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

TO ACCOMPANY
OPEN-FILE MAP 77-168D
This report is preliminary and has not been edited or reviewed for conformity with Geological Survey standards and nomenclature

Menlo Park, California
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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 Unpublished documents in the technical files of the U.S. Geological Survey were also consulted.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 aban­
doned, 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:

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Price</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimony (Sb)</td>
<td>$ 1.70</td>
<td>Pound</td>
</tr>
<tr>
<td>Copper (Cu)</td>
<td>$ 0.74</td>
<td>Pound</td>
</tr>
<tr>
<td>Gold (Au)</td>
<td>$104.70</td>
<td>Troy ounce</td>
</tr>
<tr>
<td>Lead (Pb)</td>
<td>$ 0.25</td>
<td>Pound</td>
</tr>
<tr>
<td>Mercury (Hg)</td>
<td>$110.00</td>
<td>76-pound (34.5-kg) flask</td>
</tr>
<tr>
<td>Platinum (Pt)</td>
<td>$180.00</td>
<td>Troy ounce</td>
</tr>
<tr>
<td>Silver (Ag)</td>
<td>$ 4.21</td>
<td>Troy ounce</td>
</tr>
<tr>
<td>Tin (Sn)</td>
<td>$ 3.96</td>
<td>Pound</td>
</tr>
<tr>
<td>Tungsten (W)</td>
<td>$110.48</td>
<td>Stu WO3, 65 percent minimum</td>
</tr>
</tbody>
</table>
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.
<table>
<thead>
<tr>
<th>MAP NO. AND NAME(S) (if known)</th>
<th>MAP COORDINATES</th>
<th>DEVELOPMENT LOCATION</th>
<th>RESOURCES</th>
<th>FORM</th>
<th>TYPE</th>
<th>BRIEF DESCRIPTION</th>
<th>PRINCIPAL REFERENCES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slate Creek</td>
<td>B.20 T.25N R.5W.</td>
<td>m(f)</td>
<td>Au</td>
<td>Disseminated Placer</td>
<td>A few men reportedly mined placer gold from gravels of Slate Creek during the 1950's and 1960's. Production small to judge from extent of workings</td>
<td>Cobe, 1971, p.177</td>
<td></td>
</tr>
<tr>
<td>Trout Creek</td>
<td>B.20 T.25N R.5W.</td>
<td>o</td>
<td>(Mo,In)</td>
<td>not known Lode</td>
<td>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 Hodzana pluton (1015 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</td>
<td>Smith,1942a, p. 197; Berg and Cook, 1967, p. 240; Brough, W. P., 1977 (oral commun.)</td>
<td></td>
</tr>
<tr>
<td>Map No. and Name(s)</td>
<td>Map Coordinates</td>
<td>Development Category</td>
<td>Resources Minor Constituents or Potential Byproducts in Parentheses</td>
<td>Form</td>
<td>Type</td>
<td>Brief Description</td>
<td>Principal References</td>
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</tr>
<tr>
<td>1 Arsenic Creek</td>
<td>N. 8 T.25 S. R.63 N.</td>
<td>p</td>
<td>Au, Hg (Ass)</td>
<td>Vein</td>
<td>Hydrothermal (low temperature)</td>
<td>Quartz veins, associated with northeast trending faults that dip steeply northwest contain cinnabar, realgar and small amounts of orpiment. Host is greywacke, shale and minor conglomerate of Early to Late Cretaceous Kuskokwin Group. Closely associated with hydrothermally altered diabase sills. 1949 USGS 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 1940s. Total production probably small. Gold placers probably reconstituted from glacial and/or glacio-fluvial deposits</td>
<td>Rutledge, 1948, p. 7; Sainsbury and MacKerrait, 1986, p. 50-53</td>
</tr>
<tr>
<td>2 Canyon Creek</td>
<td>N. 8 T.1W. R.62 N.</td>
<td>m</td>
<td>Au</td>
<td>Placer</td>
<td>Disseminated</td>
<td>Discovered 1913 and has been major producer of area almost every year since, except during World War II. Production as recent as 1976. Initial hand operations recovered $2,000-$4,000/troy oz gold (based on old 220.677 troy oz price). Placer concentrations at bedrock in main channel and 10-20 ft thick left and right bench gravels. Source may be auriferous quartz veins in hornfels zone that surrounds small Tertiary pluton in Early Cretaceous (Kuskokwin Group) graywacke, shale, argillite and argilaceous volcanic rocks. Incomplete production records show about 7500 crude ounces produced prior to World War II; about 860 fine ounces.</td>
<td>Maddren, 1915, p. 256-257; Haare and Cobb, 1977, p. 6</td>
</tr>
<tr>
<td>3 Columbia Creek</td>
<td>N. 9 T.6N. R.65 N.</td>
<td>p</td>
<td>Au</td>
<td>Placer</td>
<td>Disseminated</td>
<td>Claims prospected by New York Alaska Gold-Dredging Corp. in 1949 or 1950 using churn unit. No record of mining having been attempted. Bedrock consists of Jurassic sedimentary and volcanic rock intruded by a Tertiary granitic pluton and several rhyolitic domes. No evidence that Columbia Creek valley was glaciated but contains thick outwash deposits from the large glacier that formerly occupied the Heskethul Valley to the south.</td>
<td>Haare and Cooper, 1959a; Haare and Cobb, 1977, p. 8</td>
</tr>
<tr>
<td>4.5 Cripple Creek</td>
<td>N. 9 T.7N. R.6W.</td>
<td>m</td>
<td>Au</td>
<td>Placer</td>
<td>Disseminated</td>
<td>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 325 yd. Left limit benches said to contain as much gold as the flood plain deposits. Fine flaky gold associated with abundant magnetite. Bedrock mainly gneissic and related rocks of Cretaceous Kuskokwin Group and small Tertiary elliptic intrusive. Some left limit tributaries head in Tertiary gneissic stock and surrounding intrusives zone of Cripple Mountains</td>
<td>Haare and Cobb, 1977, p. 9</td>
</tr>
<tr>
<td>6.7 Dominion Creek</td>
<td>N. 9 T.10N. R.5W.</td>
<td>p</td>
<td>Au</td>
<td>Placer</td>
<td>Disseminated</td>
<td>No record of production but stating of lower half of valley was essentially complete as of 1914. Fine color reported near mouth of creek. Reported to contain large amount of low-grade ground that may be suitable for dredging. Bedrock is gneissic and other clastics of Cretaceous Kuskokwin Group. Some right limit tributaries head in Tertiary gneissic stock of Mt. Flumer and Marvel Dome</td>
<td>Maddren, 1915, p. 326-328; Haare and Cobb, 1977, p. 16</td>
</tr>
<tr>
<td>6.7 Eureka Creek</td>
<td>N. 9 T.10N. R.5W.</td>
<td>p</td>
<td>Au</td>
<td>Placer</td>
<td>Disseminated</td>
<td>Numerous claims located and small placer gold prospect located in glacial gravels but no mining reported as of 1914</td>
<td>Maddren, 1915, p. 239</td>
</tr>
</tbody>
</table>
9 Fisher Creek
H. 9
T.9N. R.59W.
p
Au
Disseminated Placer

10 Fisher Dome
H. 9
T.9N. R.59W.
o
Sb
Lode Hydrothermal

11 Golden Butte
Mines, Inc.
[Golden Gate Falls. Royal Quartz Mines, Digipagalla River]
H. 8
T.9N. R.62W.
p
Ca, Au
Disseminated and vein Hydrothermal

12 Granite Creek
H. 8
T.10N. R.61W.

13 Kapan Creek
H. 8
T.1N. R.63N.

14 Marvel Creek
H. 9
T.9,10N. R.58W.

15 Robin Creek
H. 9
T.10N. R.59W.
(Approx.)

16 Rocky Creek
H. 9
T.56. R.59W.
p
Au, Hg
Disseminated Placer

17 Tulusak
H. 889
T.10N. R.60.
N
Au(Ag,Pt,Cu)
Disseminated Placer

18 River
T.10N. R.60.
e (Ca)

19 Gila

Left limit tributary to Salmon River. Drainage Fisher Dome which is underlain by Tertiary albite molybdenite intrusives in al- termed graphitic and related sedimentary rocks of Cretaceous Kuskwim Group. Six prospect holes to bedrock about 4 at above creek would penetrated 15-30 ft of frozen silt and gravel. No reported mining or production as of 1914.

Fisher Dome at head of Fisher Creek.

Schelite occurs in small quartz vein that cuts Tertiary albite molybdenite intrusive on top of Fisher Dome.

Prospected in early part of century. Quartz veins, reported to carry some gold, said to have been traced for several hundred feet in 1923. Traces of copper minerals in Golden Gate Fault zone that marks west boundary of ridge underlain by asmbole schist of Cretaceous (?) to Devonian (?) age. No intrusive rocks noted in immediate area when mapped in 1969. Also a small amount of gold placer mining undertaken in riverbed. Probably all names refer to same locality.


Stream crosses contact between Cretaceous granitic pluton and Jurassic interbedded volcanic and sedimentary rocks.


Discovered in August 1911 and has been major, almost continuous, producer of placer gold in region until at least 1975 when a dredge, bulldozer and dragline were still operating. Values ranged from $1.00 to more than $3.25/sq ft bedrock. Mainly bench gravel 200-400 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 homfelsed clastic rocks of Kuskwim Group (Cretaceous).

Staked 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 maximal derivation. Numerous scattered placer prospects but no definite report of finding gold.

Prospected by one man in 1969. Stream flows through glacial drift and outwash as well as unaltered sedimentary rocks of Cretaceous Kuskwim Group. Pan concentrates contained a few colors of gold and cinnabar.

A major producer of placer gold with minor amounts of silver and platinum. Dredge tailings reveal bedrocks of andesitic volcanics of Late Jurassic Semak Group and contain traces of copper minerals. In 1959 annual production equivalent to about 10,000 oz. Last dredge in area shut down at end 1964 season. (See also Tulusak River, Russian Mission quadrangle No. 7)
<table>
<thead>
<tr>
<th>MAP NO. AND NAME(S)</th>
<th>MAP COORDINATES</th>
<th>DEVELOPMENT CATEGOR(YES)</th>
<th>RESOURCES Minor constituents or potential byproducts in parentheses</th>
<th>FORM</th>
<th>TYPE</th>
<th>BRIEF DESCRIPTION</th>
<th>PRINCIPAL REFERENCE(S)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Kanuti River</td>
<td>8,18 T.19N..R.12.</td>
<td>0</td>
<td>(Pb,Ag,Zn,Cu)</td>
<td>Disseminated</td>
<td>Hydrothermal Disseminated galena and sphalerite occur as grains up to 5 cm long throughout an extensively altered pyritic zone (gossan) about 100 by 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 veinlets of hornblende, schist, quartzite, and jaspilitic (pre-Late Triassic). Composite grab samples along the gossan zone contain 700-20,000 ppm lead, 100-3,000 ppm zinc, 2-30 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.</td>
<td>Patton and Miller, 1970, p. 6-9</td>
<td></td>
</tr>
<tr>
<td>2 Stylymenkat</td>
<td>8,17 T.14N..R.16W.</td>
<td>0</td>
<td>U,Th</td>
<td>Disseminated</td>
<td>Uraniferous Disseminated(?) Uraniferous igneous rocks(?) Radioactivity anomaly over Stylymenkat Lake pluton and nearby plutons suggests possible disseminated uranium and thorium deposits in the plutons and their wall rocks.</td>
<td>Energy Research and Development Administration, 1976</td>
<td></td>
</tr>
<tr>
<td>Map No. and Name(s)</td>
<td>Map Coordinates (if known)</td>
<td>Development Category</td>
<td>Resources (Minor constituents or potential byproducts in parentheses)</td>
<td>Form</td>
<td>Type</td>
<td>Brief Description</td>
<td>Principal Reference(s)</td>
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<tr>
<td>Banner Creek</td>
<td>0.22 T.7S..R.7E.</td>
<td>m</td>
<td>Au (Pb, Sn)</td>
<td>Disseminated Placer</td>
<td></td>
<td>Bedrock in gold-producing area is muscovite porphyry (Cretaceous?). Gold discovered in 1905 or shortly thereafter. Recovery by open-pit mining. Lower part of Buckeye Creek, Moore Creek, Hinley Gulch, and Democrat Creek were also mined. Gold in the mining area in which Banner Creek is included ranged from 0.9 to 7.85 in fineness. Galena, scheelite, tourmaline, and cassiterite have been found in placer concentrates from Buckeye Creek, and cassiterite has been identified from Hinley Gulch. (Includes references to Buckeye Creek, Democrat Creek, Hinley Gulch, and Moore Creek)</td>
<td>Saunders, 1965, p. 14</td>
</tr>
<tr>
<td>Beaver Creek</td>
<td>0.22 T.2S..R.7E.</td>
<td>m</td>
<td>Au (Sn)</td>
<td>Disseminated Placer</td>
<td></td>
<td>Ground averaging 55 ppm was said to have been found in the winter of 1911-1912. Several windlass dumps were taken out. Scarce cassiterite occurs in the placers</td>
<td>Ellsworth and Devensport, 1971, p. 208; Joesting, 1942, p. 34</td>
</tr>
<tr>
<td>Blue Lead (same as Gray lead and Grizzly Bear)</td>
<td>0.24 T.6S..R.10E.</td>
<td>m</td>
<td>Au(Pb, Sb, Ag)</td>
<td>Vein</td>
<td>Hydrothermal</td>
<td>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 (r)stibnite. Gold content of the veins decreases with an increase in sulfides. Veins pinch and swell and range from a width of about 6 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 unnamed occurrences of gold and antimony. The Blue Lead is a gold-quartz vein about 24 ft wide with janesonite and a small amount of pyrite in granitic country rock. More than 100 tons were mined and milled in 1938. There are more than 175 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</td>
<td>Saunders, 1967, p. 23; Thomas, 1970, p. 8</td>
</tr>
<tr>
<td>Boulder Creek (see also Blue Lead)</td>
<td>0.24 T.6S..R.1EB</td>
<td>p</td>
<td>No</td>
<td>Vein</td>
<td>Hydrothermal(?), porphyry(?)</td>
<td>Molybdenite occurs sparingly in small quartz veins in Cretaceous (?) granitic rock</td>
<td>Joesting, 1942, p. 29</td>
</tr>
<tr>
<td>Butte Creek (Includes Twentynine Creek, a creek in the Salcha River drainage)</td>
<td>0.23 T.2S..R.10E.</td>
<td>p(?)</td>
<td>Au</td>
<td>Disseminated Placer</td>
<td></td>
<td>Bedrock is mostly gneissic quartz-mica schist and quartzite (Paleozoic and/or Precambrian). Staked and some development was in 1905. About 20 ft of gravel overburden by 6 ft of muck. Considerable prospecting but little production. Prospecting also on Twentynine Creek, but no production reported</td>
<td>Brelje, 1906, p. 123-125</td>
</tr>
<tr>
<td>Caribou Creek</td>
<td>0.23 T.2S..R.10E.</td>
<td>m</td>
<td>Au(N, Sn, Bi)</td>
<td>Disseminated Placer</td>
<td></td>
<td>Bedrock is mostly amphibolite-facies gneissic-quartz-mica schists (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</td>
<td>Smith, 1941, p. 40, 43; Joesting, 1942, p. 34, 39</td>
</tr>
<tr>
<td>Central Creek</td>
<td>0.24 T.6S..R.14E.</td>
<td>p(?)</td>
<td>Au</td>
<td>Disseminated Placer</td>
<td></td>
<td></td>
<td>Exploratory work reported in 1927</td>
</tr>
</tbody>
</table>
8 Democrat Creek
0.22 Au Vein(H) Hydrothermal
T.7S..R.7E.
Explored in 1921; no known production, although a mill was built on the property.
Saunders, 1965, p. 2

9 Gray Lead
0.24 Au Vein Hydrothermal
T.6S..R.18E.
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 recovering tailings in area in 1970's.
Thomson, 1970, p. 7-9

10 Grizzly Bear
0.24 Au Veins Hydrothermal
T.6S..R.18E.
Gold mined from quartz vein about 15 to 24 in. wide. Vein dips steeply south. Gold occurs near hanging wall and is coarser than in other veins in the area.
Smith, 1939a, p. 32; Thomson, 1970, p. 11

11 Michigan Creek
0.24 Au Disseminated Placer
T.9S..R.16E. (Includes Granite Creek)
Brown, 1918, p. 60; Thomson, 1970, p. 7

12 Nickel Creek
0.24 Ni,Cr Pods and segregations Magnetic
T.2S..R.15E.
In silica-carbonate zone adjacent to serpentinitized 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. 16, 18

13 No Grub Creek
0.23 Au(81,W) Disseminated Placer
T.3S..R.11E.
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. 39

14 Pasco Creek
0.23 Au(7) Disseminated Placer
T.3S..R.10E.
Indications of small placer mining operations, but period of activity not known.

15 Pine Creek
0.23 Au(5n) Disseminated Placer
T.2S..R.7E.
Scarce placer cassiterite reported. (Presence of gold assumed)
Joesting, 1942, p. 34

16 Redmond Creek
0.22 Au(7) Disseminated Placer
T.5S..R.6E.
Prospecting during the winter of 1908-1909. May have been a small amount of mining in the headwater tributaries.
Ellsworth, 1910, p. 245; Wedow, 1954a, p. 11

17 Tenderfoot Creek
0.22 Au Disseminated Placer
T.7S..R.8E.
Bedrocks are metasedimentary and metavolcanic rocks with common small quartz veins and stringers. Gold discovered in 1905 and is very low grade. Gold has been found for about 2.75 mi along the stream. This stream was the largest producer in the Richardson gold district.
Prindle and Katz, 1953, p. 113, 141

18 Tibbs Creek
0.24 Au Disseminated Placer
T.6S..R.18E.
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
<table>
<thead>
<tr>
<th>MAP NO. AND NAME(S)</th>
<th>MAP COORDINATES</th>
<th>DEVELOPMENT CATEGORY</th>
<th>RESOURCES</th>
<th>FORM</th>
<th>TYPE</th>
<th>BRIEF DESCRIPTION</th>
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<td>FINENESS</td>
<td>TYPE</td>
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<tr>
<td>1 Alder Creek</td>
<td>C.25 T.5N., R.20E.</td>
<td>Au</td>
<td>Disseminated Placer</td>
<td>Mertie, 1942, p. 250, 254-256</td>
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<tr>
<td>4 Coal Creek and tributaries</td>
<td>C.25 T.5N., R.20E.</td>
<td>Au</td>
<td>Disseminated Placer</td>
<td>Mertie, 1942, p. 250, 254-256</td>
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</tbody>
</table>
7 Iron Creek C.25 T.PR.R.21E. Au Disseminated Placer
TrIBUTARY TO WOODCHOPPER CREEK ON WHICH PLACER GOLD HAS BEEN MINED ON SMALL SCALE INTERMITTENTLY FOR MANY YEARS. CREEK DRAINS LATE CRETAZOUCE-PLIOPLACIC AREA OF CONTINENTAL SANDSTONE, MADSTONE, AND CONGLOMERATE THAT LIES ALONG THE TINTINA FAULT ZONE. PAY STREAKS UPTIGHT AND IRREGULAR, BUT GOLD REPORTEDLY COARSE AND HIGH GRADE. ONE SAMPLE ASSESSED ABOUT 904 FINE. (SEE ALSO WOODCHOPPER CREEK)

2 Mineral Creek C.25 T.5N.R.21E. 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 1898. TOTAL PRODUCTION TO 1906 ABOUT 670 FINE OUNCE. 3 WELL DEFINED BENCHES ON SOUTH WALL OF VALLEY AT ALTITUDES OF 200, 150, AND 200 FT ABOVE PRESENT CREEK LEVEL. GOLD PRESENT IN LOWER BENCHES 2-5 FT OF GRAVEL, MADE UP CHIEFLY OF LOCALLY DERIVED WELL ROUNDED CHERT AND QUARTZ PEBBLES OVERLAIN BY AS MUCH AS 30 FT OF MUD. PAY STREAK IN 3 PARALLEL CHANNELS 10-14 FT WIDE, 1-4 FT THICK OVER WIDTH OF 30-100 FT. BEARERS IS MAINLY NONMARINE CONGLOMERATE (LATE CRETAZOUCE TO PLIOZENE). GOLD IN CREEK BAD BRIGHT COLOR, CHEN FROM BENCHES IS DARK. GOLD MOSTLY COARSE; LARGEST NUGGET ABOUT 15 OZ. FINENESS RANGED FROM 923 TO 934 ABOUT HIGHEST REPORTED FROM THE REGION (SEE ALSO ALICE GULCH)

8 Nugget Creek (Gulch) C.26 T.4N.R.27E. (Approx.) Au Disseminated Placer
TRIBUTARY TO WASHINGTON WHICH DRAINAGE AREA IS ENTIRELY UNDERLAIN BY LATE CRETAZOUCE TO PLIOZENE NONMARINE CONGLOMERATE MADSTONE AND SANDSTONE. PLACER GOLD KNOWN PRIOR TO 1906. HIGHLY LOCALIZED ACCUMULATIONS OF COARSE GOLD ON BEDROCK. PREVIOUS SOURCE OF GOLD BELIEVED TO HAVE BEEN THE BEARER CONGLOMERATE. PRODUCTION NOT KNOWN BUT PROBABLY SMALL

9 Ruby Creek C.26 T.3N.R.28E. 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 CRETAZOUCE TO PLIOZENE?) NONMARINE CONGLOMERATE MADSTONE AND SANDSTONE. PLACER GOLD KNOWN PRIOR TO 1906. HIGHLY LOCALIZED ACCUMULATIONS OF COARSE GOLD ON BEDROCK. PREVIOUS SOURCE OF GOLD BELIEVED TO HAVE BEEN THE BEARER CONGLOMERATE. PRODUCTION NOT KNOWN BUT PROBABLY SMALL

10 Sawyer Creek C.26 T.4N.R.23E. (Approx.) Au Disseminated Placer
TRIBUTARY TO SAN CREEK ON WHICH SMALL PLACER DEPOT FOUND IN EARLY 1900'S. NEAR SOUTHERN BOUNDARY AT BELT OF LATE CRETAZOUCE-PLIOZENE CONTINENTAL SEDIMENTARY ROCKS THOUGHT TO BE PROXIMAL SOURCE OF GOLD, BUT WORKABLE PLACERS ARE NOT KNOWN TO OCCUR ON SAN CREEK Proper. (SEE ALSO BEN CREEK)

11 Tataniu River C.27 T.2N.R.33E. P Fe Tabular Sedimentary
LOW GRADE BANDED HEMATITIC RED BEDS OF SEDIMENTARY ORIGIN OCCUR IN THE TINDER GROUP (LATE PRECAMBRIAN). ALTHOUGH KNOWN FOR MANY YEARS, THERE IS NO RECORD OF EXPLORATION PRIOR TO SUMMER 1981, WHEN CLAIMS STAKED BY LOCAL PEOPLE FROM LOGIS AND BOUNDARY. SECTION CONSIDERED TO HAVE THE BEST POTENTIAL FOR RICH BANDED HEMATITE TO THE UPPER PART OF THE GROUP (UNIT C OF MERTIE, 1933) AND COMPRISES ABOUT 1,000 FT OF INTERBEDDED RED-BLACK-BROWN IRON AND ARCTITE (IN PART DIASTENITIC AND CHERTY), JASPER AND TUFF WITH MIDR CONGLOMERATE (IN PART SILTITITE). HEMATITE OCCURS IN DISCRETE BIFTS A FRACTION OF AN INCH TO 1 IN THICK, AS REPLACEMENT MINERAL OF VOLCANIC FRAGMENTS AND AS A HEMATITIC ARGILEOUS CEMENT, FAULT CONGLOMERATE 400-500 FT THICK HAS HEMATITE MATTER. SAMPLING OF 122 AND 200 FT INTERVALS JUDGED TO
The iron formation has the highest iron content by the USGS in 1962 showed 20.10 percent and 21.85 percent soluble iron, respectively. One 1/4 in. slaty bed assayed 33.4 percent soluble iron, the maximum tenor found. Analyses of bulk samples indicate very little magnetic component; 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 6-7 sq mi, but the Timbuct red-bed unit that contains the iron formation can be traced northward in discontinuous exposures for at least 30 mi.

Placer gold discovered 1902 or earlier and continued with no 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 much. Pay streaks 1/4-4 ft thick in as many as 3 parallel channels in width of 40 ft; abundant granitic boulders in gravel. Mean of 8 assays show fineness of 932 gold, 62 silver, and 6 dross. Platinum group metals (Pt, Ir) alloyed with the gold. Heavy mineral concentrates include nonozite. See also Iron Creek.

**Table:**

<table>
<thead>
<tr>
<th>Name</th>
<th>Location</th>
<th>Vein Type</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Woodchopper Creek</td>
<td>C.25</td>
<td>Au(Pt, Th) Disseminated Placer</td>
<td>Placer gold discovered 1902 or earlier and continued with no 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 much. Pay streaks 1/4-4 ft thick in as many as 3 parallel channels in width of 40 ft; abundant granitic boulders in gravel. Mean of 8 assays show fineness of 932 gold, 62 silver, and 6 dross. Platinum group metals (Pt, Ir) alloyed with the gold. Heavy mineral concentrates include nonozite. See also Iron Creek.</td>
</tr>
<tr>
<td>Unnamed Occurrence</td>
<td>C.26</td>
<td>Cu</td>
<td>Veins and disseminations</td>
</tr>
</tbody>
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Clark and Foster, 1971, p. 14

Clark and Foster, 1968, unpublished field notes.
<table>
<thead>
<tr>
<th><strong>MAP NO. AND NAME(S)</strong></th>
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<th><strong>DEVELOPMENT CATEGORY</strong></th>
<th><strong>RESOURCES</strong></th>
<th><strong>FORM</strong></th>
<th><strong>PRINCIPAL MINOR</strong></th>
<th><strong>CONSTITUENT(S) OR POTENTIAL BYPRODUCTS IN PARENTHESES</strong></th>
<th><strong>BRIEF DESCRIPTION</strong></th>
<th><strong>REFERENCE(S)</strong></th>
</tr>
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<tbody>
<tr>
<td>1 Bachelor Creek</td>
<td>C.22</td>
<td>m</td>
<td>Au</td>
<td>Disseminated</td>
<td>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 silt-size bouds of granite porphyry (early Tertiary, about 58 Ma) 75 ft thick parallel to schistosity (N.70°E.).</td>
<td>Mertle, 1910a, p. 208-209</td>
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<tr>
<td>2 Bedrock Creek</td>
<td>C.23</td>
<td>o</td>
<td>(Cu,W,Th)</td>
<td>Disseminated</td>
<td>Porphyry(?) Granitic intrusive (Late Cretaceous-early Tertiary) schist (Paleozoic and/or Precambrian). Sample of granite when concentrated contained 10 percent monazite and a small amount of scheelite. Also present were pyromeltite, garnet, tinstone, olivine, blende, and malachite. Fluorometric tests indicated the presence or uranium in several minerals but not in amounts to be of economic interest.</td>
<td>Nelson and others, 1938, p. 13</td>
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<tr>
<td>3 Birch Creek</td>
<td>C.24</td>
<td>m</td>
<td>Au</td>
<td>Disseminated</td>
<td>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 1906. No known recent activity or production.</td>
<td>Brooks, 1907a, p. 192; Ellsworth and Davenport, 1931, p. 213</td>
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<tr>
<td>4 Bonanza Creek</td>
<td>C.23</td>
<td>m</td>
<td>Au(Pb)</td>
<td>Disseminated</td>
<td>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 1928-1937. 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 2-4 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 10 oz. Little variation in fineness of the gold over a 10-year mining period (mean-830 gold, 140 silver). Gold, tinstone, garnet, tinstone, pyromeltite, pyromeltite, pyrite and galena present in heavy concentrate.</td>
<td>Mertle, 1932, p. 165; Mertle, 1938a, p. 226-228</td>
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<tr>
<td>5 Bottom Dollar Creek</td>
<td>C.24</td>
<td>m</td>
<td>Au</td>
<td>Disseminated</td>
<td>Placer Left from tributary of Harrison Creek on which placer gold was discovered in winter 1909-1910. Prospecting or small-scale mining reported 1909-1910, 1912, 1930-1939. sluicing activity 1935. Pay streak narrow and gold distribution spotty. Finishes reportedly ranged from 700-750 gold, 195-205 silver. No data on production. (See also Half Dollar Creek and Two Bit Gulch)</td>
<td>Ellsworth and Parker, 1911, p. 160, 164; Mertle, 1930a, p. 231, 238</td>
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</tr>
<tr>
<td>6 Boulder Creek</td>
<td>C.23</td>
<td>m</td>
<td>Au(Cu,RE's,U)</td>
<td>Disseminated</td>
<td>Placer Good placer gold prospects reported in benches, 1910. Mining 1929 and possibly at other times, including 1975. Depths to bedrock about 6 ft, most of the gold localized in lower 36 ft of the gravel. Bedrock is schist intruded by granite rocks of probable Late Cretaceous-early Tertiary age. Sample of the granite, when concentrated, contained 45 percent allanite and 15 percent chlorite (by volume) and several other minerals which gave positive fluorometric tests for the presence of uranium. Granitic bedrock also contains vugs of fluorite.</td>
<td>Mertle, 1932, p. 164; Nelson and others, 1954, p. 12-14</td>
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</table>
7 Butte Creek C.23
T.7N., R.11E. m Au Dissolved Placer
Left limit tributary to Burnt Creek southwest of Gold Dust Creek. Placer mining reported in 1916, 1927 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.

8 Charity Creek C.22
T.7N., R.7E. m Au Dissolved Placer
Placer gold discovered in early Elsworth, 1910, 1900's or earlier. Development work 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).

9 Deadwood Creek C.23-24
(Placer) T.7-8N., R.13-14E. M Au, Sn, Ag Dissolved Placer
Placer gold discovered 1894 and mining has continued with few interruptions until present time. Production data conflicting, but undoubtedly total output was many tons of thousands of ounces. One source (Prindle, 1905) reports total production through 1903 was about 75,570 oz; another (Brooks, 1907) indicates about 33,650 oz 1894-1906. Gold placers in gravels of present creek and benches along southwest side of valley. Principal bedrocks is massive quartzite schist and quartz mica schist with subordinate carbonaceous and chloritic schists (Paleozoic and/or Precambrian) intruded in places by granitic rocks and their fine-grained equivalents (Late Cretaceous-early Tertiary) and metadikes also present. Alluvial deposits at 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; overlie by a few inches to 8 ft or more of muck. Gold occurs both in the gravels and crevices in bedrocks. Creek gold is generally flattened and in places rather flaky; nuggets to 6 oz. Bank 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 Discovery Gulch, 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, cinnaer, stannopirite, galena, pyrite, tourmaline and garnets. 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).

