UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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

By

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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 Sitka 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. 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.

ALASKA
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
TOPOGRAPHIC DIVISION
ROCKY MOUNTAIN MAPPING CENTER
DENVER, COLORADO
ARCTIC OCEAN
BERING SEA
GULF OF ALASKA
PACIFIC OCEAN

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 (FM is used for uranium and(or) thorium determined chemically or present as a constituent of an identified mineral]; the mining district (Ransome and Kerns, 1954) in which the occurrence is located; the name of the 1:250,000-scale topographic quadrangle (Sitka); coordinates (as described by Cobb and Kachadoorian, 1961, p. 3-4); the metallic mineral resources map number (MF-467) and the occurrence number on that map if the occurrence is shown; and the latitude and longitude of 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
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
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

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.

Alaska-Chichagoff (Mining Co.) Gold, Silver

Chichagof district Sitka (5.25, 11.5)
MF-467, loc. 32 57°39'N, 136°06'W

Summary: About 675 ft. of workings in faults that in places contain as much as 5 ft. of quartz. More than 300 tons of ore mined at least $9,000 in gold and silver was recovered. No record of work since 1939. Includes references to McKallick Chichagoff Gold Mines, Inc.

Smith, 1933 (B 844-A), p. 15 -- Development work and a test shipment, 1931.
Smith, 1934 (B 857-A), p. 15 -- Development work, 1932.
Smith, 1934 (B 864-A), p. 15 -- Work said to have been continued, 1933.
Read and Coats, 1941 (B 929), p. 130-132 -- Tunnel, drifts, inclined shaft, and a lower level total about 675 ft. in length. Driven on faults that in places contain as much as 5 ft. of quartz. 302 tons or ore stoped in 1936; yielded a little more than $9,000 in gold and silver; mining and milling were by Chichagoff Mining Co. Further work in 1939; no data on production, if any.
Berg and Cobb, 1967 (B 1246), p. 142 -- Mined at least 300 tons of ore from which about $9,000 in gold and silver was recovered.
Loney and others, 1975 (P 792), p. 91 -- References to Berg and Cobb, 1967 (B 1246).

American Gold Co. Gold

Chichagof district Sitka (5.2, 11.3)
MF-467, loc. 31 57°39'N, 136°07'W

Summary: 185 ft. crosscuts and drifts on 2 faults. In open cut is a fault with a little quartz in it. Quartz carries at least a little gold. No data on possible gold content of material in underground workings.

Reed and Coats, 1941 (B 929), p. 125-126 -- Developed by 75 ft. of crosscuts and 110 ft. of drifts on 2 faults. Country rock is shaly graywacke. In workings a partially silicified dike of crystals of albite-oligoclase is 5 ft. thick; offset about 30 ft. by one fault and an unknown amount by the other. In open cut a dike is terminated by a fault; a little quartz in fault; a speck of gold seen in a quartz veinlet.

Anderson — Gold (?)

Chichagof district — Sitka (6.05, 11.15)
MF-467, loc. 37 — 57°38'N, 136°01'W

Summary: Quartz in shear zones in shaly graywacke with some interbedded greenstone. Development consisted of tunnel 36 ft. long and open cut. No mention of metallic minerals; gold probably is present (report describing this prospect commonly omits mention of gold content of vein).

Reed and Coats, 1941 (B 929), p. 124 -- Country rock is shaly graywacke and some interbedded greenstone. At locality explored by an open cut are 2 faults, one containing as much as a foot of quartz; zone between faults much broken up. At another locality several hundred feet away a tunnel was driven 36 ft. on a shear zone marked 2 ft. of gouge; footwall sharp; shearing becomes less intense in hanging wall; as much as 2 ft. of vein quartz on or near footwall.

Apex-El Nido (Mining Co.) — Copper, Gold, Lead, Silver, Tungsten, Zinc

Chichagof district — Sitka (3.4-3.55, 16.55-16.7)
MF-467, loc. 6 — 57°57'N, 136°17'-136°18'W

Summary: In large diorite pluton and amphibolite mass in pluton. Mines are in quartz fissure veins as much as 4-5 ft. thick and a small, but considerably wider, stockwork. Sulfides in veins (and to a lesser extent wallrock) are pyrite, arsenopyrite, chalcopyrite, galena, sphalerite, and tetrahedrite. Most of values in free gold. Production from 1919-20, when veins were discovered, until 1939, when mines closed, was between 10,000 and 50,000 oz. of gold and about the same amount of silver; production data incomplete. Total length of workings more than a mile. Scheelite sparsely disseminated in veins and offshoots from them; a few small bodies mainly of scheelite. Ore shoots seem to be localized along intersections of main veins and larger offshoot veins. Apex and El Nido vein systems appear to be symmetrical about a vertical fault that bisects the angle in between them. Includes references to: Apex, El Nido.

Martin, 1920 (B 712), p. 30 -- "Veins of tungsten ore (scheelite) have been discovered near Sitka". [Statement may refer to Apex-El Nido but see also Brooks, 1925 (B 773), p. 31.]

Brooks, 1922 (B 722), p. 37-38 -- Control of Apex acquired by Chichagoff Mining Co. in 1920. Apex vein discovered in 1919. Patches of high-grade gold ore on outcrop. Vein is practically solid quartz in hornblende diorite country rock; thin porphyritic acidic dikes along both walls of vein. Tunnel driven 50 ft. on vein; lower tunnel started. El Nido lode is 3 to 3 1/2 ft. of alternating quartz and dike material similar to that at Apex. Exposed for length of 200 ft. by open cuts and trenches. Some hand specimens said to run as high as $5 a pound in gold.

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

Brooks and Capps, 1924 (B 755), p. 25 -- El Nido lode reported to have been found in crosscut 475 ft. below outcrop, 1922.

Brooks, 1925 (B 773), p. 12 -- Work being advanced, 1923.
p. 31 -- Vein of scheelite reported to be 5 in. wide discovered, 1923.

Buddington, 1925 (B 773), p. 114-121 -- Veins mainly in intensely altered aplite dikes; quartz fissure veins except for one small stockwork. Country rock is diorite and some hornblendite. Veins mainly quartz, but in places sulfides make up as much as 50% of the vein; some sulfides in wall rock in places. Sulfides include arsenopyrite, pyrite, sphalerite, chalcopyrite, sparse tetrahedrite, other minerals include free gold and (at El Nido only) scheelite. Some of gold visible but most not; can be panned from crushed quartz. Some gold in mineralized

Apex-El Nido (Mining Co.) (continued)

wallrock. Veins pinch and swell; from a few inches to 5 to 7 ft. in thickness. Stockwork on El Nido claims is 20 by 35 ft. at abrupt change in direction of fracture or where fracture is offset. Assays of Apex lode average about $40 [about 1.9 oz.] a ton in underground workings and $94.50 [about 4.57 oz.] a ton on outcrop; El Nido vein apparently somewhat less valuable; some outcrop samples ran more than $500 [about 24.20 oz.] a ton. Assay of sample across 13 ft. of stockwork (30% diorite and 70% quartz) showed $6.82 in gold and 0.44 oz. silver a ton; another sample across 16 ft. reported to have run $19.85 in gold a ton. Veins traceable more than 2,000 ft. (Apex) and more than 1,000 ft. (El Nido); both exposed for vertical distance greater than 600 ft. In 1922 there were about 3,233 ft. of underground workings. Mill being erected in 1923.

Buddington, 1926 (B 783), p. 41 -- New mill operated, 1924

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

Moffit, 1927 (B 792), p. 10 -- Work continued, 1925.

Buddington and Chapin, 1929 (B 800), p. 317-319 -- Fissure veins and a stockwork in diorite stock. Veins show sheeted or ribbon structures parallel to walls; sulfides (only a small percentage of veins) in streaks parallel to banding; introduced along thin shear zones.

p. 330-331 -- Scheelite disseminated in high-grade gold-quartz veins and as a shoot of solid scheelite 5 in. wide in a quartz stringers veins in aplite dikes in diorite. Major sulfide in veins is arsenopyrite.

p. 346-347 -- Data from Buddington 1925 (B 773), p. 114-121.

p. 372 -- Mine in dioritic batholith.

p. 378 -- Veins in altered aplite dikes that originally may have been albite aplite or albite trachyte.

Smith, 1929 (B 797), p. 10 -- Had been idle in 1925; mining resumed in June, 1926.

Smith, 1930 (B 810), p. 12 -- Mining, 1927.

Smith, 1930 (B 813), p. 14 -- Mining suspended in June, 1928.

Smith, 1932 (B 824), p. 16 -- Property formerly was highly productive, 1929.

Smith, 1933 (B 836), p. 14 -- Plans for reopening mine, 1930.

Smith, 1934 (B 857-A), p. 15 -- Prospecting, development, and a little mining; some ore milled, 1932.

Smith, 1934 (B 864-A), p. 15 -- Some work in 1933; probably no production.

Smith, 1936 (B 868-A), p. 15 -- A little development work, 1934. Some gold recovered.

Smith, 1937 (B 880-A), p. 16 -- A little development work, 1935. Some gold recovered.

Smith, 1938 (B 897-A), p. 17 -- Rumors that sale of property was imminent, 1936.

Smith, 1939 (B 910-A), p. 19 -- Mine partly reopened, 1937.

Smith, 1939 (B 917-A), p. 20 -- Considerable prospecting, 1938. Some ore was mined and milled.

Reed and Coats, 1941 (B 929), p. 143-145 -- Reference to Buddington, 1925 (B 773), p. 117-121. Mine operated 1921-28, 1932, 1934-35, 1937-39. Production in 1939 was worth about $10,000. Apex vein is 5-48 inches thick; in places splits into a stockwork; opened on 4 levels by about

Apex-El Nido (Mining Co.) -- Continued

3,600 ft. of workings. El Nido vein is 4-60 inches thick (average about 10 in.); opened by about 1,800 ft. of workings. Country rock is a mixture of diorite, gabbro, pyroxenite, hornblendite, and an aplitic dike rock; altered near veins and contains quartz, calcite, pyrite, arsenopyrite, and micaceous minerals. Minerals in ore include native gold, pyrite, arsenopyrite, and scheelite.

Smith, 1941 (B 926-A), p. 19 -- Mining and installation of new milling equipment, 1939.

Thorne and others, 1948 (RI 4174), p. 5 -- Examined for scheelite, 1942.

p. 48, 50-51 -- Fine grains of scheelite disseminated at several places in Apex vein. Small streaks and disseminated grains of scheelite in vein on lower level of El Nido mine; sample across 7-in. vein contained 8.73% WO_3; a sample of scheelite contained 56.15% WO_3. On most of upper level scheelite content of vein is very low, but there are a few lenses or pockets of scheelite and a streak of nearly solid scheelite 2 in. wide and 3 ft. long in a veinlet that splits from main vein and diverges into hanging wall.

Twenhofel and others, 1949 (B 963-A), p. 20-23 -- In Apex vein is a very small amount of very fine-grained scheelite; coarsely crystalline scheelite found in a fragment of silicified light-colored dike rock in an ore chute. In El Nido workings scheelite is in disseminated grains and small streaks against the hanging wall; abundant near and at face of adit where vein is 6 in. thick. One scheelite veinlet (most had been removed at time of examination) was 6 inches or more in width and several feet long; veinlet diverges from main vein into hanging wall. WO_3 content of El Nido vein probably about 0.2% or less; as much as about 3% at face of adit, the only place where scheelite might be minable.

Kaufman, 1958 (IC 7844), p. 13 -- Reference to Thorne and others, 1948 (RI 4174).

Rossman, 1959 (B 1058-E), p. 143 -- Apex discovered, 1919; El Nido in 1920.

p. 200-204 -- Apex in mass of amphibolite in diorite; quartz veins extend into diorite. El Nido in diorite. Apex mine developed along a quartz fissure vein that alternately dips 80° and as little as 30°; several offshoot veins were minable near intersection with main vein. Minerals in vein include gold and (in order of decreasing abundance) pyrite, arsenopyrite, chalcopyrite, galena, sphalerite, and tetrahedrite. Scheelite in offshoot veins, but not in main vein. Amphibolite wall rock mineralized near vein; pyrite, magnetite, and gold. Main ore shoot plunges NE at about 50°-60°. Quartz and one or more dikes in El Nido fault; many thin offshoot veins from main vein; ore shoots along intersections of main vein and offshoot veins. Gold in main vein in isolated outcrops over a length of 1,700 ft.; vein traced for about 2,000 ft. Diorite wallrock altered near El Nido vein; contains pyrite and gold. Vertical fault separates Apex and El Nido veins, which are symmetrical on either side of fault. Data on occurrence of scheelite quoted from Twenhofel and others, 1949 (B 963-A), p. 20-23.

Apex-El Nido (Mining Co.) -- Continued

Noel, 1966, p. 53-54 -- Discovered in 1920; operated until 1939. Production less than that of Chichagoff and Hirst-Chichagof.
p. 61 -- Data from Rossman, 1959 (B 1058-E).
p. 63 -- Reference to Twenhofel and others, 1949 (B 963-A).
Loney and others, 1975 (P 792), p. 91-92 -- References to Berg and Cobb, 1967 (B 1246); Twenhofel and others, 1949 (B 963-A).

(Baker Peak)

Copper, Gold, Silver

Chichagof district
MF-467, loc. 20

Sitka (3.9-4.0, 14.3-14.35)
57°49'N, 136°14'-136°15'W

Summary: Greenstone cut by aplite dikes. Dikes and wallrock intensely altered. Much pyrite and some massive chalcopyrite. Assays said to show gold, silver, and lead; no lead mineral named. Explored by about 300 ft. of underground workings and open cuts. Includes references to: Gold-Copper, Golden Copper. See also Cobol (Pinta Bay).

Overbeck, 1919 (B 692), p. 121-123 -- Greenstone cut by light-gray dikes which originally may have been aplite; dikes and wallrock near them intensely altered. Much pyrite, particularly in altered dikes. Some massive chalcopyrite; in one place 10 ft. wide. Assays of some of mineralized rock said to show gold, silver, and lead [no lead mineral identified]. Exploration was about 300 ft. of tunnels and crosscuts, a shallow shaft, and open cuts.

Brooks and Capps, 1924 (B 755), p. 25 -- "At the Golden Copper group development work was continued during the year [1922], and a small mill has been installed." [probably this reference applies to Cobol (Pinta Bay) rather than to (Baker Peak), even though there is also a reference to development and plans for mill installation by Pinta Bay Mining Co., which controlled both properties. This could have happened because of duplication of schedules sent to USGS by owners.]

Buddington, 1925 (B 773), p. 121 -- Reference to Overbeck, 1919 (B 692), p. 121-122. Only assessment work in 1923.

