost. Mined from about 1910-1913, 1930 to at least 1935, and possibly in other years; ore processed in their own mill. Tenor of gold ore reported to be $200-$504 per ton (at 1976 price). Ore in Newsboy Extension said to have yielded $75 per ton (at 1976 price	Smith, 1913a, p. 187-190; Hill, 1933, p. 49, 63, 75, 85-89
46	Nightingale (Also known as Rowley-Shumeff, Alaska Arctic Resources, Inc.)	C,21 T.2N.,R.1E.	P	Ag,Pb,Sb	Stockwork and veins	Hydrothermal	Massive silver-bearing galena with stibnite in stockwork and veins in an altered quartz diorite-quartz country rock. Considerable surface prospecting by pits and trenches; no known production. Discovered in 1910-1912; additional work in late 1960's.	Smith, 1913a, p. 198; Chapman and Foster, 1969, p. D13
47	Nome Creek	C,21 T.6N.,R.3E.	M	Au	Disseminated	Placer	Workings here are at approximate downstream limit of gold placer deposits on Nome Creek. Original discoveries, probably mostly farther upstream, were in 1910; in 1911 coarse gold was reported here. Small-scale mining in 1968 and probably some other years. Bedrock is quartzite and phyllite; lode source of gold probably lies to south and southeast	Ellsworth and Parker, 1911, p. 165; Ellsworth, 1912, p. 243-244
48	Old Glory (Also known as Leslie prospect)	C,21 T.2N.,R.1E.	p	W	Tactite	Hydrothermal	Contact metamorphic deposit of finely disseminated scheelite in quartz-mica schist and quartzite near a tongue of granodiorite from Pedro Dome pluton; granodiorite dike within the deposit. Mineralized zone 3-4.5 ft thick; sample assayed 0.48 percent WO_3. Apparently a small deposit; no known production	Byers, 1957, p. 206, 209-210

49	Old Smoky (Includes Sunshine No. 2 prospect)	C,20 T.8N.,R.5W.	m?,P	Au,Hg,Ag	Veins	Hydrothermal	Gold-bearing arsenopyrite-quartz veins in ferruginous quartzite with associated felsic dikes; 3-13 ppm gold determined by atomic absorption. Sunshine No. 2 prospect includes an iron-rich felsic dike that contains some gold, and a small cinnabar deposit that contributes cinnabar nuggets to the Olive Creek placers. No known production from work in the 1960's. Deposits apparently have small potential. Possibly small mercury production about 1917-1920's; ore reported to contain 20-30 lbs of mercury per ton	Foster, 1968a, p. 2
50	Olive Creek	C,20 T.8N.,R.5W.	M	Au,(Cr,Hg,W)	Disseminated	Placer	One of the larger producers of gold in this district; production in most years 1914-1941, 1946-1963, and probably very little in 1964-1977. Gold was on bedrock and on a false bedrock 80 ft above true bedrock. Gold is coarse; concentrates also include cinnabar, magnetite, scheelite, chromite, and arsenopyrite. Bedrock is largely graywacke and slaty shale, with chert, serpentinite, argillite, and felsic intrusive rocks in upper part of valley on slope of Money Knob. Most of the placer ground is probably mined out	Martin, 1918a, p. 256, 271-272; Overbeck, 1920, p. 182-183; Foster, 1968a, p. 1-2
51	Ophir Creek	C,21 T.6N.,R.3E.	m	Au	Disseminated	Placer	Coarse gold discovered in 1910; mined for several years, possibly as late as 1920. No production figures available, and extent of mining and prospecting is unknown. Gravel reported to have yielded $6.25-$8.75 per sq ft, and largest nugget reported as $21.50 (at 1976 price)	Ellsworth and Parker, 1911, p. 165; Martin, 1920, p. 38
52	Gar Creek	C,21 T.2N.,R.2W.	m	Au	Disseminated	Placer	Discovered in 1907, mined at least in 1907-1908; production small probably <250 oz. Depth to bedrock is 64-120 ft in upper valley and 218-317 ft in lower course and at mouth. Bedrock is schist and some rusty-stained granitic rock	Prindle and Katz, 1913, p. 101-102, 108, 112-113
53	Parker	C,20 T.8N.,R.4W.	P	Cr,Ni	Disseminated sulfides, stratabound	Lode	Nickel in silicates, spinels, alloys, and sulfides; and chromite in alpine-type serpentinites. Nickel assayed as much as 0.42 percent. Similar deposits occur along east-northeast-trending serpentinite belt between West Fork and Beaver Creek. Potential for a large low-grade nickel-chromium reserve. Poorly explored	Foster and Chapman, 1967, loc. 12
54	Pedro Creek	C,21 T.2N.,R.1E.	M	Au(Sn)	Disseminated	Placer	Site of first gold discovery in Fairbanks district in 1902. Mining by drifting, open cut, and dredging from 1902-1958; some small-scale mining in 1960's, essentially inactive in 1970's. Probably largely mined out. Ground 9-40+ ft deep, bedrock mostly schist. Gold both very fine and coarse, pay streak 40-200+ ft wide. Total production unknown; in 1903-1910 about $8,250,000 produced (at 1976 price). Cassiterite rare in concentrates. Very little gold in valley above Twin Creek. Lode source of gold apparently in the Pedro Dome area	Prindle, 1906, p. 67, 75-77; Prindle and Katz, 1913, p. 109, 111, 113
6	Perreault	C,21 T.3N.,R.2E.	p	Au,Ag,Sb	Vein	Hydrothermal	Several quartz veins enclosing schist, all mineralized; small amount of gold and silver in limonitic rock, and veinlets of stibnite in both quartz and schist	Chapin, 1914, p. 329
2	Pioneer (on Chatham Creek) (Includes I.X.L. or Union claim)	C,21 T.3N.,R.2E.	m	Au,Sb,(Zn)	Vein	Hydrothermal	Two intersecting gold-quartz veins, with some stibnite, arsenopyrite, and sphalerite in the smaller vein; range from 4 in. to 2.5 ft in width. Originally staked in 1903 as the Blue Bell, the first lode claim in the district. Three shafts and stopes, produced 200 tons in 1912-1913 of ore that yielded $150-$450 per ton in gold (at 1976 price). Probably inactive since 1913	Prindle, 1910b, p. 226; Hill, 1933, p. 90

55	Quail Creek	C,19 T.6N.,R.11W.	m	Au,(Hg,Ag,Sn,W)	Disseminated	Placer	Prospecting and small-scale open-cut mining from 1898 to 1940, with possibly some inactive years; some mining between 1946 and 1959; and probably inactive since. Both creek and bench deposits; ground generally not high grade in gold; in 1898 and 1904 mining produced about $16,500 (at 1976 price). Bedrock is slaty shale, graywacke, phyllite, quartzite, and numerous felsic dikes and quartz veinlets. Dikes carry sulfides; one contained 0.52 oz of silver per ton. Concentrates contain picotite, cassiterite, barite, scheelite, garnet, zircon, pyrite, rutile, and a minor amount of cinnabar. Lode source of gold probably in the border zone around quartz monzonite intrusives on Wolverine Mountain, and the other similar stocks and felsic dikes. Potential placer ground remaining is relatively small	Prindle and Hess, 1906, p. 47-50; Martin, 1934, p. 189-191
6	Quamboo Bros. (Includes Sky High)	C,21 T.3N.,R.2E.	p	Au,Sb	Vein and fault	Hydrothermal	Fractured quartz vein cemented by sulfides in a soft schist country rock; hanging wall of vein is marked by a fault. Explored by a 60 ft shaft and two short drifts. Assays of vein show $112.50-$160 per ton in gold (at 1976 price). Sulfides are stibnite, pyrite and arsenopyrite. No record of production. Sky High is nearby, shows iron-stained weathered rock that carries some gold	Smith, 1913a, p. 171-172
10	Rainbow mine (Includes David, Zimmerman)	C,21 T.2N.,R.1E.	m	Au,(Pb,Ag,W,Zn)	Veins and granitic dikes	Hydrothermal	Quartz veins 6-18 in. thick, major vein follows a fault and extends into David claim; country rock schist and quartzite, silicified and cut by granitic dike. Veins carry gold, pyrite, arsenopyrite, galena, sphalerite, and scheelite. Several hundred feet of underground workings. Production 1911-1913 probably about 500 tons of gold ore, some production 1917-1918 from David; prospecting in 1931 and probably later. Test mill run of 19 tons showed $180 of gold per ton (at 1976 price). Assay in 1931 of vein material showed $114.60 per ton (at 1976 price). Properties have been inactive since 1940's at least. David vein 22 in. wide assayed $8.20 and $6.20 per ton in gold (at 1976 price); small veinlets are much richer. Zimmerman lode contained as much as $20 in gold per ton (at 1976 price), and considerable silver	Smith, 1913a, p. 198-201; Chapin, 1914, p. 340; Chapin, 1916b, p. 322; Hill, 1923, p. 74, 115-116
18	Rob and Roy (Includes Governor)	C,21 T.3N.,R.2E.	m	Au,Sb	Shear zone and veins	Hydrothermal	Shear zone 30 ft wide in schist and associated veins and ore shoots; some granite (dike?) closely related. Discovered 1911-1913, and in part mined until 1918; probably inactive since. Gold, pyrite, quartz, and irregular shoots and kidneys of stibnite. Muggy vein and granitic rock said to contain $50-$75 per ton in gold (at 1976 price). Production figures not available; workings include 100 ft and 70 ft shafts and at least 170 ft of drift	Smith, 1913a, p. 160; Brooks, 1916a, p. 37-38
56	Ruth Creek	C,20 T.8N.,R.8W.	M	Au,(Cr,Sb,Hg, Ag,W,Th)	Disseminated vein	Placer Hydrothermal	A relatively small, but very productive placer deposit in narrow creek valley; veins and chromite-bearing rock exposed in bedrock during placer mining. High-grade gold at base of gravel and in top 2 ft of bedrock; depth 6-20 ft, and width of pay streak 30-40 ft wide. Mining from 1916 to the 1940's; small-scale mining at various times in 1950's to 1970's. Probably essentially mined out. Concentrates contain much scheelite, some magnetite, and minor amounts of cinnabar, chromite, stibnite, pyrite, arsenopyrite, and monazite. Quartz veinlets on west side of creek carry as much as $80 per ton gold (at 1976 price) and $2 per ton silver. Small deposit of chromite in serpentinite, and one small stibnite vein were found during placer mining. A silicified breccia zone with disseminated sulfides contains 0.86 oz of gold per ton. The creek cuts an extensively altered northeast-trending fault zone and silica-carbonate zone. No production figures available for placer gold	Martin, 1918a, p. 256, 269-271, 273-274; Foster and Chapman, 1967, locs. 2-4; Foster, 1968b, p. 1, 3, 14

57	Sawtooth Mountain	C.19 T.6N.,R.10W.	m	Sb(Au)	Pipe and/or vein	Hydrothermal	Stibnite lode near top of mountain discovered and prospected in 1942-1943 or possibly earlier. Exploration and small tonnage of ore mined in 1948. Mining continued in 1951-1952. Some ore assayed 50 percent or greater in antimony; minor amounts of arsenic and gold associated in parts. Stibnite was in a roughly circular vertical pipe or vein about 10± ft in diameter; intrudes slaty shale near contact with quartz monzonite pluton. Shaft on ore was 30 ft deep in July 1951, and reportedly was later deepened to about 90+ ft. High- and medium-grade stibnite ores were hand sorted (roughly 150 tons); operational difficulties and drop in price of antimony prevented marketing of the ore in 1952 but some may have been shipped since then. Mining has been inactive since 1952	Joesting, 1943, p. 16; Chapman, 1951, 1962, 1969, unpub. data
32	Stratford	C.21 T.2N.,R.1W.	M	Sb,(Au,Pb,Ag)	Shear zone and veins	Hydrothermal	Shear zone 3-15 ft wide in quartz-mica schist contains iron-stained quartz, kidney-shaped masses of stibnite (largest mined was 40 ft by 17 ft by 6 ft), gold (best assay 0.2 oz per ton), silver-bearing galena (one assay 8 oz silver per ton), pyrite, and various oxides. Principal antimony mine in Fairbanks district; about 1600 tons of ore mined, mainly in 1976. Mine operated 1915-1916, 1926, 1968-1970, and possibly in a few other years. Mining in open cuts, adit, inclined shaft and various stopes. In 1942 about 300 tons of 10-20 percent antimony ore was on the dump. Gold and silver content probably does not exceed $10-$12 per ton (at 1976 price). Mine accounts for about 60 percent of antimony production from Fairbanks district	Brooks, 1916a, p. 17, 28-29; Hill, 1933, p. 156-157; Killeen and Martin, 1961, p. 12, 14, 21-22
58	Soo mine (Includes Spaulding mine, Reliance, Carnation, Wild Rose, M-K, and other names)	C.21 T.2N.,R.1E.	m	Sb,Au,Ag,(Pb,Cu)	Shear zones and veins	Hydrothermal	Quartz veins in shear zones contain free gold, stibnite, arsenopyrite, tetrahedrite, silver-bearing galena, and rare copper sulfides. Stibnite is most common, in large lenses and colunar masses and also in fine granular aggregates. Much of ore milled out at $250-$300 per ton in gold, and some as much as $1250 per ton (at 1976 price). Extensive underground workings, and a mill was on property. Mined intermittently 1910-1936. Gold produced 1912-1914 and 1925-1931 was worth $700,000 to $825,000 (at 1976 price). About 8 tons of stibnite ore on dump was sold in 1942. Country rock is schist; close to contact with Pedro Dome pluton	Smith, 1913a, p. 190-194; Hill, 1933, p. 68-70, 74, 77-80; Killeen and Martin, 1961, p. 12, 14, 24, 41
43	Spruce Creek	C.21 T.3N.,R.1E.	p	Au	Vein	Hydrothermal	Lode (quartz vein?) reported to yield about $60 per ton of gold (at 1976 price) was explored by a 150 ft shaft, in about 1911-1912. Probably no production, or further work	Smith, 1913a, p. 190
54	Steamboat Creek	C.21 T.2N.,R.1E.	M	Au	Disseminated	Placer	Mining in 1912-1915 and probably other years. Small-scale open cut mining in 1966-1968. Production unknown. Pay streak said to be narrow. Placer ground is shallow in lower to middle course of valley where mining was done	Prindle and Katz, 1913, p. 113; Chapman, 1967, unpub. field data
59	Steel Creek	C.20 T.7N.,R.4W.	p	W,Au?	Disseminated	Placer	No evidence of appreciable mining or prospecting, but there are reports of considerable wolframite in a placer concentrate. Bedrock in this area is Cretaceous graywacke and shale, hornfelsic near the small felsic dikes that are poorly exposed on hills just west of head of creek. A small amount of placer gold is also reported to be present in Rooney Hollow, the next creek to west. No doubt the gold content of these creeks is small	Joesting, 1943, p. 20; Chapman, 1962-1969, unpub. field data
73	Sunrise (Includes Cunningham, Lyons)	C.21 T.3N.,R.2E.	p	Sb(Au?)	Vein and fault zone	Hydrothermal	Veins; quartz and clayey fault gouge in schist include stibnite, and some with stibnite, arsenopyrite, and reportedly some gold. Small underground development, and no reported production	Chapin, 1914, p. 332, 337; Smith, 1913a, p. 182
29	Thrift	C.21 T.2N.,R.1W.	m	Au	Vein	Hydrothermal	Mined prior to 1912. Ore from a quartz vein reportedly yielded $55 per ton of gold (at 1976 price)	Smith, 1913a, p. 196

7	Tolovana mine (Includes Herschberger, Beall & Phipps, Johnson, Schauysmers)	C,21 T.3N.,R.1E.	m	Au,Sb,Ag,W	Veins and wall rock impregnation	Hydrothermal	Lode mining at various times 1910-1931; some prospecting and possibly small-scale mining between 1942 and 1970. Currently probably inactive. Gold, stibnite, arsenopyrite, pyrite, and scheelite are in veins and stringers of quartz intruding schist; in the heavily mineralized area on upper Cleary Creek and near contact with Pedro Dome pluton. Stibnite and quartz both contain free gold; stibnite is bladed, massive, and disseminated. No data on total production; most of it probably was prior to 1916. Westward extension of vein zone on Willow Creek was mined in 1910, and exposed in 1942 in placer cut in Willow Creek. Veins range from about 6 in. to 3 ft in width. At least 900 ft of underground workings that are now caved or water-filled. Amount of exploration and possible potential reserves are unknown	Smith, 1913a, p. 182-186; Chapin, 1914, p. 339-340; Hill, 1933, p. 52, 68, 76, 91-92; Killeen and Martin, 1951, p. 29, 42
60	Trail Creek	C,21 T.6N.,R.2E.	p	Au	Disseminated	Placer	Encouraging placer gold prospects reported in 1910. Location on creek not known (probably was in lower course). No known mining	Ellsworth and Parker, 1911, p. 165
61	Treasure Creek	C,21 T.2N.,R.1W.	m	Au	Disseminated	Placer	Gold discovered in 1906 and drift mined until about 1913. Deep, frozen ground (80-200± ft), about 7 ft of gravel; pay streak as much as 225 ft wide. Production more than $1,250,000 and possibly as much as $2,600,000 in gold (at 1976 price). Mining from mouth upstream about 3 mi. Extent of exploration and possible remaining reserves are unknown. Gold lode reportedly found near mouth of one of the tributaries, Eagle Creek	Prindle and Katz, 1913, p. 101, 107, 112-113; Smith, 1913a, p. 196
62	Troublesome Creek	C,19 T.7-8N.,R10W.	m	Au,(Sn,Pb,Hg)	Disseminated	Placer	Some mining about 1912 or earlier and probably until about 1918; no activity in 1931; records of mining are scanty. Creek appeared long inactive in 1969. Concentrate from just below mouth of Union Creek contained barite, iron minerals, picotite, pyrite, cinnabar, garnet, galena, zircon, and cassiterite. Bedrock is chiefly Paleozoic sedimentary and metasedimentary rocks; pegmatitic granite cut by creek just above Union Creek. Creek drains quartz monzonite plutons and associated dikes in the Wolverine and Sawtooth Mountains area	Martin, 1934, p. 192; Chapman, 1962, 1969, field observations
63	Twin Creek	C,21 T.2N.,R.1E.	m	Au,(Sn)	Disseminated	Placer	Placer ground not more than 12 ft deep over quartzite schist and granitic rock. Mined sporadically from 1903 to 1927; possibly some small-scale mining in later years, but has long been inactive and is probably mined out. Production 1903-1910 was about $600,000 in gold (at 1976 price). Cassiterite common in concentrates	Prindle and Katz, 1913, p. 105, 109, 111, 113
64	Unnamed occurrence	C,21 T.9N.,R.1W.	o	Cr	Podiform, chromite	Lode	Sheared chromite in rubble of serpentine. Chromium shows 12.8 percent	Foster, H. L., 1969, p. 2-4
65	Vault Creek	C,21 T.2-3N.,R.1W.	m	Au	Disseminated	Placer	Placers generally about 200 ft deep, 65+ ft in upper part, and in lower course near Chatanika River as much as 319 ft deep. Some gold on a false bedrock at depth of 160 ft. Mining by underground drift method from 1906-1940, and possibly some small-scale work since. Gold in upper valley is coarse, about 33 percent of pieces worth $5 or more (at 1976 price). Creek has been one of major producers in the Fairbanks district; production 1906-1924 was about 133,000 fine ounces. Bedrock probably largely schist, but may include eclogitic rock and some felsic dikes. Lode source probably within this creek basin. Extent of prospecting and potential remaining reserves is not known	Prindle, 1906b, p. 29, 43-44; Prindle and Katz, 1913, p. 101, 108, 112-113

6	Vetter Bros. (Includes Harris & Brown, Greco & al)	C,21 T.3N.,R.2E.	M	Au,(Sb)	Vein	Hydrothermal	Sulfide fissure vein deposit cutting flat-lying schistose quartzite and quartz-mica schist. Iron-stained, brecciated quartz and silicified schist horses associated with vein material. Minerals include quartz, gold, stibnite, jamesonite, and arsenic and antimony oxides. Exploration and small gold and antimony(?) production in 1960's from open cut and shallow inclined shaft. Minor exploration, but essentially inactive in 1970's. Some prospecting in this area about 1912	Smith, 1913a, p. 175-176; Chapman and Foster, 1969, p. D9
4	Walnut Creek	C,21 T.3N.,R.3E.	M	Au	Disseminated	Placer	Production in lower part of creek 1906-1912, and possibly later years. Gold produced in 1906-1908 worth about $43,500 (at 1976 price). Considerable coarse gold, one nugget $225 (at 1976 price), in shallow ground. Probably inactive since 1950 at least	Pardee and Katz, 1913, p. 102, 112-113
36	White Elephant	C,21 T.2N.,R.1E.	M	Ag,Pb	Vein-lenses	Hydrothermal	Silver-bearing galena with some pyrite and quartz in flat lenses parallel to foliation of schist. One lens 9 ft by 5 ft by 5 in. was mined and milled. Development by a 20 ft adit. Probably inactive since 1913	Chapin, 1914, p. 148
25	Whitehorse (Includes Yellowjacket)	C,21 T.3N.,R.2E.	M	Au,Sb,Pb	Vein	Hydrothermal	Gold-quartz vein mined about 1912 to 1915. Footwall of vein has brecciated rock cemented by stibnite and galena. Closely associated porphyritic granite dikes. About 30 tons of ore shipped in 1915. Probably long inactive	Smith, 1913a, p. 180; Hill, 1933, p. 104
10	Whitman & Murray (May be related to Rainbow)	C,21 T.2N.,R.1E.	M	Au	Vein(?)	Hydrothermal	Gold ore mined in 1910 from two shafts 40-50 ft deep and 400 ft of drifts. Considerable ore milled in 1910	Brooks, 1911, p. 35
66	Wilbur Creek	C,20 T.7N.,R.4W.	M	Au	Disseminated	Placer	Gold prospects found in 1915, 1921. Mining probably began about 1926 and continued on a small scale into 1940's, and sporadically until at least 1960. Gold content probably low. Overburden of as much as 75-100 ft of muck 0.5 mi above mouth, the current upstream limit of mining. Bedrock is Cretaceous shale siltstone and graywacke; small quartz monzonite body near head of creek and possibly some felsic dikes	Smith, 1929, p. 21; Smith, 1942b, p. 46; Chapman, 1962-1969, unpub. field data
32	Wildcat Creek	C,21 T.2N.,R.1W.	M	Au	Disseminated	Placer	Gold-bearing gravels for about 0.5 mi above mouth. Deposits generally low grade. Mining 1908 to about 1915. Probably long inactive	Pardee and Katz, 1913, p. 101
67	Willow Creek	C,20 T.9N.,R.4W.	M	Au	Disseminated	Placer	Gold mining reported in 1924. Little sign of later work on this creek	Smith, 1926, p. 14
68	Wolf Creek	C,21 T.3N.,R.2E.	M	Au	Disseminated	Placer	Mining started in 1903 continued until 1915, active from 1937 until 1962. Possibly some work after 1962. Gold is bright and some very rough; found in base of gravel and top 2 ft of bedrock. Ground 4-10 ft deep near mouth and as much as 60 ft deep farther upstream. Production 1903, 1908-1910 was $145,000 in gold (at 1976 price). Lode source probably the veins in headward part of creek; placers probably largely mined out	Pardee, 1904, p. 68, 70-71; Eakin, 1916a, p. 232
45	Woods	C,21 T.2N.,R.1E.	P	Au,Sb,Pb	Veins	Hydrothermal	Explored about 1931; no record of production. Quartz veins, in part an extension of the Sam mine vein system #62, carry free gold, arsenopyrite, pyrite, stibnite, and galena. Veins pinch and swell, some massive, some shattered and sugary. Clay gouge, iron and manganese staining	Hill, 1933, p. 74, 77-78; Chapman and Foster, 1969, p. D14
18	Wyoming mine	C,21 T.3N.,R.1-2E.	M	Au,W,Sb	Veins, replacement, and sheared zones	Hydrothermal	First developed in 1909-1910; worked intermittently until 1942, and probably some work until early 1950's. Probably inactive since 1950's. Quartz veins as much as 2 in. thick contain gold and kidneys of stibnite; scheelite occurs as replacements in limestone and in and adjacent to the veins. Gold and some scheelite produced, stibnite may have been saved. Workings on three levels and with >1500 ft of adit, raises and drifts. Some ore produced more than $30 per ton in gold (at 1976 price). Faulting has produced crushed-brecciated zones, and offset veins as much as 100 ft	Smith, 1913a, p. 181; Hill, 1933, p. 52, 96-98; Byers, 1957, p. 206-208

10	Zimmerman	C,21 T.2N.,R.1E.	p	Au	Vein and fault zone	Hydrothermal or contact	Silicified fault zone carrying quartz veinlets, arsenopyrite, and possibly other sulfides. Adjacent to contact of quartz diorite with silicified schist. Best assay was $8.30 per ton in gold (at 1976 price). Deposit was found in a placer cut, and probably was not mined	Hill, 1933, p. 60, 70, 118-119

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1 Alder Creek (Alder Gulch) (Vinasale)	F,13 T.30N.,R.34W.	m	Au(W,Sb,Bi)	Disseminated	Placer	Geologically similar to Candle Creek (No. 2). Large boulders hampered hand operations. Concentrates contained scheelite, stibnite, bismuth and magnetite in addition to gold. Small-scale operations for only a few years. Between 1929 and 1933 about 65 oz gold recovered from 13,600 sq ft cut	Cobb, 1973, p. 52
2 Candle Creek	F,13 T.32N.,R.35W.	m	Au,Hg(W,Th?)	Disseminated	Placer	Discovered 1913 and mined until World War II. Probably most productive stream in McGrath district. Dredge operated 1918-1926. Incomplete production records indicate recovery of about 98,000 crude oz of gold during the period 1918-1941. Best ground over quartz monzonite (Late Cretaceous-early Tertiary) intrusive. Gold irregularly distributed throughout gravels in grains = 0.0005 oz, with some nuggets up to 2 oz. Gold probably derived from quartz veins in the monzonite and mineralized adjacent sandstone and shale. Abundant cinnabar and magnetite; subordinate scheelite, monazite(?). Some mercury retorted and used locally. Gold fineness = 914	Martin, 1936, p. 97-98
3 Roundabout Mountain	F,13 T.32N.,R.34W. (Approx.)	p	Cu(Ni)	?	?	Specimen sent to USGS 1919 contained pyrite, chalcopyrite and a trace of nickel. District reportedly well mineralized. Bedrock is lower Paleozoic (Devonian) limestone and shale	Brooks and Martin, 1921, p. 93
4 White Mountain	F,13 T.24N.,R.30, 31W.	M	Hg	Vein and disseminated	Hydrothermal (low temperature)	Located 1958; produced 1964-1974. Cinnabar, without significant antimony or arsenic, localized in veinlets, breccia fillings and disseminations in dolomitized limestone (Middle? Ordovician) along southeast dipping, mainly bedding plane faults that probably are part of Farewell fault zone. Cinnabar occurs over zone 4-5 mi long and 1 mi wide	Sainsbury and MacKevett, 1965, p. 21-35; Malone, 1962, p. 75-77