10 Deep Creek C.22
T.6N., R.7E. M Au Dissolved 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. Creek drains quartzite schist (Paleozoic and/or Precambrian) cut by bodies of granitic rocks (Late Cretaceous-early Tertiary). (See also Faith Creek)
11 Dempsey Pup  C.22  p  Sb,Au(?  Vein  Hydrothermal  Quartz vein containing small lenses and stringers of stibnite and possibly gold explored by several short tunnels about 1902. Bedrock is quartzitic schist (Paleozoic and/or Precambrian). In 1942 only a few thin veins of stibnite could be seen in place. A few discontinuous veinslets 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)

12 Eagle Creek and Mastodon Fork  C.23  T.7N..R.11E.  m  Au  Disseminated Placer  Placer gold discovered 1905. Mining reported nearly every year through 1975 when two camps were in operation. Production through 1958 about 29,000 fine ounces. Bedrock mainly quartzitic schist (Paleozoic and/or Precambrian) cut by numerous quartz veins. Schistosity strikes N.40°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 bedrocks, 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 Deadwood Creeks area.

13 Frying Pan Creek  C.23  T.6N..R.12E.  p(?)  Au  Disseminated Placer  First reported finding of placer gold in 1906. Upper part of valley prospected in 1909 with a view towards mining by hydraulic methods. Mined 1937-1940 and for several years about 1950, but no known current activity. No other specific information in literature. (See also Deep Creek)

14 Golddust Creek  C.23  T.7N..R.11E.  m  Au  Disseminated Placer  Gravel of Golddust Creek (tributary to Birch Creek) prospected 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).

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. Gravel about 4 ft thick on bedrocks of schist. Fragments of vein quartz contain disseminated free gold and weathered sulfide minerals. One such fragment assayed 24 oz silver per ton.

5 Half Dollar Creek  C.24  T.7N..R.14E.  m  Au(Sn,Ag)  Disseminated Placer  Left limit tributary to Bottom Dollar Creek. Placer gold discovered 1909-1910, prospecting and/or mining 1909-1914, others 1935, 1939-1942 and probably a few other times. Pay streak narrow and gold distribution spotty. Cassiterite abundant and scheelite common in placer concentrates but no indication that either was recovered during mining. Granite rocks (Late Cretaceous-early Tertiary) exposed in drainage basin contain allanite, garnet, hematite, ilmenite, gneissite, sphene and zircon. Fluorimetric tests indicate the presence of uranium in several of these minerals. (See also Bottom Dollar Creek and Two Bit Gulch)
16 Hamson Creek
Includes North Fork
C.23 T.6-7N., R.12-13E.
Au(Sn) Disseminated Placer
Gold discovered at Pitta Bar (at mouth of North Fork) in 1993 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 granite rocks. Gravel 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, 144 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 pyrrhotite.

17 Holdea Creek
C.24 T.6N., R.15E.
Au Disseminated Placer
Small left limit tributary to Ketchum Creek on which gold discovered 1932. Mined 1932-1934. (See also Ketchum Creek)

18 Homestake Creek
C.22 T.7N., R.1E.
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)

19 Hope Creek
C.22 T.7N., R.7E.
Au Disseminated Placer
Placer gold discovered early 1900's, but apparently never mined extensively

18 Independence Creek
C.23 T.7N., R.12E.
Au(Pb,Sn,RE's) Disseminated Placer
Branch of Nacome 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 is 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 gravel as much as 425 ft but generally no more than 325 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 787 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, stibnite, zircon, garnet and hematite, some of which are slightly uraniferous. (See also Mammoth, Mastodon, and Miller Creeks)
<table>
<thead>
<tr>
<th>Creek</th>
<th>Town, Sec.</th>
<th>Au(Sn,RE's,U,W) Disseminated Placer</th>
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<tr>
<td>Ketchem Creek</td>
<td>17</td>
<td>Placer gold mined 1933-1940 and as recently as 1975. Creek drains contact zone between quartz-mica schist (Paleozoic and/or Precambrian) and granite intrusive (Late Cretaceous-early Tertiary). 4-7 ft of moderate sized gravel overlain by 1-7 ft of sand and mud. Granite boulders 3-4 ft diameter were a serious problem in the small-scale mining in the area just below Holdem Creek. Gold in lower part of gravel, in the upper part of the bedrocks, and in a fine-grained arkose sand that locally covers the bedrocks surface. Gold is fine-grained, but pieces weighing 7-15 grains have been found. Some of the gold has considerable quartz attached. Fineness reported as high as 920 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 Holdem Creek)</td>
</tr>
<tr>
<td>Champion Creek</td>
<td>C.22</td>
<td>Epigenetic? Anomalous amounts of uranium (as much as 570 ppm) were detected by USGS in sediment samples from springs localized along contact of the Mount Prindle granitic pluton (early Tertiary; 56.5-58.5 m.y. K/A biotite age) with quartzitic schist, micaceous quartzite and lesser amounts of quartz mica, phylitic and calcareous schist (Paleozoic and/or Precambrian). Stream sediments in area were found to contain up to 400 ppm uranium 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.</td>
</tr>
<tr>
<td>Mastodon Creek</td>
<td>C.23</td>
<td>Triabulary 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 1915); dredging 1915-1916, 1936-1940 and probably later but inactive at least since 1950. Production through 1906 almost 100,000 oz. Bedrock mainly quartzite- and mica-schist (Paleozoic and/or Precambrian) cut by granitic bodies (Late Cretaceous-early Tertiary). About 11 ft of locally derived gravel overlain by 2 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 granitic 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)</td>
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</tbody>
</table>

**CIRCLE QUADRANGLE**

Brooks, 1909, p. 54; Smith, 1934a, p. 35

**REFERENCES**

Barker and Clautice, 1977

Prindle, 1913, p. 63; Mertie, 1938a, p. 206-208; Nelson and others, 1954, p. 11-14

Spurr, 1898, p. 347-349; Prindle, 1913, p. 63; Mertie, 1938a, p. 206-208, 210-218

**MAJOR AREAS OF MINING IN CIRCLE QUADRANGLE**

Barker and Clautice, 1977

- **Little Champion Creek**: Eptigenetic? Anomalous amounts of uranium (as much as 570 ppm) were detected by USGS in sediment samples from springs localized along contact of the Mount Prindle granitic pluton (early Tertiary; 56.5-58.5 m.y. K/A biotite age) with quartzitic schist, micaceous quartzite and lesser amounts of quartz mica, phylitic and calcareous schist (Paleozoic and/or Precambrian). Stream sediments in area were found to contain up to 400 ppm uranium

- **Loper Creek**: 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

- **Mammoth Creek**: Triabulary 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 1915); dredging 1915-1916, 1936-1940 and probably later but inactive at least since 1950. Production through 1906 almost 100,000 oz. Bedrock mainly quartzite- and mica-schist (Paleozoic and/or Precambrian) cut by granitic bodies (Late Cretaceous-early Tertiary). About 11 ft of locally derived gravel overlain by 2 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 granitic 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)
19 Miller Creek
T.7N.R.11E. M Au Disseminated Placer

Left limit tributary to Mammoth Creek about 7 mi long with
asymmetrical valley. Northwest valley wall bench. Placer
gold mined intermittently from 1896 at least through 1975, but
apparently has not been large producer. Bedrock mainly Quartz-
ite and quartzite schist vened 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 decom-
posed bedrock. Pay stress 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, Mantodin, and Mammoth Creeks)

21 North Creek
T.8N.R.9-10E. M Au(Sn,In) Disseminated Placer

Placer gold discovered 1910.
Mining in progress 1975. Creek heads in Mount PrIndiana area
where small quartz monzonite stock (Late Cretaceous-middle
Tertiary) Intrudes schist
(Paleozoic and/or Precambrian). Ground about 15 ft deep with
2-4 ft of gravel. No data on production, but workings sug-
gest total is substantial. Con-
centrates also contain cassit-
erite, monazite, apatite and
tourmaline. Heavy fraction re-
portedly contained 0.012
percent

22 Palmer Creek
T.2N.R.11E. M Au(M) Disseminated Placer

Placer mining produced a small
amount of gold 1927-1941 and
probably later. Concentrates contained abundant scheelite
but no record that it was ever
recovered. Source of the schee-
lite and gold probably in the
numerous quartz veins that
cut the schist country rock
(Paleozoic and/or Precambrian).
No granitic rocks are known to
occur in the drainage area.

23 Porcupine Creek
T.2N.R.11E. M Au(Sn) Disseminated Placer

Placer gold discovered in 1890's.
Mining in progress 1975.
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
overlaid 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 com-
pised mostly of bedrock material
and has average size much less
than 1 ft. Gold mainly on and
in bedrock; coarse, ragged and
shelly. Numerous nuggets; some
up to 3-4 oz, all with considerable
quartz attached, weighted mean
of gold mined 1924 and 1925 shows
a fineness of 822 gold. 162 silver.
A little cassiterite occurs in the concentrates. Source of
the gold and tin may be the min-
eralized zone of which the lode
occurrence on Porcupine Dome is a
part. (See also Porcupine
Dome and Yankee Creek)
26 Portage Creek (Placer) C.24 T.7N., R.15E. M Au(W,RC'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 alluvial, zinc, antimony, molybdenum, scheelite, cassiterite, bismuthinite, wolframite, and tin. (Lode) C.24 T.7N., R.15E. (Zn,RC's,W) Disseminated Porphyry

27 Shamrock Creek C.23 T.2N., R.13E. M Au Disseminated Placer
Placer gold mined 1932-1940 and intermittently 1946-1959. Prospecting and maintenance work, 1966. Total production not known, but about 2800 oz gold reportedly produced 1937-1941. 200 oz cleaned from single 300 ft by 150 ft cut on discovery claim. Little if any ground prospected ahead of mining. A few blocks of unmined ground remain workable 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 3/4 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, cassiterite, and sparse cassiterite. Stibnite and scheelite identified in samples of granitic rocks (talus). (See also Dempsey Pup) Left limit tributary to Harrison Creek on which gold was discovered as early as 1904. Presently being mined on small scale. Currently being mined at junction with Harrison Creek. Bedrock is 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 permeable 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, scheelite, garnet, tourmaline, and fluorite. One report (Johnson, 1910) states wolframite found in Deadwood Creek concentrates but not Switch Creek. Another (Joesting, 1942) reports wolframite on lower Switch Creek. (See also Deadwood Creek)
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<tr>
<td><strong>Two Bit Gulch</strong></td>
<td>C.24</td>
<td>T.7N., R.14E.</td>
<td>m</td>
<td>Au</td>
<td>Dissolved Placer</td>
<td>Good placer gold prospects found in winter 1909-1910. Any other activity in this gulch probably was reported under Half Dollar Creek. (See also Half Dollar Creek.)</td>
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<td><strong>Yamana Creek</strong></td>
<td>C.23</td>
<td>T.8N., R.11E.</td>
<td>m</td>
<td>Au(Sn)</td>
<td>Dissolved Placer</td>
<td>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)</td>
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<td><strong>Van Curlers Bar</strong></td>
<td>C.23</td>
<td>T.2N., R.11E.</td>
<td>m</td>
<td>Au</td>
<td>Dissolved Placer</td>
<td>Small dredge operation resulting in moderate production for many years prior to 1963. Details lacking.</td>
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<td>MAP NO. AND NAME(S)</td>
<td>MAP COORDINATES</td>
<td>DEVELOPMENT (if known)</td>
<td>RESOURCES</td>
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<td>Pass Creek</td>
<td>1 A.26 T.34N..R.23E.</td>
<td>0</td>
<td>Au</td>
<td>Disseminated</td>
<td>Placer</td>
<td>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.</td>
<td>Hertie, 1930b, p. 138; Cobb, 1973, p. 172</td>
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<td>Rapid River tributary</td>
<td>2 A.27 T.32N..R.29E.</td>
<td>0</td>
<td>(U)</td>
<td>Disseminated</td>
<td>Placer</td>
<td>Stream gravel concentrates (concentration ratio of 2700:1) contain 0.002 percent Au 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.</td>
<td>White, 1952, p. 8</td>
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<td>Sunag(h)un Creek</td>
<td>3 A.27 T.31N..R.30E.</td>
<td>0</td>
<td>(U)</td>
<td>Disseminated</td>
<td>Placer</td>
<td>Concentrates from stream gravels with concentration ratios of 1000:1 and 2700:1 contained 0.010 and 0.002 percent Au, respectively. Concentrates from samples of bedrock of &quot;disintegrated rhyolitic dikes&quot; and greenschist bedrock (Carboniferous) contained range of 0.060 percent Au (2000:1 concentration ratio) to 0.002 percent Au (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.</td>
<td>White, 1952, p. 8-9</td>
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<tr>
<td>Humble Oil and Refining Co.</td>
<td>T.55., R.49W., and vicinity</td>
<td>p</td>
<td>Fe(Ti)</td>
<td>Disseminated</td>
<td>Magnetic</td>
<td>Buried titaniferous magnetite deposit discovered in 1958 on the basis of a 30,000 square magnetic anomaly (above regional values) identified in an airborne magnometer survey. Based on ground geophysical surveys, including gravity, and diamond core drilling (11 holes to maximum depth of 2000 ft) it is estimated that a tabular, steeply southeastward dipping magnetite-bearing pyroxenite intrusive at least 4000 ft thick occurs under an area of 4 sq mi or more. Most ore is silicified argillite, quartzite and limestone of Pennsylvanian 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 (55 percent Fe) that averages 2.3 percent SiO₂, 0.005-0.016 percent P₂O₅ and 2-3 percent Fe₂O₃. The pyroxenite body is overlain by 90-400 ft of glacial deposits.</td>
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<td>Lake Nerska</td>
<td>T.8S., R.56W. (Approx.)</td>
<td>o</td>
<td>Au</td>
<td>Disseminated</td>
<td>Placer</td>
<td>A little placer gold reportedly found at a small lobe between the two areas of Lake Nerska</td>
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<td>Marsh Mountain (Red Top)</td>
<td>T.10S., R.55W.</td>
<td>m</td>
<td>Mg</td>
<td>Vein, disseminated and breccia, Filling</td>
<td>Hydrothermal (low temperature)</td>
<td>Cinnabar occurs disseminated and in pods and veins up to 1.5 in wide and more than 40 ft long in relatively brittle pyroxenite of the Emscher Group (Carboniferous to Early Cretaceous) where a steep northeast-trending, right-lateral regional fault intersected an open southward-plunging syncline and produced a complex zone of shear 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. commem. 1935-1936 COKE, 1942, p. 68</td>
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<td>Nuklung Hills</td>
<td>T.9S., R.55W. (Approx.)</td>
<td>o</td>
<td>Au</td>
<td>Disseminated</td>
<td>Placer</td>
<td>Coarse gold reportedly found in a tributary of the Kokwok River along the southeast slopes of Nuklung Hills</td>
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<td>Silver Horn</td>
<td>T.6S., R.56W.</td>
<td>o</td>
<td>Vein?</td>
<td>Lode?</td>
<td>Multideposit reportedly found by B. H. Polley near head of Silver Horn on Lake Beverly in 1934</td>
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<td>Written commun., F. H. Maskey, Jan. 7, 1935</td>
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**References:**
- Berg and Cobb, 1967, p. 11
- Eakins, 1968, p. 8
- Nettles, 1937, p. 57-66
- Written commun., F. H. Maskey, Jan. 7, 1935
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<td>Alder Creek</td>
<td>T.2N., R.21E.</td>
<td>M</td>
<td>Au</td>
<td>Disseminated</td>
<td>Placer</td>
<td>Creek heads in quartzitic metamorphic rocks of the greenstone, felsics and a small Mesozoic granite intrusion. The lower course of the stream is in quartzite and quartz-wacke schist cut by felsic, mafic, and ultramafic dikes. Mining in progress before 1912 and has continued intermittently to the present. Hydrometallurgical operations in the 1960's. Some large nuggets (nearby) found. Mean of nine assays indicate a fineness of 848 gold and 153 silver.</td>
<td>Nettie, 1938a, p. 191-193</td>
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<tr>
<td>American Creek</td>
<td>T.25., R.32E.</td>
<td>M</td>
<td>Au(Th)</td>
<td>Disseminated</td>
<td>Placer</td>
<td>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 Discovery Fork anastomosing 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 greenstones, greenstone, marble, quartzite, and carbonaceous schist. The lower course of American Creek is in a canyon cutting serpentinitized peridotite and to the north conglomeratic and sandstone of Tertiary (?) age. American Creek has been mined since 1896. 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 (?) 0.686 gold, 0.130 silver. Concentrates contain monazite.</td>
<td>Nettie, 1938a, p. 191-201; Nettie, 1942, p. 247; 1942, p. 249; 254; Hansen, B. U., 1977, oral commun.</td>
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<td>Ben Creek</td>
<td>T.25., R.25E.</td>
<td>M</td>
<td>Au(Th,RE's)</td>
<td>Disseminated</td>
<td>Placer</td>
<td>Drains schist, quartzite, and Mesozoic granite 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 contain monazite and allanite. Early reports of uranium on Ben Creek were not confirmed by later field checking.</td>
<td>Nettie, 1938a, p. 191-201; Nettie, 1942, p. 249, 254; Hansen, B. U., 1977, oral commun.</td>
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<td>Bonanza Creek</td>
<td>T.2N., R.28E.</td>
<td>p</td>
<td>Au</td>
<td>Vein</td>
<td>Hydrothermal(?). Mineralization in 63-ft-wide, pyrrhotite stained contact zone between serpentinite and a fine-grained mafic intrusive rock. Silicic and calc-alkaline veins cut both the serpentinite and intrusive rock. Channel samples yielded up to 7 ppm gold. Gold in Bonanza Creek too deep for placer mining.</td>
<td>Clark and Foster, 1971, p. 10</td>
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<td>Boundary Creek</td>
<td>T.35., R.33E.</td>
<td>m</td>
<td>Au</td>
<td>Disseminated</td>
<td>Placer</td>
<td>In Paleozoic(?), metamorphic rocks which include green schist, marble, quartzite, and carbonaceous schist. Mining reported in 1902. Fineness 850 gold, 148 silver.</td>
<td>Nettie, 1938a, p. 191-201; Nettie, 1942, p. 249, 255</td>
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<td>Location</td>
<td>Claim Name</td>
<td>Geology</td>
<td>Mineralogy</td>
<td>Notes</td>
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<td>1 EAGLE QUADRANGLE</td>
<td>8ro-en Neck Creek</td>
<td>Au(Pt)</td>
<td>Disseminated Placer</td>
<td>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, 829 gold, 165 silver.</td>
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<td>2</td>
<td>Bruce prospect</td>
<td>(Ag,Au)</td>
<td>Vein</td>
<td>Hydrothermal</td>
<td>Auchenseh Taylor highway in metamorphic rocks near contact with Mesozoic(?), granite rocks. Silver occurs in veinlets cutting marble and other metamorphic rocks. Exploration in 1980's and 1970's. Mineralized float assayed at 0.32 oz gold and 0.68 oz silver per ton and 0.1 percent copper and 0.2 percent lead.</td>
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<td>Bryan Creek (Happy New Year Creek or Slate Creek)</td>
<td>Asbestos</td>
<td>Cross fiber</td>
<td>Metamorphic(? Elongate mass of serpentinite (Paleozoic or Mesozoic(?)) cut by cross fiber veins of serpentine (antigorite). Limited exploration in 1970. In 1976 and 1977, exploration and evaluation, including drilling.</td>
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<td>Buckskin Creek</td>
<td>Au</td>
<td>Disseminated Placer</td>
<td>A little mining in 1900, 1914, and 1933. 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 25 percent lower in grade than most of the gold from other creeks in the Forty Mile district.</td>
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<td>Calico Bluff</td>
<td>U(V)</td>
<td>Disseminated Estigeneric</td>
<td>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 Tattonduk River. A sample of shale taken between Sulphur Bend and the Seventy Mile River yielded 0.009 percent U, 0.68 percent V$_2$O$_5$, and 1.9 percent P$_2$O$_5$. 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.</td>
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<td>6</td>
<td>Camp Creek</td>
<td>Au</td>
<td>Disseminated Placer</td>
<td>Bedrock is mostly schist, marble, and quartzite (Paleozoic and/or Precambrian) cut by 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 near the mouth.</td>
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<td>Canyon Creek (Forty Mile district)</td>
<td>Au</td>
<td>Disseminated Placer</td>
<td>Stream heads in metamorphosed sedimentary rocks and greenstone, but downstream crosses terrestrial conglomerate (Late Cretaceous-Pliocene) for more than a mile but is in quartzite schist (Permian) near the mouth. Small-scale placer mining for gold. Cinnabar nuggets in sluite boxes near mouth. Trembling and test pitting in 1962 found a little cinnabar in gravel; none in bedrock.</td>
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15 Champion Creek  0.27  T.5S.,R.30E.  0  Asbestos Vein  Metamorphic(?)

Veinlets of asbestos up to 1/4 in. wide in float in vicinity of serpentinized ultramafic rock. Potential considered low.

16 Cherry Creek  0.27  T.28N.,R.22E.  M  Au Disseminated Placer  Prospecting or small-scale mining reported in 1903, 1910-1913. New development and small-scale mining in 1970's.

17 Chicken Creek  0.27  T.27N.,R.18E.  M  Au(Ag) 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; 87Sr/86Sr 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 Little 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 nine averaged 335 gold and 158 parts silver per thousand. Scheelite has been reported in the concentrates.

18 Copper Creek  0.25  T.15S.,R.22E.  P  Cu(Au,Ag,Pb,W) Tactite Contact metamorphic and hydrothermal(?)

Metamorphosed sedimentary rocks adjacent to Mesozoic granite pluton consist mostly of felsic silicate rock and ammophyllite. Metallic minerals include chalcopyrite, bornite, malachite, azurite, and galena. A minor amount of uranium is also present. A minor amount of uranium is also present. 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 casual reconnaissance since that time.

19 Crooked Creek  0.27  T.1W.,R.30E.  M  Au Disseminated Placer  Creek drains area of nonmarine sedimentary rocks (Late Cretaceous-Paleocene), 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 1890's and major part in early 1900's. Gold has mean fineness of 902 parts per thousand (purest of Seventynille 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 Seventynille region.

20 Davis Creek  0.27  T.26N.,R.22E.  M  Au Disseminated Placer  Headwater fork of Walker Fork. Discovered in 1888 and nearly mined out in early 1900's. Small-scale mining activity in the 1970's.
<table>
<thead>
<tr>
<th>Location</th>
<th>Type</th>
<th>Claim Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>21 Dennun Fork</td>
<td>Au(W)</td>
<td>Dissociated Placer</td>
</tr>
<tr>
<td>22 Dome Creek</td>
<td>Au</td>
<td>Dissociated Placer</td>
</tr>
<tr>
<td>23 Eagle Bluff</td>
<td>Cu, Ni, Pb, Zn, Ag, Sn</td>
<td>Dissociated Syngenet</td>
</tr>
<tr>
<td>24 Excelsior</td>
<td>Au</td>
<td>Dissociated Placer</td>
</tr>
<tr>
<td>25 Flat Creek</td>
<td>Au</td>
<td>Dissociated Placer</td>
</tr>
<tr>
<td>26 Flume Creek</td>
<td>Au</td>
<td>Dissociated Placer</td>
</tr>
<tr>
<td>27 Fortyfive Pup</td>
<td>Au, Ag</td>
<td>Vein Hydrothermal</td>
</tr>
</tbody>
</table>

Creek mainly in granodiorite of Taylor Mountain batholith (190 m.y., 87Sr/87Rb age determination on biotite) which shows little indication of mineralization, but bench near mouth found 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.

Bedrock is quartz-mica schists, marbles, and quartzite (Paleozoic and/or Precambrian). Gold discovered in 1933. 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 concentrated 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 85 ft thick and extend for several thousand feet along the north wall of the valley. In 1937, 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.)

Claystone, argillite, and limestone near Thelma fault zone. Locally high but sporadic concentrations of copper, nickel, lead, zinc, and tin. Silver reported in soil sample.

Prospecting for gold in 1896 reported. No record of production. Trace of monazite in sample of Mesozoic(?), granite rock.

28 Fortymile River 0.27 T.35. R.32,33,34E. M Au Disseminated Placer

Major stream flowing in deep canyon entrenched in quartzite dikes, amphibolite gneiss, marble and quartzite (Paleozoic/Precambrian). Rock matrix 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).

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 consist of a little cassiterite. Gold from a bench 75 ft above stream below mouth of Lucky Gulch in 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).

30 Franklin Creek (Gulch) 0.27 T.28N., R.18E., M Au(Ag,Pb,Hg) Disseminated Placer

Bedrock is quartz-mica schist, marl, and quartzite (Paleozoic and/or Precambrian). Groundwater (Cretaceous/Paleocene) in the headwaters. Lower part of creek, site of most mining, is a narrow, steep walled and has a steep gradient. Gold discovered in 1866 and mined until 1935 when a disastrous flood destroyed mining developments. Production 1904 through 1907 reportedly about 1,000 fine ounces. Heavy minerals in concentrates include native silver and lead, cinnabar, galena, barite, and much magnetite.

31 Stillfand Creek 0.27 T.8S., R.32E. M Au Disseminated Placer

Bedrock is quartz-mica schist and quartzite with irregular shaped masses of metacarbonate and metagabbro (Paleozoic/Precambrian). Mined during 1920's and probably at other times. Gold is coarse. Assay shows fineness of 8651 parts gold and 129 parts silver per thousand.

32 Gold Run 0.26 T.4S., R.25E. M Au Disseminated Placer

Creek mainly in metamorphic rocks (Paleozoic/Precambrian) but near its head is in contact with terrigenous conglomerate (Late Cretaceous/Pliocene) and felsic intrusive rocks. Mined on small scale in early 1900's.

33 Healy River (Johnson prospect) 0.26 T.8S., R.18E. M Au Vein Hydrothermal

Quartz vein in granite rock of the Mt. Healy 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.

34 Hutchinson Creek 0.26 T.7S., R.27E. M Au Disseminated Placer

Montana and Confederate Creeks are tributaries to Healy River. Creeks 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).
35 Ingle Creek and tributary Lilliwig Creek

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 951 gold and 144 silver. Much in crevices in bedrock.

(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 sutured 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)

Bedrock granitic and contact rocks. Discovered about 1895 and mined from 1896 intermittently to present. Mined by drift and hydraulic methods. Present mining in 8-10 ft of gravel. Frozen muck cover commonly 20 ft thick.

37 Lowry's Ledge

Quartz vein in schist contains free gold and minute specks of iron and cuprite pyrites. No record of any activity since 1896.

38 Mission Creek

Stream heads in metamorphic rocks, including greenschist, quartzite, and marble (Paleozoic) and crosses greenschist (Paleozoic) and nonmarine Late Cretaceous-Paleogene 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).

39 Mitchell

Quartz-borneite-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. Asbestos present in float around part serpentined porphyrite. Fiber about 2 in. long; probably slip fiber.

40 Mogul Creek

Placer cinnabar present in stream concentrates never recovered. No ore source found.

41 Mt. Harper

Asbestos in float around partially serpentinized peridotite. Fiber about 2 in. long; probably slip fiber.

42 My Creek

Quartz-biotite gneiss (Paleozoic) cut by vuggy quartz veins which contain stibnite. Gneiss intruded by bodies of syenitic and others, 1954b, p. 222; Foster and Clark, 1970, p. M28. Some samples contain anomalous amounts of copper, zinc, cadmium, along with antimony, silver, lead, and a trace of gold. A contact metamorphic deposit of magnetite in mamba, 15 ft thick and traced on surface for 300 ft has been reported. Numerous pits and trenches in area between My Creek 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. Veta)

EAGLE JURASSIC

44 Napoleon Creek 0.27 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 quartzite-biotite gneiss, amphibolite, and minor marble (Paleozoic and/or Precambrian). The stream heads in granitic rocks. Gold discovered in 1893. Gold mined in present creek gravels occurs mainly on and in crevices in bedrock. Production 1900 through 1907, combined with that from Mertie, Buckskin, and Twin Creeks, totaled about 122 fine ounces. Gold is irregular and coarse; nuggets up to 5 in. diameter are not uncommon. Fineness reportedly about 780. A high bench on north side of stream had rich pockets of gold on basaltic bedrocks. Mertie, 1938a, p. 185; jumpsing, 1943, p. 19.

45 North Fork, Forty-Mile River 0.26 T.6S.,R.29E. M Au(Sn) Disseminated Placer About the only mining activity has been at the "kink", an area slightly cut off (in 1903) under. Attempts to dredge there unsuccessful. placer cassiterite reported common at "kink." Prindle, 1900, p. 19.

46 Nugget Creek 0.26 T.14N.,R.20E. M Au Disseminated Placer Small-scale mining near mouth from about 1903 to 1936. Gold (one assay) was 951 fine. Prindle, 1900, p. 97.

47 Nugget Gulch 0.27 T.15N.,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 1860's and early 1900's. Pridell, 1909, p. 27.

48 Pleasant Creek 0.26 T.2N.,R.28E. M Au Disseminated Placer Bench gravels said to carry gold, but successful mining has never been reported. Creek near Tintina Fault. Ellsworth and Svenengot, 1913, p. 278-279.

49 Poker Creek 0.27 T.26N.,R.22E. M Au Disseminated Placer Headwater tributary of Walker Fork. Bedrock mostly quartzo-feldspatic schist. In part phaneroclastic (Paleozoic) and cut by numerous quartz veins. Discovered in 1899 and essentially mined out before 1936. In 1912 dredge from Walker Fork alined up Poker Creek a few hundred feet and was dismantled. Assay showed fineness of 870 gold and 122 silver. Mertie, 1938a, p. 187-188.

50 Purdy Quartz Mine 0.27 T.22N.,R.16E. W Au(Ag,81.3g) Vein Rich vein of gold in calcite and Foster, H. L., quartz in Paleozoic phyllite and quartzites extended to depth of about 50 ft was mined on ridge between Francisco Creek and Myers Fork. Extensive additional prospecting has revealed only a few small calcite veins and veinlets carrying specks of gold. In the 1910's, veined bedrock in the area was mined and milled with minor gold production. Silver, copper, bismuth, and antimony also occurs in minor amounts. Ellsworth and Parker, 1911, p. 197.