Baldy Lode

Copper

Chichagof district
MF-467, loc. 46

Sitka (15.2, 14.2) approx.
57°48'N, 135°02'W approx.

Summary: Claims staked for nickel at contact between limestone and granitic rock. Pyrite, magnetite, garnet, pyroxene, hematite, quartz and chalcopyrite (identified only in polished section) present; pyrrhotite near by. No nickel.

Buddington, 1925 (B 773), p. 108-109 -- 3 claims staked at contact between marble and granular intrusive rock that is diorite or granodiorite. Oxidized mass along contact consisted of pyrite, magnetite, garnet, pyroxene, hematite, and a little quartz; chalcopyrite identified in a polished section. Pyrrhotite on a nearby claim [name not given]. Prospect staked for nickel; none found in USGS laboratory.

Baney — Gold

Chichagof district — Sitka (5.25, 10.9)
MF-467, loc. 38 — 57°37'N, 136°07'W

Summary: Shaft 22 ft. deep and many prospect openings expose a fault zone over a distance of about 550 ft. Quartz veinlets in one wall of fault; one veinlet reported to carry about half an ounce of gold per ton. See also Gloria B.

Reed and Coats, 1941 (B 929), p. 120-121 -- Shaft 22 ft. deep and many prospect openings expose fault in graywacke over a distance of about 550 ft. A few quartz veinlets, mostly in footwall of fault; one veinlet (about 14 in. thick) reported to carry about half an ounce of gold per ton. Elsewhere on property is either fractured and crystallized chert or a silicified dike; locally small quartz veinlets cross silicified rock and bordering graywacke.

Bauer & Soni — Gold(?)

Chichagof district — Sitka (5.1, 12.0)
MF-467, loc. 26 — 57°41'N, 136°07'W

Summary: Two patented and 2 fractional unpatented claims. Explored by open cut and 20-ft. tunnel. No other data on prospect. Gold probably is present (report describing this prospect commonly omits mention of gold content of veins).

Reed and Coats, 1941 (B 929), p. 135 -- Open cut 50 ft. long and 20-ft. tunnel. 2 patented and 2 unpatented fractional claims.

(Bertha Bay) Copper

Chichagof district Sitka (2.9, 14.1)
MF-467, loc. 15 57°48'N, 136°21'W

Summary: Stringers of chalcopyrite and pyrrhotite in an altered basic intrusive(?) at contact with a band of quartzitic rock in schist. No appreciable development.

Overbeck, 1919 (B 692), p. 124 -- Stringers of chalcopyrite and pyrrhotite in dark green hornblende rock (altered basic intrusive) in contact with a band of quartzitic rock parallel to foliation in schist country rock (contacts may be faults).

Berg and Cobb, 1967 (B 1246), p. 144 -- Chalcopyrite and pyrrhotite present.

Big Ledge — Copper, Nickel, Zinc

Chichagof district — Sitka (15.7, 14.2) approx.
MF-467, loc. 48 — 57°48'N, 134°55'W approx.

Summary: Mafic dike about 20 ft. thick intruded into conglomerate contains disseminated pyrrhotite, chalcopyrite, pentlandite (largely altered to a secondary nickel mineral), and a little sphalerite and pyrite. Includes reference to (Tenakee Inlet).

Buddington, 1925 (B 773), p. 107-108 -- Gabbroic or diabasic dike about 20 ft. wide intruded conglomerate. About 6 ft. in central part of dike is sheared and fractured; rare quartz and calcite stringers. Sparse stringers of pyrrhotite as much as 6 in. thick; also disseminated pyrrhotite. Also a little chalcopyrite and pyrite on fracture faces. A specimen was a gabbroic rock with pyrrhotite, chalcopyrite, pentlandite, a secondary nickel mineral, a little pyrite, and a trace of sphalerite in veins in chalcopyrite. Practically no development of claim, 1923.

Buddington and Chapin, 1929 (B 800), p. 348-349 -- Pyrrhotite, pentlandite, and chalcopyrite in quartz-calcite stringers in a shear zone in a schistose basic dike.

Berg and Cobb, 1967 (B 1246), p. 145 -- Mafic dike contains disseminated pyrrhotite, chalcopyrite, pentlandite, and a little sphalerite and pyrite; much of pentlandite altered to a secondary nickel mineral.

Eakins, 1975 (GR 44), p. 22 -- Reference to Buddington, 1925 (B 773), p. 107-108.

(Billy Basin) Gold, Lead, Silver

Chichagof district Sitka (13.65, 1.55)
MF-467, loc. 55 57°05'N, 135°14'W

Summary: A little work was done, mainly or entirely before 1900, on small bodies of quartz in schistose diorite (Becker) or slate and graywacke (Wright and Wright). Pyrrhotite and galena present. Mill test said to have yielded $7 [about 1/3 oz.] in gold and $1 in silver a ton. Includes references to Thetis.

Becker, 1898, p. 62-63 -- Minerals reported from Thetis include calcite, galena, and pyrrhotite.

p. 80 -- Country rock at Thetis is somewhat schistose diorite. Quartz in a reticulated zone is 2-1/2 ft. thick and carries calcite, pyrrhotite, and galena. Mill test said to have yielded $7 in gold and $1 in silver per ton.

Wright and Wright, 1905 (B 259), p. 58 -- Has been considerable expenditure of labor and money, but little underground work; 2 small tunnels expose irregular masses of quartz in slate-graywacke country rock. No work for several years; as of 1904.

(Blue Lake) Chromite

Chichagof district Sitka (13.9, 1.3)
MF-467, loc. 56 57°04'N, 135°12'W

Summary: A little magnetite and chromite in serpentinite. Samples from vicinity carry traces of Cr, Ni, Cu, Co, and Zn.

Loney and others, 1963 (I-388), analysis 24 -- Magnetite and chromite in serpentinite.

Berg and Cobb, 1967 (B 1246), p. 146 -- Gossan in diabase or greenstone contains traces of Cr, Ni, Cu, Co, and Zn. Serpentine nearby contains a little magnetite and chromite and a trace of Ni.

(Bohemia Basin) Copper, Nickel

Chichagof district Sitka (2,15-2,35, 17,0-17,3)
MF-467, locs. 1, 2 57°58'-57°59'N, 136°25'-136°26'W

Summary: Magmatic segregations of pyrrhotite, pentlandite, and chalcopyrite in a troughlike deposit about 150 ft. thick near the base of a basin-shaped body of norite that is part of a composite stock composed of gabbroic, dioritic, and granitic rocks that intruded Triassic volcanic rocks and graywacke (now altered to schists) and Cretaceous(?) igneous rocks now altered to amphibolite and granitic gneiss. Eight sulfide bodies explored by a tunnel 166 ft. long, trenches, pits, diamond-drill holes, and a magnetometer survey, 1921 to 1940's. Resources estimated at about 20,700,000 tons of material with average grade of about 0.33% nickel and 0.21% copper. If the one-third of the material that is barren could be excluded during mining, the average grade could be raised to about 0.51% nickel and 0.27% copper. One old doubtful assay indicated traces of gold, silver, and platinum-group metals; elements not mentioned in later reports.

Brooks, 1923 (B 739), p. 22 -- Some work on a pyrrhotite deposit, said to carry nickel, on Yakobi I., 1921.

Buddington, 1925 (B 773), p. 95 -- Claims located on nickeliferous deposit, 1921.

p. 98-105 -- Nickeliferous deposits consist of pyrrhotite, pentlandite, and chalcopyrite (with secondary bravoite and marcasite) as layers of massive sulfides and as disseminated grains near the margin of the norite portion of a gabbroic body that appears to be about 1.4 x 2 mi. in extent (may not be a single body; outcrops not good enough to tell) surrounded by greenstone and granitoid rocks. Developments (mainly on Bohemia group of claims) are a 65-ft. tunnel and open cuts. Assays of specimens indicated 1.72 to 4.09% Ni, 0.68 to 1.55% Cu, and (one assay provided by owner) 0.01 oz. Au, 0.07 oz. Ag, and 0.005 oz. Pt-group metals per ton.

p. 113 -- Hypersthene segregations in norite are rich in magnesia.

Buddington and Chapin, 1929 (B 800), p. 348, 351 -- Deposits in norite or bronzitite segregations in norite; hypersthene is rich in magnesia (80%-86% $MgSiO_3$).

p. 373 -- Reference to p. 348-351.

p. 389 -- Pyroxene and olivine locally altered to or veined by serpentine.

Smith, 1939 (B 917-A), p. 104 -- Examination by consulting geologist, 1936; results not released.

Pecora, 1942 (B 936-I), p. 242 -- Reference to Reed and Dorr, 1942 (B 931-F).

Reed and Dorr, 1942 (B 931-F), p. 105-138 -- Country rock is Triassic(?) volcanic rocks and Cretaceous(?) graywacke (now altered to schists), Cretaceous(?) rocks (now amphibolite and granitic gneiss) related to Coast Range intrusives, and a younger intrusive complex with the general composition of diorite and consisting of norite, gabbro, diorite, quartz diorite, granite, and albite granite; in general contacts between these rock types are not sharp. Norite, particularly near

(Bohemia Basin) -- Continued

contacts and around inclusions of older rocks, contains disseminated sulfides and small clots of more massive sulfides; sulfides are pyrrhotite, pentlandite, and chalcopyrite with a little accompanying magnetite. Most of norite is barren of sulfides. Eight of 12 known (there are probably more hidden by talus and muskeg) sulfide-bearing deposits were explored by 19 trenches and a tunnel 166 ft. long. The 8 explored bodies contain an estimated 6,000,000 tons of material with about 0.36% Ni and 0.27% Cu. Under economic conditions of early 1941, the deposits are considered to be marginal.

Kennedy and Walton, 1946 (B 947-C), p. 41-56 -- Diamond drilling by USBM and surface and magnetometer surveys by USGS in 1941-43 indicated that pyrrhotite-pentlandite-chalcopyrite are segregated as blebs in a trough-shaped deposit near the base of a basin-shaped norite body underlain by gabbro and hornfels and surrounded by hornfels, gabbro, and quartz diorite. Sulfide minerals in the form of immiscible droplets were concentrated by gravity after most of the silicate minerals in the norite had crystallized. Revised estimates of resources are 10,300,000 tons of indicated material containing 0.37% Ni and 0.20% Cu in the Tunnel and Tripod bodies and 8,100,000 tons of inferred material containing about 0.27% Ni and 0.20% Cu in the Muskeg and Side Hill bodies; no work was done on Takanis bodies which contain a probable minimum of 2,400,000 tons of material with 0.31% Ni and 0.25% Cu. Total resource is 20,700,000 tons of indicated and inferred material with average grade of about 0.33% Ni and 0.21% Cu. [Total given by Kennedy and Walton is not quite the same as total from adding components, which is 20,800,000 tons.] Tonnage possibly could be lowered and grade raised to about 0.51% Ni and 0.27% Cu by selective mining.

East and others, 1948 (RI 4182) -- Details of USBM drilling and sampling program, 1941-42. Data summarized in Kennedy and Walton, 1946 (B 947-C).

Twenhofel, 1953 (C 252), p. 7 -- Best explored and most promising nickel deposits in Alaska. Sulfide zone as much as 150 ft. thick in trough- or bowl-shaped deposit near bottom of norite mass; estimated to contain almost 20 million tons of material that averages about 0.32% Ni and 0.20% Cu, of which 6-1/2 million tons is estimated to average 0.51% Ni and 0.27% Cu.

Kaufman, 1958 (IC 7844), p. 12 -- References to East and others, 1948 (RI 4182); Kennedy and Walton, 1946 (B 947-C).

Shacklette, 1965 (B 1198-C), p. C7 -- The mosses Oligotrichum hercynium and O. parallelum are the only plant growth on debris from an exploration pit dug into a mineralized body reported to average 0.26% Ni and 0.21% Cu. Metal content probably excluded other species of mosses.

Noel, 1966, p. 65 -- Deposits are remnants of a once much larger trough-shaped concentration of sulfides (pyrrhotite, pentlandite, chalcopyrite, and pyrite) and magnetite in a zone as much as 150 ft. thick near lower boundary of a norite intrusive. Reserves [sic] estimated to be 18 million tons grading 0.5% Ni and 0.27% Cu.

Berg and Cobb, 1967 (B 1246), p. 143-144 -- Copper-nickel deposits are magmatic segregations (chiefly pentlandite, chalcopyrite, and pyrrhotite) that form a troughlike body above the lower contact of a basin-shaped norite intrusive which is a facies of a composite stock that intruded

(Bohemia Basin] -- Continued

Mesozoic graywacke and volcanic rocks and gneissose granite. Estimated resources consist of 20,700,000 of indicated and inferred material containing an average of 0.33% Ni and 0.21% Cu; if the third of the material that is barren could be excluded during mining, grade could be increased to about 0.51% Ni and 0.27% Cu.

Cornwall, 1968 (B 1223), p. 13 -- Reference to Kennedy and Walton, 1946 (B 947-C).

p. 36-37 -- Data summarized from Reed and Dorr, 1942 (B 931-F); Kennedy and Walton, 1946 (B 947-C).

Cornwall, 1973 (P 820), p. 440 -- Table shows 20,000,000 tons of material with grade of 0.3% Ni.

Loney and others, 1975 (P 792), p. 91 -- References to: Kennedy and Walton 1946 (B 947-C); Reed and Dorr, 1942 (B 931-F). Some deposits of uncertain size are also on west side of Yakobi I.

Boston	Gold (?)
Chichagof district	Sitka (13,55, 0,8)
MF-467, loc. 57	57°02'N, 135°15'W

Summary: Gold prospect in Silver Bay area.

Wright and Wright, 1905 (B 259), p. 58 -- Prospect in general area of Billy Basin. No work for several years, as of 1904.
Knopf, 1912 (B 504), p. 29 -- Quotation from above.

Bullion	Gold(?)
Chichagof district	Sitka (14.75, 0.5) approx.(?) 57°01'N, 135°07'W approx.(?)

Summary: Gold prospect in Silver Bay area.

Wright and Wright, 1905 (B 259), p. 58 -- Prospect in general area of Billy Basin. No work for several years, as of 1904.
Knopf, 1912 (B 504), p. 29 -- Quotation from above.

(Cann Cr.) Gold

Chichagof district Sitka (3.7, 16.9)
MF-467, loc. 5 57°58'N, 136°16'W

Summary: Quartz vein, probably too small to be of commercial value, contains an estimated one oz. of gold per ton.

Rossman, 1959 (B 1058-E), p. 212 -- Quartz vein 6-12 inches wide crops out for a distance of 35 ft. Estimated to carry as much as 1 oz. gold per ton. Probably too small to be of commercial value.

Cascade — Copper, Gold(?)

