UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUMMARY OF REFERENCES TO MINERAL OCCURRENCES (OTHER THAN MINERAL FUELS AND CONSTRUCTION MATERIALS) IN THE JUNEAU QUADRANGLE, ALASKA

By

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This report is preliminary
and has not been edited or
reviewed for conformity with
Geological Survey standards

Introduction

These summaries of references are designed to aid in library research on metallic and nonmetallic (other than mineral fuels and construction materials) mineral occurrences in the Juneau quadrangle, Alaska. All references to reports of the Geological Survey, to most reports of the U.S. Bureau of Mines, and to most reports of the State of Alaska Division of Geological and Geophysical Surveys and its predecessor State and Territorial agencies released before January 1, 1978, are summarized. One report published in a scientific journal also is included. Certain, mainly statistical, reports such as the annual Minerals Yearbook of the U.S. Bureau of Mines and the biennial and annual reports of the State of Alaska Division of Geological and Geophysical Surveys and its predecessor State and Territorial agencies are not included.

This report is divided into three parts: a section made up of summaries of references arranged alphabetically by occurrence name; a section that lists synonyms for names in the first section, claim names, and the names of operators and owners of mines and prospects; and a section that lists, by author, all references summarized in the first section.

Index Map

Summaries of References

For each mineral occurrence there is a page that gives the name of the occurrence; the mineral commodities present (listed alphabetically for metallic commodities and then for nonmetallic commodities; the mining district (Ransome and Kerns, 1954) in which the occurrence is located; the name of the 1:250,000-scale topographic quadrangle (Juneau); coordinates (as described by Cobb and Kachadoorian, 1961, p. 3-4); the metallic mineral resources map number (MF-435) and the occurrence number on that map if the occurrence is shown; and the latitude and longitude of the occurrence. These data, presented at the top of the page, are followed by a short, general summary of the published information on the occurrence. This is followed (continued on additional pages, if necessary) by more detailed summaries, arranged chronologically, of all references to the occurrence. Material in brackets is interpretive or explanatory and is not in the summarized reference.

Proper names of mines, prospects, and other mineral occurrences are given if such names appear in the reports summarized. If a deposit does not have such a name, but is near a named geographic feature, the name of that feature is shown in parentheses in lieu of a proper name. If a part of a proper name is not always used in a reference, that part of the name is shown in parentheses. This is most common in company names and in place names with minor variations in spelling.

Citations are given in standard bibliographic format with the exception that references to reports and maps in numbered publication series also show, in parentheses, an abbreviation for the report or map series

and the report or map number. Abbreviations used are:

B	U.S. Geological Survey Bulletin
BMB	U.S. Bureau of Mines Bulletin
C	U.S. Geological Survey Circular
GC	Alaska Division of Geological and Geophysical Surveys (and predecessor State agencies) Geochemical Report
GQ	U.S. Geological Survey Geologic Quadrangle Map
GR	Alaska Division of Geological and Geophysical Surveys (and predecessor State agencies) Geologic Report
I	U.S. Geological Survey Miscellaneous Geologic Investigations Map
IC	U.S. Bureau of Mines Information Circular
OF	U.S. Geological Survey Open-file Report (numbers are informal and used only within the Alaskan Geology Branch of the U.S. Geological Survey)
P	U.S. Geological Survey Professional Paper
RI	U.S. Bureau of Mines Report of Investigations
USBM OF	U.S. Bureau of Mines Open-file Report

Summaries are as I made them while reading the cited reports. I made no attempt to use complete sentences and did not edit for grammatical consistency, although I have tried to edit out ambiguities.

References cited only in these introductory paragraphs are:

Cobb, E. H., and Kachadoorian, Reuben, 1961, Index of metallic and nonmetallic mineral deposits of Alaska compiled from published reports of Federal and State agencies through 1959: U.S. Geol. Survey Bull. 1139, 363 p.

Ransome, A. L., and Kerns, W. H., 1954, Names and definitions of regions, districts, and subdistricts in Alaska (used by the Bureau of Mines in statistical and economic studies covering the mineral industry of the Territory): U.S. Bur. Mines Inf. Circ. 7679, 91 p.

(Adams Inlet) Copper

Juneau district Juneau (0.15, 15.2)
MF-435, loc. 7 58°52'N, 135°59'W

Summary: Traces of chalcopyrite in altered amygdaloidal basalt.

MacKevett and others, 1971 (P 632), p. 42 -- Pyrite and trace amounts of chalcopyrite and pyrrhotite(?) along fractures in altered amygdaloidal basalts near altered basaltic dikes. One sample contained 300 ppm Co.

Admiralty-Alaska (Gold Mining Co.) — Cobalt, Copper, Gold, Lead, Molybdenum(?); Nickel, Zinc

Admiralty district — Juneau (10.2-10.7S, 3.85-4.55)
MF-435, loc. 67 — 58°13'-58°15'N, 134°50-134°54'W

Summary: Country rock is mainly schist of various kinds; some phyllite and other metamorphic rocks. Early development was of quartz veins mainly near sea level; mining begun before 1896 and (with neighboring Alaska-Dano and Hawk Inlet properties) accounted for 10,000-15,000 fine oz. of gold. Minerals in veins included free gold, pyrite, pyrrhotite, galena, sphalerite, and chalcopyrite; molybdenite sample sent to USGS by owner probably did not come from this property. Gabbro pipe which plunges about 30° eastward in quartz-mica schist (thermally metamorphosed 50-150 ft. from contact) and (above pipe only) phyllite. Pyrrhotite, pentlandite, and chalcopyrite concentrated in olivine-hornblende gabbro in keel of pipe; other gabbro (augite gabbro and norite) contains much less sulfide material. Extensively explored by crosscuts and drill holes. Resource is 500,000-600,000 tons of material containing 1/3 to 1 percent each of copper and nickel. A little cobalt ((Ni/Co ratio 3.1-6.1) present. Includes references to: Boston & Alaska Co., (Funter Bay), Mertie Lode, Pekovich, Tellurium, Willoughby.

Becker, 1898, p. 62-63 -- Minerals present at Willoughby (Tellurium) property include calcite, sericite, pyrrhotite; galena, not identified.
p. 77-78 -- At Tellurium mine country rock is schist (probably originally a diabase). Quartz veins (with a little calcite) fill cross fractures in schist; veins contain much chlorite carrying free gold; also pyrite and pyrrhotite; some free gold in quartz; owner reported telluride, but this was not confirmed. Pyrite reported to contain $150 a ton in gold and pyrrhotite $10-$15 a ton; ore said to average $10 a ton. Boston & Alaska Co. reported by mint to have produced $16,000 [about 775 fine oz.] in gold in 1896.

Wright and Wright, 1905 (B 259), p. 55 -- Only assessment work since 1902. Tellurium mine consists of 2 shafts, each 100 ft. deep, and a 60-ft. tunnel on a quartz ledge several feet wide that cuts across chlorite schist. Ore reported to average $8 a ton.

Wright, 1906 (B 287), p. 149 -- 58 claims in 2 groups. First discovery (Tellurium claim) in 1887; fissure vein cutting across amphibole schist country rock; most of gold free; some pyrrhotite and pyrite; no tellurides; calcite and quartz gangue; 1,800 tons of ore reported to have been mined from underground and surface workings. Other group of claims is on mountain; individual quartz ledges have been explored by prospect shafts and trenches [no data on metal content].

Chapin, 1916 (B 642), p. 76 -- Mining, 1915.

Smith, 1917 (BMB 153), p. 16 -- Being developed by Admiralty Alaska Gold Mining Co. in 1916.

Admiralty-Alaska (Gold Mining Co.) -- Continued

Eakin, 1918 (B 662), p. 86-92 -- Old mill operated for 8 months testing ore from Tellurium and other claims near beach, on which were somewhat less than 1,000 ft. of underground workings, several stopes, and many open cuts and pits. On upper claims are about 825 ft. of underground workings and a number of pits and stripped areas. Lodes are all quartz veins that cut across cleavage and apparent bedding of schist country rock at high angles; schists adjacent to veins locally altered and contain sulfides and (reportedly) gold. Most abundant sulfides are pyrrhotite, pyrite, and galena; some sphalerite. Claims near beach appear to be mined out above sea level. Veins in upper group of claims appear to be more numerous and much larger than those near coast.

Martin, 1920 (B 712), p. 30 -- Adit being driven, 1918.

Mertie, 1921 (B 714), p. 113-116 -- Tunnel driven about 800 ft. by midsummer, 1919. About 400 ft. from portal a zone of sheared quartz and schist with 8 in. of quartz on hanging wall (parallel to cleavage of schist country rock) contains pyrite, pyrrhotite, and chalcopyrite.

Brooks, 1922 (B 722), p. 36-37 -- Main adit extended about 650 ft., 1920. Also many open cuts. New shaft begun.

Brooks, 1923 (B 739), p. 22 -- Exploration and development continued, 1921. Some ore mined and milled.

Brooks, 1925 (B 773), p. 12 -- Being developed near margin of small granitic area.

Buddington, 1925 (B 773), p. 72 -- Veins extend southward to Williams property on Hawk Inlet.

p. 95 -- Nickeliferous deposit has been found on property.

p. 109 -- Nickeliferous pyrrhotite found in olivine diabase dike that is partially exposed in a trench; about 50 ft. of width of dike appears to be exposed; weathered. Principal sulfide is pyrrhotite; also some pentlandite and chalcopyrite. Assays of 2 specimens showed as much as 0.10 oz. per ton Au, 0.30 oz. per ton Ag, 1.18% Ni, and 1.98% Cu.

Buddington, 1926 (B 783), p. 41-46 -- Quartz fissure veins in greenstone schists that apparently are overlain by quartz-mica schists. Country rock cut by trachytic and dioritic dikes. Admiralty-Alaska property consists of about 100 claims. Crosscut tunnel extends 2,200 ft. (1924) from portal; about 200 ft. of exploratory drifts have been driven from it. Vein 1,250 ft. from portal is 2-3 ft. thick, but pinches out at end of 100-ft. drift; contains quartz, sparse sulfides (pyrite, pyrrhotite, chalcopyrite, galena) and $4 a ton in gold. Another vein exposed by a surface cut is as much as 20 ft. thick, contains quartz, sparse sulfides (pyrite, pyrrhotite, chalcopyrite) and very irregularly distributed gold; assays as high as $200-$300 a ton reported. A troctolite dike that locally contains blebs of sulfides (pyrrhotite, pentlandite, chalcopyrite) and magnetite.

Smith, 1926 (B 783), p. 7 -- Prospecting, 1924.

Buddington and Chapin, 1929 (B 800), p. 348 -- Minerals carrying nickel and copper in troctolite or olivine diabase dike; magnetite is a minor accessory.

Admiralty-Alaska (Gold Mining Co.) -- Continued

Smith, 1929 (B 797), p. 11 -- 50-ton mill brought in, 1926.
Smith, 1930 (B 813), p. 14 -- 5,400 ft. of diamond drilling, 1928.
Smith, 1932 (B 824), p. 16 -- Development continued; no production, 1929.
Smith, 1933 (B 836), p. 16 -- Development, 1930. A few test runs in newly completed mill.
Smith, 1933 (B 844-A), p. 15-16 -- Prospecting, development, and a little production, 1931.
Smith, 1934 (B 857-A), p. 15 -- Some production, 1932. Admiralty-Alaska Gold Mining Co. took option on claims extending to Hawk Inlet.
Smith, 1934 (B 864-A), p. 17 -- Development and equipment renovation, 1933.
Smith, 1936 (B 868-A), p. 16 -- Productive work, 1934.
p. 82-83 -- Have been extensive tests of nickel-bearing diabase sill (sulfides of iron, copper, and nickel, plus some gold and silver); estimates by engineers are that there may be as much as 5,000,000 tons of material containing not less than 1% Ni.
Smith, 1937 (B 880-A), p. 17 -- No productive mining, 1935.
Smith, 1938 (B 897-A), p. 17 -- No productive mining, 1936.
Reed, 1939 (B 897-D), p. 263-268 -- Troctolite (according to Buddington) sill is about 126 ft. thick and between a siliceous schist hanging wall and a greenstone schist footwall. Contains magnetite, ilmenite, pyrrhotite, chalcopyrite, and pentlandite. Explored by 110-ft. tunnel and diamond-drill holes. Chemical analyses indicate higher Cu and Ni contents than would be expected from petrographic studies. Excess Ni may be in olivine.
Smith, 1939 (B 910-A), p. 19 -- No productive lode mining, 1937.
Smith, 1939 (B 917-A), p. 19 -- No productive mining, 1938.
p. 105 -- Reference to Reed, 1939 (B 897-D).
Smith, 1941 (B 926-A), p. 18 -- No productive mining, 1939.
Reed, 1942 (B 936-O), p. 349-361 -- Basic sill in a thick sequence of phyllite and various kinds of schist (many probably of igneous origin) averages somewhat more than 100 ft. in thickness; composed principally of labradorite and olivine; contains generally less than 2% metallic minerals (magnetite, pyrrhotite, chalcopyrite, and pentlandite); reserve is estimated at about 560,000 tons of material with average contents of 0.34% Ni and 0.35% Cu. Significant parts of the copper and nickel probably are not in the chalcopyrite and pentlandite; probably in olivine and perhaps in pyrrhotite. Grade too low and tonnage too small for profitable mining or to be a significant contribution to U.S. nickel supply.
Smith, 1942 (B 926-C), p. 174 -- A specimen of molybdenite was received from W. S. Pekovich; may have come from Funter Bay area. J. C. Reed has found no molybdenite on Admiralty I. Location of occurrence questionable.
Smith, 1942 (B 933-A), p. 17 -- No production mining, 1940.
Bain, 1946 (IC 7379), p. 70-71 -- Reference to Reed, 1942 (B 936-O). In 1942 USBM took a large sample from Mertie lode for metallurgical testing. 14 channel samples taken over a 90-ft. section in adit in 1943 averaged 0.46% Ni, 0.41% Cu, $0.40 a ton in gold and silver, and a little cobalt. Ni/Co ratio ranged from 3.1 to 6.1.

Admiralty-Alaska (Gold Mining Co.) -- Continued

Holt and Moss, 1946 (RI 3950) -- Mainly details of various sampling programs and USBM beneficiation tests; Mertie lode only. Data from drill-hole cores and samples from adit are not consistent. Identified minerals are pyrrhotite, pentlandite, chalcopyrite, pyrite, and sphalerite. USBM petrologist reported violarite rather than pentlandite. Most of data summarized in Bain, 1946 (IC 7379), p. 70-71.

Twenhofel, 1953 (C 252), p. 7 -- Nickel deposit is second largest known in Alaska. Disseminated pyrrhotite, pentlandite, and chalcopyrite in a sill(?) composed of feldspar and olivine. Grade is about 0.45% Ni and 0.4% Cu; very little gold, silver, and cobalt. Estimated to contain at least 500,000 tons.

West and Benson, 1955 (B 1024-B), p. 51-52 -- Country rocks are greenstone, many kinds of schist, phyllite, gneiss, and marble cut by dikes and sills of diabase, gabbro, granite, syenite, and trachyte. Quartz veins contain gold, pyrite, galena, sphalerite, chalcopyrite, and arsenopyrite. Gabbro sill contains pentlandite, chalcopyrite, and pyrrhotite. No radioactive anomalies were found.

Lathram and others, 1960 (I-323) -- Map shows symbols for occurrences of gold, copper, lead-zinc, nickel-cobalt.

Bilbrey, 1962 (IC 8103), p. 27 -- Low-grade copper-nickel carries a little cobalt. Assays range between 0.07 and 0.23 Co; 0.26% Ni, and 0.3% Cu.

Barker, 1963 (B 1155), p. 1-10 -- Gabbro pipe with cross-sectional areas normal to pipe axis of about 22,000 sq. ft. at the surface and about 8,000 at DMEA adit level 360 ft. along axis below surface; enlarges farther down axis to elliptical cross section with axes of 190 ft. and 125 ft. Pipe plunges about 30° at S 80° E. Olivine-hornblende gabbro is potential ore material; augite gabbro and norite are not. Country rock is quartz-mica schist (thermally metamorphosed for 50-150 ft. from contact) around most of pipe; black phyllite above pipe near surface. Sulfides are pyrrhotite, pyrite, pentlandite, and chalcopyrite; concentrated in olivine-hornblende gabbro in keel of pipe; in typical piece of material sulfides make up 32.5% of rock by volume; mainly pyrrhotite; 2.6% pentlandite and 2.5% chalcopyrite, most of which apparently exsolved from pyrrhotite. Best material is in a mass 360 ft. by 60 ft. by 40 ft.; believed to contain 1%-2% combined nickel and copper. Exploration 1950-56 consisted of 1,093 ft. of crosscutting, 309 ft. long-hole drilling, and 5,742 ft. of diamond drilling, plus cutting underground drill stations.

Herbert and Race, 1965 (GC 6), p. 33 -- Reference to Barker, 1963 (B 1155), p. 1-10. Assay values of samples of copper-nickel deposit were 0.5% to 1.0% each of copper and nickel.

Lathram and others, 1965 (B 1181-R), p. R43 -- Sulfide minerals in a plug-like mafic intrusive body; ore minerals (pentlandite and chalcopyrite) form veinlets that coalesce to make up masses of nearly solid sulfide ore.

Noel, 1966, p. 65 -- Gabbro pipe which plunges at about 30° to east in highly folded schist and phyllite. Pyrrhotite, pentlandite, and chalcopyrite as veinlets and disseminated grains mainly along keel of pipe. Estimated reserves greater than 500,000 tons grading 0.45% Ni and 0.4% Cu.

Admiralty-Alaska (Gold Mining Co.) -- Continued

Berg and Cobb, 1967 (B 1246), p. 137, 140 -- Gold lodes discovered before 1900 produced (combined with production from Alaska-Dano and Hawk Inlet) 10,000-15,000 oz. of gold from quartz veins in metamorphic rocks. Mertie lode is a nickel- and copper-bearing gabbro pipe; in places pyrrhotite, pentlandite, chalcopyrite, and pyrite make up nearly one-third of the rock; extensively explored. Material used for USBM beneficiation tests contained 0.26% Ni, 0.30% Cu, and 0.07% Co. No commercial production from Mertie lode.

Race and Rose, 1967 (GC 8), p. 4 -- Copper-nickel mineralization associated with a gabbro plug.

p. 15 -- Geochemical sampling did not show appreciable nickel.

p. 19-20 -- Deposits were (1) free gold, pyrite, and pyrrhotite with gold in quartz-filled fissures and veins in amphibole schist developed by two 100-ft. shafts and connecting crosscuts; (2) gold in quartz ledges and thin seams in schist and slate developed by 70-ft. shaft and several tunnels; and (3) pentlandite and chalcopyrite in a pluglike mafic intrusive body in schist developed by over 3,000 ft. of tunnels, drifts, and crosscuts. Total production (including that of Alaska Dano) was $100,000 [about 4,840 fine oz.] in gold.

Cornwall, 1968 (B 1223), p. 13 -- Table headed "Marginal and submarginal nickel resources of North America;" grade 1% Ni.

p. 37-38 -- Data from Reed, 1942 (B 936-O) and about the same as Barker, 1963 (B 1155), p. 1-10. Small to moderate tonnage of material averaging 1% Ni and 1% Cu.

Cornwall, 1973 (P 820), p. 440 -- Identified reserve is 600,000 tons of ore with 0.35% Ni.

Alaska Atlin Mining Co. — Gold(?)

Juneau district — Juneau SE 1/4 quad.

Summary: Gold(?) property on Douglas I. Little if any development.

Wright, 1907 (B 314), p. 54 -- Property has been idle for several years [as of 1906]; no improvements of consequence. On Douglas I.

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Alaska Dano (Mines Co.) Copper, Gold, Lead, Silver, Zinc(?)

Admiralty district Juneau (10.15-10.6, 3.55-4.15)
MF-435, loc. 68 58°12'-58°14'N, 134°52'-134°54'W

Summary: Quartz fissure veins in mica and chlorite schists contain pyrite, pyrrhotite, galena, chalcopyrite, secondary iron and copper minerals, and free gold; some high silver assays reported. One reference reports zinc blende (sphalerite). Deposits discovered and development begun before 1900. By 1900 there were two shafts (about 50 ft. and 125 ft. deep) and 320 ft. of drifts; hand-sorted ore that was mined is said to have run about 4.85 oz. gold a ton. Later subsurface exploration amounted to about 265 ft. of tunnels; production was 2 small shipments that contained about 5.8 and 3.9 oz. gold a ton. Total production probably no more than 100 oz. of gold. Includes references to: Nowell-Otterson, Otterson, War Horse.

Becker, 1898, p. 62-63 -- Chlorite and zincblende present at War Horse.
p. 77-78 -- Quartz veins in schist; pyritiferous quartz lenses in slate.

Wright and Wright, 1905 (B 259), p. 55 -- War Horse mine was extensively developed in 1897 and again operated in 1900. Quartz ledge 2 ft. wide; rich in disseminated free gold. Developed by 2 shafts (48 ft. and 125 ft. deep) and 320 ft. of drifts. Hand-sorted ore said to have run about $100 a ton.

Wright, 1906 (B 287), p. 149 -- Same as Wright and Wright, 1905 (B 259), p. 55.

Eakin, 1918 (B 662), p. 85 -- Otterson group of claims held in 1916.
p. 92 -- Well-defined quartz veins 20 ft. or less wide; gold associated with sulfides. Specimens show visible gold in quartz and in pyrrhotite in quartz. Prospecting, 1916.

Mertie, 1921 (B 714), p. 113 -- Prospecting, 1919.
p. 116-118 -- Many quartz veins, some parallel to and others cutting across the schistosity of a variety of mica and chlorite schists. Minerals in veins include pyrite, pyrrhotite, galena, chalcopyrite, secondary iron and copper minerals, and gold; some assays indicate high silver values. At least 2 prospect tunnels have been driven a total of 264 ft. Two small ore shipments ran $120 and $80 [about 5.8 and 3.9 oz. of gold] a ton.

Brooks, 1922 (B 722), p. 37 -- A little work, 1920.

Brooks, 1923 (B 739), p. 22 -- Development work, 1921.

Brooks, 1925 (B 773), p. 12 -- Being developed near margin of small granitic body.

Buddington, 1926 (B 783), p. 41-44 -- Quartz fissure veins mainly in greenstone schists; some quartz schist on property.

Smith, 1926 (B 783), p. 7 -- Prospecting, 1924.

Smith, 1929 (B 797), p. 11 -- Prospecting, but no production, 1926.

Smith, 1932 (B 824), p. 16 -- A little development (76 ft. of tunnel), 1929.

Berg and Cobb, 1967 (B 1246), p. 137 -- Lodes discovered before 1900.

Race and Rose, 1967 (GC 8), p. 20 -- 2-ft. quartz ledge contains free gold; developed by 2 shafts and 300 ft. of drift.

Alaska Endicott (Mining & Milling Co.) Copper, Gold, Silver

Juneau district — Juneau (6.8, 12.25)
MF-435, loc. 11 — 58°42'N, 135°15'W

Summary: Faulted quartz-breccia vein about 10 ft. wide in greenstone tuff and lava flows. Principal metallic mineral is chalcopyrite; accompanied by a little pyrite and low values in gold and silver. Workings consisted of about 2,400 ft. of adits, drifts, and raises and 3 small stopes. By 1919 200 tons of ore was mined; yielded 48.38 oz. gold and 20 oz. silver. No data on copper returns. Mined ore probably contained at least 8% sulfides; what remains contains less than 2% sulfides. Prospecting and development from 1915 or 1916 to about 1923. Shipment of copper ore in 1923 reported; no data on amount or copper content. Includes references to: Endicott-Alaska Mining & Milling Co., Endicott (Mining & Milling Co.). See also (William Henry Bay).

Chapin, 1916 (B 642), p. 76 -- Company formed to develop a group of claims at William Henry Bay, 1915. [This probably refers to Alaska Endicott rather than to other occurrences in general area.]

Martin, 1920 (B 712), p. 30 -- Adit driven 26 ft. and 250 ft. of drifts run on vein, 1918.

Brooks, 1921 (B 714), p. 19 -- Copper in shear-zone deposit.

Mertie, 1921 (B 714), p. 109-112 -- Rocks in general area are highly contorted limestone with interbedded argillite, chert, greenstone flows, greenstone tuffs, and graywacke derived from greenstone, all cut by diabase dikes. Country rock at prospect is greenstone tuff with interbedded lava flows cut by an augite minette dike. Copper lode is chalcopyrite and quartz and chalcedony veinlets in a calcite vein that averages about 10 ft. in thickness. Assumption is that 2% copper ore can be produced; only small quantities of gold or silver. Tunnel is 1,100 ft. long, the last 400 ft. in the vein; many small-displacement faults encountered. Nearby is a similar, but much smaller, vein. Mill purchased; to be installed in 1920.

Brooks, 1922 (B 722), p. 37 -- Underground work continued; preparations for erecting mill; 1920.

Brooks, 1923 (B 739), p. 22 -- Underground work continued; about 1,800 ft. has been done; installation of mill begun; 1921.

Brooks and Capps, 1924 (B 755), p. 25 -- According to newspaper reports mill was completed in November 1922 and operations were begun before end of the year.

Brooks, 1925 (B 773), p. 36 -- Shipments of copper ore, 1923.

Twenhofel and others, 1949 (B 963-A), p. 28-30 -- Deposit is a quartz breccia vein that dips about 70°S; many angular fragments of partly replaced greenstone; vein boundaries indistinct; pinches and swells; offset by many small-displacement faults; vein faulted off 1,350 ft. from portal of tunnel; could not be found again. Principal ore minerals are chalcopyrite and pyrite. All production was gold and silver; by 1919 had mined 200 tons of ore that contained 48.38 oz. gold and 20 oz. silver (combined value of $1020). Workings consisted of about 2,400 ft. of adits, drifts, and raises and 3 small stopes.