51 Rock Creek 0.27 T.18N.,R.31E. M 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 Smith Creek
0.25 T.27N.,R.11E. Au Vein Lode

53 Seventymile River
0.27 T.1N.,R.29E. m Au Disseminated Placer

54 Smith Creek
0.27 T.785.,R.34E. m Au Disseminated Placer

55 Sonleckson Creek
0.27 T.27N.,R.29E. m Au Disseminated Placer

56 Squaw Gulch
0.27 T.27W.,R.22E. Au Disseminated Placer

57 South Fork (of Fortymile River)
0.27 T.2637W.,R.13E. Au Disseminated Placer

58 Tsewcom
0.26 T.27N.,R.14E. m Au Vein Lode

59 Twelve Mile Creek
0.27 T.27W.,R.21E. Au Disseminated Placer

60 T一审 Creek
0.27 T.75.,R.33E. m Au Disseminated Placer

61 Older Creek
0.27 T.85.,R.31E. m Au Disseminated Placer

62 Nede Creek
0.27 T.27W.,R.20E. m Au(Sn,M,Hg) Disseminated Placer

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 My Creek). Mining was reported in 1932, probably at the mouth of Smith Creek on a bar in the Forty-Mile River. No data on production or relationships. Tsewcom: Mining near mouth in early 1900's and probably in 1914. Creek drains area underlain mainly by nonmarine conglomerate and sandstone (Late Cretaceous-Paleocene(?)) and metamorphic rocks of Early Cretaceous and/or Precambrian (?) age. Granitic rocks (Mesozoic-Tertiary) also crop out in headwaters area. Tributary to Canyon Creek on Prindle, 1908a, p. 197-198. 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. 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). Small iron-stained quartz veins in greenstone and green schist (Paleozoic) near contact with diorite pluton (Late Cretaceous-Early Tertiary?) at mouth of Gold Creek. Tunnel about 30 ft long driven and arsinite built. Abandoned in 1911. Gold was too fine grained to be recovered profitably. Tributary to Mertle Fork in quartz breccia, hornblende gneiss, quartzite, and marble (Paleozoic and/or Precambrian). Minor activity in early 1900's. Additional prospecting and possible some mining in 1960's and 1970's. Minor production sometime between 1904 and 1907. Small-scale mining in 1960's and 1970's. Small mining operations in early 1900's. Small-scale mining in 1960's and 1970's. 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 tin oxide. Average fineness in the upper part of Nede Creek valley is 830 parts of gold and 161 parts of silver per thousand, but the fineness for the creek as a whole is somewhat variable.

59 Twelve Mile Creek
0.27 T.27W.,R.21E. Au Disseminated Placer

60 T� Creek
0.27 T.75.,R.33E. m Au Disseminated Placer

61 Older Creek
0.27 T.85.,R.31E. m Au Disseminated Placer

62 Nede Creek
0.27 T.27W.,R.20E. m Au(Sn,M,Hg) Disseminated Placer

Bedrock is quartz-mica schist, amphibolite, quartzite, and marble (Paleozoic and/or Precambrian). Gold mainly on beaches 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 tin oxide. Average fineness in the upper part of Nede Creek valley is 830 parts of gold and 161 parts of silver per thousand, but the fineness for the creek as a whole is somewhat variable.

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0.27 T.27W.,R.21E. Au Disseminated Placer

60 T� Creek
0.27 T.75.,R.33E. m Au Disseminated Placer

61 Older Creek
0.27 T.85.,R.31E. m Au Disseminated Placer

62 Nede Creek
0.27 T.27W.,R.20E. m Au(Sn,M,Hg) Disseminated Placer

Bedrock is quartz-mica schist, amphibolite, quartzite, and marble (Paleozoic and/or Precambrian). Gold mainly on beaches 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 tin oxide. Average fineness in the upper part of Nede Creek valley is 830 parts of gold and 161 parts of silver per thousand, but the fineness for the creek as a whole is somewhat variable.

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52 Ruby Silver Smith Creek
0.25 T.27N.,R.11E. Au Vein Lode

53 Seventymile River
0.27 T.1N.,R.29E. m Au Disseminated Placer

54 Smith Creek
0.27 T.785.,R.34E. m Au Disseminated Placer

55 Sonleckson Creek
0.27 T.27N.,R.29E. m Au Disseminated Placer

56 Squaw Gulch
0.27 T.27W.,R.22E. Au Disseminated Placer

57 South Fork (of Fortymile River)
0.27 T.2637W.,R.13E. Au Disseminated Placer

58 Tsewcom
0.26 T.27N.,R.14E. m Au Vein Lode

59 Twelve Mile Creek
0.27 T.27W.,R.21E. Au Disseminated Placer

60 T� Creek
0.27 T.75.,R.33E. m Au Disseminated Placer

61 Older Creek
0.27 T.85.,R.31E. m Au Disseminated Placer

62 Nede Creek
0.27 T.27W.,R.20E. m Au(Sn,M,Hg) Disseminated Placer

Bedrock is quartz-mica schist, amphibolite, quartzite, and marble (Paleozoic and/or Precambrian). Gold mainly on beaches 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 tin oxide. Average fineness in the upper part of Nede Creek valley is 830 parts of gold and 161 parts of silver per thousand, but the fineness for the creek as a whole is somewhat variable.
EAGLE JURORAN

63 Walker Fork and tributaries

<table>
<thead>
<tr>
<th>T. 28.17N. R. 16E.</th>
<th>M</th>
<th>Au</th>
<th>Disseminated Placer</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Bedrock mainly quartz-ite, gneiss, 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 Foker 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 mud. 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 990 parts of gold per thousand.</td>
</tr>
</tbody>
</table>

64 Washington Creek (shown on present maps as Little Washington Creek)

<table>
<thead>
<tr>
<th>T.1.2N. R.29E.</th>
<th>M</th>
<th>Au</th>
<th>Disseminated Placer</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Prospecting and a little small-scale mining near mouth, 1911-1916. 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</td>
</tr>
</tbody>
</table>

65 Wolf Creek

<table>
<thead>
<tr>
<th>T.1.25N. R.32E.</th>
<th>M</th>
<th>Au(Cr)</th>
<th>Disseminated Placer</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>A little small-scale mining. Upper part of creek drains contact zone between serpentinitized peridotite (Jurassic?) and greenstone (Paleozoic). Lower part of creek drains area of terrestrial conglomerate and sandstone (Late Cretaceous-Pliocene?). Composite in concentrates derived from ultramafic body. Heavy minerals include traces of rutile, tourmaline, and monazite.</td>
</tr>
</tbody>
</table>

66 Woods Creek

<table>
<thead>
<tr>
<th>T.27N. R.22E.</th>
<th>M</th>
<th>Au</th>
<th>Disseminated Placer</th>
</tr>
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<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Headwater fork of Canyon Creek. Mining reported in early 1900's and in 1969. Production combined with Squaw, Camp, and Canyon Creeks) 1904 through 1907 totaled about 447 fine ounces</td>
</tr>
</tbody>
</table>

67 Unnamed

<table>
<thead>
<tr>
<th>T.25N. R.22E.</th>
<th>o</th>
<th>Au.Ag</th>
<th>Vein</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Mineralized quartz vein in granodiorite (Late Cretaceous). 88.5 my. K-Ar age determinations on hornblende and biotite, respectively) near head of State Creek 2-0 ft wide. Contains up to 0.08 ppm gold and as high as 0.7 ppm silver. Tungsten and tin detected by semi-quantitative spectroscopic examination. No development work.</td>
</tr>
</tbody>
</table>

68 Unnamed

<table>
<thead>
<tr>
<th>T.45N. R.31E.</th>
<th>o</th>
<th>(Pb, Zn, Ag, Cd, Cu)</th>
<th>Float</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Sample of float in covered area contains 20,000 ppm lead, 17,000 ppm zinc, 30 ppm silver, 150 ppm cadmium, 700 ppm copper, &gt;20 percent iron</td>
<td>Foster and Clark, 1970, p. 412</td>
</tr>
<tr>
<td>MAP NO. AND NAME(S)</td>
<td>MAP COORDINATES</td>
<td>DEVELOPMENT LOCATION</td>
<td>RESOURCES CATEGORY</td>
</tr>
<tr>
<td>---------------------</td>
<td>-----------------</td>
<td>-----------------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>1 Antimony Ridge</td>
<td>0.21 T.2W.,R.1W.</td>
<td>P</td>
<td>1b,(Au)</td>
</tr>
<tr>
<td>2 Barker &amp; McQueen</td>
<td>0.20 T.1N.,R.3W.</td>
<td>m</td>
<td>Au,lb</td>
</tr>
<tr>
<td>3 Big Eldorado Creek</td>
<td>0.21 T.2W.,R.1W.</td>
<td>m</td>
<td>Au</td>
</tr>
<tr>
<td>4 Billy Sunday mine</td>
<td>0.21 T.15.,R.2W.</td>
<td>m</td>
<td>Au,(Sb,Pb,In)</td>
</tr>
<tr>
<td>5 Blossom</td>
<td>0.21 T.1N.,R.1E.</td>
<td>p</td>
<td>W</td>
</tr>
<tr>
<td>6 Blue Bonanza (includes Grant and Midnight Sun)</td>
<td>0.20 T.1N.,R.2W.</td>
<td>m</td>
<td>Au,Sb,Au,Pb</td>
</tr>
<tr>
<td>7 Bonanza Creek</td>
<td>0.20 T.2S.,R.4W.</td>
<td>m</td>
<td>Au</td>
</tr>
<tr>
<td>8 Bunker Hill</td>
<td>0.21 T.2W.,R.1W.</td>
<td>m</td>
<td>Au</td>
</tr>
</tbody>
</table>
9 **Clipper** 0.20 T.1N., R.2W. m(?) Sn, 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. Sbite, Jamesonite(?), and gold present. Gold reported as about $80 per ton (at 1976 price). Sbite 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. 

10 **Columbia group** (includes Columbia Creek prospect) 0.21 T.2N., R.1E. p W, Au(?), Veins Hydrothermal lodes in quartz, marginal to granite. Scheelite in quartz stringers explored about 1915-1916. Inactive since. Workings consisted of two adits, a pit, and four trenches. One scheelite zone about 3 ft thick. Probably no production. Nearby, between south ends of Columbia Creek, an adit 100 ft long was driven, in 1912 or earlier, on a quartz vein that reportedly yielded law-grade, free-milling gold ore. 

11 **Cripple Creek** (Drift-hole Gold field) 0.21 T.1S., R.2N. H Au,(5H) Disseminated Placer gold discovered about 1900. Mined by drift holes intermittently until 1930's. About 2000 fine ounces gold produced in 1908-1910. Preparations (striping and thawing) for dredging in 1936-1939, dredging began 1940 and continued in most years through 1965. Inactive since, but property and dredges are maintained. Economically productive ground probably mostly worked out. Ground is generally about 100 ft deep. Bedrock is schist. Gold source undoubtedly was on Ester Dome. Cassiterite is rare in concentrates. One of the major gold producing creeks in the Fairbanks district. Production figures not available. 

9 **Dorothy & Darice** 0.20 T.1N., R.2W. p Sn,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. 

12 **Elmes mine** (Also known as Happy Creek, and Nicaslick) 0.21 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 1946; reactivated in 1937, some production until 1940 or possibly later. Inactive since 1950's to present. Production, but amount unknown. 

13 **Engineer** 0.20 T.1N., R.2W. m(?) Au(?) Disseminated Placer some prospecting and possibly small mining reported in 1910. 

14 **Engineer Creek** 0.21 T.1S., R.2E. 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). 

15 **Engineer Creek** 0.21 T.1S., R.2E. - R.1W. m Au Disseminated Placer placer mining, by drifting methods, from 1907-1916, or possibly later. Production 1907-1910 was about 59,000,000 oz (at 1976 price). Ground acquired in 1931 by U.S.A. & M Co., and preparations were made for dredging. Dredged over length of about 2.5 mi; work completed by about 1935. 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-$12 per sq ft of bedrock (at 1976 price). Bedrock schist with drusy(?); porphyritic mica. Creek is probably essentially mined out. 

16 **Ester Creek** 0.20 T.1S., R.2W. m Au,(5b,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 1937-1951 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 1953. **Fairbanks Quadrangle** 

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Smith, 1913a, p. 210; Merle, 1918b, p. 122-123; Byers, 1918, p. 201, 205, 206. 
Prindle, 1990b, p. 29, 64-65; Prindle and Katt, 1913, p. 110, 112-113; Smith, 1942b, p. 38-40, 67. 
Parker, 1911, p. 240. 
Disseminated Placer

17 Eva Creek
(linear Ester) T15N.R.2W. m Au Disseminated Placer Rich gold placers found in 1913, in 1912 about 24,000 oz of gold was produced. Mined at least until 1913, 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.

4 Fair Chance mine
(Includes Blue Bird No. 2) T15N.R.2W. m Au Sheared zone 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.

18 Farmer T15N.R.3W. m Au Sheared breccia zone and vein 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.

9 First Chance mine T15N.R.2W. m Au Vein Hydrothermal Vein in schist ranges from 6 in. to 4 ft in thickness, averaged 1 ft in stope part. Shaft 120 ft deep and takes planned 20 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.

19 First Chance Creek T2N.R.1E. Au,W,(Sn) Disseminated Placer Place discovered in 1908, mining at least through 1915, and in 1938-1940; some small-scale mining at time in 1940's to 1950's. Probably inactive since 1959. Ground probably more than 45 ft deep. Later work by open cut. Gold yield not reported. Scheelite abundant in concentrates, derived from lenses on ridges at head of creek. CASSITRite Rare. Creek mined over distance of 1 mi from mouth to 0.5 mi above mouth. Small-scale mining in a few years in 1960's. Amount of gold produced unknown. See Table 1.

20 Flume Creek T2N.R.1E. Au Disseminated Placer Open-cut placer gold mining in 1915, and probably in other years (probably included with production from Snake 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. See Table 1.

21 Fox Creek T2N.R.1E. m Au,W Disseminated Placer Gold mined sporadically from 1908-1920, probably some mining at 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; forms 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).

22 Gale T15N.R.3W. p Au Vein Hydrothermal Vein in a feldspar-stained schist, explored by a pit 20 ft deep. Material is reported to contain some gold.

23 Gilmore Dome mine (Includes Colbert, Stepovich, and Scheelite and Tungsten claims) T2N.R.2E. m W,(Be,Mn) Tactite and pegmatite Hydrothermal Scheelite deposits largely confined to two parallel lodes (Stepovich 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, feldspar-grained scheelite, but rich ore is in lenses, pockets and stringers as replacement of limestone and tuff 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 felsic or silicified schists. Pegmatite discovered 1915-1916, production in 1916-1918 and 1942-1944 of about 4000 units of WO3. Minor prospecting at other times, but no active mining. Property reactivated in 1950-1951 and considerable 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.
24 Gilmore Creek 0.21 T.2N.R.1E. M Au.(Bi,W) Disseminated Placer

Mined 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 1937. Outlook for any future production is very uncertain.

Creek has been mined over length of 2.5-3.0 mi up from mouth from 1905-1941, and on a small scale since 1935. Ground ranges from 39-40 ft near mouth, most productive 210-240 ft. 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 1905-1910 was about 5000 oz (912 fine), and in 1916 about 1925 oz. Total production is unknown, but obviously it has greatly exceeded 10,000 oz.

25 Goldstream Creek 0.21 T.1-2N.R.1E. and R.NW. 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 1929-1942 and about 1955 to about 1958. Probably some small-scale open-cut mining in late 1950’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 $5 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 malleable ground remains in the valley above Engineer Creek, but some lower grade ground (unknown) is present downstream from Engineer Creek. Both cassiterite and scheelite are present but scarce in concentrates.

8 Goodwin 0.21 T.2N.R.1W. m(T) Au Vein and broclita 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.

12 Grant mine (Happy Creek) 0.21 T.1N.R.2N. 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.

26 Green Mountain (includes Woodpecker) 0.21 T.3N.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.

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 1936-1940, 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.
28 Mill Creek 0.21 T.1N. R.2E. e 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 1967. Pindle, 1968b, p. 60; Chapman, E. M., 1950-1966, Unpub. Field data.

29 Iowa Creek 0.21 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 Pindle and Nast, 1973, p. 118.

30 Jamaska 0.21 T.1N. R.2E. p Sn (?) Pegmatite dite, and veins (?) Cassiterite reported, but not seen. In a pegmatite stringer on contact between mica schist and black graphitic schist. Hill, 1932, p. 154.


22 Kingley 0.20 T.1S. R.3W. m(?) Au Veins Hydrothermal Gold- quartz stringers in micaeous schist; most of gold in the quartz but both quartz and schists reported to warrant milling. Amount produced unknown. Worked about 1912 Smith, 1913a, p. 206.

4 Last Chance mine 0.21 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. 218.

31 Last Chance Creek 0.21 T.1N. R.3E. m Au Disseminated Placer Placer mining in 1871-1914. No information on occurrence or tonnage. Ellisworth, 1912, p. 243; East, 1914a, p. 233.


9 Little Flower (May be same as Flower) 0.20 T.1N. R.2W. m Au Vein Hydrothermal Gold was produced from a vein 1911-1914. No information on occurrence or tonnage. Chapman and Foster, 1969, p. 218.

32 Lookout 0.20 T.1S. R.3W. m Au Vein Hydrothermal Gold produced, probably small amount, from a gold-bearing felsic dite that cuts a vein. Probably worked in late 1930's Chapman and Foster, 1969, p. 219.

33 Maloney 0.20 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, 1932, p. 123.

4 McDonald and Morgan [includes Blue Bird, Blue Bird Fraction, Fractionation, and McDonald claim; Crown Point] 0.21 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 60 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 slatey schist. Veins generally 6-12 in. thick but some as much as 3 ft. In 1931, 240 tons of ore assaying 0.31 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. Quartz Point had two thin veins. Faults terminate some veins. Faults terminate some veins. Chapman and Foster, 1969, p. 218.


2 McQueen (Also Jennie C. and Black Diamond Lode) 0.20 T.1N. R.3W. m Sb Vein Hydrothermal Iron-stained quartz vein 18-24 in. thick, contains shoots and kidneys of stibnite; prospecting in 1915, mined 1918-1919. Production of at least 3 tons and possibly as much as 100 tons. Some prospecting but probably no mining in late 1950's. Hill, 1933, p. 149.

6 Mchley 0.20 T.1N. R.2W. m Au Vein Hydrothermal Quartz vein 2-12 ft. wide, and several other small veins in flat-lying quartz-mica schist. Developed by short drifts from adit. Ore from a small stoped milled, yielded about 0.5 oz per ton in gold Hill, 1933, p. 149.
4 Mohawk mine 0.21 T.1N.R.3W. 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 10,000 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, and galena. Most mining on Mohawk vein over length of 1300 ft and to a depth of 232 ft by 1931; average thickness was 2 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 lead producers in the Fairbanks district.

35 Monte Cristo Creek 0.21 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 present up-stream limit of placer operation.

36 Moose Gulch (or Creek) 0.20 T.1S.R.2H. p Sb, Au(?), Au Disseminated Placer Stibnite in cobbles as much as 8 in. in diameter in old placer workings. No other data on mining on this creek. Probably some gold was present.

37 Mother group (Also called Murphy mine) 0.20 T.1N.R.3H. p Au Quartz vein and breccia zone A nearly vertical zone of tramp 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.

38 Nugget Creek (Tributary to Goldstream Creek) 0.20 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.

39 Nugget Creek (Tributary to Smallwood Creek) 0.21 T.2N.R.2E. m, p(?), Au Disseminated Placer Small-scale mining done prior to 1946, and probably some prospecting or mining in late 1904's or early 1905'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.

40 O'Connor Creek 0.23 T.2N.R.1W. m Au Disseminated Placer Mining near head of creek in 1907 and possibly a few later years. Ground 150-150 ft deep. Creek drains terrane of schist with some felsic rock intrusives. About 55 oz of gold produced in 1907.

6 Parson 0.20 T.1N.R.3W. p Au Vein Hydrothermal Irregular quartz vein 1-6 in. thick, contains some gold. Concentrates contain abundant scheelite and some wolframite and native bismuth. Creek heads in Gilmore dome area of several scheelite lode deposits. Productive gravel probably largely mined out; potential for tungsten probably very limited.

41 Pearl Creek 0.23 T.2N.R.2E. m, Au, Sb, 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 gravel probably largely mined out; potential for tungsten probably very limited.
4 Ryan group
D:21 m Au, Sb Fault zone and quartz veins Hydrothermal Fault zone of crushed schist and quartz veins 40-70 ft wide 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 tons of thousands of tons of 550 per ton gold ore (at 1976 prices). Group includes 74 patented claims. Martens, 1919, p. 413, nill, 1933, p. 115-116. Warfield and Thomas, 1972.

48 St. Patrick Creek
D:21 m Au Disseminated Placer Mining and prospecting 1909-1916, probably by drifting methods. No good production data; one report of about 817 oz of gold produced in 1910. Creek probably long inactive. Pringle and Katz, 1913, p. 112-113

49 Sanford (Also called Lone Creek)
D:20 m Au Vein Hydrothermal Quartz vein in quartz-mica and biotite schists; gold mineralization followed an earlier open- or porphyry quartz vein that had been shattered, stibnite along footwall of faulted vein. Mined from 1914 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. Martens, 1919, p. 492-493; Hill, 1933, p. 128-129

50 Schubert (Includes Franklin and Plumber claims, and Zimmerman)
D:21 p W Tactite Replacement Sparingly scattered grains of scheelite in calcareous limestone and thin schist layers; replacement deposit near contact between schist and porphyry 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. Chapman, 1919, p. 327; Syers, 1934, p. 189-190

51 Sheep Creek (Includes Little Nugget or Little Sheep Creek)
D:21 m Au Disseminated Placer Gold-carrying vein mined from inclined shaft, drifts and stopes to depth of 105 ft. About 150 tons of ore yielded 322 oz of gold; some ore averaged 2.5 oz per ton. Mined prior to 1937. Chapman and Foster, 1969, p. 1

52 Smallwood Creek
D:21 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 0.45 oz per ton, and a grab sample from about 10 tons of ore on dump assayed 3.6 oz per ton. Probably little or no activity since 1931. Hill, 1933, p. 128-129

2 Silver Dollar
D:20 m Au Vein Hydrothermal A quartz vein about 5 ft wide, crushed by postmineral alteration, 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 0.45 oz per ton, and a grab sample from about 10 tons of ore on dump assayed 3.6 oz per ton. Probably little or no activity since 1931. Hill, 1933, p. 128-129

22 Social Security
D:20 m 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. 319
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<td>About 50 tons of ore on dump in 1931; no</td>
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<td>not given. One stage produced about 3600 tons</td>
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<td>of ore reported to assay 0.3 oz per ton</td>
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<td>in gold, and reportedly much ore was</td>
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<td>richer than this. Potential reserves remaining</td>
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<td>are unknown. Ground about 80 ft deep in</td>
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<td>lower part of creek, and as much as</td>
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<td>200 ft deep in part of valley. Mining</td>
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<td>from 1907-1914 reported; some later than</td>
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<td>this may have been lumped with Ester Creek.</td>
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<td>Actively mined by open cuts in most years</td>
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<td>between 1940's and at least 1966; activity</td>
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<td>in past 10 years unknown. Production 1907-</td>
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<td>1914 was about 25,000 fine ounces; total</td>
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<td>production unknown, but is considerably</td>
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<td>greater. Several hundred tons of ore said</td>
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<td>to have been mined from veins and mineral-</td>
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<td>ized zones in the schist-bear-</td>
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<td>rock on valley slopes</td>
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<tr>
<td>Ridge</td>
<td>T.1N.R.1E</td>
<td>DSSinated</td>
<td>Hydrothermal</td>
<td>Ground about 80 ft deep in lower</td>
</tr>
<tr>
<td></td>
<td>0.20</td>
<td>Placer</td>
<td></td>
<td>part of creek, and as much as 200 ft deep</td>
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<td>in part of valley. Mining from 1907-1914</td>
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<td>reported; some later than this may have</td>
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<td>been lumped with Ester Creek. Actively</td>
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<td>mined by open cuts in most years between</td>
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<td>1940's and at least 1966; activity in past</td>
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<td>10 years unknown. Production 1907-1914</td>
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<td>was about 25,000 fine ounces; total</td>
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<td>production unknown, but is considerably</td>
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<td>greater. Several hundred tons of ore said</td>
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<td>to have been mined from veins and min-</td>
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<td>eralized zones in the schist-bear-</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>rock on valley slopes</td>
</tr>
<tr>
<td>Rose Creek</td>
<td>T.2N.R.1E</td>
<td>Pelitic vein</td>
<td>Hydrothermal</td>
<td>Thin veinlets of stibnite occur in a</td>
</tr>
<tr>
<td>(mine)</td>
<td>0.21</td>
<td>or dike</td>
<td></td>
<td>quartz-feldspar vein or dike that is 6-8 m.</td>
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<td>wide; explored by a 15 ft shaft and several</td>
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<td></td>
<td>pits in 1912. No further work was done. In</td>
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<td></td>
<td></td>
<td>a contact zone of schist and granitic rock</td>
</tr>
<tr>
<td>Rose Creek</td>
<td>T.2N.R.1E</td>
<td>Au,Ag,(Sb,Cu)</td>
<td>Vein and</td>
<td>A quartz vein 3 ft wide produced 208 tons</td>
</tr>
<tr>
<td>placer</td>
<td>0.21</td>
<td></td>
<td>fault zone</td>
<td>of ore that averaged 1.37 oz gold per ton.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Mined about 1937; no record of exact</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td>years of activity. Inactive since 1940's at</td>
</tr>
<tr>
<td>Royal Flush</td>
<td>T.1N.R.2E</td>
<td>Au,Ag,(Sb,Cu)</td>
<td>Vein and</td>
<td>At least 50 tons of ore has been mined</td>
</tr>
<tr>
<td>mine (also</td>
<td>0.21</td>
<td></td>
<td>fault zone</td>
<td>from veins in the schist-bear-rock on valley</td>
</tr>
<tr>
<td>called Adler</td>
<td></td>
<td></td>
<td></td>
<td>slopes. Two 15 ft shafts sunk in 1930-1931</td>
</tr>
<tr>
<td>mine)</td>
<td></td>
<td></td>
<td></td>
<td>on a 14 in. wide quartz vein. No further work</td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
<td>done. Grab sample from dump assayed 0.77 oz</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>per ton in gold. Country rock is schist</td>
</tr>
</tbody>
</table>

**References:**
- Smith, 1913a, p. 160, Chapin, 1914, p. 229-230
- Smith, 1913a, p. 208, Hill, 1933, p. 71, 148
- Smith, 1913a, p. 223-226, Chapin, 1914, p. 325, 350-352, Hill, 1933, p. 123-127
- Smith, 1913a, p. 201, 210-211
- Pringle and Katz, 1913, p. 110, 112-113
- Craig, 1914, p. 246
- Pritchard and Katz, 1913, p. 113, 123;
- Ewers, 1957, p. 100, 210-211
- Smith, 1939b, p. 251
- Chapman and Foster, 1969, p. 218
Spruce Hen

Tactite, and quartz veinlets

Replacement

Several scheelite-bearing tactite zones formed by replacement of limestone and tuff beds in schist. Bedrock also includes minor amount of amphibolite. Most mineralized tactite zone is about 3-4 ft thick; others are thin, 0-1 ft. Samples have shown 1-2 percent scheelite, and about 0.44 percent W. Some scheelite-bearing quartz veins. Tactites include scheelite, powellite, fluorspar, garnet, and various contact-meta- morphic minerals. First explored about 1915-1918 by pits, trenches, and a 70 ft inclined shaft. No record of production. Extensively prospected by bulldozer trenching 1950-1951. Small-scale mining attempted in about 1953-1954 but discontinued without known production. Inactive since 1960.

Stay (Also called Little Eva)

Vein and felsic dikes

Fault zones

Hydrothermal

Developed by several adits, shafts, and open cuts in 1910-1913, 1930-1931, 1933, 1936, and probably in some of the intervening years. Probably inactive since 1936. Quartz veins 6-10 in. wide plus schist wallrock have produced gold; total production not known. 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.

26 Steele Creek T.1N.,R.1E.

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 1912-1913. 1930-1931. 1933. 1936. and probably in some of the intervening years. Probably inactive since 1936. Quartz veins 6-10 in. wide plus schist wallrock have produced gold; total production not known. Bedrock is schist. Gold probably derived from the small, low-grade gold-quartz veins in the hills at head of creek. Minor amount of scheelte might be expected.

53 Steele Creek placer T.1N.,R.1E.

Au.(Sb?) 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.

9 Stibnite T.1N.,R.2W.

Vein and shear zone Hydrothermal

Massive stibnite lenses, largest 100 ft long, 7 in. wide, 4 ft thick; mined 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.

5 Tannan (Includes Tungsten Hill, and Anderson)

Veins Hydrothermal

Scheelite-bearing quartz veins, and a gold-quartz vein at Tannan prospect are in weathered quartzite schist. Mineralized zone about 7 ft thick. Close to contact with gneissic granite. Prospected in 1916, long inactive in 1942. Tungsten Hill property is nearby; includes four scheelite zones as much as 15 ft wide in weathered schist. Specimens from dump show as much as 8 percent W. Both deposits probably of small extent and only very locally high grade.

54 Tyndall & Finn (Includes Vuyovlch near Ester)

Veins 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 Vuyovlch 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.

2 Unnamed occurrence T.2N.,R.2W.

Vein Hydrothermal

Stibnite in quartz vein cutting quartzite schist. Vein appeared to be 2-3 ft wide. Prospected by 75-ft-long open cut prior to 1916.