Chichagof district — Sitka (13.3, 1.45)
MF-467, loc. 54 — 57°04'N, 135°16'W

Summary: Shattered quartzite cemented by quartz veinlets contains some pyrrhotite and arsenopyrite, rare chalcopyrite, and probably gold. No development other than open cutting.

Knopf, 1912 (B 504), p. 28-29 -- Shattered quartzite cemented by quartz veinlets in places is mineralized with pyrrhotite, arsenopyrite, and (very rarely) chalcopyrite. Deposit is 300 ft. long and apparently 4-20 ft. wide. One wall is slate; the other is probably an assay wall. [On the basis of this statement it is probable that some gold is present.] Deposit exposed by open cut(s).

Chichagof Extension	Gold(?)
Chichagof district	Sitka (5.5, 11.35)
MF-467, loc. 35	57°39'N, 136°05'W

Summary: Three quartz veins exposed by trenches. No data on metallic-mineral content, but gold probably is present (report describing this prospect commonly omits mention of gold content of veins).

Reed and Coats, 1941 (B 929), p. 128-129 -- Trenches expose 3 quartz veins as much as 3 ft. thick (in most places closer to a foot thick). Very close to Andy claim [of Handy-Andy Mining Co.].

Chichagoff (Mining Co.) — Gold, Lead, Silver

Chichagof district — Sitka (5.1-5.4, 11.6-11.9)
MF-467, loc. 33 — 57°40'-57°41'N, 136°05'-136°08'W

Summary: Regional and general data also apply to Hirst-Chichagof. Deposits are generally tabular pitching bodies of quartz a few feet wide, several hundred feet long horizontally, and from several hundred to several thousand feet along plunge. Deposits are essentially quartz bodies localized in fault zones that are in a structurally complex part of the major regional Sitka fault zone. Sulfides (mainly pyrite, arsenopyrite, and galena) make up less than 3% of ore, which is richest where there is the most galena. At Chichagoff mine most ore bodies are not exposed at surface. Underground workings extend at least 4,750 ft. horizontally and 3,950 ft. vertically. Ore shoots localized along intersections of Chichagof fault and splays from it and by roll in main fault. Country rock is graywacke, some shaly. Mine discovered in 1905 and operated practically continuously until World War II. Production through 1938 (no data thereafter) was about 651,785 oz. of gold and considerably more than $157,940 worth of silver (data incomplete); copper reported to have been recovered in 1927, but no copper mineral has been reported. Includes references to: Big Four, Chichagoff Development Co., Chichagoff Mines, Ltd., De Groff, Golden Gate, Golden Horn, Mills, Sitka. See also: Alaska Chichagof(f) Mining Co., Apex-El Nido, which Chichagoff Mining Co. operated or explored for short periods.

Wright, 1907 (B 314), p. 60-61 -- Principal workings on De Groff property are a 30-ft. crosscut and drift more than 100 ft. long and surface trenches. Ore mined has come principally from float and outcrops. Ore has been shipped; is free milling, so a stamp mill is planned, 1906. On Golden Horn and Golden Gate claims veins were explored by a 40-ft. tunnel and surface cuts; values generally low, but some rich shoots. Veins are near contact between "slate-graywacke and the slate-greenstone strata;" granodiorite about 3 mi. to NE. Gold mainly free, but some in sulfides.

Wright, 1908 (B 345), p. 91 -- More underground work; mill operated last quarter of year, 1907.

Wright, 1909 (B 379), p. 73 -- Vein averages about 5 ft. in width; ore in shoots 40-50 ft. long. Mining and milling, 1908.

Knopf, 1910 (B 442), p. 139 -- Mining, 1909. Changes in mill.

Knopf, 1911 (B 480), p. 98 -- De Groff and Golden Gate mines and mills operated, 1910.

Brooks, 1912 (B 520), p. 24 -- De Groff and Golden Gate mines and mills operated, 1911. Reported that the two properties will be consolidated.

Knopf, 1912 (B 504), p. 18 -- Ore, as milled, yields $15-$90 [about 0.73-4.35 oz.] in gold per ton. Gold discovered (float in a creek) in 1905 and claims staked. In 1909 Chichagoff and Golden Gate mines were operating.

p. 22-25 -- Quartz bodies in a shear zone in dense nearly massive graywacke with some interbedded slaty argillite. In places the quartz

Chichagoff (Mining Co.) -- Continued

shows pronounced ribbon structure. Sulfides (mainly pyrite, but some galena) constitute 2%-3% of the ore; much free gold. Chichagoff (De Groff) mine has paid its way; $15,000-$20,000 received from smelter on shipments of selected float ore. Mine developed by 2 levels 162 ft. apart connected by a raise. Ore is in (probably lenticular) shoots. Golden Gate mine is apparently on the same shear zone higher up the mountainside. Developed by 2 levels.

Brooks, 1913 (B 542), p. 34 -- Mining, 1912. Chichagoff (De Groff) and Golden Gate mines combined under one management.

Brooks, 1914 (B 592), p. 60 -- Mining, 1913.

Brooks, 1915 (B 622), p. 43 -- Mining, 1914. Mill enlarged.

Chapin, 1916 (B 642), p. 78 -- Mining, 1915. Has reached 700-ft. level.

Smith, 1917 (BMB 142), p. 36 -- Chichagoff [De Groff] and Golden Gate workings have been connected; 14 levels; 2 mills.

Smith, 1917 (BMB 153), p. 29 -- About the same as Smith, 1917 (BMB 142), p. 36.

Brooks, 1918 (B 662), p. 41 -- Mining, 1916. Nearly a mile of workings opened during year.

Martin, 1919 (B 692), p. 30 -- Mining, 1917.

Overbeck, 1919 (B 692), p. 110-111 -- Altered aplite(?) dike on property; none encountered in workings.

p. 113-116 -- Ore is in shoots in lenticular quartz masses in a shear zone in argillitic graywacke. Shear zone has been followed continuously for more than 4,500 ft. and is from less than a foot to 10 ft. wide. Gold irregularly distributed in quartz; ore is richer where sulfides (pyrite and galena) are most abundant. Much pyrite, but no gold, in wall rock. Some of quartz is ribbon rock made up of parallel stringers of quartz separated by slaty or carbonaceous layers. Quartz generally crushed.

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

Brooks and Martin, 1921 (B 714), p. 76 -- Mining, 1919.

Brooks, 1922 (B 722), p. 37 -- Mining, 1920.

Brooks, 1923 (B 739), p. 22 -- Mining, 1921. Horizontal workings are 26,650 ft. in aggregate length; total depth 1,250 ft.

Brooks and Capps, 1924 (B 755), p. 25 -- Mining, 1922.

Brooks, 1925 (B 773), p. 11-12 -- Mine, discovered in 1905, near western margin of belt of granitic intrusives.

p. 15 -- In 1923 operated until July, when new management took over.

p. 37 -- Operations suspended, July 1, 1923.

Buddington, 1926 (B 783), p. 41 -- Mining, 1924.

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

Moffit, 1927 (B 792), p. 10 -- Considerable production, 1925.

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

p. 319-320 -- Well-marked ribbon structure; ribbons of quartz alternate with thin slabs of schistose graywacke.

p. 343 -- Metallized quartz vein in shear zone which has been followed for more than 4,500 ft. in argillitic graywacke.

p. 372 -- Quotation from Overbeck, 1919 (B 692), p. 113, 115.

Smith, 1929 (B 797), p. 10 -- Mining, 1926.

Smith, 1930 (B 810), p. 12 -- Little production, 1927; mainly development work.

Chichagoff (Mining Co.) -- Continued

p. 46 -- Some copper reported to have been in concentrates shipped in 1927 [only mention of copper from this mine; no copper mineral reported].

Smith, 1930 (B 813), p. 14 -- Little more than development work, 1928. Company reorganization.

Smith, 1932 (B 824), p. 15-16 -- Exploration and development yielded a little ore that was milled, 1929.

Smith, 1933 (B 836), p. 14 -- Largely dead work, but some production, 1930.

Smith, 1933 (B 844-A), p. 15 -- Development and some production, 1931. Good ore reported to have been found on 1,300, 1,400, and 1,500 foot levels.

Smith, 1934 (B 857-A), p. 14 -- Mining, 1932. Mill ran practically uninterruptedly.

Smith, 1934 (B 864-A), p. 14-15 -- Mining, 1933.

Smith, 1936 (B 868-A), p. 15 -- Mining, 1934.

Smith, 1937 (B 880-A), p. 16 -- Mining, 1935.

p. 72 -- Some lead recovered from concentrates by smelter.

Smith, 1938 (B 897-A), p. 16 -- Mining, 1936.

Smith, 1939 (B 910-A), p. 18 -- Mining, 1937.

Smith, 1939 (B 917-A), p. 20 -- Mining, 1938.

Reed and Coats, 1941 (B 929), p. 78-81 -- Ore shoots appear to occupy a very large warp in the Chichagof fault, which is at a considerable angle to bedding and foliation. 2 of 4 major ore shoots do not reach the surface. Ore from one small stope contained fault gouge, fragments of graywacke, gold, and sulfides, but no quartz. Galena apparently indicative of good ore.

p. 86-101 -- Country rock is graywacke, some massive and some (particularly near Chichagof fault) shaly. Principal mineralization is in Chichagof fault and splits from it; fault has a large warp that is partly opened by the underground workings, which are in the fault for 4,750 ft. horizontally and 3,950 ft. vertically. Most of what appear in the workings to be separate faults probably are splits from the main fault. Splits both follow and cut across bedding. The 5 principal ore shoots pitch southeasterly at about 70° and generally have stope widths of 2-8 ft.; locally as much as 15 ft. thick. Metallic minerals are pyrite, arsenopyrite, gold, and galena; gangue minerals are quartz and minor, but widespread, amounts of calcite. Sulfides make up only a small percentage of the ore. Production from 1906 through 1938 was $13,784,710 in gold [about 651,785 oz] and probably considerably more than $157,940 in silver (silver data incomplete). Average plate recovery in mill was about 1.067 oz. gold and 0.225 oz. silver a ton. [Other data on geology and ore deposits are scattered elsewhere throughout this report; some are regional and some are applicable to specific occurrences.]

Smith, 1941 (B 926-A), p. 18-19 -- Mining, 1939.

Smith, 1942 (B 933-A), p. 18 -- Very little underground work, 1940. Old tailings reworked.

West and Benson, 1955 (B 1024-B), p. 49-50 -- Data summarized from Reed and Coats, 1941 (B 929). No anomalous radioactivity.

Chichagoff (Mining Co.] -- Continued

Kaufman, 1958 (IC 7844), p. 7 -- Lode found in 1905. Over the next 33 years it yielded more than $13.5 million in gold.

Rossman, 1959 (B 1058-E), p. 143 -- Historical data only.

Noel, 1966, p. 54 -- Total production from Chichagoff and Hirst-Chichagof, 1905-38, was over $20,000,000 in gold.

p. 61 -- Data from: Overbeck, 1919 (B 692); Reed and Coats, 1941 (B 929).

Berg and Cobb, 1967 (B 1246), p. 141-142 -- [The following includes data on Chichagoff and Hirst-Chichagof.] Area is underlain by metamorphosed sedimentary and volcanic rocks cut by felsic to intermediate stocks and dikes and by faults that generally are parallel to layering and foliation of metamorphic units. Lodes are in fault zones; consist of quartz veins containing 3% or less pyrite, arsenopyrite, galena, sphalerite, chalcopyrite, and gold. Many ore bodies near distinct warps in fault surfaces or at intersections of the main faults and large divergent splits. Ore bodies tabular, steeply plunging, and commonly a few feet thick and a few hundred feet long; plunge length from several hundred to a few thousand feet. Ore averaged a little more than an ounce of gold per ton. Production from area from 1905 to suspension ordered during World War II was more than 3/4 million oz. gold and a small amount of silver.

Koschmann and Bergendahl, 1968 (P 610), p. 20 -- Data summarized from Reed and Coats, 1941 (B 929); Knopf, 1912 (B 504).

Loney and others, 1975 (P 792), p. 91 -- Chichagoff and Hirst-Chichagof were principal producing mines of district; no recorded production from district since 1945. Gold-silver deposits in district in quartz veins in fault zones along Sitka fault zone that cut low-grade metamorphic rocks and granitoid intrusive rocks; in part of Sitka fault zone that is abnormally complex; in belt of Tertiary granitoid intrusions. References to: Reed and Coats, 1941 (B 929); Berg and Cobb, 1967 (B 1246).

Chichagof Prosperity Mining Co. Gold

Chichagof district Sitka (5.1, 12.0)
MF-467, loc. 26 57°41'N, 136°07'W

Summary: Prospect explored by about 200 ft. of tunnels, a winze, and surface excavations. Quartz veins as much as 3 ft. thick along faults. No data on metallic-mineral content of veins; in view of the amount of exploration it seems safe to assume that gold is present, through probably not in minable quantities at time work was done (mainly 1938-39). Includes reference to Monte Cristo.

Knopf, 1912 (B 504), p. 25 -- Prospect in Klag Bay area. Geologically similar to Chichagoff. Called Monte Cristo in this reference.

Reed and Coats, 1941 (B 929), p. 133-134 -- Claims optioned to Hirst-Chichagof Mining Co., 1938-39. Country rock graywacke. Two tunnels (total length about 200 ft.) on faults with quartz veins as much as 3 ft. thick. Also several pits. Underground openings had total length of about 200 ft., plus a winze.

Cobol (Pinta Bay) — Copper, Gold, Lead, Zinc

Chichagof district — Sitka (4.25, 15.0)
MF-467, loc. 11 — 57°51'N, 136°13'W

Summary: About 1,000 oz. of gold recovered from about 135 tons of ore mined in 1933-35 from a quartz vein about 2 ft. wide in quartz diorite. Wallrock altered near vein. Sparse sulfides include arsenopyrite, sphalerite, galena, pyrite, chalcopyrite, and (in a greenstone inclusion) pyrrhotite. A second vein in greenstone, cherty quartzite, and siliceous limestone appears to be similar, but thinner. Discovered in 1921; equipment removed in 1936. Includes references to: Cox, Bolyan & Coberg, (Pinta Bay), Pinta Bay Mining Co., West Coast Development Co. See also (Baker Peak).

Brooks and Capps, 1924 (B 755), p. 25 -- Development of gold property, 1922; preparations for installing mill.

