UNITED STATES DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

SUMMARY OF REFERENCES TO MINERAL OCCURRENCES (OTHER THAN MINERAL FUELS AND CONSTRUCTION MATERIALS) IN THE SUMDUM AND TAKU RIVER QUADRANGLES, ALASKA

By

Edward H. Cobb

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

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 Sumdum and Taku River quadrangles, 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 May 1, 1978, are summarized. Certain, mainly statistical, reports such as the annual Minerals Yearbook of the U.S. Bureau of Mines and most biennial and annual reports of the State of Alaska Division of Geological and Geophysical Surveys and its prececessor State and Territorial agencies are not included.

This report is divided into three parts: a section made up of summaries of references arranged alphabetically first by quadrangle and second 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.


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UNITED STATES
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GEOLOGICAL SURVEY
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BERING SEA

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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) [FM is used for uranium and(or) thorium determined chemically or present as a constituent of an identified mineral other than monazite]; the mining district (Ransome and Kerns, 1954) in which the occurrence is located; the name of the 1:250,000-scale topographic quadrangle; coordinates (as described by Cobb and Kachadoorian, 1961, p. 3-4); the metallic mineral resources map number (Cobb, 1972, in the reference list for each quadrangle) 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 usually are given if such names appear in the reports summarized. If a deposit does not have such a name or has been known by many names, but is near a named geographic feature, the name of that feature is shown in parentheses in lieu of a proper name. If a deposit has no proper name and is not near a named geographic feature, it is titled "Unnamed occurrence" and appears at the end of the list. 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
GR	Alaska Division of Geological and Geophysical Surveys (and predecessor State agencies) Geologic Report
IC	U.S. Bureau of Mines Information Circular
OF	U.S. Geological Survey Open-File Report (numbers with a hyphen in them are formal; numbers without a hyphen are informal and used only within the Alaskan Geology Branch of the U.S. Geological Survey)
MF	U.S. Geological Survey Miscellaneous Field Studies Map
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.

Arm - - - -

Juneau district

Sumdum (3.85, 16.25)
57°56'N, 133°35'W

Summary: Claims staked in 1974 on iron-stained gneiss in a steep gorge. Pyrrhotite in float sample that contained 230 ppm Cu, 400 ppm Zn, and 15 ppm Pb.

Brew and others, 1977 (OF 77-649), p. 188 -- In Sumdum Glacier mineral belt.

p. 191 -- Iron-stained gneiss in a steep gorge. 4 claims recorded in 1974. Sample of float from stream contained pyrrhotite and quartz; rusty gneiss. Atomic absorption showed 230 ppm Cu, 15 ppm Pb, and 400 ppm Zn; spec. analysis showed 3 ppm Ag (Table 25, sample 5K050).

BBH

FM

Petersburg district

Sumdum (9.4, 9.4)
57°32'N, 133°00'W

Summary: As much as 90 ppm eU (16.1 ppm U) in samples of pegmatitic lenses in granodiorite. Deposit not of economic interest; too small and too low grade.

Eakins, 1925 (GR 44), p. 34-39 -- Small pegmatite lenses in diorite contain a uranium mineral (uraninite?); analysis of a sample collected by owner showed 0.032% U. Pegmatite lenses have about 10 times background (diorite) radioactivity. 2 samples collected in 1970 assayed 35 and 45 ppm U.

Brew and others, 1977 (OF 77-649), p. 235-236 -- Reference to above. USGS and USBM found 4 elliptical altered zones containing pegmatitic albite lenses in granodiorite; from 45 x 35 ft. to 120 x 20 ft. in size. Uranium values in chip samples ranged from 0.2 ppm to 16.1 ppm; also traces of Cu, Ag, and Pb. Deposit appears to be too small and too low grade to be of economic interest.

p. 252 -- Prospect subeconomic. Up to 90 ppm eU.

Bluebird	Copper, Gold, Lead, Silver, Zinc
Petersburg district	Sumdum (5.85, 10.6) 57°36'N, 133°23'W

Summary: Old prospect with probably several hundred feet underground workings (now flooded) and an open cut. Quartz vein 1.6 ft. thick contains pyrite, sphalerite, chalcopyrite, galena, gold, and silver. Country rock is graphitic schist. No record of production.

Brew and others, 1977 (OF 77-649), p. 181 -- 4 mi. SE of Sumdum Chief.

p. 183-186 -- Open cut and flooded shaft, dump from which suggests about 400 ft. of underground workings. Country rock is calcareous graphitic schist. Quartz vein in open cut and creek bed is 1.6 ft. thick and contains abundant pyrite, sphalerite, chalcopyrite, and galena in hanging wall portion, a sample from a small part of which contained 2.1 ppm Au and 296.5 ppm Ag by fire assay. Geologic setting similar to that at Sumdum Chief.

p. 263 -- Gold-bearing quartz veins with mineralogy and host rock similar to those at Sumdum Chief. No reported production.

(Bushy Islands) Copper, Silver, Zinc

Petersburg district Sumdum (5.3, 12.4)
57°43'N, 133°26'W

Summary: Quartz stringers no more than 1.5 ft. thick in phyllite contain traces of chalcopyrite, sphalerite, and malachite. Chip samples across 5.2 ft. contained 0.015 oz. silver a ton.

Brew and others, 1977 (OF 77-649), p. 218 -- Copper-stained quartz stringers 0.05-1.5 ft. wide in phyllite locally contain traces of chalcopyrite, sphalerite, and malachite. Chip sample across 5.2 ft. of phyllite and quartz stringers contained 700 ppm Cu, 1,600 ppm Zn, and 0.015 oz. Ag per ton.

Colp & Lee	Copper, Gold, Lead, Zinc
Petersburg district	Sumdum (11.35, 1.65)
MF-425, loc. 23	57°05'N, 132°39'W

Summary: Quartz stringers in a mineralized shear zone 140 ft. wide in quartz diorite contain pyrite, galena, and smaller amounts of sphalerite and chalcopyrite. Average tenor of shear zone reported to be about 0.145 oz. gold per ton; the richest part about 5-1/2 ft. wide is reported to carry about 0.774 oz. gold per ton. No data on development.

Buddington, 1923 (B 739), p. 68 -- Mineralized shear zone 140 ft. wide reported to consist of sulfide-bearing quartz stringers in quartz diorite. Minerals in veins include pyrite and galena with a little sphalerite and chalcopyrite. Full width of zone averages about $3 [about 0.145 oz.] a ton in gold. Richest part (5-1/2 ft. wide) is reported to carry about $16 [about 0.774 oz.] a ton.

Berg and Cobb, 1967 (B 1246), p. 191 -- Summary of above.

Crystal	Gold
Juneau district	Sumdum (1.8, 16.9)
MF-425, loc. 1	57°58'N, 133°48'W

Summary: Quartz fissure vein(s) about 4 ft. thick in amphibolite (probably derived from andesite or porphyritic basalt) mined from 1899 to 1905 and sporadically until early 1930's. Production from Crystal and nearby Friday mines, 1899-1905 probably was at least 2,000 oz. of gold; no data on later production. Ore mainly pyrite, some of which had on crystal faces small crystals and particles of visible gold. Includes references to Daisy Bell and to lode gold near Snettisham.

Spencer, 1904 (B 225), p. 36 -- Has been considerable prospecting on south side of Port Snettisham near contact between greenstone and overlying shales; one mine has produced a few thousand dollars [1903].

Wright and Wright, 1905 (B 259), p. 53 -- Snettisham mine and 20-stamp mill operated for most of 1904. "...relatively [probably as compared to mines at Juneau] small deposit..."

Spencer, 1906 (B 287), p. 47-48 -- Discovered 1895. Quartz ledge 1-10 ft. wide (average about 4 ft.) in what appears to be a wide andesite dike; quartz and included andesite fragments carry gold. Many large pyrite cubes in druses in quartz; gold (some crystalline) on sides of pyrite cubes. Mining and milling (10 stamps), 1901-02, said to have produced about $25,000 [about 1,210 fine oz.] in gold. Larger scale development began in 1903; about 1,000 ft. of workings; developed ore stoped and milled by end of 1904. [No data on amount of production.] Plan to remove equipment in 1905.

Wright and Wright, 1906 (B 284), p. 40-41 -- No mining, 1905; ran out of ore.

Wright, 1907 (B 314), p. 58 -- A little mining and milling, 1906.

Wright, 1908 (B 345), p. 90 -- Considerable ore run through 5-stamp mill, 1907.

Wright, 1909 (B 379), p. 71-72 -- Stoping from upper level toward surface; vein 18 in. to 5 ft. thick. Ore mined from surface on Daisy Bell claim. Mill treated 15 tons of ore a day for 50 days, 1908.

Knopf, 1910 (B 442), p. 139 -- Mining and milling, 1909.

Knopf, 1911 (B 480), p. 97 -- Mining suspended and mill closed, Sept. 1910. Ore body was a quartz vein about 4 ft. thick in zoisite amphibolite that was probably derived from andesite porphyry; vein dips 10°-40° NE.

Knopf, 1912 (B 502), p. 39-40 -- Quartz fissure vein in schistose zoisite amphibolite that appears to have been derived from a porphyritic basalt in which the original feldspar phenocrysts were saussuritized and drawn out. Chemical analysis and petrographic description of rock are given. Near vein amphibolite is altered to a rock that is mainly albite; minor amounts of quartz, pyrite, carbonate, chlorite, and apatite.

Brooks, 1913 (B 542), p. 33 -- 100-ft. tunnel and 40-ft. raise completed on Daisy Bell claim; discovery of 4-ft. ore body reported, 1912.

Crystal -- Continued

Martin, 1920 (B 712), p. 30 -- Idle, 1918.
Brooks, 1922 (B 722), p. 36 -- A little ore milled at Daisy Bell, 1920.
Brooks, 1923 (B 739), p. 21 -- Small-scale productive work, 1921.
Brooks and Capps, 1924 (B 755), p. 24 -- Mine closed, 1922.
Thorne and Wells, 1956 (RI 5195), p. 6 -- Crystal and Friday gold mines operated by Alaska Snettisham Gold Mining Co., 1899-1905. Sporadic gold mining in area until early 1930's.
Berg and Cobb, 1967 (B 1246), p. 155 -- Crystal and Friday mines probably produced about 2,000 oz. gold between 1899 and 1905; sporadic mining until early 1930's, but no data on production after 1905. Lodes in slate near its contact with diorite; quartz veins containing pyrite and gold. Ore mainly pyrite, in much of which small crystals and particles of gold were visible.