55 Vogt T.2N.,R.2W.

Bl. Au, W Veins Hydrothermal

Quartz veins cutting porphyritic biotite granite near border of Glimmer Dome pluton. Prospected on small scale about 1913-1915. Probably no production. In vein pyromorphite and scheelite are present. Prospect has long been inactive.
<table>
<thead>
<tr>
<th>Location</th>
<th>Coordinates</th>
<th>Type</th>
<th>Description</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vuyovich</td>
<td>T.1N., R.2W.</td>
<td>Vein</td>
<td>Gold ore mined from a quartz vein with free gold.</td>
<td>Mertie, 1911, p. 126</td>
</tr>
<tr>
<td>Wandering Jew</td>
<td>T.1N., R.2W.</td>
<td>Vein</td>
<td>Gold ore mined from a quartz vein with free gold and arsenopyrite.</td>
<td>Mertie, 1917, p. 147</td>
</tr>
<tr>
<td>White Association</td>
<td>T.2N., R.2E.</td>
<td>Tactite</td>
<td>Tactite replacement schist and mica schist as impregnated or replaced by scheelite along foliation planes.</td>
<td>Mertie, 1918, p. 325</td>
</tr>
<tr>
<td>Yellow Pup</td>
<td>T.2N., R.2E.</td>
<td>Pegmatite</td>
<td>Pegmatite dike and replacement scheelite. This deposit is apparently an extension of the Colbert lode on Gilmore Dome. Discovered in 1943. Scheelite-bearing zone 1-2 ft wide. One in quartz pegmatite and adjacent scheelite tactite andesite schist. Worked by pits and 12 ft adit. Some small-scale prospecting in late 1940s and early 1950s. Probably no further work done since 1950s. Ore from tunnel was about 35 tons, part of which was milled to yield 225 lbs of 70 percent WO3 concentrate. A sample from ore pile contained 0.59 percent WO3.</td>
<td>Myers, 1957, p. 189, 190-201, 1948, P. 9, 9, 14-16, Thorne and others, 1948, P. 9, 9, 14-16</td>
</tr>
<tr>
<td>MAP NO. AND NAME(S)</td>
<td>MAP COORDINATES</td>
<td>DEVELOPMENT LOCATION</td>
<td>RESOURCES</td>
<td>FORM</td>
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<tr>
<td>1 Bear Creek</td>
<td>T.9S., R.70W.</td>
<td>m</td>
<td>Au, Pt</td>
<td>Disseminated Placer</td>
</tr>
<tr>
<td>2 Butte Creek</td>
<td>T.8S., R.72W.</td>
<td>m</td>
<td>Au, Pt</td>
<td>Disseminated Placer</td>
</tr>
<tr>
<td>3 Canyon Creek</td>
<td>T.9S., R.70W.</td>
<td>p</td>
<td>Au</td>
<td>Disseminated Placer</td>
</tr>
<tr>
<td>4 Domingo Creek</td>
<td>T.8S., R.72N.</td>
<td>m</td>
<td>Au</td>
<td>Disseminated Placer</td>
</tr>
<tr>
<td>5 Fox Creek</td>
<td>T.8S., R.71W.</td>
<td>p</td>
<td>Au</td>
<td>Disseminated Placer</td>
</tr>
<tr>
<td>6 Fox Slough</td>
<td>T.9S., R.70W.</td>
<td>m</td>
<td>Au</td>
<td>Disseminated Placer</td>
</tr>
</tbody>
</table>
| 7,8,9 Goodnews Bay| T.12, T.13S.,    | p                    | (Au, Cr, Mg, Pt) | Disseminated Beach placer | Twenty-four upper holes and 23 shovel samples by USGS, 1952. No data on depth to maximum or 7.5 ft demonstrated natural surface concentrations ran 33.8 percent acid soluble Fe, 12.1 percent CuO, 0.06, 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 volcanioclastic 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 (Hageman Island group) where Goodnews Bay platinum placer mine located.
10 Jacksmith Creek Tributary 1.7 T.9S.,R.73W. p Au Disseminated Placer Signs of old placer activity reported by W. C. Coonrad Coonrad, oral comm., 11/10/53

11 Kagati Lake (Alutagius Creek) (Mount Doralis) [Bachl Exploration Co.] (Grager) (Jackson and Long) (Sunshine Mining Co.) T.3S.,R.62W. p Hg,Sb Vein Hydrothermal [low temperature] Prospect initially staked and now-caved adit driven 1927. Restated 1956 and explored for 3 years (OMA 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 tertiaries (69.3 m.y.) monzonite and granodiorite stocks that intrude graywacke, shale and volcanic rocks of upper of the Gemuk Group (here of Jurassic to Cretaceous age). Cinnabar, associated with selenite, realgar and rare orpiment. Fills veinlets and casts fractures and fault gouge in main shear zone that strikes N.70°W, but 100% within the intrusive. Ore bodies are 2 ft to 2 ft thick but none has been traced more than 10 ft due to poor exposures. No assay data indicates some of the veins were of economic grade in 1953, when price averaged about $225 per ton.

12 Kamuk River T.9S.,R.62W. o Cu Disseminated Hydrothermal Trace amounts of copper minerals disseminated in northward-trending fault zone that cuts fine-grained tuffaceous sedimentary rocks of Ganuk Group (Carboniferous to Cretaceous). Anomalous copper values in stream sediments throughout large surrounding area

13 Kowkow Creek T.7S.,R.71W. 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. 97% of overburden, 3-4 ft of gravel, 8-15 in. fine gravel on fault zone resembling glacial till. Gravels lithologically of local derivation. Placers pre-Platina. Creek drains area underlain by Tertiary mafic intrusive rocks that intruded clastic and mafic volcanic rocks of the Gemuk Group (Carboniferous to Cretaceous). Ore bodies are 2 in. to 2 ft thick. No production figures.

14 Lake Elva T.9S.,R.58W. o Au Disseminated Placer Prospectors reported to have found a little placer gold in streams entering Lake Elva Eastins, 1968, p. 8

15 Malarias Creek T.10S.,R.71W. p? Au? Disseminated Placer Prospecting reported to 1936 but no information available on results Smith, 1938, p. 59

16 Olympic Creek T.10S.,R.71W. m Au Disseminated Placer Mining reported 1926-1931, one man operation in 1932. 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, 1930b, p. 44; Hoare and Coonrad, 1961


18 Slate Creek T.10S.,R.71W. M Au Disseminated Placer Tributary of Goodnews River into which Kattamuse Creek flows that has been mined from 1916 until at least as recently as 1961. Most of production came from Kattamuse Creek. Extensive gridding and exploration. Both bench and present stream gravel productive. Creek cut in glacial drift. Bedrock consists mainly of clastic and mafic volcanic rocks of the Gemuk Group, which is of probably Permian age in this area. Gold may have been derived from tappable Tertiary (69.5 m.y.) granitic pluton and associated hornfels zone to northwest. Cobb, 1973, p. 48; Hoare and Coonrad, 1961

48
<table>
<thead>
<tr>
<th>Location</th>
<th>Quadrangle</th>
<th>Gold</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Snow Gulch</td>
<td>T.75,.871W.</td>
<td>Au, Pt</td>
<td>Disseminated Placer</td>
<td>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. Some gold may have been derived from mineralized zones along the fault. Source of the gold is conjectural.</td>
</tr>
<tr>
<td>Sunshine Valley</td>
<td>T.65,.850W.</td>
<td>Au</td>
<td>Disseminated Placer</td>
<td>A little placer gold reported by prospectors from streams draining ridge southwest of valley. Valley in floodplain alluvium and glacial drift. Tributary streams in drift that overlie undifferentiated Geauk Group sedimentary and volcanic rocks (Carboniferous to Cretaceous).</td>
</tr>
<tr>
<td>Togiak Lake</td>
<td>T.65,.861W.</td>
<td>Cu</td>
<td>Vein</td>
<td>Occurrence of chalcopyrite and melanite in small quartz veins in hornfels near contact with Tertiary quartz diorite intrusive into fine-grained sedimentary rocks of the Geauk Group (Carboniferous to Cretaceous).</td>
</tr>
<tr>
<td>Togiak River</td>
<td>T.105,.865W.</td>
<td>Zn(Cu)</td>
<td>Vein</td>
<td>Quartz vein, 12-15 in. thick and exposed for about 25 ft on west side of river, contains about 20 percent dark, coarse-crystalline sphalerite (marmatite), and a little chalcopyrite and pyrite. Ice-melt water flows of the Geauk Group (Carboniferous to Cretaceous).</td>
</tr>
<tr>
<td>Trail Creek</td>
<td>T.25,.60W.</td>
<td>Au</td>
<td>Disseminated Placer</td>
<td>Small-scale gold placer mining reported for a few years before World War II. Placer derived by stream concentration of glacial gravels. Bedrocks are sedimentary and volcanic rocks of the Geauk Group (Carboniferous to Cretaceous). No granite rocks known in vicinity.</td>
</tr>
<tr>
<td>Tyone Creek</td>
<td>T.75,.871W.</td>
<td>Au</td>
<td>Disseminated Placer</td>
<td>Evidence of placer mining but additional information lacking. Bedrocks are Precambrian metafolics.</td>
</tr>
<tr>
<td>Wettamuse Creek</td>
<td>T.105,.871W.</td>
<td>Au</td>
<td>Disseminated Placer</td>
<td>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, coarse gold. 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 bench-rock. Source of gold considered to be auriferous quartz veins in contact zone of large Late Cretaceous-early Tertiary (67.5 m.y.) granitic pluton that intruded argillite, chert, graywacke and mafic volcanic rocks of the Geauk Group. Source of gold is considered to be auriferous quartz veins in contact zone of large Late Cretaceous-early Tertiary (67.5 m.y.) granitic pluton that intruded argillite, chert, graywacke and mafic volcanic rocks of the Geauk Group.</td>
</tr>
</tbody>
</table>

References:
- Hoare and Cobb, 1972, p. 47; Hoare and Coonrad, 1961
- Hoare and Cobb, 1972, p. 49; Hoare and Coonrad, 1961
- Hoare and Coonrad, 1961
- Hoare and Coonrad, 1961
- Karrington, 1921, p. 221-223, 225-226; Hoare and Coonrad, 1961
- Harrington, 1921, p. 227-233, 229-226; Hoare and Coonrad, 1961
<table>
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<tr>
<th>Map No. and Name(s)</th>
<th>Map Coordinates</th>
<th>Development Location</th>
<th>Resources</th>
<th>Minor Constituents or Potential byproducts in parentheses</th>
<th>Form</th>
<th>Type</th>
<th>Brief Description</th>
<th>Principal Reference(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapman Bay</td>
<td>J.7 T.15S., R.75W.</td>
<td>p</td>
<td>Cr, Fe</td>
<td>Disseminated Beach placer</td>
<td></td>
<td></td>
<td>Five USGS reconnaissance super hole samples to maximum depth of 7.3 ft in 1958-1959 revealed magnetite and chromite to be major constituents (&gt;10 percent) but only trace amounts of gold and platinum. No commercial interest shown as of 1971.</td>
<td>Berryhill, 1963, p. 15-16</td>
</tr>
<tr>
<td>Hagemeister Street</td>
<td>J.7 T.15S., R.72W.</td>
<td>o</td>
<td>Cr</td>
<td>Disseminated Beach placer</td>
<td></td>
<td></td>
<td>Trace quantities of chromite noted in shovel and super-hole samples to 11.4 ft depth during USGS sampling program, 1958-1959. No precious metals reported.</td>
<td>Berryhill, 1963, p. 15-16</td>
</tr>
<tr>
<td>Platinum - Salmon River</td>
<td>J.7 T.15S., R.75W.</td>
<td>p</td>
<td>Cr</td>
<td>Disseminated Beach placer</td>
<td></td>
<td></td>
<td>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 of placer deposits were formed lay far to west of present strand at time of lower sea level.</td>
<td>Berryhill, 1963, p. 13-16, Mertie, 1969, p. 60-61</td>
</tr>
<tr>
<td>Red Mountain</td>
<td>J.7 T.14S., R.75W.</td>
<td>p7</td>
<td>Pt, Cr</td>
<td>Disseminated Placer</td>
<td></td>
<td></td>
<td>USGS 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.</td>
<td>Berryhill, 1963, p. 13-16, Mertie, 1969, p. 60-61</td>
</tr>
<tr>
<td>Salmon River</td>
<td>J.7 T.14S., R.75W.</td>
<td>m</td>
<td>Pt, Au(Cr)</td>
<td>Disseminated Placer</td>
<td></td>
<td></td>
<td>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. Goodman 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 15,400 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?) and the eastern tributaries that drain the Susie Mountain pyroxenitic intrusive contained no workable ground and those draining the Paleozoic sedimentary and overlying volcanic rocks were found to be devoid of platinum. Top of peak 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. Beach pay streak on left limit of river was formed in early Pliocene time and has been worked over a distance of about 2 1/2 mi. Drilling demonstrates that it extends farther southeastward but test holes about near Chapman Bay failed to encounter platinum minerals. Platinum minerals in the form of platinum and osmium-iridium pseudoeutectically intergrown. Weighted chemical means run Pt-73.62; Os-9.94; Ir-1.89; Ru-0.15; Rh-1.15; Pd-0.34; Au-2.06; impurities 10.63 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 Smalls River.</td>
<td>Berryhill, 1963, p. 13-16, Mertie, 1969, p. 77-86; 1976, p. 23-38</td>
</tr>
<tr>
<td>Smalls River</td>
<td>J.7 T.14S., R.75W.</td>
<td>p</td>
<td>Pt, Au(Cr)</td>
<td>Disseminated Placer</td>
<td></td>
<td></td>
<td>Exploratory drill hole sunk in Smalls River valley 7.6 ft 5.27% 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.</td>
<td>Mertie, 1969, p. 81</td>
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<td>MAP NO. AND NAME(S) (if known)</td>
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<tr>
<td>1 Flat Creek</td>
<td>7.22N. R.64W.</td>
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<td>Disseminated</td>
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<tr>
<td>Au(Hg)</td>
<td></td>
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<td>Placer</td>
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<td>Flat Creek F.S</td>
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<td>(Hitt. Stuyanok Creek, Stuyanok River, Stuyanok Valley)</td>
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<tr>
<td>2 Wolf Creek Mountain</td>
<td>7.26N. R.65W.</td>
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<td>Disseminated</td>
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<td>Hg(Sb)</td>
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<td>Hydrothermal</td>
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<td>Wolf Creek Mountain</td>
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**1 Flat Creek**
- 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 Jurassic Tertiary 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, Stuyanok quadrangle)
- 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 Jurassic Tertiary 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, Stuyanok quadrangle)

**2 Wolf Creek Mountain**
- Discovered 1962 by USGS field party. Thin films of "drusy" cinnabar with blebs of stibnite in highly altered rhyolite about 3 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 Stuyanok and Kuskokwim Rivers

Cobb, 1966a, p. 94; Hoare, J. W., 1977 (oral commun.)

<table>
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<tr>
<th>MAP NO. AND NAME(S)</th>
<th>MAP COORDINATES</th>
<th>DEVELOPMENT LOCATION</th>
<th>MINOR CONSTITUENTS</th>
<th>RESOURCES</th>
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<td>1 Bear Creek</td>
<td>B13 T.9N.,R.14, ISE.</td>
<td>M Au(Sn,Pt)</td>
<td>Disseminated</td>
<td>Placer</td>
<td></td>
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<td>Auriferous gravels derived from placidiflural deposits laid down by streams emanating from zone of glacifluvial erosion eastward from 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.</td>
<td>Miller and Ferrians, 1968, p. 5-6</td>
</tr>
<tr>
<td>2 Black Creek</td>
<td>B15 T.8N.,R.24E.</td>
<td>o Cu(Au)</td>
<td>Disseminated Hydrothermal</td>
<td>Placer</td>
<td></td>
<td></td>
<td>Disseminated pyrite and chalcopyrite in netavolcanics 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.</td>
<td>Smith, 1933, p. 143; Martin, 1930, p. 19</td>
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<tr>
<td>3 Black Creek</td>
<td>B15 T.8N.,R.24E.</td>
<td>m Au</td>
<td>Disseminated</td>
<td>Placer</td>
<td></td>
<td></td>
<td>Gold placer deposits probably derived from contact zone (see 2 above). Main pay streak about 12 ft wide. Depth to bedrock about 20 ft.</td>
<td>Eakin, 1916, p. 83-84</td>
</tr>
<tr>
<td>7 Felix Fork</td>
<td>B15 T.8N.,R.24E.</td>
<td>m Au</td>
<td>Disseminated</td>
<td>Placer</td>
<td></td>
<td></td>
<td>Auriferous gravels discovered 1910. Record of production 1911 and 1917. Included here with Indian River (No. 5).</td>
<td>Smith, 1933, p. 142; Reed, 1939, p. 163</td>
</tr>
<tr>
<td>4 Hughes Bar</td>
<td>B14 T.7N.,R.22E.</td>
<td>m Au</td>
<td>Disseminated</td>
<td>Placer</td>
<td></td>
<td></td>
<td>Fine gold discovered on bar of Koyukuk River in early 1890's. Total production probably about 200 oz (t).</td>
<td>Eakin, 1916, p. 82-84; Joesting, 1942, p. 89; Miller and Ferrians, 1968, p. 5</td>
</tr>
<tr>
<td>5 Indian River</td>
<td>B15 T.8N.,R.24E.</td>
<td>o (Mo)</td>
<td>Disseminated Hydrothermal</td>
<td>Placer</td>
<td></td>
<td></td>
<td>Molybdenite deposit(5) discovered during placer mining reportedly contains high grade ore. Location is in Late Cretaceous granodiorite of Indian Mountain pluton. At (6), sphalerite occurs in altered intrusive rocks and andesite (Jurassic-Cretaceous). See also Utopia Creek (Melozltna quadrangle, No. 8).</td>
<td>Joesting, 1942, p. 89; Miller and Ferrians, 1968, p. 5-6</td>
</tr>
<tr>
<td>6 Indian River</td>
<td>T.7N.,R.24E.</td>
<td>z (Zn)</td>
<td>Disseminated Hydrothermal</td>
<td>Placer</td>
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<td></td>
<td>Disseminated Hydrothermal</td>
<td>Joesting, 1942, p. 89; Miller and Ferrians, 1968, p. 5-6</td>
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<tr>
<td>7 Indian River</td>
<td>B15 T.8N.,R.24E.</td>
<td>m Au(Mo)</td>
<td>Disseminated? Placer</td>
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<td>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 × 10^9). See also Utopia Creek (Melozltna quadrangle, No. 8).</td>
<td>Eakin, 1916, p. 82-84; Joesting, 1942, p. 18; Miller and Ferrians, 1968, p. 5-6</td>
</tr>
<tr>
<td>8 Pocahontas Creek</td>
<td>B15 T.7N.,R.22E.</td>
<td>p (Au)</td>
<td>Disseminated</td>
<td>Placer</td>
<td></td>
<td></td>
<td>Placer prospects reported by Eakin (1916). Stream heads against headwaters of Indian River (7) and Utopia Creek (Melozltna No. 8).</td>
<td>Eakin, 1916, p. 83</td>
</tr>
<tr>
<td>11 Unnamed</td>
<td>B13 T.10N.,R.14E.</td>
<td>P U(Th,RE's)</td>
<td>Disseminated Uraniferous igneous rocks</td>
<td></td>
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<td></td>
<td>Uraniferous nematophanite and anorthosite dikes cutting anedetic (Early Cretaceous) hornfels west of Zone 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. Uranium and allantite are the principal uranium-bearing minerals.</td>
<td>Miller and Elliott, 1937</td>
</tr>
<tr>
<td>12 Zone Hills</td>
<td>B13 T.8N.,R.14E.</td>
<td>P U(Th,RE's)</td>
<td>Disseminated Uraniferous igneous rocks</td>
<td></td>
<td></td>
<td></td>
<td>Uraniferous- and thorium-rich non-</td>
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<td>MAP NO. AND NAME(S)</td>
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<td>1 Beaver Creek</td>
<td>F,11</td>
<td></td>
<td>Au</td>
<td>Disseminated Placer</td>
<td>Gold placer mining reported in 1911. No information on specific location, characteristic of ground, or production (if any)</td>
<td>Brooks, 1912, p. 40</td>
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<tr>
<td>16 Black Creek</td>
<td>F,11</td>
<td></td>
<td>Au(Hg,Sn,W)</td>
<td>Disseminated Placer</td>
<td>Placer operations from 1910 at least through 1966 and probably later. Dredge installed 1916, operated one season before being moved to Otter Creek. USGS sampling program 1966, 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 sandstones and shale. Scheelite not found in place.</td>
<td>Smith and Maddern, 1915, p. 796. Brooks, 1916a, p. 48-49; Joesting, 1942, p. 26, J3</td>
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<tr>
<td>(Place)</td>
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<td>Hydrothermal</td>
<td>Au, Hg, So</td>
<td>Vein</td>
<td>Vein</td>
<td>Placer operations disclosed quartz veins in underlying monzonite 2-12-in. thick that contained stibnite and a little cinnabar and pyrite. Also short drift on a similar vein that probably did not intersect ore.</td>
<td>Cady and others, 1955, p. 192-206, 211-215; Cady and others, 1957, p. 107; Whitley, 1962a, p. 9, 16-17, 21</td>
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<tr>
<td>2 Chicken Creek</td>
<td>F,11</td>
<td></td>
<td>Au(Hg,Sn,W)</td>
<td>Disseminated Placer</td>
<td>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 106,648 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.</td>
<td>Brooks, 1916b, p. 66; Mertie, 1936, p. 213-215; Cady and others, 1955, p. 107; Whitley, 1962a, p. 9, 16-17, 21</td>
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<tr>
<td>(Place)</td>
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<td>Hydrothermal</td>
<td>Au, Hg, So</td>
<td>Vein</td>
<td>Vein</td>
<td>Small quartz veins in monzonite near head of creek contain gold, cinnabar, and stibnite.</td>
<td>Cady and others, 1955, p. 192-206, 211-215; Cady and others, 1957, p. 107; Whitley, 1962a, p. 9, 16-17, 21</td>
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<tr>
<td>3 Decourcy</td>
<td>F,10</td>
<td></td>
<td>Hg(Sb)</td>
<td>Vein</td>
<td>Vein</td>
<td>Hydrothermal (low temperature)</td>
<td>Discovered 1910-1911 and operated intermittently until 1950. Total production 1,534 flasks. About 1,725 ft of underground workings, plus numerous pits and trenches mostly cut by USGS in 1943. OWEA diamond drilling, totaling 2,014 ft 1953-1954, demonstrated cinnabar mineralization continues 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 mafic sandstone and shale (Cretaceous Tushekuni 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, cerussite, and arsaspyrite in gangue of silica, carbonate, and clay minerals. Additional underground exploration may develop mineable ore, especially beneath the Tunnel and Top veins were tested by diamond drilling. Placer cinnabar resources in a tributary of Return Creek unassessed.</td>
<td>Cady and others, 1955, p. 2, 102, 103, 111-113; Sainsbury and MacKevett, 1965, p. 2-2, 43-46</td>
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</table>
Disseminated Placer
Au(Hg,H.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 copper in addition to gold. Some nuggets contained both cinnabar and gold.

Disseminated Placer
Au(Ag,Hg,Sb,W) Disseminated Placer
At least two known lodes: stibnite-quartz; gold-silver quartz. Source of placer gold considered to be surficial quartz veins near contacts of altered Tertiary andesite veins with Cretaceous graywacke and shale (Saskatchewan Group). (Includes references to Crooked Creek, Lewis Gulch, Quartz Creek, Queen Gulch. See also Crooked Creek, Sleetmute quadrangle.)

Disseminated Placer
Au(Hg,W) Disseminated Placer
Placer mining begun in 1910 following discovery of gold on Otter Creek (No. 16) in 1906. Most of creek mined more than once by hydraulic methods and up to two dredges. Dredging terminated about 1975. Production since 1915 in excess of 241,000 fine ounces. 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.

Disseminated Placer
Au(ng,Ag) Vein 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. USGS sampling program in 1987 concluded the gold occurs in limited zones within the monzonite rather than being disseminated throughout.

Disseminated Placer
Au(ng,Ag) Vein 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. USGS sampling program in 1987 concluded the gold occurs in limited zones within the monzonite rather than being disseminated throughout.

Disseminated Placer
Au Vein 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. USGS sampling program in 1987 concluded the gold occurs in limited zones within the monzonite rather than being disseminated throughout.

Disseminated Placer
Au Vein 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. USGS sampling program in 1987 concluded the gold occurs in limited zones within the monzonite rather than being disseminated throughout.
7. Games Creek and tributaries (Plate II. T.33-34N., R.38W.)

Disseminated Placer

Nonsale deposits discovered 1910 at least 1960 by stamper in 1907. Early drift mining, followed by as many as 2 dredges during interval 1921-1923 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 gravel 60-100 ft above present stream deposits. Gravels 5-30 ft thick and covered by 10-20 ft of partly frozen mud. Gold tends to be coarse and unflattened, commonly with quartz attached. Correlation probably local bedrocks (Cretaceous slate and related clastics cut by numerous dikes of altered andesite and dacite). One assay reported fineness of 883. (See also Games Creek, No. 9; Spinifex quadrangle)

16. Garnet (Plate II. T.33-34N., R.38W.)

Disseminated Placer

Gold placer deposits developed on weathered early Tertiary monzonite which contains gold-cinnabar-stibnite-scheelite-bearing quartz veins, mined from 1910 at least until 1933. Production, lumped with that from Black, Granite, and Slate Creeks and Melanite Gulch, totaled 2,030 oz. Concentrates carry abundant cinnabar (nuggets to 10 lbs), with subordinate stibnite and scheelite. (See also Otter Creek, No. 16 below)

16. Glen Gulch (Plate II. T.33-34N., R.38W.)

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 clumps of stibnite with minor cinnabar and pyrite. USBM bedrock trenching and sampling program in 1956 disclosed no significant quicksilver mineralization. (See also Glen Gulch, No. 8)

8. Golden Horn (Plate II. T.33-34N., R.38W.)

Vein Hydrothermal

The only productive lode mine in the area with recorded production in 1922, 1935, 1936, 1937. Total of 526 tons of ore shipped to smelter contained 2.706 oz gold, 2.920 oz silver, 5,200 lbs lead, and 653 lbs zinc. Reportedly developed by 200 ft shaft, 300 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, scheelite, cinnabar, stibnite, and base metal sulfides. (See also Glen Gulch, No. 8; Minnie Gulch, No. 8)

16. Granite Creek (Plate II. T.33-34N., R.38W.)

Disseminated Placer

Mined almost continuously from 1920 at least until 1940 by non-float methods. Production 1915-1960. Touched with that from Black and Slate Creeks, and Melanite and Glen Gulches, totaled 21,011 oz. Valley carved mainly in Late Cretaceous sandstone and shale with gneissic dikes and gold-bearing quartz veins in metamorphic area. Con­crete in concentrates probably derived from soil ultramafic dikes. Pay streak about 100 ft wide in present stream gravels 8-15 ft wide in present stream gravels 8-15 ft thick near and up to 2 ft into bedrock. Gold rather fine grained but shotty and somewhat iron stained. Three assays showed fineness of 853 gold and 134 silver
ID: T.27N..R.47W. 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 same 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 1 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 oz. Average of eight assays from 1930, 1931, and 1932 showed a fineness of 856 gold, 126 silver, with a gold range of 856-876 parts per thousand. Abundant cinna­bar in concentrates: also scheelite, stibnite, chromite, magnetite, monazite, mirex, radiotropic strum and traces of cassiterite.

ID: T.25N..R.44W. Au(Hg,Sn,Ag) Disseminated Placer

Placer mining intermittently from 1911-1939. Operations reportedly more extensive than those at Denin Creek (No. 4). Bedrocks include 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, casso­terite, pyrite, and monazite. One concentrate reportedly contained 5 percent monazite and 80 percent pyrite. (Includes references to George River, Julian Creek, and Julian Creek.)

ID: T.23N..R.38W. Au(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. (Includes references to George River, Julian Creek, and Julian Creek.)

ID: T.22N..R.51W. Au(Sb) Disseminated Placer

Placer gold prospects reported as early as 1910. Creek prospects over distance of about 2 mi midway between mouth and head. Test shafts sunk 12 ft to bedrock with crosscuts at 1/2 or intervals. Pay reportedly range from few cents to $2.00 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 (Kussokwim Group) that dip beneath lava flows of the (altered Basalt Late Cretaceous) in northeast­trending linearity and are intruded by still-lithic bodies of basalt altered to illite­carbonate rock. No intru­sives occur upstream from reported head of pay streak. (Includes references to George River, Julian Creek, and Julian Creek.)

Heddren, 1911, p. 268, 270. Cady and others, 1955, p. 120.
Malamute Creek (Gulch) F.II T.27N R.47W. Au(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 Tertiar quartz monzonite pluton of Otter Creek and is overlain by about 25 ft of poorly sorted angular wash that consists mainly of locally derived vuggy basalt in a sandy matrix. Gold mainly on or near bedrock. USGS placer concentrate sample showed, among other minerals, cinnabar, scheelite, feldspar, quartz, chromite, realgar, allanite, and cassiterite.

Lode prospect located on north side of Otter Creek about 100 yrs below much of Malamute Creek. N.27E.-trending quartz-calcrete vein and associated stringers explored by adit 70 ft long (now caved) and reported to contain arsenopyrite, pyrite, and cinnabar. Another vein on nearby ridge explored by small shaft. No indication of any production.

Hodson, 1962a, p. 8-9

Moore Creek F.II T.27N R.47W. Au(Mg, Cr) Disseminated Placer Placer gold discovered 1901, 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 of soil being of vegetation and clay. Gold occurs at base of gravels and in upper 1/2 ft of bedrock. Two assays showed fineness 267 gold, 327 silver. Principal source considered to be small quartz monzonite pluton that intrudes steeply dipping sandstone and silt shale of Kuskokwim Group (Cretaceous). Concentrates contain abundant cinnabar with lesser amounts of chromite, pyrite, scheelite, and galena.

Maury and Har­rington, 1916, p. 180-181; White and Killeen, 1933, p. 16, 18

Mt. Joaquin F.II T.32N R.37W. Mg Hy­drothermal Two claims stake on limestone "Inclusion" in monzonite pluton (Late Cretaceous-early Tertiary) that contains cinnabar. No recorded production.

Maury, 1962, p. 46

Otter Creek F.10-11 T.27N R.47W. Au(Cr,Sp,Ph,Hg, Ag,Sn,W) Disseminated Placer Discovery creek in Flat area Christmas day 1906. 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 tapers to 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 854-424 units gold per ounce due to increase in dross (12-43) rather than normal corresponding increase in silver. Concentrates contain gold, cinnabar, arsenopyrite, scheelite, stibnite, chromite, magnetite, galena, pyrite, garnet, and cassiterite. One dredge concentrate sample assayed 16.1 percent Hg. 70.2

Hodson, 1911, p. 238, 240, 253-255, 262, 267; Maury, 1936, 216-220; Christie, 1960, 39
percent Sb. 0.48 percent Ag, in addition to gold and silver. (See also Granite Creek, Glen Gulch.)

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)

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, 1956 and 1975 but undoubtedly carried on other years also. Production, lumped with Chicken, Happy, and Willow Creeks, totaled 106,486 oz gold, but Mertie (1933) indicates no part of the valley was a large producer. All placers at upper and lower ends developed over banded argillite (Cretaceous Alaskan 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.

Tributary to Otter Creek from south. Gold discovered at mouth. Mined as early as 1915 and from 1913 until at least 1940. Probably most 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 scheelite. Gold localized in lower part of gravel which may be as much as 10 ft thick under 20 ft of overburden. Analyses (USBN) of concentrate samples showed as much as 0.51 oz gold and 2.81 oz silver with enough mercury and tungsten oxide to suggest the presence of small amounts of cinnabar and scheelite.