Alaska Endicott (Mining & Milling Co.) -- Continued

Herbert and Race, 1964 (GC 1), p. 10 -- Data in Herbert and Race, 1965 (GC 6).

Herbert and Race, 1965 (GC 6), p. 25 -- Before 1919 over a thousand feet of drifts and tunnel were driven. Shipments returned $1,020 in gold and silver; no report on value of copper recovered.

Berg and Cobb, 1967 (B 1246), p. 162 -- Produced 200 tons of ore from which a total of about 50 oz. gold and 20 oz. silver was recovered. Lode is in Paleozoic greenstone and consists of chalcopyrite and pyrite in a faulted quartz-breccia vein. Material mined probably contained at least 8% sulfides; what is left contains less than 2%.

Eakins, 1975 (GR 44), p. 15 -- Development between 1916 and 1920. Ore zone cuts greenstone country rock and consists of an irregular quartz-calcite zone; average width 10 ft. Ore mineral is chalcopyrite with pyrite and traces of gold and silver. 1,800 ft. of tunneling and some stopes.

Alaska-Juneau (Gold Mining Co.) Copper, Gold, Lead, Silver, Zinc

Juneau district Juneau (15.0-15.35, 5.4-5.6)
MF-435, locs. 48-50 58°18'-58°19'N, 134°20'-134°22'W

Summary: Lode system is a network of quartz veins from a few inches to 2-3 feet thick in footwall part of Perseverance Slate near intrusive metagabbro sills and in the sills (Herreid considers possibility that sills are tuff beds altered to amphibolite); veins especially concentrated near ends of sills where they interfinger with slate. System is about 300 ft. wide and 3-1/2 mi. long; divided into 2 sections by transverse normal Silverbow fault. Deposit discovered and staked in 1880. Some early production from residual placers on outcrops of lode. Developed as a large-volume low-grade proposition; veins did not have enough continuity for selective mining. Veins carry, in addition to gold, pyrite, pyrrhotite, arsenopyrite, galena, sphalerite, chalcopyrite, and considerable silver. Developed by miles of underground workings and glory holes. Mill very efficient; practice involved hand sorting of ore before milling. In 1924 began operating adjoining Ebner mine on royalty basis; took over adjoining Perseverance mine in 1934; both mined through Alaska-Juneau workings as integral parts of Alaska-Juneau. Alaska-Juneau closed in 1944; total production from mining, 1893-1944, (including that from Ebner and Perseverance after they were connected to Alaska-Juneau) and a little from clean-up operations of mill after mine closed was 2,888,296 oz. gold, 1,949,810 oz. silver, and 40,219,231 lb. lead (valued by company at $81,020,841) from 88,466,078 tons of ore, of which 47,192,108 was milled. Includes references to: Bennet, Lane & Hayward. See also: Ebner, Perseverance.

Becker, 1898, p. 62-63 -- Calcite, mispickel, pyrrhotite, siderite, and zinc blende present at Bennet or Lane & Hayward properties.

p. 71-73 -- Auriferous saprolite on higher parts of property was not removed by glacial action; has been worked as a placer. Bedrock is schist with many small quartz stringers cut by at least 3 fine-grained diorite dikes. At Lane & Hayward property there is much $4-$5 a ton material; some as rich as $8 a ton. Gangue minerals include pyrite, arsenopyrite, galena, and sphalerite. At Bennet property pyrrhotite is also present; ore mills out at about $13 a ton; vein 2-6 ft. thick followed for 200 ft. underground.

Spencer, 1904 (B 225), p. 29-30 -- Productive mine in 1903.

p. 35 -- In mineralized zone about 800 ft. wide in black slate.

Wright and Wright, 1905 (B 259), p. 53 -- Work continued, 1904.

Spencer, 1906 (B 287), p. 58 -- Best ground staked in Oct. 1880.

p. 69-73 -- Stringer leads of quartz, mainly in black slate; some in diorite. Slate belt between greenstone footwall followed by diorite dike and hanging-wall fault between a diorite dike and schist. Gangue minerals in veins are mainly quartz and, to a lesser extent, carbonates. Principal sulfides are mainly pyrrhotite and pyrite; sphalerite, galena, chalcopyrite, and arsenopyrite also present. Some of gold is native,

Alaska-Juneau (Gold Mining Co.) -- Continued

but most is in sulfides, as is all of silver. Glory-hole [term not used] mining; gold production through 1903 worth about $100,000.
Wright and Wright, 1906 (B 284), p. 37 -- Mining and development, 1905.
Wright, 1907 (B 314), p. 55 -- Mining, 1906.
Wright, 1908 (B 345), p. 87-88 -- Mining, 1907.
Wright, 1909 (B 379), p. 70 -- Mining, 1908.
Knopf, 1910 (B 442), p. 135 -- Mining, 1909. Where feasible ore was sorted before milling.
Knopf, 1911 (B 480), p. 96 -- Mining, 1910.
Brooks, 1912 (B 520), p. 25 -- Mainly sampling and much preparatory work, 1911.
Brooks, 1913 (B 542), p. 32 -- Mining, 1912.
Brooks, 1914 (B 592), p. 59 -- Snowslide Gulch adit completed and raise put through to surface, 1913-14. New mill begun.
Brooks, 1915 (B 622), p. 41 -- Part of new mill operated, 1914.
Eakin, 1915 (B 622), p. 96, 98 -- New era of development in full swing, 1914.
p. 100 -- 200 men employed preparing for large-scale mining, 1914. Mill operated 50 stamps for testing ores and milling procedures.
Chapin, 1916 (B 642), p. 75-76 -- Plans for $2,500,000 to be spent on mill and mine development and improvement.
p. 98 -- Lead produced from galena concentrate.
Smith, 1917 (BMB 142), p. 32-33 -- Ore taken to mill through 6,538-ft.-long Gold Creek tunnel, from mouth of which it is trammed on surface and through short tunnels, 1915.
Smith, 1917 (BMB 153), p. 18-19 -- Ore is in a shear or fracture zone that is cut by Silver Bow fault to make 2 ore bodies. Average commercial width of ore zone is about 400 ft.; throw of Silver Bow fault is about 2,000 ft. Most of reference is on mining methods.
Eakin, 1918 (B 662), p. 77 -- Active operation, 1916.
p. 80-81 -- Much development in both north and south ore bodies; new mill under construction. 50-stemp mill operated at capacity most of year, 1916.
Martin, 1919 (B 692), p. 29 -- Mining, 1917. Mill operated at half capacity.
Martin, 1920 (B 712), p. 29 -- Mining on a reduced scale, 1918. Mill will have to be redesigned.
Mertie, 1921 (B 714), p. 106-107 -- Mining, 1919. Changes in mill and introduction of some hand sorting of ore.
Brooks, 1922 (B 722), p. 36 -- Mining, 1921.
Brooks and Capps, 1924 (B 755), p. 8 -- Increased output in 1922 over that in 1921.
p. 24 -- Mining, 1922. Production to date is $5,431,526 [about 262,773 fine oz.] in gold, 162,914 oz. silver, and 2,833,139 lbs. lead.
Brooks, 1925 (B 773), p. 14-15 -- Mining, 1923.
p. 37 -- Only large mine in southeastern Alaska that has been operated continuously since it was opened.
Smith, 1926 (B 783), p. 6-7 -- Mining, 1924. Took over development of Ebner; expect to be mining 1,000 tons a day by November, 1925.
p. 22 -- Produced 1,256,857 lb. lead, 1924.
Moffit, 1927 (B 792), p. 9 -- Mining, 1925. Also did preparatory work at Ebner mine.

Alaska-Juneau (Gold Mining Co.) -- Continued

p. 29-30 -- Produced 1,288,974 lb. lead, 1925.
Smith, 1929 (B 797), p. 9-10 -- Mining, 1926.
p. 38-39 -- Produced 1,300,915 lb. lead, 1926.
Smith, 1930 (B 810), p. 10-12 -- Mining, 1927.
p. 48 -- Produced 61,232 oz. silver, 1927.
p. 51 -- Produced 1,513,306 lb. lead, 1927.
p. 63 -- Mill being equipped to recover zinc, 1927.
Smith, 1930 (B 813), p. 12-13 -- Mining, 1928. Acquired physical properties in Alaska of Treadwell group of companies.
p. 55 -- Produced 77,591 oz. silver, 1928.
p. 58 -- Produced 2,038,655 lb. lead, 1928.
Smith, 1932 (B 824), p. 13-14 -- Mining, 1929.
p. 61 -- Produced 90,635 oz. silver, 1929.
p. 64 -- Produced 2,501,832 lb. lead, 1929.
Smith, 1933 (B 836), p. 12-14 -- Mining, 1930. Secured options on 2 groups of claims.
p. 63 -- Produced 97,607 oz. silver, 1930.
p. 66-67 -- Produced 2,640,771 lb. lead, 1930.
Smith, 1933 (B 844-A), p. 13-14 -- Mining, 1931. Exploration of Hallam and Dora claims; also some work on claims at West Hill and near Tulsequah R. in Canada.
p. 62 -- Produced 118,508 oz. silver, 1931.
p. 65 -- Source of most of Alaska lead production (1,660 tons), 1931.
Smith, 1934 (B 857-A), p. 12-14 -- Mining, 1932. Option on Hallam and Dora dropped. Some work on claims in Canada.
p. 58 -- Produced 94,519 oz. silver, 1932.
p. 61 -- Source of most of Alaska lead production (1,261 tons), 1932.
Smith, 1934 (B 864-A), p. 13-14 -- Mining, 1933. Canadian work ceased.
p. 63 -- Produced 109,483 oz. silver, 1933.
p. 66 -- Source of most of Alaska lead production (1,157 tons), 1933.
Smith, 1936 (B 868-A), p. 13-15 -- Mining, 1934. Acquired Perseverance and began expanding into Perseverance ground.
p. 61 -- Produced 86,458 oz. silver, 1934.
p. 68 -- Source of most of Alaska lead production (840 tons), 1934.
Smith, 1937 (B 880-A), p. 13-16 -- Mining, 1935. Decrease in production because of a strike. Considerable work getting Perseverance ready for mining. Also promotion of a plan for a new company to investigate old Treadwell properties.
p. 64 -- Produced 77,787 oz. of silver, 1935.
p. 71-72 -- Source of most of Alaska lead production (815 tons), 1935.
Smith, 1938 (B 897-A), p. 14-16 -- Mining, including ore from Perseverance, 1936.
p. 74 -- Produced 101,591 oz. silver, 1936.
p. 81 -- Source of most of lead produced in Alaska (1,058 tons), 1936.

Alaska-Juneau (Gold Mining Co.) -- Continued

Smith, 1939 (B 910-A), p. 16-18 -- Mining, 1937.
p. 79 -- Produced 120,691 oz. silver, 1937.
p. 86-87 -- Source of most of Alaska lead (1,002 tons), 1936.
Smith, 1939 (B 917-A), p. 17-19 -- Mining, 1938.
p. 78 -- Produced 121,473 oz. silver, 1938.
p. 88-89 -- Source of nearly all lead produced in Alaska (2,224,000 lb.), 1938.
Smith, 1941 (B 926-A), p. 16-18 -- Mining, 1939. 44% of ore milled came from Perseverance.
p. 72 -- Produced 111,494 oz. silver, 1939.
p. 81-82 -- Source of nearly all lead produced in Alaska (2,120,000 lb.), 1939.
Smith, 1942 (B 933-A), p. 15-17 -- Mining, 1940.
p. 69 -- Produced 100,633 oz. silver, 1940.
p. 78-79 -- Source of nearly all lead produced in Alaska (1,680,000 lb.), 1940.
Smith, 1944 (B 943-A), p. 8-9 -- Mining, 1941-42. Total production, 1893-1942, was 2,834,358 oz. gold, 1,904,064 oz. silver, and 39,711,231 lb. lead; worth $79,033,962 by company's valuation. Total ore mined was 86,625,448 tons of which 40,572,603 tons was rejected coarse tailings.
p. 14-15 -- Data on silver and lead production.
Bain, 1946 (IC 7379), p. 14-20 -- Historical summary; largely economic. Mine and mill shut down early in 1944. Operations in 1943-44 were greatly curtailed and were at a deficit.
p. 34 -- Normal lead output was about 900 tons.
Twenhofel, 1952 (OF 60), p. 4-5 -- Total production of mines in Alaska-Juneau lode system, 1893-1947, was worth about $92,000,000.
p. 12-28 -- Historical data on Alaska Juneau and other mines (Ebner, Perseverance) in lode system. Total production of Alaska-Juneau (including the company's production from Ebner and Perseverance while operating them as parts of Alaska-Juneau mine and mill clean-up after mine closed) was 2,888,926 oz. of gold, 1,949,810 oz. of silver, and 40,219,231 lb. of lead (total value $81,020,841 [in current dollars] from 88,466,078 tons of ore trammed, of which 47,192,108 tons was milled. Average yield of ore trammed was $0.91 a ton and of ore milled was $1.72 a ton. Total value of production from lode system (including placer gold from Gold Cr.) was $93,682,681.
p. 33-38 -- Data on power plants.
p. 45 -- Alaska-Juneau lode system is a network of quartz veins in the Perseverance slate near slate and metagabbro contacts; values (gold, silver, lead) confined almost entirely to veins.
p. 88 -- Most ore bodies are "at end or prong of a meta-gabbro body in both the meta-gabbro and the surrounding slate."
p. 129-167 -- Lode system is 300 ft. wide and 3-1/2 mi. long in footwall portion of Perseverance slate where metagabbro sills invaded the slate. Both slate and sills injected by quartz veins; most abundant in and near ends of sills where they interfinger with slate. Veins carry values in gold, silver, and lead. System divided into 2 parts by the postmineralization transverse Silverbow normal fault; Ebner and Alaska-Juneau North Ore Body north of fault; Perseverance

and Alaska-Juneau South Ore Body south of fault. Shape of ore bodies irregular; assay walls. Veins from a few inches to 2 or 3 ft. wide constitute the ore; wall rock essentially barren. Veins consist of more than 95% quartz with ankerite, pyrrhotite, arsenopyrite, galena, sphalerite, chalcopyrite, and gold. Mined in blocks and barren slate and metagabbro removed by hand sorting.

Kaufman, 1958 (IC 7844), p. 7 -- Approximately $80.8 million in gold, silver, and lead was recovered, 1893-1944.

Herreid, 1962, p. 64-65 -- Amphibolite may represent tuff layers rather than intrusive bodies; are parallel to bedding of metasediments. Location of ore-bearing veins closely controlled by fold structures; most common in axial-plane zone.

Noel, 1966, p. 54 -- Largest gold producer in southeastern Alaska. $80,000,000 in gold, silver, and lead from milling 88,500,000 tons of ore with average grade of 0.0432 oz. gold per ton between 1893 and 1944. [See Twenhofel, 1952 (OF 60), p. 12-28 for more detailed production data.]

p. 60 -- Parallel quartz stringers (a few inches to several feet wide; little individual strike length) in phyllite, slate, and amphibolite; quartz and(or) calcite with pyrite, galena, sphalerite, and chalcopyrite. Reference to and data from Herreid, 1962.

Berg and Cobb, 1967 (B 1246), p. 154-155 -- Slate containing swarms of quartz veinlets carrying gold, pyrrhotite, sphalerite, galena, pyrite, arsenopyrite, chalcopyrite, and tetrahedrite.

U.S. Bureau of Mines, 1967 (IC 8331), p. 6-7 -- Metamorphosed sediments and irregular intrusions of metagabbro; gold irregularly distributed in irregularly distributed quartz stringers and gash veins in slate and metagabbro.

Koschmann and Bergendahl, 1968 (B 610), p. 19-21 -- Source of bulk of gold produced in Southeastern Alaska region. Deposit discovered 1880; production, 1893-1944, was 2,874,361 oz. gold, almost as much silver, and large quantities of lead.

Thorne, 1969 (UBSM OF 22-69), p. 33 -- With Treadwell group produced gold and silver valued at more than $148 million from about 1.7 million tons of ore. Mine operated 1893-1944.

Cobb, 1973 (B 1374), p. 103 -- Lode discovered in 1880 by following placer gold up Gold Cr.

Simons and Prinz, 1973 (P 820), p. 267 -- Example of gold-quartz lode. Widespread and pervasive wallrock alteration. Production in range of 2-5 million ounces.

p. 273 -- Average grade about 0.04 oz. per ton (a little more than 1 ppm).

(Alaska-Juneau dump)

Gold, Lead, Tungsten, Zinc

Juneau district

Juneau (14.8, 5.2)
58°17'N, 134°22'W

Summary: Heavy minerals in sluice-box concentrate included sphalerite, galena, gold, and scheelite. A little gold has been sluiced from tailings.

West and Benson, 1955 (B 1024-B), p. 53 -- Heavy minerals in sluice-box concentrate included magnetite, pyrite, sphalerite, ankerite, limonite, galena, gold, ilmenite, zircon, and scheelite.

Cobb, 1973 (B 1374), p. 103 -- A little gold has been recovered by sluicing tailings from mill.

Alaska-Taku

Gold(?)

Juneau district

Juneau (16.3, 4.8) approx.
58°16'N, 134°15'W approx.

Summary: 43 lode claims and 8 mill sites. Deposits said to be stringer lodes. No other data. No mention of these claims except in report of developments in 1915.

Chapin, 1916 (B 642), p. 76 -- 43 lode claims and 8 mill sites located and being developed, 1915. Deposits (not examined by Chapin) said to be stringer lodes similar to Perseverance lode. Near Grindstone and Rhein Creeks.

Alaska Treasure (Gold Mining Co.) — Copper, Gold, Lead, Zinc

Juneau district — Juneau (15.5, 4.0)
MF-435, loc. 64 — 58°13'N, 134°20'W

Summary: Country rock is greenstone and greenstone schist with some intercalated slate. Ore is in narrow bands and consists of quartz and calcite veinlets, auriferous pyrite, chalcopyrite, galena, sphalerite, and tetrahedrite(?). Part of a mineralized and altered area a mile wide and 1-1/2 mi. long; ore zone is 90 ft. wide and traceable on surface for 2,000 ft. As of 1914 there were 3,650 ft. of development work, 365 ft. of which was in ore. Mill test of 1 ton of picked ore indicated $2.95 in gold by amalgamation, $3.92 in sulfides, and $0.20 in tailings; total of $7.07 (about 0.34 oz.) per ton. Little if any work after 1916. Production not known, but probably small; must have been some, as the mine had its own mill. Includes references to: Alaska Consolidated Mining Co., Alaska Treasure Consolidated Mines Co., Nevada Creek, (Nevada Cr.).

Spencer, 1904 (B 225), p. 40-41 -- Bleached zone in greenstone; locally narrow, irregular veinlets carry galena and sphalerite with more gold and silver than in the country rock. No well-defined ore bodies have been discovered.

Spencer, 1906 (B 287), p. 92-93 -- Mill test of 1 ton of picked ore indicated $2.95 in gold by amalgamation, $3.92 in gold in sulfides, and $0.20 in gold in tailings, or a total of $7.07 [about 0.34 fine oz.] per ton. Assays of samples from Corbus tunnel indicated from a trace to $8.20 a ton.

Wright and Wright, 1906 (B 284), p. 39-40 -- Little work during last 2 years [as of 1905]. Country rock is greenstone and greenstone schist with some intercalated slate. Where mineralized, greenstone schist is altered to talc schist.

Wright, 1907 (B 314), p. 53-54 -- Energetic development in 1906. More than 1,000 ft. of underground workings and a 20-stamp mill. Ore is in narrow bands and consists essentially of quartz and calcite veinlets, auriferous pyrite, and sulfides of copper, lead, and zinc.

Knopf, 1910 (B 442), p. 135 -- Tunnel being driven to undercut ore body. Reference to Spencer, 1906 (B 287), p. 92.

Knopf, 1911 (B 480), p. 96 -- 3,100 ft. of projected 3,500-ft. tunnel completed, 1910.

Brooks, 1912 (B 520), p. 25 -- Crosscut extended to 3,400 ft.; some ore bodies said to have been found, 1911.

Eakin, 1915 (B 622), p. 96-98 -- Three men driving prospecting tunnels, 1914. Country rock is schistose greenstone showing considerable alteration and mineralization over an area 1 mi. wide and 1-1/2 mi. long. Zone averaging 90 ft. wide and traceable for 2,000 ft. on surface said to consist largely of commercial ores. Total of 3,650 ft. of development work has been done; 365 ft. is in ore.

Chapin, 1916 (B 642), p. 75 -- Company reorganized, 1915; some development work.

Alaska Treasure (Gold Mining Co.) -- Continued

Smith, 1917 (BMB 142), p. 35 -- Crosscut has been driven to mineralized zone; mill near beach; 1915.
Smith, 1917 (BMB 153), p. 22 -- Assessment work, 1916.
Smith, 1937 (B 880-A), p. 17 -- Sampling of deposit, 1935.
Brew and Ford, 1969 (OF 361), table 2, samples 58-63 -- Samples contained pyrite, galena, chalcopyrite, pyrrhotite, and tetrahedrite(?) in quartz vein and phyllite.

Alaska-Washington (Gold Mining Co.) Gold, Zinc

Juneau district Juneau (10.5, 10.3)
MF-435, loc. 23 58°35'N, 134°51'W

Summary: Quartz fissure vein in greenstone conglomerate contains much auriferous pyrite and a little sphalerite. Several hundred feet of underground workings driven in early 1900's. No record of production.

Wright and Wright, 1905 (B 259), p. 54 -- Several hundred feet of tunneling and a 50-ft. shaft completed in 1904.

Spencer, 1906 (B 287), p. 133 -- Similar to Bessie vein; fissure appears to be continuous for nearly 3,000 ft.; in andesite breccia. Developed by 600 ft. of drifting on 3 levels. Values as high as $8 have been reported.

Wright and Wright, 1906 (B 284), p. 35 -- 2 parallel veins separated by 600 ft. of slate and greenstone. Mine workings (all on one vein) were completed in 1902 and consist of 500 ft. of tunneling, a 70-ft. raise, and a 30-ft. shaft.

Knopf, 1912 (B 502), p. 48-49 -- Vertical quartz vein (average thickness 3 ft., maximum thickness 6 ft.) cuts across greenstone conglomerate. Quartz sheared and brecciated; contains much coarsely crystalline pyrite and a little sphalerite; considerable fine gold where pyrite is oxidized. Gold appears to be limited to short shoots. Workings consist of 500 ft. of drifts, 70-foot raise, and 30-ft. shaft. A little work in 1910 after long period of idleness.

Berg and Cobb, 1967 (B 1246), p. 158-159 -- Has been underground exploration.

Anderson	Gold, Lead, Silver, Zinc
Juneau district MF-435, loc. 54	Juneau (15.7, 5.1) 58°17'N, 134°18'W

Summary: Quartz veins and stringer leads in black slate contain pyrite, sphalerite, and galena. Next to Silver Queen mine; gold and silver undoubtedly present, but no data on tenor.

Spencer, 1906 (B 287), p. 55 -- In Sheep Cr. basin adjoining Silver Queen. Black slate above greenstone footwall cut by quartz veins 2-4 ft. thick and stringer leads of small quartz masses separated by slate. Tunnels 40-50 ft. long driven on 2 veins. Metallic minerals present are pyrite, sphalerite, and galena. [No data on gold content.]

(Auk Bay)

Gold(?)

Juneau district

Juneau (12.5-12.6, 6.7-7.15) approx. 58°23'-58°24'N, 134°38'W approx.

Summary: Development reported in 1913 and 1915. May refer to work at Dull & Stephens, Treasury Hill, or Winn. See also: Dull & Stephens, Treasury Hill, Winn.

Brooks, 1914 (B 592), p. 59 -- "Some developments were also made on the Peterson and Auk Bay properties." Reported in 1913.

Chapin, 1916 (B 642), p. 78 -- Considerable prospecting and some development work, 1915.

Martin, 1920 (B 712), p. 30 -- Did not operate in 1918.

Aurora Borealis — Gold, Lead

Juneau district — Juneau (10.4, 10.4)
MF-435, loc. 22 — 58°36'N, 134°52'W

Summary: Quartz vein as much as 3-1/2 ft. thick in black slate near contact with greenstone worked by two 200-ft. tunnels; contains gold, arsenopyrite, pyrite, and subordinate galena. Had small mill. Production, all before 1895, was about 266 fine oz. of gold. Includes references to AB and Morningstar.

Wright and Wright, 1906 (B 284), p. 35 -- Quartz ore body is parallel to a contact between black slate and greenstone. Opened by 3 tunnels each of which is a few hundred feet long. Ore treated in 5-stamp mill. Production reported to have been about $25,000 [about 1,210 fine oz.] in gold. Shut down several years before 1905.

Knopf, 1912 (B 502), p. 47-48 -- Quartz vein as much as 3-1/2 ft. thick strikes NE and dips 27°NW; ribbon structure parallel to walls; in black slate country rock. Vein contains arsenopyrite, pyrite, and subordinate galena. Greenstone and associated clastic rocks encountered in upper of 2 tunnels, each of which is slightly more than 200 ft. long. Mill operated for a short time before 1895; production said to have been $5,500 [about 266 fine oz.] in gold.

Chapin, 1916 (B 642), p. 77 -- Claims relocated and "moderate" development, 1915.

Berg and Cobb, 1967 (B 1246), p. 158-159 -- Quartz vein worked by two 200-ft. tunnels; yielded about 260 oz. of gold, all before 1895.