Friday — Gold, Iron

Juneau district — Sumdum (2.15, 17.3)
MF-425, loc. 2 — 57°59'N, 133°46'W

Summary: Irregular quartz body 1-6 ft. wide in altered slate near a diorite intrusive body. Mined from 1899 to 1904. Low-grade ore consisting of auriferous pyrite and much magnetite. See also Crystal.

Spencer, 1906 (B 287), p. 47 -- Irregular quartz ledge 1-6 ft. wide in altered slate near diorite intrusive. Developed by 2 tunnels 750 ft. and 600 ft. long, pits, and open cuts. Operations began in 1899 and ceased in 1904. Ore is auriferous pyrite with much magnetite; low grade. [No data on production.]
Thorne and Wells, 1956 (RI 5195), p. 6 -- See entry on Crystal sheet.
Berg and Cobb, 1967 (B 1246), p. 155 -- See entry on Crystal sheet.

Gold Nest	Gold(?), Silver
Juneau district	Sumdum (3.7, 16.5) 57°57'N, 133°36'W

Summary: Brecciated pyritic quartz veins contain a little silver. Atomic absorption showed as much as 7.0 ppm gold, but this was not confirmed by fire assay. Claims recorded in 1912.

Brew and others, 1977 (OF 77-649), p. 188 -- In Sumdum Glacier mineral belt. Near pass between Tracy Arm and Lower Sweetheart Lake.

p. 191 -- Brecciated pyritic quartz vein is 3 ft. thick. Was explored with a short open cut. Claims recorded in 1912. A chip sample and a selected grab sample of float (Table 25, samples 3K169 and 3K171) contained (by spectrographic and atomic-absorption analyses) 0.5-1.5 ppm Ag and 0.10-7.0 ppm Au; fire assays detected no gold in either and 3.1 ppm Ag in one.

Holkham Bay — Copper, Gold, Lead, Silver

Petersburg district — Sumdum (6.0, 11.05)
MF-425, loc. 10 — 57°38'N, 133°22'W

Summary: Quartz vein about 2 ft. thick in schist developed by drift 170 ft. long and 3 stopes, which probably yielded no more than 50 oz. of gold, and several pits. A second vein 6 ft. wide was explored by pits and shallow shafts. Minerals in vein (and included country rock) that was developed include galena, pyrite, arsenopyrite, chalcopyrite, and free gold. Analyses indicated traces of silver. Average gold content of samples from drift was 0.094 oz. per ton. Deposit discovered in about 1900; most work before 1909. Restaked as recently as 1956.

Spencer, 1906 (B 287), p. 45 -- Mineralized quartz ledge in schist belt carries values in gold, silver, and copper. 300 ft. of development work.

Wright and Wright, 1906 (B 284), p. 41 -- Same as above.

Wright, 1907 (B 314), p. 58 -- Underground development, 1906. Deposit is a mineralized quartz lode in schist within 2 mi. of Coast Range intrusive belt. Ore minerals are free gold, galena, pyrite (some arsenical) and chalcopyrite, all in both quartz veinlets and enclosed fragments of country rock.

Wright, 1908 (B 345), p. 90 -- Development continued, 1907.

Wright, 1909 (B 379), p. 72 -- Development continued, 1908.

Berg and Cobb, 1967 (B 1246), p. 190 -- Auriferous lode was explored by several hundred feet of underground workings; no known production. Lode is in schist adjoining Coast Range batholith; composed of quartz veinlets and fragments of country rock containing galena, pyrite, arsenopyrite, chalcopyrite, and gold.

Brew and others, 1977 (OF 77-649), p. 6-7 -- Gold prospect on Endicott Peninsula. Similar to Windham Bay mines and prospects. Had small production.

p. 166-168 -- Main workings (on a quartz vein 1-2 ft. thick) consist of a 170-ft. drift (in which the vein pinched out) and 3 stope raises; stoped out material probably contained 20-50 oz. gold. Vein traced for at least 400 ft. by pits. Channel samples contain an average of 0.094 oz. of gold per ton and traces of silver. Another vein about 6 ft. thick was explored with several shallow shafts and pits. Wall rocks of mined vein are sheared graphitic schists that in places interfinger with the vein. Discovered in about 1900 and periodically restaked, most recently in 1956.

p. 263 -- Deposit has long been known.

Jack Pot — Gold

Petersburg district — Sumdum (5.85, 10.8)
MF-425, loc. 11 — 57°37'N, 133°23'W

Summary: Gold- and sulfide-bearing quartz veins in black slate. Deposit resembles that at Sumdum Chief mine.

Spencer, 1906 (B 287), p. 40 -- Prospect between Sumdum and Windham Bay.
p. 42 -- Auriferous quartz ledges in slate belt resemble Sumdum Chief. Very little work has been done. [Name of prospect not used.]

Berg and Cobb, 1967 (B 1246), p. 191 -- Gold- and sulfide-bearing quartz veins in black slate; resembles Sumdum Chief rather than the closer Windham Bay lodes.

Brew and others, 1977 (OF 77-649), p. 182 -- Reference to Spencer, 1906 (B 287), p. 40, 42.

K & D — Antimony, Gold(?), Silver, Zinc

Petersburg district — Sumdum (5.05, 8.5)
MF-425, loc. 16 — 57°29'N, 133°28'W

Summary: Quartz veins contain sphalerite, pyrite, and tetrahedrite(?). Called a lode gold prospect in one reference, but analyses of samples showed no gold. Native antimony reported.

Alaska Department of Mines, 1957, p. 33 -- Lode gold prospect being actively developed by Kloss & Davis at Sunset Cove during biennium 1955-1956.

p. 48 -- Native antimony is present.

Clark and others, 1970 (OF 434), p. 3, 7 -- Samples of quartz veins contain sphalerite, pyrite, and tetrahedrite(?). Ag as high as 7 ppm; no Au.

Kloss	Copper(?), Nickel(?)
Admiralty district	Sumdum (0.2, 8.45)
MF-425, loc. 17	57°29'N, 133°59'W

Summary: Copper and nickel oxides in shear zone 150-200 ft. wide reported. Copper mineralization reported along a parallel shear zone. Includes reference to copper-nickel minerals in Hyd Fm. on north shore of bay.

Herbert and Race, 1964 (GC 1), p. 13 -- Kloss reported that a trench across a shear zone 150-200 ft. wide showed small amounts of copper and nickel oxides; copper mineralization along a parallel shear zone.

Berg and Cobb, 1967 (B 1246), p. 141 -- Same as above.

Race and Rose, 1967 (GC 8), p. 2 -- Reference to Herbert and Race, 1964 (GC 1) [name of prospect not used; called Hyd Fm. on north shore of Gambier Bay].

(Point Astley) Copper, Lead, Silver, Zinc

Petersburg district Sumdum (3.45, 12.35)
MF-425, loc. 7 57°42'N, 133°38'W

Summary: Prospect known since about 1900 and explored by 3 shafts, several crosscuts from them, and 2 adits. Country rock is slate and chloritic schist (Buddington) or phyllite and muscovite-quartz-feldspar schist (USBM in Brew and others). Sulfides and secondary minerals in quartz stringers and mineralized schist (Buddington) or in small massive lenses parallel to foliation and disseminated in country rock (USBM in Brew and others). Sulfides are mainly pyrite and sphalerite with smaller amounts of galena, chalcopyrite, bornite, chalcocite, covellite, tetrahedrite, and pyrrhotite; also traces of malachite and native silver. Deposits very irregular. Recent analyses and assays of samples from adits and surface indicate as much as 159.1 ppm silver, 5,800 ppm copper, 11,000 ppm lead, and 90,000 ppm zinc. Includes references to: Alaska Copper Co., Sunny Day.

Spencer, 1906 (B 287), p. 44-45 -- In slate-greenstone belt near a diorite intrusive mass more than a mile wide that altered sedimentary enclosing rocks to quartzite and schist. Country rock irregularly mineralized along schistosity in belt a few hundred feet long and a few hundred feet wide by sulfides, quartz, and calcite. Sulfides include bornite, chalcopyrite, pyrite, sphalerite, and galena; native silver also present. About 200 ft. of underground development on one group of claims and a 50-ft. tunnel on another.

Wright, 1909 (B 379), p. 72 -- A little development on Sunny Day, 1908; no mining.

Martin, 1920 (B 712), p. 30 -- Some work by Alaska Copper Co., 1918.

Buddington, 1925 (B 773), p. 131-133 -- One lode in green chloritic schist (probably an altered volcanic rock) consists of quartz stringers and mineralized schist and contains pyrite, chalcopyrite, and sphalerite; explored by 3 shafts from which crosscuts were driven to intersect the lode. Reported that veins 8, 2, and 6 ft. wide and an 18-in. streak of high-grade ore were encountered. All workings flooded in 1923. Another lode in black slate is about 20 ft. wide and consists of many quartz veins with bleached and mineralized muscovite schist leaves and a 10-in.-thick limestone bed with sulfides. Tunnel 20 ft. long in this lode and a short drift in a 1-1/2-ft. stringer of ore below lode. Minerals in lode include primary pyrite, sphalerite, bornite, galena, and chalcopyrite, secondary chalcocite and covellite, and a little native silver. High silver content invariably accompanies high copper content. [No data on tenor of deposits.]

Buddington and Chapin, 1929 (B 800), p. 318 -- Example of replacement and impregnation deposit.

p. 323 -- Bornite associated with pyrite, sphalerite, and galena in metallized quartz stringers in greenstone schist and in impregnated schist and partly replaced limestone layers.

p. 327 -- Small amounts of native silver present.

(Point Astley) -- Continued

Wedow and others, 1952 (OF 51), p. 60 -- Considered worthy of investigation as a potential source of uranium.

Wedow and others, 1953 (C 248), p. 6 -- 10 to 15 ft. thick zone in which metallic minerals occur as lenticular replacement veins parallel to schistosity of country rock. Part of zone 1-2 ft. thick contains 0.006 eU.

p. 10 -- Lenticular replacement veins parallel to schistosity of Paleozoic(?) chlorite-sericite schist are made up of pyrite, sphalerite, bornite, phyyhotite, galena, and covellite(?) in a quartz-carbonate gangue; maximum radioactivity of 0.006 eU.