Placer gold discovered 1910; mining reported most years thereafter until 1940. Production included with that from Chicken, Prince, and Happy Creeks totaled 106,486 oz over interval 1935-1966. Gold very fine grained. Largest nugget reported weighed less than 5 oz. Four assays showed fineness of 873 oz gold, 116 silver, decreasing somewhat downstream. Both bench and present creek placers. Bedrock mostly Cretaceous slate (Alaskan 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 much

Mertie, 1936, p. 216; Maloney, 1962a, p. 5. 18.
<table>
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<tr>
<th>MAP NO. AND NAME(S)</th>
<th>MAP COORDINATES</th>
<th>DEVELOPMENT LOCATION</th>
<th>RESOURCES Minor constitu-</th>
<th>FORM</th>
<th>TYPE</th>
<th>BRIEF DESCRIPTION</th>
<th>PRINCIPAL REFERENCE(S)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Albania Creek</td>
<td>C.20 T.M.N.R.4W.</td>
<td>p</td>
<td>Au Disseminated Placer</td>
<td></td>
<td></td>
<td>Good prospects for fine gold reported in 1915. Muck and gravel 22 ft deep 1 m above mouth; 1.5 m above mouth and on slope gravel was 1125 ft thick. Bedrock mostly covered, no mineralized bedrock found; rock is mainly Ordovician chert with possible some limestone and dolomite. No mention of mining or prospecting after 1915</td>
<td>Brooks, 1916c, p. 207-208</td>
</tr>
<tr>
<td>2 Alaska group</td>
<td>C.21 T.M.N.R.2E.</td>
<td>m</td>
<td>Au Quartz vein Lode</td>
<td></td>
<td></td>
<td>Gold-bearing quartz veins produced a few boxcar ore reported to assay $100-$200 per ton (1976 price). Other samples assayed $1.15-$84.40 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</td>
<td>Smith, 1912a, p. 194</td>
</tr>
<tr>
<td>3 Alaska Flyer</td>
<td>C.21 T.M.N.R.1E.</td>
<td>p</td>
<td>Au Quartz vein Lode</td>
<td></td>
<td></td>
<td>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</td>
<td>Smith, 1913a, p. 194</td>
</tr>
<tr>
<td>4 Alder Creek</td>
<td>C.21 T.M.N.R.3E.</td>
<td>m</td>
<td>Au Disseminated Placer</td>
<td></td>
<td></td>
<td>Mining of shallow ground by open-cut method at various times between 1912 and 1940 and possibly later. Probably no mining after 1939. Worked over a distance of about 0.5 m from the mouth. No record of production or tonnage. Some of the production probably included with Tamarack Creek. Bedrock quartz-mica schist and quartzite</td>
<td>Ellsworth and Smith, 1913, p. 206; Smith, 1942b, p. 30</td>
</tr>
<tr>
<td>5 Any Creek</td>
<td>C.20 T.M.N.R.4W.</td>
<td>m</td>
<td>Au,(Sb,Cr) Disseminated Placer</td>
<td></td>
<td></td>
<td>Mined extensively and was major gold producer in this district in many years but not consistently between 1916 and 1968; has been essentially inactive since 1960. Most of mining is on a bench on east side of valley and at mouths of several gulches. Muck and gravel 25-100 ft wide, 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</td>
<td>Hertel, 1918a, p. 181</td>
</tr>
<tr>
<td>2 Anna-Mary</td>
<td>C.21 T.M.N.R.2E.</td>
<td>p</td>
<td>Au,Ag,Pb,Sb Shear zone Lode</td>
<td></td>
<td></td>
<td>Lode, prospected in 1921, 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 pyrite 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 tonnage or mode of gold occurrence, and a second lode 100 ft away was poorly exposed. Apparently little, if any, later work was done here</td>
<td>Hill, 1933, p. 100; Joesting, 1954; Byers, 1957, p. 188, 210</td>
</tr>
<tr>
<td>6 Banner</td>
<td>C.21 T.M.N.R.2E.</td>
<td>p</td>
<td>Vein(s)</td>
<td></td>
<td></td>
<td>Ore carrying free gold was reported to have been found in a shaft prior to 1912. Shaft and ore zone not accessible in 1912</td>
<td>Smith, 1913a, p. 171</td>
</tr>
<tr>
<td>7 Bedrock Creek</td>
<td>C.21 T.M.N.R.1E.</td>
<td>m</td>
<td>Au,Sn,W Disseminated Placer and quartz veins Lode</td>
<td></td>
<td></td>
<td>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 non-economic 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 sometimes assayed at the nearby Clary Hill mill. Placer ground mined over 0.5 m up from mouth. Lode courses on all slopes in this creek basin. Placers probably mined out</td>
<td>Brooks, 1923, p. 20; Joesting, 1942, p. 32, 37; Byers, 1957, p. 190, 210</td>
</tr>
</tbody>
</table>
8 Bobble  
C.21  
T.3N..R.2E.  
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 1920’s and 1930’s covering several similar occurrences in this area. Economic potential of such small deposits is minimal.

9 Branholm-Jenkins  
C.21  
T.3N..R.2E.  
Sb, Pb  
Vein  
Hydrothermal  
Prosppecting and some mining intermittently between 1915 and about 1929. A quartz vein of unsorted size and extent, attitude 9.60°W., 70°S., contains arsenopyrite, jamesonite, and galena. Aerogenic quartz veins are schist. Probably inactive since 1930. Part of the mineralized area between Moss and Wolf Creeks

10 Burnet  
C.21  
T.2N..R.1E.  
Au, Ag, Pb, Sb  
Quartz veins and breccia zones  
Lode  
A number of quartz veins and quartz-filled breccia zones on Skoogy 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 grano-diorite 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 ft. 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

11 Busty Belle  
C.21  
T.2N..R.1E.  
Au, Ag, Pb, Sb, (Au, N, Mo, Zn)  
Quartz veins and lode zone  
Sulfide veins and gold-sulfide quartz veins cut gneiss-pegmatite and adjacent schist in contact zone of Pedro Dome pluton. Early development by Freeman and Scharf 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 and other host rocks shipped in 1950’s and 25 tons stockpiled. Channel samples contained 2-5 percent lead, 2.9-8.8 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. Scheelinite and powellite occur as thin coatings of calcite and quartz veins cut gneiss, and associated quartz veins 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

8 Butler  
C.21  
T.3N..R.2E.  
Sb, Au, Pb, Zn  
Shear zone  
Lode  
The underground development was and an unrecorded production were made in 1906-1912. 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°S. contains pyrite, arsenopyrite, galena, sphalerite, and stibnite, and associated quartz veins 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. 222-227; Hiltz, 1933, p. 90-99
LIVENGOOD QUADRANGLE

12 Chetanka River
C.21
T.3N.,R.1E.
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.

Katz, 1913b, p. 68; Prindle and Katz, 1913, p. 107; Smith, 1939b, p. 68-88.

14 Chechako No. 1
(Also called Eldorado Mining & Milling Co., Weston-Mitchell)
C.21
T.3N.,R.1E.
Quartz veins and shear zones

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 ft 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 33-52 oz 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 Chetanka, Wolf and Fairbanks Creeks.

Prindle, 1904, p. 149; Prindle and Katz, 1913, p. 98.

15 Cheyenne
(Includes Same, Jackson, and Wachritz)
C.21
T.3N.,R.2E.

Several small workings all apparently on same type of deposit. Veins and fracture fillings of stibnite, silver-bearing galena, limesheets, and gold-bearing quartz veins; associated arsenopyrite and pyrite. In quartz-vein 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 550 per ton (1976 price). Some production, particularly off antimony, lead and silver, at various times between 1909 and late 1930's; no figures available. These deposits are similar to many in the Pedro Dome area. Potential reserves very small.


6 Chetam mine
C.21
T.3N.,R.2E.

Disseminated Placer

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 ft 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 33-52 oz 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 Chetanka, Wolf and Fairbanks Creeks.

Prindle, 1904, p. 149; Prindle and Katz, 1913, p. 98.

13 Chetam Creek
C.21
T.3N.,R.2E.

Disseminated Placer

Placer mining for gold chiefly by open cut methods in relatively shallow ground 1903-1915; production 1903-1910 was about $1,000,000 (at 1976 price). Dredged from about 1927-1934. Bedrock is schist, and contains a number of stibnite veins; comprises 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.


16 Cleary Creek
(Near Pedro Dome)
C.21
T.3N.,R.1-2E.

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-tel course of this stream. From 1903-1924 about 1,129,650 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...
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.

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.

Veins and shear zones are mineralized; a few tons of stibnite were produced from an intersecting vein. Some arsenopyrite, sphalerite, galena, chalcopyrite, saminonite, 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 1976 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.

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.

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. 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, picotite, cinnabar, galena, cassiterite, and native copper (roughly in decreasing order of abundance). Bedrock is chert, slate and basalt of the Permian-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).
21 Dome Creek C.21 T.2N.,R.1E. 4R.1H. Au.(Ag,Sn,W) Disseminated Placer Mined by underground drift method from 1906-1941, and by drifting 1949-1959. Essentially inactive since 1960. Gold deposits concentrated in upper 2 ml and within 2 ml of mouth. In the intervening 2-3 ml gold content is very low to absent. Ground is 30-100 ft deep, and pay streak was 130-150 ft wide and 65 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.

22 Earth Resources C.20 T.7N.,R.5H. Cu,Mo Copper-olygoclymene 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. Scheelite as sparsely disseminated grains in thin pegmatite dikes intruding granodiorite. Intrusives related to porphyritic granite nearby. Small development; grade very low.

10 Egan (Twin Creek) C.21 T.2N.,R.1E. W Pegmatite Lode 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.


24 Ester Creek C.21 T.8N.,R.4-SW. 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 serpentinite in upper part of valley.

25 Excelsior C.21 T.3N.,R.2E. Pb,Sb,(Au,Ag) Vein Hydrothermal Two veins carrying minor amounts of galena, stibnite, and attinata 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.

26 Fatbanks Creek C.21 T.3N.,R.2-3E. (Includes Deep Creek, and parts of other tributaries) Au.Ag,(Sb,Sn,W) Disseminated Placer Placeer ground 15-110+ ft thick overlying chiefly schist bedrock. Small-scale open cut and drift mining began in 1903, and drifting 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 noncommercial amounts of scheelite, wolframite, attinata, and cassiterite. The economically mineable placer ground is probably nearly worked out.
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<th>Location</th>
<th>Township</th>
<th>Range</th>
<th>Section</th>
<th>Mineralization Type</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Fish Creek</td>
<td>C.21</td>
<td>T.2N., R.2E.</td>
<td>M</td>
<td>Au,(Sb, Bi, Sn,M)</td>
<td>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. Some 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, blumite, cassiterite, and scheelite occur.</td>
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<tr>
<td>Frederick mine (Friederich)</td>
<td>C.21</td>
<td>T.2N., R.1W.</td>
<td>M</td>
<td>Sb, Au</td>
<td>Vein and fracture Hydrothermal Two shafts sunk to 500 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 ft. wide. Some gold reported in 1918. Worked approximately 1910-1918. Long idle in 1921; some stibnite may have been taken from dump later. No mining since 1931. Future potential unknown, but probably small.</td>
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<tr>
<td>Gertrude Creek (Includes Glen Gulch)</td>
<td>C.20</td>
<td>T.8N., R.5W.</td>
<td>M</td>
<td>Au</td>
<td>Disseminated Placer Shallow bench and creek placers mined intermittently 1915-1918, 1920-1960's. Probably inactive since 1969 or earlier. Bedrock at much metabasalt; chert and stilified dolomites in middle course; serpentine near head. Gold (0.9 ppm) in massive, iron-stained, silica-carbonate rock 0.25 mi above much. 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. Marite, 1951, p. 12-14, 23</td>
</tr>
<tr>
<td>Giller</td>
<td>C.21</td>
<td>T.2N., R.1W.</td>
<td>M</td>
<td>Sb, Pb, Ag, Au</td>
<td>Fractured shear zones and quartz vein Hydrothermal Fractured shear zone in schist traced 800-900 ft and is 3-5 ft wide; shoots and stringers 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 traces to 1.90 oz silver per ton. Slicken ore, 3-6 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. 37, 29-30; Foster, 1943, p. 10-11; Kulliner and Marite, 1951, p. 12.14, 23</td>
</tr>
<tr>
<td>Goodluck Creek (Also called Lucky Creek, Lucky Gulch)</td>
<td>C.22</td>
<td>T.8N., R.6W.</td>
<td>M</td>
<td>Au,(Cr, Fe, Th, Mg)</td>
<td>Disseminated Placer Placer ground generally about 50-60 ft thick, much of which is mud. Gold is flaky, porous; a minor amount of fine gold reported to be washed in from hillside and deposited within the mud. Bedrock is chert, stilified limestone, and some greenstone. Chertite in concentrates derived from serpentine near head of creek. Other minor constituents of concentrates include magnetite, galena, 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 amenable ground is relatively small, but may not be well prospected. Marite, 1951, p. 12, 25-28; Wedow and others, 1954b, p. 2-3</td>
</tr>
<tr>
<td>Goodwin mine (Includes Goodwin and Independence Creek pros)</td>
<td>C.21</td>
<td>T.2N., R.1W.</td>
<td>M</td>
<td>Sb</td>
<td>Fractured shear zone and vein(s) Hydrothermal Several pits, a tunnel, and a shaft on a sheared zone of schist, as much as 40 ft wide, that includes 3-4 ft lenses of stibnite. Zone strikes N.80 E. and dips 45 ° E., 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. 151; Jonsting, 1943, p. 10; Kulliner and Marite, 1951, p. 12, 22-23; Chapman and Foster, 1969, p. 614</td>
</tr>
</tbody>
</table>
C.20
Disseminated Placer
Au,Cr,Ni
Hydrothermal
Massive, sulfide-bearing green-stained, silica-carbonate-talc rock, veined by quartz. Contains as much as 3.9% sph gold; 1,000 ppm nickel, 1,000 ppm cobalt. Silica-carbonate rock is close to contact with pyritiferous metamafic rocks. Explored prior to 1942 by adits and pits. Probably no production
Foster, 1966a, p. 7; Tyler, 1966b, p. 2, 8, 17

C.19
Disseminated Placer
Au,(W)
Hydrothermal
Gold mining reported in 1904 and 1910; probably some in other years; some prospecting or mining reported near mouth in late 1960's. Concentrates contain magnetite, limonite, scheelite, and pyrite. Creek drains granite contact zone on north side Sawtooth Mountain; bedrock mainly quartzite, phyllite, slate, chert, and gneiss. Some exploration since. Nonpersistent quartz veins in a west-trending, water-worn fault zone in schist; largest vein about 3 ft wide. Largest vein assayed at $.25 per ton. Some exploration in 1968b. Bedrock trenching In 1968. Bedrock about 600 ft east of mouth. Some exploration since
H.11, 1933, p. 49, 82, 101-102; Mertie, 1934, p. 235-236

C.21
Quartz veins
Hydrothermal
Developed and mined 1910 to about 1914. Long inactive in 1921, and no known exploration since. Nonpersistent quartz veins in a west-trending, water-worn fault zone in schist; largest vein about 3 ft wide. Largest vein assayed at $.25 per ton. Some exploration since
Brooks, 1911, p. 35; Chapin, 1914, p. 342-343

32 Noel Bros.,
Johnson & Others
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 2-24 in. wide worked from a 280 ft shaft and 60 ft drift. Bedrock schist and quartzite
Brooks, 1912, p. 32

6 Homestake
(Summary of
Properties)
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 jennite, chalcopyrite, galena, and pyrite. Oxidation and surface enrichment of mineral zones are common. Some of the sheared and sheared zones sheared zones
Smith, 1931a, p. 375, 380; Chapin, 1914, p. 327-329; Mertie, 1918b, p. 192; Mattie, 1911, p. 304-305, 404-405; Hill, 1933, p. 49, 82, 92, 101-102; Foster, 1966b, p. 108-113; Foster, 1966a, p. 168, 170-171; Tyler, 1966b, p. 8, 17; Chapin, 1914, p. 79, 101-102; Field, 1970; Brooks, 1912, p. 32

10 Hoover (Clayo)
(Also known as Birch and Anderson)
Au,Ag (Ph)
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, galena, 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 to quartz-mica schist, quartzite, and argillite
Chapin, 1914, p. 30; Hill, 1933, p. 79, 101-102; Foster, 1966b, p. 8, 17, 35; Tyler, 1966b, p. 170-171; Foster, 1966a, p. 7

33 Griffin
T.3N..R.1W.
Au,Cr,Ni
Hydrothermal
Massive, sulfide-bearing green-stained, silica-carbonate-talc rock, veined by quartz. Contains as much as 3.9% sph gold; 1,000 ppm nickel, 1,000 ppm cobalt. Silica-carbonate rock is close to contact with pyritiferous metamafic rocks. Explored prior to 1942 by adits and pits. Probably no production
Foster, 1966a, p. 7; Tyler, 1966b, p. 2, 8, 17

34 Gunnison Creek
T.3N..R.1W.
Au,(W)
Hydrothermal
Gold mining reported in 1904 and 1910; probably some in other years; some prospecting or mining reported near mouth in late 1960's. Concentrates contain magnetite, limonite, scheelite, and pyrite. Creek drains granite contact zone on north side Sawtooth Mountain; bedrock mainly quartzite, phyllite, slate, chert, and gneiss. Some exploration since. Nonpersistent quartz veins in a west-trending, water-worn fault zone in schist; largest vein about 3 ft wide. Largest vein assayed at $.25 per ton. Some exploration since
H.11, 1933, p. 49, 82, 101-102; Mertie, 1934, p. 235-236

35 Hidden Treasure
T.3N..R.1E.
Au
Quartz veins
Hydrothermal
Developed and mined 1910 to about 1914. Long inactive in 1921, and no known exploration since. Nonpersistent quartz veins in a west-trending, water-worn fault zone in schist; largest vein about 3 ft wide. Largest vein assayed at $.25 per ton. Some exploration since
Brooks, 1911, p. 35; Chapin, 1914, p. 342-343

36 Hirschberger & Zimmerman
T.2N..R.1E.
Au
Quartz vein
Hydrothermal
Gold ore shipped In 1911; mined from a vein reported to be 1-5 ft wide. Geologically similar to that of Rainbow mine. Geologically similar to that of Rainbow mine. Probably no production
Brooks, 1912, p. 32
20 Hunter Creek
C.19
T.8N.,R.12W.
Au(Cu,Pb,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 6-10 ft of gravel. Bedrock is shattered greenstone and chert of the Rampart Group (Permian and Triassic). Minor amounts of barite, pyrite, chalcopyrite, galena, casseriterite, 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.

38 Idaho Bar
C.19
T.7N.,R.12H.
M(7)
Disseminated Placer
Deposit is a high-level gravel (Placer of age) as much as 100 ft thick. Gold is coarse and shorty, 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 1900's, and some work reported as late as 1975. Inactive in 1969.

9 Independence mine
C.21
T.2N.,R.1E.
Au(Pb)
Veins, fracture zones
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 920-950 of gold per ton (at 1976 price). Veins 4-10 ft. Thick. Production unknown but probably small. Some surface prospecting in 1960's. Geologic setting is a contact zone between granite and schist.

9 Kallen
C.21
T.3N.,R.2E.
Au,Sb
Vein
Small low-grade gold-quant veins in schistose quartzite; stibnite in one precitated quartz vein. Prospected about 1912; no production.

39 Kokomo Creek
C.21
T.3N.,R.3E.
Au
Disseminated Placer
Gold discovered in 1821; mining reported in 1837-1940. Probably inactive since 1940. Grade and production unknown.

40 Little Lillian Creek
C.22
T.9N.,R.5W.
Au(Cr,Sb,Hg,Ag,W)
Disseminated Placer
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 molybdenite, pyrite, scheelite, pyrite, stibnite, berzelite, cinnabar, arsenopyrite. A small stibnite vein is present near the head; nickel sulﬁdes and silicates occur in a band of serpentinitz; several small arsenopyrite-quartz-sericite veins show as much as 48 ppm gold and 2 ppm silver. Mined from 1907-1941 with a few inactive years, and some production in the period 1965-1975; inactive since 1984. 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 crees heads in the contact zone of the Pedro Dome pluton. One of the more signiﬁcant gold producing creeks, and possibly some potentially minable ground remaining in lower part of valley. Production from 1907 through 1926 was about 116,800 fine ounces. One 20 oz gold nugget re­ported. Concentrates also con­tain cassiterite, scheelite, and wolframite.

41 Little Eldorado Creek
C.21
T.3N.,R.1E.
Au(Sn,W)
Disseminated Placer
Mineralized from 1900-1911 with a few inactive years, and some production in the period 1924-1954; inactive since 1984. 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 crees heads in the contact zone of the Pedro Dome pluton. One of the more signiﬁcant gold producing creeks, and possibly some potentially minable ground remaining in lower part of valley. Production from 1907 through 1926 was about 116,800 fine ounces. One 20 oz gold nugget re­ported. Concentrates also con­tain cassiterite, scheelite, and wolframite.

<table>
<thead>
<tr>
<th>Location</th>
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<th>Minerals</th>
<th>Geologic Setting</th>
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<tr>
<td>Livengood Creek (Includes Myrtle Creek)</td>
<td>C.20</td>
<td>T.8N</td>
<td>R.4-5W</td>
<td>Au, (Sb, Sn, W, Cr, RE's)</td>
<td>Dissminated Placer</td>
</tr>
<tr>
<td>Golden Creek 30 Ludlle Creek</td>
<td>C.20</td>
<td>T.8N</td>
<td>R.4W</td>
<td>Au, Cr</td>
<td>Dissminated Placer</td>
</tr>
<tr>
<td>Harkovich (Includes Hinderberg mine, Ohio prospect)</td>
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<tr>
<td>44 McCarty (Includes Henry Ford, Pioneer, and other named veins and claims at head of Fairbanks Creek)</td>
<td>C.21</td>
<td>T.3N</td>
<td>R.1E</td>
<td>Au, Sb</td>
<td>Veins and shear zones</td>
</tr>
</tbody>
</table>

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 60 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 open-cut methods between 1914 and 1977, with probably a few inactive years. Lower part of creek was dredged 1940-1941, 1946 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. 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.

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, chart, and greenstone.

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 1928. Over 500 ft of workings were recorded. Total production not known. Gold averaged more than $107.50 per ton (at 1976 price) in 1225 tons of ore mined in 1929-1930. Some stibnite produced; 15 tons stockpiled in 1942 and 9 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 utilize all of these properties in late 1920's. Probably some potentially minable reserves are present. Geologic setting not fully known; further exploration needed.
9 Mizpah mine (Includes Ohio mine, Gilmore Hill) C.21 T.2N., R.2E. Au, Sb, (Ag, Pb, Hg) 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 1913 to early 1920's, or possibly 1931. Total gold production unknown, ore reported to have averaged $150-$200 per ton (at 1976 prices); 350 tons of ore milled in 1915. Some small amounts of stibnite and scheelite produced.

35 Mohawk (Includes Dome View) C.21 T.3N., R.1E. 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, 1918-1918, and possibly later; development work 1930-1931. Total production not known but probably relatively small; at least 50 tons of gold are produced from Mohawk. Ore in Dome View probably is $25.00 per ton (at 1976 price); 1300 tons reported present.

45 Mother Lode (Dome Creek) C.21 T.3N., R.1E. 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.

14 Mother Lode (Willow Creek) C.21 T.3N., R.1E. Sb, (Au) Veins and granitic dikes Hydrothermal Horizontal stibnite vein deposits along contact between sericitized granite porphyry and mica schist. Samples assayed contained no more than $5 per ton in gold (at 1976 price). Deposit is small, probably not a producer, and has long been inactive.

14 Newsboy mine (Includes Newsboy Extension) C.21 T.3N., R.1E. Au, Sb, (Cu, Zn) Veins and shear zones Hydrothermal Deposit consists of quartz veins, and veins 4-18 ft wide, in crushed iron-stained schist; 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).

46 Nightingale (Also known as Howley-Shuermor, Alaska Arctic Resources, Inc.) C.21 T.3N., R.1E. Ag, Pb, Sb Stockwork and veins Hydrothermal Massive silver-bearing galena with stibnite in stockworks 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.

47 Nome Creek C.27 T.6N., R.3E. Au Disseminated Placer Workings here are at approximate downstream limit of gold placer deposits on Nome Creek. Original discoveries, probably mostly further upstream, were in 1910; in 1911 coarse gold was reported here. Small-scale mining in 1966 and probably some other years. Bedrock is quartzite and phyllite; lode source of gold probably lies in some kalsilite in southeast.

48 Old Glory (Also known as Leslie prospect) C.21 T.2N., R.1E. W Tactite Hydrothermal Contact metamorphic deposit of finely disseminated scheelite in quartz-mica schist and quartz near a tongue of granodiorite from Pedro Dome pluton; granodiorite dikes within the deposit. Mineralized zone 3-4.5 ft thick; sample assayed 0.48 percent W3. Apparently a small deposit; no known production.
49 Old Smoky
(Includes
Sunshine No. 2
prospect)
C.20
T.9N., R.1W.
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 clinoemphelinite deposit that contributes small 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 lb of mercury per ton.

50 Olive Creek
C.20
T.8N., R.5W.
Au,(Cr,Hg,H)
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 60 ft above true bedrock. Gold is coarse; concentrates also include clinoemphelinite, magnetite, scheelite, chromite, and arsenopyrite. Bedrock is largely pyroxmire and slaty shale, with chert, serpentine, and felsic intrusive rocks in upper part of valley on slope of Money Knob. Most of the placer ground is probably mined out.

51 Ophir Creek
C.21
T.9N., R.3E.
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 prices).

52 Our Creek
C.21
T.2N., R.2W.
Au
Disseminated
Placer
Discovered in 1907, mined at least in 1907-1909; production small (probably <25 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.

53 Parker
C.21
T.9N., R.4W.
Cr, Ni
Disseminated
Sulfides, stratabound
Nickel in sulfides, sphalerite, pyrrhotite, and pyrite; and chromite in alpine-type serpentinite. Nickel assayed as much as 3.42 percent. Similar deposits occur along east-northeast-trending serpentinite belt between West Fork and Beaver Creeks. Potential for a large low-grade nickel-chromium reserve. Poorly explored.

54 Pedro Creek
C.21
T.2N., R.1E.
Au(Sn)
Disseminated
Placer

6 Perrault
C.21
T.3N., R.2E.
Au, Ag, Sb
Vein
Hydrothermal
Several quartz veins enclosing schist, all mineralized; small amount of gold and silver in informitic rock, and veins of stibnite in both quartz and schist.

2 Pioneer (on Chatham Creek)
(Includes I.X.L. or Union claim)
C.21
T.3N., R.2E.
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 slopes, produced 200 tons in 1912-1913 of ore that yielded $100-$5450 per ton in gold (at 1976 prices). Probably inactive since 1913.
55 Quail Creek  
C.19  
T.6N.,R.11W.  
Au.(Hg,Au,Sn,W) Disseminated Placer  
Prospeting 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 1996 and 2004 mining produced about $16,500 (at 1976 price). Bedrock is slaty shale, graywacke, phyllite, quartzite, and numerous felsic dikes and quartz veins. Dikes carry sulfides; one contained 0.52 oz of silver per ton. Concentrates contain pyrite, cassiterite, barite, scheelite, garnet, strem, pyrite, and a minor amount of cinnabar. (Note source of gold probably in the border zone around quartz monzonite intrusives on Wolverine Mountain, and the other stellar stocks and felsic dikes. Potential placer ground remaining is relatively small.

6 Quenboe Bros. (includes Sky High)  
C.21  
T.3N.,R.2E.  
Au.Sb Vein and fault Hydrothermal  
Fractured quartz vein cemented by sulfides in a soft schist. Country rock consists of a hanging wall of vein is marked by a fault. Explored by a 60 ft shaft and two short drifts. Assays of vein show $132.50-$160 per ton in gold (at 1976 price). Sulfides are pyrite, pyrrhotite, and arsenopyrite. No record of production. Sky High is nearby, shows iron-stained weathered rock that carries some gold.

10 Rainbow mine  
C.21  
T.2N.,R.1E.  
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, siltified and cut by granitic dikes. Veins carry gold, pyrite, arsenopyrite, orpiment, 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 assayed $5.50 and $6.20 per ton in gold (at 1976 price). Assay in 1931 of vein material showed $14.60 per ton (at 1976 price). Properties have been inactive since 1950's at least. David vein 22 in. wide assayed $5.20 and $6.20 per ton in gold (at 1976 price); small veins are much richer. (Note: lode contained as much as $20 in gold per ton (at 1976 price), and considerable silver.)

15 Rob and Roy  
C.21  
T.3N.,R.2E.  
Au,Ag Placer Hydrothermal  
Sheer 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. Vuggy 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.

56 Ruth Creek  
C.20  
T.6N.,R.8W.  
Au.(Cr,Sn,Hg, Ag,Vi) Dissolved vein Hydrothermal  
A relatively small, but very productive placer deposit in narrow creek valley; veins and chrome-bearing rock exposed in bedrock during placer mining. High-grade gold at base of gravel and in top 2 ft of bedrock; depth 5-20 ft, and widths of pay streak 20-40 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 marmalite, and minor amounts of cinnabar, chromite, chalcopyrite, pyrite, arsenopyrite, and wolframite. Quartz veins on west side of creek carry as much as $50 per ton gold (at 1976 price) and $2 per ton silver. Small deposits of chrome in serpentine, and a small stibnite vein were found during placer mining. A siltified breccia zone with disseminated sulfides contains 0.85 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.
Hydrothermal Shear zone

57 Sawtooth Mountain  C.19 T.60., R.10W. 

Sb(Au) Pipe and/or vein Hydrothermal

Sb(77) 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 silty shale near contact with quartz monzonite pluton. Shaft on ore was 30 ft deep in July 1951; reportedly was later deepened to about 90 ft. High- and medium-grade stibnite ore 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.

32 Scrabbard  C.21 T.29., R.1W. 

Sb(Au,Pb,Ag) Shear zone and veins Hydrothermal

Shear zone 3-15 ft wide in quartz veins (schist containing iron-stained quartz, kidney-shaped masses of stibnite [largest mined was 40 ft by 11 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 1500 tons of ore mined, mainly in 1936. Mine operated 1915-1916, 1926, 1928-1970, and possibly in a few other years. Mining in open cuts, adits, inclining 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 5-10 oz per ton (at 1976 price). Mine accounts for about 70 percent of antimony production from Fairbanks district.

88 Soo mine (Includes Spaulding mine, Reliance, Carnation, Wild Rose, H.-, and other names)  C.21 T.29., R.1E. 

Sb(Au,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 columnar masses and also in fine granular aggregates. Much of ore milled out at $250-$100 per ton in gold, and some as much as $1250 per ton (at 1936 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 6 tons of stibnite ore on dump was sold in 1942. Country rock is schist; close to contact with Pedro Dome pluton.

43 Spruce Creek  C.21 T.29., R.1E. 

Au Vein Hydrothermal

Lode (quartz vein?) reported to yield about $60 per ton of gold (at 1976 price). Mined intermittently in 1936-1942. Mined prior to 1912. Ore from a quartz vein reportedly yielded $55 per ton of gold (at 1976 price).

54 Steamboat Creek  C.21 T.28., R.1E. 

Au Disseminated Placer

Mining in 1912-1915 and probably other years. Small-scale open cut mining in 1940-1948. Production unknown. Pay streak said to be narrow. Placer ground is shallow in lower middle course of valley where mining was done.

59 Steel Creek  C.20 T.74., R.4W. 

W,Au? Disseminated Placer

No evidence of appreciable mining or prospecting, but there are reports of considerable wolframite in a placer concentration. 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 Ranney Hollow, the next creek to west. No doubt the gold content of these creeks is small.