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1 Birch Gulch (Birch Creek)	E,14 T.26S.,R.21E.	m	Au,(Bi)	Disseminated	Placer	Record of mining (drift) as early as 1922. Coarse and little-worn gold in narrow, patchy pay streak up to 50 ft wide downstream from monzonite-limestone contact along which Nixon Fork lode deposits (No. 1) are localized. Overburden consists of about 3 ft of angular wash overlain by about 8 ft of muck. Gold mainly on bedrock to 1 ft above. Fineness Au - 961 3/4, Ag - 33. One report of production: 152 crude oz Au from 9 ft of gravel over 10,000 sq ft bedrock. Bismuth nuggets	Mertie, 1936, p. 195-196
2 Boulder Creek	E,14 T.24S.,R.22E.	o	Au	Disseminated	Placer	Creek yields colors of fine flake gold from area underlain by monzonite (early Tertiary) with inclusions of Late Cretaceous shale	Brown, 1926a, p. 141
3 Canyon Creek	E,14 T.24S.,R.21E.	o	Au	Disseminated	Placer	Reported colors of fine flake gold	Brown, 1926a, p. 141
4 Clearwater Creek	E,14 T.22S.,R.20E.	o	Au	Disseminated	Placer	Reported occurrence of fine colors; probable source: granitic pluton (Late Cretaceous-early Tertiary) of the Sunshine Mountains	Brown, 1926a, p. 141
5 Cottonwood Creek (Hosmer Creek)	E,14 T.23S.,R.22E. (Approx.)	o	Au	Disseminated	Placer	Colors reported from "coarse conglomerate beds." Intrusive that may be related to quartz monzonite-granodiorite occurs in small area about 3 mi northwest of creek mouth	Brown, 1926a, p. 118, 141
1 Crystal Gulch (Pearson and Strand)	E,14 T.26S.,R.21E.	m	Au(Bi)	Disseminated	Placer	Small-scale mining by Pearson and Strand in 1924. Ground reported "poor." Source of gold considered to be lode deposits (Pearson and Strand, No. 1) at head of gulch	Brown, 1926a, p. 138; Mertie, 1936, p. 196-197
6 Eagle Creek (Crooked Creek; Clow and Strand)	E,14 T.27S.,R.21E.	m	Au(W,U,Th,RE's)	Disseminated	Placer	Stream heads in quartz monzonite west-southwest of Nixon Fork mines and flows southward into Kuskokwim River. Mined intermittently 1926 to at least 1949, with main production in late 1920's and early 1930's. Total in excess of 2600 crude oz. Sluice box concentrate contained 0.26 percent eU identified with uraniferous thorianite and allanite. Also scheelite, garnet and flourite	Brown, 1926a, p. 139; White and Stevens, 1953, p. 16, 18-19
1 Hidden Creek	E,14 T.26S.,R.21, 22E.	m	Au(Bi,W)	Disseminated	Placer	Discovered 1917 and mined at least until 1933. One of largest producers in region with total in excess of 4400 fine oz. Fineness: Au ≈ 930; Ag ≈ 60	Brown, 1926a, p. 127, 135-137, 139; Mertie, 1936, p. 193-195, 235
1 Holmes Gulch	E,14 T.26S.,R.21E.	m	Au(Bi)	Disseminated	Placer	Production reported for most seasons from 1918 through 1942 totaling an estimated 1875 crude oz. Rough angular gold, in part with attached quartz gangue. Bismuth locally abundant. Coarse gravel 9-10 ft deep, with very little muck. Pay streak traced upstream toward Nixon Fork lode deposits for about 4000 ft. Bedrock cavernous altered limestone (early Paleozoic), suggesting quartz monzonite intrusive (early Tertiary) close to surface	Brown, 1926a, p. 137; Mertie, 1936, p. 196
1 Nixon Fork (including Whalen, McGowan-Mespett, Pearson-Strand, Garnet, Crystal, Keen, High Grade)	E,14 T.26S.,R.21E.	m	Au(Ag,Cu,Bi, Th,RE's)	Massive with transitional boundaries	Contact metamorphic and hydrothermal(?)	Discovered (Crystal) in 1918, the Nixon Fork lode mines have yielded an estimated 40,000-60,000 oz Au and a little silver, mostly from Garnet shaft area. Workings consist of numerous trenches, pits, glory holes and at least 15 shafts to a maximum depth of 600 ft scattered a 2 x 3 mi area. Probably in excess of 3500 ft of drifts and crosscuts. Principal lodes within 100 ft of contact between quartz monzonite (66.9 ± 2 m.y. = Paleocene) stock and recrystallized early Paleozoic limestone with thin interbeds of shale, chert, and calcareous sandstone. Extensive oxidation to lowest level of workings with consequent residual enrichment of the gold. Orebodies generally less than 100 ft in vertical and	Brown, 1926a, p. 127-128, 130-134; Mertie, 1936, p. 229-241; White and Stevens, 1953, p. 10, 12, 16, 18-19; Jasper, 1961

							horizontal extent. Copper content ranges from 2-12 percent but no effort made to recover. Auriferous pyrite and chalcopyrite with minor bornite. Local native bismuth; minor scheelite, parisite and allanite. Oxidized assemblage includes copper carbonate and oxide, and hydrated iron oxide minerals. Mainly contact metamorphic (tactite/skarn), but presence of sericite suggests mineralization may in part have been hydrothermal	
1	Riddle Gulch (Encio Gulch)	E,14 T.26S.,R.22E.	m	Au(Bi)	Disseminated	Placer	Tributary to Hidden Creek. Small-scale operations intermittently from 1922 at least through 1938. Total production probably did not exceed 500 crude oz. Fineness about 900. Native bismuth in concentrates	Martin, 1936, p. 194
1	Ruby Creek (including Crystal Gulch)	E,14 T.26S.,R.21E.	m	Au(W,Bi,Sn,Th)	Disseminated	Placer	Discovered 1917 and mined on small scale until mid-1930's by drift and sluice methods. Only small amount of high-grade ground, and most of that reportedly worked out by 1933. Gravels 3-10 ft deep. Fineness averaged from 1929 production totaling 58.0 crude oz: 807 3/4 Au, 107 Ag. Notably lower grade than Hidden Creek. Concentrates also contain scheelite, cassiterite, bismuth, thorianite, sphene and zircon	Brown, 1926a, p. 127, 138; Martin, 1936, p. 196-197, 235; White and Stevens, 1953, p. 10, 12, 15-16, 19
7	Stone mine	E,14 T.26S.,R.21E.	p	Au	Irregular?	Contact metamorphic?	Small lode prospect near contact between limestone and small monzonite intrusive. Probably contact metamorphic like Nixon Fork lode deposits. Information lacking on extent of workings or production	White and Stevens, 1953, p. 18
8	Unnamed occurrence	E,14 T.28S.,R.21E.	o	Mn	Tabular?	Sedimentary(?)	Discovered 1960. Traceable in 1961 for about 500 ft along north bank Kuskokwim River. No information on workings or production. Described as sedimentary manganese carbonate in northward-dipping lower Paleozoic shale and sandstone. Samples assaying up to 23 percent Mn contain traces of iron and are intergrown with needlelike quartz(?) crystals	Berg and Cobb, 1967, p. 97
9	Wyoming Creek	E,13 T.22S.,R.15E.	o	(Hg,Sb)	Vein	Hydrothermal (low temperature?)	Discovered early 1900's. Has not been worked. Quartz vein about 30 in. thick occurs in contact zone between monzonite (Tertiary?) and Cretaceous sedimentary rocks and contains cinnabar and stibnite. Other veins of cinnabar and stibnite known in vicinity of other monzonite bodies in district	Brooks, 1916b, p. 50
10	Colorado Creek	E,13 T.22S.,R.15E	M	Au	Disseminated	Placer	Bulldozer placer mining activity reported during 1975	Carnes, 1976, p. 52, 53
11	Unnamed occurrence	E,15 T.21S.,R.25E.	o	Fe(Cu,Zn)	Skarn	Contact metamorphic	Discovered by USGS, 1976. Skarn zone developed in limestone-dolomite (Early Ordovician-Middle Devonian) at contact with adamellite stock (Late Cretaceous-early Tertiary). Computer modeling of field magnetic data and analyzed samples indicate the presence of a small magnetite deposit (about 11,600 m^3) that could contain up to 85 percent total iron, expressed as Fe_2O_3. Pyrite and a small amount of chalcopyrite and sphalerite also present	Throckmorton, M. L., and Patton, W. W., Jr., 1977, oral commun.

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1 Batza Slough	C,13 T.5N.,R.18E.	o	(Pb,Ag,Cu)	Disseminated (float)	(Hydrothermal?)	Strictly an occurrence. 2-ft-long angular block of altered silicified rock in cutbank at south end of Batza Slough contained disseminated galena, cerussite, and malachite. Analysis showed 3 oz/T Ag, 5 percent Pb, 0.5 percent Cu	Miller and Ferrians, 1968, p. 6
2 Florence Bar	C,14 T.6N.,R.21, 22E.	m	Au	Disseminated	Placer	Fine gold on bar of Koyukuk River known since early 1890's and, with Hughes Bar (Hughes quadrangle, No. 4), the most noted. Before 1898 a combined production of about 200 oz was reported from Florence, Hughes (Hughes quadrangle) and Tramway (Wiseman quadrangle) Bars	Smith, 1913b, p. 142
3 Fox Creek	C,13 T.5S.,R.17, 18E.	m?	Au	Disseminated	Placer	Sluicing activity on three placer claims reported in 1913. No record of production or subsequent operations. Placer ground located in flat valley about 700 ft wide on bedrock that consists of Upper Cretaceous nonmarine sedimentary rocks	Eakin, 1913, unpub. field notes; Eakin, 1916, Plate II
4 Golden Creek	C,15 T.2S.,R.29E.	M(?)	Au	Disseminated	Placer	Small-scale placer gold mining about 5 mi south-southwest of Moran Dome on tributary to Illinois Creek. No cassiterite reported in concentrates	Chapman, Coats, and Payne, 1963, p. 16
5 Illinois Creek	C,15 T.2S.,R.29E.	m?	Au	Disseminated	Placer	Placer gold prospects reported (1911). One prospect hole sunk 133 ft passed through several beds containing fine gold but failed to reach bedrock. Ground in part unfrozen. Mining reported but probably small production. Included under Gold Mtn. district in earliest literature. No cassiterite reported in concentrates	Eakin, 1913a, p. 34; Chapman, Coats, and Payne, 1963, p. 16
6 Mason Creek	C,15 T.2S.,R.28E.	m?	Au(Sn)	Disseminated	Placer	Placer gold discovered 1907. Gold (the size of bird shot from head of creek) and cassiterite, for which no mineralized bedrock source has been found, occurs in lower part of stream gravel 12-20 ft thick and top few feet of schist bedrock with unmineralized quartz veins and lenses. Prospecting or small-scale mining reported 1907, 1908, 1909, 1917, 1918, 1926, 1929-1932. In 1918 1 T cassiterite concentrates reportedly recovered from 4000 cu yds of gravel. All creek and most bench deposits unfrozen	Chapman, Coats, and Payne, 1963, p. 33-35
7 Melozitnaram Creek	C,15 T.1S.,R.27E. (Approx.)	m	Au(Sn)	Disseminated	Placer	A few prospect pits sunk 1913-1918 near mouth of creek and reportedly some cassiterite and gold were recovered	Chapman, Coats, and Payne, 1963, p. 16
8 Sun Mountain	C,14 T.5N.,R.19, 20E. (Approx.)	o	(Cu)	Disseminated	Hydrothermal(?)	Scattered occurrences of chalcopyrite, malachite and pyrite along Koyukuk River near Sun Mtn. Bedrock is Jurassic(?)-Early Cretaceous Koyukuk Group pyroxene andesite and trachyandesite with minor fossiliferous limestone. Numerous quartz latite dikes (Late Cretaceous-early Tertiary) and widespread development of hornfels suggest buried shallow pluton	Miller and Ferrians, 1968, p. 8
9 Utopia Creek	C,15 T.7N.,R.24, 25E.	m	Au(Ag,Pb,Zn,Ba)	Disseminated	Placer	Discovered about 1906. Mining as early as 1915 but was sporadic and small scale pre-1936. Large-scale nonfloat operations began 1938 or 1939 and ceased 1952 when Utopia Creek was major producer in Hughes district. No granitic rocks in tailings. Abundant barite boulders with fine-grained tetrahedrite, galena and sphalerite suggest source may have been veins in thermally metamorphosed Late Jurassic-Early Cretaceous andesitic volcanics cut by fine-grained felsic intrusives. Size and location of tailings suggest a major producer whose pay streak continued up south slope toward area of anomalous copper, lead, zinc, silver and gold	Smith, 1942b, p. 47; Miller and Ferrians, 1968, p. 3, 5
10 Unnamed (Melozitna Pluton)	C,14 T.2S.,R.23E.	o	U,Th	Disseminated	Uranium and thorium in igneous rocks	Quartz monzonite (Cretaceous?) of the Melozitna pluton contains above average amounts of uranium and thorium	Miller, T. P., 1977, written commun.

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1 Bonanza Creek	D,8	m	Au,W,(Sb)	Disseminated	Placer	Placer gold discovered 1899 and mining continued on main stream and benches until 1918 or later. A few pounds scheelite concentrate recovered 1918. The most recent activity probably was on the Ungalik River near the mouth of Bonanza Creek. Pay streak in present creek 400 ft wide narrowing to 75 ft upstream. Bench gravels 80-150 ft above present stream carried medium coarse, dark-reddish, rather fine (~925) gold, some with attached quartz. At places gold found in black graphitic 'slate' (hornfels?). Thus, there seems little doubt of local derivation. Bedrock mainly Cretaceous sedimentary rocks (Albian?) intruded by small granitic bodies (Late Cretaceous?). Magnetite, ilmenite, stibnite, and scheelite present in concentrates. (See also Hopeful Gulch, Ungalik River)	Smith and Eakin, 1911, p. 105-107; Patton and Bickel, 1956; Cobb, 1973, p. 80
2 Christmas Mountain	D,8 T.11S.,R.9-10W. (Approx.)	o	Sb(Au?)	Vein	Hydrothermal(?)	Pre-1909 scores of claims reportedly staked on slopes of Christmas Mountain, but there is no report of any work having been done. Prospectors also reported stibnite float and colors of gold from streams draining the mountain	Smith and Eakin, 1911, p. 108; Anderson, 1947, p. 13
1 Hopeful Gulch	D,8 T.11S.,R.10W.	o	Bi,W	Disseminated	Placer	Stream heavy mineral concentrates reported to contain bismuthinite, scheelite, and wolframite. Gold not specifically mentioned in literature. (See also Bonanza Creek, Ungalik River)	Anderson, 1947, p. 18
3 Moon	D,8 T.9S.,R.9W.	o	Sb	Vein	Hydrothermal	Stibnite reported to occur in small lenses and veinlets in a series of large quartz veins on ridge between Shaktolik and Ungalik Rivers by Thos. Moon circa 1911. Authenticity of high gold and silver values is questionable. Area underlain by Cretaceous calcareous siltstone, shale, and sandstone. Structurally complex	Anderson, 1947, p. 13
4 Nulato River	D,9 T.11S.,R.4W. (Approx.)	o	Au?	Disseminated?	Placer?	Unconfirmed native report of gold in the headwaters of the Nulato River	Schrader and Brooks, 1900, p. 28
1 Ungalik River (Shaw and Associates, Shaw and Cook Ungalik Syndicate)	D,8 T.11S.,R.10W.	M	Au	Disseminated	Placer	Placer gold discovered at mouth of Bonanza Creek about 1909. Dredges(2) began operating 1938 and for several years accounted for major production from the Koyuk district. Dredges still working in 1975. (Bedrocks in area are Cretaceous marine conglomerate and sandstone intruded by Late Cretaceous granitic dikes.) (See also Bonanza Creek, Hopeful Gulch)	Smith and Eakin, 1911, p. 108; Patton and Bickel, 1956
5 Unnamed occurrence	D,7 T.7S.,R.12W.	o	Sn	Disseminated	Placer	Trace of cassiterite identified by USBM in a concentrate of 8-pan sample of beach sand. Could have come from anywhere in Koyuk basin	Berryhill, 1962, p. 5-6, 11
			W	Disseminated	Placer	Concentrate of 15 pan USBM sampling of creek sands 600 ft inland from beach yielded [illegible] of scheelite	Berryhill, 1962, p. 6, 11

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1 Kluklaklatna River (Little Mud River)	D,11 T.13S.,R.7E. (approx.)	p?	Au	Disseminated	Placer	Placer gold prospects reported as early as 1909, but no record of development or production. Geologic map shows area of Devonian and older(?) pelitic schists and carbonate rocks intruded by mid-Cretaceous (~100 m.y.) plutons	Mertie, 1937, p. 173
2 Perseverance (Bishop Creek)	D,11 T.11S.,R.9E.	■	Pb,Ag	Vein	Hydrothermal	Discovered September 1918 in headwaters of Bishop Creek. Total production 1920-1922 amounted to about 225 tons of ore that averaged 73 percent lead and 104 oz silver per ton. Mining said to have been discontinued because of high shipping costs. (See also Valley) Discontinuous veins of argentiferous galena up to 3 ft thick strike northeastward parallel to the schistosity of the enclosing chloritic quartz mica schist and marble (Devonian and older?)	Brooks, 1923, p. 38-39
3 Tlatskokot (Camp Creek)	D,11 T.13S.,R.7E.	■	Au	Disseminated	Placer	A small amount of placer gold recovered shortly after World War II at the abandoned town of Tlatskokot	Cobb, 1976a, p. 82
2 Valley (Bishop Creek)	D,11 T.13S.,R.9E.	■?	Pb,Ag	Vein	Hydrothermal	Adjacent to Perseverance and worked in a small way 1920-1927. Any production probably included with Perseverance. Similar geologic setting	Brooks, 1923, p. 39; Berg and Cobb, 1967, p. 228

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1 Anvil Creek	E,12 T.27S.,R.12E.	M	Au,(Hg)	Disseminated	Placer	Placer gold discovered 1917 and has been worked intermittently ever since. Two dozers and dredge reportedly operating 1975. Present stream gravels contained narrow, often high grade pay streaks. Six inches of muck over well rounded gravels averaging 4-5 in. diameter. Up to 30 in. depth to bedrock, consisting of slate (Cretaceous?) cut by numerous altered mafic dikes. Gold "shotty." Many nuggets up to 6 oz. Average of four assays showed 878 fine. Considerable cinnabar in concentrates. (See also Victor Gulch)	Martin, 1936, p. 190-191
2 Bear Creek	E,12 T.22S.,R.14E.	M	Au	Disseminated	Placer	Mining began in 1922 and continued at least through 1975, when two dozers and a dragline were still operating. Area mined between Bear and Cripple Creeks appears to have involved bench deposits. Includes references to Beaver Creek. (See also Cripple Creek below)	Cobb, 1976b, p. 56
3 Bedrock Creek	E,12 T.28S.,R.12E.	M	Au	Disseminated	Placer	Nonfloat mining reported in 1936. (See also Ester Creek)	Smith, 1937, p. 41-42
4 Boab Creek	E,11-12 T.25S.,R.10E.	M	Au,Pt(Hg,Sn)	Disseminated	Placer	Placer gold discovered March 1916. Production immediately followed and continued until World War II, possibly later. Platinum recovery amounted to as much as 1 percent of total precious metal value. Concentrates also contained significant amounts of cinnabar (pebbles up to 1/2 in.) and cassiterite. Obsidian also present. Area contains variety of granitic, mafic and ultramafic intrusive rocks (Late Cretaceous to Tertiary) in Paleozoic and older(?) schist, slate, phyllite, quartzite, chert, limestone and greenstone, as well as sedimentary rocks of Cretaceous age	Harrington, 1919, p. 349-350
5 Colorado Creek	E,12 T.22S.,R.15E.	M	Au	Disseminated	Placer	Placer mining commenced in 1913 and large-scale nonfloat hydraulic operations continued at least until 1940. Yanor at peak of activity in 1933 averaged about 30¢ per square bedrock foot. Coarse gravel, 8-20 ft thick, covered by about 3 ft of frozen muck. Bedrock soft iron-stained sandstone of Late Cretaceous(?) age. Gold fine and well worn. Average of four assays from 1932-1933 production: 873 Au, 121 Ag per thousand. Creek drains part of Cripple Creek Mts. that are underlain by Tertiary granitic to mafic intrusive rocks. (See also Cripple Creek)	Martin, 1936, p. 172-173
2 Cripple Creek	E,12 T.22S.,R.14, 15E.	M	Au	Disseminated	Placer	Placer gold discovered at mouth of Fox Gulch in 1912 and mined (drift, large-scale nonfloat) through 1967. USBM reports small scale operations in 1975 (Slug Gl.). Complete production data lacking. 2-12 ft of unfrozen muck over 5-6 ft of gravel. Clasts 4-5 in. diameter consist mainly of chert, greenstone, porphyritic mafic volcanics, and smaller amounts granitic, sandstone and slate debris. Bedrock in lower part of creek is serpentinized greenstone; upper part underlain by Late Cretaceous sandstone and shale. Moderately fine-grained gold tended to be concentrated in lowest 2½ ft of gravels. Fineness 910-888 with little dross. (See also Fox Gl., Bear Cr., Colorado Cr.; includes Graham Cr.)	Martin, 1936, p. 170-172
6 Dodge Creek	E,12 T.27S.,R.12E.	m(?)	Au	Disseminated	Placer	Deep placer gold ground reportedly found in 1915 and made ready for winter mining, but no record of production	Brooks, 1916a, p. 65
7 Dominion Creek	E,12 T.24S.,R.13E. (Approx.)	pf	Au	Disseminated	Placer	Deep placer ground prospected by shafts 1940. No information on results	Smith, 1942b, p. 42

8	Esperanto Creek	E,12 T.24S.,R.11E.	M	Au	Disseminated	Placer	Prospected as early as 1917. Mined, mainly by small-scale nonfloat methods, beginning 1922 and ceasing by 1965. Productive gravels reportedly about 1 ft thick. (Includes Keating Gulch)	Cobb, 1976b, p. 69
3	Ester Creek	E,12 T.28S.,R.12E.	M	Au	Disseminated	Placer	One-man hydraulic operation reported in 1933. Average of two gold "dust" assays: 835 Au, 156 Ag per thousand. (See also Bedrock Creek)	Martin, 1936, p. 192
9	Games Creek	E,12 T.28S.,R.13E.	M	Au	Disseminated	Placer	Oldest placer gold district in Ruby-Kuskokwim region. Discovered 1906 and initially mined by drifting. Later dredging continued at least through 1965. USBM reports dozer operations on upper part of creek in Iditarod quadrangle during 1975. Creek is beheaded upper part of Beaver Creek (Iditarod quadrangle) and all placers are located below point of capture. Gold in present stream gravels on and within bedrock and in preglacial bench deposit 60-100 ft above creek level. Bedrock mainly Cretaceous slate cut by felsic and mafic dikes. Gold locally derived and ranges from fine flaky to coarse with attached quartz. One nugget exceeded 16 oz. Fineness about 885. (See also Independence, Games Creek (Iditarod quadrangle)	Maddren, 1911, p. 21-23, 64, 67-72; Martin, 1936, p. 174-175, 184-188
10	Independence	E,12 T.29S.,R.13E.	m?	Au	Vein	Hydrothermal	Mined for year or two about 1912 and abandoned shortly thereafter. Workings consist of 60-ft tunnel with 60-ft winze at end and two drifts totalling 80 ft at two lower levels. Crusher and stamp mill. Quartz vein averaging about 2 ft thick occurs along hanging wall of Tertiary rhyolitic dike that intrudes altered slate of Cretaceous age. Workings demonstrate vein continuous to depth of at least 90 ft. Gold occurs in iron-stained crevices and vugs in quartz, embedded in grains of magnetite, and disseminated in adjacent altered host rocks. No data on production, if any. Several other mineralized dikes and quartz veins occur within a few miles of the Independence. Such veins considered to be the source of gold in the nearby placers	Eakin, 1914a, p. 28-29, 38, 40; Martin, 1936, p. 229
11	Iron Creek	E,12 T.24S.,R.10E.	m	Au	Disseminated	Placer	Operated by seven or eight camps in 1917. 2-4 ft of gravel (phyllite, granite, and minor limestone) overlain by about 4 ft of muck. No platinum in the concentrates. Bedrock consists of granitic and mafic intrusives of Late Cretaceous to early Tertiary age in lower Paleozoic metasedimentary rocks	Harrington, 1919, p. 350-351
12	Little Creek	E,12 T.28S.,R.12, 13E.	M	Au(W)	Disseminated	Placer	Gold discovered 1907. Mined initially by underground hydraulic methods and by dredge 1925 at least until 1940. Small-scale dozer operation in 1975. Both bench and stream placers which merge laterally without sharp break in bedrock surface. Gold rather coarse with many nuggets concentrated in crevices in upper 2-6 ft of bedrock surface. 4-7 ft of gravel beneath 6-18 ft of muck. Bedrock argillite and slate (Late Cretaceous) with local beds of conglomerate 20-30 ft thick. Scheelite locally present in concentrates	Maddren, 1911, p. 247-249; Martin, 1936, p. 181-184
13	Madison Creek	E,12 T.24S.,R.11E.	mt	Au	Disseminated	Placer	Placer gold mining commenced as early as 1917 and continued until sometime after World War II prior to 1966. Gold reportedly "shotty" upstream, becoming fine, flaky, and more downstream. No platinum in concentrates. About 4 ft of muck over 8 ft of gravel in upper part of creek. Depth to bedrock increases to about 30 ft in lower reaches. Gold tended to be concentrated in lower 4 ft of the gravels	Harrington, 1919, p. 350-351

14	Ophir Creek	E,12 T.27,28S., R.12E.	m	Au	Disseminated	Placer	Largest producer of placer gold in the district (about 48,000 oz from discovery in 1908 to 1933). Much of creek worked twice. Some ground ran as high as 0.4 oz per square bedrock foot. Pay streak mainly of recent formation with some enrichment from bench deposits. Placers seldom exceeded 35 ft depth, 20-200 ft wide. Overburden muck in lower valley, mainly gravel upper; mostly frozen. Gold size and fineness increases upstream. Largest nugget about 14 oz. Gravels mainly of local rock types. Bedrock mainly fractured slate and subordinate sandstone (Cretaceous) locally cut by narrow dikes. Gold mainly on or in upper 2-5 ft of bedrock	Eakin, 1914b, p. 35-36; Martin, 1936, p. 176-179
15	Spruce Creek	E,12 T.27,28S., R.12E.	M	Au	Disseminated	Placer	Placer gold discovered 1907 and mined almost continuously from 1910 at least until 1940. One small operation in progress 1975. Essentially, all mining has been nonfloat and on bench southeast of creek between Maiden and Tamarack Creeks. Gold mainly on and in upper part of fractured black slate (Cretaceous) and cut by numerous altered dacitic dikes. Some coarse gold found; one nugget about 16 oz. Average of four assays ran 884 gold, 110 silver per thousand. (Includes Tamarack Creek)	Maddren, 1911, p. 248-250; Eakin, 1914b, p. 35-36; Martin, 1936, p. 179-181
1	Victor Gulch (Victor Creek)	E,12 T.27S.,R.12E.	m	Au(Hg)	Disseminated	Placer	Small gulch between Anvil and Spruce Creek worked by hydraulic methods 1920 at least through 1936. Pay streak located on northwest side close to creek, varied in width 6-80 ft. 20-40 ft of muck with Pleistocene vertebrate remains overlie 6-8 ft angular gravel that rests on fractured slate (Cretaceous) with N. 60 E. vertical cleavage. Gold occurred in and on bedrock: coarse and "shotty," with nuggets to 5-1/2 oz. Average of five assays showed 882 gold, 115 silver per thousand. Cinnabar in the concentrates. (See also Anvil Creek)	Martin, 1936, p. 176, 191
16	Yankee Creek	E,12;F,12 T.28,29S., R.13E.	M	Au	Disseminated	Placer	First located in 1907, mining began in 1909. USBM reports dozer operation active in 1975 on portion of upper Yankee Creek in Iditarod quadrangle. First dredge installed 1921. Differs from Ophir, Spruce, and Little Creeks in being more shallow and consisting of coarse gravel covered by 1-3 ft of unfrozen muck. Depth to bedrock ranges up to 20 ft (10-12 ft of silt and muck over 6-8 ft gravel composed of cobbles of shale, sandstone, and volcanic rocks). Gold mainly on bedrock. Fineness decreases slightly downstream from 886 to 866 parts gold per thousand	Maddren, 1911, p. 252-253; Martin, 1936, p. 188-190