Houston and others, 1958 (B 998-A), p. 25, 27 -- Lenticular replacement veins strike N 0°-30° W and dip about 70° E parallel to schistosity of the country rock. Veins contain pyrite, sphalerite, bornite, pyrrhotite, galena, chalcopyrite, malachite, covellite, and chalcocite in a gangue of quartz, carbonate, and impregnated schist; traces of native silver reported. Sample of a 2-ft. interval in a mineralized zone 10-15 ft. wide contained 0.006% eU; no uranium minerals identified.

Herreid, 1962, p. 56-58 -- Much of data from older reports or on regional geology. Deposits are near contact between green chloritic phyllite and black slaty phyllite. Veins and sulfides are pretectonic. Samples from adits assayed 0.07%-0.95% Cu, 0.11%-0.27% Pb, 0.08%-3.36% Zn, and 1.23 oz. Ag a ton.

Race, 1962, p. 68-71 -- Has been prospected for gold, lead, and zinc by 2 tunnels and 2 shafts. Development is at high-tide level, so shafts are flooded. Soil-sample data show no more than 100 ppm Cu, 17 ppm Pb, and 250 ppm Zn.

MacKevett and Blake, 1964 (B 1108-E), p. E4 -- References to older work.

Berg and Cobb, 1967 (B 1246), p. 190 -- Lenticular veins parallel to foliation of slate and schist consist of pyrite, sphalerite, bornite, pyrrhotite, galena, chalcopyrite, malachite, covellite, chalcocite, and native silver in gangue of quartz, calcite, and schist fragments. Explored, mainly in about 1900 and between 1916 and 1920, by 3 shafts, about 230 ft. of crosscuts, and several adits. Rumored to have been worked for some silver ore. Assay data same as in Herreid, 1962, p. 57.

Eakins, 1975 (GR 44), p. 34, 37 -- Has been underground exploration. Reference to Houston and others, 1958 (B 998-A), p. 25.

Brew and others, 1977 (OF 77-649), p. 6-7 -- Deposit has long been known, but not thoroughly explored; extremely irregular and lateral and vertical continuity of mineralized zones are not known.

p. 127 -- Disseminated grains and lenses of sphalerite, chalcopyrite, galena, and traces of bornite and tetrahedrite generally follow foliation of muscovite-quartz-feldspar schists; distributed erratically over several acres. Some early development, but no production.

p. 138-142 -- Deposit has been restaked many times. Most work was evidently done before 1925. 3 shafts and some crosscuts (all now flooded or covered by landslide) and 2 short adits. Mineralization

(Point Astley) -- Continued

is disseminated sulfides and massive sulfide lenses no more than a few feet long parallel to foliation of chlorite phyllite and schist. Sulfides mainly pyrite and sphalerite with lesser amounts of galena and occasional chalcopyrite; also some bornite, chalcocite, covellite, and digenite. 2 zones of mineralization about 700 ft. apart. Samples analyzed and assayed contained as much as 159.1 ppm Ag, 5,800 ppm Cu, 11,000 ppm Pb, and 90,000 ppm Zn.

p. 263-264 -- Prospect has been known since turn of the century; little development. Disseminated pyrite and sphalerite with lesser amounts of galena and copper sulfides in altered muscovite-quartz-feldspar schist. Locally sulfides form lenses less than 0.9 m (3 ft.) long and usually less than 0.3 m (1 ft.) wide. Mineralization in a broad, irregular zone (or zones) a few hundred meters in strike length.

(Port Houghton) Copper; Garnet

Petersburg district Sumdum (8.6, 5.5)
MF-425, loc. 18 57°19'N, 133°05'W

Summary: Fissure vein from 2 to more than 12 ft. thick in shear zone in schist consists of intergrown pyrrhotite, pyrite, magnetite, chalcopyrite, quartz, garnet, and amphibole. Grab sample across vein (including both mineralized and barren material) contained 1.34% copper and doubtful traces of gold and nickel. Deposit explored by open cuts, several adits, and a 115-ft. drift along the vein. No record of any production.

Wright and Wright, 1906 (B 284), p. 41 -- Little prospecting; no important ore bodies have been reported.

Buddington, 1925 (B 773), p. 128-130 -- Fissure vein in shear zone between light-colored quartz-feldspar schist and black hornblende schist strikes N 50°-55° W, dips 70°-80° W, and varies in thickness from 2 to more than 12 ft. Explored by pits, several adits (longest 110 ft. long), and a drift that follows the vein for about 115 ft. Vein contains pyrrhotite, pyrite, magnetite, and chalcopyrite intergrown with quartz, garnet, and amphibole. Assay of a grab sample showed 1.34% Cu, doubtful traces of Au and Ni, and no Pt.

Kaufman, 1958 (IC 7844), p. 11 -- Garnet reported.

Berg and Cobb, 1967 (B 1246), p. 191 -- Fissure vein 2-12 ft. thick in a shear zone between quartz-feldspar schist and hornblende schist consists of intergrown pyrrhotite, pyrite, magnetite, chalcopyrite, quartz, garnet, and amphibole. Explored by open cuts, 2 short adits, and a tunnel leading to a 115-ft. drift. Sample across vein (including both mineralized and barren material) contained 1.34% Cu and possible traces of gold and nickel.

Portland — Copper, Gold, Lead, Silver, Zinc

Petersburg district — Sumdum (6.0, 12.6)
MF-425, loc. 8 — 57°41'N, 133°21'W

Summary: Disseminated sulfides and quartz-calcite stringers along foliation of iron-stained silicified mica schist and phyllite near Coast Range batholith. Explored by 3 adits (total length 305 ft.) probably between 1890 and 1910. Sulfides present are pyrite and pyrrhotite and smaller amounts of galena, sphalerite, and chalcopyrite. Old assays of $0.50-$3 a ton reported. Richest samples collected recently contained 0.10 ppm gold, 10 ppm silver, 930 ppm copper, 1,800 ppm lead, and 3,400 ppm zinc.

Spencer, 1906 (B 287), p. 45 -- Claims on mineralized rock in schist belt adjacent to Coast Range diorite. Disseminated sulfides and stringers of quartz and calcite in openings along schistosity in zone nearly 1,000 ft. wide and traceable for a mile or more. Gold-bearing pyrite, galena, and sphalerite reported to assay $0.50 to $3 a ton. Crosscut 180 ft. long and a few open cuts constitute the development.

Wright and Wright, 1906 (B 284), p. 41 -- Assessment work only, 1905.

Herreid, 1962, p. 48 -- In 1962 investigation "The Portland Group.... turned out to be devoid of economic metal values."

p. 58-59 -- Quotation from Spencer, 1906 (B 287), p. 45. Two adits (total length about 300 ft.) in phyllite with quartz veins and layers; only visible mineralization is "sporadic cubes and a few seams of pyrite." Assays of chip samples showed no more than traces of Au and Ag, 0.40% Cu, 0.23% Pb, and 0.52% Zn. Quartz is pretectonic.

Race, 1962, p. 68-71 -- Evidently was an old gold prospect. Soil sample (probably contaminated) contained 3 ppm Cu, 185 ppm Pb, and 3,000 ppm Zn.

Berg and Cobb, 1967 (B 1246), p. 190 -- Data from Spencer, 1906 (B 287) and Herreid, 1962, p. 58-59 [not specifically cited].

Brew and others, 1977 (OF 77-649), p. 215-217 -- References to Spencer, 1906 (B 287) and work by Herreid and Race reported in Herreid, 1962, and Race, 1962. Claims located in 1889 and relocated in 1897. 365 ft. of workings in 3 adits; probably between 1890 and 1910; across iron-stained silicified muscovite schist and phyllite that contain many quartz stringers and lenses parallel to schistosity. Pyrite, pyrrhotite, and traces of galena, sphalerite, and chalcopyrite as disseminations and occasional thin stringers parallel to foliation. Richest sample collected (8 ft. long from a crosscut) contained 0.10 ppm Au, 10 ppm Ag, 930 ppm Cu, 1,800 ppm Pb, and 3,400 ppm Zn.

(Powers Cr.) Copper, Gold

Petersburg district Sumdum (4.6, 13.45)
MF-425, loc. 24 57°46'N, 133°30'W

Summary: Placer gold discovered in 1869; some mining, 1870-71. Amount recovered not known; that from Powers Cr. and Windham Bay area in 1870-71 was nearly 2,000 oz.; most probably from Slate Cr. Pan concentrates contain gold, pyrrhotite, and chalcopyrite, all probably derived from (Sumdum) copper-zinc deposit; in-place tenor of gravels that were sampled is no more than 0.0031 oz. per cubic yard.

Spencer, 1906 (B 287), p. 2 -- Gold discovered, 1869.

p. 45 -- Has been a little small-scale mining; many claims were located, but few were held.

Kaufman, 1958 (IC 7844), p. 7 -- Placer gold discovered in 1869. During next 2 years gold worth about $40,000 was recovered from Powers Cr. and the Windham Bay area.

Cobb, 1973 (B 1374), p. 103-104 -- Placer mining in Windham Bay area and Powers Cr. was carried on sporadically from as early as 1888 until as recently as 1950; amount produced was undoubtedly small [most was from tributaries of Windham Bay].

Brew and others, 1977 (OF 77-649), p. 130 -- Reference to Spencer, 1906 (B 287); nearly 2,000 oz. placer gold produced in 1870-71 from Powers Cr. and Windham Bay area (probably Spruce Cr.); amount from Powers Cr. cannot be determined.

p. 224-225 -- Same data as on p. 130. Most recent placer claim was recorded in 1911. Pan concentrates contained gold, chalcopyrite, and pyrrhotite; source may be Sumdum copper-zinc deposit. Assays of samples indicated in-place tenors of nil to 0.0031 oz. gold per cubic yard.

p. 267 -- Reference to Spencer, 1906 (B 287).

(Sawyer Glacier) — Gold

Juneau district — Sumdum (8.75, 16.5)
57°56'N, 133°04'W

Summary: Channel sample across 30 ft. of stained gneiss contained 0.10 ppm gold.

Brew and others, 1977 (OF 77-649), p. 246 (loc. 510) -- Samples contained 10-30 ppm Mo. A 30-ft. channel sample across stained gneiss contained 0.10 ppm Au.