13 Sunrise (Includes Cunningham, Lyons)  C.21 T.2W., R.2E. 

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.

20 Thrift  C.21 T.2W., R.1W. 

Au Vein Hydrothermal

Mined prior to 1912. Ore from a quartz vein reportedly yielded $55 per ton of gold (at 1976 price).
Tolovana mine
(Includes Herschberger, Sea11 4 Phipps, Johnson, Scheuyemere)

C.21  T.3N..R.1E.

Veins and wall rock Impregnation

Hydrothermal

60 Trell Creek
C.21  T.6N..R.2E.

p  Au  Disseminated Placer

Encouraging placer gold prospects reported in 1910. Location on crest not known (probably was in lower course). No known mining

61 Treasure Creek
C.21  T.2N..R.1W.

m  Au  Disseminated Placer

Gold discovered in 1906 and drift mined until about 1912. Deep, steep ground (to 200 ft), about 7 ft of gravel; pay streak as much as 200 ft wide. Production more than $1,500,000 and possibly as much as $2,500,000 in gold (at 1976 prices). Mining from mouth upstream about 5 mi. Extent of exploration and possible remaining reserves are unknown. Gold lode reportedly found near mouth of one of the tributaries, Eagle Creek

62 Troublesome Creek
C.19  T.7-8N..R10W.

m  Au.(Sn,Pb,Hg)  Disseminated Placer

Placer ground not more than 12 ft deep over quartzite schist and granitic rock. Mined radically 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 prices). Cassiterite common in concentrates

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 prices). Cassiterite common in concentrates

64 Unnamed occurrence
C.21  T.9N..R.1W.

o  Cr  Podiform, Lode chrome

Sheared chrome in marble of serpentinite. Chromite shows 12.8 percent

65 Vault Creek
C.21  T.8-9N..R.1W.

m  Au  Disseminated Placer

Placer ground generally about 200 ft deep, 65 ft in upper part, and in lower course near Chatanika River as much as 219 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 prices). 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 titic creek basin. Extent of prospecting and potential remaining reserves is not known
Vein

Hydrothermal

Sulfide fissure vein deposit cutting flat-lying schistose quartzite and quartz-mica schist. Iron-stained, brecciated quartz and sulfidic schist horizons associated with vein material. Minerals include quartz, gold, stibnite, jamiesonite, and arsenic and antimony oxides. Exploration and small scale gold and antimony(7) 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.

5 Veeter Bros. (includes Harris & Brown, Grace E. #1) C.21 T.3N., R.2E. M Au,(Sb) Vein Hydrothermal

6 Walnut Creek C.21 T.3N., R.3E. M Au Vein-lenses Hydrothermal


18 Wyoming mine C.21 T.3N., R.1-2E. M Au,W,Sb Vein-lenses, 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 ft thick contain gold and voids 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.
UVENGOOD QUADRANGLE

10 Zimmerman C, 21 T.2N., R.1E. Au Vein and Hydrothermal fault zone Stilcliffed fault zone carrying quartz veinlets, arsenopyrite, Hill, 1933, p. and possibly other sulfides. 60, 70, 116-119
Adjacent to contact of quartz diorite with stilcliffed 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.
<table>
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<tr>
<th>RESOURCE</th>
<th>DEVELOPMENT CATEGORY</th>
<th>RESOURCES</th>
<th>FORM</th>
<th>TYPE</th>
<th>BRIEF DESCRIPTION</th>
<th>LOCATION</th>
<th>RESEARCH REFERENCES</th>
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<tr>
<td>Alder Creek (Alder Gulch, Vinasale)</td>
<td>F.13</td>
<td>T.32N., R.34W.</td>
<td>m</td>
<td>Au(As,Bi)</td>
<td>Disseminated Placer</td>
<td>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 1,600 sq ft cut.</td>
<td></td>
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<tr>
<td>Candle Creek</td>
<td>F.13</td>
<td>T.32N., R.35W.</td>
<td>m</td>
<td>Au,Hg(As,Te?)</td>
<td>Disseminated Placer</td>
<td>Discovered 1913 and mined until World War II. Probably most productive stream in McRath district. Dredge operated 1918-1926. Incomplete production records indicate recovery of about 90,000 crude oz of gold during the period 1918-1941. Best ground over quartz monzonite (Late Cretaceous-early Tertiary) intrusive. Gold irregularly distributed throughout gravel in grains &lt;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, nonazrite(7). Some mercury retorted and used locally. Gold fineness 914.</td>
<td></td>
</tr>
<tr>
<td>White Mountain</td>
<td>F.13</td>
<td>T.24N., R.30., 31W.</td>
<td>m</td>
<td>Hg</td>
<td>Vein and disseminated (low temperature)</td>
<td>Located 1958; produced 1964-1974. Cinnabar, without significant arsenopyrite or pyrite, 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</td>
<td>Sainsbury and Mackevett, 1965, p. 21-35; Malone, 1962, p. 75-77</td>
</tr>
<tr>
<td>NO.</td>
<td>NAME(S)</td>
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<td>Minor constituents or potential byproducts in parentheses</td>
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<tr>
<td>1</td>
<td>Birch Gulch (Birch Creek)</td>
<td>T.26S., R.21E.</td>
<td>m</td>
<td>Au,(Bi)</td>
<td>Disseminated Placer</td>
<td>1</td>
<td></td>
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<tr>
<td>2</td>
<td>Boulder Creek</td>
<td>T.26S., R.22E.</td>
<td>o</td>
<td>Au</td>
<td>Disseminated Placer</td>
<td>1</td>
<td></td>
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<tr>
<td>3</td>
<td>Canyon Creek</td>
<td>T.26S., R.21E.</td>
<td>o</td>
<td>Au</td>
<td>Disseminated Placer</td>
<td>1</td>
<td></td>
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<tr>
<td>4</td>
<td>Clearwater Creek</td>
<td>T.22S., R.20E.</td>
<td>o</td>
<td>Au</td>
<td>Disseminated Placer</td>
<td>1</td>
<td></td>
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<tr>
<td>5</td>
<td>Cottonwood Creek (Homer Creek)</td>
<td>T.23S., R.21E.</td>
<td>o</td>
<td>Au</td>
<td>Disseminated Placer</td>
<td>1</td>
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<tr>
<td>1</td>
<td>Crystal Gulch (Pearson and Strand)</td>
<td>T.26S., R.21E.</td>
<td>m</td>
<td>Au,(Bi)</td>
<td>Disseminated Placer</td>
<td>1</td>
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<tr>
<td>6</td>
<td>Eagle Creek (Crooked Creek: Flown and Strand)</td>
<td>T.27S., R.21E.</td>
<td>m</td>
<td>Au,(W,U,Th,RE's)</td>
<td>Disseminated Placer</td>
<td>1</td>
<td></td>
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<tr>
<td>1</td>
<td>Hidden Creek</td>
<td>T.26S., R.21E.</td>
<td>m</td>
<td>Au,(Bi,W)</td>
<td>Disseminated Placer</td>
<td>1</td>
<td></td>
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<tr>
<td>1</td>
<td>Holmes Gulch</td>
<td>T.26S., R.21E.</td>
<td>m</td>
<td>Au,(Bi)</td>
<td>Disseminated Placer</td>
<td>1</td>
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<td>1</td>
<td>Nixon Fork (including White, McComan, Mesiett, Pearson, Strand, Garnet, Crystal, Keen, High Grade)</td>
<td>T.26S., R.21E.</td>
<td>m</td>
<td>Au,(Ag,Cu,Bi, Th,RE's)</td>
<td>Mesos with transitional boundaries</td>
<td>1</td>
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<td>Location</td>
<td>Epoch</td>
<td>Commodity</td>
<td>Rock Type</td>
<td>Description</td>
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<tr>
<td>1 Riddle Gulch (Encio Gulch)</td>
<td>E,14</td>
<td>Au(8i)</td>
<td>Disseminated Placer</td>
<td>Tributary to Hidden Creek. Small-scale operations intermittently from 1922 to 1930. Total production probably did not exceed 500 crude oz. Fineness about 900. Native bismuth in concentrates.</td>
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<tr>
<td>1 Ruby Creek (including Crystal Gulch)</td>
<td>E,14</td>
<td>Au(Wi,Sn,Th)</td>
<td>Disseminated Placer</td>
<td>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 35.6 crude oz: 1007 3/4 Au, 107 Ag. Probably lower grade than Hidden Creek. Concentrates contain scheelite, cassiterite, bismuth, chalcopyrite, sphalerite, and zircon.</td>
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<tr>
<td>7 Stone mine</td>
<td>E,14</td>
<td>Au</td>
<td>Irregular? Contact metamorphic?</td>
<td>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.</td>
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<tr>
<td>8 Unnamed occurrence</td>
<td>E,14</td>
<td>Mn</td>
<td>Tabular? Sedimentary?</td>
<td>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 25 percent Mn contain traces of iron and are intergrown with needlelike quartz (?) crystals.</td>
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<tr>
<td>9 Wyoming Creek</td>
<td>E,13</td>
<td>Ag</td>
<td>Vein Hydrothermal (low temperature?)</td>
<td>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.</td>
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<tr>
<td>10 Colorado Creek</td>
<td>E,13</td>
<td>Au</td>
<td>Disseminated Placer</td>
<td>Bulldozer placer mining activity reported during 1975.</td>
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<tr>
<td>11 Unnamed occurrence</td>
<td>E,15</td>
<td>Fe(Cu,In)</td>
<td>Skarn Contact metamorphic</td>
<td>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 m³) that could contain up to 85 percent total iron, expressed as Fe₂O₃. Pyrite and a small amount of chalcopyrite and sphalerite also present.</td>
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</table>

References: [Brown, 1926a, p. 127; Mertie, 1936, p. 196-197; White and Stevens, 1953, p. 10, 12, 15-16, 19; Carnes, 1976, p. 9, 22, 53; Throckmorton, M. L., and Patton, W. W., Jr., 1977, oral commun.].
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<tbody>
<tr>
<td>Batza Slough</td>
<td>C.13 T.5N.,R.18E.</td>
<td>o (Pb,Ag,Cu)</td>
<td>Disseminated (Placer)</td>
<td>(Hydrothermal)</td>
<td>Miller and Ferrians, 1968, p. 6</td>
</tr>
<tr>
<td>Florence Bar</td>
<td>C.14 T.6N.,R.21, 22E.</td>
<td>m Au</td>
<td>Disseminated Placer</td>
<td></td>
<td>Smith, 1933, p. 142</td>
</tr>
<tr>
<td>Fox Creek</td>
<td>C.13 T.5S.,R.17, 18E.</td>
<td>m Au</td>
<td>Disseminated Placer</td>
<td>Sluicing activity on three placer claims reported in 1913.</td>
<td>Eakin, 1913, unpub.</td>
</tr>
<tr>
<td>Illinois Creek</td>
<td>C.15 T.25.,R.29E.</td>
<td>m Au</td>
<td>Disseminated Placer</td>
<td>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.</td>
<td>Eakin, 1913, p. 34; Chapman, Coats, and Payne, 1963, p. 16</td>
</tr>
<tr>
<td>Mason Creek</td>
<td>C.15 T.35.,R.28E.</td>
<td>m Au(Sn)</td>
<td>Disseminated Placer</td>
<td>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, 1917, 1918, 1920, 1929-1932. In 1918 a combined placer claim and, with Hughes Bar (Hughes quadrangle) Bar and small-scale pre-1936. Placer and most bench deposits unfrozen.</td>
<td>Chapman, Coats, and Payne, 1963, p. 23-30</td>
</tr>
<tr>
<td>Mclozimoran Creek</td>
<td>C.15 T.35.,R.27E. (Approx.)</td>
<td>m Au(Sn)</td>
<td>Disseminated Placer</td>
<td>A few prospect pits sunk 1913-1915 near mouth of creek and reportedly some cassiterite and gold were recovered.</td>
<td>Chapman, Coats, and Payne, 1963, p. 16</td>
</tr>
<tr>
<td>Sun Mountain</td>
<td>C.14 T.5N.,R.19, 20E. (Approx.)</td>
<td>o (Cu)</td>
<td>Disseminated Hydrothermal</td>
<td>Scattered occurrences of chalcopyrite, malachite and pyrite along Koyukuk River near Sun Mtn. Bedrock is Jurassic(?)-Early Cretaceous Koyukuk Group gneissic anorthosite and trachyandesite with minor fissiliferous limestone. Numerous quartz latite dikes (Late Cretaceous-early Tertiary) and widespread development of hornefels suggest buried shallow pluton.</td>
<td>Miller and Ferrians, 1968, p. 6</td>
</tr>
<tr>
<td>Utopia Creek</td>
<td>C.15 T.7N.,R.24, 25E.</td>
<td>m Au(Pb,Zn,Sn)</td>
<td>Disseminated Placer</td>
<td>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 prismatic rocks in tailings. Abundant barite boulders with fine-grained tetrahedrite, galena and sphalerite suggest source may have been veins in thermally metamorhosed Late Jurassic-Early Cretaceous anodesitic volcanics cut by fine-grained felsic intrusive. 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.</td>
<td>Smith, 1946, p. 47; Miller and Ferrians, 1968, p. 3, 5</td>
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<tr>
<td>1 Bonanza Creek</td>
<td>D,8</td>
<td>m</td>
<td>Au,W,(Sb)</td>
<td>Disseminated Placer</td>
<td>Placer gold discovered 1899 and mined continually on main stream and benches until 1918 or later. A few pounds scheelite concentrate recovered 1918. The most recent activity probably was on the UngaUk 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 &quot;slate&quot; (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, UngaUk River)</td>
</tr>
<tr>
<td>2 Christmas Mountain</td>
<td>T.115S.,R.10W. (Approx.)</td>
<td>o</td>
<td>Sb(Au?)</td>
<td>Vein Hydrothermal</td>
<td>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</td>
</tr>
<tr>
<td>3 Hopeful Gulch</td>
<td>T.115S.,R.10W.</td>
<td>o</td>
<td>Au,W</td>
<td>Disseminated Placer</td>
<td>Stream heavy mineral concentrates reported to contain bismuthinite, scheelite, and wolframite. Gold not specifically mentioned in literature. (See also Bonanza Creek, UngaUk River)</td>
</tr>
<tr>
<td>5 unnamed occurrence</td>
<td>T.75S.,R.12W.</td>
<td>o</td>
<td>Sn</td>
<td>Disseminated Placer</td>
<td>Trace of cassiterite identified by USGS in a concentrate of 8-pan sample of beach sand. Could have come from anywhere in Koyuk basin</td>
</tr>
</tbody>
</table>

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**REFERENCES**

- Smith and Eakin, 1911, p. 105-107.
- Patton and Bicel, 1956.
- Smith and Eakin, 1911, p. 108.
- Berryhill, 1962, p. 5-6.
- Berryhill, 1962, p. 6-11.
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<tr>
<td>1 Kluklatna River (Little Mud River)</td>
<td>D.11 T.13S., R.7E. (Approx.)</td>
<td>D.11 T.13S., R.7E. (Approx.)</td>
<td>p?</td>
<td>Au</td>
<td>Disseminated Placer</td>
<td>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.</td>
<td>Mertie, 1937, p. 173</td>
</tr>
<tr>
<td>2 Perseverance (Bishop Creek)</td>
<td>D.11 T.11S., R.9E.</td>
<td>D.11 T.11S., R.9E.</td>
<td>m</td>
<td>Pb,Ag</td>
<td>Vein Hydrothermal</td>
<td>Discontinued veins of argentiferous galena up to 3 ft thick strike northeastward parallel to the schistosity of the enclosing chloritized quartz-mica schist and marble (Devonian and older?)</td>
<td>Brooks, 1923, p. 38-39</td>
</tr>
<tr>
<td>3 Tlatskokot (Camp Creek)</td>
<td>D.11 T.11S., R.9E.</td>
<td>D.11 T.11S., R.9E.</td>
<td>m</td>
<td>Au</td>
<td>Disseminated Placer</td>
<td>A small amount of placer gold recovered shortly after World War II at the abandoned town of Tlatskokot.</td>
<td>Cobb, 1976a, p. 92</td>
</tr>
<tr>
<td>2 Valley (Bishop Creek)</td>
<td>D.11 T.11S., R.9E.</td>
<td>D.11 T.11S., R.9E.</td>
<td>m?</td>
<td>Pb,Ag</td>
<td>Vein Hydrothermal</td>
<td>Adjacent to Perseverance and worked in a small way 1920-1921. Any production probably included with Perseverance. Similar geologic setting</td>
<td>Brooks, 1923, p. 39; Berg and Cobb, 1967, p. 228</td>
</tr>
<tr>
<td>MAP NO. AND NAME(S)</td>
<td>MAP COORDINATES</td>
<td>DEVELOPMENT LOCATION</td>
<td>RESOURCES</td>
<td>FORM</td>
<td>BRIEF DESCRIPTION</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>1 Anvil Creek</td>
<td>E.12 T.27S.,R.12E.</td>
<td>M</td>
<td>Au,(Hg)</td>
<td>Disseminated Placer</td>
<td>Placer gold discovered 1917 and Martie, 1936, p. 109-110.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Bear Creek</td>
<td>E.12 T.22S.,R.14E.</td>
<td>N</td>
<td>Au</td>
<td>Disseminated Placer</td>
<td>Mining began in 1922 and continued at least through 1975, when two dozers and a dredge 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)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Bedrock Creek</td>
<td>E.12 T.28S.,R.12E.</td>
<td>M</td>
<td>Au</td>
<td>Disseminated Placer</td>
<td>Nonfloat mining reported in 1935. (See also Ester Creek)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Boob Creek</td>
<td>E.11-12 T.25S.,R.10E.</td>
<td>M</td>
<td>Au,Pt(Ng,Sn)</td>
<td>Disseminated Placer</td>
<td>Placer gold discovered 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 casserite. Quicksilver also present. Area contains variety of granitic, mafic and ultramafic intrusive rocks (Late Cretaceous to Tertiary), as well as sedimentary rocks of Cretaceous age.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Colorado Creek</td>
<td>E.12 T.22S.,R.15E.</td>
<td>M</td>
<td>Au</td>
<td>Disseminated Placer</td>
<td>Placer mining commenced in 1913 and large-scale nonfloat hydraulic operations continued at least until 1940. Tenor at peak of activity in 1933 averaged about 300 per square bedrock foot. Coarse gravel, 8-20 ft thick, covered by about 3 ft of frozen muck. Bedrock consists of 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)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 Dodge Creek</td>
<td>E.12 T.27S.,R.12E.</td>
<td>M</td>
<td>Au</td>
<td>Disseminated Placer</td>
<td>Deep placer ground prospected by shafts 1915 and shafts 1920. No information reported.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 Dominion Creek</td>
<td>E.12 T.24S.,R.13E.</td>
<td>P</td>
<td>Au</td>
<td>Disseminated Placer</td>
<td>Deep placer ground reported in 1915 and made ready for winter mining, but no record of production.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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 Kasting Gulch)

3 Ester Creek E.12 T.28S., R.11E. M Au Disseminated Placer
One-man hydraulic operation reported in 1933. Average of two gold "dust" assays: 836 Au, 156 Ag per thousand. (See also Bedrock Creek)

9 Ganes Creek E.12 T.28S., R.11E. 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. USGS reports dozer operations on upper part of creek in Idltarod quadrangle during 1975. Creek is headed upper part of Beaver Creek (Idltarod 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, Ganes Creek (Idltarod quadrangle)

10 Independence E.12 T.29S., R.11E. M7 Au Vein Hydrothermal
Placer gold mining commenced as early as 1912 and abandoned shortly thereafter. Workings consist of 60-ft tunnel with 60-ft winze at end and two drifts totaling 80 ft at two lower levels. Crusher and stamp mill. Quartz vein averaging about 2 ft thick occurs along hanging wall of Tertiary molybdenite dike that intrudes altered slate of Cretaceous age. Workings demonstrate vein continuous to depth of at least 50 ft. Gold occurs in iron-stainedcrevices 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

11 Iron Creek E.12 T.24S., R.11E. 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

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 amphibolite and slate (Late Cretaceous) with local beds of conglomerate 20-30 ft thick. Scheelite locally present in concentrates

13 Madison Creek E.12 T.24S., R.11E. M7 Au Disseminated Placer
Placer gold mining commenced as early as 1912 and continued until sometime after World War II prior to 1965. Gold reported "shotty" upstream, becoming fine, flaky, and worn 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

82
14 Ophir Creek  
**E.12**  
T.27. R.12E.  

**m Au Disseminated Placer**

Largest producer of placer gold  
Eakin, 1914b, p. 35-36; Mertie, 1936, p. 176-179  

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 streaks 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.  

Maddren. 1911, p. 209-210; Eakin, 1914b, p. 35-36; Mertie, 1936, p. 176-179  

15 Spruce Creek  
**E.12**  
T.27. R.12E.  

**m Au Disseminated Placer**

Placer gold discovered 1907 and mined almost continuously from 1910 at least until 1980. One small operation in progress 1979. 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. 252-253; Mertie, 1936, p. 188-190  

1 Victor Gulch (Victor Creek) **E.12**  
T.275. 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 "snotty," 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)  

Mertie, 1936, p. 176, 191  

16 Yankee Creek **E.12 F.12**  
T.28. R.13E.  

**m Au Disseminated Placer**

First located in 1907, mining began in 1909. USGS 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; Mertie, 1936, p. 186-190  

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<table>
<thead>
<tr>
<th>MAP NO. AND NAME(S)</th>
<th>MAP COORDINATES LOCATION</th>
<th>DEVELOPMENT CATEGORY</th>
<th>MINOR ConstituENT(s) or potential Products in parentheses</th>
<th>FORM</th>
<th>TYPE</th>
<th>BRIEF DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 American Creek</td>
<td>D.15</td>
<td>p</td>
<td>Au Disseminated Placer</td>
<td></td>
<td></td>
<td>Prospect workings prior to 1915. Extant of mining and amount of gold apparently small. No evidence of workings seen in 1975. Bedrock low-grade schist and quartzite.</td>
</tr>
<tr>
<td>3 Banner Creek</td>
<td>D.13</td>
<td>p</td>
<td>Au Disseminated Placer</td>
<td></td>
<td></td>
<td>Prospects reported and claims staked prior to 1915. No mining reported. Location uncertain; probably near head. Type of bedrock unknown.</td>
</tr>
<tr>
<td>4 Basin Creek</td>
<td>D.13</td>
<td>m</td>
<td>Au Disseminated Placer</td>
<td></td>
<td></td>
<td>Gold production reported in 1915. Exact location on creek uncertain. Type of bedrock uncertain—may be brecciated, or metasedimentary rocks.</td>
</tr>
<tr>
<td>5 Bear Gulch</td>
<td>D.13</td>
<td>m</td>
<td>Au, Ag(Au) Disseminated Placer</td>
<td></td>
<td></td>
<td>Active placer production from lower 1.5 mi of creek. Main pay streak on low terrace on southwest side plus a higher level. Lower grade minor pay streak. Two claims produced 24,000-29,000 oz of gold alone. Silver is about 150 parts per thousand. Galena is not abundant. Gold somewhat worn but not well rounded. Spotty ground, some 2,500 oz nuggets. Bedrock, in part at least, is deeply weathered preemstone. 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 actinolitic schist, quartzite schist, and granite schist are known. Closest known granite body is 6.5 mi to northeast.</td>
</tr>
<tr>
<td>6 Beaver Creek (tributary to Big Creek)</td>
<td>D.13</td>
<td>p</td>
<td>Au, Pb(Zn, Cu, Au) Vein Lode</td>
<td></td>
<td></td>
<td>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 2.0-2.20 oz per ton silver, 0.15 percent lead, minor to trace amounts of zinc, copper, gold, and iron. Very low Au. Discovered in 1920. Inactive for many years. Last explored in 1960 by U.S.B.M.</td>
</tr>
<tr>
<td>7 Beaver Creek (tributary to Poorman Creek)</td>
<td>D.13</td>
<td>m</td>
<td>Au Disseminated Placer</td>
<td></td>
<td></td>
<td>Small drift placer mine from a 60 ft shaft. Gold on bedrock (probably weathered basaltic gneiss), very little gravel. Produced about 315 oz of gold in 1930-1932. No more found, probably inactive after 1932.</td>
</tr>
<tr>
<td>8 Big Creek</td>
<td>D.13</td>
<td>m</td>
<td>Au, Sn Disseminated Placer</td>
<td></td>
<td></td>
<td>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.</td>
</tr>
<tr>
<td>9 Birch Creek</td>
<td>D.13</td>
<td>m</td>
<td>Au, Ag(Sb, Bi, RE), (?) Disseminated Placer</td>
<td></td>
<td></td>
<td>Significant gold (with included silver) production from 1914 to about 1930. Was inactive part of this period. Native bismuth a minor constituent. At least 2,500 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 Strait, Crooked, and Lucky Creeks.</td>
</tr>
<tr>
<td>10 Boston Creek and tributaries (includes Boston, Logger, and Leo Gulches)</td>
<td>D.13</td>
<td>p</td>
<td>Au (?) Disseminated Placer</td>
<td></td>
<td></td>
<td>A few prospect shafts to bedrock in the headwaters of Boston Creek. Pyrite reported, and probably a few colors of gold.</td>
</tr>
</tbody>
</table>
12 Center Creek D.13 T.65,.R.17E. p Au Vein Lode Adit driven 150 ft on quartz vei in slaty schist in 1906. Most of vein probably was barren, but a surface sample reportedly assayed 3.1 oz of gold per ton.

13 Cox Gulch (Cox Pup) D.13 T.95,.R.17E. m Au,Sn Disseminated Placer This is part of the B1g 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; cassiterite subangular. Probably close to the lode source.

14 Crooked Creek D.13 T.125,.R.17E. m Au,Ag,Sn Disseminated Placer Mining was chiefly on lower 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.

15 Duncan Creek D.13 T.165,.R.17E. m Au Disseminated Placer Mining particularly in lower part of creek from 1913 to about 1935. 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 plan breccia in gravel suggest a mineralized fault zone here that trends northeastward.

16 Eldorado Creek (tributary to Poorman Creek) D.13 T.165,.R.16E. p Au Disseminated Placer Good gold prospects reported found in 1930-1931. No later mention of any development.

17 Fifth of July Creek D.13 T.135,.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 washfull 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.

18 Flat Creek (tributary to Long Creek) D.13 T.135,.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.

19 Flat Creek (tributary to Timber Creek) D.13 T.165,.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 $1.50-$2.00 per sq ft. Rough gold, with attached quartz, was characteristic; no nuggets >0.5 oz. Pyllite bedrock, chert and quartz abundant in gravel. Bimth found at mouth.

20 Flint Creek D.13 T.135,.R.18E. p (Au,Sn,Bi)'s,01, 07,17) Disseminated Placer Gold prospects discovered in 1911 proved to be of low grade and small extent. No mining done in following years. Gravels in headwaters contain very small amounts of unammoniated cassiterite, rare earth minerals, and bismuth.

21 Fourth of July Creek (tributary to Long Creek) D.13 T.135,.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.

22 Fourth of July Creek (tributary to Sulcate River) D.13 T.165,.R.17E. m Au Disseminated Placer First prospected in 1915. Small amount of mining done in 1916. Exact location on creek not given. No mention in later years. Gold yield probably low grade.

23 Glacier Creek (Irene Creek, 1908-1910) D.13 T.95,.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/schist at head. Lode source probably same as for gold and tin on Big Creek and Cox Gulch
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. Inactive 1933 and later. Gold rough, some fairly coarse; largest nuggets about $7.50 (at 1976 price). Probably lose source was on the ridge drained by this gulch. Schist and slate bedrock marginal to granite.

25 Gold Run Creek (tributary to Flint Creek)

D.13  T.12S..R.17E.,  p  Au(?),Pt  Disseminated  Placer

Creek 2.5 mi long; prospected but probably no mining. Geologic setting similar to Glen Gulch (No. 24).

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, rington, 1916, and no later records of mining are known. Exact location of prospects not known.

27 Granite Creek

D.13  T.13S..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.

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 866 with silver 129; distribution spotty. Gold yield probably $1.50-$2.00 per sq ft (at 1976 price). Overburden mostly gravel; 5-8 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.

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 much. $24,000 in gold (at 1976 price) produced from a cut 450 ft long. Ties of $3.25-$10.25 per sq ft reported. Gold source probably close. Bedrock in creek workings is phyllite; schist at mouth.

30 Long Creek

D.13  T.12S..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 to 7.50 oz per sq ft (at 1976 price). Bedrock is mainly cherty siliceous rock with talcose layers, and minor amount of greenstone. Gravel includes breciated, little-worn quartz; gold in 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 westerly side. Gold about 65% fine with silver 132. Partial production 1910-1933 was roughly 36,500 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.

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.

Mertie, 1936, p. 150; Chapman, Costs, and Payne, 1963, p. 43
<table>
<thead>
<tr>
<th>Creek Name</th>
<th>Township/Range</th>
<th>Metal(s)</th>
<th>Mining Method</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lucky Creek</td>
<td>T.12S., R.17E.</td>
<td>Au</td>
<td>Disseminated</td>
<td>Small amount of gold production in 1912-1913. Ground 16-32 ft deep over lengths 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.</td>
</tr>
<tr>
<td>Meketchum Creek</td>
<td>T.15S., R.17E.</td>
<td>Au</td>
<td>Disseminated</td>
<td>Some gold placer drift mining available. Pay streak 40 ft wide and ±2,000 ft long; gravel is greenstone and ±20 ft thick. Bedrock also greenstone. Gold is commonly coarse and 918 fine with 76 fine silver. No mention of cassiterite.</td>
</tr>
<tr>
<td>Midnight Creek</td>
<td>T.13S., R.17E.</td>
<td>Au, Sn, (W)</td>
<td>Disseminated</td>
<td>Gold and cassiterite occur together. Probably this creek and Birch Creek had largest concentrations of cassiterite in the district. Mined from 1912 to about 1929, with some inactive years during this time. No total gold production figures available. In 1900-1902 about 2,000 oz of gold reported.</td>
</tr>
<tr>
<td>Monument Creek</td>
<td>T.14S., R.17E.</td>
<td>Au, Ag, (Sn)</td>
<td>Disseminated</td>
<td>Small production of gold, about 1,400 fine ounces and a little byproduct silver, between 1912-1933. Probably little or no production since 1933. Pay streak about 1/4 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 schistose.</td>
</tr>
<tr>
<td>Moose Creek</td>
<td>T.16S., R.16E.</td>
<td>Au</td>
<td>Disseminated</td>
<td>Some production of gold, about 1,000 oz, between 1912-1913. Probably little or no production since 1913. Pay streak about 1/4 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 is 1-2 oz. Very little cassiterite. Bedrock is gabbroic greenstone and schistose.</td>
</tr>
<tr>
<td>Nevada Creek</td>
<td>T.16S., R.16E.</td>
<td>Au</td>
<td>Placer</td>
<td>Good gold prospects reported in 1930-1931. No later reports of mining.</td>
</tr>
<tr>
<td>Ophir Creek</td>
<td>T.14S., R.17-18E.</td>
<td>Au</td>
<td>Placer</td>
<td>A rich gold discovery was reported in 1930-1931. No later reports of mining.</td>
</tr>
</tbody>
</table>
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 940 fine, with 15-15 silver. Ground in richer parts averaged $3.00-$3.25 per ft (at 1976 price).