MAP NO. AND NAME(S) (if known)	MAP COORDINATES LOCATION	DEVELOP-MENT CATEGORY	RESOURCES Minor constitu-ent(s) or potential byproducts in parentheses	FORM	TYPE	BRIEF DESCRIPTION	PRINCIPAL REFERENCE(S)
1 American Creek	D,15 T.16S.,R.26E.	p	Au	Disseminated	Placer	Prospect workings prior to 1915. Extent of mining and amount of gold apparently small. No evidence of workings seen in 1975. Bedrock low-grade schist and quartzite	Eakin, 1918, p. 51; Chapman, 1975, unpub. field notes
2 Baker Creek	D,15 T.14S.,R.29E.	p	Au	Disseminated	Placer	Prospect workings prior to 1915. Extent of mining and amount of gold apparently small. No evidence of workings seen in 1975. Probably bedrock is low-grade phyllitic schist	Eakin, 1918, p. 51; Chapman, 1975, unpub. field notes
3 Banner Creek	D,13 T.15S.,R.17E.	p	Au	Disseminated	Placer	Prospects reported and claims staked prior to 1916. No mining reported. Location uncertain; probably near head. Type of bedrock unknown	Martin and Harrington, 1916, p. 244; Martin and Harrington, 1924, p. 96
4 Basin Creek	D,13 T.12S.,R.16E.	m	Au	Disseminated	Placer	Gold production reported in 1916. Exact location on creek uncertain. Type of bedrock uncertain--may be greenstone, or metasedimentary rocks	Martin and Harrington, 1916, p. 243, 265; Martin and Harrington, 1924, p. 94
5 Bear Gulch (Bear Pup)	D,13 T.12S.,R.17E.	m	Au,Ag(Sn)	Disseminated	Placer	Active placer production from lower 1.5 mi of creek. Main pay streak on low terrace on southeast side plus a higher level, lower grade minor pay streak. Two claims produced 24,200-29,000 oz of gold alone. Silver is about 135 parts per thousand; cassiterite not abundant. Gold somewhat worn but not well rounded. Spotty ground, some 2.5-100 oz nuggets. Bedrock, in part at least, is deeply weathered greenstone. Probably two erosion cycles. Probable lode source is on ridge or slope to the east where cover is thick, but some granitic and quartz-fluorite veins in actinolite schist, quartzite schist, and graphitic schist are known. Closest known granite body is 6½ mi to northeast	Martin, 1936, p. 146-151; Martin and Harrington, 1924, p. 93
6 Beaver Creek (tributary to Big Creek)	D,13 T.10S.,R.17E.	p	Ag,Pb(In,Cu,Au)	Vein	Lode	Small lenticular veins of silver-bearing galena, with extensive iron-rich gossan; localized in two zones a few hundred feet in length, maximum width 6-10 ft, limited shallow depth. Assays 2-82 oz per ton silver, 9-15 percent lead, minor to trace amounts of zinc, copper, gold. Very low sd. Discovered in 1920, inactive for many years. Last explored in 1960 by USBM	Brown, 1926b, p. 145-150; Thomas, 1964, 28 p
7 Beaver Creek (tributary to Poorman Creek)	D,13 T.16S.,R.16E.	m	Au	Disseminated	Placer	Small drift placer mine from a 60 ft shaft. Gold on bedrock (probably weathered basaltic greenstone), very little gravel. Produced about 315 oz of gold in 1930-1932. No more found, probably inactive after 1932	Martin, 1936, p. 169
8 Big Creek	D,13 T.9S.,R.17E.	m	Au,Sn	Disseminated	Placer	Some gold production during period 1907-1940's; cassiterite associated in headwaters. Gold and cassiterite are apparently close to their source. Quartz-tourmaline vein material. Probably no activity since 1950's. Gold yield probably not high grade	Maddren, 1909, p. 232-233; Smith, 1930b, p. 62; Chapman, Coats, and Payne, 1963, p. 40, 44-46
9 Birch Creek	D,13 T.12S.,R.17E.	m	Au,Ag,Sn(Bi, RE's?,Th?)	Disseminated	Placer	Significant gold (with included silver) production from 1914 to about 1936. Was inactive part of this period. Native bismuth a minor constituent. At least 2.5 tons of cassiterite concentrate recovered, but probably not marketed. Possible rare earth-thorium minerals in granite bedrock. Mineralization related to granite contact zone and veining(?) in pyritic slate. See also Streight, Crooked, and Lucky Creeks	Martin and Harrington, 1916, p. 246-247; Chapman, Coats, and Payne, 1963, p. 42-44; White and Stevens, 1953, p. 4-7
10 Boston Creek and tributaries (includes Boston, Logger, and Leo Gulches)	D,13 T.10S.,R.17E.	p	Au(?)	Disseminated	Placer	A few prospect shafts to bedrock in the headwaters of Boston Creek. Pyrite reported, and probably a few colors of gold	Maddren, 1910, p. 79
11 California Creek	D,15 T.13S.,R.27E.	p	Au	Disseminated	Placer	Several cuts mined for placer gold; also evidence of placer prospect drill hole lines. No information about gold content. Probably worked in or about 1970-1973; inactive in 1975 and 1976. Creek drains a small granitic stock that intrudes calcareous schists	U.S. Geological Survey, 1976, p. 5

12	Center Creek	D,13 T.8S.,R.17E.	p	Au	Vein	Lode	Adit driven 150 ft on quartz vein in slaty schist in 1906. Most of vein probably was barren, but a surface sample reportedly assayed 3.1 oz of gold per ton	Maddren, 1908, 1910 unpub. notes
13	Cox Gulch (Cox Pup)	D,13 T.9S.,R.17E.	m	Au,Sn	Disseminated	Placer	This is part of the Big Creek headwaters. Placers reported to have yielded gold at $1.20-$1.80 per sq ft (at 1976 price) and cassiterite 0.2-0.33 lbs per sq ft. Tourmaline in quartz pebbles. Gold is rough; gravel and cassiterite subangular. Probably close to the lode source	Chapman, Coats, and Payne, 1963, p. 44-46
14	Crooked Creek	D,13 T.12S.,R.17E.	m	Au,Ag,Sn	Disseminated	Placer	Mining was chiefly on lowest part of creek just above Birch Creek. Difficult to distinguish deposits in lower part of this valley from those of Birch Creek. See also Birch Creek and Straight Creek	Martin, 1936, p. 157-158; Chapman, Coats, and Payne, 1963, p. 42-43
15	Duncan Creek	D,13 T.16S.,R.17E.	m	Au	Disseminated	Placer	Mining particularly in lower part of creek from 1913 to about 1936. Generally small and angular gold; reported yield $3.75 per sq ft of bedrock (at 1976 price). Placer deposits probably close to lode source. Gold does not extend east of here; this plus breccia in gravel suggest a mineralized fault zone here that trends northeastward	Martin, 1936, p. 163
16	Eldorado Creek (tributary to Poorman Creek)	D,13 T.16S.,R.16E.	p	Au	Disseminated	Placer	Good gold prospects reported found in 1930-1931. No later mention of any development	Smith, 1933b, p. 38
17	Fifth of July Creek	D,13 T.13S.,R.17E.	m	Au,Sn	Disseminated	Placer	Worked at least for a few years around 1922. Gold produced; cassiterite common, at least in lower course of valley. Limonite and "black sand" common. A washtub full of cassiterite and iron-bearing concentrate reported to represent incomplete recovery from 6,000 sq ft of bedrock. Possibly some of this ground is a Long Creek bench cut by this creek	Chapman, Coats, and Payne, 1963, p. 40
18	Flat Creek (tributary to Long Creek)	D,13 T.13S.,R.17E.	m	Au(Sn)	Disseminated	Placer	Mining reported between 1931 and 1940, but another report indicated very little mining in this period. Possibly the mining was done on Long Creek benches that are cut by the lower course of Flat Creek. Gold and trace of cassiterite occur. Schist bedrock in upper course. Probably there is some confusion with Flat Creek (No. 19) near Poorman in the mining reported	Chapman, Coats, and Payne, 1963, p. 48
19	Flat Creek (tributary to Timber Creek)	D,13 T.16S.,R.17E.	m	Au,Ag,Sn	Disseminated	Placer	Productive gold mining from 1913 at least through 1936. Seems to be on east edge of a mineral belt. Gold and cassiterite source must be close. Ground showed $2.50-$25.00 per sq ft. Rough gold, with attached quartz, was characteristic; no nuggets >0.5 oz. Phyllite bedrock, chert and quartz abundant in gravel. Barite found at mouth	Martin and Harrington, 1916, p. 248, 250; Martin, 1936, p. 166-167
20	Flint Creek	D,13 T.13S.,R.18E.	p	(Au,Sn,RE's,Bi, U?,Th?)	Disseminated	Placer	Gold prospects discovered in 1911 proved to be of low grade and small extent. No mining done in following years. Granite in headwaters contains very minor amounts of uranothorite(?), cassiterite, rare earth minerals, and bismuth	Maddren, 1912, p. 291, 296; White and Stevens, 1953, p. 4-9; Chapman, Coats, and Payne, 1963, p. 49-50
21	Fourth of July Creek (tributary to Long Creek)	D,13 T.13S.,R.17E.	m	Au	Disseminated	Placer	Mining around mouth of this small creek probably was in the bench gravels on east side of Long Creek. No cassiterite reported with the gold in this creek	Chapman, Coats, and Payne, 1963, p. 50-51
22	Fourth of July Creek (tributary to Sulatna River)	D,13 T.13S.,R.17E.	m	Au	Disseminated	Placer	First prospected in 1916. Small amount of mining done in 1916. Exact location on creek not given. No mention in later years. Gold yield probably low grade	Brooks, 1916, p. 57
23	Glacier Creek (Irene Creek, 1908-1910)	D,13 T.9S.,R.17E.	m	Au,Sn(Bi)	Disseminated	Placer	Amount and grade of gold and cassiterite in placers uncertain; probably not rich. Gold showed $1.25-$1.50 per sq ft at one place where 150 lbs of cassiterite concentrate was recovered. Bismuth found in mining at head of creek. Bedrock slaty schist with abundant crystalline limestone/dolomite at head. Lode source probably same as for gold and tin on Big Creek and Cox Gulch	Chapman, Coats, and Payne, 1963, p. 37, 46-47

24	Glen Gulch	D,13 T.12S.,R.17E.	m	Au	Disseminated	Placer	A small creek, rich gold in parts but spotty; total length 2.5 mi. Probably mined out shortly after 1915. (nactive 1933 and later. Gold rough, some fairly coarse; largest nuggets about $7.50 (at 1976 price). Probably lode source was on the ridge drained by this gulch. Schist and slate bedrock marginal to granite	Maddren, 1912, p. 291, 295; Eakin, 1913b, p. 290,292; Martie and Harrington, 1916, p. 246, 255
25	Gold Run Creek (tributary to Flint Creek)	D,13 T.12S.,R.17E.	p	Au(?)	Disseminated	Placer	Creek 2.5 mi long; prospected but probably no mining. Geologic setting similar to Glen Gulch (No. 24)	Martie, 1936, p. 158
26	Gold Run Creek (tributary to Deer Creek)	D,13 T.15S.,R.16E.	p	Au	Disseminated	Placer	In 1915 good gold prospects were reported, but no mining was done, and no later records of mining are known. Exact location of prospects not known	Martie and Harrington, 1916, p. 244
27	Granite Creek	D,13 T.12S.,R.17E.	p	Au(?),(Pt)	Disseminated	Placer	General reports of gold prospecting, no data on amount or any mining. Platinum reported in 1924; probably a rare constituent of the concentrates	Smith, 1926, p. 25; Martie, 1936, p. 158
28	Greenstone Creek (including Greenstone Gulch)	D,13 T.14S.,R.17E.	M	Au,Ag,Sn	Disseminated	Placer	Total production of gold and associated silver has been significantly large during years 1915-1975. Dredging in 1916 and 1917 accounted for estimated 24,200 oz of gold (and silver?). Cassiterite occurs in minor, but poorly documented amounts; probably none was marketed; approximately 100 lbs per season reported recovered in 1940-1942. Gold is rough and angular, some rounded, generally fine grained; concentrated on bedrock; fineness 868 with silver 129; distribution spotty. Gold yield probably $1.60-$2.00 per sq ft (at 1976 price). Overburden mostly gravel; 3-8 ft thick in upper part and 25+ ft in downstream part above winter trail. Gravel mostly angular greenstone, and some quartz and clay layers. Bedrock weathered greenstone	Martie, 1936, p. 152-153; Chapman, Coats, and Payne, 1963, p. 37, 40, 47-48
29	Little Pup (Gulch)	D,13 T.16S.,R.17E.	m	Au	Disseminated	Placer	Discovered in 1914, probably mostly worked out before 1933. Last prospecting mentioned in 1933. Pay streak 3,000 ft long and 5-18 ft wide; gold was irregularly distributed. Gold generally rough with quartz attached. gravel section very thin (5+ ft), 60 ft overburden mostly muck. $24,000 in gold (at 1976 price) produced from a cut 450 ft long. Yields of $3.25-$11.25 per sq ft reported. Gold source probably close. Bedrock in creek workings is phyllite; schist at mouth	Martie, 1936, p. 153
30	Long Creek	D,13 T.12-13S.,R.17E.	M	Au,Ag,(Sn)	Disseminated	Placer	Gold placers discovered in 1910; some mining, including reworking of old tailings, has been done almost continuously through 1977. Amount of cassiterite with the gold is relatively small compared to amounts on Midnight and Birch Creeks. Pay streak is at least 6.5 mi long and as much as 100 ft wide, but rich gold occurrences are spotty. Workable ground ranged from <$4.25-$75.00 per sq ft (at 1976 price). Bedrock is mainly cherty siliceous rock with talcose layers, and minor amount of greenstone. Gravel includes brecciated, little-worn quartz; gold is both coarse and fine, generally spongy and not well rounded, and includes a number of nuggets--some >35 oz. Mineralized source area not identified, but must be close by on easterly side. Gold about 857 fine with silver 135. Partial production 1910-1933 was roughly 38,500 fine ounces. Total production 1910-1977 may be at least twice this amount. Presumably, the major part of the mining area is nearly worked out, but some peripheral gold-bearing placers may remain, as the entire creek probably has not been thoroughly prospected	Martie, 1936, p. 145-151
31	Lucky Creek (tributary to Crooked Creek)	D,13 T.12S.,R.17E.	p	Au(Sn?)	Disseminated	Placer	Small amount of placer gold mining, probably around 1933. Gold reported, amount unknown; presence of cassiterite uncertain. Potential amount of placer mining ground in this valley is small	Martie, 1936, p. 158; Chapman, Coats, and Payne, 1963, p. 43

32	Lucky Creek (tributary to Flint Creek)	D,13 T.12S.,R.17E.	m	Au	Disseminated	Placer	Small amount of gold production in 1912-1913. Ground 16-30 ft deep over length of 2 mi or less. Bedrock probably schist and/or slate. Gold derived from the area drained by Glen Gulch, Bear Pup, and Crooked Creek	Eakin, 1914c, p. 367
33	Mekatchum Creek (Ketchum Creek)	D,13 T.15S.,R.17E.	m	Au	Disseminated	Placer	Some gold placer drift mining 1917-1934, no production figures available. Pay streak ≤40 ft wide and ±3,000 ft long; gravel is greenstone and 2-20 ft thick. Bedrock also greenstone. Gold is commonly coarse and 918 fine with 76 fine silver. No mention of cassiterite	Mertie, 1936, p. 165
34	Midnight Creek	D,13 T.13S.,R.17E.	m	Au,Sn,(W)	Disseminated	Placer	Gold and cassiterite occur together. Probably this creek and Birch Creek had largest concentrations of cassiterite in the district. Mined from 1911 to about 1949, with some inactive years during this time. No total gold production figures available. In 1940-1942 about 3660 fine oz gold reported from 512,000 sq ft of bedrock, and 7320 lbs of cassiterite concentrate (representing approximately 50 percent recovery) from this work. In 1917-1918 1037 lbs of cassiterite concentrate containing 537 lbs of tin was marketed; from 6000 sq ft of bedrock. Gold is generally fine, flaky, rough with rounded edges; largest nuggets are about 1.25 oz, very little quartz attached to gold. Gravel and muck section thicknesses range from about 9 ft in upper valley to 80+ ft in lower valley. Gold and cassiterite probably largely mined out in middle and upper valley, but some may remain in deeper ground in lower valley and out into Long Creek valley. No mining known since about 1949. Bedrock schist with quartz veins in head of valley, granite on ridge at head; schist, slate, siliceous cherty rock, and some greenstone in valley bottom in middle and lower valley; greenstone bedrock on ridges on either side. Lode source not found, but probably is local and in the schistose rocks that are peripheral to the granite body at the head of Midnight Creek. A small and insignificant amount of scheelite has been reported in the concentrates	Maddren, 1912, p. 296; Mertie, 1936, p. 152; Chapman, Coats, and Payne, 1963, p. 37-38, 40-42
35	Monument Creek	D,13 T.14S.,R.17E.	m	Au,Ag,(Sn)	Disseminated	Placer	Small production of gold, about 1,450 fine ounces and a little byproduct silver, between 1913-1933. Probably little or no production since 1933. Pay streak about 1 mi long, 20-50 ft wide, gravel about 15 ft thick; gold is spotty, scattered throughout gravel, not concentrated on bedrock, and is both coarse and fine; largest nugget 1+ oz. Very little cassiterite. Bedrock is gabbroic greenstone and siliceous schist; granite on headwater divide to north. Lode gold source probably in the schistose rocks and peripheral to the granite	Mertie, 1936, p. 153-154
36	Moose Creek	D,13 T.17S.,R.16E.	m	Au	Disseminated	Placer	Some production of gold 1931-1939; no information on later activity. Pay streaks and gold distribution not well known; values reported as $2 per sq ft but locally as much as $15-$25 per sq ft. Gold is fairly fine grained and well rounded. One 7 oz nugget reported. Bedrock and gravel are basaltic greenstone, some vein quartz also in gravel. Placer genesis and lode source poorly known; probably not same type of deposits as in Poorman area	Mertie, 1936, p. 168-169
37	Nevada Creek	D,13 T.16S.,R.16E.	p	Au(?)	Disseminated	Placer	Good gold prospects reported in 1930-1931. No later reports of mining	Smith, 1933b, p. 38
38	Ophir Creek	D,13 T.14S.,R.17-18E.	m	Au	Disseminated	Placer	A rich gold discovery was reported in 1913. No mining being done in 1915. Some mining was done in and about 1956. Apparently inactive for a number of years prior to 1976	Eakin, 1914c, p. 367-368; Cass, 1959

39	Poorman Creek	D,13 T.16S.,R.17E.	M	Au,Ag,(Sn)	Disseminated	Placer	Gold discovered in 1912 and has been mined on various scales in most years through 1976; one operator in 1975-1976. Pay streak mined over 2.5-3.0 mi and up to 1000+ ft wide. Gravel is thin, 2-28 ft, largely quartz and chert, and gold is rough and fine grained; some cassiterite; barite and pyrite are common. Lode source was probably close, and the gold accumulated over a long erosion interval. Bedrock is mostly dark-colored phyllite. Gold is about 840 fine, with ±155 silver. Ground in richer parts averaged $3.00-$3.25 per sq ft (at 1976 price). At mouth of Solomon Creek, a later discovery showed fairly well-worn, and moderately fine-grained gold; this is probably on western limit of mineralized zone in the Poorman area. Some rhyolite porphyry known in bedrock, but no other granitic rocks known in surface or subsurface exposures. Placer deposits may not have been fully prospected, and geologic controls are not fully understood. However, the major part of the placer ground has probably been discovered and mined out	Martin, 1936, p. 158-162, 165-166; Martin and Harrington, 1916, p. 247-248
40	Ruby Creek	D,13 T.9S.,R.17E.	m	Au,(Sn)	Disseminated	Placer	Small-scale mining between 1907-1915 produced about $10,000 of gold (at 1976 price) from ground averaging 15 ft deep on east side of creek near the mouth. Gold was flaky and small size, and occurred in sandy layers in the gravel. Bedrock is schist, slate, and limestone, with some greenstone nearby. Cassiterite is reported but apparently present in very small amount	Maddren, 1912, p. 294-295; Martin and Harrington, 1916, p. 239; Chapman, Coats, and Payne, 1963, p. 51
41	Short Creek	D,13 T.13S.,R.17E.	m	Au,Sn	Disseminated	Placer	Placer ground 10-15 ft deep worked to width of 20-40 ft over distance of 1-1.5 mi by open cut methods. Gold content is low, and gold is irregularly distributed, close to bedrock. Cassiterite is common and comparatively fine grained; a few thousand pounds was recovered during gold mining in 1918. No mining since 1936 and probably none since early 1920's	Martin and Harrington, 1916, p. 242; Martin, 1920, p. 22; Chapman, Coats, and Payne, 1963, p. 51
42	Shovel Creek	D,13 T.7S.,R.19E.	p	Au	Disseminated	Placer	Claims staked in 1911-1915 apparently resulted in no minable gold prospects. Creek drains a granite body that is in contact with mafic rocks and also limestone and schist--a potentially favorable setting for a mineralized zone	Maddren, 1912, p. 296; Martin and Harrington, 1924, p. 100; Chapman, 1977, unpub. data
43	Solomon Creek	D,13 T.16S.,R.16-17E.	m	Au,Ag	Disseminated	Placer	Gold placer ground ranges from 27 ft deep near head to 60+ ft near mouth. Gravel is angular, at least 50 percent vein quartz; gold is distributed through the gravel and is angular and has attached quartz. Largest nugget reported was 0.5 oz. Pay streak 15-80 ft wide, gold ranges from $1.75-$7.50 per sq ft (at 1976 price). Bedrock is phyllite and slaty phyllite. Gold lode source must be within this creek basin. Ground may not be fully prospected	Martin, 1936, p. 164-165
44	Spangle Creek	D,13 T.15S.,R.17E.	p	Au(?)	Disseminated	Placer	Prospected unsuccessfully in 1913-1915. This drainage basin and the adjacent area are heavily vegetated and may not have been adequately prospected	Martin and Harrington, 1924, p. 95
45	Spruce Creek	D,13 T.18S.,R.17E.	m	Au,Ag,Sn	Disseminated	Placer	Substantial gold production from this creek. Pay streak 55-70 ft deep and about 2 mi long; gravel 2-5 ft thick; gold is concentrated close to bedrock. Bedrock is mostly slate, schist and phyllite, with some rhyolitic intrusives. Gold is mostly well rounded and fine, but some $10-$15 nuggets (at 1976 price) are reported. Ground ranged from $3.75 per sq ft to $60 per pan (pan = 1/6 cu ft) (at 1976 price). Fineness gold 854, silver 140; cassiterite reported but not produced. Mining probably discontinued in 1940's; inactive 1956 and 1975	Martin and Harrington, 1924, p. 95-96, 118; Martin, 1936, p. 167
46	Star Creek	D,13 T.15S.,R.17-18E.	p	Au(?)	Disseminated	Placer	Minor amount of prospecting in 1915 did not discover workable deposits of gold. This creek is close to contact between greenstone and schist units. Exploration probably was not thorough, but potential mining ground is relatively small	Martin and Harrington, 1924, p. 95

47	Straight Creek	D,13 T.12S.,R.17E.	m	Au,Sn	Disseminated	Placer	Placer gold and cassiterite recovered in lowest part of creek in 1916-1920. Gravel may have been a bench of Birch Creek, cut by this creek. Schist intruded by some granitic dikes forms hill drained by this creek, and a contact between granite and schist is approximately at the mouth. See description under Birch Creek	Chapman, Coats, and Payne, 1963, p. 42-44
48	Sun Creek	D,15 T.10-11S.,R.28E	p	Au(?)	Disseminated	Placer	A small stampede to this area in 1924 owing to report of placer gold prospects. Apparently results were not encouraging. Bedrock in area is basalt, diorite, and chert; possibly near a contact with schist; rock exposures very poor. Geologic setting may be similar to those of some placer gold deposits in Long-Poorman area	Brown, J. S., 1924, unpub. field notes; Chapman, R. M., 1975, unpub. field data
49	Swift Creek	D,13 T.12S.,R.16E.	m	Au	Disseminated	Placer	Open cut gold mining near head in gravel 5-9 ft thick; pay streak 10 ft wide, reported to yield $1.25-$1.50 per sq ft (at 1976 price). Gold in lower foot of gravel and upper foot of bedrock. Farther downstream ground is 20 ft deep, with 6-8 ft of gravel; yielded coarse gold, with largest nugget $250 (at 1976 price). Bedrock is greenstone and argillite. Gravel largely sheared chert and greenstone with some vein quartz and schist. Creek apparently drains a schist-greenstone contact zone	Martin, 1936, p. 148, 155
50	Tamarack Creek (including Willow Gulch)	D,13 T.15-16S.,R.17E.	m	Au,Ag,Sn	Disseminated	Placer	Mined over length of about 3 mi, 1912-1920's and 1933 to about 1940. Includes some gold placer on head tributary, Willow Gulch. Some cassiterite with the gold. Ground averaged 60 ft deep, including 3-8 ft gravel, 1-5 ft soft weathered bedrock. Gold is in lower 3 ft of gravel and top 1 ft of weathered bedrock. Gold yield was $3.75-$12.50 per sq ft; gold fineness 871, silver 124. Gold is rounded and shotty, not flaky, mostly in pieces 50¢-$10, but one $250 nugget reported (all at 1976 price). Long inactive in 1975. Gravels mostly greenstone; bedrock dark, micaceous crenulated slate-phyllite with pyrite. This creek is apparently on east edge of mineralized zone that extends southwestward through Duncan and Flat Creeks	Martin and Harrington, 1916, p. 244-245, 266; Martin, 1936, p. 187
51	Tenderfoot Creek	D,13 T.16S.,R.17E.	m	Au	Disseminated	Placer	Mining in lower part of this valley, 0.5+ mi above mouth from 1913 to probably about 1930's. Similar setting to deposits on Poorman and Duncan Creeks. Ground 53-65 ft deep including 3-8 ft of gold-bearing gravel. Gold is fine, shotty, and water worn. Bedrock near mouth is phyllite	Eakin, 1914c, p. 368-369
52	Timber Creek	D,13 T.16S.,R.16E.	m	Au	Disseminated	Placer	Mining mainly around and just below mouth of tributary, Flat Creek. Some production of gold from 1916 to about 1933. No workable deposits on this creek above mouth of Flat Creek. Downstream extent of gold unknown. Possibly a northeast-trending mineralized zone is cut at Flat Creek. Area to west and southwest may not have been thoroughly prospected. Gold reported to be absent on Gentian Creek, the next one to south	Brooks, 1916, p. 58; Smith, 1934a, p. 34
53	Tip Creek	D,13 T.15S.,R.18E.	p	Au	Disseminated	Placer	Considerable prospecting reported about 1912. Gold prospects rich enough to stimulate further work. Ground is 80 ft deep, and prospecting conditions difficult. Location is near head of creek, but not precisely known. This and sites on several creeks as much as 10 mi south have similar reports of probably low-grade placer gold prospects. Area is poorly explored	Eakin, 1913b, p. 291
54	Trail Creek	D,13 T.13S.,R.18E.	M	Au,Ag,Sn,(Pb,W)	Disseminated	Placer	Mining has been largely in the upper 6-7 mi of this creek, and particularly within 3 mi of the head. Gold is reported to occur as far as 17 mi from head. Ground is generally about 25-35 ft in depth, with 1-6 ft of gravel; gold is in bottom of gravel and top of bedrock. Gold is both rough and well rounded, suggestive of two sources; mostly fine size with about 10 percent in 0.25 oz nuggets and the largest a 15 oz nugget. Reported yield	Martin, 1936, p. 156-157; Chapman, Coats, and Payne, 1963, p. 37, 50

							was $3.75-$15.00 per sq ft (all at 1976 price). Fineness gold 838, silver 152. Pyrite abundant, cassiterite present in sand-size grains, minor amount of galena and scheelite. Gravel is schist, phyllite, greenstone, quartzite, vein quartz, and rarely granite. Bedrock is phyllite, schist, and shaly slate. Close to contact of greenstone and schist units. White Channel Creek, a tributary from south and about 6 mi downstream from head of Trail Creek, has been prospected but apparently little or no gold was found. The known bedrock in and near White Channel Creek is gabbro. Several old reports indicate that the muck and alluvium are 60 ft thick near the head, and >180 ft in the lower course. Some mining on Trail was done in 1940's, through 1975 in upper part	
56	Willow Creek	0.13 T.12S.,R.16E.	m	Au	Disseminated	Placer	Mined chiefly in area about 1 mi above mouth. Muck and gravel are 35->70 ft thick; gold on false bedrock of clayey gravel. Gold is fine, bright, slightly rounded, and has few sulfide minerals but abundant magnetite associated. Tenor reportedly is low. Probably most of mining was about 1915; none known in 1942-1975. May not have been thoroughly prospected. Bedrock, in part at least, is graywacke, and gravel is mostly graywacke with minor amounts of quartz and diorite. Geologic setting is similar to that of Swift Creek	Martin and Harrington, 1916, p. 243