(Snettisham)

Copper, Iron, Platinum, Titanium, Vanadium

Juneau district
MF-425, loc. 2

Sumdum (2.15, 17.3)
57°59'N, 133°46'W

Summary: Pyroxenite underlies about 390 acres; gradational contacts with diorite and sharper contacts with phyllite, into which tongues of pyroxenite extend. Titaniferous magnetite both disseminated and in masses in pyroxenite; associated with sphene, apatite, epidote, and small amounts of pyrrhotite, chalcopyrite, ilmenite, and spinel. Extensively diamond drilled by USBM. Composite core sample contained 18.9% Fe, 2.6% TiO_2, 0.29% S, 0.32% P, and 0.05% V. Beneficiation tests resulted in a product containing 64% Fe, 3.5% TiO_2, 0.3% V, 0.4% S, and less than 0.01% P. Body estimated to contain 500,000 tons of material with 10%-20% Fe, more than 2% TiO_2, 0.7% V_2O_5, and 0.0027 oz. per ton of platinum-group metals. See also Crystal.

Buddington, 1925 (B 773), p. 133-134 -- Snettisham Peninsula is made up mainly of diorite and hornblendite. Much accessory magnetite in the hornblendite; pegmatitic variants in places are all magnetite. One vein of practically solid titaniferous magnetite about 6 ft. wide was the source of a test shipment of 4 or 5 tons reported to contain 4% or 5% Ti. A polished section of magnetite ore consisted of granular magnetite with accessory ilmenite and silicates; ilmenite in grains 0.2-1 mm in diameter, as very small grains along boundaries of magnetite grains (diameter 0.5-1.5 mm), and as microscopic lamellae along parting planes of magnetite. Ilmenite made up about 8% of the ore. Country rock adjacent to magnetite vein contains about 14% magnetite. Magnetic disturbance covers an area of about 20 sq. mi.

Buddington and Chapin, 1929 (B 800), p. 352 -- Data from above.

Twenhofel, 1953 (C 252), p. 10 -- Titaniferous magnetite concentration in basic igneous or metamorphic rocks.

Thorne and Wells, 1956 (RI 5195) -- References to Buddington, 1925 (B 773), and Buddington and Chapin, 1929 (B 800). Pyroxenite intrusive body underlies an area of about 390 acres with local relief of 1,000 ft. Pyroxenite has gradational contacts with diorite and sharper contacts with phyllite, into which tongues of pyroxenite extend. Titaniferous magnetite is associated with sphene, apatite, epidote, and small amounts of pyrrhotite, chalcopyrite, ilmenite, and spinel. Most of this report is details of a magnetic survey, a diamond-drilling program (more than 6,500 ft. of holes), and beneficiation tests. A composite core sample contained 18.9% Fe, 2.6% TiO_2, 0.29% S, 0.32 % P, and 0.05% V. Magnetic-separation beneficiation resulted in recovering 61%-62% of total iron in the walls in a concentrate containing 64% Fe, 3.5% TiO_2, 0.3% V, 0.4% S, and less than 0.01% P. S content could be lowered to 0.07 percent by sintering.

Kaufman, 1958 (IC 7844), p. 11 -- Reference to Thorne and Wells, 1956 (RI 5195).

(Snettisham) -- Continued

Carr and Dutton, 1959 (B 1082-C), p. 81 -- Iron deposits underlie area of about 8,000 x 2,000 ft. Average crude ore contains about 12% magnetite iron; concentration to about 20% original volume required for assay of 60% iron.

p. 102 -- Reference to Thorne and Wells, 1956 (RI 5195), p. 1.

MacKevett and Blake, 1964 (B 1108-E), p. E4 -- Reference to Thorne and Wells, 1956 (RI 5195).

Noel, 1967, p. 64 -- Reference to Thorne and Wells, 1956 (RI 5195). Deposit is estimated to contain 500 million tons of material with 10%-20% Fe and over 2% TiO_2.

Berg and Cobb, 1967 (B 1246), p. 164 -- Data from Thorne and Wells, 1956 (RI 5195) [not specifically cited].

Page and others, 1973 (P 820), p. 541 -- Table shows 4.55 million troy ounces of identified resources of platinum-group metals. Text states resource as 500 million tons of titaniferous magnetite with an average of 0.0027 oz. per ton platinum metals plus an unspecified part of 3.5 billion tons of titaniferous magnetite with the same platinum-metal content. Source of data not given.

Fischer, 1975 (P 926-B), p. B5 -- Table shows 450 million tons of "ore" containing 19% Fe, 2.6% TiO_2, and 0.09% V_2O_5; concentrate containing 64% Fe, 3.5% TiO_2, and 0.7% V_2O_5. Total vanadium resource is shown as 225,000 tons of V.

Brew and others, 1977 (OF 77-649), p. 128 -- Magnetite-rich zoned ultramafic body.

p. 165 -- Reference to Thorne and Wells, 1956 (RI 5195). Magnetic anomaly is 2154 gammas.

Sulphide	Copper, Gold, Lead, Silver, Zinc
Petersburg district	Sumdum (6.85, 10.75) 57°37'N, 133°16'W

Summary: Poorly defined bands of massive sulfides (including galena, sphalerite, and chalcopyrite) parallel to banding in small folds in gneiss and quartzite in zone 5-15 ft. wide and about 830 ft. long. Gold (as much as 0.3 ppm by fire assay) and silver (as much as 43.9 ppm by fire assay) in samples. Only development is 4 shallow open cuts.

Brew and others, 1977 (OF 77-649), p. 219-221 -- Staked and restaked several times since 1928. Exploration consists of 4 shallow open cuts that define a mineralized zone 5-15 ft. wide and about 830 ft. long roughly parallel to foliation in gneiss and quartzite. Poorly defined bands of massive sphalerite, galena, chalcopyrite, pyrrhotite, arsenopyrite, and marcasite follow selective horizons in minor folds and have been metamorphosed. Analyses of channel samples indicated as much as 30 ppm Ag, 0.15 ppm Au, 2,500 ppm Cu, 13,000 ppm Pb, and 19,000 ppm Zn. Fire assays showed as much as 0.3 ppm Au and 43.9 ppm Ag.

(Sumdum) Copper, Lead, Silver, Zinc

Petersburg district
MF-425, locs. 5, 6

Sumdum (5.05-5.2, 13.6-13.9)
57°47'-57°48'N, 133°27'W

Summary: Discovered in 1958 and diamond drilled and trenched in 1959. Country rock is mainly interlayered light and dark gneiss several thousand feet west of Coast Range batholith. Deposits are mineralized zones 1-50 ft. wide along crest and flanks of a large isoclinal fold; made up of disseminated grains and lenses of pyrrhotite, pyrite, chalcopyrite, sphalerite, bornite, chalcocite, malachite, azurite, galena, and secondary iron minerals; some zones are brecciated fault zones and disseminated in favorable host rocks. Before regional metamorphism deposits were probably volcanogenic or possibly syngenetic. Assuming the deposits are continuous beneath Sumdum Glacier, extend to a depth of 1,000 ft. and have an average width of 31.4 ft., they contain about 26,700,000 tons of material with average content of 0.57% copper, 0.37% zinc, and 0.3 oz. silver a ton.

Race, 1962, p. 68-69 -- Has been drilled and mapped by a mining company. "Their report is still confidential, but it is understood that this deposit is similar to the Jingle-Jangle [(Tracy Arm)] but somewhat larger and of lower grade." Deposit not discernable from soil samples taken near sea level and a mile from the beach.

U.S. Geological Survey, 1962 (P 450-A), p. A54 -- Sumdum copper-zinc deposit is on numerous sulfide replacements and disseminations localized in gneiss and schist, and less extensively in fault zones. In order of general decrease in abundance the sulfides are pyrite, pyrrhotite, sphalerite, chalcopyrite, and bornite.

MacKevett and Blake, 1964 (B 1108-E) -- Discovered in 1958 and explored (diamond drilling and trenching) by a private company in 1959. Prospect bisected by Sumdum Glacier; bedrock recently deglaciated and in many places covered by ice and snow. Country rock of prospect (several thousand feet west of Coast Range batholith) is mainly interlayered light and dark gneiss bounded on the east by calc-silicate rocks separated from diorite of the Coast Range batholith by a fault nearly parallel to banding of metamorphic rocks; bounded on west by schist. Metamorphic rocks isoclinally folded and overturned to SW; folds plunge gently to SE. Rocks regionally metamorphosed; some contact metamorphism near batholith. Rocks at prospect cut by several NW-striking and a few NE-striking faults and by a few dikes and sills of lamprophyre and pegmatite and by apophyses of diorite. Mineralized zones are 1 to 50 ft. thick and localized along minor folds, in brecciated fault zones, and disseminated in favorable host rocks; formed by replacement and open-space filling. Sulfides are dominantly pyrite and pyrrhotite, with sphalerite and chalcopyrite and minor amounts of bornite, chalcocite, malachite, azurite, galena, and secondary iron minerals. Mineralized zones exposed for only a few hundred feet along strike because of snow and glacial cover; diamond

(Sumdum) -- Continued

drilling demonstrated that at least two are continuous for several thousand feet along strike. Assays of samples from surface cuts and diamond-drill cores generally ran about 0.5%-1% Cu, slightly less than 0.5% Zn, and about 0.25 oz. silver a ton.

Noel, 1966, p. 63 -- Reference to MacKevett and Blake, 1964 (B 1108-E).

Berg and Cobb, 1967 (B 1246), p. 189-190 -- Data summarized from MacKevett and Blake, 1964 (B 1108-E)[not specifically cited].

Eakins, 1975 (GR 44), p. 34 -- Reference to MacKevett and Blake, 1964 (B 1108-E).

Brew and others, 1977 (OF 77-649), p. 4 -- Prospect is estimated to contain 24.2 million metric tons (26.7 million tons) of inferred ore, averaging 0.57% Cu, 0.37% Zn, and 10.3 g/metric ton (0.30 oz/ton) silver.

p. 128-129 -- Pyrrhotite, pyrite, chalcopyrite, and sphalerite occur as disseminated grains and as lenses parallel to foliation of metamorphic rocks; these minerals developed metamorphic texture and structure coincident with development of foliation.

p. 205-212 -- Discovered, 1958. Data about the same as in MacKevett and Blake, 1964 (B 1108-E). Inferred resource of exposed part of prospect is 26,700,000 tons with an average width of 31.4 ft. and average assay content of 0.57% Cu, 0.37% Zn, and 0.30 oz. silver per ton.

p. 258-259 -- Probably syngenetic or (more likely) volcanogenic deposit before metamorphism. Deposit consists of massive and disseminated sulfides in 2 steeply dipping parallel zones 1-50 ft. thick and roughly parallel to foliation of country rock; along crest and flanks of an isoclinal fold. If continuous beneath Sumdum Glacier have strike length of about 10,000 ft. Assuming 9,000-ft. length, 31.4-ft. width, and depth of 1,000 ft., deposit is calculated to contain resources listed on p. 212.

p. 261 -- Would have been found in Tracy Arm-Fords Terror project if it had not already been discovered. Not discernible from stream-sediment data.