Bear	Copper, Gold
Juneau district	Juneau (8.3, 15.2)
MF-435, loc. 14	58°52'N, 135°05'W

Summary: Two quartz veins as much as 5 ft. wide were mined in 1895-97 from drifts and stopes from a tunnel 1,100 ft. long that crosscuts veins. Vein contains small amounts of pyrite and chalcopyrite. Total amount of ore mined was about 5,500 tons, mainly from Bear vein.

Becker, 1898, p. 62-63 -- Minerals present include calcite, chalcopyrite, and mispickel.

p. 76 -- Country rock is diorite; Bear vein is 2-1/2 to 11 ft. wide; contains quartz, calcite, sericite, pyrite, chalcopyrite, arsenopyrite, and fragments of country rock. Developed by 3 short tunnels; no production.

Wright and Wright, 1906 (B 284), p. 32 -- Tunnel 1,100 ft. long intersects 2 quartz veins along which drifts were run for several hundred feet. 5,500 tons of quartz ore mined, 1895-97; ore much lower than that from Comet mine; only 62% of gold was recovered in bullion.

Knopf, 1911 (B 446), p. 39-40 -- Country rock is greenish (from chlorite and epidote) diorite. Tunnel 1,100 ft. long cuts Bear vein 500 ft. from portal and 200 ft. below surface. About 5,500 tons of ore removed stopes on 3 levels, 1895-97. Bear vein is 2 ft. wide at surface and 5 ft. wide at adit level; very few metallic minerals (pyrite and chalcopyrite) in vein; small pyrite cubes and quartz stringers in highly altered wall rock. Smaller vein encountered 300 ft. from portal; about 100 ft. of drifts on it.

Chapin, 1916 (B 442), p. 77 -- Property consolidated with Kensington and Comet in 1915.

Berg and Cobb, 1967 (B 1246), p. 160 -- Has been production from mine.

(Bear Cr.) Asbestos

Admiralty district Juneau (11.0, 4.6)
58°15'N, 134°47'W

Summary: Prospecting of an occurrence of tremolite asbestos in amphibole schist in 1928 and possibly 1929. Brittle fibers that do not separate well are 18 in. long; material is weathered, so possibly fresh material would be better grade. A few veins of cross-fiber asbestos in veins 3/4 in. wide and 6-8 in. long may be of better quality.

Smith, 1930 (B 813), p. 71-72 -- Chrysotile asbestos in fibers some of which are nearly a foot long. Fibers are brittle and weak; may be badly weathered. Some work (largely construction of houses and roads), 1928.

Smith, 1932 (B 824), p. 80 -- Has been considerable prospecting, 1929. Other data same as above.

Smith, 1933 (B 836), p. 82 -- No work, 1930.

Smith, 1933 (B 844-A), p. 81 -- No work, 1931.

Twenhofel and others, 1949 (B 963-A), p. 34-37 -- Tremolite (not chrysotile as reported earlier) in fibers as much as 18 in. long parallel to strike of the 18-in.-wide band of asbestos in amphibole schist. Material does not separate into fibers and breaks easily; weathered, so possibly fresh material would be better grade. Also a few small veins of cross-fiber asbestos that appears to be of better quality; veins 3/4 in. wide and 6-8 in. long.

Lathram and others, 1960 (I-323) -- Asbestos prospect.

Race and Rose, 1967 (GC 8), p. 19 -- Tremolite asbestos 1-1/2 ft. wide exposed for 14 ft.; in schist; development was some trenching.

Bear's Nest	Gold(?)
Juneau district	Juneau SE 1/4 quad.

Summary: Prospecting reported, 1911. On Douglas I.

Brooks, 1912 (B 520), p. 25 -- Prospecting reported, 1911. On Douglas I.

(Berg Mtn.)

RE

Juneau district
MF-435, loc. 1

Juneau (2,75, 16,8)
58°57'N, 135°42'W

Summary: Trace of yttrium in pyritic siliceous rock.

Lathram and others, 1959 (I-303), sample 22 -- Disseminated pyrite in iron-stained siliceous rocks. Heavy-mineral concentrate contains trace of yttrium.

Berg and Cobb, 1967 (B 1246), p. 162 -- Traces of yttrium in pyritic siliceous rock.

Berners Bay	Gold(?)
Juneau district	Juneau (9,8, 12,8) approx. 58°44'N, 134°56'W approx.

Summary: Claim on which prospecting was reported in 1905.

Wright and Wright, 1906 (B 284), p. 34 -- Claim on south side of Berners Bay. Prospecting reported in 1905.

Bessie (Gold Mining Co.) — Gold, Lead, Zinc

Juneau district — Juneau (10.4, 10.4)
MF-435, loc. 22 — 58°36'N, 134°52'W

Summary: Vertical sheeted quartz vein 1-5 ft. thick cuts across greenstone conglomerate; contains arsenopyrite, pyrite, sphalerite, galena, and free gold. Traced for about 1,600 ft. and opened by about 645 ft. of underground workings in early 1900's. A few tons of ore was shipped for testing; no record of commercial production.

Spencer, 1906 (B 287), p. 133 -- Vein crosses bedding of andesitic tuff or greenstone country rock; traced for about 1,600 ft.; from about a foot to 5 or 6 ft. thick; average about 3 ft. Principal sulfide is arsenopyrite, with some pyrite and free gold. Not much development in 1903.

Wright and Wright, 1906 (B 284), p. 35 -- Data about the same as above. By 1905 there were tunnels 360 and 124 ft. long and a shaft 161 ft. deep. A few tons of ore was shipped for testing. Property idle for 2 years.

Knopf, 1912 (B 502), p. 48 -- Vertical sheeted quartz vein 1-5 ft. thick cuts across greenstone conglomerate; contains small amounts of pyrite and arsenopyrite and rare galena and sphalerite. Vein intersected by workings about 1,200 ft. apart along strike. Workings consist of 2 tunnels and a shaft.

Berg and Cobb, 1967 (B 1246), p. 158-159 -- Has been underground exploration.

Black Chief — Gold, Lead

Juneau district — Juneau (11.0, 10.5)
MF-435, loc. 26 — 58°36'N, 134°48'W

Summary: Quartz stringers in crushed black slate in a zone 4-20 ft. wide contain a little pyrite and galena. 180 ft. (Knopf) or 312 ft. (Wright) of underground development by 1909. Gold content of ore not given, but there must be some or there would have been much less development.

Wright, 1908 (B 345), p. 89 -- Vein deposits being explored, 1907.

Wright, 1909 (B 379), p. 71 -- By 1908 three veins had been explored by drifts from 2 crosscuts and a surface excavation; underground workings had total length of about 312 ft.

Knopf, 1912 (B 502), p. 51 -- Lode consists of narrow quartz stringers in "thoroughly smashed" black slate; width of lode is indefinite and ranges from 4 to 20 ft. Quartz contains a little pyrite and galena. Lode is undercut by tunnel about 180 ft. long.

Blue Jay (near Eagle R.) Gold

Juneau district Juneau (10.8, 10.75)
MF-435, loc. 25 58°36'N, 134°49'W

Summary: In 1907 a 25-ft. drift was driven on a quartz-slate stringer lode; similar to Joyce-Jensen, which carries about 1/3 oz. of gold per ton.

Wright, 1908 (B 345), p. 89 -- 25-foot drift on vein deposit, 1907.
Knopf, 1912 (B 502), p. 51 -- Quartz-slate stringer lode; similar to Joyce-Jensen, which carries as much as $7 a ton in gold.

Boston (near Juneau) — Gold

Juneau district — Juneau (14.65, 5.5)
MF-435, loc. 46 — 58°18'N, 134°25'W

Summary: Mineralized albite diorite dike 50 ft. (Wright) or 100 ft. (Knopf) thick constitutes very low-grade gold ore. Development in 1905-06 consisted of shaft 118 ft. deep and 500 ft. of drifts and crosscuts. More work reported in 1914. No record of production.

Wright and Wright, 1906 (B 284), p. 38 -- Development, summer of 1905.
Wright, 1907 (B 314), p. 55 -- Mineralized dike 50 ft. wide is a very low-grade ore. Development [as of 1906] consists of shaft 118 ft. deep and 500 ft. of drifts and crosscuts.
Knopf, 1912 (B 502), p. 27-28 -- Albite diorite dike 100 ft. thick; accessory minerals are apatite, titanite, and magnetite.
p. 59 -- Albite diorite dike.
Eakin, 1915 (B 622), p. 102 -- Some work done, 1914.

Bull Consolidated | Gold

Juneau district | Juneau (15.6, 5.45) approx.
MF-435, loc. 51 | 58°18'N, 134°19'W approx.

Summary: Small ledge of rich ore at head of Gold Cr. staked in 1905.

Wright and Wright, 1906 (B 284), p. 38 -- Small ledge of rich ore at head of Gold Cr. staked in 1905. A few sacks of ore removed for testing, but no other development.

California (near Eagle R.) — Gold, Lead

Juneau district — Juneau (10.15, 11.7)
MF-435, loc. 21 — 58°40'N, 134°53'W

Summary: Mineralized schist and slate along contacts with greenstone. Ore body contains quartz, carbonates, arsenopyrite, galena, and (presumably) gold. Minor underground exploration in late 1890's and/or early 1900's.

Wright and Wright, 1906 (B 284), p. 34 -- Assessment work with encouraging results, 1905.

Knopf, 1912 (B 502), p. 46-47 -- Located in 1897. Country rock is slate, green schists, greenstone, and breccia. Ore body is 3-ft.-thick zone of green schist at contact with greenstone hanging wall irregularly traversed by veinlets of quartz and carbonates carrying arsenopyrite and a little galena. Another lode is in slate along contact with greenstone footwall. Lodes followed by tunnels, longer of which is 160 ft. long.

Cascade	Gold, Lead, Zinc
Juneau district	Juneau (10.95, 10.35)
MF-435, loc. 27	58°35'N, 134°48'W

Summary: Quartz stringer lode in slate is 6 ft. thick and contains arsenopyrite, galena, and sphalerite. Gold content over width of 5 ft. said to average $12 a ton (about 0.58 oz. per ton). Open to a depth of 90 ft. by inclined shaft. All work in early 1900's.

Wright and Wright, 1906 (B 284), p. 34-35 -- 6-ft. quartz vein in graphitic slate and schist one mile east of intrusive rocks.

Wright, 1907 (B 314), p. 57 -- Tunnel being driven to undercut lode, 1906.

Wright, 1908 (B 345), p. 89 -- 6-ft. quartz vein; 2 prospect shafts and open cuts.

Knopf, 1912 (B 502), p. 50 -- 6-ft. stringer lode in slates. Quartz stringers contain arsenopyrite, galena, and sphalerite; ore said to average $12 over a width of 5 ft. Inclined shaft reaches depth of 90 ft.

Clark (Carlson Cr.) — Antimony, Gold, Lead, Silver, Zinc

Juneau district — Juneau (15.95, 5.95) approx.
MF-435, loc. 52 — 58°20'N, 134°16'W approx.

Summary: Quartz veins in schist and pegmatitic injection gneiss contain sparse sulfides, including pyrite, stibnite in radiating needles or blades, arsenopyrite, sphalerite, and galena. Samples (probably not representative) contained as much as 1.03 oz. gold and 4.25 oz. silver a ton. Explored by surface stripping of overburden and a tunnel 150 ft. long. Includes reference to (Sunset Cove).

Buddington, 1926 (B 783), p. 50-52 -- Staked in 1911; 6 claims. Quartz veins fill highly brecciated zones in mainly schist and pegmatitic injection gneiss with rare sheets of quartz diorite and sparse basalt dikes that appear to be younger than the veins. Exploration has been by stripping off overburden and driving a tunnel 150 ft. long. Sulfides are generally sparse; include pyrite, stibnite, arsenopyrite, sphalerite, and galena. Samples [probably not representative] contained from 0.12 to 1.03 oz. gold per ton. One sample of vein material with stibnite contained 4.25 oz. silver and $2.80 [about 0.135 oz.] gold per ton.

Buddington and Chapin, 1929 (B 800), p. 331 -- Stibnite in radiating needles or blades in low-grade gold quartz fissure veins in schist.
p. 363 -- Considerable stibnite in veins; unusual association.

Smith, 1934 (B 857-A), p. 15 -- Prospecting, 1932.

Kaufman, 1958 (IC 7844), p. 9 -- Native antimony in gold quartz vein at Sunset Cove.

Berg and Cobb, 1967 (B 1246), p. 155 -- Quartz veins with inclusions of silicified country rock in schist and pegmatite injection gneiss contain minor amounts of pyrite, stibnite, arsenopyrite, sphalerite, and galena. Explored by a 150-ft. tunnel and several trenches. Samples taken by owner contained 0.12 to 1.03 oz. gold per ton.

Clark (Lemon Cr.)

Copper, Gold

Juneau district
MF-435, loc. 43

Juneau (14.45, 6.65)
58°22'N, 134°26'W

Summary: Quartz vein in slate and/or altered gabbro contains pyrrhotite and a little chalcopyrite; gold content no more than about 0.05 oz. per ton.

Spencer, 1906 (B 287), p. 118 -- Country rock is black slate cut by diorite (altered gabbro) dikes. Quartz veins as much as 3-4 ft. thick contain pyrrhotite and a little chalcopyrite; highest gold assays no more than $1 a ton. Vein where the must work was done was exposed more than 200 ft. horizontally and for a height of about 100 ft.

Comet — Copper, Gold, Lead

Juneau district — Juneau (8.45, 15.0)
MF-435, loc. 16 — 58°51'N, 135°04'W

Summary: Quartz fissure veins in diorite near (but almost normal to) contact with slate and graywacke. Main vein 2-8 ft. thick with horses of diorite; values pockety. Veins contained pyrite, chalcopyrite, galena, and free gold; most of gold free. Deposit located in 1900. Mine operated, 1894-1901; recorded production (probably was considerably more) was about 22,250 fine oz. of gold from about 50,000 tons of ore. More than a mile of workings. Surface work in 1930's did not result in reopening mine.

Becker, 1898, p. 62-63 -- Minerals present include calcite and chalcopyrite.
p. 76-77 -- Several veins in diorite; developed by 3 small tunnels and a winze about 100 ft. deep. Comet vein is as much as 8 ft. thick (average 3 ft.); consists of quartz, pyrite, chalcopyrite, and galena; in places there is much free gold with few sulfides. Production, July 1894-June 1895 was more than $200,000 [about 9,675 fine oz.] in gold; ore averaged $50-$60 a ton. Only about 1% of ore is sulfides, which run about $160 a ton. Production in 1896 was about $125,000 [about 6,050 fine oz.] in gold. Other smaller veins on property.

Spencer, 1904 (B 225), p. 38 -- Deposit in veins in fissures in diorite.

Spencer, 1906 (B 287), p. 136-137 -- Principal producing mine in Sherman Creek drainage; several thousand feet of underground workings. Well-defined ore shoot lying diagonally in vein was mined to depth of about 1,000 ft.; much of gold "in nests or bonanzas."

Wright and Wright, 1906 (B 284), p. 32 -- Mine operated, 1894-1901. Quartz-filled fissure 2-8 ft. thick that incorporates country rock and therefore becomes lower grade at depth. Vein faulted off at north end; may continue as Northern Bell vein. Production was more than 50,000 tons of ore, which yielded about $460,000 [about 22,250 fine oz.] in gold. Main level is crosscut 1,875 ft. long; vein mined out above it.

Knopf, 1911 (B 446), p. 42-43 -- Located in 1890. Main crosscut begun in 1896. Operated until 1901, when it was tied up in litigation. Two veins in diorite near, but nearly normal to, contact with slates and graywackes of Berners Fm. Larger vein is a well-defined fissure vein 2-8 ft. thick; horses of diorite; values pockety; some pockets contained $50,000 or more in gold. Recorded production (probably was considerably more) was $460,000 [about 22,250 fine oz. of gold] from 50,000 tons of ore. 87% of value in free gold; 5% in concentrates. Main vein stoped from level 600 ft. below surface to surface. Over a mile of underground workings.

Chapin, 1916 (B 642), p. 77 -- Kensington, Bear, and Comet properties have been consolidated, 1915.

Buddington and Chapin, 1929 (B 800), p. 317 -- Example of fissure veins.
p. 345 -- Some visible gold in quartz in pockets.

Smith, 1934 (B 864-A), p. 17 -- Property examination, 1933.

Smith, 1937 (B 880-A), p. 17 -- Buildings and surface equipment being put in shape, 1935.

Comet -- Continued

Smith, 1938 (B 897-A), p. 17 -- Road construction and work on surface plant, 1936.
Smith, 1939 (B 910-A), p. 19 -- Work discontinued, 1937.
Smith, 1942 (B 933-A), p. 17 -- Local reports that mine would be reopened under Canadian management, 1940.
Noel, 1966, p. 60 -- One of important mines of Berners Bay area.
Berg and Cobb, 1967 (B 1246), p. 160 -- Extensive workings on quartz veins in diorite; averaged less than 1/2 oz. gold per ton.

Cottrell-Spaulding

Gold

Juneau district
MF-435, loc. 26

Juneau (11.0, 10.5) approx.
58°36'N, 134°48'W approx.

Summary: Vein reported to be exposed for length of 1,500 ft.; 2-1/2 ft. wide; gold values. Crosscut 160 ft. driven to undercut vein, 1907. See also E Pluribus Unum; may be the same property.

Wright, 1908 (B 345), p. 89 -- Vein reported to be exposed over a length of 1,500 ft. averages 2-1/2 ft. wide and carries gold values. Crosscut tunnel 160 ft. long undercuts vein at depth of 100 ft., 1907.

Dividend	Gold, Lead
Juneau district	Juneau (10.95, 10.35)
MF-435, loc. 27	58°35'N, 134°48'W

Summary: Black slate with many quartz-calcite stringers carries pyrite, arsenopyrite, galena, and free gold across a thickness of 12 ft. above a footwall of greenstone. Workings (mainly an access crosscut) total about 1,300 ft. in length. No record of production.

Wright and Wright, 1906 (B 284), p. 34-35 -- Lode (12 ft. wide) of mineralized black slate cut by quartz stringers.

Wright, 1907 (B 314), p. 57 -- Tunnel being driven to undercut lode, 1906.

Wright, 1908 (B 345), p. 89 -- Undercut by tunnel 900 ft. long at depth of 350 ft.; lode said to be more than 60 ft. wide at tunnel level and to contain gold values.

Wright, 1909 (B 379), p. 71 -- Crosscut is 1,170 ft. long; intersects lode 900 ft. from mouth at depth of 350 ft.; drift extended 250 ft. along ore body.

Knopf, 1912 (B 502), p. 49-50 -- 1,200-ft. tunnel intersects lode 1,000 ft. from portal at depth of 187 ft. Footwall of lode is several hundred feet of augite melaphyre [greenstone]; lode is graphitic slate traversed by thin stringers of quartz and minor calcite carrying pyrite, arsenopyrite, galena, and free gold. Lode followed for about 100 ft. by a drift. Where exposed on surface lode is 12 ft. wide.

Doran

Gold(?)

Juneau district
MF-435, loc. 44

Juneau (14.05, 6.1)
58°20'N, 134°28'W

Summary: Shattered, sheared, and altered albite diorite dike is traversed by pyritic quartz-albite-carbonate veinlets. 130 ft. of tunnel and drift. No data on precious-metal content, if any.

Knopf, 1912 (B 502), p. 60 -- Shattered, sheared, and altered albite diorite dike "is traversed by pyritic veinlets composed of quartz, albite, and carbonates." [No statement that any valuable mineral is present.] 130 ft. of tunnel and drift.

Douglas Mining Co.

Copper, Gold, Zinc

Juneau district
MF-435, loc. 60

Juneau (14.55, 5.0)
58°16'N, 134°25'W

Summary: Glassy quartz stringers in altered sheared diorite dike about 70 ft. thick in slate contain considerable calcite and sparsely disseminated chalcopyrite, pyrite, and sphalerite. A tunnel completely crosscuts dike. Diorite in tunnel is reported to contain $1.50-$2.00 a ton in gold (gold at $20.67 an ounce) with one zone 3 ft. wide containing about $3.50 (about 0.17 oz.) gold per ton.

Buddington, 1926 (B 783), p. 50 -- On Douglas I. Highly altered sheared diorite dike in black slate being prospected, 1924. Tunnel 120 ft. long completely crosscuts diorite, which is about 70 ft. thick. Glassy quartz stringers in diorite contain considerable calcite and sparsely disseminated chalcopyrite, pyrite, and sphalerite. Diorite in tunnel reported to have average assay value of $1.50-$2.00 a ton; one zone 3 ft. wide averages about $3.50 [about 0.17 oz. gold] per ton.

Dull & Stephens

Gold

Juneau district
MF-435, loc. 40

Juneau (12.5, 7.15)
58°24'N, 134°38'W

Summary: Several ounces of gold was recovered while sluicing glacial till overburden from irregular masses of quartz in altered volcanic breccia. A little pyrite and arsenopyrite in country rock next to quartz masses.

Knopf, 1911 (B 480), p. 97 -- Large body of low-grade quartz stripped of overburden, 1910.

Knopf, 1912 (B 502), p. 58 -- Irregular masses of quartz in altered volcanic breccia exposed by sluicing off 4-8 feet of till. A little pyrite and arsenopyrite in rock next to quartz. Several ounces of coarse, rusty gold recovered while outcrop was being sluiced off.

Berg and Cobb, 1967 (B 1246), p. 159 -- Several ounces of gold recovered by sluicing weathered part of a quartz vein.

Eagle River (Mining Co.) — Copper, Gold, Lead

Juneau district — Juneau (11.2S, 10.0S)
MF-435, loc. 29 — 58°34'N, 134°46'W

Summary: Quartz veins in slate (with a few thin sheets of mafic intrusive rock) in shattered zones. Ore shoots are 5-15 ft. wide and 25-100 ft. long. Sulfides are pyrite, pyrrhotite, arsenopyrite, galena, and chalcopyrite; native copper also present; most of gold free. Ore bodies cut off by faults. Deposit discovered in 1902; mining began in 1903 and continued through 1910; in 1910 more than 30,000 ft. of underground workings. New adit 1,800 ft. long and 700 ft. below old workings driven, 1911-12; mining from it, 1911 to about 1916. A little exploration, but no mining, 1933. Total production was probably more than 20,000 ounces of gold. Includes references to Amalga.

Wright and Wright, 1905 (B 259), p. 54 -- Mining, 1904. Ore reported to average $30 a ton; ledge 3-6 ft. wide; 20-stamp mill operated.

Spencer, 1906 (B 287), p. 130-131 -- Country rock is graphitic slate. Production in 1904 reported to have been $75,000 [about 3,625 fine oz.] in gold. Vein as much as 15 ft. wide; quartz with pyrite, arsenopyrite, galena, free gold, and native copper. Mill test of 900 lbs. of ore returned $22 in free gold and $15 in sulfides to the ton. In 1905 three ore shoots had been opened; pitch 30°NW in plane of the vein.

Wright and Wright, 1906 (B 284), p. 35 -- Ore shoots in bands of much shattered slate and greenstone; average 5-15 ft. wide and 25-100 ft. long. Ore contains free gold, pyrite, pyrrhotite, chalcopyrite, and native copper. In 1905 workings consisted of about 4,000 ft. of shafts and drifts; much stoping. 20-stamp mill. Total production through 1905 was estimated at $250,000 [about 12,100 fine oz.] in gold.

Wright, 1907 (B 314), p. 57 -- Continued production, 1906.

Wright, 1908 (B 345), p. 89 -- Mine operated all of 1907. 12,000 ft. of drifts, crosscuts, and raises. Main vein (1-15 ft. wide) offset several hundred feet by a fault.

Wright, 1909 (B 379), p. 70-71 -- Ore body located beyond fault zones which offset it. Mining and milling all year, 1908.

Knopf, 1910 (B 442), p. 138 -- Mining and milling, 1909.

Knopf, 1911 (B 480), p. 97 -- Mining, milling, and exploration, 1910.

Knopf, 1911 (B 480), p. 110 -- Mine in operation since 1903; accounted for most of production from Eagle R. area, 1910.

Brooks, 1912 (B 520), p. 26 -- Mainly exploration, 1911.

Knopf, 1912 (B 502), p. 44-46 -- Discovered, 1902; development began in 1903. By 1910 about 30,000 feet of drifts and tunnels had been driven. Much distortion of rocks by landsliding and surface creep. Country rock is interbedded clay slate and graywacke slate with a few thin sheets of mafic intrusive rock. High gold values generally accompany large quantities of sulfides, particularly arsenopyrite and galena. In some places honeycombed quartz with no sulfides carries considerable free gold. Some massive pyrrhotite with a little galena also is good gold ore.

Eagle River (Mining Co.) -- Continued

Brooks, 1913 (B 542), p. 32 -- Work on new adit continued, 1912.
Brooks, 1914 (B 592), p. 59 -- New adit 800 ft. below old workings driven 1,900 ft. and reported to have intersected ore body, 1913.
Brooks, 1915 (B 622), p. 41 -- Stamp mill operated for 3 months in 1914.
Eakin, 1915 (B 622), p. 101 -- Adit 1,800 ft. long and 700 ft. below old working was driven in zone of slate in an attempt to pick up the lode, which was lost several years ago; several chimneys of ore were encountered, one of which may be an extension of the lost lode. Mining and milling on a small scale began in September, 1914.
Chapin, 1916 (B 642), p. 76-77 -- New adit opened several new ore bodies. 2 stopes removed; mill began running in June. Ore consists of quartz with galena, pyrite, arsenopyrite, and pyrrhotite, 1915.
Smith, 1917 (BMB 142), p. 35 -- 10 adit levels and a 20-stamp mill, 1915.
Smith, 1917 (BMB 153), p. 23 -- Old workings abandoned. All work now on level 600 ft. below old adit; more than 2,700 ft. of working; has been some stoping. Data on milling equipment, 1916.
Eakin, 1918 (B 662), p. 77 -- Assessment work, 1916. Properties on Eagle R. and in Yankee Basin were consolidated.
Martin, 1920 (B 712), p. 30 -- Did not operate, 1918.
Smith, 1934 (B 864-A), p. 17 -- Small crew did some exploration and development, 1933.
Berg and Cobb, 1967 (B 1246), p. 158 -- Mine operated intermittently from about 1913 to 1933; major mine in area. Production from area was about 23,000 oz. of gold.