MAP NO. AND NAME(S) (if known)	MAP COORDINATES LOCATION	DEVELOPMENT CATEGORY	RESOURCES Minor constituent(s) or potential byproducts in parentheses	FORM	TYPE	BRIEF DESCRIPTION	PRINCIPAL REFERENCE(S)
1 Arnold (Plunkett)	G,7 T.20N.,R.70W.	p	Au,Ag(Cu,Pb,Mo,W)	Vein	Hydrothermal	Staked in 1914. Test shipment in 1916 reportedly returned $80 per ton, presumably combined gold and silver. Explored by open cuts. Quartz veins 4-12 in. thick in locally pyritiferous greenstone of Gemuk Group [Carboniferous(?) to Cretaceous) near contact of small Tertiary granitic pluton contain gold, pyrite, galena, molybdenite, chalcopyrite, magnetite, scheelite, wolframite and many secondary minerals. This and similar bodies were probable sources of gold placers in the area	Harrington, 1918, p. 57, 63-64; Smith, 1942a, p. 198-199; West, 1954, p. 8-9
2 Bear Creek (New York-Alaska Gold Dredging Corp.) (See also Bonanza and Spruce Creeks)	G,9 T.11N.,R.59-60W.	M	Au(Hg,Cu?)	Disseminated	Placer	Discovered 1907 or 1908 and mined since 1909. First of two dredges installed 1925-1926. Last dredge shut down 1964. One-man dozer operation on Bonanza Creek tributary in 1975. One of most productive creeks in area. Most productive ground occurred in older (Tertiary?) gravels beneath bench deposits and on altered bedrock. Present stream gravels contain very few rich placers. Bedrock in basin consists of Jurassic andesitic volcanic rocks (Gemuk Group) intruded by Cretaceous (117 ± 3 m.y.) granitic plutons and Tertiary(?) mafic bodies. Source of gold may have been gold- and sulfide-bearing veins in the granitic rocks and associated hornfels. Ground unfrozen	Maddren, 1915, p. 303, 309-321, 324-325; Moore and Conrad, 1980b
14 Bering Alaska Placers (See also Tiny Gulch)	B,9 T.11N.,R.60W.	m?	Au	Disseminated	Placer	Known to have been mined in 1937 when four men reportedly had a very successful season. May be the same as Tiny Gulch	Smith, 1939b, p. 61
3 Black Mountain	G,9 T.20N.,R.55W.	p	Sb	Vein	Hydrothermal	2-in.-thick northwestward-trending vein exposed by single trench about 135 ft long in shaly sandstone of Jurassic(?) age roughly parallel to and 50 ft from contact of small Tertiary(?) or Cretaceous(?) granitic pluton contains stibnite and traces of gold and silver. Sample 50 ft long from central part contained 48.9 percent Sb, 0.02 oz per ton gold, and 0.2 oz per ton silver. Vein pinches out 75 ft beyond sampled section in either direction. Examined by USBM Nov. 1944	Ebbley and Wright, 1948, p. 5, 40
4 Bobtail Creek (Yukon Mining Co.) (See also Kako Creek)	H,7 T.21N.,R.66W.	m	Au(Hg)	Disseminated	Placer	Placer gold mined by dragline 1938-1940 and possibly at other times. Placer cinnabar also reported. Creek drains bedrock area of mafic volcanic and volcaniclastic rocks of Gemuk Group (Permian through Lower Cretaceous intruded nearby by small Tertiary(?) granitic and sibita porphyry(?) plutons	Smith, 1942b, p. 44; Joesting, 1942, p. 27; Moore and Conrad, 1959b
5 Bogus Creek	B,6 T.13N.,R.60W.	p	Au	Disseminated	Placer	Prospect shaft sunk to depth of about 50 ft in frozen gravels about 1904 after finding "fine" colors of placer gold. No record of mining or further activity	Maddren, 1915, p. 331-332
2 Bonanza Creek (See Bear Creek)	B,9 T.11N.,R.59W.	m	Au	Disseminated	Placer	Mining reported 1913 through 1915 and probably since then. Bedrock reportedly biotite-rich granitic rock containing thin quartz veinlet with malachite stains. Mined area at mouth of creek actually in Bear Creek flood plain	Maddren, 1915, p. 311-312, 327-329
6 Brink	A,9 T.20N.,R.55W. approx.	o	Mo	Disseminated	Float	Specimens of float sent to USGS in 1918 and 1919 contain molybdenite and powellite(?). Accurate location and mode of occurrence in place not known. Bedrock in area consists of small Tertiary(?) granitic pluton that has intruded clastic rocks of the Cretaceous Kuskokwim Group(?)	Smith, 1942a, p. 200-201; Moore and Conrad, 1959b

4	Buster Creek (See also Kako Creek)	G,7 T.21N.,R.66W.	m	Au	Disseminated	Placer	Placer gold mine reported 1924, 1927, 1933 which reportedly yielded better than wages. Creek drains area of Permian to Early Cretaceous mafic volcanic and sedimentary rock (Gemuk Group) and Tertiary granitic intrusions	Smith, 1934b, p. 43
7	California Creek (See also Tuluksak River)	G,9	M(?)	Au(Ag)	Disseminated	Placer	Applies to headwater of Tuluksak River now known as California Creek. Includes Rocky Creek. Ground prospected by churn drill 1946. Dredging began a year or two later and continued at least until 1960. Values increased upstream into Rocky Creek. Contained some of the richest ground in the Tuluksak River drainage area. Creek transects hornfels zone developed in interbedded sedimentary and andesitic volcanic rocks of Jurassic age (Gemuk Group) intruded by a large Cretaceous (117±3 m.y.) granitic pluton. Quartz vein containing coarse crystalline gold was discovered and staked in 1945 on ridge north of the creek	Hoare and Cobb, 1977, p. 65
8	Cobalt Creek (See also Mission Creek)	G,7 T.20N.,R.55W.	p	Cu(Au,Hg,Pb,Zn,Sn)	Vein	Hydrothermal	Discovered by Indians about 1900 when February group of four claims first staked at altitude 1,550-1,750 ft. Three shafts to maximum depth of about 40 ft and several surface pits and trenches explore northwest-trending fault vein 30-60 in. thick in Tertiary quartz monzonite porphyry for distance of about 800 ft. Vein and associated breccia zones traceable for distance of 4,000 ft through surface croppings. Ore minerals include chalcopyrite, chalcocite, cuprite, galena, native copper, sphalerite, pyrrhotite, and pyrite in quartz gangue. Dump sample assayed 11 percent copper, plus traces of gold and mercury. Other samples contained up to 1.4 percent tin. Other mineralized zones reported nearby	Maddren, 1915, p. 304, 359-360; West, 1954, p. 5-7
9	Disappointment Creek (Wilson Creek Mining Co.) (See also Wilson Creek)	G,7 T.21N.,R.69W.	m	Au,Pt(Pb,Mo)	Disseminated	Placer	First mined in 1914 and operated at least until 1939. Open cut workings mainly in two claims at confluence with Wilson Creek. In 1922 ground reportedly ran about 0.06 oz gold per cu yd. Pay streak irregularly distributed in gravels 10-12 ft deep. Creek drains bedrock area of slate, conglomerate and grit of Gemuk Group (Permian through Lower Cretaceous), and small Tertiary granitic intrusive. Abundant hematite in concentrates. Minor platinum recovered. Specimens from altered porphyritic rhyolite near head of creek contained galena and molybdenum, assayed small amount of gold	Harrington, 1918, p. 57, 59-60
10	Edgar Creek	G,7	p?	Au	Vein	Hydrothermal	Claims staked about 1916 on quartz veins that reportedly contained free-milling gold near head of Edgar Creek. Bedrock consists of Gemuk Group mafic volcanic and interbedded sedimentary rocks of Permian-Early Cretaceous age	Harrington, 1918, p. 63
11	Elephant Creek	G,7	m	Au(W)	Disseminated	Placer	Prospected (including churn drilling) and mined intermittently from 1913 at least until 1940. Some underground mining although ground reportedly shallow. Minor scheelite in concentrates. Creek headwaters drain volcanic and sedimentary rocks of Permian to Early Cretaceous age (Gemuk Group), and Tertiary granitic intrusive rocks	Harrington, 1918, p. 59; Joesting, 1942, p. 40; Hoare and Coonrad, 1959b

4	Kako Creek and tributaries (Kako Creek)	G,7 T.21N.;R.66W.	M	Au	Disseminated	Placer	Mining as early as 1926 and intermittently at least until 1962 on tributaries flowing into Kako Creek from west. Panned colors reported in 1917. Drainage area underlain by mafic volcanic and clastic rocks of Gemuk Group (Permian through Early Cretaceous) intruded by small bodies of Tertiary granitic rocks. See also Bobtail, Buster, and Montezuma Creeks	Moore and Cobb, 1977, p. 72; Moore and Coonrad, 1959b
12	Mission Creek (Russian Mountains, Konechney) (See also Cobalt Creek)	G,9 T.18N.,R.55W.	p	Cu(Au,Pb,Ag,W,U, Sb?)	Vein	Hydrothermal	Discovered 1920 and explored by surface diggings and two adits with about 900 ft of underground workings, none of which were accessible in 1952. Mostly handwork by one man (Konechney). Quartz veins and thin breccia zones in Tertiary porphyritic quartz monzonite constitute northwest-trending mineralized zone about 200 ft wide and traceable on surface for 1,000 ft. Minerals include chalcopyrite, galena, pyrite, pyrrhotite, scheelite, metazeunerite, arsenopyrite, hematite, chrysocolla, malachite, azurite, and magnetite. Assays show up to 1 percent copper, 0.1 oz gold per ton, and 1.0 oz silver per ton. Samples of vein material and country rock ran no more than 0.005 eU. 1915 report of antimony has not been substantiated	West, 1954, p. 2, 5-7; Cady and others, 1955, p. 122; Moore and Cobb, 1977, p. 73-74.
4	Montezuma Creek	G,7 T.18N.,R.55W.	m	Au	Disseminated	Placer	Eastward-flowing tributary to Kako Creek on which mining activity at several locations was reported 1924, 1929-1936. See also Kako Creek	Moore and Cobb, 1977, p. 75
13	Ophir Creek	G,9 T.14-14N.,R.69W.	p	Au	Disseminated	Placer	Fine colors of placer gold found 1901-1902 by "Yellow River" "stampeders, but no serious prospecting until 1913. Numerous prospecting pits, trenches, and holes to depth of 38 ft. No mention of mining per se. Exploration seems to demonstrate fine gold is widely distributed throughout the unfrozen gravels rather than concentrated into workable pay streaks. Valley apparently not glaciated. Stream drains area of mafic fragmented volcanic rock with minor interbedded shale and graywacke of Jurassic age (Gemuk Group), hornfelsized in part by large Cretaceous granitic intrusive that crops out in the headwaters area. Hot spring locality	Maddren, 1915, p. 332-336
2	Spruce Creek	G,9 T.11N.,R.60W.	m	Au	Disseminated	Placer	3-mi-long tributary to Bear Creek from northwest and probably the principal source of the Bear Creek placer gold. Mining reported in 1914-1915 but probably commenced a few years prior. Hydraulic plant reportedly installed 1920. Gold distributed in gravels above and below "false bedrock" of bluish glacial clay, but concentration relative to true bedrock had not been assessed as of 1914. Gold fairly coarse and angular, commonly with attached quartz. Derivation doubtless from nearby bedrock sources within Spruce Creek basin that consist of Jurassic fragmental mafic volcanics with interbedded graywacke and shale that is converted to hornfels adjacent to granitic intrusive rocks of Cretaceous age	Maddren, 1915, p. 311-312, 321-327
14	Tiny Gulch	G,9 T.11N.,R.60W.	m	Au	Disseminated	Placer	Small tributary to Bear Creek that yielded most of the placer gold produced from that area in 1909 (about 170 fine oz). Total production 1909-1914 probably didn't exceed 250 oz, all from two claims	Maddren, 1915, p. 312, 328-329

7	Tuluksak River	G,9 T.11N.,R.60W.	M	Au	Disseminated	Placer	Rich placer ground discovered in 1908 and mined intermittently at least through 1975 when a 5 cu ft dredge was still operating near Nyak. Colors found in headwaters (California Creek) before being found on Bear Creek. River crosses a large Cretaceous (117 ± 3 m.y.) quartz monzonite pluton and associated hornfels zone in andesitic volcanic rocks with minor interbedded graywacke and shale of Middle and Late Jurassic age. Lode gold prospect located near southeast. (See also Tuluksak River, Bethel quadrangle. Included references to California Creek)	Maddren, 1915, p. 331, Moore and Conrad, 1959b
1	Willow Creek	G,7 T.20N.,R.70W.	m?	Au,Pt(Ag)	Disseminated	Placer	Gold discovered winter 1913-1914 and developed into major producer of district by 1917 when production was about 20,500 fine oz. Mining continued until about 1959. Minor platinum and byproduct silver recovered. Most gold coarse and occurred above and below clay seam about 2 ft above bedrock 6-16 ft deep. Fineness about 885. Bedrock mainly mafic volcanics (greenstone) with minor interbedded sedimentary rocks of Gemuk Group (Permian-Early Cretaceous) intruded by a few small granitic plutons of probable Tertiary age. Gold probably derived from quartz-calcite veins similar to Arnold lode (61).	Harrington, 1918, p. 56-57, 60-62
9	Wilson Creek (Rhode and Edgar, Wilson Creek Mining Co.)	G,7 T.21N.,R.69W.	m	Au,Pt	Disseminated	Placer	Gold discovered July 1913. By 1914, three plants employing 14 men produced about 580 fine oz from open cuts on two claims at mouth of Disappointment Creek. Both creek and bench placers present. Gold generally concentrated well toward bedrock that was 10-12 ft deep in tributaries and occurred as fine, well worn, shotty particles with only a scattering of small nuggets. Concentrates contained gold, hematite, magnetite, and a little platinum which was recovered. Stream drains bedrock area of mafic volcanic and interbedded sedimentary rocks of Permian to Early Cretaceous age (Gemuk Group) with several small Tertiary granitic intrusives. (Includes Happy Creek; see also Disappointment Creek)	Brooks, 1915, p. 65-66; Harrington, 1918, p. 56-57, 59-60; Moore and Conrad, 1959b

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1 Oakli	B,11 T.11N.,R.12E.	o	Cu(Au,Ag)	Vein (float)	Hydrothermal	Quartz vein material in float derived from gently dipping contact zone between gneissic hornblende-biotite granodiorite and andesite (Jurassic-Early Cretaceous) contains pyrite, chalcopyrite (with up to 4.5 oz Ag and 0.023 oz Au per ton), covellite and malachite. Three localities over $2\frac{1}{2}$ sq mi	Miller and Ferrians, 1968, p. 6, 8
2 Hawk River	B,11 T.10N.,R.8E.	o	Ag,Pb(Cu)	Vein	Hydrothermal	Pyritiferous quartz veins 1-2 in. wide cutting andesite (Late Jurassic? and Early Cretaceous) and quartz latite (Late Cretaceous) that are intruded by alaskite and quartz monzonite (Late Cretaceous). Developed over an area of 9-3/4 sq mi. Locally veins carry argentiferous galena, with lesser amounts of chalcopyrite and malachite	Miller and Ferrians, 1968, p. 10-11
3 Purcell Mountains	B,11 T.10N.,R.8E.	P	U(Th)	Disseminated	Uraniferous minerals in igneous rocks	Uraniferous alaskite at west end of Wheeler Creek pluton	Miller, 1976, 7 p.
4 Shovel Creek	B,11 T.11N.,R.5E.	m	Au	Disseminated	Placer	Creek crosses contact between quartz monzonite (Cretaceous) and andesitic volcanics (Jurassic?-Early Cretaceous) on southwest side of Purcell Mountain pluton. Source of gold may have been quartz-tourmaline sulfide veins near contact. Small nonfloat production 1950's and 1960's	Miller and Ferrians, 1968, p. 11
5 Unnamed	B,12 T.12N.,R.11, 12E.	o	Cu	Vein	Hydrothermal	Pyrite- and chalcopyrite-bearing quartz veins up to 3 ft thick cut meta-andesite (Jurassic? and Cretaceous) north of Zane Hills granodiorite and quartz monzonite pluton (Late Cretaceous-early Tertiary). Grab samples contain up to 0.5 percent Cu	Miller and Ferrians, 1968, p. 8
6 Unnamed	B,12 T.12N.,R.12E.	o	Cu	Vein	Hydrothermal	See 5 above	Miller and Ferrians, 1968, p. 8
7 Unnamed	B,12 T.11N.,R.13E.	o	Mo	Vein	Hydrothermal	Molybdenite-bearing quartz veins up to 2 ft thick cut andesite (Jurassic-Early Cretaceous) near northeast contact of Zane Hills granodiorite pluton (Late Cretaceous-early Tertiary). One grab sample contained 0.2 percent Mo, 1.5 ppm Ag and no detectable gold	Miller and Ferrians, 1968, p. 6, 8
8 Unnamed	B,12 T.8N.,R.14E.	o	Cu(W)	Vein	Hydrothermal	Chalcopyrite-bearing quartz vein cutting porphyritic monzonite or quartz monzonite of probable Late Cretaceous or early Tertiary age. Up to 0.5 percent Cu, 0.1 percent Bi and 0.7 percent W reported in semiquantitative spectrographic analysis	Miller and Ferrians, 1968, p. 8, 10

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1 Alice and Bessie (includes Parks)	G,11 T.20N.,R.45W.	M	Hg(Sb)	Vein	Hydrothermal (low temperature)	Initially staked 1906. Produced 172 flasks of mercury through 1961, with some production as recently as 1971. Developed by about 750 ft of underground workings and surface diggings. USBM trenching and sampling program in 1942. Cinnabar fills fractures in brittle rocks comprised of Kuskokwim group (Cretaceous) graywacke and shale intruded by diabasic sills and dikes (Tertiary?). Ore shoots tend to be developed at intersections of altered intrusives ("silica carbonate rock") and bedding plane faults. Ore-bearing veinlets consist of cinnabar, stibnite, and pyrite in limonitic quartz-carbonate-clay gangue. Detritus near adit mouth in small stream carries considerable native mercury. It is geologically possible that properly directed exploration would result in the discovery of additional minable ore shoots	Sainsbury and MacKevett, 1965, p. 2, 11-15, 80
1 Annaline	G,11 T.20N.,R.45W.	p	Hg(Sb)	Vein	Hydrothermal (low temperature)	Quartz-cinnabar-stibnite veinlets cut early Tertiary albite rhyolite which intrudes graywacke and shale of Kuskokwim group (Cretaceous). Similar to Fairview (No. 8). No record of production	Cady and others, 1955, p. 70, 111
2 Barometer	G,11 T.19N.,R.44W.	M	Hg(Sb,As)	Vein	Hydrothermal (low temperature)	Staked in 1921. Production of 14 flasks of mercury through 1961. Workings consist of numerous pits and trenches plus a 122-ft adit and short crosscut. USBM exploration programs in 1943 and 1957-1958 (OREA). Situated on southeast limb of Sleetmute anticline in graywacke and shale of Kuskokwim group (Cretaceous) that are cut by mafic dikes (Tertiary) altered to silica carbonate rock. Cinnabar, associated with stibnite and realgar in quartz-rich gangue. Based on analogy with nearby Red Devil mine (No. 26), ore shoots should be pencil-shaped and located at and near intersections between altered dikes and right-lateral northwest-trending faults that roughly parallel bedding. No detailed geologic maps and the extent and relationship of the deposits are not known, but USBM exploration programs indicated several discrete quicksilver-bearing zones	Sainsbury and MacKevett, 1965, p. 18-19
3 California Creek	G,11 T.21N.,R.45W. (Approx.)	p	Au	Disseminated	Placer	A "little" placer gold reported. Source may be nearby sheets of albite rhyolite (early Tertiary) that intrude sedimentary rocks of the Kuskokwim group (Cretaceous). Similar to Donlin Creek (Iditarod quadrangle, No. 4)	Cady and others, 1955, p. 69, 120
4 Central Creek	G,11 T.21N.,R.47W.	p	Au	Disseminated	Placer	"Some" placer gold reported. Same possible source as noted under No. 3 above	Cady and others, 1955, p. 120
Cinnabar Chief	G,11 T.20N.,R.45W.	p?	Hg	Vein(?)	Hydrothermal(?) (low temperature)	Prospected or operated in 1926, when only a few flasks of mercury were produced from entire state by three small operators in the Kuskokwim region. Probably covered by Willis property (see No. 30)	Smith, 1929, p. 47
5 Crooked Creek	G,10 T.22N.,R.49W.	m	Au	Disseminated	Placer	Discovered 1909. 2150 fine oz produced through 1914. Mining at least as recently as 1956, mainly from lower courses of Quartz, Snow and Ruby Creeks. About 20 mi of creek course mined, including Donlin Creek. Gold in bench gravels east of creek, with secondary concentrations by present stream entrenched 15-30 ft into the bench gravels. Bedrock sandstone and shale (probably Cretaceous Kuskokwim group) cut by silicic intrusives (Late Cretaceous-early Tertiary). See also Donlin Creek (Iditarod quadrangle)	Maddren, 1915, p. 351-353

6	Egnaty Creek	G,11 T.21N.,R.47W.	p	Hg	Vein	Hydrothermal (low temperature)	Cinnabar occurs in small veinlets in calcareous graywacke sandstone (Cretaceous Kuskokwim group) and as "paint" along shear surfaces. USBM exploration program (1966-1967) included auger sampling of 2-15 ft of frozen overburden, soil sampling, diamond drilling and bulldozer trenching. Selected bedrock samples assayed almost 1 percent Hg, with only trace amounts of Sb and As. Cinnabar found for about 10,000 ft in north-south direction along hillsides parallel to creek and about 5,000 ft east-west. Panning of nearby streams indicates these are not maximum limits	Maloney, 1968, 6 p.
7	Eightmile Creek	G,11 T.20N.,R.46W.	p	Au	Disseminated	Placer	Creek has been prospected and gold of "some account" reported. Stream flows through area in which there are numerous albite rhyolite (Eocene?) intrusives into sedimentary rocks of the Kuskokwim group (Cretaceous). No reported production	Cady and others, 1955, p. 120
8	Fairview	G,11 T.20N.,R.46W.	p	Hg(Sb)	Vein	Hydrothermal (low temperature)	First staked in 1925-1936. Only workings are shallow trenches and pits, mostly as part of USBM exploration program, 1943. Little or no work done since and no recorded production. Quartz-stibnite-cinnabar veinlets in central part of porphyritic albite rhyolite (Eocene?) sill within intersecting fracture zone. Best USBM 5 ft sample assayed 1 lb Hg/T	Cady and others, 1955, p. 70, 111
8	Unnamed	G,11 T.19N.,R.45W.	p? o?	Hg(Sb)	Vein	Hydrothermal (low temperature)	Cinnabar and stibnite prospect southwest of small creek that flows past Barometer mine (No. 2). No record of systematic development or production	Cady and others, 1955, p. 111
9, 10	Fortyseven Creek	G,10 T.11N.,R.50W.	p (lode) & (placer)	Au,W(Ag,Sb)	Vein (lode) Disseminated (placer)	Hydrothermal, placer	Lode discovered in 1947 and subsequently explored by surface prospect pits. No reported lode production. Silicified shear zone about 1000 ft wide and 1½ mi long in graywacke and shale of Kuskokwim group (Cretaceous) on east flank of anticline about 1 mi west of Holitna fault. Minerals include gold, wolframite, arsenopyrite, jamesonite, stibnite, argentite and traces of Ag-Au tellurides. Quartz, tourmaline, sericite gangue. Source probably buried albite rhyolite intrusive (Eocene?). About 950 oz Au and perhaps 1000 lbs scheelite recovered from placer 1960-1954. No activity since 1954. Gold and scheelite mostly in bedrock and on false bedrock of "yellow clay" downstream from Holitna fault. Additional potential ground remains	Cady and others, 1955, p. 119-121
11	Fuller Creek	G,11 T.19N.,R.45W.	p	Au	Disseminated	Placer	Prospecting has revealed presence of placer gold. No record of production. Bedrock is graywacke and shale of Kuskokwim group (Cretaceous) and several large albite rhyolite (Eocene?) intrusives across upper part of stream valley	Cady and others, 1955, p. 120
12	George River	G,11 T.21N.,R.46W.	e	Au(Hg)	Disseminated	Placer	USBM reports that river-bar sediments contain "fine" colors of gold and considerable fine-grained cinnabar. No record of production	Maloney, 1969, 10 p.
13	Girl Creek	G,10 T.13,14N., R.51W. (Approx.)	p	Au	Disseminated	Placer	Prospecting has yielded placer gold. Area contains albite rhyolite (Eocene?) and quartz diabase (Tertiary) intrusives into shale and graywacke of Kuskokwim group (Cretaceous)	Cady and others, 1955, p. 120
14	Gold Run	G,10 T.15N.,R.57W. (Approx.)	p	Au	Disseminated	Placer	Indications of placer gold, but no record of ever having been worked. Geologic map shows bedrock of graywacke and shale of Kuskokwim group (Upper Cretaceous on basis of two nearby fossil localities) and small albite rhyolite intrusives (Eocene?)	Cady and others, 1955, p. 120