Pay streak is 2.5-3.0 mi wide 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 940 fine, with 15-15 silver. Ground in richer parts averaged $3.00-$3.25 per ft (at 1976 price).

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 mouth. Gold was flat 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.
<table>
<thead>
<tr>
<th>Creek</th>
<th>Section</th>
<th>Township</th>
<th>Range</th>
<th>Metallurgy</th>
<th>Geology and Mining Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Straight Creek</td>
<td>0,13</td>
<td>T.12S., R.17E.</td>
<td></td>
<td>Au, Sn Disseminated Placer</td>
<td>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 claimed by this creek, and a contact between granite and schist is approximately at the mouth. See description under Birch Creek.</td>
</tr>
<tr>
<td>Sun Creek</td>
<td>0,15</td>
<td>T.10-11S., R.28E.</td>
<td></td>
<td>Au[?] Disseminated Placer</td>
<td>A small stream 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.</td>
</tr>
<tr>
<td>Swift Creek</td>
<td>0,13</td>
<td>T.12S., R.16E.</td>
<td></td>
<td>Au Disseminated Placer</td>
<td>Open cut gold mining near head of gravel 5-9 ft thick, pay streaks 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. Further downstream ground is 20 ft deep, with 9-10 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.</td>
</tr>
<tr>
<td>Tamarack Creek (including Willow Gulch)</td>
<td>0,13</td>
<td>T.15-16S., R.17E.</td>
<td></td>
<td>Au, Ag, Sn Disseminated Placer</td>
<td>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 50 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 shiny, not flaky, mostly in pieces 0.04-$1.00, but one $250 nugget reported (all at 1976 price). Long inactive in 1975. Gravel mostly greenstone; bedrock dark, mica-cemented slate-phyllite with pyrite. This creek is apparently on east edge of mineralized zone that extends southwestward through Duncan and Flat Creeks.</td>
</tr>
<tr>
<td>Tenderfoot Creek</td>
<td>0,13</td>
<td>T.16S., R.17E.</td>
<td></td>
<td>Au Disseminated Placer</td>
<td>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 3-6 ft of gold-bearing gravel. Gold is fine, shiny, and water worn. Bedrock near mouth is pylluite.</td>
</tr>
<tr>
<td>Timber Creek</td>
<td>0,13</td>
<td>T.16E., R.16E.</td>
<td></td>
<td>Au Disseminated Placer</td>
<td>Mining mainly around and just below mouth of tributary, Flat Creek. Some production of gold from 1915 to about 1933. No workable deposits on this creek below 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 to south.</td>
</tr>
<tr>
<td>Tip Creek</td>
<td>0,13</td>
<td>T.15S., R.18E.</td>
<td></td>
<td>Au Disseminated Placer</td>
<td>Considerably prospecting reported about 1912. Gold prospects rich enough to stimulate further work. Ground is 50 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.</td>
</tr>
<tr>
<td>Trail Creek</td>
<td>0,13</td>
<td>T.13S., R.18E.</td>
<td></td>
<td>Au, Ag, Sn,(Pb, W) Disseminated Placer</td>
<td>Mining has been largely in the upper 6-7 mi of this creek, and particularly within 3 mi of the head. Gold is reportedly to occur as far as 17 mi from head. Ground is generally about 25-35 ft in depth, with 1-4 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</td>
</tr>
</tbody>
</table>
RUBY QUADRANGLE

was $3.75-$15.00 per sq ft (all at 1976 prices). Fineness gold 83.8, silver 15.2. Pyrite abundant, cassiterite present in sand-size grains, minor amount of galena and scheelite. Gneiss 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 50 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.

White Channel Creek 0,13

Mined chiefly in area about 1 mi above mouth. Muck and gravel 35-70 ft thick; gold on false bedrock of clayey gravel. Gold is fine, bright, slightly rounded, and has few sulphide minerals but abundant magnetite associated. Tenor reportedly is low. Probably most of mining was about 1915; none known in 1940-1975. May not have been thoroughly prospected. Bedrock, in part at least, is graywacke, with minor amounts of quartz and diorite. Geologic setting is similar to that of Swift Creek.
<table>
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<tr>
<th>MAP NO. AND NAME(S)</th>
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<th>RESOURCES Minor constituent(s) or potential byproducts in parentheses</th>
<th>FORM</th>
<th>TYPE</th>
<th>BRIEF DESCRIPTION</th>
<th>PRINCIPAL REFERENCE(S)</th>
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<tr>
<td>1 Arnold G.7 (Plunkett)</td>
<td>T.20N., R.70W.</td>
<td>p</td>
<td>Au, Ag, Cu, Pb, Mo, W</td>
<td>Vein</td>
<td>Hydrothermal</td>
<td>Staked in 1914. Test shipment in 1915 reportedly returned $80 per ton, presumably combined gold and silver. Explored by open cuts. Quartz veins 4-12 in thick in locally pyritic 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.</td>
<td>Harrington, 1918, p. 37, 63-64; Smith, 1942a, p. 196-199; West, 1954, p. 8-9</td>
</tr>
<tr>
<td>2 Bear Creek G.9</td>
<td>T.11N., R.59-60W.</td>
<td>M</td>
<td>Au(Hg, Cu?)</td>
<td>Disseminated Placer</td>
<td>Discoverered 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.</td>
<td>Maddren, 1915, p. 303, 309-311, 324-325; Hoare and Coonrad, 1959b</td>
<td></td>
</tr>
<tr>
<td>3 Black Mountain G.9</td>
<td>T.20N., R.55W.</td>
<td>p</td>
<td>Sb</td>
<td>Vein</td>
<td>Hydrothermal</td>
<td>2-in.-thick northwest-trending vein exposed by single trench about 335 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 USGS Nov. 1944.</td>
<td>Ebbey and Wright, 1948, p. 5, 40</td>
</tr>
<tr>
<td>4 Bobtail Creek G.7 (Fusion Mining Co.)</td>
<td>T.21N., R.60W.</td>
<td>m</td>
<td>Au(Hg)</td>
<td>Disseminated Placer</td>
<td>Placer gold mined by dredge 1930-1945 and possibly at other times. Place cinnabar also reported. Creek draining bedrock area of mafic volcanic and volcaniclastic rocks of Gemuk Group (Permian through Lower Cretaceous) intruded nearby by small Tertiary (?) granitic and albite porphyry (?) plutons.</td>
<td>Smith, 1942b, p. 44; Joesting, 1942, p. 27; Hoare and Coonrad, 1959b</td>
<td></td>
</tr>
<tr>
<td>5 Bogus Creek G.8</td>
<td>T.11N., R.60W.</td>
<td>p</td>
<td>Au</td>
<td>Disseminated Placer</td>
<td>Prospect shaft sunk to depth of about 30 ft in frozen gravel about 1904 after finding &quot;fine&quot; colors of placer gold. No record of mining or further activity.</td>
<td>Maddren, 1915, p. 331-332</td>
<td></td>
</tr>
<tr>
<td>6 Brink (See Bear Creek) G.9</td>
<td>T.20N., R.55W.</td>
<td>M</td>
<td>Au</td>
<td>Disseminated Placer</td>
<td>Mining reported 1913 through 1915 and probably since then. Bedrock reportedly hosts rich granitic rock containing thin quartz veins with malachite stains. Mined area at mouth of creek actually in Bear Creek flood plain.</td>
<td>Maddren, 1915, p. 311-312, 327-329</td>
<td></td>
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<tr>
<td>7 Brink approx.</td>
<td></td>
<td></td>
<td></td>
<td>Disseminated Float</td>
<td>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 (?).</td>
<td>Smith, 1942a, p. 200-201; Hoare and Coonrad, 1959b</td>
<td></td>
</tr>
</tbody>
</table>
4 Buster Creek  
(See also Kako Creek)  
RUSSIAN MISSION QUADRANGLE  
4 Buster Creek  
(T.21N.R.66W.)  
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 rocks (Gemuk Group) and tertiary granitic intrusions, Hoare and Cobb, 1977, p. 65.

7 California Creek (See also Tululak River)  
(T.21N.R.66W.)  
Au(Ag) Disseminated Placer  
Applies to headwater of Tululak River now known as California Creek. Includes Rocky Creek. Ground prospected by churn drill 1966. Dredging began a year or two later and continued at least until 1980. Values increased upstream into Rocky Creek. Contained some of the richest ground in the Tululak 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 veins containing coarse crystalline gold was discovered and staked in 1945 on ridge north of the creek. Maddren, 1915, p. 304, 359-360; West, 1954, p. 5-7.

8 Cobalt Creek  
(See also Mis- 
sion Creek)  
(T.20N.R.55W.)  
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 ft. thick in tertiary quartz monzodiorite porphyry for distance of about 800 ft. Vein and associated breccia zones traceable for distance of 4,000 ft through surface cropping. Ore minerals include chalcopyrite, chalcocite, pyrite, galena, native copper, sphalerite, pyrrhotite, and pyrite in quartz gangue. Dump sample assayed 2.7 percent copper, plus traces of gold and mercury. Other samples contained up to 1.4 percent tin. Other mineralized zones reported nearby. Harrington, 1918, p. 57, 59-60.

9 Disappointment Creek (Wilson Creek Mining Co.) (See also Wilson Creek)  
(T.21N.R.66W.)  
Au,Ag Disseminated Placer  
First staked in 1914 and operated at least until 1939. Open cut workings mainly in two claims at confluence with Wilson Creek. In 1915 ground reportedly ran about 0.06 oz gold per cu yd. Pay streak irregularly distributed in gravels 7-12 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. 64.

10 Edgar Creek  
(T.21N.R.66W.)  
p Au Vein Hydrothermal  
Claim 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. 64.

11 Elephant Creek  
(T.21N.R.66W.)  
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 Goorad, 1959.
Kako Creek and tributaries (Kato Creek) G.7 T.27N. R.66W. 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.

Mission Creek (Russian Mountains, Konechny) (See also Cobalt Creek) G.9 T.18N. R.55W. 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 1922. Mostly handwork by one man (Konechny). Quartz veins and thin breccia zones in Tertiary porphyry and monzonite constitute northwest-trending mineralized zone about 250 ft wide and traceable on surface for 1,200 ft. Minerals include chalcopyrite, galena, pyrite, pyrrhotite, scheelite, marmatite, arnopyrite, hemimorphite, chrysocolla, malachite, aurite, 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 0.006 oz. 1915 report of antimony has not been substantiated.

Montezuma Creek G.7 T.18N. R.55W. 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.

Ophir Creek G.9 T.14-14N. R.59W. Au Disseminated Placer Fine colors of placer gold found Maddren, 1915, p. 320-326. "Stampers, but no serious prospecting until 1913. Numerous prospecting pits, trenches, and holes to depth of 30 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.

Spruce Creek G.9 T.11N. R.60W. 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 1915. 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.

Tiny Gulch G.9 T.11N. R.60W. 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.

7 Tuluksak River
G,9
T.11N., R.60W.
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 enstatite 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)

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 865. 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-calcareous veins similar to Arnold lode (#1).

Marrington, 1918, p. 56-57, 60-62

9 Wilson Creek
G,7
T.21N., R.69W.
Au, Pt
Disseminated Placer
Gold discovered July 1913. By 1914, three plants employing 14 men produced about 560 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, snotty 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 intrusive bodies. (Includes Happy Creek; see also Disappointment Creek)


Wilson Creek Mining Co.)
<table>
<thead>
<tr>
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<th>RESOURCES</th>
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<tr>
<td>1 Dakil</td>
<td>B.11 T.11N.,R.12E.</td>
<td>o</td>
<td>Cu(Au,Ag)</td>
<td>Vein (float)</td>
<td>Hydrothermal</td>
<td>Quartz vein material in float derived from gneissic hornblendite-granulite and andesite (Jurassic-Early Cretaceous) contains pyrite, chalcopyrite (with up to 4.5 oz Ag and 0.023 oz Au per ton), and molybdenite.</td>
<td>Miller and Ferrians, 1968, p. 8-10</td>
</tr>
<tr>
<td>2 Hawk River</td>
<td>B.11 T.10N.,R.6E.</td>
<td>o</td>
<td>Ag,Pb(Cu)</td>
<td>Vein</td>
<td>Hydrothermal</td>
<td>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 0.3 Sq Mi. Locally veins carry argentiferous galena, with lesser amounts of chalcopyrite and molybdenite.</td>
<td>Miller and Ferrians, 1968, p. 8-10</td>
</tr>
<tr>
<td>3 Purcell Mountains</td>
<td>B.11 T.10N.,R.6E.</td>
<td>p</td>
<td>U(Th)</td>
<td>Disseminated</td>
<td>Uraniferous</td>
<td>Uraniferous elassite at west end of Wheeler Creek pluton</td>
<td>Miller, 1976, p. 11</td>
</tr>
<tr>
<td>4 Shovel Creek</td>
<td>B.11 T.11N.,R.9E.</td>
<td>m</td>
<td>Au</td>
<td>Disseminated</td>
<td>Placer</td>
<td>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</td>
<td>Miller and Ferrians, 1968, p. 11</td>
</tr>
<tr>
<td>5 Unnamed</td>
<td>B.12 T.12N.,R.11, 12E.</td>
<td>o</td>
<td>Cu</td>
<td>Vein</td>
<td>Hydrothermal</td>
<td>Pyrite- and chalcopyrite-bearing quartz veins up to 3 ft thick cut meta-andesite (Jurassic and Cretaceous) north of Lane Hills granodiorite and quartz monzonite pluton (Late Cretaceous-early Tertiary). Grab samples contain up to 0.5 percent Cu</td>
<td>Miller and Ferrians, 1968, p. 8</td>
</tr>
<tr>
<td>6 Unnamed</td>
<td>B.12 T.12N.,R.12E.</td>
<td>o</td>
<td>Cu</td>
<td>Vein</td>
<td>Hydrothermal</td>
<td>See 5 above</td>
<td>Miller and Ferrians, 1968, p. 8</td>
</tr>
<tr>
<td>7 Unnamed</td>
<td>B.12 T.13N.,R.13E.</td>
<td>o</td>
<td>Mo</td>
<td>Vein</td>
<td>Hydrothermal</td>
<td>Molybdenite-bearing quartz veins up to 2 ft thick cut quartz monzonite (Jurassic-Early Cretaceous) near northeast contact of Lane Hills granodiorite pluton (Late Cretaceous-early Tertiary). One grab sample contained 0.2 percent Mo, 1.5 ppm Ag and no detectable gold</td>
<td>Miller and Ferrians, 1968, p. 8-10</td>
</tr>
<tr>
<td>8 Unnamed</td>
<td>B.12 T.14N.,R.14E.</td>
<td>o</td>
<td>Cu(W)</td>
<td>Vein</td>
<td>Hydrothermal</td>
<td>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 semi-quantitative spectrographic analysis</td>
<td>Miller and Ferrians, 1968, p. 8-10</td>
</tr>
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<tr>
<td>1 Alice and Bessie</td>
<td>G.11 T.20N. R.45W.</td>
<td>M.</td>
<td>Hg(Sb)</td>
<td>Vein</td>
<td>Hydrothermal (low temperature)</td>
<td>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. USGS trenching and sampling program in 1942. Cinnabar fills fractures in brittle rocks comprised of Kuskokwim group (Cretaceous) graywacke and shale intruded by dikes and sills (Tertiary). Ore shoots tend to be developed at intersections of altered intrusive rocks and bedding plane faults. Orebearing veins are composed of cinnabar, stibiinite, and pyrite. Detritus near mill-mouth in small stream carries considerable native mercury. It is geologically possible that properly directed exploration would result in the discovery of additional mineable ore shoots</td>
<td>Sainsbury and MacKevett, 1965, p. 2, 11-15, 80</td>
</tr>
<tr>
<td>3 California Creek</td>
<td>G.11 T.21N. R.45W. (Approx.)</td>
<td>p.</td>
<td>Au</td>
<td>Disseminated Placer</td>
<td>A &quot;little&quot; placer gold reported. Source may be nearby sheets of albitic-phyllite (early Tertiary) that intrude sedimentary rocks of the Kuskokwim group (Cretaceous). Similar to Donlin Creek (Iditarod quadrangle, No. 4)</td>
<td>Cady and others, 1955, p. 69, 120</td>
<td></td>
</tr>
<tr>
<td>4 Central Creek</td>
<td>G.11 T.21N. R.47W.</td>
<td>p.</td>
<td>Au</td>
<td>Disseminated Placer</td>
<td>&quot;Same&quot; placer gold reported. Same possible source as noted under No. 3 above</td>
<td>Cady and others, 1955, p. 120</td>
<td></td>
</tr>
<tr>
<td>Cinnabar Chief</td>
<td>G.11 T.20N. R.45W.</td>
<td>p?</td>
<td>Hg</td>
<td>Vein(t)</td>
<td>Hydrothermal (low temperature)</td>
<td>Prospeted 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 Williams property (see No. 39)</td>
<td>Smith, 1929, p. 41</td>
</tr>
<tr>
<td>5 Crooked Creek</td>
<td>G.10 T.22N. R.49W.</td>
<td>m.</td>
<td>Au</td>
<td>Disseminated Placer</td>
<td>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 ft of creek course mined, including Donlin Creek. Gold in bench gravels east of creek, with secondary concentrations of present stream entrenched 15-30 ft into the bench gravels. Sandrock sandstone and shale (probably Cretaceous Upper group) cut by intrusive quartzite (late Cretaceous-early Tertiary). See also Donlin Creek (Iditarod quadrangle)</td>
<td>Waddren, 1915, p. 353-355</td>
<td></td>
</tr>
</tbody>
</table>
6 Egnaty Creek 6,11  T.21N.,R.47W.  p  Mg Vein Hydrothermal (low temperature) Cinnabar occurs in small veinlets in calcareous graywacke sandstone (Cretaceous Kuskokwim group) and as "paint" along shear surfaces. USGS 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 hillside parallel to creek and about 5,000 ft east-west. Panning of nearby streams indicates these are not maximum limits.

7 Eiphonte Creek 6,11  T.20N.,R.46W.  p  Au Placer Disseminated Placer Creek has been prospected and gold of "some account" reported. Stream flows through area in which there are numerous albitic rhyolite (Eocene?) intrusives and sedimentary rocks of the Kuskokwim group (Cretaceous). No reported production.

8 Fairview 6,11  T.20N.,R.46W.  p  Hg(Sb) Vein Hydrothermal (low temperature) First stated in 1935-1936. Only workings were shallow trenches and pits, mostly as part of USGS exploration program, 1943. Little or no work done since and no recorded production. Quartz-albitite-cinnabar veinlets in central part of periphylitic albitic rhyolite (Eocene?) still within intersecting fracture zone. Best USGS 5 ft sample assayed 1 lb Hg/ft.

9, 10 Fortyseven Creek 6,10  T.19N.,R.45W.  p  Au,(Ag,Sb) Vein (placer) Disseminated Placer Lode discovered in 1947 and subsequently explored by surface prospect pits. No reported lode production. Stilootified shear zone about 1,000 ft wide and half as long in graywacke and shale of Kuskokwim group (Cretaceous) on east flank of Hooluna fault. Minerals include gold, wulfenite, arsenopyrite, jamesonite, stibnite, argentite and traces of Ag-Au tellurides. Quartz, tourmaline, sericite gangue. Source probably buried albitic rhyolite intrusive (Eocene?). About 950 oz Au and perhaps 1,000 lbs scheelite recovered from placer 1950-1954. No activity since 1954. Gold and scheelite mostly in bedrock and on false bedrock of "yellow clay" downstream from Hooluna fault. Additional potential ground remains.

11 Fuller Creek 6,11  T.19N.,R.45W.  p  Au Placer 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 albitic rhyolite (Eocene?) intrusives across upper part of stream valley.

12 George River 6,11  T.21N.,R.46W.  p  Au(Ni) Placer Disseminated Placer USGS reports that river-bar sediments contain "fine" colors of gold and considerable fine-grained cinnabar. No record of production.

13 Girl Creek 6,10  T.12N.,R.51W. (Approx.)  p  Au Placer Disseminated Placer Prospecting has yielded placer gold. Area contains albitic rhyolite (Eocene?) and quartz dike (Tertiary) intrusives into shale and graywacke of Kuskokwim group (Cretaceous).

14 Gold Run 6,10  T.18N.,R.51W. (Approx.)  p  Au Placer 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 albitic rhyolite intrusives (Eocene?)
15 Harrison   G.11 T.22N.,R.46W.   p   Mg   Breccia filling and vein Hydrothermal (low temperature)  Discovered about 1963 at 1000 ft altitude by panning soil samples, followed by shallow strip mining and trenching with small tractor. High-grade ore encountered was sorted and 5-8 tons of 10-15 percent are (est.) stockpiled. No stibnite reported. Cinnabar occurs as breccia filling and in veins within zone 2-3 ft wide in silicified dark-brown argillaceous sandstone of Kuskokwim group (Cretaceous).

16 Horn Mountains   G.10 T.19N.,R.51W.   0   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).

17 Holtsena River   G.11 0   Au   Disseminated Placer  Very fine colors reported in river bars, especially near mouth of Holtsena River. Drilling of prospective dredging ground also reported 1960. Claim staking 1932-1933. All references are vague as to location and details of findings.

18 Kay Creek   G.10 T.14N.,R.52, 53M. (Approx.) 0   Sb(?), Au (?)  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 intrusive of albitite rhyolite (Eocene?) to northwest and southeast.

19 Kolskof   G.10 T.17N.,R.53W.  0   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 out, 29 hand-dug trenches totaling about 600 ft and several bulldozer trenches, most of which failed to reach bedrock. USGS exploration programs 1944, 1959, 1969, 1970. Former 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). No mention of stibnite.

-- Kuskokwim River   G.10B11 0   Au   Disseminated Placer  Kuskokwim River sediments from Crowed Creek to just below Sleetmute reported to contain very fine gold visible under hand lens.

20 Landru   G.11 T.19N.,R.44W.  0   Hg   Disseminated Float  Rich cinnabar float reported; not traced to source. Area said to be geologically similar to Red Devil (No. 26).

21 McCally Creek   G.11 T.19N.,R.45W.  0   Hg   Vein Hydrothermal (low temperature)  Traces of cinnabar reported on slope of Barmercer Mountain at 1000 ft near head of McCally Creek in graywacke and shale of the Kuskokwim group (Cretaceous) near contact with porphyritic albitite rhyolite (Eocene?). Native mercury also reported to have been panned from creek.

22 Mallicks   G.11 T.19N.,R.44W.  p   Hg   Vein? Hydrothermal (low temperature)  A small amount of cinnabar found in bedrocks behind "Mallicks Trading Post." Graywacke and shale of Kuskokwim group (Cretaceous) and several small albitite intrusive (Eocene?).

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.

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<table>
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<tr>
<th>Location</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>24 Murray Gulch</td>
<td>Vein Hydrothermal (low temperature) Discovered 1956; staked 1957. Small sporadic production from trenches, shafts and drifts in bench and present stream gravels. About 50 oz produced through 1914. Dike gold sought that beneath silt and muck of present streambed shows appreciable wear. Gold distributed downstream from albitic rhyolite (Eocene) dikes that cut Kuskokwim group (Cretaceous) graywacke and shale host rocks.</td>
</tr>
<tr>
<td>25 Oskawalt River</td>
<td>Vein and disseminated Vein and Hydrothermal (low temperature) Discovered 1933. Most development since World War II. USGS surface and subsurface exploration program 1942-1943. DMEA contract 1952-1953. DMEA contract failed to find additional ore and existing known orebodies considered exhausted. No underground workings. Surface trenches total about 8900 ft over three areas about 4000 ft apart. No underground workings. USGS exploration program, 1955-1956, included 12 auger holes 5-16 ft deep through permafrost frozen overburden. No production reported through 1961. Host rock is 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.</td>
</tr>
<tr>
<td>26 Red Devil</td>
<td>Vein and disseminated Vein and Hydrothermal (low temperature) Discovered 1933. Most development since World War II. USGS surface and subsurface exploration program 1942-1943. DMEA contract 1952-1953. DMEA contract failed to find additional ore and existing known orebodies considered exhausted. No underground workings. Surface trenches total about 8900 ft over three areas about 4000 ft apart. No underground workings. USGS exploration program, 1955-1956, included 12 auger holes 5-16 ft deep through permafrost frozen overburden. No production reported through 1961. Host rock is 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.</td>
</tr>
<tr>
<td>27 Rhyolite</td>
<td>Vein Hydrothermal (low temperature) Discovered 1956; staked 1957. Surface trenches total about 4000 ft over three areas about 4000 ft apart. No underground workings. USGS exploration program, 1955-1956, included 12 auger holes 5-16 ft deep through permafrost 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 diorite, brachyte or lamprophyre (Tertiary) and younger rhyolite (Tertiary). Cinnabar occurs as veinlet in fractured dite rock and graywacke, as well as disseminations in altered dite rock. One cinnabar sample analyzed 15 ppm Ag.</td>
</tr>
</tbody>
</table>
28 **Timber Creek**  
G.10  
T.11N.,R.54W.(?)  
(490ft.)

**Au**  
Disseminated  
Placer  

Placer gold prospected in area that drains area of upper Paleozoic (?) - Mesozoic clastic volcanic and carbonate rocks intruded by several small albitic rhyolite bodies. (Izenci?)

29 **Two Genevieves**  
G.11  
T.20N.,R.44W.  

**Hg**  
Brecia 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.

26 **Vermillion**  
G.11  
T.19N.,R.44W.  

**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" occur as bedding plane veinlets in shaly zone within Kuskokwim group (Cretaceous). "Ore" assumed to be cinnabar and possibly stibnite.

30 **Willis**  
G.11  
T.20N.,R.45W.  

**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. USGS 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
<table>
<thead>
<tr>
<th>MAP NO. AND NAME(S) (if known)</th>
<th>MAP COORDINATES LOCATION</th>
<th>DEVELOPMENT CATEGORY</th>
<th>RESOURCES Minor constituents or potential byproducts in parentheses</th>
<th>FORM</th>
<th>TYPE</th>
<th>BRIEF DESCRIPTION</th>
<th>PRINCIPAL REFERENCES</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 B.C. (Placer)</td>
<td>T.18N., R.23E.</td>
<td>P</td>
<td>Au</td>
<td>Dissminated</td>
<td>Placer</td>
<td>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 crests in area tributary to North Thur Creek may have placer gold deposits. Recent claim-staking activity.</td>
<td>Singer and others, 1976; Foster, H. F., 1977, oral commun.</td>
</tr>
<tr>
<td>(Lode)</td>
<td></td>
<td>P</td>
<td>Au</td>
<td>Vein</td>
<td>Porphyry</td>
<td>Decomposed granitic bedrock, on which eluvial and bench placer gold deposits occur, contain gold quartz veins.</td>
<td>Singer and others, 1976; Foster, H. F., 1977, oral commun.</td>
</tr>
<tr>
<td>3 Big Creek</td>
<td>T.20N., R.22E.</td>
<td>P</td>
<td>Pb, Zn</td>
<td>Disseminated</td>
<td>Stratabound</td>
<td>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.</td>
<td>Foster, H. F., 1977, oral commun.</td>
</tr>
<tr>
<td>4 Bluff</td>
<td>T.21N., R.20E.</td>
<td>P</td>
<td>Cu,Mo</td>
<td>Dissminated</td>
<td>Porphyry</td>
<td>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).</td>
<td>Singer and others, 1976; Foster, H. F., 1977, oral commun.</td>
</tr>
<tr>
<td>5 East and West Taurus</td>
<td>T.22N., R.21E.</td>
<td>P</td>
<td>Cu, Mo</td>
<td>Dissminated</td>
<td>Porphyry</td>
<td>Discovered 1970 and are in eastern part of altered porphyry system 8 mi long and 1/2 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 green-schist facies metamorphic rocks and gneiss (Paleozoic and/or Precambrian?). Intense hydrothermal alteration. Numerous faults and dikes. Explored by surface sampling, diamond drilling, and geophysics.</td>
<td>Singer and others, 1976; Foster, H. F., 1977, oral commun.</td>
</tr>
<tr>
<td>6 Fairplay and other prospects</td>
<td>T.20N., R.18E.</td>
<td>P</td>
<td>Cu, Mo, Pb, Zn</td>
<td>Dissminated</td>
<td>Porphyry</td>
<td>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. Located on basis of geochemical anomalies. Selected grab samples contain sulfosalts and assay significant silver. Bedrock is augen gneiss (Paleozoic and/or Precambrian?).</td>
<td>Singer and others, 1976; Chipp and Sandvik, 1977; unpublished company data</td>
</tr>
<tr>
<td>7 Fishhook</td>
<td>T.23N., R.21E.</td>
<td>P</td>
<td>Cu, Mo, Ag</td>
<td>Dissminated</td>
<td>Porphyry</td>
<td>Located on basis of geochemical anomalies. Selected grab samples contain sulfosalts and assay significant silver. Bedrock is augen gneiss (Paleozoic and/or Precambrian?).</td>
<td>Unpublished company data</td>
</tr>
</tbody>
</table>

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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 lithic to mafic igneous rock (Mesozoic to Tertiary?) of the McNair Creek area.


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 Wildcat holes failed to intersect significant mineralized rock.