Ebner (Gold Mining Co.) Copper, Gold, Lead, Zinc

Juneau district Juneau (15.0, 5.6)
MF-435, loc. 48 58°19'N, 134°22'W

Summary: Next property north of Alaska-Juneau on same lode system. Property staked in 1880; mill installed, 1888. Mined until 1907. Production was worth about $600,000 (about 29,000 fine oz. of gold). Much large-scale development and exploration undercutting old workings until mine was joined to Alaska-Juneau and operated with it under a royalty agreement beginning in 1925, after which production was considered part of that of Alaska-Juneau. Sulfides in ore included pyrrhotite, galena, sphalerite, pyrite, and chalcopyrite; magnetite also present. Includes references to: Alaska-Ebner, Taku (Mining & Milling Co.). See also Alaska-Juneau.

Becker, 1898, p. 62-63 -- Minerals present include pyrrhotite, sericite, zincblende; galena not identified. Called Taku in this reference.
p. 73 -- Country rock is dioritic schist intruded into slate; slate horses in the schist. Irregular quartz stringers contain much pyrrhotite, but no other sulfides. Gold is free.

Spencer, 1904 (B 225), p. 29-30 -- Production, 1903.
p. 35 -- In mineralized zone about 800 ft. wide in black slate.

Wright and Wright, 1905 (B 259), p. 53 -- Mining, 1904.

Spencer, 1906 (B 287), p. 58 -- Claims staked in October, 1880. Stamp mill installed, 1888.
p. 66-69 -- Country rock is slate cut by several diorite dikes. Many quartz veins and veinlets, particularly in diorite dikes. Veins not minable by themselves; are mined with country rock, which is also mineralized. Principal sulfide is pyrrhotite commonly accompanied in country rock by magnetite. Other sulfides are galena, sphalerite, pyrite, and chalcopyrite. Some visible gold in veinlets. Gangue in veins and veinlets is mainly quartz with some calcite and other carbonates, sericite, biotite, and tourmaline. Mined from open pits [glory holes]. 1,500 ft. of tunnels, and numerous stopes. Ore averages not more than $2.50 a ton; mining and milling expense is $1.25-$1.50 a ton. Production through 1902 was about $575,000 [about 27,820 fine oz.] in gold.

Wright and Wright, 1906 (B 284), p. 37 -- Mining, 1905. Total underground working is nearly 4,000 ft. of tunnels and drifts, plus large stopes.

Wright, 1907 (B 314), p. 54 -- Mining, 1906.

Wright, 1908 (B 345), p. 87-88 -- Mining, first half of 1907.

Wright, 1909 (B 379), p. 70 -- Operations suspended pending sale of property, 1908.

Knopf, 1910 (B 442), p. 135 -- Dead work and sampling, 1909.

Knopf, 1911 (B 480), p. 96 -- Work begun on new mill, 1910.

Brooks, 1912 (B 520), p. 25 -- Work on tunnel, 1911.

Brooks, 1913 (B 542), p. 32 -- Company went into receivership, 1912; new one said to have been organized.

Brooks, 1914 (B 592), p. 59 -- Plans for reopening mine, 1913.

Ebner (Gold Mining Co.) -- Continued

Brooks, 1915 (B 622), p. 41 -- Large-scale development, 1914.
Eakin, 1915 (B 622), p. 96, 98 -- Large-scale development, 1914.
p. 100-101 -- About 100 men engaged in exploratory work. Adit driven 3,500 ft., undercutting old workings by 430 ft.; other crosscuts also driven in 1914.
Chapin, 1916 (B 642), p. 76 -- No productive mining, but some underground development, 1915.
Smith, 1917 (BMB 142), p. 35 -- Exploration, 1915.
Smith, 1917 (BMB 153), p. 23 -- About 3,500 ft. of drifts, crosscuts and a raise completed in 1916.
Eakin, 1918 (B 662), p. 77 -- Development work, 1916.
Martin, 1919 (B 692), p. 29 -- Development continued, 1917.
Martin, 1920 (B 712), p. 30 -- Development work, 1918.
Mertie, 1921 (B 714), p. 107 -- Development work, 1919.
Brooks, 1922 (B 722), p. 36 -- About 1,000 ft. of drifting and crosscutting, 1920.
Smith, 1926 (B 783), p. 7 -- Exploration of Alaska-Juneau Gold Mining Co., 1924.
Moffit, 1927 (B 792), p. 9 -- Preparatory work by Alaska-Juneau Gold Mining Co., 1925.
Twenhofel, 1952 (OF 60), p. 16-17 -- Historical data; mine worked by Alaska-Juneau Gold Mining Co. as part of Alaska-Juneau under royalty agreement after 1925.
p. 24 -- Data on peculiarities of production statistics.
p. 28 -- Production before mining by Alaska-Juneau was worth $600,000. [about 29,000 fine oz.]
Berg and Cobb, 1967 (B 1246), p. 154 -- Was a producing mine.
Koschmann and Bergendahl, 1968 (P 610), p. 20 -- Important mine in early days of district.

Echo Cove Mining Co. | Gold

Juneau district | Juneau (10.15, 11.7)(?)
58°40'N, 134°53'W(?)

Summary: In 1940 it was reported that there was activity (preliminary surface developments) in reopening deposits on several old lode claims. May well refer to California (near Eagle R.), Gold Standard, or both.

Smith, 1942 (B 933-A), p. 17 -- "In the Eagle River district....activity was reported to have been revived in reopening the deposits on several of the old lode claims that have been taken over by the Echo Cove Mining Co. Work there consisted mainly in preliminary surface developments." [Reported as of 1940].

E Pluribus Unum

Gold, Lead, Zinc

Juneau district
MF-435, loc. 26

Juneau (11.0, 10.5)
58°36'N, 134°48'W

Summary: 20-inch quartz vein in stringer lode 8 ft. thick in mineralized vein 35 or more ft. wide is against a graywacke hanging wall and contains much arsenopyrite, galena, and sphalerite; assays indicate average gold content of between 9.67 and 14.5 fine oz. per ton; this rich shoot is 18 ft. long. Prospect developed by 250-ft. tunnel and 80 ft. of raises. See also Cottrell-Spaulding.

Knopf, 1910 (B 442), p. 138-- Development, 1909. Rich ore shoot exposed at surface.

Knopf, 1912 (B 502), p. 50-51-- 250-ft. tunnel and 80 ft. of raises by 1904. Stringer lode 8 ft. thick is part of a mineralized zone 35 or more feet wide. 20-inch quartz vein against graywacke hanging wall is well mineralized with arsenopyrite, galena, and sphalerite. Assays of this part of the ore body average $200-$300 [9.67 - 14.5 fine oz.] in gold per ton. This rich shoot is 18 ft. long.

Falls	Gold (?)
Juneau district MF-435, loc. 20	Juneau (8.75, 14.6) approx. 58°50'N, 132°02'W approx.

Summary: Group of claims near Jualin mine; some prospecting or development in or before 1905. See also Fremming.

Wright and Wright, 1906 (B 284), p. 34-- Near Fremming on Johnson Cr. below Jualin mine. Had been worked as of 1905.

Fremming	Copper, Gold, Lead, Zinc
Juneau district	Juneau (8.75, 14.6) approx.
MF-435, loc. 20	58°50'N, 135°02'W approx.

Summary: Partly replaced schist and quartz-calcite stringers in a zone about 6 ft. wide in underground workings [total length about 350 ft.] contain pyrite, chalcopyrite, galena, sphalerite, and free gold. No record of production.

Wright and Wright, 1906 (B 284), p. 34-- On Johnson Cr. below Jualin mine.

Knopf, 1911 (B 446), p. 47-- Contact between diorite and green schist; small diorite dikes penetrate schist. Both rocks laced with irregular quartz stringers. Development consists of shaft 85 ft. deep, crosscut 360 ft. long, and a short drift connecting them. Zone of partly replaced schist and quartz and calcite stringers about 6 ft. wide contain pyrite, chalcopyrite, galena, sphalerite, and free gold. Not enough data to determine if there is a minable body of ore, but some material is specimen ore.

(Gold Cr.) Gold

Juneau district Juneau (14.75-15.3, 5.5-5.65)
MF-435, locs. 79-81 58°18'-58°19'N, 134°20'-134°22'W

Summary: Placers in basin were residual on lodes, eluvial (moved a short distance, mainly by gravity), and stream placers in bedrock basins. Basins (mainly Silverbow Basin at head of creek) mined by draining them through tunnels driven in bedrock and sluicing gravel through sluice boxes in tunnels. Gold discovered in 1880; placer mining on a large scale to 1902 or 1903 and intermittently until 1940. Total production was worth about $1,308,000 (about 63,280 fine oz.). Includes references to: Jualpa Mining Co., (Last Chance Basin), (Little Basin), (Middle Flat), Nowell, (Silverbow Basin), Silver Bow (Hydraulic) Mines Co.

Becker, 1898, p. 71-72 -- Postglacial lake beds in Silverbow Basin carry gold; section above schist bedrock is a few inches of fine muddy sand, several inches of vegetable material, a layer of large boulders mixed with poorly rounded or angular gravel and muddy sand, and in some places a surficial peaty layer; total thickness is about 50 ft. Many pebbles are of gold-bearing quartz. Basin drained for mining by a tunnel 3,500 ft. long in bedrock; production before 1895 reported as no less than $250,000 [about 12,100 fine oz.] in gold. Some of gold probably derived from patches of saprolite on unglaciated areas of bedrock near basin.

Brooks, 1904 (B 225), p. 46 -- No placer mining in Silver Bow basin in 1903; development at Last Chance basin.

Spencer, 1904 (B 225), p. 28 -- Placer gold discovered, 1880.
p. 34-35 -- Placer gold derived from lodes in basin.

Brooks, 1905 (B 259), p. 31 -- Mining, 1904; also flume construction.

Purington, 1905 (B 263), p. 142-143 -- Details of construction, maintenance, and use of sluice boxes in tunnel in bedrock.
p. 207 -- Gold worth $17.50 an ounce.

Wright and Wright, 1905 (B 259), p. 37,53 -- Only work in 1904 was flume and tunnel construction. Has been profitable mining.

Spencer, 1906 (B 287), p. 2-3 -- Placer gold discovered, August 1880. Low-grade gravels of Silver Bow Basin mined 1891-1902; production estimated at $416,000 [about 20,125 fine oz.]; elsewhere on Gold Cr. probably another $84,000 [about 4,060 fine oz.].
p. 57-60 -- Summary of early history. Silver Bow Basin mined by means of a tunnel 3,400 ft. long with sluices in it; gravel hydraulicked, 1891-1901. Total placer production [through 1903?] estimated at $1,250,000 [about 60,475 fine oz.]. [This total is very different from that on p. 3; data for Nowell placer are close, but those for other placers are very different; probably a decimal was misplaced in deriving the data on p. 3 and the figure from p. 60 is more nearly correct.]

(Gold Cr.) continued

p. 77-85 -- Placers include "hill placers" nearly in place, but somewhat concentrated by slope wash; "gulch placers" formed by concentration of hill placers; and normal stream placers made up of material from gulch placers diluted by barren material from gulches not draining areas with lode deposits. Creek placers are gravel deposits in glacially scoured basins; only one mined on a large scale (Nowell cut in Silver Bow Basin) ran about 14 cents a cubic yard. Hill and gulch placers exhausted by 1890; production was estimated at $600,000 - $800,000 in gold.

Wright and Wright, 1906 (B 284), p. 38 -- Mining in Silver Bow Basin and dead work down stream, 1905.

Wright, 1907 (B 314), p. 51 -- Placer mining in Silverbow Basin, 1906.

p. 55 -- Placer mining was in Silverbow Basin; in lower basin Jualpa Mining Co. did not mine, 1906.

Wright, 1908 (B 345), p. 88 -- Placer mining in Silverbow Basin until August 7, 1907, when a flood filled excavations.

Brooks, 1909 (B 379), p. 51 -- Hydraulicking, 1908.

Brooks, 1910 (B 442), p. 41 -- Placer mining, 1909.

Knopf, 1910 (B 442), p. 135 -- Placer mining in Silverbow Basin, 1909.

Brooks, 1911 (B 480), p. 37 -- A little placer mining, 1910.

Brooks, 1912 (B 520), p. 36 -- Placer mining, 1911, in Silverbow Basin.

Brooks, 1914 (B 592), p. 59 -- Placer operation in upper basin, 1913.

Brooks and Capps, 1924 (B 755), p. 24 -- A little groundsluicing in Silverbow Basin, 1922.

Brooks, 1925 (B 773), p. 37 -- Placer mining in Silver Bow Basin, 1923.

Moffit, 1927 (B 792), p. 14 -- Placer mining in Silver Bow Basin, 1925.

Smith, 1929 (B 797), p. 16 -- Placer mining in Silver Bow Basin, 1926.

Smith, 1930 (B 810), p. 21 -- Placer mining in Silver Bow Basin, 1927.

Smith, 1942 (B 933-A), p. 32 -- A little hand mining, 1940.

Twenhofel, 1952 (OF 60), p. 4 -- Gold discovered, 1880.

p. 14-16 -- Historical data.

p. 28 -- Placer production from Gold Co. worth $1,308,000 [about 63,280 fine oz.].

p. 99 -- Only basin of Gold Co. where gravels could be worked successfully was Silver Bow Basin.

p. 139-140 -- Fineness of gold from Silver Bow Basin ranged from 772 to 827 3/4 (average 802-1/2); gold of local origin.

Kaufman, 1958 (IC 7844), p. 11 -- Placer gold present.

Noel, 1966, p. 53 -- Gold discovered near mouth, 1880.

Cobb, 1973 (B 1374), p. 103 -- Gold discovered near mouth, 1880. Most mining consisted of removing gravel from bedrock basins through tunnels driven in bedrock. Silverbow and Last Chance Basins accounted for most of the production.

Golden Treasure	Gold (?)
Juneau district	Juneau (16.0, 4.85) approx. 58°16'N, 134°15'W approx.

Summary: Group of claims in Sheep Creek drainage. Probably was no production and possibly no work.

Wright and Wright, 1906 (B 284), p. 38 -- Group of claims in Sheep Creek drainage. No work in 1905.

Gold King	Gold (?)
Juneau district	Juneau (8.6, 15.15) approx.
MF-435, loc. 17	58°52'N, 135°03'W approx.

Summary: Group of claims at head of Johnson Cr. near Jualin mine. May have been some work in late 1890's or early 1900's.

Wright and Wright, 1906 (B 284), p. 34 -- Group of claims above Jualin mine at head of Johnson Cr.

Gold Standard

Gold, Lead

Juneau district
MF-435, loc. 21

Juneau (10.15, 11.7)
58°40'N, 134°53'W

Summary: Stringer lode 2-6 ft. thick in slate next to greenstone footwall contains arsenopyrite and rare galena. Samples across 4 1/2 ft. contained $6 [about 0.3 fine oz.] per ton in gold. Tunnel driven 120 ft. in early 1900's.

Wright and Wright, 1906 (B 284), p. 34 -- Assessment work, 1905.

Wright, 1908 (B 345), p. 89 -- Work in 1907; favorable results reported.

Wright, 1909 (B 379), p. 71 -- Exploration, 1908.

Knopf, 1912 (B 502), p. 46-47 -- Located, 1896. Stringer lead 2-6 ft. thick in green slate along a greenstone footwall. Sulfides are arsenopyrite (commonly in pieces of slate enclosed in quartz) and rare galena. Samples across a width of 4 1/2 ft. reported to average $6 a ton in gold. Deposit opened by tunnel 120 ft. long.

Gould and Curry	Copper, Gold, Zinc
Juneau district	Juneau (15.9, 5.1)
MF-435, loc. 55	58°17'N, 134°16'W

Summary: Crosscut exposed 3 quartz veins about 15 in. thick in a schistose rock, apparently of igneous origin; contain sphalerite, pyrrhotite, pyrite, and free gold; chalcopyrite reported may not be in the veins. Ore bodies apparently too small for continued profitable mining. Production in 1895 was reported as $26,000 [about 1,250 fine oz.] in gold.

Becker, 1898, p. 62-63 -- Minerals present include copper pyrite, pyrrhotite, and zincblende.

p. 73 -- Has been production.

p. 75 -- Schistose rock, apparently of igneous origin; 3 quartz veins about 15 in. wide exposed in crosscut; quartz stringers in schist between veins are apparently barren. Minerals in veins include sphalerite, pyrrhotite, pyrite, and free gold. Production in 1895 reported to have been $26,000 [about 1,250 fine oz.] in gold.

Spencer, 1906 (B 287), p. 36 -- Spangles of gold in black sphalerite.

p. 49-50 -- Country rock is black slate with diorite (altered gabbro dikes). Discontinuous quartz veins that transgress slaty structure contain pockets rich in free gold; pockets do not appear to contain enough ore for profitable operation. Near prospects are sulfides and quartz veins in a diorite dike.

Wright and Wright, 1906 (B 284), p. 38 -- No production or improvements in 1905.

Greek Bay (Mining Co.) Gold

Juneau district Juneau (9.15, 15.1)
MF-435, loc. 18 58°51'N, 135°00'W

Summary: Reports on this prospect do not agree. Most recent (Knopf, 1911) states that ore body is a zone of nearly solid quartz veins in a border phase of quartz diorite along contact with altered basalt. Other reports call host rock slate along with diorite. Only metallic mineral specifically mentioned is pyrite; there must be some gold or the several hundred feet of underground workings would not have been driven. Last reported activity was assessment work in 1905.

Spencer, 1904 (B 225), p. 38 -- Stringer lead in slate near contact with diorite.

Spencer, 1906 (B 287), p. 136-137 -- In slate; all other mines and prospects in area are in diorite. Vein appears to follow contact between slate and diorite; stringer lead made up of many parallel or branching quartz veins separated by plates of slate. Several hundred feet of drifts on 3 levels connected by a raise. No mill.

Wright and Wright, 1906 (B 284), p. 32 -- In fracture zone along contact between diorite and slate.

p. 34 -- Ore body is mineralized slate 8-20 ft. wide cut by quartz stringers, some of which are a few feet wide; follows contact between diorite (footwall) and slate. 2 tunnels driven for several hundred feet on one claim. Sulfides [which ones not stated] are irregularly distributed and small in amount. Assessment work only in 1905.

Knopf, 1911 (B 446), p. 47-48 -- Ore body follows contact between quartz diorite gneiss and schistose basalt; nearly vertical stringer lode. Lode is schistose marginal phase of diorite with so many quartz veins that in places it is nearly solid quartz; 4-9 ft. thick; sparse pyrite. Developed by tunnel nearly 700 ft. long; last 300 ft. on lode. [No data on gold content. This description does not match those of Spencer and the Wrights (above).]

Berg and Cobb, 1967 (B 1246), p. 160 -- 700-ft. tunnel that explored sparsely pyritic quartz at sheared contact of quartz diorite and altered basalt.

Groundhog | Gold

Juneau district | Juneau (15.35, 5.4)
MF-435, loc. 50 | 58°15'N, 134°20'W

Summary: A few thousand dollars worth of gold mined from tunnels and pits in diorite dikes and greenstone in 1893. Also a little placer mining of broken lode material (hillside placers of Spencer).

Spencer, 1906 (B 287), p. 73-74 -- Claims adjoin Alaska-Juneau and Perseverance. Contact between slate and greenstone crosses claims. Exploration consisted of several tunnels and pits excavated in greenstone and diorite dikes in greenstone in 1893. Production was no more than a few thousand dollars in gold. Has been a little mining of hillside placers [broken lode material essentially in place].

Hallam | Gold

Juneau district | Juneau (14.8, 5.7)
MF-435, loc. 47 | 58°19'N, 134°24'W

Summary: Considerable free gold in quartz veins in black slate with diorite dikes between greenstone footwall and schist hanging wall. Claims located in 1901-02; prospecting and sampling until 1909 and in 1931. Probably was no production. Includes reference to Dora. See also Alaska-Juneau, which held option in 1931.

Spencer, 1906 (B 287), p. 63-66 -- Claims located, 1901-02; prospecting and assessment work, 1903. Black slate (with diorite (altered gabbro) dikes) between greenstone footwall and schist hanging wall contain quartz veins, some with considerable amounts of free gold.
Wright and Wright, 1906 (B 284), p. 38 -- Continued development, 1905.
Wright, 1909 (B 379), p. 70 -- Surface exploration, 1908.
Knopf, 1910 (B 442), p. 135 -- Dead work and sampling, 1909.
Smith, 1933 (B 844-A), p. 14 -- Alaska Juneau Gold Mining Co. trenched and sampled Hallam and Dora claims during summer of 1931; some underground drifting and crosscutting in fall. [No data on results.]

Hawk Inlet Mining Co. Copper, Gold, Lead, Silver, Zinc

Admiralty district Juneau (10.7-11.4, 3.05-4.1)
MF-435, loc. 69

Summary: Country rock is quartz mica schist and phyllite. Quartz fissure veins traceable for 500 ft. or more and as much as 50 ft. wide carry gold, silver, pyrite, galena, sphalerite, and chalcopyrite. Developed by several hundred feet of underground workings and many trenches. Some assays indicated values in gold and silver of $12 a ton. Some assays showed more silver than gold and some the reverse. Property active from 1923 to as recently as 1940 with some interruptions. Production was worth more than $200,000. Includes references to: Alaska Empire Gold Mining Co., Williams (Mining Co.)

Brooks, 1925 (B 773), p. 12 -- Gold property being developed near small granitic area.

Buddington, 1925 (B 773), p. 72 -- Large, strongly defined quartz veins being prospected, 1923. One workable shoot of low-grade ore has been proved. Southward extension of lodes at Funter Bay.

Buddington, 1926 (B 783), p. 41-44 -- Quartz fissure veins in quartz mica schists and phyllite that in places is isoclinally folded. One vein has been traced for more than 2,000 ft. with a width of 20-50 ft.
p. 47-50 -- 96 claims. Open cuts have been made on each of 10 veins, each of which has been traced for 500 ft. or more; large ore shoots of low to medium grade. One vein has been explored by a tunnel 353 ft. long, a winze 48 ft. deep, short crosscuts, and open cuts; in graphitic schistose phyllite. Vein contains erratically distributed gold; averages of many samples indicate $12 a ton for first 172 ft. of tunnel; a little over $1 a ton for last 55 ft. of tunnel; more silver than gold in some assays. Some individual assays from this and other veins are much higher in gold. Sulfides in veins include pyrite, galena, sphalerite, and chalcopyrite.

Smith, 1926 (B 783), p. 7 -- Prospecting, 1924.

Smith, 1930 (B 813), p. 14 -- Some development, 1928.

Smith, 1932 (B 824), p. 16 -- Some development, 1929.

Smith, 1934 (B 864-A), p. 17 -- Development and equipment renovation, 1933. Mill operated less than a month; bullion recovered and concentrates shipped.

Smith, 1936 (B 868-B), p. 16 -- Production work in 1934. New rod mill installed.

Smith, 1937 (B 880-A), p. 16-17 -- Mining, 1935; increase milling capacity.

Smith, 1938 (B 897-A), p. 17 -- Mining, 1936. Mill not adequate; new equipment ordered.

Smith, 1939 (B 910-A), p. 19 -- Mining, 1937.

Smith, 1939 (B 917-A), p. 19 -- Mining, 1938.

Smith, 1941 (B 962-A), p. 18 -- Mining, 1939.

Smith, 1942 (B 933-A), p. 17 -- Mining on a small scale, 1940.

Lathram and others, 1960 (I-323) -- Map shows symbols for occurrences of of gold, copper, and lead-zinc.

Hawk Inlet Mining Co. -- Continued

Berg and Cobb, 1967 (B 1246), p. 137 -- Gold discovered before 1900. Produced small amounts of gold for many years.

Race and Rose, 1967 (GC 8), p. 14-15 -- Gold and silver production was worth more than $200,000. Fine-grained dikes in some of tunnels and drifts. Float in some of streams is largely "intermediate intrusive rock." Diorite float reported on ridge.

p. 20 -- Gold, pyrite, chalcopyrite, galena, and sphalerite in several large quartz veins in quartz schist. Developed by a shaft, several hundred feet of drift and crosscuts, and trenches. Total production over $200,000.

Holland Alaska Gold Co. Gold

Juneau district Juneau (11.3, 9.3)(?)
MF-435, loc. 33(?) 58°32'N, 134°46'W(?)

Summary: Material shipped in to old Herbert River mine in 1934. Location given above (from Alaska Territorial Dept. Mines, 12/15/55) may be correct; if so, there are no data on the occurrence. Otherwise the reference could be a garbled one to Eagle River or some other mine or prospect in the area.

Smith, 1936 (B 868-A), p. 16 -- In 1934 "in the Herbert River area the Holland-Alaska Gold Co., which is reported to have acquired the old Herbert River mine, shipped in considerable equipment which is to be used in the prospective work on the property." [Complete statement.]
Smith, 1937 (B 880-A), p. 17 -- No new developments, 1935.
Smith, 1938 (B 897-A), p. 17 -- No new developments, 1936.