15	Harvison	G,11 T.22N.,R.46W.	p	Hg	Breccia filling and vein	Hydrothermal (low temperature)	Discovered about 1963 at 1000 ft altitude by panning soil samples, followed by shallow stripping and trenching with small tractor. High-grade ore encountered was sorted and 5-6 tons of 10-15 percent ore (est) stockpiled. No stibnite reported. Cinnabar occurs as breccia filling and in veinlets within zone 2-3 ft wide in silicified dark-brown argillaceous sandstone of Kuskokwim group (Cretaceous)	Jasper, 1963, p. 51-52
16	Horn Mountains	G,10 T.19N.,R.51W.	o	W	Disseminated	Placer	Placer scheelite occurs near the west foot of Horn Mountains. If occurrence is in the glacial gravels to the west of the mountains, the locality could be extended to T.20N. and R.52W. Horn Mountains largely fault-bounded quartz monzonite pluton, surrounded by rhyolitic and basaltic rocks, all of Tertiary age. Older host rocks are Cretaceous graywacke and shale (Kuskokwim group)	Cady and others, 1955, p. 121
17	Holitna River	G,11	o	Au	Disseminated	Placer	Very fine colors reported in river bars, especially near mouth of Holitna River. Drilling of prospective dredging ground also reported 1920. Claim staking 1932-1933. All references are vague as to location and details of findings	Brooks, 1922, p. 60; Smith, 1934a, p. 45-46
18	Kay Creek	G,10 T.14N.,R.52, 53W. (Approx.)	o	Sb(?)	Disseminated?	Float?	Native reports of antimony localities on Kay Creek, but references provide no details even as to whether placer and (or) lode. Geologic map shows graywacke and shale of Kuskokwim group (Cretaceous) and intrusives of albite rhyolite (Eocene?) to northwest and southeast	Cady and others, 1955, p. 122
19	Kolmakof	G,10 T.17N.,R.53W.	m	Hg	Vein and breccia filling	Hydrothermal (low temperature)	Known to Russians as early as 1838. Only production has been a small shipment of ore 1890's and about two flasks of mercury in 1909 or 1910. Workings consist of short caved adit, 29 hand-dug trenches totaling about 600 ft and several bulldozer trenches, most of which failed to reach bedrock. USBM exploration programs 1944, 1959, 1969, 1970. Latter program failed to disclose more ore. Cinnabar occurs as breccia and fracture fillings associated with altered (silica carbonate rock) mafic sill (Tertiary) and as disseminations in both the sill and adjacent graywacke (Cretaceous Kuskokwim group). No mention of stibnite	Cady and others, 1955, p. 4, 66, 109, 116; Salisbury and MacKevett, 1965, p. 49-50
--	Kuskokwim River	G,10&11	o	Au	Disseminated	Placer	Kuskokwim River sediments from Crooked Creek to just below Sleetmute reported to contain very fine gold visible under hand lens	Maloney, 1969
20	Landru	G,11 T.19N.,R.44W.	o	Hg	Disseminated	Float	Rich cinnabar float reported; not traced to source. Area said to be geologically similar to Red Devil (No. 26)	Joesting, 1942, p. 23-24
21	McCally Creek	G,11 T.19N.,R.45W.	o	Hg	Vein	Hydrothermal (low temperature)	Traces of cinnabar reported on slope of Barometer Mountain at 1000 ft near head of McCally Creek in graywacke and shale of the Kuskokwim group (Cretaceous) near contact with porphyritic albite rhyolite (Eocene?). Native mercury also reported to have been panned from creek	Cady and others, 1955, p. 111
22	Mellicks	G,11 T.19N.,R.44W.	p	Hg	Vein?	Hydrothermal (low temperature)	A small amount of cinnabar found in bedrock behind "Mellicks Trading Post." Graywacke and shale of Kuskokwim group (Cretaceous) and several small albite rhyolite intrusives (Eocene?)	Cady and others, 1955, p. 111
26	Mercury	G,11 T.20N.,R.44W.	p	Hg	Vein	Hydrothermal (low temperature)	A single claim between Red Devil and the mouth of McCally Creek has been systematically explored by trenching with reported development of a small amount of ore; stringers of cinnabar parallel to bedding in a shaly zone of the Kuskokwim group (Cretaceous). No recorded production	Cady and others, 1955, p. 111

23	Mountain Top	G,11 T.15N.,R.48W.	P	Hg(Sb)	Vein	Hydrothermal (low temperature)	Discovered 1968 by panning stream sediments and following detrital cinnabar to bedrock source by means of auger holes. Five cinnabar-bearing veins exposed by subsequent trenching. USBM drilling program to vertical depth of 50 ft in 1970. One ton of high-grade residual cinnabar ore stockpiled. Reserves in sight estimated at 200 flasks of mercury (1971). Altered olivine basalt dike(?) parallel N.30°W., 35°S. 200 ft wide and exposed for about 700 ft, cuts graywacke and shale (Kuskokwim group, Cretaceous) and transected by at least four east-west, vertical faults. Cinnabar localized in veins where faults cut the basalt. Associated solid and liquid hydrocarbons. Rare buddingtonite. Stibnite found only in float	Sorg and Estlund, 1972
24	Murray Gulch (Mary Creek) (See also New York Creek)	G,10 T.17N.,R.51W.	e	Au	Disseminated	Placer	Discovered 1910. Small sporadic production from trenches, short shafts and drifts in bench and present stream gravels. About 50 oz produced through 1914. Bench gold rough; that beneath silt and muck of present streambed shows appreciable wear. Gold distributed downstream from albite rhyolite (Eocene?) dikes that cut Kuskokwim group (Cretaceous) graywacke and shale host rock	Maddren, 1915, p. 353-354; Cady and others, 1955, p. 119
27	Napamute	G,11 T.19N.,R.44W.	p?	Hg	Vein?	Hydrothermal(?)	Ten tons cinnabar ore mined 1925, but not retorted. May be same as Barometer (No. 2)	Moffit, 1927, p. 33-34
24	New York Creek (See also Murray Gulch)	G,10 T.17N.,R.51W.	m	Au	Disseminated	Placer	Gold placer ground developed at mouth of Murray Creek. Small sporadic production 1914 to about 1920. Hydraulic plant 1916. Similar to Gostis and Julian Creeks (Iditarod quadrangle, Nos. 4, 10)	Maddren, 1916, p. 354, 353; Cady and others, 1955, p. 4, 119
25	Oskawalik River	G,11	o?,p?	Au	Disseminated	Placer	Prospects and occurrences of placer gold along Oskawalik River near Henderson Mountain. No reported production	Cady and others, 1955, p. 120
26	Red Devil	G,11 T.19N.,R.44W.	M	Hg,Sb	Vein and disseminated	Hydrothermal (low temperature)	Discovered 1933. Most development since World War II. USBM surface and subsurface exploration program 1942-1943. DMEA contract 1952-1953. 1964 DME contract failed to find additional ore and existing known orebodies considered exhausted. Surface trenching over main ore zone totals more than 2000 ft. Underground workings aggregate about 9500 ft on five levels to 143 below sea level (450-level). Total production estimated to be about 32,000 flasks. Some ore very rich (30 percent Hg) but most was in the 2-5 percent range, grading into <1 percent protore. Ore shoots formed at and near intersections of altered (silica-carbonate) dikes and numerous northwest-trending faults that are mainly parallel to bedding in graywacke and shale of Kuskokwim group (Cretaceous) on southwest limb of Sleetmute anticline. Most important intersections developed over zone 600 ft wide and 1500 ft long. Age of mineralization probably Miocene or Early Pliocene. Veinlets and breccia zones filled by cinnabar and stibnite with minor orpiment and realgar. Hg:Sb close to 1:1, but most Sb not recovered. Fluid inclusion studies suggest mineralization temperature of approximately 100°C	MacKevett and Berg, 1963, p. 1-16; Salisbury and MacKevett, 1968, p. 2-3, B-11, B1
27	Rhyolite	B,10 T.22N.,R.50W.	p	Hg,(Sb,Ag)	Vein	Hydrothermal (low temperature)	Discovered 1956; staked 1957. Surface trenches total about 8900 ft over three areas about 4000 ft apart. No underground workings. USBM exploration program, 1958-1959, included 12 auger holes 5-16 ft deep through perennially frozen overburden. No production reported through 1961. Host rock is graywacke and shale of Kuskokwim group (Cretaceous) cut by altered dikes and sills of quartz diabase, trachyte or lamprophyre (Tertiary) and younger rhyolite (Tertiary). Cinnabar occurs as veinlet in fractured dike rock and graywacke, as well as disseminations in altered dike rock. One cinnabar sample analyzed 15 ppm Ag	Maloney, 1962b, p. 43, 45; Salisbury and MacKevett, 1965, p. 46-49, 80

28	Timber Creek	G,10 T.11N.,R.54W.(?) (Approx.)	p	Au	Disseminated	Placer	Placer gold prospected in area that drains area of upper Paleozoic(?)-Cretaceous clastic volcanic and carbonate rocks intruded by several small albite rhyolite bodies (Eocene?)	Cady and others, 1955, p. 120
29	Two Genevieves	G,11 T.20N.,R.44W.	p	Hg	Breccia and vug filling	Hydrothermal (low temperature)	Cinnabar localized in vugs in breccia zone at upper contact and border of basaltic sill, altered to silica-carbonate rock, in graywacke and shale of Cretaceous Kuskokwim group. Fragments of graphite occur in the sill	Cady and others, 1955, p. 65, 111
26	Vermillion	G,11 T.19N.,R.44W.	p	Hg(Sb)?	Vein	Hydrothermal (low temperature)	Single claim near mouth of McCally Creek between Red Devil and Barometer explored by systematic trenching. Small amounts of "ore" occurs as bedding plane veinlets in shaly zone within Kuskokwim group (Cretaceous). "Ore" assumed to be cinnabar and possibly stibnite	Cady and others, 1955, p. 111
30	Willis	G,11 T.20N.,R.45W.	m	Hg(Sb)	Vein	Hydrothermal (low temperature)	Discovered 1909. Surface trenching pits and a few short adits over area of about 1300 ft x 1000 ft at altitude of 600-750 ft. USBM exploration program 1942. Recorded production of two flasks. Rich ore stockpiled 1958. Cinnabar-bearing veins up to 6 in. wide and from a few to more than 50 ft long in and near altered (silica-carbonate rock) dikes and sills intruded into graywacke and shale of Kuskokwim group. Orebodies localized at intersections of bedding plane faults with the intrusives. Associated stibnite, minor pyrite and ubiquitous hematite	Salisbury and MacKevett, 1966, p. 16-18, 81

MAP NO. AND NAME(S) (if known)	MAP COORDINATES LOCATION	DEVELOPMENT CATEGORY	RESOURCES Minor constituent(s) or potential byproducts in parentheses	FORM	TYPE	BRIEF DESCRIPTION	PRINCIPAL REFERENCE(S)
1 ASARCO	E.26 T.18,19N.,R.15E.	P	Cu,Mo	Disseminated	Porphyry	Silicified and deeply leached quartz porphyry (Tertiary) hypabyssal intrusive and, in part, extrusive rocks contain disseminated molybdenite and copper sulfide minerals. Company sampling and drilling program in 1970	Singer and others, 1976; Foster, H. F., 1977, oral commun.
2 B.C. (Placer)	E.27 T.15N.,R.23E.	P	Au	Disseminated	Placer	Eluvial and gold-bearing bench gravels, about 20 ft thick, occur over decomposed granodiorite bedrock (Mesozoic). Eluvial gold has delicate wire and crystal forms. Also other creeks in area tributary to McArthur Creek may have placer gold deposits. Recent claim-staking activity	Singer and others, 1976; Foster, H. F., 1977, oral commun.
(Lode)		P	Au	Vein	Porphyry(?) Hydrothermal	Decomposed granitic bedrock, on which eluvial and bench placer gold deposits occur, contain gold quartz veins	Singer and others, 1976; Foster, H. F., 1977, oral commun.
3 Big Creek	E.27 T.20N.,R.22E.	P	Pb,Zn	Disseminated(?)	Stratabound(?)	Record of claim-staking activity 1975-1978. No information on nature or extent of mineralization. Host rock is quartz-mica schist (Paleozoic and/or Precambrian?) known to contain disseminated pyrite and lead and zinc sulfide minerals. Area of possible stratiform sulfide deposits	Foster, H. F., 1977, oral commun.
4 Bluff	E.27 T.21N.,R.20E.	P	Cu,Mo	Disseminated	Porphyry	Disseminated pyrite, chalcopyrite, molybdenite, and magnetite in porphyritic quartz monzonite, granodiorite and quartz porphyry high level intrusives of mid-Cretaceous-early Tertiary age. Intense hydrothermal alteration. Numerous faults and dikes. Explored by surface sampling, diamond drilling, and geophysics. (See also East and West Taurus)	Singer and others, 1976; Foster, H. F., 1977, oral commun.
5 East and West Taurus	E.27 T.22N.,R.21E.	P	Cu,Mo	Disseminated	Porphyry	Discovered 1970 and are in eastern part of altered porphyry system 8 mi long and 1½ mi wide along trend of Dawson Range (Yukon Territory) where numerous porphyry copper-molybdenum deposits are known. Disseminated chalcopyrite, pyrite, molybdenite, chalcocite and magnetite are present in hydrothermally altered quartz monzonite to quartz porphyry high level intrusives (mid-Cretaceous to early Tertiary) into upper greenschist facies metamorphic rocks and gneiss (Paleozoic and/or Precambrian?). Extrusive phases also may be present. Numerous faults. Potassic, phyllic, argillic and propylitic alteration zones recognized. May be near top of a porphyry system. Tourmaline and flourite present. Explored by geochemical sampling, surface and airborne geophysical work; geologic mapping. Only East Taurus drilled to any extent. Partial to complete leaching extends to depth of about 200 ft. Chalcocite mostly above 350 ft. Chalcopyrite-molybdenite mineralization known to 918 ft, the maximum depth drilled. Of 21 diamond drill holes and numerous rotary drill holes, six have reportedly intersected intervals of 0.1 percent copper or better	Singer and others, 1976; Chipp and Sandvik, 1977; unpublished company data
6 Fairplay and other prospects	E.26 T.22N.,R.16E.	P	Cu,Mo,Pb,Zn	Disseminated	Porphyry(?)	Disseminated copper, molybdenum, lead and zinc sulfide minerals occur in hydrothermally altered Tertiary hypabyssal intrusive and associated felsic volcanic rocks. Claims staked early 1970's	Singer and others, 1976
7 Fishhook	E.27 T.23,24N.,R.21E.	P	Cu,Mo,Ag	Disseminated	Porphyry	Located on basis of geochemical anomalies. Selected grab samples contain sulfosalts and assay significant silver. Bedrock is augen gneiss (Paleozoic and/or Precambrian?)	Unpublished company data
8 Ladue Camp	E.27 T.19N.,R.22E.	P	Pb,Zn	Disseminated	Stratabound(?) volcanogenic?	Rhyolitic dikes cut quartz-mica schist of Paleozoic and/or Precambrian(?) age. Record of claim staking activity 1975-1976; company airborne and ground EM and soil sampling 1976 indicated several zones with anomalous lead-zinc values spatially related to good conductors	Singer and others, 1976; unpublished company data

9	Mosquito	E.27 T.24N.,R.10E.	P	Cu,Mo	Disseminated	Porphyry	Disseminated chalcopyrite, molybdenite and pyrite in hydrothermally altered quartz monzonite and quartz latite porphyry (Late Cretaceous-early Tertiary). Company drilling and sampling programs, 1974-1975	Singer and others, 1976
10	Move and other prospects	E.27 T.14,15N.,R.23E.	P	Au(?)	Vein?	Porphyry(?) Hydrothermal(?)	Record of claim-staking activity in 1976 and probably more recently. Information on nature and extent of mineralization not known. Poorly exposed area underlain by hornblende granodiorite (Mesozoic?) and highly altered undifferentiated silicic to mafic igneous rock (Mesozoic? to Tertiary?) of the McArthur Creek area	Singer and others, 1976
11	Paternie	E.26 T.21N.,R.13,14E.	P	Mo,Cu,Zn	Disseminated	Porphyry	Disseminated sulfide minerals occur in altered quartz monzonite and latite porphyry (Late Cretaceous-early Tertiary). Bedrock samples contain high values of molybdenum and zinc. Company drilling and sampling program, 1974. Exploration activity, 1977	Singer and others, 1976; Foster, H. F., 1977, oral commun.
12	Pika Canyon	E.27 T.24N.,R.21E.	P	Cu,Zn	Disseminated	Porphyry	Disseminated pyrite, chalcopyrite and sphalerite in float of altered granodiorite and/or gneiss (Paleozoic and/or Precambrian). Staked 1975 or 1976. Extent of mineralization not known. Two winkie holes failed to intersect significant mineralized rock	Singer and others, 1976; unpublished company data
13	Pushbush	E.27 T.20N.,R.21E.	P	Cu,Mo	Disseminated	Porphyry(?)	Disseminated chalcopyrite, pyrite and molybdenite in Tertiary mafic and felsic volcanic rocks and biotite gneiss and schist (Paleozoic and/or Precambrian?). Extent of mineralization and other relations not known. Exposed by surface trenches	Singer and others, 1976

MAP NO. AND NAME(S) (if known)	MAP COORDINATES LOCATION	DEVELOPMENT CATEGORY	RESOURCES Minor constituent(s) or potential byproducts in parentheses	FORM	TYPE	BRIEF DESCRIPTION	PRINCIPAL REFERENCE(S)
1 American Creek and tributaries	C,17 T.3N.,R.18W.	X	Au(Cr)	Disseminated	Placer	Gold placer discovered 1911 and mined most years through 1975 when activity consisted of two nonfloat operations. First dredge installed 1917; second in 1927. Both have long been inactive. Creek about 5 mi long that heads against Woodchopper Creek and drains into Fish Lake. Symmetrical valley that roughly parallels regional strike in contorted dark-gray graphitic, locally limy, phyllite, slate, shale, sandstone and siltstone (Jurassic? and Cretaceous). Older bench and present stream placers. Pay streak ranged from 40 ft to about 400 ft wide near Colorado Creek, with best ground along north side. Much of the ground yielded close to $3.00 per square bedrock foot (1976 price). 7-8 ft of gravel overlain by 5-7 ft of frozen muck. Gold throughout lower 4 ft of gravel and upper 2-3 ft of bedrock. Nuggets to 20 oz reported from Colorado Creek. Production through 1940 probably at least 70,000 fine ounces. Best year reported to have been about 8500 fine ounces. Gold may have been derived from quartz-carbonate veins associated with east-trending shear zone against which the pay streak appears to terminate. (See also New York Gulch)	Eakin, 1915b, p. 239, 245; Martin, 1934, p. 213-214; Waters, 1934, p. 241
2 American Gulch (Creek)	C,16 T.5N., R.26W.	p	Au	Disseminated	Placer	Tributary to Lynx Creek. Prospects reported as early as 1917 to have been among the best in the region, but there is no record of successful mining. Unfrozen gravel 10-12 ft deep on bedrock consisting of interbedded limestone, dolomite, basaltic greenstone, chert, and chloritic schist of probable middle Paleozoic age	Eakin, 1913a, p. 34
3 Ash Creek	C,16 T.6N.,R.26W.	a	(Au,Sn)	Disseminated	Placer	Tributary to Tozimoran Creek from north. Samples from five drill holes over distance of about 2400 ft along creek contained gold and 5.529 grams of tin in 190.35 grams of sample. One sample contained 2.269 grams of tin in a total sample weight of 78.15 grams. 10-12 ft of sand and gravel and 1-4 ft of muck overlie bedrock composed of quartz-mica schist, phyllite, quartzite and slate (Ordovician or Cambrian). Not known to have been systematically prospected and there is no record of any mining. (See also Tozimoran Creek)	Chapman and others, 1963, p. 16, 25, 30-32
4 Avnet (Burby prospect)	C,18 T.5N.,R.14W.	P	Mn(Ag)	Vein	Hydrothermal	Psilomelane, of probable hydrothermal origin, occurs as irregular masses 2-3 in. in longest dimension, as a latticework of thin seams in vein quartz, and as thin surface coating on chert and/or quartzite rubble. Explored by trench 40 ft long, two pits and surface scrapings. USBM assays showed 0.59 to 34.4 percent manganese, and as much as 0.28 oz silver per ton. (See also Baldry Mountain)	Thomas, 1965, 8 p.
5 Baldry Mountain	C,18 T.6N.,R.14W.	p	Mn	Vein?	Hydrothermal	Reported exploratory work carried out on a manganese (psilomelane) prospect west of Baldry Mountain. Setting apparently similar to Avnet, but specific information lacking. (May be same as Avnet due to mislocation of Baldry Mountain on older maps)	Bursaw and Saunders, 1966, p. 5
6 Bonanza Creek	C,17 T.6N.,R.18W.	p	Au(Sn)	Disseminated	Placer	At least 70 prospect holes and six small cuts opened in the tin-bearing area of Bonanza, Morelock and Homestake Creeks prior to 1943, but no mining reported except from the cuts on Morelock Creek. USBM exploration program in 1943 included line of five churn drill holes to bedrock about 900 ft above mouth of Bonanza Creek that showed average of 0.1492 lbs of tin and 0.0328 oz of gold per square bedrock foot. Gold and cassiterite occur in basal part	Chapman and others, 1963, p. 5-12

							of 2-20 ft of unfrozen gravel and in upper few inches of bedrock that has an irregular surface. Bedrock consists of early Paleozoic quartz-mica schist, greenstone, limestone and dolomite (in part cherty), locally cut by barren milky quartz veins. Deposits apparently of low grade. Large amount of ground would have to be moved to recover a relatively small amount of tin and gold. (See also Morelock Creek, Homestake Creek)	
7	Boulder Creek (Placer)	C,17-18 T.4N.,R.16-18W.	M	Au(Cr,Th,RE's?)	Disseminated	Placer	Sporadic gold placer mining 1915-1917, 1930-1939 and 1965-1972. Total production not known. South valley side steep and contains little or no gravel. Most of mining was on bench about 1000 ft north of main stream. Placer ore part of large deposit of low-grade gravel about 8 ft thick with a workable width of about 1200 ft and that extends for several miles along north side of valley wall. Concentrated samples contain gold, magnetite, ilmenite, sphene, zircon, rutile, chromite, garnet, monazite, and aeschynite(?). No cassiterite reported. Most of creek flows on bedrock of Jura-Cretaceous sandstone, shale, siltstone, and argillite. Stream heads in metasedimentary rocks of Devonian or Permian age and the quartz-monzonite (90 m.y.) pluton of Roughtop Mountain	Chapin, 1919c, p. 331, 335; Martin, 1934, p. 214-215; Maxham, 1964, p. 6
	(Lode)		o	Cr	Veins, lenses, pods, and disseminations	Magmatic	Slope to south contains chromite float up to 6 in. in diameter. Lenses, stringers and disseminations of chromite occur in serpentine bedrock	
8	Cache Creek	C,18 T.3N.,R.16W.	m	Au,Ag,Sn,(Cr, Th,RE's)	Disseminated	Placer	Gold and tin (cassiterite) discovered in placer 1909-1910. Upper part of creek reportedly mined out by 1913. Some parts quite rich; others low grade. Total production through 1958 totaled 3,650 oz gold, 409 oz silver, 5,155 lbs cassiterite. Gold and tin generally found together, but at some places rich tin ground failed to contain enough gold to mine. Well sorted gravels 10 or so feet thick occupy branching channels in bedrock mainly of phyllite and graywacke (Jura-Cretaceous) and are overlain by about 50 ft of frozen Quaternary angular gravel, silt and muck. Gravel composed mostly of phyllite and graywacke but cobbles of serpentinized gabbro, biotite granite, weathered monzonite and chromite also occur. Cassiterite and gold generally at base of lowest gravel. Most gold at head of creek was size of birdshot and bright. Some nuggets to 4 oz. Cassiterite generally occurs as well rounded pebbles 1/16-1 1/2 in. in diameter, is very fine grained and intergrown with tourmaline, quartz and some fluorite. No cassiterite reported from lower part of creek. Heavy concentrates include magnetite, ilmenite, barite, picotite and chromite, aeschynite (Nb, Ti, Ca, Th oxide), zircon, sphene, andalusite, garnet, and pyrite. (See also Harter Gulch, Dalton Gulch, Ferguson Draw)	Eakin, 1913a, p. 33, 35-36; Martin, 1934, p. 212; Wayland, 1961, p. 365-375, 402, 409-410
9	Chapman Creek (Placer)	C,18 T.6N.,R.13W.	m	Au	Disseminated	Placer	Gravels containing sufficient gold to attract prospectors found 1910. Small scale mining (four men) in 1912. No record of amount of production	Ellsworth, 1910, p. 241; Burand and Saunders, 1966, p. 5
	(Lode)	T.6N.,R.12W.	p?	Sb	Vein?	Hydrothermal?	Lode stibnite prospect reported. No data on geological relations or extent. Bedrock consists of Jura-Cretaceous sedimentary rocks	
10	Chicago Creek	C,18 T.4N.,R.14W.	M	Au	Disseminated	Placer	Gold discovered near mouth 1904. Mining reported for years 1917, 1935-1937. Reliable information on production lacking. One company active 1973 near mouth and Omega Creek. 3-6 ft of small-size gravel on bedrock of dark-gray shale (Cretaceous). Largest nuggets observed 1973 0.3-0.8 in. diameter, very rough with attached quartz. A few smooth roller-shaped nuggets. Finer fraction rough and shotty. No cassiterite in heavy concentrate. (See also Omega and Thanksgiving Creeks)	Hess, 1906, p. 92; Smith, 1939b, p. 53; Chapman, R. M., 1977, unpub. data

11	Cooney Creek	C,18 T.3N.,R.16W.	M	Au	Disseminated	Placer	Large area of low grade gold placer ground reported in 1912. Small production followed in 1913 and continued sporadically through 1975. Gold irregularly distributed. (See also Gold Basin Creek, Killarney Creek)	Ellsworth and Davenport, 1913, p. 221; Wayland, 1961, p. 394
8	Dalton Gulch (Creek)	C,18 T.3N.,R.16W.	m	Au,Sn	Disseminated	Placer	First worked 1910, but only scattered and sporadic activity since World War I. Total production through 1956 was 466 oz gold and 3000 lbs cassiterite concentrate. Gulch located in "tin belt" between Cache Creek and Harter Gulch. 2-4 ft of gravel rest on bedrock of Jura-Cretaceous sedimentary rocks and are overlain by about 55 ft of silt and muck. Gravel apparently pinches out eastward toward Cache Creek and gold and cassiterite become restricted to local concentrations beneath the muck on bedrock. Most pay streaks averaged about $2.50 per square foot of bedrock, but some went as high as $10.00. USBM channel samples of a tailing pile averaged 10.28 lbs of concentrate that contained 3.90 lbs cassiterite and 0.014 oz gold per cubic yard. (See also Cache Creek, Harter Gulch, Ferguson Draw)	Thomas, 1957, p. 7-8, 48; Wayland, 1961, p. 376
9	Deep Creek and tributaries (Includes Hokeley and Innesvale Gulches, and Willow Creek)	C,18 T.3N.,R.17W.	m	Au,Sn(Ag,W,Cr, Cb,Nb,Th,RE's?)	Disseminated	Placer	Placer gold discovered 1913 in Hokeley Gulch as result of extensive drilling program. Further explored by shaft and drifts. Drift mining still in progress 1955. Production through 1956 amounted to 7684 oz gold, 653 oz silver, and 64,200 lbs cassiterite concentrate. Richest placer concentration buried beneath 120-140 ft of frozen overburden and lies in zone a few hundred feet wide north of creek along bedrock terrace that trends N.60°E. parallel to the foliation in the phyllite bedrock (Jura-Cretaceous). Gold mainly concentrated in lowermost 2 ft of gravel about 6 ft thick and in upper 1 ft weathered bedrock. Concentrates contain gold, cassiterite (including some wood tin), thoenite, picotite, zircon, monazite, chromite (locally >10 percent by volume), rutile, scheelite, columbite, aeschynite(?) and ellsworthite. USBM sampling programs (1943, 1954-1956) indicated that 27 channel samples from four tailing piles averaged 7.09 lbs of concentrate per cubic yard that, in turn, contained 2.6 lbs of tin and 0.0105 oz of gold. USGS (1941) sampling program estimated averages of 1.6 lbs cassiterite and 10.56 grains of gold per cubic yard in tailings totaling 105,600 cu yds along Deep and Woodchopper Creeks	Thomas, 1957, p. 6-9, 12, 17, 45-48, 58; Wayland, 1961, p. 367, 372, 374, 386-392, 407-408, 410
12	Eureka Creek	C,18 T.4-5N.,R.13W.	M	Au	Disseminated	Placer	Placer gold discovered 1898. Record of intermittent mining extends at least through 1975 (mainly hydraulic-dozer). Production through 1904 about 4125 oz; 1916 about 2900 oz. Total production not known but doubtless large. Extensive tailings suggest most of creek worked out. Lowest reported assay showed fineness of 700% gold, 213 silver. Gold bright and chunky with many "good-sized" nuggets. Creek occupies asymmetric valley with well-defined erosion levels (benches 250 ft and 50-70 ft above creek level along the more gentle northwest wall). Other bedrock terraces have no surface expression. Bedrock consists of sheared grit and argillaceous rocks and fractured quartzite (Lower Cretaceous). Pay streak just below mouth of Boston Creek 25-70 ft wide in 10-18 ft of gravel beneath about 8 ft of muck. Lack of cassiterite suggests locale lies outside lofty "tin belt." (Includes references to Farmer and Jones)	Hess, 1908, p. 82-85, 98; Mertie, 1934, p. 166, 192-195
8	Ferguson Draw	C,18 T.3N.,R.16W.	m	Au,Sn	Disseminated	Placer	Occurrence similar to Cache Creek, but gold finer grained, flaky, and well worn. Gravel thin to absent. At places 40 ft muck rests directly on bedrock placer concentrates. Silicified phyllite is common gravel constituent with boulders to 3 ft diameter. Pay streak averaged 0.3-0.4 oz of gold and 0.1-0.4 lbs cassiterite per square bedrock foot and terminated upstream against bedrock terrace	Wayland, 1961, p. 374-375