Sumdum (Chief) — Copper, Gold, Lead, Silver, Zinc

Petersburg district — Sumdum (5.2S, 11.3S)
MF-425, loc. 9 — 57°39'N, 133°26'W

Summary: Produced about 24,000 oz. gold and probably about the same amount of silver from 2 quartz-calcite veins in slate (Spencer) or fissile graphitic limestone (USBM in Brew and others). Veins stoped from tunnel to surface, distances of 500 and 1,200 ft. Lodes as much as 20 ft. thick; gold distribution uneven; in pockets where small veins intersect main veins. Ore ran about 0.4 oz. gold a ton. Free gold accompanied by auriferous pyrite, sphalerite, galena, chalcopyrite, and arsenopyrite.

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

p. 75-76 -- Stringer lead that generally follows contact between green slate and black bituminous slate. Main ore lens being worked is 5 ft. or less thick and consists of quartz, galena, sphalerite, pyrite, and arsenopyrite; richest along footwall; some copper stains. Ore runs about $50 to $60 a ton with about equal quantities of gold and silver. Production in 1896 reported to be nearly $96,000 [about 4,645 fine oz. if all had been gold].

Spencer, 1904 (B 225), p. 29 -- In 1903 had been worked out and abandoned.

p. 36 -- Black shales carry veins from which about $450,000 has been mined [about 21,770 fine oz. if all had been gold].

Wright and Wright, 1905 (B 259), p. 53 -- Operations closed and mining plant to be removed; quartz ledge failed at depth, 1904.

Spencer, 1906 (B 287), p. 4 -- Worked out and abandoned as of 1903.

p. 44 -- Two quartz-filled fissures approximately parallel to trend of slate country rock; extend a few hundred feet horizontally and were mined for depths of several hundred feet. Sumdum Chief vein narrows from a surface width of 3 ft. to a narrow vein filling at depth of 1,200 ft.; Bald Eagle vein widens from width of 2 ft. assaying $10-$20 in gold at surface to width of 20 ft. assaying no more than $1-$2 in gold at depth of 500 ft. Gold in pockets where small veins intersect main veins. Ore is free-milling gold and auriferous pyrite with a little galena and sphalerite in quartz and calcite gangue. Tunnel 3,500 ft. long undercuts Bald Eagle vein at depth of 500 ft. and Sumdum Chief vein at depth of 1,200 ft.; both veins stoped out from tunnel to surface; material below tunnel too low grade to mine. Mining ended in late 1903. Ore milled yielded average of $8 a ton in free gold and concentrates containing $60 in gold and 20 oz. or more silver a ton. Total production worth nearly $500,000 [about 24,190 fine oz. if all had been gold].

Wright and Wright, 1906 (B 284), p. 40-41 -- No mining, 1905; ran out of ore.

Wright, 1907 (B 314), p. 58 -- No work, 1906.

Wright, 1908 (B 345), p. 90 -- No work, 1907.

Buddington and Chapin, 1929 (B 800), p. 317 -- Bald Eagle is an example of a fissure vein.

Sumdum (Chief) -- Continued

Herreid, 1962, p. 48 -- Not visited in 1962 investigation; copper-zinc sulfide ore body.

Race, 1962, p. 68 -- Produced about $500,000 worth of gold before deposit was exhausted.

Berg and Cobb, 1967 (B 1246), p. 190 -- Produced nearly $500,000 in gold and silver between about 1896 and 1904 when the ore ran out. Mined from 2 veins by stoping to surface from 3,500-ft. tunnel that intersected veins 500 and 1,200 ft. below their outcrops. Ore bodies were in black slate and consisted of well-defined quartz-calcite fissure veins carrying free gold, auriferous pyrite, galena, sphalerite, and arsenopyrite. Ore ran about $8 a ton.

Koschmann and Bergendahl, 1968 (P 610), p. 20 -- In early days of lode mining was an important mine. Placer gold discoveries in area in 1869.

Eakins, 1975 (GR 44), p. 34 -- Said to have produced about $50,000 [should be $500,000] in gold before closing in 1904.

Brew and others, 1977 (OF 77-649), p. 3 -- About 24,000 oz. gold and probably a similar quantity of silver produced.

p. 6-7 -- Gold-bearing quartz veins in shaly limestone. Mined out before 1905; ore ran about 0.4 oz. gold a ton.

p. 107 -- Silver accompanies gold.

p. 129-130 -- Geochemically and visually obscure; deposit probably would not have been discovered by Tracy Arm-Fords Terror project. Reference to Spencer, 1906 (B 287).

p. 176-182 -- Historical data and description of area. Only accessible working is a stope on Sumdum Chief vein. Shaft pillar remains in stope; quartz vein 1 ft. thick; in fissile graphitic limestone; contains pyrite, sphalerite, galena, chalcopyrite, and disseminated fine grains of gold. Chip sample across vein contained 0.88 oz. gold and 0.76 oz. silver a ton, 940 ppm Cu, 1,900 ppm Pb, and 3,100 ppm Zn.

p. 263 -- Summary of some of above.

p. 265 -- Veins not detected by geochemical sampling.

(Sweetheart Lake) Gold, Lead

Juneau dsitrict Sumdum (3.5, 16.8)
MF-425, loc. 3 52°58'N, 133°37'W

Summary: Old reports mention claims and assessment work on one or more occurrences of gold- and galena-bearing quartz in schist. Includes reference to Cook.

Spencer, 1906 (B 287), p. 47 -- Assessment work on prospect in schist belt near a lake 3 mi. east [text says west] of South Arm of Port Snettisham. Auriferous quartz with considerable galena.

Wright and Wright, 1906 (B 284), p. 41 -- Cook group is on galena deposit in schist belt.

Berg and Cobb, 1967 (B 1246), p. 155, 158 -- Auriferous quartz in schist also carries considerable galena.

Brew and others, 1977 (OF 77-649), p. 188-189 -- Garbled references to Spencer, 1906 (B 287) and [probably] Wright and Wright, 1906 (B 284). Prospect could not be found during Tracy Arm-Fords Terror Wilderness Study Area investigations. Records indicate that in 1902 Cook recorded 3 claims near Sweetheart Lake.

(Sweetheart Ridge) Copper, Gold, Lead, Silver, Zinc

Juneau district Sumdum (3.5, 16.15)
57°55'N, 133°37'W

Summary: Sulfides (chalcopyrite, pyrite, sphalerite, galena) disseminated and in thin layers in bands of schist in a linear depression. Best zone of those discovered and sampled contains for a length of 147 ft. and an average width of 5.5 ft. for every 100 ft. of depth about 7,300 tons of material with an average grade of 0.23 oz. gold and 0.31 oz. silver per ton and 0.7% copper. No secondary enrichment in oxidized surface capping. No development.

Brew and others, 1977 (OF 77-649), p. 4 -- A 147-ft.-long portion of mineralized zone is estimated to contain 7,300 tons of inferred ore per hundred feet of depth that average 0.23 oz. gold per ton and 0.7% copper.

p. 128 -- In Sumdum Glacier mineral belt. Parallels foliation of the metamorphic rocks. Among components, gold and copper dominate.

p. 192-199 -- Mineralized zone of iron-stained schist and gneiss follows trend of chlorite schist country rock for at least 2,000 ft. in a linear depression that extends for 5.5 mi. with a vertical range of 3,000 ft. Sulfides are both disseminated and in thin layers; include chalcopyrite and pyrite with occasional sphalerite and rare galena. Most important zone found is cataclastic quartz-rich gneiss 5-6 ft. thick capped with intense red-orange stain with no secondary sulfide enrichment or residual gold concentration. Samples across zone contained 0.114-0.577 oz. gold per ton, 0.01-0.65 oz. silver per ton, and 0.21-0.93 percent copper for the best 147-ft.-long section. Estimated resource per 100 ft. of depth for zone 147 ft. long and 5.5 ft. wide is about 7,300 tons of material with average grade of 0.23 oz. gold and 0.31 oz. silver per ton and 0.7% copper. Zone may extend to north; no outcrops. Samples from the rest of the altered zone consistently contained as much as 0.9 ppm Au, 20.9 ppm Ag, and 2% Cu. Parallel zones seem to carry less gold and silver and some Zn. Deposits may be of sedimentary origin.

p. 258 -- Deposit warrants further investigation.

p. 260-261 -- Repetition of resource data. Deposit not reflected in stream-sediment-sampling data.

(Tracy Arm) Copper, Gold, Lead, Silver, Zinc

Petersburg district Sumdum (4.0, 15.9)
MF-425, loc. 4 57°54'N, 133°34'W

Summary: A nearly vertical shear zone containing banded pyrrhotite, sphalerite, chalcopyrite, and a little galena parallel to the banding in hornblende gneiss strikes N 20°-30° W; exposed in 22 open cuts and 16-ft. shaft over a horizontal distance of 1,150 ft. and a vertical distance of 110 ft. with a width of 1-10 ft. Large quartz diorite sill nearby; metamorphic rocks cut by quartz diorite and mafic dikes. Geochemical sampling indicates that mineralized zone may extend several hundred feet farther south than indicated by trenching. Resource estimate for what seems to be the richest part of the zone is 187,000 tons of material averaging 3.42% zinc, 1.42% copper, 0.43 oz. silver a ton, and 0.008 oz. gold a ton, assuming a length of 850 ft., a depth of half the strike length, and a mining width of 5.2 ft. Channel samples contained as much as 12.0% Zn, 5.7% Cu, 1 ppm Au, and 52.4 ppm Ag. Deposit discovered in 1915 or 1916 and restaked several times since then. No record of any production. Includes references to: Jingle-Jangle, Neglected Prize.

Chapin, 1916 (B 642), p. 99 --Discovery of a large body of ore carrying 14% Zn and lesser amounts of gold and copper reported, 1915.