Holman — Gold (?)

Juneau district — Juneau SE 1/4 quad.

Summary: On Douglas I. north of Treadwell. Diamond drilling reported in 1916.

Eakin, 1918 (B 662), p. 77 -- Diamond drilling, 1916. Claim on Douglas I, north of Treadwell.

Horrible | Gold

Juneau district | Juneau (8.3, 15.2)
MF-435, loc. 14 | 58°52'N, 135°05'W

Summary: Pyritiferous quartz - filled fissure vein in fine-grained diorite was mined in 1897-98 and 1901. About 73 fine oz. of gold recovered from 500 tons of ore. Several hundred feet of tunnels and drifts and one or more stopes. Includes references to Portland-Alaska Gold Mining Co.

Spencer, 1906 (B 287), p. 135-136 -- Has been gold production. Has own mill.

Wright and Wright, 1906 (B 284), p. 33 -- Mine was operated 1897-98 and 1901. Quartz vein in diorite. Nearly 1,000 ft. of tunneling and drifting; considerable ore was stoped out. Total production reported to have been 500 tons of ore that yielded about $1,500 [about 73 fine oz.] in gold.

Knopf, 1911 (B 446), p. 39 -- Claims located in 1896. Mining in 1897 and 1901. Tunnel 400 ft. long on ledge; also a drift 240 ft. long that did not encounter an ore body. Ore body mined (500 tons of ore that yielded $1,500 [about 73 fine oz.] in gold) was a quartz-filled fissure with average thickness of 5 ft. in fine-grained green diorite. Only visible metallic mineral sparse pyrite.

Berg and Cobb, 1967 (B 1246), p. 160 -- Has been production.

(Howard Bay)	Lead, Silver, Zinc
Juneau district	Juneau (8.65, 5.25)
MF-435, loc. 12	58°18'N, 135°04'W

Summary: Discovery of silver-lead ore body carrying some zinc in 1921 was reported. No other data.

Brooks, 1923 (B 739), p. 21 -- Silver-lead ore body carrying some zinc discovered in 1921. Considerable development work reported.

Berg and Cobb, 1967 (B 1246), p. 162 -- Silver-lead-zinc lode reported to have been discovered in 1921.

Humboldt	Gold
Juneau district	Juneau (15.0, 5.6)
MF-435, loc. 48	58°19'N, 134°22'W

Summary: Quartz veins in a mineralized zone in diorite and slate were mined in 1904 and possibly some other years.

Spencer, 1904 (B 225), p. 35 -- In mineralized zone about 800 ft. wide in black slate.
Wright and Wright, 1905 (B 259), p. 53 -- Mining, 1904.
Spencer, 1906 (B 287), p. 68-69 -- Quartz veins in diorite and slate.
Wright and Wright, 1906 (B 284), p. 38 -- Development work in 1905.

Indiana	Copper, Gold (?)
Juneau district	Juneau (8.7, 14.8)
MF-435, loc. 19	58°50'N, 135°03'W

Summary: About 2,800 ft. of tunnels and drifts driven in 1897 and a mill built (but never used). Country rock diorite; sheared to a green schist that was followed by drifts. No ore found in any of workings; quartz stringers near portal of one tunnel carried considerable pyrite and a little chalcopyrite.

Wright and Wright, 1906 (B 284), p. 34 -- Claims located in 1896; believed to be an extension of Jualin and Comet veins. Country rock is diorite. One tunnel driven 1,100 ft.; 500 ft. of drifts near face. Only ore was a narrow belt of quartz stringers carrying chalcopyrite and pyrite about 60 ft. from portal. Two other tunnels did not find ore. Mill was built, but never used.

Knopf, 1911 (B 446), p. 44 -- 3 tunnels aggregating about 2,300 ft. in length and 500 ft. of drifts did not find ore. Workings in diorite, which in drifts is sheared to green schist. Quartz stringers near portal of one tunnel contain considerable pyrite and some chalcopyrite. Mill built, but never used. Most work was in 1897.

Ivanhoe	Gold
Juneau district	Juneau (8.15, 15.5)
MF-435, loc. 13	58°53'N, 135°06'W

Summary: Only mine or prospect in Berners Bay area not in quartz diorite; in altered basaltic lava flows. By 1903 (after which mine was inactive) 3,000 tons of ore that yielded about $7,000 (about 340 fine oz.) in gold was mined from a drift and stope in a quartz vein 1-9 ft. (average 5 ft.) thick. Includes reference to Mellen Mining and Manufacturing Co.

Spencer, 1906 (B 287), p. 135-136 -- Has been gold production; has own mill.

Wright and Wright, 1906 (B 284), p. 33 -- Operated at intervals from 1897 to 1903. 4 quartz veins; most of work on one vein where about 1,000 ft. of crosscut and drift were driven. Diorite footwall. Production reported to have been about $7,000 [about 340 fine oz.] in gold from 3,000 tons of ore.

Knopf, 1911 (B 446), p. 38-39 -- Vein is 1-9 ft. (average 5 ft.) thick between well-defined walls. Country rock is altered basalt or diabase porphyry. Developed by more than 1,000 ft. of tunnel and drift; at one place ore was stoped to surface and 3,000 tons of ore removed; about $7,000 [about 340 fine oz.] in gold recovered. Mine had its own mill. Property idle after 1903.

Berg and Cobb, 1967 (B 1246), p. 160 -- In altered basaltic lava flows about 3,000 ft. from nearest contact with quartz diorite; only mine in Berners Bay area not in quartz diorite. Before 1903 (when operations ceased) 3,000 tons of ore that yielded about $7,000 in gold was mined from a drift and stope in a quartz vein 1-9 ft. thick.

Jersey (City)	Gold
Juneau district	Juneau (14.8, 4.8)
MF-435, loc. 61	58°16'N, 134°24'W

Summary: Prospecting only, 1914 and 1916. Metallic sulfides (no data on what sulfides) locally abundant in interbedded slate and schistose greenstone; encouraging assays reported. No record of mining.

Eakin, 1915 (B 622), p. 98 -- Prospecting (mainly by open cuts), 1914. Bedrock is schistose greenstone interbedded with thin bands of slate. Metallic sulfides [which ones not specified] locally abundant in both greenstone and slate; encouraging assays reported from material encountered in shaft and crosscut driven on one of the richer spots of sulfide mineralization. Geology similar to that at Alaska Treasure rather than that at Alaska Treadwell.

Eakin, 1918 (B 662), p. 77 -- Diamond drilling, 1916.

Johnson | Gold

Juneau district | Juneau (8.45, 15.2)
MF-435, loc. 15 | 58°52'N, 135°04'W

Summary: Stockwork of quartz stringers in shattered country rock along contact between diorite and greenstone; considerable pyrite. Sampling, mainly of material exposed in surface cuts, indicated an ore body 1,500 ft. long, 50-70 ft. wide, and with a minimum average value of $3.90 (about 0.189 oz. gold) per ton. Reached by Kensington crosscut in about 1913 and explored by 1,600 ft. of drifts and crosscuts. See also Kensington.

Spencer, 1906 (B 287), p. 137 -- Lode along contact between diorite and greenstone; quartz veins mainly in diorite, with networks of veinlets between sharply defined veins; considerable pyrite.

Wrigt and Wright, 1906 (B 284), p. 33 -- Development restricted to surface prospecting along a gulch. Mineralization appears to follow contact between diorite and greenstone along which there has been fracturing and faulting.

Knopf, 1911 (B 446), p. 43-44 -- At contact between diorite and now-altered amygdaloids. Ore body is a stockwork of quartz stringers in shattered country rock; heavily impregnated with pyrite; explored by tunnel [dimensions not given] and shallow surface cuts. Reported that commercial sampling showed an ore body 1,500 ft. long and 50-70 ft. wide with minimum average value of $3.90 a ton.

Brooks, 1914 (B 592), p. 59 -- Kensington tunnel reported to have intersected Johnson lode 4,800 ft. from portal; drifting also reported 1913.

Eakin, 1915 (B 622), p. 101 -- Kensington adit was driven undercut Johnson lode, 1914.

Chapin, 1916 (B 642), p. 77-78 -- Kensington adit has been driven through Johnson lode, 1915. Johnson lode has been explored by 1,600 ft. of drifts and crosscuts.

Eakin, 1918 (B 662), p. 82-83 -- Plan to mine lode from Kensington crosscut.

Joyce-Jenson(-Johnson) Gold

Juneau district Juneau (10.8, 10.75)
MF-435, loc. 25 58°36'N, 134°49'W

Summary: Quartz stringer lode in slate is 12 ft. thick and is said to contain as much as $7 (about 0.34 fine oz.) gold per ton. 40-ft. tunnel driven on lode before 1910. Includes reference to Yankee Boy.

Wright, 1908 (B 345), p. 89 -- Development reported, 1907.
Knopf, 1912 (B 502), p. 51 -- Tunnel 40 ft. long on quartz stringer lode in slate. Lode is 12 ft. thick, 8 ft. of which is said to run $7 a ton and the rest between $1 and $2. Another tunnel was driven 100 ft. to undercut lode.

Jualin — Copper, Gold, Lead, Zinc

Juneau district — Juneau (8.7, 14.8)
MF-435, loc. 19 — 58°50'N, 135°03'W

Summary: One of principal mines in Berners Bay area, 1896-1901, 1903, 1905-08, and 1915-17. No good data on total production; probably was in the neighborhood of $1,000,000 (about 48,375 fine oz.) in gold. Ore bodies were 4 or 5 quartz veins in diorite; one carried about 1 1/2 oz. of gold per ton; the rest had less than 1/2 oz. gold per ton. In addition to free gold the ore bodies contained considerable pyrite, chalcopyrite, and galena and a little sphalerite and secondary copper minerals. Exclusive of stopes there were more than 18,000 feet of workings. Mine had its own mill, which burned in 1920.

Spencer, 1904 (B 225), p. 38 -- Veins in fissures in diorite.
Wright and Wright, 1905 (B 259), p. 54 -- No extensive improvements in 1904.
Spencer, 1906 (B 287), p. 136 -- Production has been somewhat less than $500,000 [about 24,200 fine oz.] in gold.
Wright and Wright, 1906 (B 284), p. 33-34 -- Property worked 1896-1900, 1903, and part of 1905. Deposit is 3 ore bodies in diorite 1,200 ft. from contact with slate and greenstone. In one vein as much as 5 ft. thick free gold is uniformly distributed; also pyrite, chalcopyrite, malachite and azurite. A leaner ore body has an average width of 10 ft. for a length of 400 ft. The third ore body is 2-6 ft. wide and exposed for 150 ft. in a drift. Ore is treated in a 10-stamp mill.
Wright, 1907 (B 314), p. 57-58 -- Mining and milling, May-October, 1906.
Wright, 1908 (B 345), p. 90 -- Mining and milling, 1907. Most of ore above 220 ft. level has been stoped out.
Wright, 1909 (B 379), p. 71 -- Mining suspended in early summer, 1908.
Knopf, 1910 (B 442), p. 138 -- Mine idle, 1909.
Knopf, 1911 (B 446), p. 44-47 -- 3 parallel ore bodies of quartz and altered diorite exposed in main adit; middle lode less rich than other two. Ore consists of quartz with considerable pyrite, chalcopyrite, and galena and a little sphalerite, malachite, and azurite, as well as free gold. Most of ore above adit level stoped out; water problems in winzes. Property located in 1896; mined continuously to 1901 and intermittently thereafter. [No data on amount of production].
Brooks, 1912 (B 520), p. 26 -- Plans to reopen mine, 1911.
Brooks, 1913 (B 542), p. 32 -- Development work 1912.
Brooks, 1914 (B 592), p. 59 -- Shaft sinking and surface improvements, 1913.
Brooks, 1915 (B 622), p. 41 -- Some gold recovered incidental to testing, 1914.
Eakin, 1915 (B 622), p. 101-102 -- Large-scale development until World War I in Europe curtailed operations (Belgian capital was used for development). About 20 men maintaining mine and crosscutting a new ore body, 1914.
Chapin, 1916 (B 642), p. 77 -- Much exploration and some mining and milling, 1915. New ore body opened in 160-ft. level. Working consists of adit level nearly a mile long, an aggregate of 13,000 ft. of workings on 3 other levels, and stopes.

Jualin -- Continued

Smith, 1917 (BMB 142), p. 35 -- Mine operated, 1915. Average stope width on 3 veins about 5 ft.

Smith, 1917 (BMB 153), p. 23-24 -- Mine operated, 1916. Data on mining and milling methods.

Eakin, 1918 (B 662), p. 77 -- Activity in 1916.

p. 81-82 -- Reference to Knopf, 1911 (B 446), p. 45 - Mining in 1916 consisted of sinking shafts and running drifts in ore, which was enough to keep mill supplied and pay for operation. 2 veins (7-1/2 ft. and 5 ft. thick in developed areas) each have horizontal extent of about 400 ft. Workings 310 ft. below adit level in 1916.

Martin, 1919 (B 692), p. 29 -- Operated until October, 1917, when mine shut down because of shortages and high prices of supplies and labor.

Martin, 1920 (B 712), p. 30 -- Did not operate, 1918.

Mertie, 1921 (B 714), p. 107-108 -- Considerable exploration and development, but no mining, 1919. 2 more veins have been found since Knopf's work in 1909 [Knopf, 1911 (B 446), p. 44-47]. Mill practice shows that 80% gold in quartz veins is free and 20% in concentrates that are mainly pyrite with some chalcopyrite and galena.

Brooks, 1922 (B 722), p. 36 -- Work suspended, 1920. Mill burned.

Brooks and Capps, 1924 (B 755), p. 24-25 -- New lessee continued old drainage tunnel. During 1915 and 1917 25,691 tons of ore milled gave average recovery of $10.81 a ton; 91% of assay value.

Buddington and Chapin, 1929 (B 800), p. 317 -- Example of fissure veins.

Smith, 1930 (B 813), p. 14-15 -- Reports that mine might be reopened, but there was no production in 1928.

Smith, 1932 (B 824), p. 16 -- Rumors that mine might reopen, 1929.

Berg and Cobb, 1967 (B 1246), p. 159-160 -- Except for one vein that yielded about 1-1/2 oz. gold per ton, ore averaged less than half an ounce of gold per ton.

Julia — Gold (?)

Juneau district — Juneau (10,95, 10,35)
MF-435, loc. 27 — 58°35'N, 134°48'W

Summary: Stringer lodes of mineralized quartz and slate. Probably contain sulfides and gold, but were not developed much. See also Cascade.

Wright and Wright, 1906 (B 284), p. 34-35 -- Group of claims in Yankee Basin; mineralized quartz and schist.

Wright, 1908 (B 345), p. 89 -- Near Cascade prospect; may include promising vein deposits.

Knopf, 1912 (B 502), p. 50 -- Stringer lodes 12 ft. and 8 ft. wide. In Yankee Basin; little work has been done.

Kensington (Mining Co.) Gold, Lead

Juneau district Juneau (8.3, 15.2)
MF-435, loc. 14 58°52'N, 135°05'W

Summary: Ore bodies are stockworks of quartz veins in fracture zones in diorite. Kensington ore body elliptical in cross-section, 80 x 160 ft.; was intersected by crosscut about 1,000 ft. below surface. This and Eureka and Johnson ore bodies have assay limits. Principal sulfide is pyrite; galena noted at one place. Mining from 1897 to 1904; by 1901 about 12,000 tons of ore had been mined from surface and shallow workings; ore ran $3-$5 a ton. In 1904 and 1911-16 long adit was driven; undercut Eureka, Kensington, and Johnson lodes; some drifts run and stopes cut; probably some production. Several unsuccessful attempts to reopen after World War II. Includes references to: Eureka, Sherman Creek. See also Johnson.

Spencer, 1904 (B 225), p. 38 -- Veins in fissures in diorite.
Wright and Wright, 1905 (B 259), p. 54 -- Crosscut tunnel 1,800 ft. long completed, 1904. Cuts ledge 95 ft. wide 1,400 ft. below surface.
Spencer, 1906 (B 287), p. 137 -- Stockworks or fracture zones in diorite; zones of broken rock filled with intersecting veins of quartz carrying sulfide minerals; up to at least 100 ft. wide; one reported to have been opened at a depth of 1,400 ft. for a length of about 200 ft.
Wright and Wright, 1906 (B 284), p. 32-33 -- From 1897 to 1900 was opened by extensive surface and shallow underground workings; nearly 12,000 tons of ore reported to have been mined. In 1904 crosscut intersected Eureka and Kensington ore bodies 1,300 ft. and 1,940 ft. respectively from portal at depth below the surface of 400 ft. and 1,000 ft. respectively; Kensington ore body has elliptical cross section 80 ft. by 160 ft. Both ore bodies have assay limits.
Wright, 1907 (B 314), p. 57 -- Was major producer before 1900. Did not operate in 1906.
Brooks, 1911 (B 480), p. 67-68 -- Reference to Knopf, 1911 (B 446), p. 40-42.
Knopf, 1911 (B 446), p. 40-42 -- Essentially the same data as in Wright and Wright, 1906 (B 284), p. 32-33 -- A little galena noted at one place; only other sulfide is pyrite. Ore runs $3-$5 a ton. No work since 1904; legal difficulties.
Brooks, 1912 (B 520), p. 25-26 -- Development continued, 1911.
Brooks, 1913 (B 542), p. 32 -- Driving of adit continued, 1912.
Brooks, 1914 (B 592), p. 59 -- Adit continued. Reported to have cut Johnson lode 4,800 ft. from portal at depth of 800 ft.; some drifting on lode reported, 1913.
Brooks, 1915 (B 622), p. 41 -- Development on a considerable scale, 1914.
Eakin, 1915 (B 622), p. 101-102 -- Kensington adit 4,700 ft. long; crosscutting and openings for stopes in progress, 1914.
Chapin, 1916 (B 642), p. 77-78 -- Kensington, Bear, and Comet properties consolidated. Most work in 1915 was on Kensington [probably including Johnson].
Smith, 1917 (BMB 142), p. 36 -- Mill will probably be built, 1915.
Smith, 1918 (BMB 153), p. 24 -- Exploration, 1916. Planned mill was not built.

Kensington (Mining Co.) -- Continued

Eakin, 1916 (B 662), p. 77 -- Active in 1916.

p. 82-83 -- Kensington, Eureka, and Johnson lodes to be developed from Kensington crosscut only; mill to be adapted for flotation process with capacity of 500 tons per day. Ore to be mined from Kensington lode first; reserves above adit level said to exceed 500,000 tons. Dead work preparatory to mining and milling was on schedule in 1916.

Martin, 1920 (B 712), p. 30 -- Did not operate, 1918.

Buddington and Chapin, 1929 (B 800), p. 318 -- Examples of stockwork deposits.

p. 345-346 -- Data from Knopf, 1911 (B 446).

Smith, 1930 (B 813), p. 14-15 -- Report that mine might be reopened; no production in 1928.

Smith, 1932 (B 824), p. 16 -- Rumors that mine is to be reopened, 1929.

Smith, 1934 (B 864-A), p. 17 -- Property examination, 1933.

Smith, 1936 (B 868-A), p. 16 -- Investigations, 1934.

Smith, 1937 (B 880-A), p. 17 -- Mainly getting buildings and surface equipment in shape, 1935.

Smith, 1938 (B 897-A), p. 17 -- Road building and work on surface plant, 1936.

Smith, 1939 (B 910-A), p. 19 -- Work discontinued, 1937.

Smith, 1942 (B 933-A), p. 17 -- Local reports that mine would be reopened under Canadian management, 1940.

Noel, 1966, p. 60 -- Ore body reported to be 160 ft. long by 80 ft. wide. with a vertical range of over 800 ft.

Berg and Cobb, 1967 (B 1246), p. 159-160 -- Has produced ore. Only activity since World War I has been unsuccessful attempts to reopen mine.

(Lemon Cr.) Copper, Gold, Lead, Zinc

Juneau district Juneau (14,1-14,7, 6.6-7.15)
MF-435, locs. 42, 77, 78 58°22'-58°24'N, 134°24'-134°28'W

Summary: In early 1900's was a little placer mining of gravel on glacial clay in a bedrock-dammed basin. Two narrow quartz veins in a gneissic diorite dike contain pyrrhotite, galena, sphalerite, and chalcopyrite.

Brooks, 1904 (B 225), p. 46 -- Hydraulicking, 1903.
Purington, 1905 (B 263), p. 207 -- Gold worth $14.00 an ounce.
Spencer, 1906 (B 287), p. 118-120 -- Parallel quartz veins in banded diorite dike are 8 in. to a foot thick; abundant pyrrhotite, galena, sphalerite, and chalcopyrite. Has been a little placer mining of gravel overlying glacial clay in a bedrock-dammed basin.
Wright and Wright, 1906 (B 284), p. 37 -- Careful evaluation in 1905 showed that gold content of gravel is very low; placer operations ceased. Lode claims staked on quartz veins in schist near head of creek; gold values low.
Berg and Cobb, 1967 (B 1246), p. 155 -- Pyrrhotite, galena, sphalerite, and chalcopyrite in 2 narrow quartz veins in a gneissic diorite dike.

Little Johnson

Gold (?)

Juneau district
MF-435, loc. 17

Juneau (8,6, 15,15) approx.
58°52'N, 135°03'W approx.

Summary: Group of claims near Jualin mine. May have been some work in late 1890's or early 1900's.

Wright and Wright, 1906 (B 284), p. 34 -- Group of claims at head of Johnson Cr. above Jualin mine.

Lurvey	Gold
Juneau district MF-435, loc. 82	Juneau (15,4, 5,3) 58°18'N, 134°20'W

Summary: Auriferous gravel in filled small lake was mined in 1889; unsatisfactory results.

Spencer, 1906 (B 287), p. 80 -- Old lake 2-1/2 acres in area was filled by gravel from Lurvey Cr. Talus above old lake was rich enough to have been sluiced. Lake gravels were sluiced through a tunnel in 1889 with unsatisfactory results, possibly because of poor planning.

(Lurvey Cr.) Gold

Juneau district Juneau (15.4, 5.25)
MF-435, loc. 83 58°17'N, 134°20'W

Summary: Gravel in cirque basin undoubtedly contains gold; has not been tested.

Spencer, 1906 (B 287), p. 79-80 -- About 30,000 cubic yards of material in a cirque basin was derived from gold-bearing terrane. Undoubtedly contains gold, but has not been tested.

Mammoth (Admiralty I.)	Gold, Lead, Silver, Zinc
Admiralty district	Juneau (12,55, 2,1)
MF-435, loc. 71	58°07'N, 134°39'W

Summary: Schist impregnated with pyrite across a width of several hundred feet is traversed by narrow seams of galena and sphalerite; some free gold; high gold and silver assays reported. Quartz-filled fissures do not seem to be important. Developed by a tunnel 165 ft. long, pits, and trenches. No production. Apparently no work since about 1908.

Wright and Wright, 1905 (B 259), p. 55-56 -- Schist country rock heavily mineralized; very few quartz-filled fissures. 3 mineralized zones 25-75 ft. wide contain galena, sphalerite, and some free gold; very high assay values in gold and silver reported. Tunnel (planned to be 1,500 ft. long to undercut ore bodies) driven 575 ft. by end of 1904.

Wright, 1906 (B 287), p. 150 -- Heavily mineralized schist country rock; quartz-filled fissures of very minor importance. Schist impregnated with pyrite across a width of several hundred feet; traversed by narrow seams filled with galena and sphalerite; native gold also present. Developments consist of a 165-ft. tunnel and many pits and trenches. Results of sampling in 1905 reported to be unfavorable.

Wright and Wright, 1906 (B 284), p. 40 -- Mineralized schist traversed by occasional stringers of quartz carrying pyrite, galena, and sphalerite.

Wright, 1907 (B 314), p. 59 -- Assessment work only, 1906.

Wright, 1908 (B 345), p. 90 -- Assessment work, 1907.

Wright, 1909 (B 379), p. 72 -- Assessment work, 1908.

Lathram and others, 1960 (I-323) -- Map shows symbol for occurrence of gold and lead-zinc.

Berg and Cobb, 1967 (B 1246), p. 140 -- Pyritic schist cut by narrow seams of galena, sphalerite, and a little free gold. Apparently no work since 1910.

Race and Rose, 1967 (GC 8), p. 19 -- Mineralized schist contains free gold, pyrite, galena, and sphalerite. Developed by 165-ft. tunnel, pits, and trenches. No recorded production.

Mammoth (Douglas I.)

Gold (?)

Juneau district

Juneau (15.4, 4.0) approx.
58°13'N, 134°21'W approx.

Summary: Pyrite and quartz stringers in 2 bands of bleached schist in which crosscuts were driven. Country rock is greenstone and greenstone schist with intercalated bands of slate.

Wright and Wright, 1906 (B 284), p. 39-40 -- Bedrock is greenstone and greenstone schist with intercalated bands of slate. Pyrite and quartz stringers in bleached schist in 2 bands that may be continuations of similar bands at Red Diamond prospect. Crosscuts were driven in mineralized schist bands.

Wright, 1907 (B 314), p. 54 -- Assessment work only, 1906.

Mansfield Gold Mining Co. (Admiralty I.) — Copper, Lead, Zinc

Admiralty district — Juneau (14.6, 4.6) approx.
MF-435, loc. 66 — 58°16'N, 134°51'W approx.

Summary: Quartz veins 3-6 ft. wide in schist contain considerable chalcopyrite and pyrrhotite and some galena and sphalerite. Crosscut tunnel and surface prospecting before about 1916. No data on possible precious metal content. No record of production. Includes reference to Seattle.