13	Florida Creek	C,18 T.7N.,R.13W.	m	Au	Disseminated	Placer	Creek 2 mi long that flows in deep narrow valley cut in high bench of Hinook Creek. Small-scale mining reported in early 1900's and 1939-1940. Total production probably does not exceed 300 oz of gold. Alluvial deposits narrow; in places 15-20 ft deep. Some nuggets up to 1.7 oz. (See also Hinook Creek)	Hess, 1908, p. 79, 98
14	Glen Creek (Gulch)	C,18 T.7N.,R.13W.	M(?)	Au(Sn?)	Disseminated	Placer	Placer gold discovered 1901 on small southward flowing stream that heads in bench (Shirley Bar) on north side of Baker Flats. Produced more than 48,000 fine ounces through 1931. Initially worked by drifting and later worked by open cut methods. Latter averaged about $1.43 per square bedrock foot (1976 price). Some nuggets found exceeded 4 oz. Pay streak 50-150 ft wide, about 1 mi long and very rich in places. 2-10 ft of locally derived gravel on weathered slate and quartzite (Jura-Cretaceous) with local quartz veinlets, and overlain by 7-10 ft of frozen overburden. Gold probably reconcentrated into rich placers from lower grade bench deposits (Shirley Bar). (See also Gold Run, Rhode Island and Seattle Creeks, Shirley Bar)	Hess, 1908, p. 82-83, 96, 98; Martin, 1934, p. 203
15	Gold Basin Creek	C,18 T.3N.,R.16W.	m	Au(Sn)	Disseminated	Placer	Rounded cassiterite and fine gold discovered on phyllite bedrock (Jura-Cretaceous) in 1917. Ground subsequently drilled. Small production followed, but gold not sufficiently plentiful to sustain mining in 1941. Cassiterite finer grained than in Patterson Creek drainage to west but is just as well rounded. Prospectors report cassiterite-bearing gravels occur in belt 1/2 mi wide north of junction of gold Basin and Killarney Creeks. (See also Cooney and Killarney Creeks)	Wayland, 1961, p. 394-395, 399
15	Gold Hill	C,16 T.4N.,R.26W.	p	Au,Ag	Vein	Hydrothermal	Adit 110 ft long driven on sheared and broken quartz vein about 1890 in what probably was first attempt to develop a lode mine in Interior Alaska. Vein in talcose quartz-mica schist (early Paleozoic) was 2-3 ft thick at surface and narrowed to a few thin veinlets at face. Random sample assayed 0.06 oz gold, 0.3 oz silver per ton. Tunnel was abandoned and caved by 1908	Maddren, 1910, p. 82
16	Gold Run	C,18 T.4N.,R.15W.	M	Au	Disseminated	Placer	Initially staked 1899. Pay streak 150 ft wide and about 1500 ft long drifted from one end to other. Mined intermittently until at least 1973. Total production through 1931 about 9675 oz of gold. Fineness reportedly about 775 parts per thousand gold. Well rounded gravel 16-18 ft deep composed mainly of slate, quartzite and grit overlain by about 2 ft of frozen muck. Bedrock of carbonaceous schistose grit, slate, graywacke, siltstone and shale (Jura-Cretaceous). Gold bright, shotty, and well worn. Some shows crystal faces. Nuggets reported to about 4 oz. Placer gold believed reconcentrated from Shirley bar that forms bench extending from Eureka to Omega Creeks. (See also Glen, Rhode Island and Seattle Creeks, Shirley Bar)	Collier, 1903, p. 51-53; Hess, 1908, p. 82, 87, 89-90, 96, 98; Martin, 1934, p. 201; Chapman, R. M., 1977, unpub. data
16	Grant Creek	C,16 T.5N.,R.26W.	m	Au(Sn?)	Disseminated	Placer	Placer gold deposits prospected and mined sporadically 1909 until about 1955. Drifting and dragline operations. Production not known but probably did not exceed several hundred ounces. Upper creek valley probably fairly low grade and about mined out. Gravel 5-7 ft deep and pay streak more than 100 ft wide. Gold medium fine, small nuggets. Fineness about 855. Bedrock consists of folded schist, limestone, quartzite and greenstone (Cambrian or Ordovician). Placer tin reportedly collected during mining 1929, but none found during mining 1942 and 1943 or otherwise reported	Maddren, 1910, p. 81, 83; Eakin, 1913a, p. 34; Chapman and others, 1963, p. 16, 24

8	Harter Gulch	C,18 T.3N.,R.16W.	M	Au,Sn	Disseminated	Placer	Southward-flowing tributary to Cache Creek to west of Dalton Gulch that was active during early days of mining in Tofty tin belt. Large open cut was being mined in 1977. Placer production from one small area in one season reportedly netted about 4350 oz gold, but comparatively little cassiterite. Total production probably did not exceed 5000 oz. Four USBM channel samples of one tailing pile showed average of 0.84 lbs of concentrate per cubic yard that contained 0.27 lb tin and 0.017 oz gold. USBM sampling of tailings piles indicated low cassiterite but more gold than those of most creeks in area. Gravels composed largely of angular phyllite and graywacke with some rounded sandstone clasts. Small sill-like mafic intrusive (Tertiary?) on ridge between Harter Gulch and Sullivan Creek. Limestone (Jura-Cretaceous?) bed nearby contains magnetite and hematite. (See also Cache Creek, Dalton Gulch and Ferguson Draw)	Wayland, 1961, p. 376, 398; Chapman, R. M., 1977, unpub. data
6	Homestake Creek	C,17 T.6N.,R.18-19W.	m	Au	Disseminated	Placer	Placer gold mined near confluence of this creek with Morelock Creek about 1910. Little else is known about this occurrence. (See also Bonanza and Morelock Creeks).	Brooks, 1911, p. 184
17	Hoosier Creek	C,18 T.7N.,R.12E.	m	Au(Cu,Pb,Hg,W)	Disseminated	Placer	Placer gold discovered on this right limit tributary to Minook Creek in 1898 or soon thereafter. Mined most years by drifting and hydraulicking until about 1952. Production not well known but totaled about 2400 oz through 1931. Ill-defined pay streak 100-150 ft wide in gravel 1-9 ft thick overlain by 1-10 ft of muck in alluvial deposits of present stream valley. Bedrock mainly greenstone of probable ophiolite complex (Triassic to Permian) that contains quartz veins up to 18 in. thick. Gold coarse and of high grade. Assay from 1926 production showed fineness 941½ gold, 53 silver. Concentrates include hematite, magnetite, ilmenite, barite, pyrite, gold, garnet, picotite, scheelite, zircon, native copper, galena and a few grains of cinnabar. (See also Little Minook Junior Creek, Minook Creek, Hunter Creek)	Mass, 1908, p. 65, 79, 98; Martin, 1934, p. 165, 186-187; Chapman, R. M., 1977, unpub. data
18	Hot Springs Dome (Includes Barrett prospect)	C,18 T.2N.,R.16W.	p	(Pb,Ag,Cu,Zn,Co, Mn,Au,Ni?)	Mineralized shear zones	Hydrothermal (Contact metamorphic?)	At least six east-trending mineralized shear zones in hornfelsized metasedimentary rocks (Jura-Cretaceous) close to and along northwest side of a large Tertiary (60±3 m.y.) biotite granite intrusive. Barrett prospect (staked 1914 and 1924, patented 1937) explored by three shallow shafts to maximum depth of 40 ft, a 20-ft adit and several trenches and prospect pits. No recorded production. Barrett zone 20-35 ft wide has been traced over a horizontal distance of 2000 ft. Veins of galena coated with cerussite and pockets of limonite at surface. Other minerals include siderite, copper carbonates, chalcopyrite, pyrrhotite, pyrite and erythrite. Assays of oxidized material indicate $5-$10 gold (1976 price) and 5-8 oz silver per ton. USBM diamond drilling and sampling program 1954 showed weathering extended to depth of at least 446 ft (maximum vertical depth drilled). Maximum values from total of 72 samples: 0.02 percent cobalt, 3.7 percent lead, 0.32 percent zinc, 1.20 percent copper, 3.90 percent manganese, 0.17 oz gold per ton and 0.53 oz silver per ton. Most values are trace amounts. Unverified report of nickel from pyrrhotite-bearing basaltic dike. Dikes that cut the granite contain tourmaline (similar to that found in placers of the Tofty "tin belt") and monazite	Martin, 1934, p. 215-216; Meadow and others, 1952, p. 99-100; Maxbam, 1954, p. 3-4; Maloney, 1971

19	Hunter Creek and tributaries	C,18 T.8N.,R.12W.	M	Au	Disseminated	Placer	Placer gold discovered 1896 and has been rather continuous producer ever since. Total production probably a few tens of thousands of ounces. Not as rich as Little Minook Creek. Mainly hydraulicing and winter drifting. Main stream transects benches east of Minook Creek and cuts into fractured greenstone, tuff, cherty shale (ophiolitic sequence?) of Rampart Group (Permian to Triassic). Bedrock contains shear zones impregnated with sulfide minerals and quartz-calcite veins. Both bench and present creek gravels mined. Well-rounded gravels of slate, chert, quartzite and quartzitic schist 2-12 ft thick overlain by as much as 40 ft frozen muck. Gold mostly in basal 3 ft of gravel and upper 4 ft of bedrock. Much of gold is "pumpkin-seed" but nuggets reported to 10 oz. Gold bright, mostly smooth and rather rich (one assay of 919 fine). (See also Hunter and Dawson Creeks, No. 20, Livengood quadrangle)	Spurr, 1898, p. 294; Hess, 1908, p. 65, 72-75; Martin, 1934, p. 165, 177-181
20	Idaho Gulch (Placer)	C,18 T.3N.,R.17W.	m	Au,Sn(Cb,Th,Ag)	Disseminated	Placer	Initially staked 1907 following discovery of gold in the Tofty "tin belt" during winter 1906-1907. Last extensive drift mining done in 1912, perhaps 1913, although drift mining on small scale reported through 1941. Total production not known, mainly because much of it was included with Sullivan Creek. Placer concentrations distributed over large area of bedrock, generally small, discontinuous and not particularly rich. Exception was one very small area with rich pay streak from which about 12,100 oz gold recovered in 1911. USBM churn drilling and channel sampling program 1954-1956 demonstrated that some of best ground was identified with gentle channel in bedrock terrace about 400 m long. Five channel samples from single tailing pile averaged about 2.67 lbs of concentrate per cubic yard that contained 1.0 lb tin and 0.02 oz gold. Generally 20-40 ft of generally well-rounded gravel overlain by 5-40 ft of frozen silt and muck. Cobbles include coarse-grained biotite granite and brecciated quartz with brown tourmaline and cassiterite. Bedrock mainly phyllite with sporadic graywacke, sandstone, quartzite (Jura-Cretaceous) and barren quartz veins. (See also Tofty Gulch)	Thomas, 1967, p. 6-8, 12, 24-26, 47; Wayland, 1961, p. 369, 372, 379, 382-384, 397-398
	(Lode)	C,18 T.3N.,R.17W.	o	Ag	Disseminated ?	Epithermal(?)	Random USGS sample from small gossan contained 7.34 oz silver per ton; no gold detected	
21	Joseph Creek	C,18 T.5N.,R.13W.	o	Sb	Disseminated (Float)	Hydrothermal	Partly oxidized stibnite float found by USGS field party in 1931 along ridgetop between Granite and upper Minook Creeks. Shallow trenches failed to penetrate the residual cover to bedrock source. Revisited by USGS in 1972. Bedrock is schistose chert and phyllitic slate (Ordovician?). Several bright red and canary yellow stained zones. No signs of mining or diligent exploration	Martin, 1934, p. 217; Chapman, R. M., 1972, unpub. field notes
22	Karshner Creek	C,18 T.2N.,R.15W.	o	Th	Disseminated	Placer	Sample of stream sand 100 yds upstream from Hot Springs Slough contained tourmaline, magnetite, andalusite, brookite, zircon, monazite, and common rock-forming minerals. Stream drains biotite granite (60±3 m.y.) of Hot Springs Dome	Waters, 1934, p. 242
11	Killarney Creek	C,18 T.3N.,R.16W.	p	Au,Sn	Disseminated	Placer	Prospected for several years after 1912 by churn drilling and shafts. Small rounded pebbles of cassiterite and very fine gold on phyllite (Jura-Cretaceous) bedrock at depths of 40-80 ft in belt 1/2 mile wide north of junction of Killarney and Gold Basin Creeks. May mark northeast limit of Tofty "tin belt." Creek heads in southern part of Roughtop Mountain quartz monzonite intrusive (Cretaceous; 90±5 m.y.). No record of mining. (See also Gold Basin and Cooney Creeks)	Wayland, 1961, p. 372, 394-395, 399

23	Lancaster Creek	C,16 T.5N.,R.26W.	p	Au(?)	Disseminated	Placer	Open cut made in 1917. No reported production	Martin, 1919, p. 39
7	Little Boulder Creek	C,17 T.4N.,R.18W.	p	Au	Disseminated	Placer	Prospecting 1918-1919 following discovery of low grade ground 1916. 6-12 ft of alluvium consisting of silt with lenses and layers of angular slate fragments. No record of production. (See also Boulder Creek)	Brooks, 1918, p. 57; Chapin, 1919c, p. 335
24	Little Minook Creek (Placer)	C,18 T.7N.,R.12W.	m	Au(Ag,Cu,Pb,Cr, W,Bi,Hg?)	Disseminated	Placer	Placer gold discovered 1893. Mining began 1896, first by drifting, then by ground sluicing and shoveling in. Worked most years through 1975. Probable total production about 65,000 fine ounces (more than half of district total). Stream transects old 500 ft bench (along east side of Minook Creek) from which most of the gold has been reconcentrated. Unlike Hunter Creek, minable gold occurs only in present creek gravels. Gold mainly in base of locally derived gravels 5-12 ft thick and in crevices in upper 1-2 ft of bedrock that consists of greenstone, limestone, chert, shale and sandstone (Triassic-Permian). 0-30 ft of overburden (frozen silt and muck). Gold generally coarse, smooth, and flattened, but not flaky. One nugget reportedly about 17½ oz. Assays show fineness of about 920 gold, 75 silver. Stream concentrates, in addition to gold, contain native copper, native silver, hematite, barite, pyrite, galena, chromite, ilmenite, magnetite, argentite, tetradymite, pirrotite, scheelite, cinnabar(?), garnet, zircon and sphene	Spurr, 1898, p. 294, 356-357; Prindle and Hess, 1905, p. 111-112; Hess, 1908, p. 65, 75-77, 98; Martin, 1934, p. 165, 181-183
	(Lode)	C,18 T.7N.,R.12W.	o	(Au,Mn,Cu)	Veins and disseminations	Hydrothermal (Au), volcanogenic or hypogene (Mn,Cu)	White crystalline quartz and quartz-carbonate veins occur in shear zones within greenstone bedrock. One quartz vein 6 ft wide staked and yielded small quantities of fine gold when crushed and panned. Bedrock also reportedly mineralized with pyrite and chalcopyrite. Lode occurrence of manganese (rhodonite and rhodochrosite) but details on relations lacking. (See also Hunter Creek, No. 18)	—
17	Little Minook Junior Creek	C,18 T.7N.,R.12W.	m	Au(Pb)	Disseminated	Placer	Placer gold discovered 1898 or shortly after. Small scale mining intermittently at least until World War II. Total production not known, but exceeded 14,325 oz. Short, frequently dry creek whose valley is almost all in the high bench (Pliocene?) east of Minook Creek. Lower part of valley cut in diabase (Triassic-Permian) of Rampart Group; upper valley cut into chert and iron-stained tuff. Most placers in valley of present stream. Gravel mostly derived from local bedrocks and averages 4-5 ft thick; overlain by 18-25 ft of frozen muck and colluvium. Gold localized mainly in upper 1½ ft of bedrock. Pay streak about 40 ft wide. Gold is flattened, rounded, not flaky; averages little less than 0.1 in. diameter. Largest reported nugget about 10 oz. Fineness about same as gold from Little Minook Creek (i.e., about 915-920 gold, 75-80 silver). Concentrates contain pyrite, hematite, ilmenite, barite, magnetite, garnet, sphene, zircon, gold and galena. (See also Hoosier Creek)	Hess, 1908, p. 65, 77-78, 98; Martin, 1934, p. 165, 175, 184-185; Chapman, R. M., 1977, unpub. data
26	McCaskey Bar	C,18 T.4N.,R.13W.	m	Au(Hg)	Disseminated	Placer	Placer ground opened up in 1924. Mined almost continuously at least through 1930 and probably since World War II. Bench gravels on terrace remnant preserved on spur between Pioneer and Kentucky Creeks about 250 ft above level of present streams. Ground low grade and required efficient handling of much gravel. 300,000 sq ft of bedrock "cleaned" 1924-1930. Ill-defined pay streak about 100 ft wide. 15-18 ft of frozen overburden. Gold throughout gravel, but mostly 1-2 ft just above bedrock that consists of weathered phyllite and argillite [Lower Cretaceous(?)] cut by fractured, iron-stained quartz veins. One assay indicated fineness of 802 3/4 gold, 191 silver. Heavy concentrates include ilmenite, magnetite, pirrotite, cinnabar, tourmaline, garnet, and zircon	Martin, 1934, p. 193; 198-199

26	Melozimoran Creek	C,16 T.7N.,R.26W.	p	(Au,Sn)?	Disseminated	Placer	Prospect pits dug 1913-1918 reportedly yielded a little gold and cassiterite. Claims staked in the Grimm and Weberies Creeks area but there has been no production or significant development. Thirteen test pits dug by USGS 1943 near junction with Weberies Creek failed to disclose any cassiterite or gold in either bench or present stream gravels, but only one pit reached bedrock. Stream drains area underlain by early Paleozoic metasedimentary rocks (mainly quartzite) cut by barren lenticular quartz veins and Cretaceous granitic rocks. Alluvium frozen in some parts of valley	Martin, 1920, p. 22, 47-48; Chapman and others, 1963, p. 14-18, 20-26
27	Miller Gulch	C,18 T.3N.,R.17W.	m	Au,Sn(Ag,Th?, RE's?,Cb)	Disseminated	Placer	Placer gold discovered 1912 as result of major drilling program. By 1914, five camps, employing 112 men, were in operation. Drift mining as recently as 1940. Total production through 1956 amounted to 17,674 oz gold, 2,688 oz silver, 101,875 lbs cassiterite concentrate. USBM drilling and sampling program 1954-1956 demonstrated an average per yard recovery from channel samples of tailing piles amounting to 2.635 lbs of concentrate containing 0.775 lb tin, 0.085 lb Cb_2O_5 and 0.0175 oz gold. (Individual analyses showed up to 7.0 percent Cb_2O_5). Many tailing piles have been resluiced. Old channel transects series of bedrock terraces with local enrichment at each channel terrace interface. Fairly narrow and continuous gravel pay streak about a mile long beneath 35 (north)-120 (south) feet of Quaternary silt and muck, in part frozen. Two pay streaks about 200 ft apart in upper 2000 ft of workings. Gravel 0-60 ft thick consists mostly of angular dark phyllite, graywacke, metadiorite, quartzite and quartz. Concentrates include gold, cassiterite, columbite, and probably aeschynite, monazite and zircon	Thomas, 1957, p. 6-8, 12-13, 17, 23, 45-46; Wayland, 1961, p. 370, 373-374, 384-388, 410
28	Minook Creek	C,18 T.6-7N.,R.13W.	m	Au(Ag)	Disseminated	Placer	Probably prospected as early as 1882. Coarse gold found 1893. Nuggets to 4.3 oz. Mining at least until World War II, mostly bar sniping and small operations localized at the richer sites. Production data scanty; probably did not exceed a couple of thousand ounces. Stream deeply incised in narrow V-valley with at least four prominent terraces along east side from 10-1000 ft above present valley floor. Uppermost terrace covered by up to 100 ft of Pliocene(?) gravel. All terrace gravels are auriferous and gold has been reconcentrated into rich placers on some tributaries (i.e., Hunter, Little Minook and Hoosier Creeks), but placers on main stream have proven too low grade to sustain small scale mining operations. However, small areas ran equivalent of $15-$20 per square bedrock foot (1976 price). Most gold probably derived from local bedrock sources in lower part of valley (folded slate, limestone, quartzite and schist of middle Paleozoic age and diabase, tuff and shale of Permian to Triassic age). Therefore improbable that much placer gold will be found above mouth of Slate Creek. Some placers contained nuggets of native silver, but there is little silver alloyed with the gold. Creek may be worthy of prospecting for large-scale placer mining at current price of gold. (Includes references to Big Minook Creek, Mynook Creek)	Moss, 1908, p. 65-72, 97-98; Martin, 1934, p. 165, 174-177
6	Morelock Creek	C,17 T.6N.,R.18W.	m	Au(Sn)	Disseminated	Placer	Gold discovered 1901. Intermittent hand mining and considerable prospecting until at least 1944, but no large areas of minable ground identified. Small amount of placer gold mining reported about 1950-1952 on Rosa Creek (left limit tributary). All areas along Morelock Creek inactive in 1971. Total production from area probably did not amount to more than few hundred ounces of gold. Exploration programs by prospectors, USBM and USGS (1942-1943), demonstrated	Thomas and Wright 1948, 8 p.; Chapman and others, 1963, p. 5-13; Chapman, R. M., 1977, unpub. data

							tin and gold to be irregularly distributed and range from 0-1.62 lbs tin and 0-0.359 oz gold per square yard of bedrock. Placer gold and tin localized mainly in lower few inches of gravel, on irregular bedrock surface and in crevices in upper few inches of bedrock. Bedrock consists of complexly deformed metasedimentary rock and greenstone (early Paleozoic and possibly Precambrian). Alluvium consists of 2-20 ft of gravel beneath 2-3 ft of silt. Gold mostly 0.08-0.4 in. diameter; nuggets to 1.25 oz; fineness about 920. Total extent of tin-bearing gravels believed to be at least 1½ mi long and 400-500 ft wide. (See also Homestake and Bonanza Creeks)	
1	New York Gulch	C,17 T.3N.,R.18W.	M?	Au.	Disseminated	Placer	Tributary to American Creek. Prospected in 1921; mining by 1926. Production not known but probably very small. Concentrate mineralogy and other relations similar to American Creek except general lack of pyrite. (See also American Creek)	Martin, 1934, p. 214; Waters, 1934, p. 241
10	Omega Creek	C,18 T.4N.,R.14W.	M	Au(Hg,W)	Disseminated	Placer	First mined in 1901 after gold discovered 2 years previously and became a major producing creek of the Eureka area. Mining still underway 1975 season. Total production not known but probably amounts to many thousand ounces of gold. Gravels worked are mainly those of present stream or close to the creek. Valley asymmetric with steeper south wall. 5-10 ft of gravel beneath about 12 ft of muck consists mainly of slaty rocks with a few cobbles and boulders of quartzite and vein quartz up to 2 ft in diameter. Many pieces of gold exhibit crystal faces and have quartz attached. Bedrock is black slate and quartzite (Lower Cretaceous) that strikes N.70°E. and dips steeply northward. Concentrates contain gold, much crystalline pyrite, ilmenite, picotite, scheelite and cinnabar. (See also Chicago and Thanksgiving Creeks)	Hess, 1908, p. 82, 91, 98; Martin, 1934, p. 203-204
35	Patterson Creek	C,17-18 T.3N.,R.16-17W.	M	Au,Ag,Sn	Disseminated	Placer	Main stream into which Sullivan, Cache, Omega, and Woodchopper Creeks flow. Placer gold discovered at mouth of Sullivan Creek in 1907. Most of mining was on the tributaries and intertributary benches. Production through 1956 reportedly 2599 oz of gold, 385 oz of silver, 29,282 lbs of cassiterite concentrate, but this probably included some production from tributaries	Brooks and Martin, 1921, p. 82; Thomas, 1967, p. 7
29	Pioneer Creek and tributaries	C,18 R.4W.,R.13W.	M	Au(Hg,W)	Disseminated	Placer	Gold discovered in 1902 on What Cheer Bar, but little work done until 1905 when further discoveries extended limits of potential productivity toward head of creek. Main creek mined at least until 1940; one tributary (Skookum Creek) as recently as 1975. Production data poor and incomplete, probably many tens of thousands of ounces. Richest ground occurred where small tributaries cross benches, the richest of which was What Cheer Bar. Medium size, locally derived gravels 3-12 ft thick overlain by about 1½ ft of muck and 3 ft of fine-grained wash. Gold mostly in lower part of gravel and upper 2 ft of pyritic, sheared sandstone and slate, phyllite and quartzite (Jura-Cretaceous?) bedrock. Nuggets to about 3.4 oz are well worn, light colored, and have a fineness of 770-800 parts per thousand. Concentrates contain picotite, ilmenite, pyrite, zircon, gold, sphene, barite, magnetite, garnet, scheelite, cinnabar and tourmaline. (Includes references to Boothby, Doric, Seattle Junior, and Skookum Creeks; Jordan, Last Bench, Seattle, and What Cheer Bars)	Prindle and Hess, 1905, p. 115-117; Hess, 1908, p. 62-83, 86-87, 95, 98; Eakin, 1913a, p. 30; Martin, 1934, p. 195-198, 201
30	Quartz Creek (Tributary to Sullivan Creek)	C,18 T.3-4N.,R.16W.	M	Au(Sn,RE's)	Disseminated	Placer	Relatively low-grade bench placer mined on small scale 1908-1914, 1930, and probably other years. Extensive company drilling program (185 holes) 1940. Production probably small. Homestake Bar contained best ground; located about 1/4 mi from present creek. 3-4 ft of gravel beneath 3 ft of silt.	Eakin, 1913a, p. 32-33, 35-37; Wayland, 1961, p. 396