Buddington, 1925 (B 773), p. 72 -- Veins similar to these at Apex-El Nido.

p. 114 -- Albite-quartz diorite is country rock.

p. 121-123 -- Claims located and development begun in 1922. Two quartz fissure veins, one of which is being developed by a tunnel (30 ft. long in 1923) and open cuts. Mainly in albite-quartz diorite. Sulfides (generally sparse) include arsenopyrite, sphalerite, galena, and a little pyrite and chalcopyrite. Free gold in vein and in gouge along hanging wall. A greenstone inclusion is traversed by veinlets of pyrrhotite and chalcopyrite. The second vein appears to be similar, but in greenstone, cherty quartzite, and siliceous limestone.

Buddington and Chapin, 1929 (B 800), p. 346 -- Veins in albite-quartz diorite variants of Lisianski diorite stock.

p. 378 -- Country rock is albite-quartz diorite.

Smith, 1929 (B 797), p. 10 -- Company reorganized, 1926. Hopes to do more exploration.

Smith, 1930 (B 810), p. 12 -- Exploration; test shipment of ore, 1927.

Reed and Coats, 1941 (B 929), p. 142-143 -- Discovered and located, 1921. Reference to Buddington, 1925 (B 773), p. 122-123 -- Mining and milling, 1933-35, produced about $3,500 [about 1,000 oz.] in gold from about 135 tons of ore taken from a stope about 70 ft. long and 40 ft. high. Equipment removed in 1936. Vein mainly in albite-quartz diorite; 2 ft. wide; some of it is in greenstone that intruded diorite and is narrower. Both rock types intruded by a fine-grained dike. Wallrock altered near vein.

Twenhofel and others, 1949 (B 963-A), p. 23 -- No scheelite identified in vein in small abandoned mine 7 mi. SE of Apex-El Nido.

Rossman, 1959 (B 1058-E), p. 143 -- Veins discovered in 1921.

p. 209-210 -- Same data as Reed and Coats, 1941 (B 929), p. 142-143.

Noel, 1966, p. 54 -- Gold production less than that from Chichagoff and Hirst-Chichagof.

p. 61 -- Reference to Rossman, 1959 (B 1058-E).

Berg and Cobb, 1967 (B 1246), p. 143 -- About $3,500 in gold recovered in 1933 from quartz vein that roughly follows contact between quartz diorite and greenstone. Vein also contains sparse arsenopyrite,

Cobol (Pinta Bay) -- Continued

sphalerite, galena, and chalcopyrite.
Loney and others, 1975 (P 702), p. 91 -- Reference to Berg and Cobb, 1967 (B 1246).

Cobol (Slocum Arm) — Gold, Lead

Chichagof district — Sitka (7.5, 8.7)
MF-467, loc. 44 — 57°30'N, 135°52'W

Summary: 2 tunnels (aggregate length about 1,900 ft.) driven along a fault zone in graywacke. Pyrite, galena, and gold in a thin quartz vein and gouge (total thickness about a foot); some gold in fractures in lenses of dike rock in fault zone. Includes reference to (Slocum Arm). Most references to Cobol are to mine near Pinta Bay rather than to this prospect.

Smith, 1929 (B 797), p. 11 -- Prospecting on gold-quartz veins, 1928.

Smith, 1939 (B 910-A), p. 17 -- Mining reported, 1937. Has been production in the past.

Reed and Coats, 1941 (B 929), p. 139-140 -- Two tunnels (aggregate length about 1,900 ft.) driven along a fault zone in graywacke. Light-colored dike in fault zone broken into lenses by renewed movement along fault zone. Vein material is chiefly gouge and milky quartz; some ribbon quartz; maximum thickness about a foot. Metallic minerals in specimens are pyrite, galena, and gold. Some gold in fractures in dike rock. Ore minerals smeared out by post-ore fault movement.

Berg and Cobb, 1967 (B 1246), p. 142 -- 2 tunnels, each over 1,300 ft. long [incorrect; total for both tunnels is about 1,900 ft.], driven along quartz vein in fault zone in graywacke. Pyrite, galena, and gold sparsely distributed in quartz vein and fault gouge.

Congress

Copper

Chichagof district
MF-467, loc. 24

Sitka (3.65, 12.8)
57°44'N, 136°16'W

Summary: Part of a lens of greenstone in graywacke is schistose and contains sparse chalcopyrite and pyrrhotite in small quartz bodies and on foliation surfaces. Mineralized zone 10-12 ft. thick and explored by a tunnel 25 ft. long. No data on gold content, if any.

Overbeck, 1919 (B 692), p. 123-124 -- Country rock is schist (probably a phase of graywacke). Prospect tunnel 25 ft. long near sea level exposes mineralized zone about 11-1/2 ft. wide which contains chalcopyrite and pyrrhotite coating plates of schist. Zone bounded on one side by green schist that may represent an altered intrusive; contains a little chalcopyrite. Mineralization may be genetically related to green schist.

Reed and Coats, 1941 (B 929), p. 140-141 -- Reference to above. Country rock is graywacke with greenstone lens, lower 10-12 ft. of which is schistose with numerous small quartz lenses and rodlike bodies. Schist is a quartz-chlorite-magnetite rock that was partly replaced by clear quartz grains and later by sparse calcite, chalcopyrite, and pyrrhotite. Sulfides in quartz and on foliation surfaces schist.

Berg and Cobb, 1967 (B 1246), p. 144 -- Chalcopyrite and pyrrhotite present.

(Cub Mtn.) Gold

Chichagof district Sitka (3.6, 15.5)
MF-467, loc. 10 57°33'N, 136°17'W

Summary: Quartz vein about a foot thick and traceable for about 50 ft, contains visible gold; assays indicate about one ounce to the ton.

Rossman, 1959 (B 1058-E), p. 213 -- Quartz vein (in diorite, pl. 12) contains visible gold; samples assayed contained about an ounce to the ton. Vein is a foot thick and can be traced in isolated outcrops for about 50 ft.

Duluth — Gold(?)

Chichagof district — Sitka (5.2, 11.5)
MF-467, loc. 32 — 57°39'N, 136°06'W

Summary: Claim near Klag Bay adjoining Jumbo; staked in 1912. No other data. See also Jumbo.

Reed and Coats, 1941 (B 929), p. 126 -- Claim near Klag Bay next to Jumbo; staked in 1912.

Ebba	Copper, Gold, Nickel, Silver
Admiralty district	Sitka (23.0, 12.0)
MF-467, loc. 68	57°40'N, 134°14'W

Summary: Assay of sample of gabbro float partially replaced by pyrrhotite, chalcopyrite, and possibly other sulfides showed 0.03% copper, 0.16% nickel, and 0.02 oz. gold and 1.18 oz. silver per ton.

Race and Rose, 1967 (GC 8), p. 9 -- Gabbro float partially replaced by pyrrhotite, chalcopyrite, and possibly other sulfides. Assay showed 0.03% Cu, 0.16% Ni, and 0.02 oz. Au and 1.18 oz. Ag per ton.

Elbow Passage — Gold

Chichagof district — Sitka (5.5, 10.7)
MF-467, loc. 39 — 57°37'N, 136°05'W

Summary: Quartz veins as much as a foot thick (one of pyritiferous ribbon quartz) in faults and joints in graywacke. One vein said to carry good gold values. Explored by pits and a 29-ft. shaft.

Reed and Coats, 1941 (B 929), p. 119-120 -- Six claims staked in about 1934. Country rock is shaly and splintery graywacke cut by faults containing quartz veinlets and veins (one of pyritiferous ribbon quartz) as much as a foot thick. One vein in a joint "is reported to be of high grade, but no definite figure as to its gold content is available." Prospect explored by a shaft 29 ft. deep and pits.

Etna	Gold
Chichagof district	Sitka (3.35, 16.0)
MF-467, loc. 8	57°55'N, 136°19'W

Summary: Quartz vein in diorite stock has average width of 16-18 in. and carries some gold.

Buddington, 1925 (B 773), p. 124 -- 5 claims on south side of Stag Bay. Vein reported to average 16-18 in. wide; stripped for 150 ft.; "medium gold content." In diorite stock.

Falcon Arm — Gold, Lead, Silver, Zinc

Chichagof district — Sitka (6.95, 9.7)
MF-467, loc. 42 — 57°33'N, 136°56'W

Summary: Crosscut more than 2,200 ft. long driven to explore sulfide-bearing dikes in massive graywacke. Some dikes, which are fine-grained and probably felsic, contain pyrite, galena, and sphalerite and, reportedly, gold and silver. Graywacke cut by many faults, one of which contain thin quartz veins. Drift followed one fault for about 750 ft. Includes references to: (Falcon Arm), Falcon Bay Mining Co.

Overbeck, 1919 (B 692), p. 120 -- Mineralized altered diorite aplite dikes in graywacke and slate explored by 2 prospect tunnels. Sulfides include pyrite, galena, and sphalerite; samples reported to carry gold and a little silver. 4 claims located in 1916.

Brooks and Capps, 1924 (B 755), p. 25 -- 640 ft. of adit completed, 1922.

Reed and Coats, 1941 (B 929), p. 118-119 -- Country rock is graywacke cut by many dikes of fine-grained light-colored intrusive rock ranging in thickness from about 1 ft. to 30 ft. Explored by a crosscut 2,260 ft. long, which encountered numerous faults, some of which contain quartz veins a few inches thick; drift follows one for about 750 ft.

Berg and Cobb, 1967 (B 1246), p. 142 -- Crosscut more than 2,200 ft. long driven to explore sulfide-bearing dikes in massive graywacke; some dikes, which are fine-grained and probably felsic, contain pyrite, galena, and sphalerite and reportedly carry gold and silver. Graywacke also cut by many faults, some of which contain thin quartz veins.

Flora

Gold(?)

Chichagof district
MF-467, loc. 33

Sitka (5.3, 11.65)
57°40'N, 136°06'W

Summary: Tunnel driven about 90 ft. on a shear zone (in shaly graywacke) that contains a quartz-calcite vein as much as a foot thick. No mention of gold content, if any. In view of the amount of work and the fact that the claim was patented, it is probable that some gold is present.

Knopf, 1912 (B 504), p. 25 -- Prospect near Klag Bay. Geologically similar to Chichagoff.

Overbeck, 1919 (B 692), p. 119 -- Tunnel in shear zone that contains some quartz.

Reed and Coats, 1941 (B 929), p. 132 -- Tunnel driven about 90 ft. on a fault that contains a quartz-calcite vein as much as a foot thick. Claim patented. Country rock is shaly graywacke.

(Gambier Bay) Copper, Gold

Admiralty district Sitka (24.0-24.6, 9.0-9.65)
MF-467, locs. 71, 72 57°30'-57°32'N, 134°03'-134°07'W

Summary: In early 1900's two prospects were staked. One (Brown prospect) was in a calcareous schist terrane and consisted of brecciated limestone partly replaced by quartz and small masses of pyrite and chalcopyrite; small values in gold reported. Only development was several open cuts. Cook claim was located on copper- and gold-bearing ledges; little if any development work. Includes references to: Brown, Cook.

Wright and Wright, 1905 (B 259), p. 56 -- Chalcopyrite and other sulfides in irregular quartz veins and stringers, which follow the general trend of calc slate country rock. Has been little work, 1904.

Wright, 1906 (B 287), p. 151 -- At Brown prospect on Cave Mtn. a ledge was opened by several open cuts over a strike length of more than 200 ft. Country rock is calcareous schist; deposit appears to be brecciated limestone partly replaced by quartz and small masses of pyrite and chalcopyrite. Assays giving small values in gold and copper reported; no average sample has been tested. Cook claim on Mt. Gambier was located on copper- and gold-bearing ledges; little development; no work for several years as of 1904.

Lathram and others, 1960 (I-323) -- Symbols for gold and copper occurrences on map.

Herbert and Race, 1964 (GC 1), p. 13-14 -- Repeated in Herbert and Race, 1965 (GC 6).

Herbert and Race, 1965 (GC 6), p. 47 -- References to Wright and Wright, 1905 (B 259); Wright, 1906 (B 287).

Berg and Cobb, 1967 (B 1246), p. 141 -- Copper-gold prospect near head of bay (staked before 1906) said to consist of stringers and small masses of quartz, pyrite, and chalcopyrite and contains a little gold. Gold and copper also reported at a probably similar deposit nearby.

Race and Rose, 1967 (GC 8), p. 4 -- Data from Wright, 1906 (B 287), p. 151.
p. 19 -- At Brown prospect pyrite and chalcopyrite in brecciated limestone; country rock calcareous schist; has been some trenching. Copper and gold reported from Cook prospect.

Gloria B.

Gold(?)

Chichagof district
MF-467, loc. 26

Sitka (5,1, 12,0)
57°41'N, 136°07'W

Summary: Prospect pits, mainly in graywacke, expose chert and a dike with quartz veinlets containing pyrite. See also Baney.

Reed and Coats, 1941 (B 929), p. 133 -- Country rock mainly graywacke. Several prospect pits expose white chert; one exposes a fresh-appearing dike that is cut by quartz veinlets containing pyrite and is displaced (apparently less than 10 ft.) by a fault.

Golden Hand — Gold

Chichagof district — Sitka (4,6, 13,55)
MF-467, loc. 22 — 57°47'N, 136°11'W

Summary: Prospect pits exposed limestone intruded by a small mass of quartz diorite; fault follows at least some of contacts. Some replacement of limestone by quartz; also some quartz-cemented limestone breccia. A few specks of gold visible in quartz veinlets.

Reed and Coats, 1941 (B 929), p. 136-137 -- Prospect pits expose limestone intruded by a small mass of biotite-albite-quartz diorite; at least some of contact is followed by a fault; other faults in limestone. Some replacement of limestone by quartz near contact; some quartz-cemented brecciated limestone. A few specks of visible gold in quartz veinlets.

Rossman, 1959 (B 1058-E), p. 214 -- Reference to above. Only in this area of northwest Chichagof I. has this association of gold and limestone been recognized.

Berg and Cobb, 1967 (B 1246), p. 143 -- Explored by several open cuts. Metamorphosed bedded rocks cut by diorite; quartz deposited in veins or fault-breccia cement.

Gold Reef No. 1 — Gold(?)

Chichagof district — Sitka (5.3, 11.6)
MF-467, loc. 32 — 57°40'N, 136°07'W

Summary: Claim (staked in 1910) on which a shaft 230 ft. deep (with 2 short levels from it) was sunk in 1920's. No other data on this prospect; others nearby were on quartz in shear zones in shaly graywacke; some sulfides and a little gold.

Reed and Coats, 1941 (B 929), p. 126, 128 -- Claim staked in 1910. Sometime between 1924 and 1926 a shaft was sunk; reported to be 230 ft. deep with 2 short levels from it.