Buddington, 1925 (B 773), p. 130-131 -- Copper prospect is a quartz-sulfide vein parallel to foliation in an aplitic injection gneiss bordered on one side by Coast Range diorite and on the other by a sheet of quartz diorite intruded into schist. Walls of vein not sharply defined; veinlets of quartz, sphalerite, pyrite, and chalcopyrite in wall rock. Vein exposed by prospect pits and a shaft 16 ft. deep over a length of more than 500 ft., reported to be 3-6 ft. wide. Sulfides (pyrrhotite, sphalerite, chalcopyrite, pyrite, and secondary marcasite) predominate over gangue. Assays reported to run 1.5% to 5.6% Cu and 4.7% to 14.6% Zn.

Buddington and Chapin, 1929 (B 800), p. 362 -- Data from above.

Bain, 1946 (IC 7379), p. 41-42 -- Deposit "estimated to contain 7,000 tons of indicated ore and 140,000 tons of inferred ore with a grade of 4.1 percent zinc, 1.5 percent copper, 0.01 ounce a ton gold, and 1.00 ounce a ton silver." Metallic sulfides are pyrite, pyrrhotite, marcasite, sphalerite, chalcopyrite, and galena.

Gault and Fellows, 1953 (B 998-A) -- In a belt of metamorphic rocks (schists and phyllites) west of Coast Range batholith; metamorphic rocks intruded by a large quartz diorite sill and numerous quartz diorite and mafic dikes. Deposit is a replacement vein in a shear zone 1-12 ft. thick that parallels foliation of metamorphic rocks; partially exposed over a length of 1,140 ft. (110 ft. vertically); most of ore confined to southern 830 ft. of shear zone; depth not known. Explored with 28 pits, in one of which is a shaft 16 ft. deep. Ore is sphalerite, pyrrhotite, chalcopyrite, and very small amounts of galena in quartz, mica, and feldspar gangue (gangue more than 50% of deposit). Same metallic minerals and magnetite sparsely dissemi-

(Tracy Arm) -- Continued

nated in metamorphic country rocks. Reserves estimated at 40,000 tons of inferred ore per hundred feet of depth with average tenor of 3.2% Zn, 1.5% Cu, 0.013 oz. Au a ton, and 0.75 oz. Ag a ton. Estimate based on average width of 4.8 ft. over a length of 830 ft.

Twenhofel, 1953 (C 252), p. 6 -- Estimated to contain about 125,000 tons of ore containing 4.5%-5.8% Zn and 2%-3% Cu. Limits at depth not known.

Kaufman, 1958 (IC 7844), p. 12 -- Reference to Gault and Fellows, 1953 (B 998-A).

Herried, 1962, p. 48 -- Copper-zinc sulfide ore body.

p. 58, 62 -- Reference to Gault and Fellows, 1953 (B 998-A). Sulfides appear to conform to rock (gneiss) structures.

Race, 1962, p. 68-73 -- Reference to Gault and Fellows, 1953 (B 998-A). Deposit not discernible in soil samples taken near sea level; was discernible in samples taken within a few hundred feet of outcrop. Deposit probably extends several hundred feet further south than is indicated by trenching.

MacKevett and Blake, 1964 (B 1108-E), p. E4, E7, E19, E-23 -- References to Gault and Fellows, 1953 (B 998-A).

Berg and Cobb, 1967 (B 1246), p. 189 -- Data summarized from Gault and Fellows, 1953 (B 998-A)[not specifically cited]. A little gold and silver reportedly recovered by early prospectors.

Eakins, 1975 (GR 44), p. 34 -- Reference to Berg and Cobb, 1967 (B 1246).

Brew and others, 1977 (OF 77-649), p. 4 -- Estimated to contain 187,000 tons of inferred ore averaging 3.42% Zn, 1.42% Cu, 0.43 oz/ton Ag, and 0.008 oz/ton Au.

p. 114 -- Zinc of potential economic value.

p. 128-129 -- Pyrrhotite, pyrite, chalcopyrite, and sphalerite occur as disseminated grains and as lenses parallel to foliation of metamorphic rocks. Minerals developed metamorphic texture and structure coincident with development of foliation. Deposit geochemically and visually obscure; probably would not have been discovered by Tracy Arm-Fords Terror project.

p. 200-203 -- Banded pyrrhotite, sphalerite, and chalcopyrite in a well-defined zone 1-10 ft. wide is parallel to foliation in hornblende-plagioclase to hornblende-biotite gneiss. Exposed in 22 open cuts and a 16-ft. shaft along a strike length of 1,150 ft. (vertical range of 110 ft.); strike is N 20°-30° W; mineralized zone nearly vertical. Discovered in 1916 and restaked several times. No record of production. Channel samples contained 0.02%-5.7% Cu and 0.02%-12.0% Zn. Fire assays showed as much as 1 ppm Au and 54.2 ppm Ag. Samples from a 300-ft. section along strike assayed 1.42% Cu, 3.42% Zn, 0.43 oz/ton Ag, and 0.008 oz/ton Au across an average width of 5.2 ft.

p. 258-259 -- Deposit probably was syngenetic or (more likely) volcanogenic before metamorphism. Same resource data as on p. 4 over a length of 850 ft. to a depth of half the strike length and for a mining width of 5.2 ft.

p. 261 -- Repetition of data on p. 129.

(Windham Bay) — Copper, Gold, Iron, Lead, Silver, Zinc

Petersburg district — Sumdum (6.15-6.75, 8.8-10.5)
MF-425, locs. 12-15, 25-29 — 57°30'-57°36'N, 133°17'-133°20'W

Summary: Mineralized zones several hundred feet wide consist of schist and phyllite with quartz veins, some of which parallel and some of which cross foliation; about 7 mi. from Coast Range batholith; cut by a few small isolated bodies and premineralization diabase dikes; one small hornblende pyroxenite body. Veins all pinch out in short distances; some are a foot or more thick. Veins carry gold and associated silver, pyrite, pyrrhotite, sphalerite, galena, and chalcopyrite; gold content rarely exceeds 0.25 oz. per ton, which here does not constitute minable ore; a few richer isolated pockets. Many underground workings and open cuts excavated at various times since 1890's, but probably less than 3,000 oz. of gold recovered. Placer gold discovered as early as 1869 and mined sporadically on a small scale into 1950's; amount recovered not known, but undoubtedly small; most (or possibly all) from Spruce Cr. from basins between zones of lode mineralization. Ultramafic body causes magnetic anomaly of 432 gammas; contains some magnetite; chip sample along shore of Windham Bay contained 13.2% Fe; poorly exposed; no exploration. Includes references to: Alaska Peerless (Mining Co.), Alaska-Windham Gold Mining Co., California-Alaska Mining Co., Helvetia Gold Mining Co., Independent Mining Co., Jenny Reed Gold Mining Co., Jensen, Marty (Mines), Rowe, (Shuck R.), (Shuk R.), (Slate Cr.), (Spruce Cr.), (Sylva Cr.), (Sylvia Cr.), Windham Bay Gold Mining Co., Windham Chief Gold Mining Co., Yates.

Brooks, 1904 (B 225), p. 46 -- Hydraulic mining, 1903.

Spencer, 1904 (B 225), p. 36-37 -- Placers worked in a small way at various times between 1869 and 1888. Hydraulic plant installed near mouth of Spruce Cr., 1888; large-scale operations in a basin farther upstream were a failure, although placer gold is present. Has also been sluicing on Shuck R. Work on lodes generally discouraging; irregular quartz veins crosscutting slate contain sulfides and free gold. Mineralized bands of slate contain much disseminated pyrite that carries a little gold, but are too lean to constitute ore.

Wright and Wright, 1905 (B 259), p. 53 -- Developments on many properties, 1904, but no production; low gold values.

Spencer, 1906 (B 287), p. 38-43 -- Bedrock is slate and schist about 7 mi SW of main mass of Coast Range diorite; a few small isolated diorite bodies; several premineralization diabase dikes generally parallel to trend of slate and schist. At head of bay along Spruce Cr. are 3 zones of stringer leads with many irregular quartz veinlets as much as a foot or more wide and traceable for only short distances. Free gold and sulfides (mainly pyrite with smaller amounts of galena, sphalerite, chalcopyrite, and arsenopyrite) in quartz-calcite-siderite (and rare albite) gangue are irregularly distributed in quartz, country rock, and diabase dikes. Between 1900

(Windham Bay) -- Continued

and 1905 several groups of claims along the 3 mineralized zones were explored by 1,500-2,000 ft. of workings and some ore mined, mainly from Red Wing group (Windham Bay Gold Mining Co.); only development in 1905 was by Helvetia Gold Mining Co. Another group of claims (Mildred) on auriferous veinlets in very siliceous slate on north shore of bay was explored by 600-ft. tunnel. Placer mining has been done in the basins of Spruce Cr. between zones of lode mineralization, at head of Spruce Cr., and on Shuck R. and its tributary Slate Cr.; gravel deposits on another tributary, Sylva Cr., were located.

Wright and Wright, 1906 (B 284), p. 41 -- In Aug. 1905 only operating company was Helvetia Gold Mining Co. Some prospecting near head of Spruce Cr.

Wright, 1907 (B 314), p. 58-59 -- Work on Helvetia property; mill tests not encouraging. Veins on divide at head of bay being prospected, 1906.

Wright, 1908 (B 345), p. 90 -- Only assessment work and prospecting, 1907.

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

Chapin, 1916 (B 642), p. 76 -- A property [which one not specified] was sold in 1915; work planned to start in spring of 1916.

Smith, 1917 (BMB 153), p. 20 -- Alaska Peerless Gold Mining Co. opening 3 lode claims by 2 tunnels, 1916.

Martin, 1920 (B 713), p. 30 -- Some work by Alaska Peerless Mining Co., 1918.

Brooks, 1922 (B 722), p. 36 -- In 1919 Alaska Peerless Mining Co. drove 50 ft. of adits on old Yellow Jacket claims; total workings are 400 ft. of main tunnel and 300 ft. of crosscuts from it and 50 ft. of a projected 5,000-ft. adit to undercut the lode 630 ft. below workings. In 1920 only assessment work was done.

Brooks, 1923 (B 739), p. 21 -- Development at Alaska Peerless, 1921.

Buddington, 1925 (B 773), p. 125-127 -- Lodes are zones of schist and phyllite with many quartz stringers; contain free gold and sulfides, including pyrite, pyrrhotite, galena, and sphalerite. Most deposits are low grade, but a few rich stringers have been found. A total of about 1,400 feet of underground workings on several groups of claims.

Moffit, 1927 (B 792), p. 10 -- Mill erected on Peerless property, 1925. Test run not completed at end of season.

p. 15 -- A little placer mining on Shuk R., 1925.