Wright, 1907 (B 314), p. 59 -- Quartz ledges 3-6 ft. wide and 100 or more feet apart strike NW parallel to regional trend; carry considerable chalcopyrite and pyrrhotite and some galena and sphalerite. Main vein exposed by 20-ft. tunnel and surface stripping.

Wright, 1909 (B 379), p. 72 -- Crosscut tunnel being driven, 1908; also some surface prospecting.

Eakin, 1918 (B 662), p. 85-86 -- Has been considerable prospecting in last 5 years; in mineralized schist. [Called Seattle group in this reference.]

Lathram and others, 1960 (I-323) -- Map shows symbol for occurrence of copper and lead-zinc.

Berg and Cobb, 1967 (B 1246), p. 140 -- Small quartz veins contain chalcopyrite, pyrrhotite, galena, and sphalerite. Exploration in early 1900's. No evidence that any ore was shipped.

Maud(e) S. | Gold

Juneau district | Juneau (10,8, 10.75)
MF-435, loc. 25 | 58°36'N, 134°49'W

Summary: In 1907 an 80-ft. tunnel crosscut a 4-1/2-ft. quartz-slate stringer lode similar to that at Joyce-Jensen, which carries about 1/3 oz. of gold per ton.

Wright, 1908 (B 345), p. 89 -- 80-ft. tunnel crosscut a 4-1/2-ft. vein, 1907.

Knopf, 1912 (B 502), p. 51 -- Quartz-slate stringer lode similar to that at Joyce-Jensen, which carries about $7 a ton in gold.

(McGinnis Cr.) Gold

Juneau district Juneau (12.6-12.7, 8.05-8.1)
MF-435, locs. 37, 75 58°27'N, 134°37'-134°38'W

Summary: Creek crosses slate belt in which are probably auriferous quartz veins. Placer gold mined from talus cone in gulch; gold rough and mostly fine. Mining began in 1903 and ceased 1905. Assessment work (probably on lode claims), 1906-07.

Brooks, 1904 (B 225), p. 46 -- Hydraulic plant has been installed [as of 1903].

Spencer, 1904 (B 225), p. 37 -- Hydraulic plant installed in 1903; not enough water to operate it.

Wright and Wright, 1905 (B 259), p. 51, 54 -- Placer mining, 1904.

Spencer, 1906 (B 287), p. 123-124 -- Creek rises in granite and crosses slate belt in which are probably auriferous quartz veins. Placer gold in talus apron formed by coalescing talus cones in gulches. One talus cone hydraulicked with water brought to head of cone by flume. Work in 1904-05 indicated that deposit could not be mined at a profit. Gold rough and mostly fine.

Wright and Wright, 1906 (B 284), p. 36 -- About the same data as in Spencer, 1906 (B 287), p. 123-124.

Wright, 1907 (B 314), p. 56 -- Both lode and placer claims idle for most of 1906; gold values low.

Wright, 1908 (B 345), p. 88 -- Assessment work only, 1907.

Cobb, 1973 (B 1374), p. 103 -- Has been placer mining.

Medicine Bird	Gold(?)
Juneau district MF-435, loc. 17	Juneau (8.6, 15.15) approx. 58°52'N, 135°03'W approx.

Summary: Group of claims near Jualin mine. May have been some work in late 1890's or early 1900's.

Wright and Wright, 1906 (B 284), p. 34 -- Group of claims at head of Johnson Cr. above Jualin mine.

Mendenhall (near Juneau)	Gold, Lead
Juneau district	Juneau (12.95, 7.6)
MF-435, loc. 38	58°26'N, 134°35'W

Summary: Quartz veinlets in interbedded slates and green chloritic schists are sparsely mineralized with pyrrhotite, arsenopyrite, and galena; arsenopyrite crystals also in slate. Amphibolite dike 100 ft. wide is cut irregularly by albite-calcite veinlets with a little pyrrhotite; free gold can be panned from this rock. Development consists of open cut and 85-ft. tunnel.

Knopf, 1912 (B 502), p. 49-60 -- Stringer lode (probably 100 ft. wide) of quartz veinlets in interbedded black slates and green chloritic schists. Veinlets are sparsely mineralized with pyrrhotite, arsenopyrite, and galena; slate also contains arsenopyrite crystals. Developments consist of open cut 30 ft. wide and crosscut tunnel 85 ft. long. Nearby amphibolite dike 100 ft. wide is cut irregularly by albite-calcite veinlets with a little pyrrhotite; free gold can be panned.

(Middle Peak) Copper, Lead

Juneau district Juneau (16.2, 4.65)
MF-435, loc. 58 58°15'N, 134°15'W

Summary: Pyrite, chalcopyrite, and secondary copper minerals in quartz veins in volcanic rocks; galena nearby.

Lathram and others, 1959 (I-353), sample 8 -- Pyrite, chalcopyrite, and secondary copper minerals in quartz veins in volcanic rocks. Galena nearby.

Mitchell & McPherson — Gold, Lead

Juneau district — Juneau (11.75, 9.65)
MF-435, loc. 31 — 58°33'N, 134°43'W

Summary: Crushed and mineralized zone 6 ft. thick trends across banding of diorite gneiss; carries $5-$12 a ton in gold (gold at $20.67 an ounce). Sulfides (pyrite and galena) are rare; quartz veinlets in a few places. Ore exposed in open cuts; 2 crosscuts probably did not reach ore zone. No recorded production.

Knopf, 1911 (B 480), p. 97 -- Tunnel projected to undercut ore body begun, 1910.

Knopf, 1912 (B 502), p. 53 -- Country rock is a belt of diorite gneiss in a schist terrane. Lode is a crushed and mineralized zone that trends across foliation of gneiss and contains $5 to $12 a ton in gold. Sulfides (pyrite and galena) are rare; irregularly spaced quartz veinlets in a few places. Ore zone exposed by open cuts; crosscut being driven to undercut lode.

Eakin, 1915 (B 622), p. 102 -- Development reported, 1914.

Berg and Cobb, 1967 (B 1246), p. 159 -- In diorite gneiss rather than in metamorphosed bedded rocks. Crushed gneiss containing quartz and carbonate minerals prospected by 2 tunnels and several open cuts. Lode exposed for about 6 ft. in open cuts reported to carry $5-$12 in gold per ton.

(Montana Basin) Gold

Juneau district Juneau (12.3S, 8.4)
MF-435, loc. 35 58°28'N, 134°39'W

Summary: Stringer lodes in schist belt and one or two thicker (up to 2 ft.) quartz veins contain a little gold. Discovered in 1882. Has been a few hundred feet of tunneling; not much more than assessment work.

Wright and Wright, 1906 (B 284), p. 36 -- Stringer leads or lodes of mineralized slate cut by many quartz veinlets; 2 richer quartz veins were also found. Has been 400 ft. of tunneling; annual assessment work has been performed. Low values in ore bodies.
Wright, 1907 (B 314), p. 56 -- Assessment work, 1906.
Wright, 1908 (B 345), p. 88 -- Assessment work, 1907.
Knopf, 1911 (B 480), p. 109 -- First lode locations, 1882.
Knopf, 1912 (B 502), p. 55 -- Stringer lodes in schist belt. On one claim open cuts expose a quartz vein from a few inches to 2 ft. thick that cuts across foliation of schist; stained by iron oxides; no visible sulfides; fine colors of free gold.
Smith, 1937 (B 880-A), p. 17 -- Prospecting, 1935.
Berg and Cobb, 1967 (B 1246), p. 158 -- Auriferous veins discovered and staked, 1882.

(Montana Cr.) Gold

Juneau district Juneau (12.2, 8.55) approx.
MF-435, loc. 74 58°28'N, 134°40'W approx.

Summary: Placer gold discovered in 1882; probably derived from quartz veins in slate and/or schistose greenstone. A little small-scale placer mining soon after discovery and 1928-29.

Spencer, 1904 (B 225), p. 37 --"Important" placer present.
Spencer, 1906 (B 287), p. 124-125 -- Placer gold discovered in part of creek in Montana Basin in 1882; mined on a small scale for several years. Gravel flat further downstream said to carry some gold; never thoroughly prospected. Placer gold probably derived from quartz veins in slate and/or schistose greenstone.
Knopf, 1911 (B 480), p. 109 -- First placer mining, 1882; soon abandoned.
Brooks, 1913 (B 542), p. 43 -- Report that there were investigations with view to installing a dredge, 1912.
Smith, 1930 (B 813), p. 24 -- A little placer gold mined, 1928.
Smith, 1932 (B 824), p. 28 -- A little placer gold mined, 1929.
Smith, 1942 (B 933-A), p. 32 -- New attempt at placer mining, 1940. Mainly dead work.
Cobb, 1973 (B 1374), p. 103 -- A little placer mining, late 1800's and early 1900's.

Mother Lode (near Yankee Cove) Gold(?)

Juneau district Juneau (10.6, 10.0)
MF-435, loc. 24 58°34'N, 134°51'W

Summary: Quartz masses in greenstone conglomerate do not have pyritic mineralization; arsenopyrite and pyrite in conglomerate wall rock. No data on gold content, if any. Exploration by open cuts.

Knopf, 1912 (B 502), p. 49 -- Open cuts over a length of several thousand feet expose masses of quartz in greenstone conglomerate near its contact with slates. Quartz not mineralized with pyrite; arsenopyrite and pyrite in altered conglomerate wall rock.

(Mt. Young) — Copper, Silver, Zinc(?)

Juneau district — Juneau (3.85-3.9, 15.1-15.55)
MF-435, locs. 4, 5 — 58°52'-58°53'N, 135°34'-135°35'W

Summary: Samples from veins and altered zones in a variety of rocks contained traces of chalcopyrite, probably a secondary zinc mineral, and anomalous amounts of silver.

Lathram and others, 1959 (I-303), sample 18 -- Pyrite and chalcopyrite in cellular siliceous matrix associated with volcanic rocks.

MacKevett and others, 1971 (P 632), p. 41 -- Geologically complex area; variety of metamorphic rocks, small granitic plutons, and mafic dikes; short quartz veins less than 6 in. thick and altered zones a few feet thick. Samples contain traces of chalcopyrite, probably a secondary zinc mineral, and anomalous amounts of silver.

Nelson-Lott | Gold

Juneau district | Juneau (15.95, 4.85)
MF-435, loc. 57 | 58°16'N, 134°16'W

Summary: Prospecting, including an adit driven 1,200 ft., 1915-16. Includes references to: Alaska Gold Belt, Gold Belt. This property may have been known by other names as well.

Chapin, 1916 (B 642), p. 76 -- Adit driven 1,200 ft. and work on surface installations, 1915 [called Alaska Gold Belt Co. in this reference].
Smith, 1917 (BMB 142), p. 32 -- Development, 1915.
Smith, 1917 (BMB 153), p. 18 -- Development, 1916.
Eakin, 1918 (B 662), p. 77 -- A little open-cut prospecting, 1916.

Noonday	Gold(?)
Juneau district	Juneau (10.95, 10.35)
MF-435, loc. 27	58°35'N, 134°48'W

Summary: Stringer lode 6 ft. wide of quartz and slate. Probably contains sulfides and gold, but was not developed much. See also Cascade.

Wright and Wright, 1906 (B 284), p. 34-35 -- 6-ft. quartz vein in Yankee Basin. Country rock is graphitic slate and schist.

Wright, 1908 (B 345), p. 89 -- Near Cascade; may include promising vein deposits.

Knopf, 1912 (B 502), p. 50 -- Stringer lode 6 ft. wide. In Yankee Basin; not much work has been done.

Northern Bell (Gold Mining Co.) Gold

Juneau district Juneau (8.45, 15.2)
MF-435, loc. 15 58°52'N, 135°04'W

Summary: Ore body similar to that at Comet mine; fissure vein between diorite and chlorite schist. Mine operated 1896-97; produced nearly 23,000 tons of ore. No data on tenor.

Wright and Wright, 1906 (B 284), p. 32 -- Fissure vein(s) along contact between diorite and chlorite schist. Gold native and associated with sulfides. Mine was operated in 1896-97; produced nearly 23,000 tons of ore; 78% of gold was in bullion. Ore body similar to that at Comet mine.

Berg and Cobb, 1967 (B 1246), p. 160 -- Has been a productive mine.

(Nugget Cr.) Gold

Juneau district Juneau (14.0, 7.6)
MF-435, loc. 76 58°26'N, 134°29'W

Summary: Small gold nuggets found in shallow gravels. Assessment work was the principal activity.

Spencer, 1906 (B 287), p. 120-121 -- Small nuggets of gold found in shallow gravels; nothing minable, though there was annual assessment work for several years.

Brooks, 1912 (B 520), p. 36 -- Preparations for installing hydraulic plant, 1911.

Oleson — Gold(?)

Juneau district — Juneau (11.2, 9.75)
MF-435, loc. 30 — 58°33'N, 134°46'W

Summary: Quartz veins in slate along contact with volcanic rock; pieces of slate in which are arsenopyrite crystals. No data on gold content, if any.

Knopf, 1912 (B 502), p. 51-52 -- Narrow belt of slate between 2 belts of volcanic (mainly breccia) rocks. Narrow quartz veins in slate along contact with volcanic rocks contain arsenopyrite crystals, commonly in rock fragments enclosed in quartz.

Opnir | Gold

Juneau district | Juneau (8.3, 15.2)
MF-435, loc. 14 | 58°52'N, 135°05'W

Summary: Quartz fissure vein 2-6 ft. thick in diorite; many vugs and cavities lined with large quartz crystals. Gold values not high. Several hundred feet of tunnels and drifts.

Wright and Wright, 1906 (B 284), p. 33 -- Quartz veins; has been prospecting only; reported not to carry high gold values.

Knopf, 1911 (B 446), p. 39 -- Quartz fissure vein 2-6 ft. thick in diorite; many vugs and cavities lined with large glassy quartz crystals. A very little pyrite in vein. [No mention of gold content.] Several hundred feet of tunnels and drifts.

Buddington and Chapin, 1929 (B 800), p. 317 -- Example of fissure vein.

Penn-Alaska (Mining Co.) Gold(?)

Juneau district Juneau (16,85, 3,85)
MF-435, loc. 59 58°12'N, 134°10'W

Summary: Quartz claims near Taku Inlet; some work in 1914. Gold probably (but not certainly) present.

Eakin, 1915 (B 622), p. 102 -- Quartz claims being developed near Taku Inlet. Some stripping, 1914.
Chapin, 1916 (B 642), p. 76 -- Patented claims on Taku Inlet.

Perseverance (Mining Co.) Copper, Gold, Lead, Silver, Zinc

Juneau district Juneau (15.35, 5.4)
MF-435, loc. 50 58°18'N, 134°20'W

Summary: South of and adjoining Alaska-Juneau in same lode system. Low-grade proposition with gold, pyrrhotite, chalcopyrite, galena, and sphalerite in quartz veins and veinlets in black slate. Mining with a few interruptions from 1895 to 1921. Very large-scale operations, including 10,500-ft.-long Sheep Creek adit and large mill (150,000-200,000 tons of ore a month mined in 1919), begun in 1915 and continued until 1921 (company lost money, 1918-21) when mine closed because of low grade of ore. Gold production 1907-21 was about 500,900 fine oz., plus an unknown amount of gold 1895-1907 and some silver, lead, and zinc. Purchased by Alaska-Juneau in 1933. Became an integral part of Alaska-Juneau in 1935. Includes references to: Alaska Gastineau (Mining Co.), Alaska Mining & Power Co., Alaska Perseverance (Mining Co.). See also Alaska-Juneau.

Spencer, 1904 (B 225), p. 35 -- In mineralized zone about 800 ft. wide in black slate.

Spencer, 1906 (B 287), p. 58-59 -- Arrastre built in 1886 and 10-stamp mill in 1889. Production before 1894 was about $70,000 in gold and silver. Development before 1903 consisted of about 1,900 ft. of tunnels and shafts. In 1903 crosscut being driven to intersect lode at depth.

p. 74-76 -- In belt of black slates cut by diorite dikes. Ore in stringer leads mainly of quartz, but with some calcite. Metallic minerals are pyrrhotite, pyrite, galena, sphalerite, and free gold; some tourmaline in gangue. Was a little mining of a hill placer on property. Long tunnel (Alexander crosscut) encountered ore.

Wright and Wright, 1906 (B 284), p. 37-38 -- Alexander tunnel extended to length of 2,500 ft. Vertical raise 842 ft. long connects tunnel to surface workings.

Wright, 1904 (B 314), p. 55 -- 100-stamp mill being installed, 1906. Also development of an ore body 60-80 ft. wide consisting of mineralized black slate cut by many quartz veins carrying pyrrhotite, chalcopyrite, galena, and sphalerite; more than 1,000 ft. of drifts and raise in ore body.

Wright, 1908 (B 345), p. 87-88 -- Considerable mining and milling, 1907.

Wright, 1909 (B 379), p. 70 -- Mining, 1908.

Knopf, 1910 (B 442), p. 135 -- Mining, 1909.

Knopf, 1911 (B 480), p. 96 -- Mining, 1910; 110 men employed; 100-stamp mill operated.

Brooks, 1912 (B 520), p. 25 -- Mining, 1911.

Brooks, 1913 (B 542), p. 32 -- Mining, 1912. 2,500 ft. of Sheep Creek adit driven. Mill and crushing plant destroyed by fire in December.

Brooks, 1914 (B 592), p. 58-59 -- Sheep Creek adit connected to deepened No. 1 shaft of old workings, April 1914. Sheep Creek adit is 8x10 ft. and 10,500 ft. long.

Brooks, 1915 (B 622), p. 41 -- Considerable development, 1914.

Perseverance (Mining Co.) -- Continued

Eakin, 1915 (B 622), p. 96 -- Important development work, 1914.
p. 98-100 -- Mine about ready for large-scale operation by fall of 1914.

Chapin, 1916 (B 642), p. 75 -- Mill completed; estimated 1,200,000 tons of ore milled; ore lower grade than had been expected. Company employs 1,300 men, 1915.
p. 98 -- Lead produced from galena concentrates.

Smith, 1917 (BMB 142), p. 31-32 -- Mainly data on mining and milling methods.

Smith, 1917 (BMB 153), p. 17-18 -- Same data on mining and milling methods.

Eakin, 1918 (B 662), p. 80 -- Operations at rate of 6,000 tons per day; average tenor below that expected; requires selective stoping.

Martin, 1919 (B 692), p. 29 -- Mining, 1917.

Martin, 1920 (B 712), p. 29 -- Mining on a reduced scale, 1918; labor shortage.

Mertie, 1921 (B 714), p. 106 -- Mined 150,000-200,000 tons of ore a month, 1919.

Brooks, 1922 (B 722), p. 36 -- Mining, 1920.

Brooks, 1923 (B 739), p. 21 -- Plant dismantled and mine abandoned July 1, 1921; ore "too low grade to mine at a profit;" material mined in 1921 averaged 80 cents a ton in total metals.

Brooks and Capps, 1924 (B 755), p. 8 -- Plant completed in 1916; closed in 1921.

Smith, 1937 (B 880-A), p. 15 -- Mine and surface installations being developed and repaired by Alaska-Juneau Gold Mining Co., 1935.

Smith, 1938 (B 897-A), p. 15 -- Connected to Alaska-Juneau workings and mined through them, 1936.

Twenhofel, 1952 (OF 60), p. 17-19 -- Historical data. Mine began milling ore in 1895; with few interruptions mined until 1921; company operated at a profit, 1915-17; lost money, 1918-21. Purchased by Alaska-Juneau Gold Mining Co., 1933; became an integral part of Alaska-Juneau.
p. 26 -- Gold production, 1907-21, was worth $10,353,843 [about 500,900 fine oz.]. Also produced an unknown amount of gold 1895-1907 and some silver, lead, and zinc.

Herreid, 1962, p. 50 -- Large fold is a mass of small folds in the hinge and quite planar on the flanks.

Berg and Cobb, 1967 (B 1246), p. 154 -- Was a productive mine.

Peterson | Gold

Juneau district | Juneau (11.75, 7.75)
MF-435, loc. 36 | 58°26'N, 134°43'W

Summary: Tabular masses of quartz, some with stringers extending into the slate country rock, contain arsenopyrite and free gold; several hundred tons of probably typical ore was said to average about 0.3 oz. gold a ton. Deposit located in 1897 and intermittently mined on a small scale until 1922. Amount of production not known; in some years it was no more than enough to defray expenses. Includes references to: Prairie (near Eagle R.), (Peterson Cr.), Coordinates above are for Prairie claim.

Wright and Wright, 1905 (B 259), p. 54 -- Operated early part of 1904.

Spencer, 1906 (B 287), p. 126 -- Auriferous quartz stringer vein continuous for at least several hundred feet; appears to be in slate; greenstone and altered gabbro nearby. Arsenopyrite (on dump) apparently is the only sulfide present. Some ore from shallow workings has been treated in an arrastre. Some of surficial material has been sluiced every year.

Wright and Wright, 1906 (B 284), p. 36 -- Ore body (on Prairie claim) is a wide, flat-lying body of quartz in black slate. Arsenopyrite is only sulfide. No systemmatic work has been done.

Wright, 1907 (B 314), p. 56 -- Small-scale work on claims. Reported that enough gold is recovered with a small testing mill to defray mining expenses.

Wright, 1908 (B 345), p. 88 -- Small-scale mining, 1907.

Knopf, 1910 (B 442), p. 138 -- Work, mainly trail construction, 1909.

Knopf, 1911 (B 480), p. 97 -- Considerable development work, 1910.

Knopf, 1912 (B 502), p. 53-54 -- Located in 1897; small-scale development until 1910 when larger-scale exploration was begun with the start of a crosscut tunnel and the acquisition of a diamond drill. Country rock is slate with greenstone dikes and volcanic rocks; at least one lamprophyre. Masses of quartz, some tabular with stringers extending into slate, contain arsenopyrite and free gold. Several hundred tons of ore on dumps said to average $6 [about 0.3 oz. gold] per ton.

Brooks, 1913 (B 542), p. 32 -- Inclined shaft sunk 50 ft. and some open cuts, 1912.

Brooks, 1914 (B 592), p. 59 -- Some development work reported, 1913.

Eakin, 1915 (B 622), p. 102 -- Assessment work, 1914.

Chapin, 1916 (B 642), p. 77 -- 2 adits driven and some gold probably produced. Quartz veins contain gold, pyrite, and arsenopyrite.

Martin, 1920 (B 712), p. 29-30 -- Mining, 1918.

Mertie, 1921 (B 714), p. 109 -- Small-scale mining, 1919. Recent mining has been from open cut; 2 quartz veins, one 4 ft. and the other 6 ft. thick; weathered, disintegrated, and iron stained. 80% of gold free milling.

Brooks, 1922 (B 722), p. 36 -- Small-scale mining, 1920.

Brooks, 1923 (B 739), p. 21 -- Small-scale mining, 1921.

Brooks and Capps, 1924 (B 755), p. 24 -- Mine closed during 1922.

Peterson -- Continued

Barker, 1957 (GQ 100) -- Data from Knopf, 1912 (B 502).
Berg and Cobb, 1967 (B 1246), p. 159 -- Large masses of quartz containing arsenopyrite and free gold said to average a little more than a third of an ounce a ton. Claims staked about 1897; worked on a small scale intermittently until at least 1922.

Portage	Copper, Gold, Lead
Admiralty district	Juneau (10.5S, 5.05) approx.
MF-436, loc. 65	58°17'N, 134°51'W approx.

Summary: Lenticular quartz masses in slate carry considerable chalcopyrite and pyrite and small amounts of galena. Assays indicated that ore is low grade in gold. Exploration was by a small shaft and open cuts. Tunnel driven to undercut lode did not reach it. Mineralized rock like that at Mammoth (Admiralty I.) exposed nearby over width of 30 ft. No work reported after 1908. See also Mammoth (Admiralty I.).

Wright, 1906 (B 287), p. 148, 150 -- Vein composed of lenticular quartz masses in slate carries considerable pyrite and chalcopyrite and small amounts of galena; assays said to indicate that ore is low grade [for gold]; exposed by a small shaft and open cuts. Nearby mineralized schist similar to that at Young Bay [Mammoth (Admiralty I.)] is exposed for a width of 30 ft.; strikes N 10° W, dips 65° NE; footwall is greenstone; decrease in mineralization defines hanging wall.

Wright and Wright, 1906 (B 284), p. 40 -- Assessment work, 1905. Other data same as in Wright, 1906 (B 287), p. 150.

Wright, 1907 (B 314), p. 59 -- Deposit is mineralized band of chlorite-mica schist cut by quartz-calcite veinlets and containing small masses of copper and iron sulfides across a width of about 40 ft. Ore exposed by open cut; apparently of low grade. Tunnel to undercut ore had not reached it in 1906.

Wright, 1909 (B 379), p. 72 -- Assessment work, 1908.

Eakin, 1918 (B 662), p. 85-86 -- Quotation from Wright, 1906 (B 287), p. 150. Mainly assessment work since 1904.

Barker, 1957 (GQ-100) -- Reference to Wright, 1906 (B 287), p. 150.

Lathram and others, 1960 (I-323) -- Map shows symbol for occurrence of gold, copper, and lead-zinc.

Berg and Cobb, 1967 (B 1246), p. 140 -- Irregular quartz vein carries considerable pyrite and chalcopyrite and small amounts of galena. Assays said to have been too low to encourage much development.

Race and Rose, 1967 (GC 8), p. 19 -- Pyrite, galena, and chalcopyrite in quartz masses and mineralized schist; slate, schist, and greenstone country rock. Small shaft and open cuts. No reported production.

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Puzzler | Gold (?)