							Gold coarse, has greenish cast and is more angular than most gold from Tofty tin belt 2-3 mi to south. Cassiterite not abundant; clear brown and angular, unlike that from Tofty area. Suggests possibility of one or more mineralized belts lying to north of Tofty but from which placers of Quartz, American and Boulder Creeks may have been concentrated. Heavy minerals in concentrates include ilmenite, pyrite, zircon, gold, xenotime, tourmaline and a little cassiterite	
31	Quartz Creek (Tributary to Yukon River)	C,17 T.5N.,R.19W.	p	Pb(Ag,Au)	Stockwork	Hydrothermal(?)	Tunnel driven about 1915 on 10-ft-wide stockwork of argentiferous galena, quartz and calcite veinlets in limestone (Silurian or Devonian) about 1 mi north of and 300-400 ft above Yukon River. Galena veins reported up to several inches across in places were said to contain "profitable" amounts of silver and gold, but no recorded production. No known nearby intrusives. When visited by USGS field party in 1971, old adit was caved and a few tiny galena crystals in dark gray schist were the only observed indications of lead mineralization	Eakin, 1916, p. 82-83; Wedow and others, 1952, p. 97; Chapman, R. M., 1971, unpub. field notes
14	Rhode Island Creek	C,18 T.4N.,R.13W.	M	Au	Disseminated	Placer	Placer gold discovered about 1902 and mined intermittently through 1975. Present stream placers mined by drifting and open cut methods; bench deposits by hydraulic methods. No production data; probably totaled few tens of thousands of oz. Stream flows across strike of phyllite (Lower Cretaceous) bedrock cut by northeastward-trending quartz veinlets. Best deposit in bench about 50 ft above present creek level. Pay streak about 70 ft wide at base of subangular locally derived gravels and upper couple of feet of bedrock. No data on character of gold. Largest nugget reported about 0.87 oz. (See also Glen Creek, Gold Run, Seattle Creek, Shirley Bar)	Collier, 1903, p. 51, 53-54; Mertie, 1934, p. 199-201
32	Ruby Creek	C,18 T.7N.,R.13W.	M	Au,Ag(Bi)	Disseminated	Placer	First placer gold mining reported in 1901 and continued sporadically at least through 1971 when one man was mining about 1/2 mile above mouth of creek. Hydraulic plant installed 1905 but mining mostly by open cut and drifting. Production data incomplete; about 650 fine ounces to fall 1904. 1970 cleanup yielded about 11 oz of gold from a 20x100 ft open cut; some nuggets to 3/4 in. diameter. Stream drains area of Paleozoic schists and phyllite. Alluvial deposits of lower valley 300-400 ft wide consist of medium size gravel (locally derived) overlain by 1-4 ft of muck. Gold on bedrock across entire width of present stream and probably also of local derivation. Small pieces of gold tend to be flat and generally rougher than those from Little Minook and Hunter Creeks. Nuggets of gold and occasionally native silver to 2 oz. Largest nugget known to be about 8.5 oz. Concentrates also contain native bismuth and abundant garnet and barite	Hess, 1908, p. 65, 80-81, 96-98; Mertie, 1934, p. 188-189; Chapman, 1971, unpub. field notes
33	Schieffelin Creek (Shevlin Creek)	C,17 T.5N.,R.19W. (Approx.)	p	(Au)	Disseminated	Placer	Gold-bearing gravels prospected 1907-1908; no further information on development.	Brooks, 1909, p. 55
14	Seattle Creek	C,18 T.4N.,R.13W.	m	Au	Disseminated	Placer	About 5 oz of placer gold recovered during the winter of 1903-1904 as result of prospecting. A little mining (small open cut) also reported 1931. Frozen gravels 8-30 ft thick beneath 1-3 ft of muck are fine grained and contain clasts of quartzite, carbonaceous slate and vein quartz. Bedrock is graphitic slaty argose and schistose calcareous grit (Jurassic or Lower Cretaceous). Gold is fine, bright and shotty; probably reconcentrated from older bench gravels. (See also Gold Run, Shirley Bar, Rhode Island, and Glen Creeks)	Hess, 1908, p. 87, 90, 95, 98; Mertie, 1934, p. 200

14	Shirley Bar (Bench)	C,18 T.4N.,R.13W.	m	Au(Pb,Hg)	Disseminated	Placer	Bench between Glenn Creek and Gold Run first worked in 1901. Mined sporadically at least until 1938 and probably later. Evidence of considerable mining but no reliable data on production. Bench contributed gold to gulches where high-grade placers formed. Semiresidual deposit of angular, auriferous gravel 2-10 ft thick composed mainly of underlying sedimentary bedrocks (Jura-Cretaceous). Gold distributed throughout gravel, with largest nuggets near surface. Gold is fine and shotty; largest nuggets to 1931 reportedly 2 3/4 oz. Assays show fineness of about 792 gold, 204 silver. Concentrate samples also contain pyrite, cinnabar, picotite, barite, galena, ilmenite and limonite	Collier, 1903, p. 54-55; Hess, 1908, p. 87-88, 96; Mertie, 1934, p. 193, 201-202
34	Slate Creek (Tributary to Minook Creek)	C,18 T.6N.,R.13W.	M	Au(Ag,Cu)	Disseminated	Placer	Placer mining commenced 1902 following discovery of gold on Little Minook, Hunter, and Quail Creeks (Livengood quadrangle). Mining (early drifting; later mainly ground sluicing) 1902-1906, 1926-1939 and as recently as 1975. Both present creek gravels and bench ground 15-25 ft above present creek level on northwest side of valley have been productive. No data on production except about 725 fine ounces gold produced through 1904. Creek placers about 26 ft deep. Gold concentrated in basal 3 ft of gravels and in top 1½ ft of bedrock over 50 ft width. Bedrocks (early Paleozoic) are schistose chert, slate, phyllite and limestone near mouth of creek; cut by numerous quartz veins considered to be the source of the gold. Gravels well worn and are composed of same lithologies as local bedrocks. Gold is rough and coarse with a fineness of about 915. Nuggets reported to about 5 oz. Concentrates also contain nuggets of native copper, common native silver (one reported 8 oz), and abundant barite	Hess, 1908, p. 65, 81-82, 96-98; Mertie, 1934, p. 165, 187-188
3	Slate Creek (Tributary to Toximoran Creek)	C,16 T.6N.,R.26W.	o	Au	Disseminated	Placer	Placer gold reported from valley of Slate Creek. Creek not known to have been systematically prospected. (See also Ash and Toximoran Creeks)	Chapman and others, 1963, p. 16
35	Sullivan Creek	C,16 T.3N.,R.16W.	M	Au,Ag,Sn (Pb,Cu, Mz,Cb,Cr)	Disseminated	Placer	Gold discovered Jan. 1, 1907, and presently still being mined in area between Sullivan and Cache Creeks. In Tofty tin belt. Total production, including reworked tailings, reportedly 58,156 oz gold, 5463 oz silver, 215,445 lbs of cassiterite concentrate. Some spots exceedingly rich; one area produced 9675 oz of gold, almost all from 5000 sq ft of bedrock. USBM sampling of tailings showed average of 0.241 lb tin and 0.0015 oz gold per cubic yard (averages of selected parts were 0.777 lb tin and 0.0028 oz gold). At Sullivan Bench pit, gravels 2-14 ft thick (average = 6 ft) overlain by 40-50, and locally 70 ft of muck and silt (all frozen) contain abundant vertebrate remains. Almost all gold and cassiterite concentrated in lowermost 1-2 ft of gravel and upper foot or so of weathered bedrock. Bedrock mainly crumpled soft graphitic phyllite and graywacke (Jura-Cretaceous) veined with quartz. Gravels subangular to subrounded and mainly of bedrock composition. Fineness 807-821 gold, 169-174 silver. Cassiterite characteristically well rounded and common. Heavy concentrates contain gold, cassiterite, ilmenite, picotite, chromite, pyrite, magnetite, galena, arsenopyrite, native copper, zircon, monazite, aeschynite, xenotime, apatite, brookite and anatase. Includes references to Abe Lincoln, Kieber and File, Midnight Sun and bench placer east of Sullivan Creek. (See also Idaho, Miller, and Tofty Gulches, and Quartz Creek tributary to Sullivan Creek)	Eakin, 1913a, p. 28-30, 33, 35-38; Mertie, 1934, p. 209-210; Thorne and Wright, 1948; Thomas, 1957, p. 6-8, 22-23, 27-31, 55

10	Thanksgiving Creek	C,18 T.4N.,R.14W.	M	Au	Disseminated	Placer	Creek is tributary to Omega Creek and flows in broad bench north of Baker Creek. Placer gold discovered 1903. Creek became site of major mining activity in Baker Creek area by 1908. Two-man dozer-sluicing operation 1975. Total production not known, but probably amounts to a few thousand ounces. Section consists generally of 10-12 ft yellow clay and ice over about 6 ft of subangular gravel consisting of quartzite, grit, vein quartz, slate, and a small amount of monzonite. Bedrock is yellowish schistose grit, shale and siltstone (Jura-Cretaceous?) cut by white quartz veins. Pay streak in gravels 25-45 ft wide, 14-9 ft thick. Some gold also occurs in overlying muck. Gold generally 1-10 mm diameter and rough, but some is smooth, bright and shotty. Fineness about 800. (See also Chicago and Omega Creeks)	Hess, 1908, p. 82-83, 92-93, 97, 98
20	Tofty Gulch	C,18 T.3N.,R.17W.	M	Au,Ag,Sn (Cr,Cb?,Th?)	Disseminated	Placer	Gold discovery in winter 1906-1907 followed by stampede 1907. Mining reported 1909-1912, 1917, 1929, 1941, 1975 and probably other years. Some of old tailing piles have been reworked. Total production through 1966 amounted to 8855 oz gold, 1376 oz silver, 19,600 lbs cassiterite. Most tin production came after 1929. USGS (1941) and USBM (1954-1956) drilling and sampling programs; also company drilling and sampling. Pay streaks have crude identity with terraces a few feet high and with minor bedrock channels. Apparent axes of pay streaks cross terraces at oblique angles. Bedrock is crumpled phyllite and graywacke (Jura-Cretaceous) that have an average strike of N.85°E. and dips 55-80° northward. Bedrock cut by numerous quartz veinlets that are apparently devoid of gold and cassiterite. Gravels to 7 ft thick composed mostly of angular locally derived detritus; overlain by 10-25 ft of frozen muck and silt. Richest concentrations of gold and cassiterite in gravel and upper 2-3 ft of bedrock. Chromite and possibly monazite, and columbite also present in heavy mineral concentrates. (See also Sullivan Creek)	Thomas, 1957, p. 6-8, 24-26; Mayland, 1961, p. 374, 379-382, 387, 403-411
3	Tozimoran Creek (Placer)	C,16 T.6N.,R.25W.	M	Au,Sn	Disseminated	Placer	Placer gold discovered in 1902. Intermittently prospected and a little hand mining; mostly on left limit bench 2000 ft downstream from Ash Creek. Total production probably does not exceed a few ounces of gold and a few hundred pounds of cassiterite concentrates (which may not have been sold). USGS (1942-1943), USBM (1943), and OMEA (1952) sampling programs includes churn drilling. Bedrock consists of quartz-mica schist, quartzite, phyllite and slate (early Paleozoic) cut by barren quartz veins. Older alluvium preserved as isolated benches, only one of which has been well prospected and is known to contain gold and cassiterite. It consists of a gravel deposit about 1000 ft long, 200 ft wide (at widest place) and about 4 ft thick beneath 1-3 ft of frozen muck. Channel samples (USBM) from this bench indicate averages of 0.731 lb tin, 0.0228 oz gold per cubic yard in block of ground 550 ft long, 80 ft wide. Fineness of 835 on combined sample of all gold recovered from cut and drill hole samples collected in 1952. Younger gravel deposits of present streams are somewhat coarser, about 15 ft thick, and are essentially unfrozen over a width of about 100 ft. These deposits inadequately sampled. Bedrock source of placer tin and gold not known. Includes references to Columbo, Moraine, and Moran Creeks (unless specifically to Melozimoran Creek). (See also Ash Creek)	Thomas and Wright, 1948, 11 p.; Chapman and others, 1963, p. 14-20, 22, 24-32
	(Lode)	C,16 T.6N.,R.26W.	o	(Ag,Pb)	Vein	Hydrothermal	Argentiferous galena and cerussite found in two small quartz calcite veins in quartz mica schist. Also one small gossan with no visible sulfide minerals	

36	Woodchopper Creek	C,17 T.3N.,R.17W.	m	Au,Ag,Sn	Disseminated	Placer	Placer gold discovered in 1913 in deep channel and on buried benches 100-200 ft below surface. Large-scale drifting followed. Mined with few interruptions at least until 1956 and probably much later. Total production through 1956 reportedly 28,501 oz gold, 3,402 oz silver, and 40,300 lbs of cassiterite concentrate. Rather extensively drilled and sampled (USGS, USBM, and company). Of 43 churn drill holes, 20 contained gold, 21 contained cassiterite, and five contained cassiterite without gold. Average recovery per cubic yard from 12 channel samples of one tailing pile was 1.54 lbs of concentrate containing 0.72 lb tin and 0.045 oz gold (USBM). From 1917-1919 drift mining at south end of pay streak 40 ft thick recovered 1.2-1.3 lbs of cassiterite per square bedrock foot. Gravels 20-40 ft thick composed mostly of locally derived lithologies (phyllite, quartzite, quartz, sandstone and a little graywacke) and overlain by 20-40 ft or more of frozen muck. Concentrates include gold, cassiterite, ilmenite, pirotite, pyrite, and magnetite. Apparently marks southwestern limit of Tofty "tin belt." (See also Deep Creek)	Martin, 1934, p. 212; Thomas, 1957, p. 6-9, 47; Wayland, 1961, p. 370, 372, 388-389, 392-394, 399, 402-403, 405
37	Unnamed occurrence	C,18 T.5N.,R.12W.	o	(Pb,Ag)	Vein?	Hydrothermal?	Lead silver "deposit" reportedly found by prospector in headwaters area of Eureka or Pioneer Creek several years before 1931. Two assays of sulfides said to have indicated 100 oz silver per ton and 70 percent lead. No information on nature of occurrence or development	Martin, 1934, p. 217

MAP NO. AND NAME(S) (if known)	MAP COORDINATES LOCATION	DEVELOPMENT CATEGORY	RESOURCES Minor constituent(s) or potential byproducts in parentheses	FORM	TYPE	BRIEF DESCRIPTION	PRINCIPAL REFERENCE(S)
1 Alder Gulch	H,10 T.7N.,R.54W.	o	Hg	Disseminated	Float	Float cinnabar found in 1941	Rutledge, 1950, p. 1, 3
2 Broken Shovel (Landau)	H,10 T.8N.,R.56W.	m	Hg(Sb)	Fracture and breccia fill-ings	Hydrothermal (low temper-ature) and placer	Hydrothermally altered diabase sill or dike 1-3 ft thick in siltstone of Gemuk Group (Late Triassic). Fault follows one margin of dike and contains discontinuous quartz veins with local stibnite. Cinnabar known only from float. Native mercury also reported. Insufficient exploration for valid evaluation. See also Cinnabar Creek	Cady and others, 1955, p. 115
3 Caribou Creek	H,12 T.6N.,R.40W.(?)	m(?)	Au	Disseminated	Placer	Small-scale gold placer mining reported on headwater tributary of Mushagak River in early 1900's	Martin, 1938b, p. 91
2 Cinnabar Creek	H,10 T.8N.,R.55W.	M	Hg(Sb)	Veinlets and disseminations	Hydrothermal (low temper-ature) and placer	Cinnabar in irregular veinlets and disseminations in sheared argillized, iron-stained graywacke and siltstone of Gemuk Group (Late Triassic) adjacent to hydrothermally altered diabase dike. Unlike Red Devil, dike contained no good ore. Native mercury locally, but not recovered. Production more than 500 flasks 1955-1960, mainly from Cinnabar Creek but includes Lucky Day and Broken Shovel. Only minor production from placer deposits that extend downstream from lode. Trace amounts of gold to 0.14 ppm	Sainsbury and MacKevett, 1965, p. 35, 42-43
4 Gemuk Mountain	H,10 T.6N.,R.55W.	o	(Hg,Sb,Au)	Vein	Hydrothermal and placer	Quartz veins in fault gouge and breccia along contact between biotite diorite (Tertiary?) and hornfelsed quartzite and shale of Kuskokwim Group (?; Cretaceous) contain stibnite and visible gold. Cinnabar panned from small creek draining vein area	Clark and others, 1970, p. 3, 6-7
5 Lucky Day (Canary Gulch)	H,10 T.8N.,R.55W.	m	Hg(Sb)	Veinlets and disseminations	Hydrothermal and residual float	Cinnabar, stibnite and minor native mercury in shear zone along margin of hydrothermally altered mafic sill, in bedding plane faults, cross joints, and breccia zones. Country rocks are Gemuk Group (Late Triassic) siltstone and graywacke. About 25 flasks mercury produced 1942, 1943, all from hand-sorted residual float. Material mined from float stockpiled in 1954	Cady and others, 1955, p. 113-115; Sainsbury and MacKevett, 1965, p. 35, 41-42, 80-81
6 Mulchatna River	H,12	o	Au	Disseminated	Placer	Flour gold reported to occur on all Mulchatna River bars above the Koktuli River	Martin and Katz, 1912, p. 133
7 Pulchatnachak-charak River (now called McGeary Creek)	H,12	o	Au	Disseminated	Placer	Colors of gold reportedly found along McGreary Creek	Martin, 1938b, p. 91
8 Redskin	H,10 T.8N.,R.55W.	p	Hg	Vein	Hydrothermal (low temper-ature)	Sparse films and veinlets of cinnabar parallel to bedding planes, cross joints, and in breccia zones within graywacke and siltstone of Gemuk Group (Late Triassic). Comparable to but less extensive than Lucky Day (5). No separately reported production	Cady and others, 1955, p. 115
9 Schaefer	H,10 T.8N.,R.55W.	p	Hg(Sb)	Breccia fill-ing	Hydrothermal (low temper-ature)	Cinnabar and stibnite with quartz gangue fill breccia zone of variable width parallel to bedding in chert and siltstone of Late Triassic Gemuk Group. No reported production. Ore up to 2 percent mercury	Sainsbury and MacKevett, 1965, p. 40-41
10 Sleitat Mountain	H,11 T.15.,R.45W.	m	Au(W)	Vein	Hydrothermal	5-10 oz gold recovered from small quartz gash veins in contact zone of Cretaceous-Tertiary granitic stock in sedimentary rocks of Cretaceous Kuskokwim Group. Minor wolframite in pegmatite vein	Martin, 1938b, p. 91
11 Stevens Creek	H,11 T.10N.,R.46W.	o	W	Disseminated (float)	Hydrother-mal(?)	Wolframite found in float fragment of milky vein quartz like that from borders of Taylor Mountains stock (early Tertiary?)	Cady and others, 1955, p. 83, 121

12	Taylor Creek	H,11 T.9N.,R.45-46W.	m	Au(Hg,Sn)	Disseminated	Placer	Placer gold concentrated in stream gravels in pay streak about 250 ft wide over distance of about 5½ mi. Source probably mineralized zones in hornfelsed Kuskokwim Group sediments (Cretaceous) around Taylor Mountains granitic stock (early Tertiary) or mineralized zones associated with albite rhyolite intrusives (Eocene?) in Little Taylor Mountains. Production about 2500 fine ounces. Cinnabar and cassiterite present in concentrates	Cady and others, 1955, p. 71, 116, 119
13	Tikchik Mountain	H,10 T.1-2S.,R.52-53W. (Approx.)	o	Au	Disseminated	Placer	Report of fine gold along north and west flanks of Tikchik Mountain granitic pluton (Late Cretaceous-early Tertiary) in Kuskokwim Group (Cretaceous) sedimentary rocks	Martin, 1938b, p. 91
14	Unnamed occurrence	H,10 T.5N.,R.54W.	o	Cu(Sb?)	Vein	Hydrothermal	Arsenopyrite and minor chalcopyrite in quartz veins in shale and graywacke (Kuskokwim Group; Cretaceous) hornfelsed by rhyolite to dacite dike about 15 ft wide. Stibnite may also be present as antimony content of analyzed specimens is high	Clark and others, 1970, p. 7

MAP NO. AND NAME(S) (if known)	MAP COORDINATES LOCATION	DEVELOPMENT CATEGORY	RESOURCES Minor constituent(s) or potential byproducts in parentheses	FORM	TYPE	BRIEF DESCRIPTION	PRINCIPAL REFERENCE(S)
1 Anvik River and tributaries	E,8 Location very general	m?	Au?,Pt?	Disseminated	Placer	Anvik River and its tributaries have been prospected since 1900 and possibly earlier. Coarse gold reported in headwaters region. "Considerable" platinum recovered with the gold, but information on exact location and other pertinent details are lacking	Harrington, 1918, p. 62-63
2 McLeod (McLeod)	E,9 T.25S.,R.3E.	p	Mo	Vein	Hydrothermal	Molybdenite prospect known at least as early as 1934 when specimens of milky vein quartz with grains and clumps of molybdenite were submitted to the USGS. Several prospect trenches and pits excavated in 1942 by Ernest McLeod of Galena. N.60°E.-trending vein in rhyolite porphyry of Late Cretaceous-early Tertiary age traceable for several hundred feet by float. Vein material consists mainly of quartz and molybdenite mostly altered to ferrimolybdite, with lesser amounts of pyrite pyrrhotite, magnetite, hematite, limonite, zircon and tourmaline	Martin, 1937, p. 174; West, 1964, p. 2, 9-10
3 Unnamed occurrence	E,8 T.24S.,R.10W.	o	Cu	Massive sulfide pod	Contact metamorphic?	Discovered by USGS, 1962. Small pod-like mass of chalcopyrite and pyrite developed in altered andesitic volcanic rocks (Early Cretaceous) at contact with diorite pluton (Late Cretaceous?)	Patton, W. W., Jr., oral commun.

References Cited

Anderson, Eskil, 1947, Mineral occurrences other than gold deposits in northwestern Alaska: Alaska Dept. Mines Pamph. 5-R, 48 p.

Asher, R. R., 1970, Geochemistry and geology, Boundary area, Fortymile district, Eagle A-1 quadrangle, Alaska: Alaska Div. Mines and Geology Geochem. Rept. 23, 35 p.

Barker, J. C., and Clautice, K. H., 1977, Anomalous uranium concentrations in artesian springs and stream sediments in the Mount Prindle area, Alaska: U.S. Bur. Mines open-file rept. 130-77, 19 p.

Berg, H. C., and Cobb, E. H., 1967, Metalliferous lode deposits of Alaska: U.S. Geol. Survey Bull. 1246, 254 p.

Berryhill, R. V., 1962, Reconnaissance sampling of beach and river mouth deposits, Norton Bay and Kotzebue Sound, Seward Peninsula, Alaska: U.S. Bur. Mines open-file rept., 13 p.

Berryhill, R. V., 1963, Reconnaissance of beach sands, Bristol Bay, Alaska: U.S. Bur. Mines Rept. Inv. 6214, 48 p.

Brooks, A. H., 1907a, The Circle precinct, Alaska: U.S. Geol. Survey Bull. 314, p. 187-204.

Brooks, A. H., 1907b, The mining industry in 1906: U.S. Geol. Survey Bull. 314, p. 19-39.

Brooks, A. H., 1909, The mining industry in 1908: U.S. Geol. Survey Bull. 379, p. 21-62.

Brooks, A. H., 1911a, The Mount McKinley region, Alaska, with descriptions of the igneous rocks and of the Bonnifield and Kantishna districts, by L. M. Prindle: U.S. Geol. Survey Prof. Paper 70, 234 p.

Brooks, A. H., 1911b, The mining industry in 1910: U.S. Geol. Survey Bull. 480, p. 21-42.

Brooks, A. H., 1911c, Geologic features of Alaskan metalliferous lodes: U.S. Geol. Survey Bull. 480, p. 43-93.

Brooks, A. H., 1912, The mining industry in 1911: U.S. Geol. Survey Bull. 520, p. 17-44.

Brooks, A. H., 1915, The Alaskan mining industry in 1914: U.S. Geol. Survey Bull. 622, p. 15-68.

Brooks, A. H., 1916a, The Alaska mining industry in 1915: U.S. Geol. Survey Bull. 642, p. 16-71.

Brooks, A. H., 1916b, Antimony deposits of Alaska: U.S.Geol. Survey Bull. 649, 67 p.

Brooks, A. H., 1916c, Preliminary report on the Tolovana district: U.S. Geol. Survey Bull. 642, p. 201-209.

Brooks, A. H., 1918, The Alaska mining industry in 1916: U.S. Geol. Survey Bull. 662, p. 11-62.

Brooks, A. H., 1922, The Alaska mining industry in 1920: U.S. Geol. Survey Bull. 722, p. 7-67.

Brooks, A. H., 1923, The Alaskan mining industry in 1921: U.S. Geol. Survey Bull. 739, p. 1-44.

Brooks, A. H., and Capps, S. R., 1924, The Alaskan mining industry in 1922: U.S. Geol. Survey Bull. 755, p. 3-49.

Brooks, A. H., and Martin, G. C., 1921, The Alaskan mining industry in 1919: U.S. Geol. Survey Bull. 714, p. 59-95.

Brown, J. S., 1926a, The Nixon Fork country: U.S. Geol. Survey Bull. 783, p. 97-144.

Brown, J. S., 1926b, Silver-lead prospects near Ruby: U.S. Geol. Survey Bull. 783, p. 145-150.

Burand, W. M., 1968, Geochemical investigations of selected areas in the Yukon-Tanana region of Alaska, 1965 and 1966: Alaska Div. Mines and Minerals Geochem. Rept. 13, 51 p.

Burand, W. M., and Saunders, R. H., 1966, A geochemical investigation of Minook Creek, Rampart district, Alaska: Alaska Div. Mines and Minerals Geochem. Rept. 12, 15 p.

Byers, F. M., Jr., 1957, Tungsten deposits in the Fairbanks district, Alaska: U.S. Geol. Survey Bull. 1024-I, p. 179-216.

Cady, W. M., Wallace, R. E., Hoare, J. M., and Webber, E. J., 1955, The central Kuskokwim region, Alaska: U.S. Geol. Survey Prof. Paper 268, 132 p.

Carnes, D. R., 1976, Active Alaskan placer operations: U.S. Bur. Mines open-file rept. 98-76, 90 p.

Cass, J. T., 1959, Reconnaissance geologic map of the Ruby quadrangle, Alaska: U.S. Geol. Survey Misc. Geol. Inv. Map I-289, 1 sheet, scale 1:250,000.

Chapin, Theodore, 1914, Lode mining near Fairbanks: U.S. Geol. Survey Bull. 592, p. 321-355.

Chapin, Theodore, 1919a, A molybdenite lode on Healy River: U.S. Geol. Survey Bull. 692, p. 329.

Chapin, Theodore, 1919b, Mining in the Fairbanks district: U.S. Geol. Survey Bull. 692, p. 321-327.

Chapin, Theodore, 1919c, Mining in the Hot Springs district: U.S. Geol. Survey Bull. 692, p. 331-335.

Chapman, R. M., Coats, R. R., and Payne, T. G., 1963, Placer tin deposits in central Alaska: U.S. Geol. Survey open-file rept., 53 p.

Chapman, R. M., and Foster, R. L., 1969, Lode mines and prospects in the Fairbanks district, Alaska: U.S. Geol. Survey Prof. Paper 625-D, p. D1-D25.

Chapman, R. M., Weber, F. R., and Taber, Bond, 1971, Preliminary geologic map of the Livengood quadrangle, Alaska: U.S. Geol. Survey open-file map, 2 sheets, scale 1:250,000.

Chipp, E. R., and Sandvick, P. O., 1977, The Taurus porphyry copper-molybdenum prospect: Canada Geol. Assoc. Ann. Meeting Program with Abstracts, vol. 2, p. 11.

Clark, A. L., Condon, W. H., Hoare, J. M., and Sorg, D. H., 1970, Analyses of rock and stream-sediment samples from the Taylor Mountains C-8 quadrangle, Alaska: U.S. Geol. Survey open-file rept., 110 p.