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.
<table>
<thead>
<tr>
<th>MAP NO. AND NAME(S) (if known)</th>
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<th>TYPE</th>
<th>BRIEF DESCRIPTION</th>
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</thead>
<tbody>
<tr>
<td>1 American Creek and tributaries</td>
<td>C.17 T.3N., R.18W.</td>
<td>M</td>
<td>Au(Cr)</td>
<td>Disseminated Placer</td>
<td>M</td>
<td>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 thinly phylite, 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 foot. Gravel overlain by 5-7 ft of frozen muck. Gold throughout lower 4 ft of gravel and upper 2-3 ft of bedrock. Nuggests 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)</td>
</tr>
<tr>
<td>2 American Gulch (Creek)</td>
<td>C.16 T.5N., R.26W.</td>
<td>p</td>
<td>Au</td>
<td>Disseminated Placer</td>
<td>M</td>
<td>Tributary to Lynx Creek. Prospects reported as early as 1911 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 gneiss, chert, and chloritic schist of probable middle Paleozoic age</td>
</tr>
<tr>
<td>3 Ash Creek</td>
<td>C.16 T.6N., R.26W.</td>
<td>o</td>
<td>(Au,Sn)</td>
<td>Disseminated Placer</td>
<td>M</td>
<td>Tributary to Tozlmoran 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 Tozlmoran Creek)</td>
</tr>
<tr>
<td>4 Avnet (Buzby prospect)</td>
<td>C.18 T.5N., R.18W.</td>
<td>p</td>
<td>Hg(Ag)</td>
<td>Vein</td>
<td>M</td>
<td>Pisolomelane, of probable hydrothermal origin, occurs as irregular masses 0.3 ft. In longest dimension, as a lattice 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 scarpings. USGS assays showed 0.59 to 34.4 percent manganese and as much as 0.28 oz silver per ton. (See also Baldry Mountain)</td>
</tr>
<tr>
<td>5 Baldry Mountain</td>
<td>C.18 T.5N., R.14W.</td>
<td>p</td>
<td>Mn</td>
<td>Vein</td>
<td>M</td>
<td>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)</td>
</tr>
<tr>
<td>6 Bonanza Creek</td>
<td>C.17 T.6N., R.18W.</td>
<td>p</td>
<td>Au(Sn)</td>
<td>Disseminated Placer</td>
<td>M</td>
<td>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. USGS 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 0.3420 lbs of tin and 0.0026 oz of gold per square bedrock foot. Gold and cassiterite occur in bedrock</td>
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</table>

**TANANA QUADRANGLE**
7 Boulder Creek
(Placer) C.17-18 T.4N.,R.16-18W., M Au(Cr,Th,RE's?) Disseminated Placer

Spacial gold placer mining 1913-1917, 1930-1939 and 1945-1972. Total production not known. South valley side steep and contains little or no gravel. Most mining was on bench about 1000 feet north of main stream. Placer one part of large deposit of low-grade gravel about 8 feet thick with a workable width of about 1200 feet 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 Jurassic-Cretaceous sandstone, shale, limestone, and argillite. Stream heads in metasedimentary rocks of Devonian or Paleozoic age and the quartz-monzonite (80 m.y.) pluton of Blacktop Mountain.

8 Cache Creek C.18 T.3N.,R.16W. m Au.Ag.Sn.(Cr, Th,RE's) Disseminated Placer

Veins, lenses, pods, and disseminations
Magnetic

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 1956 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 (Jurassic-Cretaceous) and are overlain by about 50 feet of frozen Quaternary angular gravel, silt, and mud. Gravel composed mostly of phyllite and graywacke but cobbles of serpentinitized gabbro, biotite granite, weathered monzonite and chromite also occur. Cassiterite and gold generally at base of lowest gravel. Most gold as 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, plagioclase and chromite, anasthenite (M. Ti, Ce, Th oxide), zircon, sphene, andalusite, garnet, and pyrrhotite. (See also Barter Gulch, Da 1 ton Gulch, Ferguson Draw)

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, 1915, p. 241; Burnand and Saunders, 1966, p. 5

10 Chicago Creek C.78 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 1997 near mouth and Deeps Creek. 5-6 ft of small-size gravel on barren of dark-gray shale (Cretaceous). Largest nuggets observed 1973 0.3-0.8 lb in, diameter, very rough with attached quartz. A few smooth roller-shaped nuggets. Finer fraction rough and shotty. No cassiterite in heavy concentrates. (See also Omega and Thanksgiving Creeks)
11 Cooney Creek
T.3N.,R.16W.
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)

8 Dalton Gulch
(Creek)
T.3N.,R.16W.
Au,Sn Disseminated Placer
First worked 1910, but only scattered and sporadic activity since World War I. Total production through 1956 was 456 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 Jurassic-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)

9 Deep Creek and tributaries
Includes Hokeley and Innovative Gulches, and Willow Creek
T.3N.,R.17W.
Au,Sn,Cb,Nb,Th,REE'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 7664 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 a few hundred feet wide north of creek along bedrock terrace that trends N.60°E parallel to the foliation in the phyllite bedrock (Jurassic-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), ilmenite, plagioclase, zircon, monazite, xenotime (locally >10 percent by volume), rutile, scheelite, columbite, eileenite(?), and ellsworthite. USBM sampling programs (1943, 1954-1956) indicated that 27 channel samples from four tailing piles averaged 7.08 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 10.55 grains of gold per cubic yard in tailings totaling 105,600 cu yds along Deep and Woodchopper Creeks

12 Eureka Creek
T.4-5N.,R.13W.
Au Disseminated Placer
Placer gold discovered 1898. Hess, 1908, p. 6-9, 12, 17, 45-48, 55. Wayland, 1961, p. 372, 374, 385, 392, 407-408, 410 Record of intermittent mining at least through 1975. Total 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 750% 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 Tofty "tin belt." (Includes references to Farmer and Jones)

8 Ferguson Draw
T.3N.,R.16W.
Au,Sn Disseminated Placer
Occurrence similar to Cache Creek, but gold finer grained, flaky, and well worn. Gravel thin or 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 0.1-0.4 oz of gold and 0.1-0.4 lbs cassiterite per square bedrock foot and terminated upstream against bedrock terrace

TANANA QUADRANGLE
Ellsworth and Davenport, 1913, p. 221; Wayland, 1961, p. 394
Thomas, 1957, p. 7-8, 45, Wayland, 1961, p. 376
Thomas, 1957, p. 6-9, 12, 17, 45-48, 55; Wayland, 1961, p. 372, 374, 385, 392, 407-408, 410
Hess, 1908, p. 62-63, 98, Mer- tite, 1934, p. 166, 192-195
Wayland, 1961, p. 374-375
13 Florida Creek  
C.18  
T.7N.,R.13W.  
Au  
Disseminated Placer  
Creek 2 mi long that flows in deep narrow valley cut in high bench of Minook Creek. Small-scale mining reported in early 1900's and 1930-1940. Total production probably does not exceed 200 oz of gold. Alluvial deposits narrow, in places 15-20 ft deep. Some nuggets up to 1.7 oz. (See also Minook Creek)

14 Glen Creek (Gulch)  
C.18  
T.7N.,R.13W.  
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 40,000 fine ounces through 1931. Initially worked by drifting and later worked by open cut methods. Letter 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 (Jurassic-Cretaceous) with local quartz veins, 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)

15 Gold Hill  
C.16  
T.4N.,R.26W.  
Au,Ag  
Vein  
Hydrothermal  
Adit 110 ft long driven on sheared and broken quartz vein about 1890 in what was probably first attempt to develop 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 veinedlets at face. Random sample assayed 0.05 oz gold, 0.3 oz silver per ton. Tunnel was abandoned and caved in 1908.

16 Grant Creek  
C.16  
T.5N.,R.26W.  
Au(Sn?)  
Disseminated Placer  
Placer gold deposits prospected and mined sporadically 1909 until about 1935. 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 3-7 ft deep and pay streak more than 100 ft wide. Gold medium fine, small nuggets. Fineness about 860. 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
8 Harter Gulch  C.18  T.3N..R.16W.  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 oz or [concentrate per cubic yard that contained 0.27 oz 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 phylite and graywacke with some rounded sandstone clasts. Small still-like mafic intrusive (Tertiary) on ridge between Harter Gulch and Sullivan Creek. Lime- stone (Jurassic-Cretaceous?) bed nearby contains magnetite and hematite. (See also Cache Creek, Dalton Gulch and Ferguson Draw).

6 Homestake Creek  C.17  T.6N..R.18-19W.  Au  Disseminated Placer  Placer gold mined near confluence of this creek with Merelock Creek about 1910. Little else is known about this occurrence. (See also Bonanza and Merelock Creeks).

17 Hoosier Creek  C.18  T.2N..R.16W.  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 hydraulic mining until about 1952. Production not well known but totaled about 2400 oz through 1931. Ill-defined pay zone 100-150 ft wide in gravel 1-3 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 ft thick. Gold coarse and of high grade. Assay from 1926 production showed fineness 9415 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).

18 Hot Springs Dome  C.18  T.2N..R.16W.  (Pb,Ag,Cu,Zn,Co, Mn,As,Ni)  Mineralized shear zones  At least six east-trending mineralized shear zones in hornfelsed metasedimentary rocks (Jurassic-Cretaceous) close to and along northwest side of a large Tertiary (60 m.y.) ophiolite 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 sphalerite at surface. Other minerals include siderite, copper carbonates, chalcopyrite, pyrrhotite, pyrite and arsenopyrite. Assays of oxidized material indicate 25-310 oz gold (1976 prices) and 5-8 oz silver per ton. USBM diamond drilling and sampling program in 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 dikes. Dikes that cut the granite contain tournamite (similar to that found in placers of the Tofty tin belt) and monazite.

References:
Wayland, 1961, p. 376, 398; Chapman, R. M., 1977, unpub. data
Brooks, 1911, p. 184
Mertle, 1934, p. 215-216; Wedow and others, 1952, p. 99-100; Max- hand, 1954, p. 3-4; Maloney, 1971
19 Hunter Creek and tributaries C.18 T.8N..R.12W. 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 Mink Creek.
Mainly hydraulicling and winter drifting. Main stream transects benches east of Mink 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 in "bumpkin-ame" 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. Livingston quadrangle)

20 Idaho Gulch C.18 T.3N..R.17W. Au,Sn(Cb,Th,Ag) Disseminated Placer (Lode) 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. USGS churn drilling and channel sampling program 1954-1966 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 2.87 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)

21 Joseph Creek C.18 T.5N..R.13W. Ag Disseminated Epithermal (?) Random USGS sample from small gossan contained 1.34 oz silver per ton; no gold detected

22 Karshner Creek C.18 T.2N..R.15W. 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 m.y.) of Hot Springs Dome

23 Killarney Creek C.18 T.3N..R.16W. 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 mi wide north of junction of Killarney and Gold Basin Creeks. May mark northeast limit of Tofty "tin belt." Creek heads in southern part of Bughtop Mountain quartz monzonite intrusive (Cretaceous; 90 m.y.). No record of mining. (See also Gold Basin and Cooney Creeks)
23 Lancaster Creek

C.16 T.5N., R.26W.
p Au(?) Disseminated Placer

Open cut made in 1917. No reported production

Martin, 1919, p. 35

7 Little Boulder Creek

C.17 T.4N., R.18W.
p Au Disseminated Placer

Prospecting 1918-1919 following discovery of low grade ground 1916. 0.1-12 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. 325

24 Little Minook Creek

C.18 T.7N., R.12W.

(Ag,Cu,Pb,Cr, W,Bi,Hg?) Disseminated Placer

Placer gold discovered 1895. Mining began 1896, first by drifting, then by ground sluicing and shoveling (e. more 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 reaccumulated. 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 bedrocks that consist of greenstone, limestone, chert, slate and sandstone (Triassic-Permian). 0-30 ft of overburden (frozen silt and muck). Sold generally coarse, smooth, and flattened, but not flaky. One nugget reportedly about 17 oz. Assays show fineness of about 920 gold, 75 silver. Stream concentrates, in addition to gold, contain native copper, native silver, hematite, pyrite, galena, chromite, ilmenite, magnesite, argentite, tetradymite, piccolite, scheelite, cinnabar(?), garnet, zinc and sphene

Spurr, 1898, p. 794, 796-797; Prindle and Hess, 1905, p. 111-112; Hess, 1906, p. 85, 75-77; 86; Mertie, 1934, p. 185, 186-187

17 Little Minook Junior Creek

C.18 T.7N., R.12W.

(Au,Mn,Cu) Veins and disseminations Hydrothermal (Au), Volcanogene 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. Veins also reportedly mineralized with pyrite and chloropyrite. Lode occurrence of manganese (rhodochrosite and rhodonite) but details on relations lacking. [See also Hunter Creek]

Spurr, 1898, p. 165, 167-168; Mertie, 1934, p. 193; 198-199; 1930 and probably since 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) west 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 1 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, magnesite, garnet, sphene, chromite, gold and galena. [See also Hoosier Creek]

Hess, 1908, p. 65, 77-78, 96; Mertie, 1934, p. 165, 175, 184; Chapman, R. M., 1977, unpub. data

25 McCaskey Bar

C.18 T.4N., R.13W.

Au(Mp) Disseminated Placer

Placer 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 bedrocks that consist of weathered phyllite and argilitite (Lower Cretaceous(?)) cut by fractured, iron-stained quartz veins. One assay indicated fineness of 862 3/4 gold, 19 silver. Heavy concentrates include ilmenite, magnetite, piccolite, cinnabar, tourmaline, garnet, and zircon
26 Melozlom Creek
C.18
T.7N.R.13W.
(Au,In)?
Disseminated Placer
Prospect pits dug 1913-1918 reportedly yielded a little gold and cassiterite. Claims stated in the Grinn and Webberis Creeks area but there has been no production or significant development. Thirteen test pits dug by USGS 1943 near junction with Webberis 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.

27 Miller Gulch
C.18
T.3N.R.17W.
(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 17,576 oz gold, 2,668 oz silver, 101,275 lbs cassiterite concentrate. USGS 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, 0.069 lb Cb2O3 and 0.0175 oz gold. (Individual analyses showed up to 7.0 percent Cb2O3). Many tailing piles have been restacked. Old channel terrace 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.

28 Minook Creek
C.18
T.6-7N.R.13W.
(Au)
Disseminated Placer
Probably prospected as early as 1882. Coarse gold found 1892. Nuggets to 4.3 oz. Mining at least until World War II, mostly by drifting 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 10-100 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 reaccumulated into rich placers on some tributaries (i.e., Hunter, Little Minook and Hoosler 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 Pennsian 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, Pymook Creek).

6 Morelock Creek
C.17
T.6N.R.13W.
(Au,Sn)
Disseminated Placer
Gold discovered 1901. Intermittent hand stringing 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 Ross Creek (left limit tributary). All areas along Morelock Creek inactive in 1971. Total production from area probably did not amount to more than a few hundred ounces of gold. Exploration program by prospectors, USGS and USGS (1942-1943), demonstrated.
tin and gold to be irregularly distributed and range from 0.1-62 lbs tin and 0.0-0.35 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 completely 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 0.06-0.4 in. diameter; nuggets to 1.25 oz; fineness about 920. Total extent of tin-bearing gravels believed to be at least 10 mi long and 400-500 ft wide. (See also Homestake and Bonanza Creeks)


10 Omega Creek C.18 T.4N.,R.14W. Au(Mg,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 very small. Concentrate mineralogy and other relations similar to American Creek except general lack of pyrite. (See also American Creek)

35 Patterson Creek C.17-18 T.3N.,R.16-17W. Au,Ag,Sn Disseminated Placer Main stream into which Sullivan, Cache, Deep, and Woodchopper Creeks flow. Placer gold discovered at mouth of Sullivan Creek in 1907. Most of mining was on the tributaries and inter-tributary 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. (See also Chicago and Thanksgiving Creeks)

29 Pioneer Creek and tributaries C.18 T.4N.,R.13W. Au(Mg,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 probably small. Homes take Bar 'contained best ground; located about 1/4 mi from present creek. 3-4 ft of gravel overlain by about 1/4 ft of mud 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 (Jurassic-Cretaceous) bedrock. Nuggets to about 3.4 oz as well worn, light colored, and have a fineness of 770-800 parts per thousand. Concentrates contain cassiterite, ilmenite, pyrite, zircon, sphene, garnet, scheelite, bismuth, and tellurium. (Includes references to Boothby, Gorton, Seattle Junction, and Skookum Creeks; Jordan, Last Bench, Seattle, and What Cheer Bar)

30 Quartz Creek (Tributary to Sullivan Creek) C.18 T.3N.,R.16W. Au(Sn,RE's) Disseminated Placer Relatively low-grade bench placer mined on small scale 1900-1914, 1920, and probably other years. Extensive company drilling program (185 holes) 1940. Production probably small. Homesake Bar contained best ground; located about 1/4 mi from present creek. 3-4 ft of gravel beneath 3 ft of silt. (See also Honestake and Bonanza Creeks)
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) T.5N., R.19W. Pb(Ag,Au) Stockwork Hydrothermal Tunnel driven about 1915 on 10-ft-wide stockwork of argentiferous galena, quartz and calcite veins 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 told to contain "profitable" amounts of silver and gold, but no recorded production. No known nearby occurrences. 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.

14 Rhode Island Creek C.18 T.4N., R.13W. 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 north-eastward-trending quartz veintlets. 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).

32 Ruby Creek C.18 T.7N., R.13W. Au,Ag(Sb) 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 in 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 Palaeozoic 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 bertrandite.

33 Schefield Creek (Sherlin Creek) C.17 T.5N., R.19W. (Approx.) Au Disseminated Placer Gold-bearing gravels prospected 1907-1908; no further information on development.

14 Seattle Creek C.18 T.4N., R.13W. 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 1-2 ft of muck are fine grained and contain clasts of quartzite, carbonaceous slate and vein quartz. Bedrock is graphitic slaty argillite and schistose calcareous grit (Jurassic or Lower Cretaceous). Gold is fine, bright and shotty; probably reconstituted from older bench gravels. (See also Gold Run, Shirley Bar, Rhode Island, and Glen Creeks).
14 Shirley Bar  
(Bench)  
T.4N. R.13W.  
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 placers where high-grade placers formed. Semicircular deposit of angular, auriferous gravel 2-10 ft thick composed mainly of underlying sedimentary rocks (Jurassic-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. Concentrates also contain pyrite, cinnabar, picotite, barite, galena, ilmenite and limonite.  

34 Slate Creek  
(Tributary to Minook Creek)  
C.18  
T.6N. R.13W.  
Au(Ag, Cu)  
Disseminated Placer  
Place mining commenced 1902 following discovery of gold on Little Minook, Hunter, and Quartz Creek (Tamarack 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 northeast side of valley have been productive. No data on production except about 725 fine ounces gold produced through 1904. Creek placers about 25 ft deep. Gold concentrated in basal 3 ft of gravels and in top 1/4 ft of bedrocks 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.  

3 Slate Creek  
(Tributary to Tozimoran Creek)  
C.16  
T.6N. R.28W.  
o  
Au  
Disseminated Placer  
Place gold reported from valley of Slate Creek. Creek not known to have been systematically prospected. (See also Ash and Tozimoran Creeks)  

35 Sullivan Creek  
C.18  
T.3N. R.16W.  
Au, Ag, Sn (Pb, Cu, Mo, Co, 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 remixed tailings, reported 50,156 oz gold, 563 oz silver, 215,445 lbs of cassiterite concentrate. Some spots extremely rich; one area produced 967 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 0.0003 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. Bedrocks mainly crumpled soft graphitic phyllite and graywacke (Jurassic-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, scheelite, selenite, apatite, brookite and anatase. Includes references to Abe Lincoln, Llber 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)
TANANA QUADRANGLE

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. Bedrocks is yellowish schistosilte grit, shale and siltstone (Jurassic-Cretaceous?) cut by white quartz veins. Pay streak in gravels 25-45 ft wide, 1-9 ft thick. Some gold also occurs in overlying mud. Gold generally 1-10 mm diameter and rough, but some is smooth, bright and shiny. Fineness about 850. (See also Chicago and Omega Creeks)

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 1956 amounted to 850 oz gold, 1,764 oz silver, 19,600 lbs cassiterite. Most tin production came after 1929. USGS (1941) and USGS (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 crystalline phyllite and granite (Jurassic-Cretaceous) that have an average strike of N. 85°E. and dips 55-60° northward. Bedrock cut by numerous quartz veins-let that are apparently devoid of gold and cassiterite. Gravels to 7 ft thick composed of angular locally derived detritus; overlie 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)

20 Tofty Gulch C.18 T.3N., R.17W. M Au, Ag, Sn (Cr, Co?, 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 1956 amounted to 850 oz gold, 1,764 oz silver, 19,600 lbs cassiterite. Most tin production came after 1929. USGS (1941) and USGS (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 crystalline phyllite and granite (Jurassic-Cretaceous) that have an average strike of N. 85°E. and dips 55-60° northward. Bedrock cut by numerous quartz veins-let that are apparently devoid of gold and cassiterite. Gravels to 7 ft thick composed of angular locally derived detritus; overlie by 10-25 ft of frozen muck and silt. Richest concentrations of gold and cassiterite in gravel and upper 2-3 ft of bedrock. Chromium and possibly monazite, and columbite also present in heavy mineral concentrates. (See also Sullivan Creek)

3 Tooz Moran Creek 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), USGS (1943), and DMA (1952) sampling programs includes churn drilling. Bedrock consists of quartz-mica schist, quartzite, phyllite and slate (early Palaeozoic) 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 6 ft thick beneath 1-3 ft of frozen muck. Channel samples (USGS) from this bench indicate averages of 0.73 lb tin, 0.0022 oz gold per cubic yard of blocks of ground 650 ft long, 90 ft wide. Fineness of 935 on combined sample of all gold recovered from cut and drill hole samples collected in 1952. Younger gravel deposits of present stream 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 Columba, Moraine, and Moran Creeks (unless specifically to Helozimoran Creek). (See also Ash Creek)

Argentiferous galena and cerussite found in two small quartz-calcite veins in quartz-mica schists. Also small gossan with no visible sulfide minerals

Thomas, 1957, p. 6-8, 24-26, May. (See also Chicago and Omega Creeks)

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<table>
<thead>
<tr>
<th>36 Woodchopper Creek</th>
<th>C.17</th>
<th>m</th>
<th>Au,Ag,Sn</th>
<th>Disseminated Placer</th>
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<tbody>
<tr>
<td></td>
<td>T.3N.R.17W.</td>
<td></td>
<td></td>
<td>Placer gold discovered in 1913 in deep channel and on-buried benches 100-200 ft below surface. Large-scale drifting followed. Mining 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 40,200 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 1.94 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 (phylite, quartzite, quartz sandstone, and a little graywacke) and overlain by 20-40 ft of more of frozen muck. Concentrates include gold, cassiterite, ilmenite, pyrite, and manganite. Apparently marks southwestern limit of Tofty &quot;tin belt.&quot; (See also Deep Creek)</td>
</tr>
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<table>
<thead>
<tr>
<th>37 Unnamed occurrence</th>
<th>C.18</th>
<th>o</th>
<th>(Pb,Ag)</th>
<th>Vein? Hydrothermal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>T.5N.R.12W.</td>
<td></td>
<td></td>
<td>Lead silver &quot;deposit&quot; 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</td>
</tr>
</tbody>
</table>

Mertie, 1934, p. 217; Thomas, 1952, p. 6-9, 47, 57; Donohue, 1961, p. 310, 312, 318-319, 390, 392-394, 399, 402-403, 405
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<tr>
<th>MAP NO. AND NAME(S)</th>
<th>MAP COORDINATES</th>
<th>DEVELOPMENT LOCATION</th>
<th>RESOURCES</th>
<th>MINOR CONTRIBUTION(S) OR POTENTIAL BYPRODUCTS IN PARENTHESES</th>
<th>FORM</th>
<th>TYPE</th>
<th>BRIEF DESCRIPTION</th>
<th>PRINCIPAL REFERENCE(S)</th>
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<tr>
<td>1 Alder Gulch</td>
<td>H.10 T.7N.,R.54W.</td>
<td>o</td>
<td>Hg</td>
<td>Disseminated Float</td>
<td>Float</td>
<td></td>
<td>Float cinnabar found in 1941</td>
<td>Rutledge, 1950, p. 1, 3</td>
</tr>
<tr>
<td>2 Broken Shovel</td>
<td>H.10 T.8N.,R.55W.</td>
<td>m</td>
<td>Hg(Sb)</td>
<td>Fracture and breccia fillings</td>
<td>Hydrothermal (low temperature) and placer</td>
<td></td>
<td>Hydrothermally altered diabase sill or dike 1-3 ft thick in tillstone 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.</td>
<td>Cady and others, 1955, p. 115</td>
</tr>
<tr>
<td>3 Caribou Creek</td>
<td>H.12 T.6N.,R.40W.(?)</td>
<td>m(?)</td>
<td>Au</td>
<td>Disseminated Placer</td>
<td></td>
<td></td>
<td>Small-scale gold placer mining reported on headwater tributary of Nushagak River in early 1900's</td>
<td>Mertie, 1936b, p. 91</td>
</tr>
<tr>
<td>2 Cinnabar Creek</td>
<td>H.10 T.8N.,R.55W.</td>
<td>m</td>
<td>Hg(Sb)</td>
<td>Veinlets and disseminations</td>
<td>Hydrothermal (low temperature) and placer</td>
<td></td>
<td>Cinnabar in irregular veinlets and disseminations in sheared argillized, iron-stained graywacke and tillstone 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 excludes Lucky Day and Broken Shovel. Only minor production from placer deposits that extend downstream from lode. Trace amounts of gold to 0.14 ppm</td>
<td>Sainsbury and Mackevett, 1965, p. 35, 42-43</td>
</tr>
<tr>
<td>4 Gemuk Mountain</td>
<td>H.10 T.6N.,R.55W.</td>
<td>o (mg,Sh,Au)</td>
<td>Vein</td>
<td>Hydrothermal and placer</td>
<td>Quarts vein in fault gouge and breccia along contact between biotite diorite (Tertiary) and nonferroquartzite and shale of Kuskokwim Group (?; Cretaceous) contain stibnite and visible gold. Cinnabar panned from small creek draining vein area</td>
<td>Clark and others, 1970, p. 3, 6-7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Lucky Day (Canary Gulch)</td>
<td>H.10 T.8N.,R.55W.</td>
<td>m</td>
<td>Hg(Sb)</td>
<td>Veinlets and disseminations</td>
<td>Hydrothermal and residual float</td>
<td></td>
<td>Cinnabar, stibnite and minor native mercury in sheen zone along margin of hydrothermally altered mafic sill, in bedding plane faults, cross joints, and breccia zones. Country rocks are Gemuk Group (Late Triassic) tillstone and graywacke. About 25 flasks mercury produced 1942, 1943, all from hand-sorted residual float. Material mined from float stockpiled in 1954</td>
<td>Cady and others, 1955, p. 113-115; Sainsbury and Mackevett, 1965, p. 35, 41-42, 80-81</td>
</tr>
<tr>
<td>6 Mulchatna River</td>
<td>H.12 T.6N.,R.55W.</td>
<td>o</td>
<td>Au</td>
<td>Disseminated Placer</td>
<td>Flour gold reported to occur on all Mulchatna River bars above the Koktuli River</td>
<td>Martin and Katz, 1912, p. 123</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 Pulchatnachakchar River (now called McGillary Creek)</td>
<td>H.12 T.6N.,R.55W.</td>
<td>o</td>
<td>Au</td>
<td>Disseminated Placer</td>
<td>Colors of gold reportedly found along McGillary Creek</td>
<td>Mertie, 1936b, p. 91</td>
<td></td>
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<tr>
<td>8 Redskin</td>
<td>H.10 T.8N.,R.55W.</td>
<td>p</td>
<td>Hg</td>
<td>Vein</td>
<td>Hydrothermal (low temperature)</td>
<td></td>
<td>Sparse films and veinlets of cinnabar parallel to bedding planes, cross joints, and in breccia zones within graywacke and tillstone of Gemuk Group (Late Triassic). Comparable to but less extensive than Lucky Day (5). No separately reported production</td>
<td>Cady and others, 1955, p. 115</td>
</tr>
<tr>
<td>9 Schaefer Mountain</td>
<td>H.10 T.8N.,R.55W.</td>
<td>p</td>
<td>Hg(Sb)</td>
<td>Breccia fillings (low temperature)</td>
<td>Cinnabar and stibnite with quartz gneiss fill breccia zone of variable width parallel to bedding in chert and tillstone of Late Triassic Gemuk Group. No reported production. Ore up to 2 percent mercury</td>
<td>Sainsbury and Mackevett, 1965, p. 40-41</td>
<td></td>
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</tr>
<tr>
<td>11 Stevens Creek</td>
<td>H.11 T.10N.,R.46W.</td>
<td>o</td>
<td>W</td>
<td>Disseminated Float</td>
<td>Hydrothermal (float)</td>
<td></td>
<td>Wolframite found in float fragment of milky vein quartz like that from borders of Taylor Mountains stock (early Tertiary)</td>
<td>Cady and others, 1955, p. 83, 121</td>
</tr>
<tr>
<td>Occurrence</td>
<td>H.R.M.</td>
<td>Au(Mg,Sn)</td>
<td>Disseminated Placer</td>
<td>TAYLOR MOUNTAINS QUADRANGLE</td>
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<tr>
<td>12 Taylor Creek</td>
<td>H,11</td>
<td>m</td>
<td>Au(Hg,Sn)</td>
<td>Placer gold concentrated in stream gravels in pay streak about 350 ft wide over distance of about ½ 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</td>
<td></td>
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<td></td>
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<tr>
<td>13 Tikhich Mountain</td>
<td>H,10</td>
<td>o</td>
<td>Au</td>
<td>Disseminated Placer</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14 Unnamed occurrence</td>
<td>H,10</td>
<td>o</td>
<td>Cu(Sb?)</td>
<td>Vein</td>
<td>Report of fine gold along north and west flanks of Tikhich Mountain granitic pluton (Late Cretaceous-early Tertiary) in Kuskokwim Group (Cretaceous) sedimentary rocks</td>
<td></td>
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<td></td>
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</tbody>
</table>

*Clark and others, 1970, p. 7*

*Cady and others, 1955, p. 71, 116, 119*

*Mertie, 1930b, p. 91*
<table>
<thead>
<tr>
<th>Map No. and Name(s)</th>
<th>Map Coordinates</th>
<th>Development Category</th>
<th>Resources Minor Constituents or Potential Byproducts in Parentheses</th>
<th>Form</th>
<th>Type</th>
<th>Brief Description</th>
<th>Principal References</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Anvik River and tributaries</td>
<td>E,8</td>
<td>Location very general</td>
<td>m? Au?,Pt?</td>
<td>Disseminated Placer</td>
<td>Anvik River and its tributaries have been prospected since 1900 and possibly earlier. Coarse gold reported in headwaters region. &quot;Considerable&quot; platinum recovered with the gold, but information on exact location and other pertinent details are lacking.</td>
<td>Harrington, 1918, p. 62-63</td>
<td></td>
</tr>
<tr>
<td>2 McLeod (McLead)</td>
<td>E,9</td>
<td></td>
<td></td>
<td>Vein</td>
<td>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. N60°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 ferrimolybdate, with lesser amounts of pyrite pyrrhotite, magnetite, hessite, limonite, zircon and tourmaline.</td>
<td>Mertie, 1937, p. 174; West, 1954, p. 2, 9-10</td>
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<tr>
<td>3 Unnamed occurrence</td>
<td>E,8</td>
<td></td>
<td></td>
<td>Massive sulfide pod</td>
<td>Contact</td>
<td>Discovered by USGS, 1962. Small pod-like mass of chalcopyrite and pyrite developed in altered amphibite volcanic rocks (Early Cretaceous) at contact with diorite pluton (Late Cretaceous).</td>
<td>Paton, W. W., Jr., oral commun.</td>
</tr>
</tbody>
</table>
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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.