Goldwin

Copper, Gold, Silver

Chichagof district
MF-467, loc. 3

Sitka (3.05-3.1, 17.15-17.35)
57°59'-58°00'N, 136°20'W

Summary: Gold-bearing quartz veins that pinch and swell from nothing to more than 2 ft. along faults in diorite pluton. Quartz contains sparse pyrite and chalcopyrite. Some pyritiferous material contained 69 oz. gold and 5.3 oz. silver a ton, but most vein material is very much leaner. Prospect located in 1920. Explored by pits, trenches, and an adit driven about 300 ft. on a vein. Some gold and silver (amount not known, but probably small) recovered from surface excavations on another vein. Includes references to: Goldwan, Paramount.

Buddington, 1925 (B 773), p. 114 -- Country rock is diorite.
p. 123-124 -- Claims located in 1920. Quartz fissure vein in diorite exposed intermittently for 400 ft.; from a few inches to several feet (including lenses of country rock) thick; practically no sulfides; low gold assays, but float believed to have come from vein carries free gold. Nearby is a sheared zone in diorite with a quartz fissure vein with average width of about 6 in. Picked samples reported to contain as much as $60 [about 2.9 oz.] a ton in gold.

Reed and Coats, 1941 (B 929), p. 145 -- Quartz veins no more than 2-1/2 ft. thick in granitic rock; some along faults. Some of quartz reported to carry considerable gold; assays from one said to average $60 [about 1.7 oz.] a ton. Principal development is tunnel about 138 ft. long.

Rossman, 1959 (B 1058-E), p. 204-208 -- First staked in 1920. Several gold-bearing quartz veins along faults in same diorite body as Apex-El Nido. Veins pinch to nothing and swell to more than 2 ft. in thickness. Adit driven along one vein for about 300 ft.; vein traced in pits and trenches for about 200 ft. on other side of portal. Quartz contains sparse pyrite and chalcopyrite, mainly near altered diorite inclusions in vein. The richest portions of a second similar vein were mined by surface excavations in 1938-39. Some of pyritiferous material contained 69 oz. gold and 5.3 oz. silver a ton, but most was much leaner. Altered wallrock also contains some gold. Another practically inaccessible vein contains free gold.

Noel, 1966, p. 61 -- Reference to Rossman, 1959 (B 1058-E).

Berg and Cobb, 1967 (B 1246), p. 142 -- In same pluton as Apex-El Nido. Quartz veins contain pyrite, chalcopyrite, gold, and silver. Some gold and silver recovered; amount, probably small, was not made public.

Gypsum-Camel

Gypsum

Chichagof district

Sitka (15.9, 16.15)
57°55'N, 134°58'W

Summary: Regional bedrock is coarsely crystalline gray limestone of top of Iyoukeen Fm. (Mississippian); in places cut by now-altered lamprophyre dikes. Gypsum (approaching alabaster in quality) is spatially associated with cream- or buff-colored limestone breccia with angular and subangular fragments as much as 3 ft. long. Top of gypsum is solution pitted; blocks of gypsum in clay matrix; channels and sinkholes (?), some filled with gravel. Overlain by recent sand and gravel of a terrace. If breccia is intraformational gypsum probably is sedimentary; if breccia is a fault breccia gypsum may be hydrothermal (quartz monzonite in neighborhood). Developed by somewhat more than 1,000 ft. of workings, including 5 adits (2 entirely in limestone) and some drifts and winzes. Staked in 1912; development in 1920's and 1930's. No production. Includes references to Alaska Gypsum Co. and to (Iyoukeen Cover) if definitely to this property.

Smith, 1930 (B 813), p. 72 -- Prospecting tunnels aggregating several hundred feet in length have been driven, 1928.

Smith, 1932 (B 824), p. 80-81 -- Same as above, 1929.

Stewart, 1932 (B 824), p. 174-176 -- Country rock is cherty limestone breccia beneath gypsum and exposed along shore on both sides of area underlain by gypsum. Recent beach sand overlies gypsum and underlies a terrace that skirts the shore. 3 tunnels. One driven about 130 ft. in limestone and limestone breccia cut by 2 faults. Another driven about 250 ft. exposes either solid gypsum or lumps of gypsum in a claylike (gypsite?) matrix. The third tunnel is about 225 ft. long and has a slope 75 ft. long, and a winze 40 ft. deep from which a drift was run about 80 ft. Gypsum encountered in floor of tunnel 160 ft. from portal; at face lower two-thirds of tunnel is in gypsum. Gypsum exposed in lower 25 ft. of incline, in bottom of winze, and in floor of drift.

Smith, 1938 (B 880-A), p. 88 -- Articles of incorporation filed by Alaska Gypsum Co., 1935.

Smith, 1941 (B 926-A), p. 95-96 -- Some surface and underground development, 1939. Probably no commercial production.

Smith, 1942 (B 933-A), p. 92 -- Development work, 1940.

Twenhofel and others, 1949 (B 963-A), p. 25-28 -- Most of data from Stewart, 1932 (B 824), p. 174-176. Observations did not conclusively show that gypsum bed(s) is unconformable over older cherty limestone and limestone braccia; local structure very complex; gypsum apparently much more contorted than the associated rocks. Some work on tunnels and a

Gypsum-Camel (continued)

new one driven between Stewart's visit in 1929 and 1939; some ore piled outside tunnels, but none had been shipped. Workings encountered masses of unconsolidated material (interpreted as old sink-hole fillings) and some small caverns. Gypsum reported to be high quality.

Jermain and Rutledge, 1952 (Rl 4852) -- Gypsum discovered in 1910 as a result of recognizing a yellowish brecciated limestone similar to that underlying the gypsum at mine on Gypsum Cr. 5 adits have been driven into the face of the bench that rises steeply from the beach; 2 in limestone; one (adit 4) was driven around caved part of adit 2. 3 winzes sunk and a short sublevel drift from one of these in adit 2. Total length of workings is 1,060 ft. Gypsum in unconformable on buff brecciated limestone in a small basin. USBM in 1948 cleaned out some of the old workings and put down 2 diamond-drill holes. One vertical hole encountered somewhat more than 8 ft. of gypsum in 4 layers separated by limestone and bottomed at 63 ft. in brecciated limestone. The other hole encountered no gypsum. Gypsum is mostly pure white, approaching alabaster in grade.

Flint and Cobb, 1953 (B 989-B), p. 29 -- Geological Survey examination in 1946.

p. 32-36 -- Claims first staked in 1912, but no development until middle or late 1920's. 5 adits driven; 3 encountered gypsum and 2 were in limestone only, 850 ft. of workings accessible in 1946; and additional 150 ft. of drifts and a 40-ft. winze were either filled or flooded. Intermittent development for 15 years before World War II; a few tons of gypsum stacked on beach, but no production. Regional bedrock is probably Carboniferous (Mississippian?) gray, coarsely crystalline limestone in places cut by now-altered lamprophyre dikes; covered by Quaternary marine, fluviatile, and glacial deposits. A limestone breccia made up of angular and subangular fragments as much as 3 ft. long in a matrix of cream-colored or buff-colored limestone may be either an intraformational breccia or a fault breccia; buff near gypsum occurrences and cream elsewhere. Solution channels in gypsum; upper surface fractured and solution pitted with blocks of gypsum separated by clay. If limestone breccia is intraformational, gypsum is probably sedimentary; if breccia is a fault breccia, gypsum may be hydrothermal. Summary of USBM drilling [Jermain and Rutledge, 1952 (Rl 4852)].

Kaufman, 1958 (IC 7844), p. 11 -- References to Flint and Cobb, 1953 (B 989-B); Jermain and Rutledge, 1952 (Rl 4852).

Loney and otheres, 1963 (B 1108-C), p. C34, C37 -- Gypsum, associated with buff- or cream-colored limestone breccia and dark-gray cherty limestone, occurs at top of upper limestone of Iyoukeen FM in core of Freshwater Bay syncline; highest stratographic position of any of exposed rock units in syncline. Iyoukeen Fm. is Mississippian. Gypsiferous strata

Gypsum-Camel (continued)

appear to overlie uppermost fossiliferous beds and may be younger. Gypsum and limestone breccia not exposed except at Gypsum Camel and (Gypsum Cr.); restriction to highest part of formation suggests stratigraphic control. Presence of the Gypsum Creek quartz monzonite lends evidence to a hydrothermal hypothesis of origin. Reference to Flint and Cobb, 1953 (B 989-B). [This summary is also applicable to (Gypsum Cr.).]

Loney and others, 1975 (P 792), p. 92 -- Developed but not productive. In Iyoukeen Fm.of Mississippian age; uncertain whether deposit is sedimentary or hydrothermal.

(Gypsum Cr.) Gypsum

Chichagof district Sitka (15.6, 16.1)
57°55'N, 135°59'W

Summary: See Gypsum-Camel sheet for data on geologic setting and origin of gypsum. Began production in 1906. Mine closed in 1923; about 500,000 tons of gypsum had been mined and shipped. Main shaft 315 ft. deep with 3 levels. On 160-ft. level workings were in an area about 1,000 by 500 ft.; anhydrite vein from 6 in. to more than 10 ft. thick encountered. Gravel-filled solution channels encountered in workings. Interruptions (each several months long) in mining caused by a fire and 2 floodings by Gypsum Cr. Uncertain if cause of mine closure was flooding or exhaustion of gypsum. Includes references to: (Gypsum), Pacific Coast Gypsum Co., Standard Gypsum Co., and to Gypsum and (Lyoukeen Cove) if definitely to this property.

Wright and Wright, 1905 (B 259), p. 59 -- Gypsum bed interstratified in folded and sheared Carboniferous limestone. Exposed for a width of 20 ft. along strike length of 50 ft. in open cut; shaft 40 ft. deep.

Wright, 1907 (B 314), p. 79-80 -- Gypsum overlies Carboniferous limestone; provisionally assigned to late Carboniferous or Permian. Cut by basaltic dikes. Many solution channels filled with stream gravel. Strikes E to N70°E; dips 20°-60°N. Shaft sunk 190 ft. and 600 ft. of drifts extended from it. Another shaft sunk 75 ft. and some drifts almost entirely in gypsum. Limits of deposit have not been reached. Several shipments made in 1906.

Wright, 1908 (B 345), p. 124-125 -- More mining, 1907. At 160 ft. level gypsum is exposed over an area 450 by 225 ft.; 1,200 ft. of workings.

Wright, 1909 (B 379), p. 85 -- Mining, 1908.

Knopf, 1912 (B 504), p. 30-31 -- Reprinted from Wright, 1908 (B 345), p. 124-125.

Brooks, 1913 (B 542), p. 50-51 -- Mining, 1912, Underground workings total about a mile in length. Anhydrite vein from 6 in. to more than 10 ft. in thickness encountered in lower (160-ft.) workings. Limits of deposit have not been reached.

Brooks, 1915 (B 622), p. 43 -- Mining, 1914.

Chapin, 1916 (B 642), p. 104 -- Mining, 1915.

Smith, 1917 (BMB 142), p. 36 -- Levels from a shaft. Data on mining methods.

Smith, 1917 (BMB 153), p. 30 -- Data on mining methods and equipment.

Brooks, 1918 (B 662), p. 40 -- Mining, 1916.

Martin, 1919 (B 692), p. 30 -- Mining, 1917.

Burchard, 1920 (B 697), p. 47-48 -- Gypsum beds of tentative Permian age that appear to overlie Carboniferous rocks strike E and dip 20°-60°N. Limits of deposit not known. Gravel-filled solution channels encountered in workings. Gypsum cut by thin basaltic dikes. One anydrite vein 6 in. to more than 10 ft. thick found on second level. Shaft is 315 ft. deep ; levels at 75, 160, and 300 ft. Production began in 1906.

(Gypsum Cr.) continued

Martin, 1920 (B 712), p. 30 -- Mine shut down in March, 1918, because of a fire.
Brooks, 1921 (B 714), p. 54 -- Reference to Brooks, 1913 (B 542), p. 50-51.
Brooks, 1922 (B 722), p. 33 -- Mine flooded for first 4 months of 1920, but operations were resumed later in year.
Brooks, 1923 (B 739), p. 22 -- Mining, 1921.
Brooks and Capps, 1924 (B 755), p. 25 -- Mining, 1922.
Brooks, 1925 (B 773), p. 36 -- Mining, 1923.
Smith, 1926 (B 783), p. 30 -- Idle from December 1923 to August 1924; change of ownership from Pacific Coast Gypsum Co. to Standard Gypsum Co. Very much less production then in 1923.
Moffit, 1927 (B 792), p. 38 -- No production, 1925.
Buddington and Chapin, 1929 (B 800), p. 332 -- Has been worked since 1906. Gypsum bed (Permain or Triassic(?)) overlies Carboniferous beds. Neither hanging wall or footwall exposed.
p. 342 -- Gypsum beds appear to be associated with Carboniferous formations.
Smith, 1930 (B 813), p. 72 -- No production for several years [as of 1928].
Smith, 1932 (B 824), p. 80-81 -- No production for several years [as of 1929].
Stewart, 1932 (B 824), p. 173-174 -- Lowest workings were at depth of 300 ft. and were about 600 x 800 ft. in extant. On 160-ft. level the deposit was about 1,000 x 500 ft. (on a horizontal plane). Total output for nearly 20 years (beginning in 1906) was probably about 500,000 tons. Mine was flooded out twice by water from Gypsum Cr. Water also encountered in old channel in "conglomerate formation that overlay the gypsum deposit".
Twenhofel and others, 1949 (B 963-A), p. 24-26 -- Data from older reports.
Jermain and Rutledge, 1952 (Rl 4852), p. 3 -- Reference to Stewart 1932 (B 824), p. 173.
Flint and Cobb, 1953 (B 989-B), p. 28-32 -- Summary of history from older reports and data on claim names and ownership. Total production, 1905-23, was about 500,000 tons of gypsum. Mine flooded twice; not known if resources were exhausted or if mine remained closed because of water problems.
p. 34-35 -- See write up of Gypsum-Camel for data on geologic setting and origin of gypsum.
Kaufman, 1958 (IC 7844), p. 7 -- Over 500,000 tons of gypsum was produced.
p. 11 -- Reference to Flint and Cobb, 1953 (B 989-B).
Loney and others, 1963 (B 1108-C), p. C34, C37 -- See summary on Gypsum-Camel sheet.
Loney and others, 1975 (P 792), p. 92 -- Reference to Flint and Cobb, 1953 (B 989-B).

Haley and Hanlon — Cobalt, Copper, Nickel

Chichagof district — Sitka (14.05, 0.9)
MF-467, loc. 58 — 57°03'N, 135°11'W

Summary: 15-ft. adit explored fault in hornblendite. Small, irregular masses of pyrrhotite and chalcopyrite. Sample of sulfides contained 0.99% copper, 0.20% nickel, and 0.09% cobalt.