Clark, S. H. B., and Foster, H. L., 1971, Geochemical and geological reconnaissance in the Seventymile River area, Alaska: U.S. Geol. Survey Bull. 1315, 21 p.

Cobb, E. H., 1973, Placer deposits of Alaska: U.S. Geol. Survey Bull. 1374, 213 p.

Cobb, E. H, 1976a, Summary of references to mineral occurrences (other than mineral fuels and construction materials) in the Candle, Holy Cross, Norton Bay, Nulato, and Unalakleet quadrangles, Alaska: U.S. Geol. Survey open-file rept. 76-866, 102 p., 1 fig.

Cobb, E. H., 1976b, Summary of references of mineral occurrences (other than mineral fuels and construction materials) in the Iditarod and Ophir quadrangles, Alaska: U.S. Geol. Survey open-file rept. 76-576, 101 p., 1 fig.

Collier, A. J., 1903, The Glenn Creek gold-mining district, Alaska: U.S. Geol. Survey Bull. 213, p. 49-56.

Eakin, H. M., 1913a, A geologic reconnaissance of a part of the Rampart quadrangle, Alaska: U.S. Geol. Survey Bull. 535, 38 p.

Eakin, H. M., 1913b, Gold placers of the Ruby district: U.S. Geol. Survey Bull. 542, p. 279-292.

Eakin, H. M., 1914a, Mineral resources of the Yukon-Koyukuk region: U.S. Geol. Survey Bull. 592, p. 371-384.

Eakin, H. M., 1914b, The Iditarod-Ruby region, Alaska: U.S. Geol. Survey Bull. 578, 45 p.

Eakin, H. M., 1914c, Placer mining in the Ruby district: U.S. Geol. Survey Bull. 592, p. 363-369.

Eakin, H. M., 1915a, Mining in the Fairbanks district: U.S. Geol. Survey Bull. 622, p. 229-238.

Eakin, H. M., 1915b, Mining in the Hot Springs district: U.S. Geol. Survey Bull. 622, p. 239-245.

Eakin, H. M., 1916, The Yukon-Koyukuk region, Alaska: U.S. Geol. Survey Bull. 631, 88 p.

Eakin, H. M., 1918, The Cosna-Nowitna region, Alaska: U.S. Geol. Survey Bull. 667,. 54 p.

Eakins, G. R., 1968, A geochemical investigation of the Wood River-Tikchik Lakes area, southwestern Alaska: Alaska Div. Mines and Minerals Geochem. Rept. 17, 31 p.

Eakins, G. R., 1974, Preliminary investigations, Livengood mining district, Alaska: Alaska Div. Geol. Geophys. Surveys open-file report AOF-40, 16 p.

Ebbley, Norman, Jr., and Wright, W. S., 1948, Antimony deposits in Alaska: U.S. Bur. Mines Rept. Inv. 4173, 41 p.

Ellsworth, C. E., 1910, Placer mining in the Yukon-Tanana region, U.S. Geol. Survey Bull. 442, p. 230-245.

Ellsworth, C. E., 1912, Placer mining in the Fairbanks and Circle districts: U.S. Geol. Survey Bull. 520, p. 240-245.

Ellsworth, C. E., and Davenport, R. W., 1913, Placer mining in the Yukon-Tanana region: U.S. Geol. Survey Bull. 542, p. 203-222.

Ellsworth, C. E., and Parker, G. L., 1911, Placer mining in the Yukon-Tanana region: U.S. Geol. Survey Bull. 480, p. 153-172.

Energy Research and Development Administration, 1976, Aerial gamma-ray and magnetic survey of the Bethel and Yukon areas, Alaska: Final report GJBX-5 (77)

Foster, H. L., 1969a, Reconnaissance geology of the Eagle A-1 and A-2 quadrangles, Alaska: U.S. Geol. Survey Bull. 1271-G, p. G1-G30.

Foster, H. L., 1969b, Asbestos occurrence in the Eagle C-4 quadrangle, Alaska: U.S. Geol. Survey Circ. 611, 7 p.

Foster, H. L., 1970, Analyses of stream-sediment and rock samples from the southwestern and central parts of the Eagle quadrangle, Alaska: U.S. Geol. Survey open-file rept., 64 p.

Foster, H. L., and Clark, S. H. B., 1970, Geochemical and geologic reconnaissance of a part of the Fortymile area, Alaska: U.S. Geol. Survey Bull. 1312-M, p. M1-M29.

Foster, H. L., and Keith, T. E. C., 1974, Ultramafic rocks of the Eagle quadrangle, east-central Alaska: U.S. Geol. Survey Jour. Research, v. 2, no. 6, p. 657-669.

Foster, R. L., 1968a, Potential for lode deposits in the Livengood gold placer district, east-central Alaska: U.S. Geol. Survey Circ. 590, 18 p.

Foster, R. L., 1968b, Descriptions of the Ruth Creek, Lillian Creek, Griffin, Old Smoky, Sunshine No. 2, and Olive Creek lode prospects, Livengood district, Alaska: U.S. Geol. Survey open-file rept., 21 p.

Foster, R. L., 1969, Nickeliferous serpentinite near Beaver Creek, east-central Alaska, in Some shorter mineral resource investigations in Alaska: U.S. Geol. Survey Circ. 615, p. 2-4.

Foster, R. L., and Chapman, R. M., 1967, Locations and descriptions of lode prospects in the Livengood area, east-central Alaska: U.S. Geol. Survey open-file rept., unpaged.

Harrington, G. L., 1918, The Anvik-Andreafsky region, Alaska (including the Marshall district): U.S. Geol. Survey Bull. 683, 70 p.

Harrington, G. L., 1919, The gold and platinum placers of the Tolstoi district: U.S. Geol. Survey Bull. 692, p. 339-351.

Harrington, G. L., 1921, Mineral resources of the Goodnews Bay region: U.S. Geol. Survey Bull. 714, p. 207-228.

Hess, F. L., 1908, Placers of the Rampart region, in Prindle, L. M., The Fairbanks and Rampart quadrangles, Yukon-Tanana region, Alaska: U.S. Geol. Survey Bull. 337, p. 64-98.

Hill, J. M., 1933, Lode deposits of the Fairbanks district, Alaska: U.S. Geol. Survey Bull. 849-B, p. 19-163.

Hoare, J. M., and Cobb, E. H., 1977, Mineral occurrences (other than mineral fuels and construction materials) in the Bethel, Goodnews, and Russian Mission quadrangles, Alaska: U.S. Geol. Survey open-file rept. 77-156, 98 p.

Hoare, J. M., and Coonrad, W. L. 1959a, Geology of the Bethel quadrangle, Alaska: U.S. Geol. Survey Misc. Geol. Inv. Map I-285, 1 sheet, scale, 1:250,000.

Hoare, J. M., and Coonrad, W. L., 1959b, Geology of the Russian Mission quadrangle, Alaska: U.S. Geol. Survey Misc. Geol. Inv. Map I-292, 1 sheet, scale, 1:250,000.

Hoare, J. M., and Coonrad, W. L., 1961, Geologic map of the Goodnews quadrangle, Alaska: U.S. Geol. Survey Misc. Geol. Inv. Map I-339, 1 sheet, scale, 1:250,000.

Jasper, M. W., 1961, Mespelt mine, Medfra quadrangle, in Alaska Division of Mines and Minerals, Report for the year 1961: Juneau, Alaska, p. 49-53, 56-58.

Jasper, M. W., 1963, Harvison mercury prospect, in Alaska Division of Mines and Minerals, Report for the year 1963: Juneau, Alaska, p. 51-52.

Joesting, H. R., 1942, Strategic mineral occurrences in interior Alaska: Alaska Dept. Mines Pamph. 1, 46 p.

Joesting, H. R., 1943, Supplement to Pamphlet No. 1 - Strategic mineral occurrences in interior Alaska: Alaska Dept. Mines Pamph. 2, 28 p.

Johnson, B. L., 1910, Occurrence of wolframite and cassiterite in the gold placers of Deadwood Creek, Birch Creek district: U.S. Geol. Survey Bull. 442, p. 246-250.

Killeen, P. L., and Mertie, J. B., Jr., 1951, Antimony ore in the Fairbanks district, Alaska: U.S. Geol. Survey open-file rept., 43 p.

Kimball, A. L., 1969a, Reconnaissance of Tatonduk River red beds: U.S. Bur. Mines open-file rept. 1-69, 11 p.

Kimball, A. L., 1969b, Reconnaissance sampling of decomposed monzonite for gold near Flat, Alaska: U.S. Bur. Mines open-file rept. 6-69, 39 p.

MacKevett, E. M., Jr., and Berg, H. C., 1963, Geology of the Red Devil quicksilver mine, Alaska: U.S. Geol. Survey Bull. 1142-G, p. G1-G16.

Maddren, A. G., 1909, Gold placers of the Ruby Creek district: U.S. Geol. Survey Bull. 379, p. 229-233.

Maddren, A. G., 1910, The Innoko gold-placer district, Alaska, with accounts of the central Kuskokwim Valley and the Ruby Creek and Gold Hill placers: U.S. Geol. Survey Bull. 410, 87 p.

Maddren, A. G., 1911, Gold placer mining developments in the Innoko-Iditarod region: U.S. Geol. Survey Bull. 480, p. 236-270.

Maddren, A. G., 1912, The Ruby placer district: U.S. Geol. Survey Bull. 520, p. 287-296.

Maddren, A. G., 1915, Gold placers of the lower Kuskokwin with a note on copper in the Russian Mountains: U.S. Geol. Survey Bull. 622, p. 292-360.

Malone, Kevin, 1962 Mercury occurrences in Alaska: U.S. Bur. Mines Inf. Cir. 8131, 57 p.

Maloney, R. P., 1962a, Investigation of mercury-antimony deposits near Flat, Yukon River region, Alaska: U.S. Bur. Mines Rept. Inv. 5991, 44 p.

Maloney, R. P., 1962b, Trenching and sampling at the Rhyolite mercury prospect, Kuskokwim River basin, Alaska: U.S. Bur. Mines Rept. Inv. 6141, 43 p.

Maloney, R. P., 1968, Soil sampling at the Egnaty Creek mercury prospect, Kuskokwim River basin, Alaska: U.S. Bur. Mines open-file rept. 16-68, 6 p.

Maloney, R. P., 1969, Sampling for gold in river bars, Kuskokwim River basin, Alaska: U.S. Bur. Mines open-file rept. 16-69, 10 p.

Maloney, R. P., 1971, Investigations of gossans of Hot Springs Dome, near Manley Hot Springs, Alaska: U.S. Bur. Mines open-file rept. 8-71, 28 p.

Martin, G. C., 1919, The Alaskan mining industry in 1917: U.S. Geol. Survey Bull. 692, p. 11-42.

Martin, G. C., 1920, The Alaskan mining industry in 1918: U.S. Geol. Survey Bull. 712, p. 11-52.

Martin, G. C., and Katz, F. J., 1912, A geologic reconnaissance of the Iliamna region, Alaska: U.S. Geol. Survey Bull. 485, 138 p.

Mertie, J. B., Jr., 1918a, The gold placers of the Tolovana district: U.S. Geol. Survey Bull. 662, p. 221-277.

Mertie, J. B., Jr., 1918b, Lode mining in the Fairbanks district: U.S. Geol. Survey Bull. 662, p. 403-424.

Mertie, J. B., Jr., 1930a, Geology of the Eagle-Circle district, Alaska: U.S. Geol. Survey Bull. 816, 168 p.

Mertie, J. B., Jr., 1930b, The Chandalar-Sheenjek district: U.S. Geol. Survey Bull. 810, p. 87-139.

Mertie, J. B., Jr., 1930c, Mining in the Fortymile district: U.S. Geol. Survey Bull. 813, p. 125-142.

Mertie, J. B., Jr., 1932, Mining in the Circle district: U.S. Geol. Survey Bull. 824, p. 155-172.

Mertie, J. B., Jr., 1933, The Tatonduk-Nation district, Alaska: U.S. Geol. Survey Bull. 836, p. 347-443.

Mertie, J. B., Jr., 1934, Mineral deposits of the Rampart and Hot Springs districts, Alaska: U.S. Geol. Survey Bull. 844-D, p. 163-226.

Mertie, J. B., Jr., 1936, Mineral deposits of the Ruby-Kuskokwim region, Alaska: U.S. Geol. Survey Bull. 864-C, p. 115-255.

Mertie, J. B., Jr., 1937, The Kaiyuh Hills, Alaska: U.S. Geol. Survey Bull. 868-D, p. 145-177.

Mertie, J. B., Jr., 1938a, Gold placers of the Fortymile, Eagle, and Circle districts, Alaska: U.S. Geol. Survey Bull. 897-C, p. 133-261.

Mertie, J. B., Jr., 1938b, The Nushagak district, Alaska: U.S. Geol. Survey Bull. 903, 96 p.

Mertie, J. B., Jr., 1942, Tertiary deposits of the Eagle-Circle district, Alaska: U.S. Geol. Survey Bull. 917-D, p. 213-264.

Mertie, J. B., Jr., 1969, Economic geology of the platinum minerals: U.S. Geol. Survey Prof. Paper 630, 120 p.

Mertie, J. B., Jr., 1976, Platinum deposits of the Goodnews Bay district, Alaska: U.S. Geol. Survey Prof. Paper 938, 42 p.

Mertie, J. B., Jr., and Harrington, G. L., 1916, Mineral resources of the Ruby-Kuskokwim region: U.S. Geol. Survey Bull. 642, p. 223-266.

Mertie, J. B., Jr., and Harrington, G. L., 1924, The Ruby-Kuskokwim region: Alaska: U.S. Geol. Survey Bull. 754, 129 p.

Miller, T. P., 1976, Hardrock uranium potential of Alaska: U.S. Geol. Survey open-file rept. 76-246, 7 p.

Miller, T. P., 1977, Geologic interpretation of a radioactivity anomaly near the West Fork of the Buckland River, western Alaska: U.S. Geol. Survey open-file rept. 77-372, 9 p.

Miller, T. P., and Elliott, R. L., 1977, Progress report on uranium investigations in the Zane Hills area, west-central Alaska: U.S. Geol. Survey open-file rept. 77-428, 12 p.

Miller, T. P., and Ferrians, O. J., Jr., 1968, Suggested areas for prospecting in the central Koyukuk River region, Alaska: U.S. Geol. Survey Circ. 570, 12 p.

Moffit, F. H., 1927, Mineral industry in Alaska in 1925: U.S. Geol. Survey Bull. 792, p. 1-39.

Moxham, R. M., 1954, Reconnaissance for radioactive deposits in the Manley Hot Springs-Rampart district, east-central Alaska, 1948: U.S. Geol. Survey Circ. 317, 6 p.

Mulligan, J. J., 1974, Mineral resources of the trans-Alaska pipeline corridor: U.S. Bur. Mines Inf. Circ. 8626, 24 p.

Nelson, A. E., West, W. S., and Matzko, J. J., 1954, Reconnaissance for radioactive deposits in eastern Alaska, 1952: U.S. Geol. Survey Circ. 348, 21 p.

Overbeck, R. M., 1920, Placer mining in the Tolovana district: U.S. Geol. Survey Bull. 712, p. 177-184.

Patton, W. W., Jr., and Bickel, R. S., 1956, Geologic map and structure sections of the Shaktolik River area, Alaska: U.S. Geol. Survey Misc. Geol. Inv. Map I-226, 1 sheet, scale 1:80,000.

Patton, W. W., Jr., and Miller, T. P., 1970, Preliminary geologic investigations in the Kanuti River region, Alaska: U.S. Geol. Survey Bull. 1312-J, p. J1-J10.

Pilkington, H. D., Forbes, R. B., Hawkins, D. B., Chapman, R. M., and Swainbank, R. C., 1969, Preliminary investigation of gold mineralization in the Pedro Dome-Cleary Summit area, Fairbanks district, Alaska: U.S. Geol. Survey open-file rept., 47 p.

Porter, E. A., 1912, Placer mining in the Fortymile, Eagle, and Seventymile River districts: U.S. Geol. Survey Bull. 520, p. 211-218.

Prindle, L. M., 1904, Gold placers of the Fairbanks district, Alaska: U.S. Geol. Survey Bull. 225, p. 64-73.

Prindle, L. M., 1905, The gold placers of the Fortymile, Birch Creek, and Fairbanks regions, Alaska: U.S. Geol. Survey Bull. 251, 89 p.

Prindle, L. M., 1906, Yukon placer fields: U.S. Geol. Survey Bull. 284, p. 109-127.

Prindle, L. M., 1908a, The Fortymile gold placer district: U.S. Geol. Survey Bull. 345, p. 187-197.

Prindle, L. M., 1908b, The Fairbanks and Rampart quadrangles, Yukon-Tanana region, Alaska, with a section on the Rampart placers, by F. L. Hess, and a paper on the water supply of the Fairbanks region, by C. C. Covert: U.S. Geol. Survey Bull. 337, 102 p.

Prindle, L. M., 1909, The Fortymile quadrangle, Yukon-Tanana region, Alaska: U.S. Geol. Survey Bull. 375, 52 p.

Prindle, L. M., 1910a, Sketch of the geology of the northeastern part of the Fairbanks quadrangle: U.S. Geol. Survey Bull. 442, p. 203-209.

Prindle, L. M., 1910b, Auriferous quartz veins in the Fairbanks district: U.S. Geol. Survey Bull. 442, p. 210-229.

Prindle, L. M., 1913, A geologic reconnaissance of the Circle quadrangle, Alaska: U.S. Geol. Survey Bull. 538, 82 p.

Prindle, L. M., and Hess, F. L., 1905, Rampart placer region: U.S. Geol. Survey Bull. 259, p. 104-119.

Prindle, L. M., and Hess, F. L., 1906, The Rampart gold placer region, Alaska: U.S. Geol. Survey Bull. 280, 54 p.

Prindle, L. M., and Katz, F. J., 1913, Geology of the Fairbanks district, in Prindle, L. M., A geologic reconnaissance of the Fairbanks quadrangle, Alaska: U.S. Geol. Survey Bull. 525, p. 59-152.

Prindle, L. M., and Mertie, J. B., Jr., 1912, Gold placers between Woodchopper and Fourth of July Creeks, upper Yukon River: U.S. Geol. Survey Bull. 520, p. 201-210.

Reed, I. McK., 1938, Upper Koyukuk region, Alaska: Alaska Dept. Mines unpublished report, 169 p.

Rutledge, F. A., 1948, Investigation of the Rainy Creek mercury prospect, Bethel district, Kuskokwim region, southwestern Alaska: U.S. Bur. Mines Rept. Inv. 4361, 7 p.

Rutledge, F. A., 1950, Investigation of mercury deposits, Cinnabar Creek area, Georgetown and Akiak districts, Kuskokwim region, southwestern Alaska: U.S. Bur. Mines Rept. Inv. 4719, 9 p.

Sainsbury, C. L., and MacKevett, E. M., Jr., 1965, Quicksilver deposits of southwestern Alaska: U.S. Geol. Survey Bull. 1187, 89 p.

Saunders, R. H., 1962, Mitchell copper prospect, Eagle quadrangle, in Alaska Division of Mines and Minerals, Report for the year 1962: Juneau, Alaska, p. 85-88.

Saunders, R. H., 1965, A geochemical investigation in the Richardson area, Big Delta quadrangle, Alaska: Alaska Div. Mines and Minerals Geochem. Rept. 3, 11 p.

Saunders, R. H., 1967, Mineral occurrences in the Yukon-Tanana region, Alaska: Alaska Div. Mines and Minerals Spec. Rept. 2, 58 p.

Schrader, F. C., and Brooks, A. H., 1900, Preliminary report on the Cape Nome gold region, Alaska: U.S. Geol. Survey Spec. Pub., 56 p.

Singer, D. A., Curtin, G. C., and Foster, H. L., 1976, Mineral resources map of the Tanacross quadrangle, Alaska: U.S. Geol Survey Misc. Field Studies Map MF-767E, 1 sheet, scale 1:250,000.

Smith, P. S., 1913a, Lode mining near Fairbanks, in Prindle, L. M., A geologic reconnaissance of the Fairbanks quadrangle Alaska: U.S. Geol. Survey Bull. 525, p. 153-216.

Smith, P. S., 1913b, The Noatak-Kobuk region, Alaska: U.S. Geol. Survey Bull. 536, 160 p.

Smith, P. S., 1926, Mineral industry of Alaska in 1924: U.S. Geol. Survey Bull. 783, p. 1-30.

Smith, P. S., 1929, Mineral industry of Alaska in 1926: U.S. Geol. Survey Bull. 797, p. 1-50.

Smith, P. S., 1930a, Mineral industry of Alaska in 1927: U.S. Geol. Survey Bull. 810, p. 1-64.

Smith, P. S., 1930b, Mineral industry of Alaska in 1928: U.S. Geol. Survey Bull. 813, p. 1-72.

Smith, P. S., 1932, Mineral industry of Alaska in 1929: U.S. Geol. Survey Bull. 824, p. 1-81.

Smith, P. S., 1933a, Mineral industry of Alaska in 1931: U.S. Geol. Survey Bull. 844-A, p. 1-82.

Smith, P. S., 1933b, Mineral industry of Alaska in 1930: U.S. Geol. Survey Bull. 836, p. 1-83.

Smith, P. S., 1934a, Mineral industry of Alaska in 1932: U.S. Geol. Survey Bull. 857-A, p. 1-91.

Smith, P. S., 1934b, Mineral industry of Alaska in 1933: U.S. Geol. Survey Bull. 864-A, p. 1-94.

Smith, P. S., 1936, Mineral industry of Alaska in 1934: U.S. Geol. Survey Bull. 868-A, p. 1-91.

Smith, P. S., 1937, Mineral industry of Alaska in 1935: U.S. Geol. Survey Bull. 880-A, p. 1-95.

Smith, P. S., 1938, Mineral industry of Alaska in 1936: U.S. Geol. Survey Bull. 897-A, p. 1-107.

Smith, P. S., 1939a, Mineral industry of Alaska in 1938: U.S. Geol. Survey Bull. 917-A, p. 1-113.

Smith, P. S., 1939b, Mineral industry of Alaska in 1937: U.S. Geol. Survey Bull. 910-A, p. 1-113.

Smith, P. S., 1941, Mineral industry of Alaska in 1939: U.S. Geol. Survey Bull. 926-A, p. 1-106.

Smith, P. S., 1942a, Occurrences of molybdenum minerals in Alaska: U.S. Geol. Survey Bull. 926-C, p. 161-210.

Smith, P. S., 1942b, Mineral industry of Alaska in 1940: U.S. Geol. Survey Bull. 933-A, p. 1-102.

Smith, P. S., and Eakin, H. M., 1911, A geologic reconnaissance in southeastern Seward Peninsula and the Norton Bay-Nulato region, Alaska: U.S. Geol. Survey Bull. 449, 146 p.

Smith, P. S., and Maddren, A. G., 1915, Quicksilver deposits of the Kuskokwim region: U.S. Geol. Survey Bull. 622, p. 272-291.

Smith, W. H., 1968, A geochemical investigation of a portion of the Fortymile district, Alaska: Alaska Div. Mines and Minerals Geochem. Rept. 16, 17 p.

Sorg, D. H. and Estlund, M. B., 1972, Geologic map of the Mountain Top mercury deposit, southwestern Alaska: U.S. Geol. Survey Misc. Field Studies Map MF-449, scale 1:600.

Spurr, J. E., 1898, Geology of the Yukon gold district, Alaska, with an introductory chapter on the history and conditions of the district to 1897, by H. B. Goodrich: U.S. Geol. Survey 18th Ann. Rept., pt. 3, p. 87-392.

Thomas, B. I., 1957, Tin-bearing placer deposits near Tofty, Hot Springs district, central Alaska: U.S. Bur. Mines Rept. Inv. 5373, 56 p.

Thomas, B. I., 1964, Galena-bearing gossans, Beaver Creek, Ruby district, Yukon region, west-central Alaska: U.S. Bur. Mines open-file rept., 28 p.

Thomas, B. I., 1965, Reconnaissance sampling of the Avnet manganese prospect, Tanana quadrangle, central Alaska: U.S. Bur. Mines open-file rept. 10-65, 8 p.

Thomas, B. I., 1970, Reconnaissance of the gold-bearing quartz veins in the Tibbs Creek area, Goodpaster River, Big Delta quadrangle, central Alaska: U.S. Bur. Mines open-file rept. 14-70, 12 p.

Thomas, B. I., and Wright, W. S., 1948, Investigation of Morelock Creek tin placer deposits, Fort Gibbon district, Alaska: U.S. Bur. Mines Rept. Inv. 4322, 8 p.

Thorne, R. L., Muir, N. M., Erickson, A. W., Thomas, B. I., Heide, H. E., and Wright, W. S., 1948, Tungsten deposits in Alaska: U.S. Bur. Mines. Rept. Inv. 4174, 22 p.

Thorne, R. L., and Wright, W. S., 1948, Sampling methods and results at the Sullivan Creek tin placer deposits, Manley Hot Springs, Tofty, Alaska: U.S. Bur. Mines Rept. Inv. 4346, 8 p.

U.S. Geological Survey, 1963, Geological Survey research 1963, summary of investigations, prepared by members of the Conservation, Geologic, and Water Resources Divisions: U.S. Geol. Survey Prof. Paper 475-A, p. A1-A300.

U.S. Geological Survey, 1976, Aeromagnetic survey, west half of the Ruby quadrangle, Alaska: U.S. Geol. Survey open-file map 76-188, 1 sheet, scale 1:250,000.

Warfield, R. S., 1970, Testing for downward vein extensions of gold-silver mineralization in the Wolf Creek-Fairbanks Creek divide area, Fairbanks district, Alaska: U.S. Bur. Mines open-file rept. 3-70, 20 p.

Warfield, R. S., and Thomas, B. I., 1972, Rotary drilling exploration of the Ryan lode properties, Fairbanks mining district, Alaska: U.S. Bur. Mines open-file rept. 23-72, 21 p.

Waters, A. E., Jr., 1934, Placer concentrates of the Rampart and Hot Springs districts: U.S. Geol. Survey Bull. 844-D, p. 227-246.

Wayland, R. G., 1961, Tofty tin belt, Manley Hot Springs district, Alaska: U.S. Geol. Survey Bull. 1058-I, p. 363-414.

Wedow, Helmuth, Jr., White, M. G., and Moxham, R. M., 1952, Interim report on an appraisal of the uranium possibilities of Alaska: U.S. Geol. Survey open-file rept., 123 p.

Wedow, Helmuth, Jr., and others, 1953, Preliminary summary of reconnaissance for uranium and thorium in Alaska, 1952: U.S. Geol. Survey Circ. 248, 15 p.

Wedow, Helmuth, Jr., and others, 1954a, Reconnaissance for radioactive deposits in eastern interior Alaska, 1946: U.S. Geol. Survey Circ. 331, 36 p.

Wedow, Helmuth, Jr., and others, 1954b, Reconnaissance for radioactive deposits in east-central Alaska, 1949: U.S. Geol. Survey Circ. 335, 22 p.

West, W. S., 1954, Reconnaissance for radioactive deposits in the lower Yukon-Kuskokwim region, Alaska, 1952: U.S. Geol. Survey Circ. 328, 10 p.

White, M. G., 1952, Reconnaissance for radioactive deposits along the upper Porcupine and lower Coleen Rivers, northeastern Alaska: U.S. Geol. Survey Circ. 185, 13 p.

White, M. G., and Killeen, P. L., 1953, Reconnaissance for radioactive deposits in the lower Yukon-Kuskokwim highlands region, Alaska: U.S. Geol. Survey Circ. 255, 18 p.

White, M. G., and Stevens, J. M. 1953, Reconnaissance for radioactive deposits in the Ruby-Poorman and Nixon Fork districts, west-central Alaska: U.S. Geol. Survey Circ. 279, 19 p.