Smith, 1929 (B 797), p. 10-11 -- Jacob Marty Mines acquired some 30 claims and began development; about 1,000 ft. of drifts and crosscuts driven, 1926.

Smith, 1930 (B 810), p. 13 -- Development, 1927.

Smith, 1930 (B 813), p. 15 -- Development, 1928.

Smith, 1932 (B 824), p. 16 -- Little new work, 1929.

Smith, 1934 (B 857-A), p. 15 -- A little work (mainly prospecting), 1932.

Smith, 1934 (B 864-A), p. 17 -- Development work by Alaska Windham Gold Mining Co., 1933.

Smith, 1936 (B 868-A), p. 16 -- Development and preparatory work, 1934.

Smith, 1937 (B 880-A), p. 17 -- Preparatory work, but no mining, 1935.

(Windham Bay) -- Continued

Smith, 1938 (B 897-A), p. 18 -- Preparatory work, but no mining, 1936.
Smith, 1939 (B 910-A), p. 20 -- Preparatory work, but no mining, 1937.
Smith, 1942 (B 933-A), p. 32 -- Attempts to mine detrital material in some of high-level glacial lakes by draining them through a tunnel seem not to have been successful, 1940.
Kaufman, 1958 (IC 7844), p. 7 -- Placer gold discovered in 1869. In 1870-71 about $40,000 in gold recovered from Windham Bay-Powers Cr. area.
Berg and Cobb, 1967 (B 1246), p. 190-191 -- Many auriferous lodes explored between about 1900 and 1937. Underground workings probably aggregated more than 1,000 ft.; incomplete records make it impossible to determine the number of productive lodes or amount of gold recovered; probably did not exceed 10,000 oz. Lodes in white sericitic and siliceous schist; quartz stringers that contain pyrite, pyrrhotite, galena, sphalerite, arsenopyrite, chalcopyrite, and free gold. Pyrite and pyrrhotite also disseminated in schist near the veins. Some deposits reported to be rich; assay data not available.
Koschmann and Bergendahl, 1968 (P 610), p. 20 -- Placer gold discovered, 1869.
Cobb, 1973 (B 1374), p. 103-104 -- Sporadic placer mining from as early as 1888 to as recently as 1950; from Spruce Cr. and Shuck R. and some of its tributaries. Amount recovered not known, but undoubtedly small. Gold derived from nearby lodes that were too small and too lean for profitable mining.
Eakins, 1975 (GR 44), p. 34 -- Reference to Berg and Cobb, 1967 (B 1246).
Brew and others, 1977 (OF 77-649), p. 6-7 -- Lode mines and prospects mainly along quartz stringers in broad altered zones; low gold contents that only rarely exceed 0.25 oz. per ton.

p. 107 -- Has been production from lodes and placers.

p. 128 -- Ultramafic body of incompletely evaluated potential near head of the bay. Magnetic anomaly less prominent than that at Snettisham.

p. 130 -- Gold produced probably did not exceed 2,700 oz. (total from region was about 27,000 oz., of which 90%-95% was from other places).

p. 143-165 -- Several poorly defined parallel zones of alteration and sulfide mineralization hundreds of feet wide generally follow the foliation of steeply dipping schists and phyllites that strike about N 20° W. Mineralized zones contain small quartz stringers and lenses, most of which follow schistosity but some of which cross it. Crosscutting veins more than 3 in. thick consistently have the highest gold values. All veins pinch out in short distances. Metallic minerals in veins include free gold (usually in small isolated pockets) and disseminated pyrite, pyrrhotite, galena, sphalerite, and chalcopyrite; higher gold values often associated with galena. Silver in many assays. Deposits explored by many underground workings and surface excavations; very little actual mining; sporadic activity since 1890's. In 1974 all accessible workings were mapped and sampled. Except for a few isolated samples, all mineralized material was too low grade to constitute ore. Small hornblende pyroxenite body near head of Windham Bay is source of a 432-gamma

(Windham Bay) -- Continued

magnetic anomaly; a spaced chip sample taken along shore contained 13.2% Fe and no significant copper or nickel; material lower grade than that at Snettisham.

p. 169-175 -- Placer gold discovered (probably on Spruce Cr.) as early as 1869; sporadic mining until 1950's. Production probably was small; no records. Many of data from Spencer, 1906 (B 287). Recent sampling showed low gold contents for Spruce Cr. and Shuck R. and its tributaries.

p. 263-264 -- Mineralization in irregular quartz veins and stringers that both parallel and cut across foliation of low-grade metamorphic rocks. Gold content rarely exceeds 0.25 oz. per ton. Both lode and placer production was minor. Lodes too low grade to be mined economically.

p. 267 -- Reference to Spencer, 1906 (B 287).

Unnamed occurrence	Copper
Petersburg district	Sumdum (12.25, 4.7)
MF-425, loc. 22	57°16'N, 132°43'W

Summary: Epidote-quartz-bornite veinlet.

Clark and others, 1970 (OF 432), p. 5, loc. 91 -- Sample of epidote quartz bornite veinlet.

Unnamed occurrence	Copper
Petersburg district	Sumdum (11.25, 5.1)
MF-425, loc. 21	57°17'N, 132°49'W

Summary: Quartz-epidote-bornite veinlet.

Clark and others, 1970 (OF 432), p. 5, loc. 78 -- Quartz epidote bornite veinlet.

Unnamed occurrence	Copper
Petersburg district	Sumdum (11.8, 5.85)
MF-425, loc. 20	57°20'N, 132°45'W

Summary: Bornite in samples from aplite dike, quartz and pegmatite veins, and an epidotized fracture.

Clark and others, 1970 (OF 432), p. 4, loc. 50 -- Bornite in samples from aplite dike, quartz vein, pegmatite vein, and epidotized fracture.

Unnamed occurrence	Copper
Petersburg district	Sumdum (11.6, 7.25)
MF-425, loc. 19	57°25'N, 132°46'W

Summary: Pyrite and chalcopyrite in sample of biotite-quartz gneiss.

Clark and others, 1970 (OF 432), p. 3, loc. 21 -- Sample of biotite quartz gneiss contains pyrite and chalcopyrite.

Unnamed occurrence	Copper, Lead, Tungsten
Petersburg district	Sumdum (8.2, 10.55) 37°36'N, 133°07'W

Summary: Traces of galena, pyrrhotite, chalcopyrite, and scheelite.

Brew and others, 1977 (OF 77-649), p. 223 -- Float and rock samples contain traces of galena, pyrrhotite, chalcopyrite, and scheelite. Stream-sediment sample contained 1,000 ppm W, 2,000 ppm As, and 30 ppm Be.

Unnamed occurrence	Copper, Molybdenum
Juneau district	Sumdum (4.6, 16.65) 57°57'N, 133°30'W

Summary: Traces of molybdenite and chalcopyrite in quartz pod parallel to foliation in gneiss.

Brew and others, 1977 (OF 77-649), p. 247 (loc. M-4) -- Chip sample across a heavily iron-stained quartz pod parallel to foliation of gneiss contained traces of molybdenite and chalcopyrite. Analysis showed 100 ppm Mo and 200 ppm Cu.

(Boundary Cr.) Molybdenum, Silver

Juneau district Taku River (1.4, 11.4)
MF-407, loc. 1 58°39'N, 133°51'W

Summary: Dikelike body of iron-stained granodiorite and aplite which intruded tonalite (quartz-diorite) and related rocks in places contains visible molybdenite. Samples contain anomalous amounts of silver (as much as 9.6 ppm) and copper (as much as 300 ppm); no copper mineral was noted.

Brew and Ford, 1969 (C 615), p. 12-15-- A Tertiary (?) dikelike body of iron-stained granodiorite and aplite is more than 2 m. long and at least 2,000 ft. thick and cuts Cretaceous (?) tonalite and related rocks. Exposed in a recently deglaciated cirque. Parts of the dikelike body contain visible molybdenite; samples contain as much as 9.6 ppm Ag and anomalous (as much as 300 ppm) Cu. Data not adequate to appraise economic potential.

(Limestone Inlet) Copper, Gold, Lead, Zinc

Juneau district Taku River (0.3, 0.8)
MF-407, loc. 2 58°03'N, 133°58'W

Summary: Auriferous quartz veins in granitic rock which intruded volcanic rocks carry small amounts of galena, sphalerite, chalcopyrite, and pyrite as well as free gold. One vein developed by adits (total length 440 ft.) on 2 levels connected by a raise. In 1916 some ore was probably treated in a 5-stamp mill. No data on amount of production. Includes references to: Arizona, Bach, Enterprise, Montana, Williams & Leak.

Wright, 1908 (B 345), p. 90-- Quartz vein 2 1/2 ft. wide in granitic rock exposed over a length of 500 ft. on Bach claims, 1907.

Wright, 1909 (B 379), p. 72-- Auriferous quartz veins 3 in. to 9 ft. wide in granitic rock that intruded slates and greenstones exposed for several hundred feet by open cuts. Vein on Enterprise claims averages 5 ft. in width and is valuable mainly for free gold; strikes N25°E and dips 45°NW. Parellel vein on Arizona claims averages 1 1/2 ft. in width and carries free gold and small amounts of galena, sphalerite, chalcopyrite, and pyrite. As of 1908 other veins had been discovered, but not developed, on both properties.

Knopf, 1910 (B 442), p. 139-- Development continued, 1909.

Knopf, 1911 (B 480), p. 97-98-- Work on Enterprise in 1910. Deposit is a sheeted quartz vein in somewhat porphyritic quartz diorite, which intruded a series of volcanic rocks. Vein strikes N20°E and dips 45°W; 2-3 ft. thick; carries coarse pyrite and galena and free gold; said to average $15 a ton. Drift is 30 ft. long; vein stripped for several hundred feet along outcrop.

Smith, 1917 (BMB 153), p. 24-- Drifts 320 ft. and 120 ft. long connected by raise 77 ft. long; stopes on both levels. Quartz vein strikes N30°E, dips 52°NW, and averages 18 in. thick. Country rock is diorite. Aerial tram takes ore to 5-stamp mill on beach, 1916. [No data on amount of production.]

Eakin, 1918 (B 662), p. 77-78-- Mill installed; some ore reported to have been milled, 1916.

Berg and Cobb, 1967 (B 1246), p. 155-- Quartz veins carrying free gold and small amounts of galena, sphalerite, chalcopyrite, and pyrite. Some ore reported to have been processed in about 1916.