Juneau district | Juneau (11.05, 10.25)
MF-435, loc. 28 | 58°35'N, 134°47'W

Summary: Stringer lode of quartz and slate 14 ft. wide in Yankee Basin. Probably contains sulfides and gold, but was not developed much. See also Cascade.

Wright and Wright, 1906 (B 284), p. 34-35 -- "...a 14-foot lode of quartz carrying mineral...," in graphitic slate and schist.

Wright, 1908 (B 345), p. 89 -- Near Cascade; may include promising vein deposits.

Knopf, 1912 (B 502), p. 50 -- Stringer lode 14 ft. wide in Yankee Basin; not much work has been done.

Reagan — Copper, Gold, Lead, Silver, Zinc

Juneau district — Juneau (15.8, 4.95)
MF-435, loc. 56 — 58°16'N, 134°17'W

Summary: Several hundred feet of workings on a quartz vein in black slate before 1903. Sulfides reported are galena, sphalerite, chalcopyrite, pyrite, and tetrahedrite. Electrum (Au-Ag alloy) in seams and fractures. Includes reference to Regan.

Spencer, 1904 (B 225), p. 36 -- The 4 veins of Silver Queen mine traced to Regan group of claims.

Spencer, 1906 (B 287), p. 56 -- Several hundred feet of underground workings. Vein in black slate; in places gouge along walls. Sulfides include galena, sphalerite, chalcopyrite, pyrite, and tetrahedrite. Electrum in seams and fractures. Some ore on dump, but no commercial shipments as of 1903.

Wright and Wright, 1906 (B 284), p. 38 -- No production or mine improvements, 1905.

Buddington and Chapin, 1929 (B 800), p. 327 -- Electrum reported.

Red Diamond — Gold

Juneau district — Juneau (15.4, 4.0) approx.
58°13'N, 134°21'W approx.

Summary: Band of altered schist no more than 36 ft. wide between narrow gouge zones contains disseminated pyrite and quartz stringers explored by tunnel at least 120 ft. long. Parallel similar zone is wider and lower grade. No work since 1906. Wording in one reference implies that some gold is present.

Wright and Wright, 1906 (B 284), p. 39-40 -- Band of altered schist no more than 36 ft. wide bounded by narrow gouge seams contains disseminated pyrite and quartz stringers explored by a tunnel 120 ft. long. A parallel similar, but wider and lower grade, zone is a few hundred feet to the east. Investigations of gold content in 1905 encouraged further development.

Wright, 1907 (B 314), p. 54 -- Operations discontinued early in 1906.

Rex

Gold

Juneau district
MF-435, loc. 27

Juneau (10.95, 10.35)
58°35'N, 134°48'W

Summary: Small irregular calcite-quartz vein with auriferous arsenopyrite reported to have yielded $3,000 (about 145 fine oz.) in gold in 1903.

Spencer, 1906 (B 287), p. 131-132 -- Small, irregular vein in greenstone is calcite with a little quartz; carries considerable auriferous arsenopyrite. Deposit mined in 1903; production reported to have been $3,000 [about 145 fine oz.] in gold.

Wright and Wright, 1906 (B 284), p. 35 -- No work, 1904-05.

Berg and Cobb, 1967 (B 1246), p. 159 -- Only productive property in Yankee Basin; small, relatively rich quartz vein reported to have yielded $3,000 in gold in 1903.

St. Louis	Gold, Lead
Juneau district	Juneau (12.0, 9.35)
MF-435, loc. 32	58°32'N, 134°41'W

Summary: Mineralized shear zone in quartz diorite gneiss contains arsenopyrite and rare pyrite and galena; reported to average about 1/4 oz. gold per ton. No record of production.

Knopf, 1912 (B 502), p. 52 -- Shear zone about 7 ft. wide in quartz diorite gneiss consists of a breccia of quartz fragments in a matrix of altered diorite; wall rock altered for about 6 in. on each side of ore zone, which is up to 4 ft. thick and is exposed along strike for about 40 ft. Arsenopyrite and rare pyrite and galena are the sulfides present. Ore is reported to average $5 [about 1/4 oz.] of gold per ton. Bedrock well exposed; ice receded recently.

Berg and Cobb, 1967 (B 1246), p. 159 -- One of few prospects in diorite gneiss rather than metamorphosed bedded rocks. Metalliferous shear zone reported to average about a quarter of an ounce of gold per ton.

(Salmon Cr.) Gold(?)

Juneau district Juneau (14.2, 5.95) approx.
58°20'N, 134°28'W approx.

Summary: Signs of old placer workings. No data on presence of gold.

Spencer, 1906 (B 287), p. 116 -- Abandoned placer workings in lower part of stream course. No data on gold content (if any) of gravel. Doubtful that there was remunerative mining.

(Sandy Cove) Copper, FM, Gold, RE, Silver

Juneau district Juneau (0.3, 12.65)
MF-435, loc. 9 58°43'N, 135°58'W

Summary: Quartz veins 1-12 in. thick and altered zones as much as 10 ft. thick in monzonite or quartz monzonite that intruded and metamorphosed limestone. Veins contain pyrite, chalcopyrite, bornite, secondary iron and copper minerals, gold, and silver. Chalcopyrite also in altered zones in monzonite and in one contact-metamorphosed zone. Developed by tunnel 110 ft. long. Samples contained as much as 0.96 oz. gold and 2.4 oz. silver a ton. Test shipment of 4 tons of selected material returned 0.37 oz. gold and 0.15 oz. silver a ton. Samples from altered zones near Sandy Cove (quite possibly in Mt. Fairweather quad.) contained 0.001-0.003 percent U_3O_8. Allanite is an accessory mineral in the igneous rock.

Reed, 1938, p. 65-68 -- Small monzonite body intruded thick-bedded limestone (now largely marble); pyrite in quartz veins (mainly in monzonite; a few in marble) and in contact-metamorphosed limestone. A few blebs of chalcopyrite in one contact-metamorphic zone. Developed by a tunnel about 100 ft. long. Test shipments of 4 tons of selected material returned 0.37 oz. gold and 0.15 oz. silver a ton. Assayed samples contained from a trace to 0.66 oz. gold and from a trace to 2.4 oz. silver a ton.

Rossman, 1963 (B 1121-K), p. K52 -- Some altered zones near Sandy Cove [quite possibly in Mt. Fairweather quad.] contain between 0.001% and 0.003% U_3O_8.

MacKevett and others, 1971 (P 632), p. 3-4 -- Gold in narrow nonpersistent quartz veins and contiguous wall rock. Reference to Reed, 1938, p. 65-68.

p. 64-66 -- Quartz veins 1-12 in. thick and altered zones as much as 10 ft. thick in monzonite or quartz monzonite (containing accessory allanite). Veins contain pyrite, chalcopyrite, and bornite and secondary iron and copper minerals; gold erratically distributed. Minor gold and sulfides in altered zones. Samples contained as much as 0.96 oz. per ton (33 ppm) Au and 1.46 oz. per ton (50 ppm) Ag. Data from Reed, 1938, p. 65-68 and Rossman, 1963 (B 1121-K), p. K52. Tunnel 110 ft. long.

Eakins, 1975 (GR 44), p. 12 -- Reference to preliminary version of MacKevett and others, 1971 (P 632).

Seward	Gold(?)
Juneau district MF-435, loc. 14	Juneau (8.3, 15.2) approx. 58°52'N, 135°05'W approx.

Summary: Quartz veins reported not to carry high gold values.

Wright and Wright, 1906 (B 284), p. 33 -- Near Kensington. Quartz veins that have been prospected are reported not to carry high gold values.

Silver Queen (Mining Co.)	Antimony, Copper, Gold, Lead, Silver, Zinc
Juneau district	Juneau (15.55, 5.15)
MF-435, loc. 53	58°17'W, 134°19'W

Summary: Several quartz veins in a zone about 400 ft. wide in black slate are near but slightly divergent in attitude from a footwall of greenstone. Veins are as much as 12 ft. thick, lenticular, and overlapping. Metallic minerals in veins include pyrite, argentiferous galena, sphalerite, chalcopyrite, pyrrhotite, arsenopyrite, argentiferous tetrahedrite, pyrargyrite, native silver, and radiating crystals of stibnite in calcite. Ore averaged about $40 a ton (prices as of about 1895) with greater values in silver than gold. About 7,500 ft. of underground workings and stopes. Production was about $465,000 in silver and gold (1903 prices). Claims located in 1887-88; last report of mining was in 1903. Coordinates are for main workings. Includes references to Ascension, Glacier, Ibex, Queen.

Becker, 1898, p. 62-63 -- Minerals present at Silver Queen and Glacier include chlorite, copper pyrite, mispickel, pyrrhotite, sericite, pyrargyrite, and zincblende.

p. 73-75 -- Country rock is mainly carbonaceous slate cut by a greenstone (altered gabbro?) dike; also micaceous schist. Silver Queen vein consists of intercalated quartz and slate as much as 5 ft. wide. About 800 ft. of drifts. Production through 1895 reported to have been $100,000 in silver and $20,000 in gold. Glacier workings on 3 veins (one of which is Silver Queen vein) averaging about 3 1/2 ft. in width; veins reported to be lenticular. Ore averages about $40 a ton, with more values in silver than in gold; total production probably worth $30,000 to $40,000; about 1,500 ft. of workings. Metallic minerals in veins include pyrite, argentiferous galena, sphalerite, chalcopyrite, pyrrhotite, arsenopyrite, argentiferous tetrahedrite, pyrargyrite, and native silver.

Spencer, 1904 (B 225), p. 29-30 -- Production, 1903.

p. 35-36 -- On continuation of lodes in Gold Cr. basin; production through 1903 about $500,000 [equivalent to about 24,000 fine oz. of gold].

Spencer, 1906 (B 287), p. 4 -- Mining, 1903.

p. 36-37 -- Stibnite in quartz. Pyrargyrite present.

p. 50-55 -- Several veins in black slate in a zone about 400 ft. wide are near and slightly divergent in attitude from a greenstone footwall. Veins are as much as 12 ft. thick; feather out into stringer leads in places. Principal veins are lenticular and overlap. Workings consist of about 7,500 ft. of drifts, crosscuts, and raises and ore stopes. Production by end of 1903 was about $465,000 [equivalent of about 22,500 fine oz. of gold]. Claims were located in 1887-88; first mill installed 1889.

Silver Queen (Mining Co.) (continued)

Brooks, 1911 (B 480), p. 61 -- Data from Spencer, 1906 (B 287).
Brooks, 1913 (B 542), p. 32 -- Sheep Creek tunnel of Perseverance to be used to develop Silver Queen and neighboring properties; plan reported in 1912.
Brooks, 1916 (B 649), p. 62 -- Reference to Spencer, 1906 (B 287), p. 36.
Buddington and Chapin, 1929 (B 800), p. 327 -- Pyrargyrite reported.
p. 331 -- Radiating crystals of stibnite in calcite reported.
Berg and Cobb, 1967 (B 1246), p. 154 -- Has been production.

Smith and Heid	Gold
Juneau district	Juneau (12.2S, 8.5)
MF-435, loc. 34	58°29'N, 134°40'W

Summary: 2 tunnels (aggregate length 500 ft.) driven on a quartz vein and chlorite schist carrying auriferous arsenopyrite in black, schistose graywacke. Ore was roasted and treated in an arrastre. Amount of gold recovered probably was small. Deposit located in 1893; probably no more than assessment work after 1898. See also (Windfall Co.)

Spencer, 1906 (B 287), p. 129 -- Several openings on veins, at least one of which is discontinuous and in greenstone. Several tons of ore with visible gold on a dump.

Wright and Wright, 1906 (B 284), p. 36 -- Located in 1893; small developments annually until 1905; assessment work only after 1898. Tunnel driven 125 ft. to undercut surface showings; results not satisfactory. Lodes are both quartz and mineralized chlorite schists in slate-greenstone country rock. Rich ore occurs, but is not uniformly distributed.

Wright, 1907 (B 314), p. 56 -- Claims on low-grade belts of mineralized schist and greenstone traversed by quartz veinlets in which gold is irregularly distributed.

Knopf, 1912 (B 502), p. 55 -- 2 tunnels (aggregate length 500 ft.) were driven on "a body of highly arsenical quartz". Ore was roasted and treated in an arrastre.

Barker, 1957 (GQ-100) -- Arsenopyrite-bearing quartz in black, schistose graywacke.

Berg and Cobb, 1967 (B 1246), p. 159 -- 2 tunnels exploited a quartz vein carrying appreciable auriferous arsenopyrite that was roasted and treated in an arrastre. Amount of gold recoverd probably small.

Summit (near Eagle R.) Gold

Juneau district Juneau (12.0, 9.35) approx.
MF-435, loc. 32 58°32'N, 134°41'W approx.

Summary: Quartz vein 6-8 in. thick and 30 ft. long on surface is transverse to layering in quartz diorite gneiss. Carries considerable arsenopyrite and visible free gold. Shaft sunk 30 ft. on vein. No production.

Knopf, 1912 (B 502), p. 52 -- Arsenopyrite and free gold in quartz vein 6-8 in. wide and 30 ft. long on surface transverse to structure in quartz diorite gneiss. Wall rock not altered. Shaft sunk 30 ft.

Berg and Cobb, 1967 (B 1246), p. 159 -- One of few prospects in quartz diorite gneiss rather than in metamorphosed sedimentary rocks. Quartz vein transverse to layering in gneiss carries considerable arsenopyrite and visible free gold.

Tacoma

Gold (?)

Juneau district

Juneau (10.0, 12.5) approx.
58°43'N, 134°54'W. approx.

Summary: Quartz veins in black slate contain pyrite. No mention of gold content, if any.

Chapin, 1916 (B 642), p. 78 -- Openings made on quartz fissure veins in black slate of Berners Fm. Much pyrite.

Treadwell Mines	Copper, Gold, Lead, Molybdenum, Silver, Tungsten, Zinc
Juneau district	Juneau (15.0-15.2, 4.6-4.75)
MF-435, locs. 62-63	58°15'-58°16'N, 134°21'-134°22'W

Summary: Ore deposits consisted of gold- and sulfide-bearing quartz and quartz-calcite veins in shattered albite diorite sill in sequence of slate below a greenstone hanging wall; slate horses in veins also mineralized. Metallic minerals in ore include free gold, pyrite, pyrrhotite, magnetite, molybdenite, chalcopyrite, galena, sphalerite, tetrahedrite, native arsenic, realgar, orpiment, and (from heavy-mineral concentrate from tailings) scheelite. Mineralized zone was at least 3,500 ft. long and extended beneath Gastineau Channel. 4 mines, all under the same management and connected underground, mined the deposit; working more than 2,000 ft. deep; glory holes in early stages of mining. Deposits discovered in 1881; a little placer mining at first; lode mining began in 1882 and continued until 1922; 3 of mines caved and were flooded in 1917. Total lode production, 1882-1922, was $67,523,948.19 from 28,777,266 tons of ore milled (average value $2.3464 a ton). Breakdown of production into gold, silver, and lead not available. Property sold to Alaska-Juneau Gold Mining Co. in 1928. Includes references to: Alaska Mexican (Gold Mining Co.), Alaska Treadwell (Gold Mining Co.) Alaska United (Gold Mining Co.), Mexican, Ready Bullion, Seven Hundred Foot, Treadwell.

Becker, 1898, p. 10 -- Placers in area discovered in 1881, lodes soon after.

p. 12 -- Production from Treadwell, 1882-96, was $7,081,161 and from Mexican, 1894-96, $676,161 [total of about 375,294 fine oz.] in gold.

p. 62-70 -- Minerals present include biotite, calcite, copper pyrite, siderite, and sericite. Slate intruded successively by a syenite dike, a gabbro dike (now greenstone), and a basalt dike. Ore deposition was later than the gabbro dike, possibly contemporaneous with the basalt dike. Ore is quartz stringers that contain much auriferous pyrite, gold, chalcopyrite, arsenopyrite, galena, and sphalerite; in both slate and shattered syenite. As of 1896 all production was from Treadwell and Mexican mines; total production from Treadwell through 1896 was $7,028,649 [about 340,041 fine oz.] in gold. Ore mined through May 1894 ran $3.20 a ton.

Spencer, 1904 (B 225), p. 29-30 -- Productive mining, 1903.

p. 39-40 -- Ore is in brecciated syenite filled with a network of quartz and calcite veinlets and impregnated with pyrite; ore runs about $2 a ton; greenstone on hanging wall and slate on footwall of ore zones. Metallic minerals in ore are pyrite, pyrrhotite, magnetite, molybdenite, native arsenic, realgar, orpiment, and stibnite [see Spencer, 1906 (B 287), p. 36]; assays show only a little silver.

Treadwell Mines (continued)

Spencer, 1905 (B 259), p. 69-87 -- Ore is mineralized albite diorite dikes in a northwest-striking zone that dips NE beneath a hanging wall of greenstone (altered diabasic lava flows) and above black slate footwall. Ore is in quartz-calcite and calcite veins and veinlets in fractured albite diorite; metallic minerals are free gold, pyrite, pyrrhotite, magnetite, molybdenite, chalcopyrite, galena, sphalerite, native arsenic, realgar, orpiment, and stibnite [see Spencer, 1906 (B 287), p. 36]. Small amounts of ore in slate in horses in diorite and along margins of dikes. Ore mined averages about $2 a ton.

Wright and Wright, 1905 (B 259), p. 52-53 -- Mining continued, 1904. Ore from Treadwell mine averaged $2.44 a ton; mining expense was $1.37 a ton.

Brooks, 1906 (B 284), p. 6 -- Major lode mining operation in Alaska, 1905.

Spencer, 1906 (B 287), p. 3-4 -- First work on property was placer mining; other historical data. Production to Jan. 1, 1904, was about $24,000,000 (about 1,161,000 fine oz. in gold).

p. 36 -- Reported stibnite turned out to be rutile.

p. 90-116 -- Production, 1882-1905, from lodes was worth $24,758,828; placer production, 1881-1883, was worth $60,000. Most of data are in Spencer, 1905 (B 259), p. 69-87.

Wright and Wright, 1906 (B 284), p. 39 -- Production in 1905 was worth $3,024,330. Cost of open-pit mining (bottom 600 ft. below sea level) nearly equal that of mining from larger stopes.

Wright, 1907 (B 314), p. 50-53 -- All four mines operated, 1906; depths of 1,500 ft. at Treadwell and Ready Bullion, 1,100 ft. at Mexican, and 990 ft. at 700 Foot. Production from first three was worth $3,046,035.

Brooks, 1908 (B 345), p. 35 -- 1,353,286 tons of ore mined in 1906.

Wright, 1908 (B 345), p. 86-87 -- Mining, 1907. 700 Foot connected to Treadwell.

Brooks, 1909 (B 379), p. 28-29 -- Mining, 1908.

Brooks, 1909 (B 394), p. 194-195 -- Source of most of lode-gold production in southeastern Alaska. Deepest workings 1,600 ft.

Wright, 1909 (B 379), p. 68-69 -- 1,367,920 tons of ore mined yielded $2,999,420.

Brooks, 1910 (B 442), p. 33-34 -- Dominant lode producer in Alaska, 1909.

Knopf, 1910 (B 442), p. 134-135 -- Mining, 1909.

Brooks, 1911 (B 480), p. 28 -- Overshadows all other lode mining, 1910.

Brooks, 1911 (B 480), p. 60 -- Ore bodies are combination of veins and impregnated zones.

p. 67-68 -- Mines have produced more than $40,000,000 in gold. Rest of data from Spencer, 1906 (B 287).

p. 93 -- Molybdenite present.

Knopf, 1911 (B 480), p. 95-96 -- Mining, 1910.

Brooks, 1912 (B 520, p. 25 -- Mining, 1911.

Brooks, 1913 (B 542), p. 31-32 -- Mining, 1912.

Brooks, 1914 (B 592), p. 58 -- Mining, 1913. 3 of 4 mines below 2,000 ft.

Brooks, 1915 (B 622), p. 41 -- Mining, 1914.

Eakin, 1915 (B 622), p. 96-97 -- [Good summary of history of mines through 1914.] Value of gold produced, 1882-1914, was $58,318,780 [about 2,821,421 fine oz.].

Treadwell Mines (continued)

Chapin, 1916 (B 642), p. 74 -- Mining, 1915.
Smith, 1917 (BMB 142), p. 33-35 -- Data on mining practice, etc.
Smith, 1917 (BMB 153), p. 20-22 -- Mainly data on mining and milling methods and recreational facilities for emplyees.
Eakin, 1918 (B 662), p. 77-79 -- Mining, 1916. Some of mills were shut down to avoid heavy drawing of ore beneath areas showing signs of subsidence. Production through 1916 was worth $64,013,782 [about 3,096,941 fine oz. of gold]. As early as 1913 there had been caving in upper workings accompanied by fissuring in hanging wall and moderate flow of salt water at 1,600-ft. level. Caving and subsidence on April 21, 1917 resulted in complete flooding of Treadwell, Seven Hundred Foot, and Mexican mines with sea water.
Martin, 1919 (B 692), p. 29 -- Only Ready Bullion operated; mine being deepened with a view to undercutting the flooded other mines at 3,000-ft. level.
Martin, 1920 (B 712), p. 29-30 -- Stoping, largely to provide waste for filling worked-out portions of mine. Mining on 2,800-ft. level, 1918.
Mertie, 1921 (B 714), p. 112-113 -- Ready Bullion mine operated at about 24,000 tons a month, 1919.
Brooks, 1922 (B 722), p. 36 -- Ready Bullion mine operated, 1920.
Brooks, 1923 (B 739), p. 21 -- Ready Bullion mine operated, 1921.
Brooks and Capps, 1924 (B 755), p. 8 -- 2 of 3 large mines flooded in 1917.
p. 23-24 -- Ready Bullion mine and mill were permanently closed Dec. 20, 1922.
Moffet, 1927 (B 792), p. 10 -- Some gold produced in the coarse of cleaning up the property, 1925.
Buddingon and Chapin, 1929 (B 800), p. 319 -- Ore bodies are dikes of albite diorite veined with metalliferous quartz and calcite and impregnated with auriferous pyrite.
p. 329 -- Molybdenite in all parts of ore bodies.
p. 331 -- Rutile, native arsenic, realgar, and orpiment present.
p. 347 -- Ore consisted of fractured, mineralized albite diorite dikes.
p. 364-365 -- Quotation from Spencer 1906 (B 287).
p. 377 -- Deposits occur in fractured and metallized albite diorite and albite monzodiorite sheets.
p. 388 -- Reference to Spencer, 1906 (B 287).
Smith, 1930 (B 810), p. 12 -- Plan to sell Alaskan properties to Alaska-Juneau Gold Mining Co., 1928.
Smith, 1930 (B 813), p. 13 -- Physical properties in Alaska sold to Alaska-Juneau Gold Mining Co., 1928.
Smith, 1937 (B 880-A), p. 15 -- Plan to sink shafts to depths below old workings and crosscut to explore any ore bodies that might be encountered, 1935.
Smith, 1938 (B 897-A), p. 18 -- Rumors of possible reopening [see above, Smith, 1937 (B 880-A), p. 15], 1936, were unfounded.

Treadwell Mines (continued)

Smith, 1942 (B 926-C), p. 172-174 -- References to many of above citations. Molybdenite was widespread in occurrence, but evidently was not in masses of such concentration as to have attracted attention as a resource that could be mined separately.

Bain, 1946 (IC 7379), p. 12-14 -- Total tonnage of ore milled, August 1885 to December 18, 1922, was 28,777,266 tons, average value $2.3464 a ton, total value $67,523,948.19.

Twenhofel, 1952 (OF 60), p. 4 -- Total production, 1882-1926, estimated at $67,500,000.

p. 15 -- Had been staked by 1881.

p. 21-22 -- All mines except Ready Bullion caved, April 1917. Later Alaska-Juneau Gold Mining Co. assumed Treadwell holdings.

p. 45 -- Lode system is mineralized portion of diorite porphyry sill in Treadwell slate.

p. 93 -- Diorite porphyry sills associated with ore deposits.

West and Benson, 1955 (B 1024-B), p. 53 -- Heavy minerals in sluice-box concentrate from Ready Bullion tailings included magnetite, pyrite, ilmenite, barite, gold, ankerite, sphene, scheelite, and zircon.

Kaufman, 1958 (IC 7844), p. 7 -- Historical data. Production was more than $67.5 million in gold and silver during 37 years.

Noel, 1966, p. 54 -- Between 1885 and 1922 produced $67,500,000 in gold and silver from milling 28.8 million tons of ore with average value of $2.35 a ton.

p. 60 -- 4 mines on one vein structure at least 3,500 ft. long. Mineralization in fractured albite diorite dikes; fractures filled by veinlets of quartz and calcite with minor pyrite, pyrrhotite, galena, sphalerite, chalcopyrite, and arsenopyrite. Dikes cut slate, phyllite, and interbedded amphibolite.

Berg and Cobb, 1967 (B 1246), p. 154-155 -- Impregnations and networks of veins in albite diorite dikes carry gold, pyrrhotite, sphalerite, galena, pyrite, arsenopyrite, chalcopyrite, tetrahedrite, molybdenite, magnetite, and a little scheelite, native arsenic, realgar, and opiment.

U.S. Bureau of Mines, 1967 (IC 8331), p. 6-7 -- Mineralized albite-diorite dikes intruded along structure of black slate; impregnated with sulfides; in part shattered and filled with reticulating veins of calcite and quartz, which also carry sulfides. Gold evenly distributed through dikes; no well-defined or shoots.

Koschmann and Bergendahl, 1968 (P 610), p. 20-21 -- Through 1905 produced $26,556,470 in gold. Began caving in 1913. References to Eakin, 1918 (B 662); Brooks and Capps, 1924 (B 755); Spencer, 1906 (B 287).