Kennedy and Walton, 1946 (B 947-C), p. 63-64 -- 15-ft. adit driven in fault in hornblendite. Pyrrhotite and minor amounts of chalcopyrite in small, irregular masses were introduced along fault and in hornblendite along fault. Largest pod of massive sulfides seen was 10 in. wide and 2-3 ft. long. Sample contained 0.99% Cu, 0.20% Ni, and 0.09% Co.

Berg and Cobb, 1967 (B 1246), p. 144 -- Short adit explored a fault that cuts hornblendite and contains small irregular masses of pyrrhotite and chalcopyrite. Analyses showed 0.99% Cu, 0.20% Ni, and 0.09% Co.

Handy-Andy Mining Co. Gold(?)

Chichagof district Sitka (5.4, 11.55)
MF-467, loc. 34 57°40'N, 136°05'W

Summary: Tunnels, inclined shaft, and winze in graywacke. Some quartz carrying pyrite in faults or shear zone. No data on possible precious-metal content. Includes reference to Handy. See also Chichagof Extension.

Overbeck, 1919 (B 692), p. 119-120 -- About on strike with Chichagoff shear zone. Tunnel about 45 ft. long and inclined shaft about 175 ft. long. Dump mainly carbonaceous slate, most of which is slickensided and graphitic. Some pieces of quartz that is mineralized with pyrite. In an outcrop are lenticular quartz stringers. Country rock is graywacke. Work on prospect was from September 1916 to May 1917. [No mention of gold content, if any.]

Reed and Coats, 1941 (B 929), p. 129 -- Tunnel on Andy claim driven 57 ft. on a fault in shaly graywacke. Tunnel on Handy claim is about 80 ft. long and exposes 3 faults in massive graywacke, winze sunk on one fault. Andy claim at one time belonged to Chichagof Extension Mining Co.

Hanlon — Gold (?)

Chichagof district — Sitka (4.7, 11.6)
MF-467, loc. 30 — 57°40'N, 136°10'W

Summary: Open cut exposed a fault in graywacke; a few inches of vein quartz with pyrite and arsenopyrite in fault. Most of arsenopyrite is a replacement mineral in graywacke inclusions in quartz. No data on precious-metal content. See also Magoun.

Reed and Coats, 1941 (B 929), p. 132-133 -- Staked in 1920. Open cut in cliff near beach exposed fault containing a few inches of vein quartz that carries pyrite and arsenopyrite. Arsenopyrite mainly a replacement mineral in country-rock (graywacke) inclusions in quartz.

Hill and Berkland — Gold(?)

Chichagof district — Sitka (5.5, 11.35)
MF-467, loc. 35 — 57°39'N, 136°05'W

Summary: Tunnel driven about 50 ft. on a fault in graywacke; another fault exposed on surface and in tunnel. Faults in places contain quartz veins as much as 6 in. thick. No data on possible metal content.

Reed and Coats, 1941 (B 929), p. 128 -- Tunnel driven about 50 ft. along a fault in argillaceous graywacke; another fault that crops out nearby was also encountered in tunnel. Faults locally contain quartz veins as much as 6 in. thick.

Hirst-Chichagof (Mining Co.) — Copper, Gold, Lead, Silver, Zinc

Chichagof district — Sitka (5.2-5.5, 11.65-12.1)
MF-467, loc. 27 — 57°40'-57°41'N, 136°05'-136°07'W

Summary: For regional and general data see Chichagoff sheet. Deposits discovered in 1905; mining from 1922 practically continuously until World War II. Production through 1938 (no later data) was about 87,980 oz. gold and 20,000 oz. silver; probably some lead and possibly some copper recovered at smelter. Sulfides include arsenopyrite, pyrite, sphalerite, galena, and chalcopyrite; commonly less than 1% of ore. Only one of major ore shoots crops cut at surface, where it is too lean to mine. Mine developed on at least 12 levels. Much of ore was ribbon rock (layers of quartz separated by thin bands of slaty material). All ore shoots in Hirst fault; altered dike forms footwall in much of mine. Country rock more slaty than at Chichagoff. Includes references to: Bahrt, Bear, Hirst, Hirst Cover Mining Co., Hodson, Hurst, Kay. See also: Chichagof Prosperity Mining Co., (Krestof I.) For data on regional geology and general data see Chichagoff.

Wright, 1907 (B 314), p. 60-61 -- Near contact between "slate-graywacke beds and the slate-greenstone strata". On Bear claims quartz vein 1 ft. thick and mineralized rock on each side of it follows structure of slate-greenstone schist. Has been a small shipment from which smelter returns were favorable gold mainly free, but some in sulfide.

Wright, 1909 (B 379), p. 73 -- Prospecting, 1908.

Knopf, 1912 (B 504), p. 25 -- Ore body similar to, but probably not an extension of, that at Chichagoff; average thickness 3 ft. Fewer metallic minerals than at Chichagoff; generally concentrated in slaty material enclosed in vein quartz. Some of ore remarkably rich in free gold. 800-ft. tunnel has been driven.

Brooks, 1913 (B 542), p. 34 -- Discovery of rich gold ore by Bernard Hirst in 1912 reported. [May have been at Chichagof Prosperity; reference not definite.]

Brooks, 1914 (B 592), p. 60 -- Crosscutting, 1913. Total of about 1,250 ft. of underground workings.

Brooks, 1915 (B 622), p. 43 -- 300-ft. adit driven, 1914.

Brooks, 1918 (B 662), p. 41 -- Crosscutting, 1916.

Hirst-Chichagof (Mining Co.) — Copper, Gold, Lead, Silver, Zinc

Chichagof district — Sitka (5.2-5.5, 11.65-12.1)
MF-467, loc. 27 — 57°40'-57°41'N, 136°05'-136°07'W

Summary: For regional and general data see Chichagoff sheet. Deposits discovered in 1905; mining from 1922 practically continuously until World War II. Production through 1938 (no later data) was about 87,980 oz. gold and 20,000 oz. silver; probably some lead and possibly some copper recovered at smelter. Sulfides include arsenopyrite, pyrite, sphalerite, galena, and chalcopyrite; commonly less than 1% of ore. Only one of major ore shoots crops cut at surface, where it is too lean to mine. Mine developed on at least 12 levels. Much of ore was ribbon rock (layers of quartz separated by thin bands of slaty material). All ore shoots in Hirst fault; altered dike forms footwall in much of mine. Country rock more slaty than at Chichagoff. Includes references to: Bahrt, Bear, Hirst, Hirst Cover Mining Co., Hodson, Hurst, Kay. See also: Chichagof Prosperity Mining Co., (Krestof I.) For data on regional geology and general data see Chichagoff.

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Brooks, 1915 (B 622), p. 43 -- 300-ft. adit driven, 1914.

Brooks, 1918 (B 662), p. 41 -- Crosscutting, 1916.

Hirst-Chichagof (Mining Co.,) continued

Overbeck, 1919 (B 692), p. 116-119 -- 2 tunnels with an aggregate length of about 1,150 ft. In one tunnel quartz stringers in crushed argillic rock next to a gouge zone a few inches thick. Altered porphyry (alaskite?) dike along footwall. In other tunnel quartz stringers are in parallel bands separated by narrow bands of argillic material. Abundant pyrite in wall rock does not seem to carry much gold. Ore appears to be in shoots in shear zone; assays as high as $57 [about 2.75 oz.] of gold a ton reported. Country rock is graywacke. Bahrt claims thought to be on continuation of main Hirst-Chicagof shear zone.

Martin, 1920 (B 712), p. 30 -- Extensive development, 1918.

Brooks, 1922 (B 722), p. 37 -- Development, 1920. Mill purchased, but not installed.

Brooks, 1923 (B 739), p. 22 -- Mill being erected, 1921.

Brooks and Capps, 1924 (B 755), p. 9, 25 -- Began producing, 1922.

Brooks, 1925 (B 773), p. 11 -- Near western margin of belt of granite intrusives.

p. 15 -- Operated on a small scale, 1923.

Buddington, 1925 (B 773), p. 124-125 -- Reference to Overbeck, 1919 (B 692), p. 116-118. Mining in 1923; underground workings total about 3,130 ft.;3 levels. Gross value of ore shoot being stoped reported to average about $11 a ton; 70% recovered in mill and in concentrates shipped to smelter. Another ore shoot found in 1923.

Buddington, 1926 (B 783), p. 41 -- Mining, 1924.

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

Moffit, 1927 (B 782), p. 10 -- Considerable production, 1925.

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

p. 343 -- Quartz fissure veins in shear zones in black carbonaceous slate near contact with a sheet of greenstone.

p. 373 -- Same data as on p. 343-344.

Smith, 1929 (B 797), p. 10 -- Mining, 1926.

Smith, 1930 (B 810), p. 12 -- Mining, 1927. Some adjacent claims acquired.

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

Smith, 1932 (B 824), p. 15 -- Much dead work, including a new mill, 1929. Considerable fall off in production.

Smith, 1933 (B 836), p. 14 -- New mill began operating, December, 1930.

Smith, 1933 (B 844-A), p. 14-15 -- Mining, 1931.

Smith, 1934 (B 857-A), p. 14-15 -- Mining, 1932. Old tailings reprocessed also.

Smith, 1934 (B 864-A), p. 14-15 -- Mining and milling, 1933.

Smith, 1936 (B 868-A), p. 15 -- Mining, 1934. Ore has less than 1% sulfides of lead, copper, antimony, and arsenic.

Hirst-Chichagof (Mining Co.,) continued

Smith, 1937 (B 880-A), p. 16 -- Mining, 1935. Company paid a dividend.

p. 72 -- Lead recovered from concentrates by smelter.

Smith, 1938 (B 897-A), p. 16 -- Mining, 1936.

Smith, 1939 (B 910-A), p. 18 -- Mining, 1937.

Smith, 1939 (B 917-A), p. 20 -- Mining, 1938.

Reed and Coats, 1941 (B 929), p. 78-81 -- Ore in shoots in Hirst fault and in splits from it; at least one shoot in warp in fault. Only one shoot in mine crops cut at surface, where it is too lean to mine. Fault at considerable angle to bedding and foliation. Most of ore is ribbon quartz, but some is massive. Gangue is quartz, minor amounts of calcite, gouge, and sparse albite, sericite, and apatite. Metallic minerals include pyrite, arsenopyrite, galena, sphalerite, chalcopyrite, and gold. In 1938 ore mined carried an average of 1.3 oz. gold per ton. More arsenopyrite than at Chichagof.

p. 101-118 -- Original property staked in 1905. Mining began in 1922, production every year thereafter [at least through June, 1938]. Total production was gold worth $2,448,945 [about 87,980 oz.] gold and 20,000 oz. silver. Main level at elevation of 100 ft.; 10 levels below, lowest (called 1700 level) is 1,670 ft. below main level. Two higher tunnels each several hundred feet long; all ore above main level mined out long ago [as of 1938]. Ore in Hirst fault zone (which cuts across bedding of graywacke country rock) and splits from it. Dike forms footwall along much of fault in mine. The four principal ore shoots are localized along intersections of faults and bedding planes and in a warp in main fault. Ore shoots are quartz bodies as much as 10 ft. thick (most 2-4 ft. thick); both ribbon quartz and massive quartz. Ore minerals include pyrite, arsenopyrite, sphalerite, galena, chalcopyrite, and gold; pyrite most common. Free gold (commonly not visible) in quartz, in wallrock between quartz ribbons, in wallrock near veins, and in particles and veinlets in sulfides (mainly pyrite). Gangue is quartz and a little calcite. [Other data on geology and ore deposits are scattered elsewhere throughout this report; some are regional and some are applicable to specific occurrences.]

Smith, 1941 (B 926-A), Mining, 1939.

Smith, 1942 (B 933-A), p. 18 -- Mining, 1940. Mill ran practically at capacity all year.

West and Benson, 1955 (B 1024-B), p. 50 -- No anomalous radioactivity.

Rossman, 1959 (B 1058-E), p. 142 -- Historical data only.

Hirst-Chichagof (Mining Co.,) continued

Noel, 1966, p. 54 -- Total production from Chichagoff and Hirst-Chichagof, 1905-38, was over $20,000,000 in gold.
p. 61 -- References to Overbeck, 1919 (B 692); Reed and Coats, 1941 (B 929).
Berg and Cobb, 1967 (B 1246), p. 141-142 -- Data for Chichagoff and Hirst-Chichagof lumped; see page for Chichagoff.
Koschmann and Bergendahl, 1968 (p 610), p. 20 -- Data summarized from Reed and Coats, 1941 (B 929); Knopf, 1912 (B 504).
Loney and others, 1975 (P 792), p. 91 -- For summary (regional data) see Chichagoff sheet.

Hofstad and Johnson — Gold

Chichagof district — Sitka
NE1/4SE1/4NW1/4 quad.

Summary: Gold-bearing vein reported to have been discovered, 1914. Probably near Chichagoff or Hirst-Chicagof.

Brooks, 1915 (B 722), p. 43 -- New gold-bearing vein reported to have been discovered and some work done, 1914.

Jackson — Gold(?)

Chichagof district — Sitka NE1/4SW1/4NW1/4 quad.

Summary: Reported discovery of a promising lead in a shear zone, 1931. Near Hirst-Chichagof. See also (Mineral Hill); may be the same property.

Smith, 1933 (B 844-A), p. 15 -- Promising lead in a mineralized shear some reported in 1931; near Hirst-Chichagof. Company formed to develop the find.

Jumbo — Gold, Lead, Zinc

Chichagof district — Sitka (5.2, 11.5)
MF-467, loc. 32 — 57°39'N, 136°06'W

Summary: Crushed zones in slaty graywacke contain quartz veins, of which some carry specimen gold, pyrite, galena, and sphalerite. More than 1,650 ft. of underground workings and many surface pits and trenches. All work between 1909 and 1926. Small production in 1921 was reported.

Knopf, 1912 (B 504), p. 25 -- Prospect near Klag Bay. Geologically similar to Chichagoff.

Overbeck, 1919 (B 692), p. 118-119 -- Source of some of the richest ore and best specimens of free gold in the region. Small crushed zone filled with slate fragments and small quartz stringers in face of tunnel 35 ft. long; also 2 large quartz stringers that cut across crushed zone. Country rock is broken-up argillic graywacke. Pyrite fairly abundant; also some galena and sphalerite. Inclined shaft 48 ft. deep was filled with water in 1917.

Brooks, 1923 (B 739), p. 22 -- A little work in 1921; some ore run through a half-ton test mill. Developments consist of a 50-ft. shaft, a 35-ft. drift, and a 45-ft. adit.