(Mt. Brundage)

Juneau district

Copper

Taku River (6.0, 4.9)
58°17'N, 133°21'W

Summary: Traces of chalcopyrite in iron-stained siliceous gneiss.

Brew and others, 1977 (OF 77-649), p. 243-- Samples of iron-stained siliceous gneiss contained no significant metal values, although minor pyrrhotite and traces of chalcopyrite were identified.

Sunrise Canyon

Manganese

Juneau district
MF-407, loc. 4

Taku River (0.65, 1.3)
58°05'N, 133°56'W

Summary: Manganese minerals, mainly rhodochrosite, in a vein or band 1 to 3 1/2 ft. thick parallel to foliation in phyllite. Beneficiation tests failed to produce a marketable concentrate.

Pittman, 1958-- Vein or band 1 to 3 1/2 ft. thick consisting mainly of rhodochrosite with smaller amounts of manganite and (or) psilomelane, quartz, and rhodonite are parallel to foliation of the enclosing phyllite. Only development was a few shallow pits and trenches. Discovered in about 1935; 8 claims located then and more staked later. Beneficiation tests failed to produce a marketable concentrate.

(Taku R.) Copper, Gold, Lead, Silver, Zinc

Juneau district Taku River (3.0, 10.0) approx.
58°34'N, 133°41'W approx.

Summary: Sphalerite, pyrrhotite, pyrite, galena, and chalcopyrite. Low assays for gold and silver. No other data.

Wedow and others, 1952 (OF 51), p. 57-- Considerable sphalerite with pyrrhotite and minor amounts of pyrite, galena, and chalcopyrite reported about a mile from the international boundary; low assays for gold and silver.

(Whiting R.) Copper, Gold, Lead, Silver, Zinc

Juneau district Taku River (5.15, 0.9)
MF-407, loc. 3 58°03'N, 133°27'W

Summary: Quartz veins in dolomite septum (?) or vein pendant (?) in Coast Range diorite contain arsenopyrite, pyrite, pyrrhotite, galena, sphalerite, and chalcopyrite. Samples contained as much as 56.9 ppm gold (probably in arsenopyrite) and 1,807.9 ppm silver (probably in galena). Veins complexly faulted. Only one large enough to be of possible economic significance is 4.5 ft. wide and was exposed for a lenghth of about 80 ft. in an open cut; 75-ft.-long crosscut driven to intersect it did not vein probably faulted away. Occurrence known since late 1890's; staked and restaked many times. Includes reference to Lost Charlie Ross.

Knopf, 1919 (B 442), p. 139-- Well back in granitic mass of Coast Range. Ore body reported to be 4 1/2 ft. thick and 100 ft. long; quartz carrying galena, arsenopyrite, sphalerite, and pyrite. Assay of "a streak of solid mineral 11 inches wide" on footwall gave a return of $21.60 [about 1.04 oz.] gold and 50 oz. silver a ton and 40% lead. Tunnel being driven to undercut ore body, 1909.

Chapin, 1916 (B 642), p. 98-99-- Claims said to have been located on silver-bearing galena ore in a quartz vein 6-8 ft. wide.

Buddington, 1925 (B 773), p. 135-136-- Prospect has been known since 1898; located and relocated again and again. Small open cut on veins; tunnel 118 ft. long did not reach vein. Quartz fissure vein in belt of coarsely crystalline dolomite (cut by quartz porphyry dikes) in Coast Range diorite; 40 in. wide with band of almost solid sulfides 10 in. wide along footwall. Sulfides are arsenopyrite (predominant) pyrite, galena, sphalerite, and chalcopyrite. Very high silver assays reported from selected specimens.

Buddington and Chapin, 1929 (B 800), p. 362-- Reference to Buddington, 1925 (B 773), p. 135.

Wedow and others, 1925 (OF 51), p. 57-58-- Data from Buddington, 1925 (B 773), p. 135. [not cited]. Unsubstantiated rumor of uranium find on Whiting R.

Kaufman, 1958 (IC 7844), p. 12-- Lead-silver ore body reported.

Berg and Cobb, 1967 (B 1246), p. 155-- Quartz fissure vein in a dolomite inclusion in quartz diorite contains arsenopyrite, pyrite, galena, sphalerite, and chalcopyrite; very high silver assays reported from selected specimens.

(Whiting R.) continued

Brew and others, 1977 (OF 77-649), p. 129-- Only previously [before 1972] reported mineralization in Coast Range batholithic complex [in Tracy Arm-Ford's Terror wilderness study area].

p. 230-233-- Prospect has been known since 1896 and was staked and restaked several times. 4.5-ft.-wide sulfide-bearing quartz vein in dolomite exposed for length of about 80 ft. in open cut; not found in crosscut driven 75 ft. to intersect it; probably faulted. Sulfides are arsenopyrite, pyrite, pyrrhotite, sphalerite, galena, and chalcopyrite; gold values (as much as 56.9 ppm) probably in arsenopyrite and silver values (as much as 1,807.9 ppm) in galena. Several smaller veins on prospect; all apparently faulted; all too small and too low grade to be of economic significance.

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.

Alaska Bond & Development Co. -- see (Windham Bay)
Alaska Copper (Mining) Co. -- see (Point Astley)
Alaska Peerless Gold Mining Co. -- see (Windham Bay)
Alaska Peerless (Mining Co.) -- see (Windham Bay)
Alaska Snettisham Gold Mining Co. -- see Crystal, Friday

Alaska Ventures -- see (Point Astley)
Alaska-Windham Gold Mining Co. -- see (Windham Bay)
Alice -- see (Windham Bay)
Apache -- see (Windham Bay)
Apollo -- see (Point Astley)

Bald Eagle -- see Sumdum Chief
Basin Queen -- see (Windham Bay)
Bear Lode -- see (Windham Bay)
Bird -- see (Windham Bay)
Blossom -- see (Windham Bay)

Boonville -- see (Windham Bay)
Broad -- see (Windham Bay)
Butterbaugh -- see (Tracy Arm)
California-Alaska (Mining Co.) -- see (Windham Bay)
(Chuck R.) -- see (Windham Bay)

Cities Service Minerals Corp. -- see (Sumdum)
Cliff -- see (Windham Bay)
Cook -- see (Sweetheart Lake)
Coughlin & Pekovich -- see (Snettisham)
Croney -- see Sumdum Chief

Crown -- see (Windham Bay)
Daisy Bell -- see Crystal
Doctor -- see (Windham Bay)
Durer -- see (Windham Bay)
Eclipse -- see (Sumdum), (Windham Bay)

Elephant -- see (Sweetheart Ridge)
Ethel -- see (Windham Bay)
Evening Star -- see (Windham Bay)
Fairview -- see (Windham Bay)
Falls Quartz -- see (Windham Bay)

Flossie -- see (Windham Bay)
40 Percent -- see Sulphide
Fries -- see (Windham Bay)
Gertrude -- see (Windham Bay)
Gold Coin -- see (Holkham Bay)

Golden Gate -- see (Sweetheart Ridge)
Golden River Mining Co. -- see (Windham Bay)
Golden Slipper -- see Sumdum Chief
Gold Seal -- see (Holkham Bay)
Gold Shaft -- see (Windham Bay)

Great Mine -- see (Windham Bay)
Heins -- see Crystal
Helvetia (Gold Mining Co.) -- see (Windham Bay)
Iceburg -- see Sulphide
Idaho -- see Sulphide

Independent (Gold) Mining Co. -- see (Windham Bay)
Jackson -- see (Windham Bay)
Jangle -- see (Tracy Arm)
Jenny Reed Gold Mining Co. -- see (Windham Bay)
Jensen -- see (Windham Bay)

Jingle(-Jangle) -- see (Tracy Arm)
Jongle -- see (Tracy Arm)
Juneau -- see (Windham Bay)
Jungle -- see (Tracy Arm)
Keith -- see (Windham Bay)

Kloss & Davis -- see K & D
Lenark -- see (Windham Bay)
Lone Tree -- see Sumdum Chief
Lost Rocker -- see (Windham Bay)
Lucky Star -- see (Point Astley)

Lucky Venture -- see (Point Astley)
Lucy -- see (Windham Bay)
Magnetite -- see (Snettisham)
Marcona -- see (Snettisham)
Margaruita -- see (Windham Bay)

Marty (Mines) -- see (Windham Bay)
Mastedon -- see (Sweetheart Ridge)
May -- see (Windham Bay)
Maybe -- see Sulphide
Mildred (Group Mining Co.) -- see (Windham Bay)

Moneta Porcupine Mines, Ltd. -- see (Sumdum)
Navajo -- see (Windham Bay)
Neglected Prize -- see (Tracy Arm)
New Racket -- see Sumdum Chief
Oceanic (Mining Co.) -- see (Point Astley)

Owens -- see (Tracy Arm)
Peerless -- see (Wincham Bay)
Polar Star -- see (Windham Bay)
Readgister -- see (Sweetheart Ridge)
Red Wing -- see (Windham Bay)

Rowe -- see (Windham Bay)
(Shuck R.) -- see (Windham Bay)
(Shuk R.) -- see (Windham Bay)
Silent Partner -- see (Windham Bay)
(Slate Cr.) -- see (Windham Bay)

Smudge -- see (Point Astley)
(Spruce Cr.) -- see (Windham Bay)
Spruce Creek Mining Co. -- see (Windham Bay)
Sunny Day -- see (Point Astley)
(Sylva Cr.) -- see (Windham Bay)

(Sylvia Cr.) -- see (Windham Bay)
Townsend -- see (Tracy Arm)
Tracy -- see (Tracy Arm)
Verna -- see (Windham Bay)
View Fair -- see (Windham Bay)

Walhalla -- see (Windham Bay)
Windham Bay Gold Mining Co. -- see (Windham Bay)
Windham Chief Gold Mining Co. -- see (Windham Bay)
Yates -- see (Windham Bay)
Yellow Jacket (Mining Co.) -- see (Windham Bay)

Arizona -- see (Limestone Inlet)
Bach -- see (Limestone Inlet)
Enterprise -- see (Limestone Inlet)
Lost Charlie Ross -- see (Whiting R.)
Miss Pickel -- see (Whiting R.)

Montana -- see (Limestone Inlet)
Northern Exploration Co. -- see (Limestone Inlet)
Olson, Hermle & Mullen -- see Sunrise Canyon
Silver Moon -- see (Whiting R.)
Williams & Leak -- see (Limestone Inlet)

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