Thorne, 1969 (USBM Of 22-69), p. 33 -- With Alaska-Juneau produced gold and silver valued at more than $148 million from about 117 million tons of ore. 3 Treadwell mines flooded in 1917; Ready Bullion operated until 1922.

Simons and Prinz, 1973 (P 820), p. 267 -- Example of gold-quartz lode.

Treasury Hill — Gold

Juneau district — Juneau (12.25, 7.45)
MF-435, loc. 39 — 58°25'N, 134°40'W

Summary: Ore body about 50 ft. wide in an altered gabbro dike in slates and greenstones. Dike cut by arsenopyrite-bearing transverse quartz veins; wall rock also contains arsenopyrite and pyrrhotite. Contains as much as $3 (about 0.145 oz.) gold per ton. Elsewhere on property are large quartz masses that contain coarse gold and minor amounts of arsenopyrite and pyrite. All work probably in about 1909.

Knopf, 1911 (B 480), p. 97 -- Outcrops of quartz discovered, 1910.

Knopf, 1912 (B 502), p. 55-58 -- Discovered, 1908, most exploration in 1909. Trenches and a short tunnel exposed an ore body that in places is 50 ft. wide and is in an altered gabbroic dike cut by transverse quartz veins as much as several feet thick containing much arsenopyrite. Wall rock also contains arsenopyrite crystals and grains of pyrrhotite. Dike is in slates and greenstones; bordered on hanging wall side by green schist. Apparently barren vein material contains as much as $3 a ton in gold, altered dike rock averages $1.10 a ton. Trenching elsewhere on property exposed large masses of quartz that carries coarse gold and small amounts of arsenopyrite and pyrite.

Barker, 1957 (GQ-100) -- Data from Knopf, 1912 (B 502).

Tyee	Gold (?)
Juneau district	Juneau SE1/4 quad.

Summary: Prospecting, 1916. On Dougles I. north of Treadwell.

Eakin, 1918 (B 662), p. 77 -- Diamond drilling, 1916. On Douglas I. north of Treadwell.

Wagner	Copper, Gold, Lead, Zinc
Juneau district	Juneau (14.2, 5.95)
MF-435, loc. 45	58°20'N, 134°28'W

Summary: At least one vein 8 ft. thick between slate and a greenstone dike contains quartz, carbonate, albite, mica, rutile, arsenopyrite, pyrite, chalcopyrite, sphalerite, galena, tetrahedrite, and chalcopyrite. No data on gold content, but there must some; 1,150 ft. of development and a small mill; statement that owners (as of about 1903) seemed pleased with tests. Last reported work was in 1914. May have been minor production, but not definitely so stated. Includes references to: Salmon Creek, lodes at mouth of Salmon Creek.

Spencer, 1906 (B 287), p. 117 -- Vein as much as 8 ft. thick between slate footwall and greenstone (probably originally a gabbro dike) hanging wall. Gangue minerals are quartz, calcite or dolomite, albite, and small amounts of white mica and rutile. Sulfides are mainly arsenopyrite, pyrite, and chalcopyrite; some sphalerite, galena, and tetrahedrite. Owners seem pleased with tests of ore. About 240 ft. of crosscuts and drift and some surface stripping.

Wright and Wright, 1906 (B 284), p. 37 -- Nearly 100 ft. of tunneling completed and a small testing mill placed on property in 1905. Ore contains arsenopyrite, pyrite, chalcopyrite, galena, and sphalerite.

Wright, 1907 (B 314), p. 56 -- On mineralized basic dike cut by numerous quartz veinlets. 625 ft. of underground workings.

Wright, 1908 (B 345), p. 88 -- Assessment work only, 1907.

Brooks, 1915 (B 622), p. 211 -- Development, 1914, at Salmon Creek property.

Eakin, 1915 (B 622), p. 96 -- Prospecting, 1914.

p. 101 -- 4 or 5 veins 6 to 20 ft. thick. Total of 1,150 ft. of development work has been done; 300 ft. recently. 20-ton tubular mill in operation and 15-stamp mill under construction, 1915. Work is strictly prospecting.

(White Glacier) Copper, Silver

Juneau district Juneau (0.7, 14.35)
MF-435, loc. 8 58°49'N, 135°55'W

Summary: Small altered zones in limestone carry copper minerals and minor amounts of silver.

MacKevett and others, 1971 (P 632), p. 4 -- Small altered zones in limestone and marble contain chalcopyrite.

p. 42 -- Mineralized zones cut limestone and structurally overlying volcanic rocks; some are near mafic dikes and a small granitic cupola. Altered zones in limestone less than 10 ft. thick and generally not traceable for more than 100 ft.; contain ankeritic carbonates, barite, quartz, copper minerals, pyrite, minor amounts of silver. Sample from altered zone in volcanic rocks contained 20,000 ppm Zn; mineral not identified.

p. 54 -- 2%, Zn in a sample.

(William Henry Bay) Copper, FM, Lead, RE

Juneau district Juneau (6.85, 13.35)
MF-435, loc. 10 58°46'N, 135°15'W

Summary: Veinlets in Tertiary quartz monzonite intrusive into Paleozoic volcanic and metasedimentary rocks contain pyrite, chalcopyrite, galena, sphalerite(?), thorianite, and euxenite (a rare-earth and uranium niobate and titanite). Explored by shallow pits and a diamond-drill hole. Nearby disseminated pyrite, arsenopyrite, and chalcopyrite occur in a cherty rock. See also Alaska Endicott.

Mertie, 1921 (B 714), p. 112 -- At lower end of bay disseminated pyrite, arsenopyrite, and chalcopyrite occur in cherty rocks.

Lathram and others, 1959 (I-303), sample 15 -- Pyrite, chalcopyrite, galena, sphalerite(?), ilmenite veinlets in rare-earth-bearing quartz monzonite.

Matzko and Freeman, 1963 (B 1155), p. 44 -- Traces of thorianite and partially oxidized pyrite in a metamorphosed igneous rock consisting of feldspar with streaks of white mica. Explored by several shallow pits and a diamond drill hole. Material with 0.2% eU reported.

Berg and Cobb, 1967 (B 1246), p. 162 -- Quartz monzonite contains sparse veinlets of pyrite, chalcopyrite, galena, ilmenite, and traces of a thorium mineral. X-ray examination indicated trace amounts of Zn, Nb, and U(?). Explored by several pits and a diamond-drill hole.

Eakins, 1975 (GR 44), p. 12, 14-17 -- Claims on SE edge of a small Tertiary quartz monzonite mass that intruded Paleozoic volcanics and metasediments. References to above reports and an unpublished report of euxenite [niobate and titanite of yttrium, erbium, cerium, and uranium].

(Windfall Creek) Copper, Gold, Lead, Zinc

Juneau district Juneau (11.75-12.25, 8.5-8.7)
MF-435, locs. 34, 73 58°29'-58°30'N, 134°40'-134°43'W

Summary: Placer gold discovered in 1882 and mined intermittently until 1906; yielded little more than wages. Quartz veins in schist near Smith & Heid prospect contain arsenopyrite, galena, pyrite, sphalerite, a little chalcopyrite, and some gold. Prospecting only. See also Smith & Heid.

Brooks, 1904 (B 225), p. 46 -- Hydraulic plant has been installed [as of 1903].
Spencer, 1904 (B 225), p. 37 -- Hydraulic plant installed, 1903; not enough water to operate.
Purington, 1905 (B 263), p. 207 -- Gold worth $17.50 an ounce.
Wright and Wright, 1905 (B 259), p. 51, 54 -- Placer mining, 1904.
Spencer, 1906 (B 287), p. 127-129 -- Placer gold discovered in early 1880's and mined sporadically to 1903. Gold in gravel of flat above a small lake was derived from one fork; gravel contains many vein-quartz fragments, some of which contain visible sulfides. Lode prospecting in 1903; encouraging assays of samples of some quartz veins reported.
Wright and Wright, 1906 (B 284), p. 36 -- Placer mining, 1905. Gold fine-grained, dull, and hackly. Bedrock is bands of slate and greenstone.
Wright, 1907 (B 314), p. 51 -- Placer mining, 1906.
p. 56 -- 1,000 cu. yds. of gravel sluiced, 1906.
Wright, 1908 (B 345), p. 88 -- No placer mining, 1907. A little lode prospecting.
Knopf, 1911 (B 480), p. 109 -- Placer gold discovered, 1882. Mining yielded little more than wages.
Knopf, 1912 (B 502), p. 55 -- Near Smith and Heid prospect quartz stringer lodes in schist carry arsenopyrite, galena, pyrite, sphalerite, a little chalcopyrite, and gold. Tunnel was driven 30 ft. on one lode.
Barker, 1957 (GQ-100) -- Data from Knopf, 1912 (B 502).
Cobb, 1973 (B 1374), p. 103 -- Has been small-scale placer mining.

Winn	Gold(?)
Juneau district	Juneau (12.6, 6.7)
MF-435, loc. 41	58°23'N, 134°38'W

Summary: Quartz-albite-carbonate veinlets cut an altered dike which, near the veinlets, is impregnated with pyrite and arsenopyrite. Prospect was located in 1882. Exploration work consists of a 20-ft. tunnel. No data on gold content, if any, of deposit.

Knopf, 1912 (B 502), p. 59 -- Located in 1882; explored by a tunnel 20 ft. long. Altered dike rock, probably originally albite diorite, is cut by veinlets of quartz, albite, and ferriferous carbonate. Pyrite and arsenopyrite impregnate rock near veinlets.

Yakima (Mining Co.) — Gold(?), Lead, Zinc

Juneau district — Juneau (14.95, 4.6)
58°15'N, 134°43'W

Summary: On Douglas I. No workable ore developed. Several hundred feet of underground workings excavated during prospecting in 1903 or earlier. In altered and pyritized zone in greenstone at least 300 ft. wide and a mile long. Galena and sphalerite in material on dump. No data on possible gold content.

Spencer, 1904 (B 225), p. 41 -- Several hundred feet of prospecting with a shaft developed no deposit of workable ore [as of 1903]. On Douglas I.

Spencer, 1906 (B 287), p. 92 -- Country rock is alternating beds of slate and greenstone altered to sericite schist with considerable quartz and calcite; much disseminated pyrite in small cubes. Shaft and (from size of dump) several hundred feet of workings. Galena and sphalerite in narrow seams containing quartz and albite on dump. Belt of altered rock is at least 300 ft. wide and at least a mile long; exposed on Bullion Co. behind Ready Bullion Mine.

Wright and Wright, 1906 (B 284), p. 40 -- No improvements during last 2 years [as of 1905]. Property not considered very important.

Wright, 1907 (B 314), p. 54 -- Had been idle for several years [as of 1906].

Unnamed occurrence	Cobalt, Copper
Juneau district	Juneau (4.05, 17.0)
MF-435, loc. 2	58°58'N, 135°33'W

Summary: Sample contained pyrrhotite, chalcopyrite, and pyrite(?) in siliceous greenschist. Cobalt, probably in the pyrrhotite, is a major trace constituent.

Lathram and others, 1959 (1-303), sample 16 -- Pyrrhotite, chalcopyrite, pyrite(?) in siliceous greenschist. Cobalt is a major trace constituent.

Berg and Cobb, 1967 (B 1246), p. 162 -- Chalcopyrite associated with pyrrhotite that probably contains traces of cobalt.

Unnamed occurrence	Copper
Juneau district	Juneau (2.95, 14.7)
MF-435, loc. 6	58°50'N, 135°40'W

Summary: Veinlets of bornite, secondary copper minerals, and epidote associated with siliceous volcanic rocks.

Lathram and others, 1959 (1-303), sample 20 -- Veinlets of bornite, secondary copper salts, and epidote associated with siliceous volcanic rocks.

Berg and Cobb, 1967 (B 1246), p. 162 -- Bornite has been found.

Unnamed occurrence	Copper
Juneau district	Juneau (3.2, 16.4)
MF-435, loc. 3	58°56'N, 135°39'W

Summary: Massive pyrite and chalcopyrite boulder in glacial moraine.

Lathram and others, 1959 (1-303), sample 17 -- Massive pyrite and chalcopyrite boulder in glacial moraine.

Unnamed occurrence RE

Admiralty district Juneau (14.4, 1.3)
MF-435, loc. 72 58°04'N, 134°27'W

Summary: Samples of heavy minerals from pegmatite veins in a terrane of granite, migmatite, and contact-metamorphic rocks contained yttrium, zirconium, niobium, thorium(?), lanthanum, cerium, praseodymium, and neodymium.

Lathram and others, 1959 (I-303), samples 26, 27 -- Rare-earth-bearing pegmatite. Contains Y,La,Ce,Pr,Nd and Zr and Nb.

Berg, 1960 (P 400-B), p. B38 -- X-ray spectroscopic analyses of samples of heavy minerals from pegmatite veins indicated the presence of yttrium, zirionium, niobium, thorium(?), lanthanum, cerium, praseodymium, and neodymium. Pegmatite veins are associated with granite, migmatite, and contact-metamorphic rocks, which underlie an area of 50 square miles.

Lathram and others, 1965 (B 1181-R), p. R43 -- Quotation from Berg, 1960 (P 400-B)

p. R45 (samples 26,27) -- Same as Lathram and others, 1959 (I-303), samples 26,27.

Berg and Cobb, 1962 (B 1246), p. 140-141 -- Samples from pegmatite contained trace amounts of Zr and Ce and several other rare-earth elements.

Eakins, 1975 (Gr 44), p. 11-12 -- Reference to Lathram and others, 1965 (B 1181-R), p. R43, R45.

Synonyms, Claim Names, Operators, and Owners

Many mines and prospects have undergone changes in both their own names and in the names of their operators and owners. All names that appear in the cited references appear in this summary either in the first section as occurrence names or in this as synonyms. Descriptions of placer deposits commonly give little information on the location of individual mines or claims, so the names of all operators and owners of placer mines and claims are in this section with a notation to refer to the description of the stream that was mined or prospected.

AB -- see Aurora Borealis
Admiralty -- see Admiralty-Alaska
Alaska -- see Admiralty-Alaska
Alaska Chief -- see Groundhog
Alaska Consolidated -- see Perseverance

Alaska Consolidated Goldfield Co. -- see Alaska Treasure
Alaska Consolidated Mines Co. -- see Peterson
Alaska Consolidated Mining Co. -- see Alaska Treasure
Alaska Ebner -- see Ebner
Alaska Empire Gold Mining Co. -- see Hawk Inlet Mining Co.

Alaska-Gastineau (Mining Co.) -- see Perseverance
Alaska Gold Belt (Mining) Co. -- see Nelson-Lott
Alaska Gold Mines Co. -- see Perseverance
Alaska Gold Mining Co. -- see Admiralty-Alaska, Indiana
Alaska Mexican (Gold Mining Co.) -- see Treadwell Mines

Alaska Mining & Power Co. -- see Perseverance
Alaska Perseverance (Mining Co.) -- see Perseverance
Alaska Treadwell (Gold Mining Co.) -- See Treadwell Mines
Alaska Treasure Colsolidated Mines Co. -- see Alaska Treasure
Alaska United (Gold Mining Co.) -- see Treadwell Mines

Alaska Willoughby Mining Co. -- see Admiralty-Alaska
Algunican Development Co. -- see Jualin
Alice Miller -- see Admiralty-Alaska
Allan -- see Hawk Inlet Mining Co.
Alma -- see Hawk Inlet Mining Co.

Alta -- see Perseverance
Amalga -- see Eagle River
Amelia -- see Eagle River
American Gold Mining Co. -- see (Gold Cr.), Silver Queen
Armor -- see Hawk Inlet Mining Co.

Ascension -- see Silver Queen
Bandy -- see Hawk Inlet Mining Co.
Batella -- see Hawk Inlet Mining Co.
B.C. -- see Black Chief
Beach -- see Admiralty-Alaska

Bear Valley -- see Hawk Inlet Mining Co.
Bengley -- see Hawk Inlet Mining Co.
Bennet -- see Alaska-Juneau
Berners Bay Mining & Milling Co. -- see Bear, Comet, Kensington, Ophir, Seward
Blue Jay (Admiralty I.) -- see Admiralty-Alaska

Blue Lead -- see Alaska Dano
Bonanza -- see Alaska Endicott
Boston -- see Hawk Inlet Mining Co.
Boston & Alaska Co. -- see Admiralty-Alaska
Brown -- see Hawk Inlet Mining Co.

California (Admiralty I.) -- see Hawk Inlet Mining Co.
California & Nevada Copper Co. -- see Ebner, Hallam
Cannonball -- see Peterson
Cardiff -- see Hawk Inlet Mining Co.
Carrie Nation -- see Admiralty-Alaska

Chatham -- see Alaska Dano
Cheechako -- see Clark (Carlson Cr.)
Cleveland -- see Admiralty-Alaska
Cliff -- see Hawk Inlet Mining Co.
Cobalt -- see Hawk Inlet Mining Co.

Columbia -- see Admiralty-Alaska
Creek -- see Treasury Hill
Davies & Pond -- see California (near Eagle R.)
Deer Meadow -- see Hawk Inlet Mining Co.
De Roux -- see (Bear Cr.)

Detroit-Alaska Mining Co. -- see (Windfall Cr.)
Devil Club -- see Admiralty-Alaska
Dora -- see Hallam
Dorothy -- see Hawk Inlet Mining Co.
Dublin -- see Hawk Inlet Mining Co.

Dunkle -- see Hawk Inlet Mining Co.
Eagle -- see Hawk Inlet Mining Co.
Eastern Alaska Mining & Milling Co. -- see Perseverance
Endicott-Alaska Mining & Milling Co. -- see Alaska Endicott
Endicott (Mining & Milling Co.) -- see Alaska Endicott

Eureka -- see Kensington
Fairview -- see Hawk Inlet Mining Co.
Florence -- see Admiralty-Alaska
Frances -- see Alaska Dano
Francis -- see Alaska Dano

(Funter Bay) -- see Admiralty-Alaska (Gold Mining Co.)
Funter (Bay Mining Co.) -- see Admiralty-Alaska
Galveston -- see Hawk Inlet Mining Co.
George -- see Hawk Inlet Mining Co.
Geyser -- see Admiralty-Alaska

Gilbert (and others) -- see Perseverance
Glacier -- see Silver Queen
Glacier Bay Mining Co. -- see (Sandy Cove)
Golconda -- see Silver Queen
Gold Belt -- see Nelson-Lott

Golden Bear -- see Hawk Inlet Mining Co.
Gold Knob -- see Treasury Hill
Hallum -- see Hallam
Happy Days -- see Alaska Dano
Harris -- see Groundhog

Harris & Juneau -- see (Gold Cr.)
Hartford -- see Silver Queen
Hayden-Stone -- see Bear, Comet, Johnson, Kensington
Heckler -- see Admiralty-Alaska
Herbert River -- see Holland-Alaska Gold Co.

Hidden Rock -- see Admiralty-Alaska
Homestake -- see Alaska-Juneau
Horse Fly -- see Admiralty-Alaska
Hulda -- see Clark (Carlson Cr.)
Hull -- see Hawk Inlet Mining Co.

Hunter -- see Admiralty-Alaska
Husky -- see Hawk Inlet Mining Co.
Ibex -- see Silver Queen
Isaiah R. -- see Clark (Carlson Cr.)
Ish Nik -- see Admiralty-Alaska

John W. -- see Clark (Carlson Cr.)
Jualin (Alaska) Mines Co. -- see Jualin
Jualin Berners Mining Co. -- see Jualin
Jualpa Mining Co. -- see (Gold Cr.)
Jumbo -- see Admiralty-Alaska

Keystone (Gold Mining Co.) -- see Alaska Dano
King Bee -- see Admiralty-Alaska
Lake -- see Hawk Inlet Mining Co.
Lakeview -- see Alaska Dano
Lane & Hayward -- see Alaska-Juneau

(Last Chance Basin) -- see (Gold Cr.)
Last Chance (Co.) -- see (Gold Cr.)
Last Chance Hydraulic Mining Co. -- see (Gold Cr.)
Lemon Creek Co. -- see (Lemon Cr.)
(Little Basin) -- see (Gold Cr.)

Little Pet -- see Alaska Dano
London -- see Silver Queen
Lone Duck -- see Alaska Dano
Lone Star -- see Admiralty-Alaska
Lost Cabin -- see Hawk Inlet Mining Co.

Lowhee -- see Admiralty-Alaska
Low Hill -- see Admiralty-Alaska
Lucky Six -- see (William Henry Bay)
Lucky Strike -- see Hawk Inlet Mining Co.
Mansfield Gold Mining Co. (N. of Juneau) -- see (McGinnis Cr.)

Mary -- see Hawk Inlet Mining Co.
Mellen Mining (& Manufacturing) Co. -- see Ivanhoe
Mendenhall (Admiralty I.) -- see Hawk Inlet Mining Co.
Mertie (Lode) -- see Admiralty-Alaska
Mexican -- see Treadwell Mines

(Middle Flat) -- see (Gold Cr.)
Minnie -- see Hawk Inlet Mining Co.
Montana -- see Hawk Inlet Mining Co.
Morning Star -- see Aurora Borealis
Mother Lode (near Auke Bay) -- see Treasury Hill

Mountain King -- see Admiralty-Alaska
Mountain Kink -- see Admiralty-Alaska
Mountain Queen -- see Admiralty-Alaska
Mykor -- see Hawk Inlet Mining Co.
Nevada Creek -- see Alaska Treasure

(Nevada Cr.) -- see Alaska Treasure
New York -- see Hawk Inlet Mining Co.
Northern Light -- see Johnson
Nowell -- see (Gold Cr.)
Nowell Gold Mining Co. -- see (Gold Cr.), Silver Queen

Nowell Mining & Milling Co. -- see Johnson
Nowell-Otterson -- see Alaska Dano
Ocean Swell -- see Admiralty-Alaska
O.K. -- see Alaska Dano
Olds -- see (Montana Cr.)

Oregon -- see Admiralty-Alaska
Otter -- see Admiralty-Alaska
Otterson -- see Alaska Dano
Patterson -- see Admiralty-Alaska
Patton -- see (Montana Basin)

Pekovich -- see Admiralty-Alaska
(Peterson Cr.) -- see Peterson
Point -- see Admiralty-Alaska
Portland-Alaska (Gold) Mining Co. -- see Horrible
Prairie (Admiralty I.) -- see Hawk Inlet Mining Co.

Prairie (near Eagle R.) -- see Peterson
Premier -- see Hawk Inlet Mining Co.
Premier Gold Mining Co. -- see Clark (Carlson Cr.)
Pungle Down -- see Admiralty-Alaska
Pungle Up -- see Admiralty-Alaska

Pyrate -- see Admiralty-Alaska
Queen -- see Silver Queen
Queen Bee -- see Admiralty-Alaska
Raisin Valley -- see Hawk Inlet Mining Co.
Ready Bullion -- see Treadwell Mines

Regan -- see Reagan
Riverside -- see Hawk Inlet Mining Co.
Saddle Rock -- see Hawk Inlet Mining Co.
St. Clair, Metjay, Austin & Paul -- see (Sandy Cove)
Salmon Creek (Gold Mining Cr.) -- see Wagner

Sandstone & Ward -- see Eagle River
Seattle -- see Mansfield Gold Mining Co. (Admiralty I.)
Seven Hundred Foot -- see Treadwell Mines
Sherman Creek -- see Kensington
(Silver Bow Basin) -- see (Gold Cr.)

Silver Bow Basin Mining Co. -- see (Gold Cr.)
Silver Bow Basin Hydraulic (Mines) Co. -- see (Gold Cr.)
Silver Cord -- see Silver Queen
Skyscraper -- see Hawk Inlet Mining Co.
Spaulding -- see Treasury Hill

Star -- see Admiralty-Alaska
Summit (Admiralty I.) -- see Alaska Dano
Summit (near Juneau) -- see Groundhog
Sunburst -- see Alaska Dano
Sunrise -- see Hawk Inlet Mining Co.

Sunset -- see Hawk Inlet Mining Co.
(Sunset Cove) -- see Clark (Carlson Cr.)
Sutherland -- see Perseverance
Swamp Lily -- see Admiralty-Alaska
Sylvia -- see Hawk Inlet Mining Co.

Taku (Mining & Milling Co.) -- see Ebner
Tellurium (Mining & Milling Co.) -- see Admiralty-Alaska
Texas -- see Hawk Inlet Mining Co.
Tingwalla -- see Admiralty-Alaska
Tremont -- see Groundhog

Two Shaft -- see Alaska Dano
Uncle Sam -- see Admiralty-Alaska
Uncow -- see Admiralty-Alaska
U.S. Smelting & Refining Co. -- see Ebner
U.S. Smelting, Refining & Mining Co. -- see Ebner

Valley -- see Admiralty-Alaska
Walla Walla -- see Hawk Inlet Mining Co.
War Eagle -- see Admiralty-Alaska
War Horse -- see Alaska Dano
Washington -- see Admiralty-Alaska

Wasp -- see Alaska Dano
Water Witch -- see Treasury Hill
Wild Cat -- see Hawk Inlet Mining Co.
Wiley (& Spaulding) -- see Treasury Hill
William N. -- see Clark (Carlson Cr.)

Williams (Mining Co.) -- see Hawk Inlet Mining Co.
Willoughny (& Weir) -- see Admiralty-Alaska
Winona -- see Alaska Dano
Yakamaw Mining Co. -- see Yakima
Yankee Boy -- see Joyco-Jensen

Yankee Girl -- see Joyce-Jensen
Yellow Hornet -- see Clark (Carlson Cr.)

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