Reed and Coats, 1941 (B 929), p. 126-128 -- Claim staked in 1909. Quotation from Overbeck, 1919 (B 692), p. 118-119. More recent work (1924-26) was sinking a 400-ft. inclined shaft with levels turned at 200-ft. and 400-ft. levels; total length of levels is about 1,580 ft., plus a few short crosscuts. Also many small open cuts. Other prospect pits and trenches along line between Jumbo and Minnesota claims exposed a banded quartz vein 1 to 2 ft. thick that includes replaced fragments of shaly graywacke country rock. Samples reported to have assayed $0.40 - $2.40 a ton in gold at $20.67 an ounce. Other quartz veins in joints and a fault contain pyrite.

(Kelp Bay) Copper

Chichagof district
MF-467, locs. 60-64

Sitka (15.65-16.75, 4.95-6.25)
57°16'-57°21'N, 134°54'-135°01'W

Summary: Pyrite and copper sulfides (including chalcopyrite, covellite, and bornite) in samples from quartz veins and siliceous rocks.

Loney and others, 1963 (I-388), samples 6, 8-10, 16 -- Pyrite and copper sulfides (including chalcopyrite, covellite, and bornite) in quartz veins and siliceous rocks, some of which are iron stained.

Berg and Cobb, 1967 (B 1246), p. 146 -- Sparse sulfide minerals in brecciated siliceous rocks, and quartz veins. Ni detected spectrographically in some samples.

Koby (& Shepard) — Gold, Lead, Zinc

Chichagof district — Sitka (6.3, 14.55)
MF-467, loc. 23 — 57°50'N, 136°00'W

Summary: Lenticular quartz bodies as much as 7 ft. thick in fault zone in greenschist contain free gold and about 1% sulfides (arsenopyrite, pyrite, sphalerite, and galena). Explored by pits, trenches, and an adit and crosscut (total length 280 ft.). No known production.

Reed and Coats, 1941 (B 929), p. 141 -- Quartz lenses (some in faults) in chlorite-quartz schist carry pyrite and chalcopyrite. Exposed at surface by stripping and a short tunnel. A crosscut driven at least 160 ft. to undercut surface showings encountered lenticular quartz masses, some of which may correspond to these exposed at surface.

Rossman, 1959 (B 1058-E), p. 208-209 -- Lenticular quartz bodies as much as 7 ft. thick in a fault zone in quartz-chlorite schist. Adit driven 240 ft. to undercut mineralized zone did not intersect it; a crosscut was driven along a minor fault zone with several quartz lenses. Quartz contains about 1% sulfides, including arsenopyrite, pyrite, sphalerite, and galena; owners report free gold. Wall rock does not appear to be altered.

Berg and Cobb, 1967 (B 1246), p. 143 -- Lenticular quartz veins in a shear zone in greenschist explored by pits, trenches, and an adit and crosscut (total length 280 ft.). Quartz reported to carry free gold and about 1% sulfides, including arsenopyrite, pyrite, sphalerite, and galena.

(Kook Lake)	FM, Gold, Silver
Chichagof district	Sitka (15.25-16.0, 11.6-12.0) approx. 57°39'-57°40'N, 134°58'-135°02'W approx.

Summary: Sample of float contained 0.012 oz. gold and 0.014 oz. silver a ton. A sample of iron-stained pyritic material contained 10 ppm uranium.

Eakins, 1975 (GR 44), p. 24 -- A sample of float collected during a geochemical and scintillometer reconnaissance contained 0.012 oz. gold and 0.014 oz. silver a ton. Another sample of iron-stained pyritic material contained 10 ppm uranium.

(Krestof I.)

Gold(?)

Chichagof district

Sitka
NE1/4SE1/4SW1/4 quad.

Summary: Prospecting, including drilling, of veins said to carry high values in gold did not disclose a minable deposit, 1937-38.

Smith, 1939 (B 910-A), p. 19 -- Rumors of good showings of veins and some development work, 1937.

Smith, 1939 (B 917-A), p. 21 -- Drilling by Hirst-Chichagof Mining Co., 1938, in veins said to carry high values in gold. Exploration did not disclose a minable deposit.

(Lake Anna) Gold, Lead, Zinc

Chichagof district Sitka (5.55, 11.0)
MF-467, loc. 40 57°38'N, 136°04'W

Summary: Quartz in fault zone in slaty rock contains pyrite, galena, pyrrhotite, sphalerite, and (from context) gold. Explored by tunnel about 100 ft. long.

Overbeck, 1919 (B 692), p. 120 -- Crushed zone 3-5 ft. wide along a fault in slaty rock exposed in a tunnel about 100 ft. long. Considerable pyrite, also galena, pyrrhotite, and sphalerite in quartz. Rich specimens [presumably of gold] have been taken from prospect. Location is just within entrance to Lake Anna and extending through to Klag Bay.

(Lake Elfendahl) — Copper, Gold(?), Lead, Zinc

Chichagof district — Sitka (3.8, 14.7)
MF-467, loc. 14 — 57°50'N, 136°15'W

Summary: Small quartz fissure vein in a fault contains considerable pyrite, chalcopyrite, sphalerite, and galena. Gold probably present also; no assay data.

Rossman, 1959 (B 1058-E), p. 213 -- Small quartz fissure vein in fault contains considerable pyrite, chalcopyrite, sphalerite, and galena. Gold probably present, as "presence of galena and sphalerite in this area is usually an excellent indication of gold." No assay data. Area shown on pl. 12 as near contact between greenstone and diorite.

Liberty	Copper, Gold
Chichagof district	Sitka (14.25, 0.25)
MF-467, loc. 59	57°00'N, 135°10'W

Summary: Prospect near Silver Bay; developed slightly in 1890's. Quartz veins in slate cut by diorite dikes contain calcite, chlorite, pyrite, chalcopyrite, arsenopyrite, and $2.50 a ton in gold and probably silver. Mill tests as high $5 a ton reported.

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

p. 78-79 -- Country rock is slate cut by diorite dikes. Quartz lenses generally parallel to cleavage in shattered slate; zone as much as 7 ft. thick. Ore consists of quartz, calcite, chlorite, pyrite, chalcopyrite, and arsenopyrite; said to average $2.50 a ton [probably in both gold and silver]; some mill tests as high as $5 a ton.

Wright and Wright, 1905 (B 259), p. 58 -- In general area of Billy Basin. No work for several years, as of 1904.

Wright, 1907 (B 314), p. 60 -- Has been development; none recently.

Knopf, 1912 (B 504), p. 29 -- No development for several years.

Lillian and Princela — Gold(?), Lead

Chichagof district — Sitka (5.3, 11.6$)
MF-467, loc. 33 — 57°40'N, 136°06'W

Summary: Quartz veinlet in a joint in graywacke contains, in places, considerable pyrite and galena. No data on possible gold content. Explored by trench and pits only.

Reed and Coats, 1941 (B 929), p. 132 -- Quartz veinlet in joint in graywacke is as much as a foot thick and locally splits. In places carries considerable pyrite and galena. Explored by a trench and several pits. No data on possible gold content.

(Little Bay) Copper, Gold, Nickel, Silver

Chichagof district Sitka (3.5, 13.7)
MF-467, loc. 17 57°47'N, 136°18'W

Summary: Chalcopyrite and pyrrhotite in a quartzitic rock. Assays showed copper, silver, gold, and (in one specimen) a trace of nickel.

Overbeck, 1919 (B 692), p. 123 -- Chalcopyrite and pyrrhotite in a quartzitic rock that is probably near a contact with granitic rocks; very poor exposures. Assays of specimens reported to show copper, silver, gold, and in one specimen a trace of nickel. Very little work on prospect, 1916.

Berg and Cobb, 1967 (B 1246), p. 144 -- Assays of chalcopyrite and pyrrhotite showed copper, silver, gold, and a trace of nickel.

Lucky Shot — Gold(?), Lead, Zinc

Chichagof district — Sitka (5.65-5.8, 11.05-11.35)
MF-467, locs. 36, 40 — 57°38'-57°39'N, 136°03'-136°04'W

Summary: At southernmost prospect (MF-467, loc. 40) partly silicified dike 10 ft. thick in graywacke; dike and hanging wall contain arsenopyrite and pyrite; explored by tunnel 12 ft. long. Prospects farther north (MF-467, loc. 36) are on quartz veins, some in fault zones in graywacke, sulfides in which include galena, sphalerite, pyrrhotite, and arsenopyrite. Explored by trenches, pits, and a crosscut, drifts and winze (total length 87 ft.). No data on possible precious-metal content; probably some gold present.

Reed and Coats, 1941 (B 929), p. 80-81 -- Dikes and quartz veinlets in them are heavily mineralized with arsenopyrite and pyrite.

p. 121-123 -- At southernmost prospect of group [MF-467, loc. 40] a partly silicified dike 10 ft.thick in graywacke has a fault for hanging-wall contact; locally cut by quartz-calcite-albite veinlets. Arsenopyrite and pyrite in dike and in hanging wall; apparently localized by joints. Some of fault movement was postmineralization; pyrite smeared cut and pulverized. Explored by tunnel 12 ft. long. [No data on possible gold content.] Two other prospects are farther north [MF-467, loc. 36]. At one a trench, a crosscut 48 ft. long, 25 ft. of drifts, and an inclined winze 14 ft. long explored a fault zone in graywacke. Fault zone contains a quartz vein as much as 2 ft. thick and an inch or two of gouge. Vein contains fragments of silicified and sericitized graywacke and considerable galena and sphalerite. Another quartz vein in a nearby fault zone contains pyrrhotite and arsenopyrite. Other quartz veins exposed in pits.

Magoun	Copper, Molybdenum
Chichagof	Sitka (10.35, 2.9)
MF-467, loc. 50	57°10'N, 135°35'W

Summary: Quartz veinlet as much as 6 in. thick in biotite quartz diorite contains molybdenite plates as much as 1/2 inch in diameter and chalcopyrite, pyrite, and covellite. Includes references to (Magoun Is.).

Smith, 1942 (B 926-C), p. 174-175 -- Quartz veinlet no more than 6 in. thick in biotite quartz diorite that probably intruded country rock contains sparse chalcopyrite and, near and on the veinlet walls, plates of molybdenite as much as 1/2 in. or more in diameter. Some molybdenite also in quartz diorite wall-rock close to veinlet.

Berg and Cobb, 1967 (B 1246), p. 145 -- Quartz vein in quartz diorite contains molybdenite plates as much as 1/2 inch in diameter and chalcopyrite, pyrite, and covellite.

Loney and others, 1975 (P 792), p. 92 -- Reference to Smith, 1942 (B 926-C).

Marinovich — Gold(?)

Chichagof district — Sitka (5.35, 12.0)
MF-467, loc. 28 — 57°41'N, 136°06'W

Summary: Country rock graywacke cut by faults and joints; a little quartz in some joints and faults, but not in fault along which a tunnel was driven 27 ft. No data on metal content of veins.

Reed and Coats, 1941 (B 929), p. 134 -- As much as 4 in. of quartz in one fault and as much as 1 in. of quartz in joints in graywacke country rock. Tunnel driven 27 ft. on a fault with no quartz in it.

McKallick (lode) Gold(?)

Chichagof district Sitka (5.5, 12.0)
MF-467, loc. 29 57°41'N, 136°05'W

Summary: Two tunnels (total length 90 ft.) driven on faults in graywacke. Vein quartz present in places. No data on metal content of quartz. See also Alaska-Chichagoff Mining Co.

Reed and Coats, 1941 (B 929), p. 135 -- A little vein quartz in two of several faults that cut graywacke. Two tunnels (total length 90 ft.) constitute the development.

McKallick (placer) Gold

Chichagof district Sitka (4.9, 11.2)
MF-467, loc. 72 57°38'N, 136°09'W

Summary: Gold fragments up to 2 mm long in eluvial deposit exposed by a small stream that cut through muskeg. Gold probably from a hidden nearby lode source.

Reed and Coats, 1941 (B 929), p. 124-125 -- Angular fragments of graywacke make up most of material below stream bottom. Opened for about 50 ft. along creek, 20 ft. wide, and as much as 8 ft. deep. Panned concentrates from on graywacke bedrock contained sharp-edged flakes of gold up to 2 mm long. Nearly all gold grains in quartz or surrounding quartz; one enclosed a pyrite crystal. Other minerals in concentrate included hypersthene, ilmenite, magnetite, pyrite, and plagioclase (most probably from [Recent] Mt. Edgecumbe ash. Deposit probably eluvial and derived from lode source concealed by vegetation and swamps.

Cobb, 1973 (B 1374), p. 105 -- Eluvial placer in a small stream that cut through a muskeg in an area where many gold lodes have been mined.

(Mine Mtn.) Gold

Chichagof district Sitka (4.45, 14.8)
MP-467, loc. 12 57°51'N, 136°11'W

Summary: Gold-bearing quartz float and a mineralized zone containing 0.01 oz. gold per ton. Veins similar to that near Lake Elfendahl (contains pyrite, chalcopyrite, sphalerite, and galena) near small diorite body.

Rossman, 1959 (B 1058-E), p. 213 -- Veins similar to that near Lake Elfendahl near small diorite body on top of mountain. Gold-bearing quartz float in one place and mineralized zone containing 0.01 oz. gold per ton in another.

(Mineral Hill) Gold

Chichagof district Sitka
NE1/4SW1/4NW1/4 quad.

Summary: Claims at Mineral Hill near Kimshan Cove. Prospecting and a little gold production, 1936-38. See also Jackson; may be the same property.

Smith, 1936 (B 868-A), p. 15 -- Prospecting, 1934. A little gold recovered from ore treated in a small Gibson mill. Near Kimshan Cove.
Smith, 1937 (B 880-A), p. 16 -- Prospecting, 1935. Small production reported.
Smith, 1938 (B 897-A), p. 17 -- Same entry as last year, 1936.

Minnesota	Gold
Chichagof district	Sitko (5.3, 11.55)
MF-467, loc. 32	57°39'N, 136°07'W

Summary: Claim staked in 1912. Exploration was along line with Jumbo claim. See Jumbo.

Reed and Coats, 1941 (B 929), p. 126-128 -- Claim staked in 1912. Exploration, 1924-26, was along line with Jumbo claim and is described on Jumbo sheet.

(Mirror Harbor) — Cobalt(?), Copper, Nickel

Chichagof district — Sitka (3.2-3.35, 13.7-13.9)
MF-467, loc. 16 — 57°47'-57°48'N, 136°19'W

Summary: Intergrown pyrrhotite, pentlandite, and chalcopyrite are magmatic segregations in norite that is part of a composite stock cutting Mesozoic bedded rocks now metamorphosed to schist; sulfides locally concentrated into podlike masses; some secondary niccolite. About 5 sq. mi. of stock above sea level. Largest mass explored by 180-ft. shaft and about 150 ft. of other workings. This and other bodies drilled and trenched by USBM. Three other concentrated-sulfide bodies contain only a few tons of sulfide material. Largest concentrated body (Fleming I.) is estimated to contain about 8,000 tons of material averaging about 1.57% nickel, 0.88% copper, and (on the basis of old reports) probably a little cobalt. Disseminated deposit near Davison Bay contains an estimated several million tons of material containing about 0.2% nickel and about 0.1% copper.

Chapin, 1916 (B 642), p. 78 -- Shaft sinking on Fleming gold-copper property, 1915.

Brooks, 1918 (B 662), p. 25 -- Copper-bearing lode reported to carry nickel and a little cobalt developed near Pinta Cove.

p. 41 -- Specimen from owners was pyrrhotite and chalcopyrite. Owners report that ore also carries nickel and a little cobalt. In 1916 a shaft was sunk 75 ft. and a crosscut driven 75 ft.; lode said to be 27 ft. wide.

Brooks, 1919 (B 666), p. 97 -- Recently discovered copper lode reported to carry nickel and a little cobalt.

Martin, 1919 (B 692), p. 22-23 -- Ore in and near margin of a mass of hornblende gabbro or norite intruded into quartz-mica schist. Sulfides are pyrrhotite, chalcopyrite, and pentlandite; also a small amount of niccolite. Selected samples contained 4.68 and 3.93 percent Ni and a trace of Co. 3 outcrops; shaft sunk 180 ft. in barren rock; levels at 80-ft. and 180-ft. levels have total length of 155 ft. Only 80-ft. level accessible; 30 ft. of massive ore in drift. Said to be ore that was broken by faulting in drift on 180-ft. level.

p. 30 -- No underground development in 1917.

Overbeck, 1919 (B 692), p. 125-133 -- Largely descriptions of thin and polished sections, comparison with Sudbury, Ontario, deposits, and general data on nickel. Rest of data included in or expanded upon in Martin, 1919 (B 692), p. 22-23.

(Mirror Harbor) continued

Brooks and Capps, 1924 (B 755), p. 25 -- Prospecting of nickel-bearing copper ores in northwestern part of Chichagof Island continued, 1922.

Buddington, 1925 (B 773), p. 95-98 -- Quotations from Overbeck, 1919 (B 692), p. 125-133 and from a private report which deals mainly with descriptions of shaft and drifts as of 1917. Samples from 75-ft. level averaged 3.42% Ni and 1.58% Cu; from 175-ft. level ranges were 1.65%-5.7% Ni and 0.4%-2.3% Cu.

p. 110-111 -- Nickel practically all in pentlandite. Deposit appears to be similar to those at Sudbury, Ont.

Buddington and Chapin, 1929 (B 800), p. 348-349 -- Deposits in hornblende gabbro and norite. Magmatic segregation deposit. Data on size and grade from Buddington, 1925 (B 773), p. 95-98.

Pecora, 1942 (B 936-I), p. 221-243 -- Country rock is Lower Cretaceous (?) graywacke and Triassic(?) greenstone, both metamorphosed to schist, intruded by a stock of norite, amphibolite, amphibolitic norite, gabbro, diorite and other granitic rocks, pegmatites, quartz veins, and schist inclusions. 3 areas of stock exposed. One on Fleming I., explored by a shaft 175 ft. deep from which levels were run at 75 and 175 ft., contains pods of massive sulfides consisting of pyrrhotite, pentlandite, and chalcopyrite. If the body is continuous from the surface to 175-ft. level, it is a steeply dipping shoot containing more than 10,000 tons of material containing possible 2% nickel and 1% copper. Representative samples of 400 sq. ft. of surface outcrop, 37 ft. of ore on 75 ft. level and a half-ton sample from the 175 ft. level contained, respectively, 0.58% Ni and 1.15% Cu, 3.42% Ni and 1.15% Cu, and 2.41% Ni and 1.0% Cu. Nearby an outcrop of about 500 sq. ft. is of similar material. Another deposit with disseminated sulfides probably contains a few million tons of material with perhaps 0.2% Ni and 0.1% Cu. All sulfide deposits are in norite.

Kennedy and Walton, 1946 (B 947-C), p. 56-63 -- Nickel-copper deposits are sulfide-bearing parts of a norite body which is part of a composite stock intruded into metamorphosed graywacke and greenstone. 4 concentrated-sulfide deposits and one disseminated-sulfide deposit. Largest concentrated-sulfide deposit (on Fleming I.) is pipelike and extends to a depth of about 110 ft., where it is probably cut off by a fault; contains about 8,000 tons of material averaging about 1.57% Ni (in pentlandite) and 0.88% Cu (in chalcopyrite). The other 3 concentrated-sulfide bodies (at Davison Bay) contain only a few tons of sulfide material. The disseminated deposit (near Davison Bay) is about 1,000 ft. long and 100 or more ft. thick; probably dips west at about 20°. Probably contains several million tons of material averaging about 0.2% Ni and 0.1% Cu. [This report summarizes results of a USBM drilling program and data from a private report on old shaft and levels that were not accessible to USGS].

(Mirror Harbor) continued

Traver, 1948 (RI 4168) -- Details of USBM drilling and sampling program 1942. Data summarized in Kennedy and Walton, 1946 (B 947-C).

Twenhofel, 1953 (C 252), p. 7 -- Small tonnage of nickeliferous material richer than that at Bohemia Basin.

Kaufman, 1958 (IC 7844), p. 12 -- References to Kennedy and Walton, 1946 (B 947-C); Traver, 1948 (RI 4168).

Noel, 1966, p. 65 -- Reference to Traver, 1948 (RI 4168).

Berg and Cobb, 1967 (B 1246), p. 144 -- Intergrown pyrrhotite, pentlandite, and chalcopyrite generally disseminated in norite that is part of a composite stock cutting Mesozoic bedded rocks; sulfides locally concentrated into podlike masses. About 5 sq. mi. of stock above sea level. 180-ft. shaft and about 150 ft. of other underground workings explored one mass. Deposits trenched and drilled by USBM. The largest concentrated sulfide body is estimated to contain about 8,000 tons of material averaging about 1.57% Ni, 0.88% Cu, and small amount of gold and silver [lapsus, probably no gold or silver]. Other similar bodies contain only a few tons each. Disseminated sulfide body probably contains several million tons of material containing about 0.2% Ni and 0.1% Cu.

Cornwall, 1968 (B 1223), p. 13 -- Reference to Kennedy and Walton, 1946 (B 947-C), p. 38 -- Data summarized from Pecora, 1942 (B 936-I), Kennedy and Walton, 1946 (B 947-C).

Loney and others, 1975 (P 792), p. 91 -- Reference to Pecora, 1942 (B 936-I).

New Chichagof Mining Syndicate Gold

Chichagof district Sitka (4.5, 13.7)
MF-467, loc. 21 57°47'N, 136°11'W

Summary: Fault zone in limestone and other bedded rocks (some metamorphosed) and diorite. Quartz locally in thin veins in fault and as cement in irregular breccia zones; gold in breccia zones. About 950 ft. of underground workings, but no recorded production. Includes references to: Brown Bear (Pinta Bay), (Deep Bay).

Brooks, 1923 (B 739), p. 22 -- At Brown Bear [Pinta Bay] quartz vein 12-30 inches wide (average about 2 ft. on outcrop) has been opened for several hundred feet on surface.

Brooks and Capps, 1924 (B 755), p. 25 -- 140 ft. of underground work had been completed at Brown Bear, 1922.

Buddington, 1925 (B 773), p. 121 -- Claims on gold quartz vein at head of Deep Bay. Workings said to comprise crosscut 110 ft. long and 18 ft. of drift on quartz vein in black slate; free gold reported.

Smith, 1934 (B 864-A), p. 15 -- New tramway and prospecting mill installed, 1933.

Reed and Coats, 1941 (B 929), p. 81 -- Diorite cut off by a fault zone.

p. 137-139 -- Fault zone in many rock types, including limestone, shale, greenstone schist, marble, and diorite, all sheared; also a dike about 8 ft. thick. Quartz locally forms vein no more than 3 inches thick in fault and cements irregular brecciated zones. Brecciated zones constitute the ore. Developed by 2 tunnels along fault zone; one is about 795 ft. long (a few short crosscuts from it); the other is 145 ft. long and 85 ft. above longer tunnel. [No data on tenor of ore or possible production.]

Rossman, 1959 (B 1058-E), p. 214 -- Reference to Reed and Coats, 1941 (B 929), p. 137. Only in this area of northwest Chichagof I. has this association of gold and limestone been noted.

Berg and Cobb, 1967 (B 1246), p. 143 -- Explored by 2 tunnels. Metamorphosed bedded rocks cut by diorite; quartz deposited in veins or fault-breccia cement.

Nilsen — Gold(?)

Chichagof district — Sitka (3.7, 16.9) approx.
57°58'N, 136°16'W approx.

Summary: Claims staked in 1923. No data on geology or deposit.

Buddington, 1925 (B 773), p. 124 -- 2 claims staked in 1923 on south side of Lisianski Inlet near Junction I.

President	Copper, Gold, Lead, Zinc
Admiralty district	Sitka (18.45, 14.15)
MF-467, loc. 66	57°48'N, 134°42'W

Summary: 3 zones of quartz and mineralized schist each 30 ft. wide separated by narrow belts of barren schist contain pyrrhotite, pyrite, and chalcopyrite; small amounts of galena, sphalerite, and gold.

Wright, 1906 (B 287), p. 151 -- 3 ledges of quartz and mineralized schist averaging 30 ft. in width separated by narrow belts of barren schist contain sulfides, principally pyrrhotite, pyrite, and chalcopyrite with small amounts of galena and sphalerite. Exposed by open cuts; shaft started, 1903.

Lathram and others, 1960 (I-323) -- Symbol for gold, copper, and lead-zinc occurrence on map.

Berg and Cobb, 1967 (B 1246), p. 140 -- Similar to Mammoth prospect [Juneau quad.], where pyritic schist is cut by seams of chalcopyrite, pyrrhotite, galena, sphalerite, and a little free gold.

Princess Pinder — Copper, Gold

Chichagof district — Sitka (3.8, 13.6) approx.
MF-467, loc. 18 — 57°47'N, 136°16'W approx.

Summary: Coarse white quartz 7 ft. thick between slaty rock and greenstone breccia contains scattered pyrrhotite and chalcopyrite and about 0.48 oz. gold per ton. No record of any development.

Knopf, 1912 (B 504), p. 26 -- 7 ft. of coarse white quartz between footwall of slaty rock and hanging wall of greenstone breccia carries scattered bunches of pyrrhotite and chalcopyrite. Assays of samples across width of lode show average value of $10 [about 0.48 oz.] per ton in gold. Discovered in 1910; in shoreline cliff at water level.

Berg and Cobb, 1967 (B 1246), p. 144 -- Chalcopyrite and pyrrhotite with a trace of gold.

Radio — Gold(?)

Chichagof district — Sitka (4.9, 11.1)
MF-467, loc. 25 — 57°41'N, 136°08'W

Summary: Tunnels (one 467 ft. long and the other 25 ft. long) driven along faults in graywacke. Dikes (kind of rock not stated) exposed in tunnels for thicknesses of about 6 ft; locally contain pyrite and arsenopyrite. Quartz veins and veinlets as much as a foot thick in places along faults. No data on precious-metal content of dikes or veins; judging from amount of development there must be some.

Reed and Coats, 1941 (B 929), p. 80-81 -- Dikes and quartz veinlets in them heavily mineralized with arsenopyrite and pyrite.

p. 135-136 -- Two tunnels (one 467 ft. long and one 25 ft. long) driven along faults in graywacke. Near face of long tunnel and for entire length of short tunnel are dikes about 6 ft. in exposed thickness; dikes locally contain pyrite and arsenopyrite. Quartz veins and veinlets as much as a foot thick in places along faults. Fault at short tunnel may be an extrusion of [the regionally important] Chichagof fault.

(Rodman Bay) Gold

Chichagof district
MF-467, loc. 52

Sitka (12.95, 6.25) approx.
57°21'N, 135°18'W approx.

Summary: Low-grade mineralized belt in slate contains gold and sulfides. 800-ft. tunnel and extensive surface developments in and before 1904. No mine was developed.

Wright and Wright, 1905 (B 259), p. 58-59 -- Mineralized belt of wrinkled slate several hundred feet wide with interlaced quartz and calcite stringers accompanied by sulfides carrying gold. Slate intruded by diabase dikes; belt of granodiorite a few miles away. 800-ft. tunnel was driven and much surface work, including a railroad 7 mi. long. Deposit said to be very low grade; possibility of profitable mining has not been demonstrated, 1904.

Wright, 1907 (B 314), p. 60 -- Mine closed in 1904 and most of equipment was sold. Much capital was invested (including for a 120-stamp mill and a railroad), but the mine never operated.

Knopf, 1912 (B 504), p. 8 -- A remarkable mining failure.

Berg and Cobb, 1967 (B 1246), p. 143 -- Attempt to mine gold was not successful.

Loney and others, 1975 (P 792), p. 91 -- References to Wright and Wright, 1905 (B 259), p. 58; Wright, 1907 (B 314), p. 60; Knopf, 1912 (B 504), p. 8.

(Sealion Cove) — Copper, Molybdenum

Chichagof district — Sitka (7.85, 5.0)
MF-467, loc. 49 — 57°17'N, 135°50'W

Summary: Quartz veins in biotite hornfels near pegmatite contain sparse chalcopyrite and molybdenite.

Loney and others, 1963 (I-388), analysis 40 -- Molybdenite and chalcopyrite in quartz veins in biotite hornfels associated with pegmatite dikes.

Berg and Cobb, 1967 (B 1246), p. 146 -- Quartz veins in hornfels near pegmatite contain sparse chalcopyrite and molybdenite.

(Seymour Canal) Copper, Gold (?)

Admiralty district Sitka (22.0, 16.9)
MF-467, loc. 65 57°57'N, 134°18'W

Summary: Chalcopyrite and pyrite and possibly a little gold in quartz veinlets in quartz schist in zone as much as 20 ft. wide. Explored by 60-ft. shaft and 25-ft. crosscut in early 1900's. Includes references to copper near Windfall Harbor.

Wright, 1906 (B 287), p. 150-151 -- Quartz veinlets with copper-bearing pyrite in quartz schist of sedimentary origin; veinlets follow schistosity; zone as much as 20 ft. wide. Prospected by a 60-ft. shaft and a 25-ft. crosscut. Low copper and gold contents did not encourage farther development.

Lathram and others, 1960 (I-323) -- Symbol for copper occurrence on map.

Berg and Cobb, 1967 (B 1246), p. 140 -- Similar to Mammoth [Juneau quad.], where pyritic schist is cut by narrow seams of sulfides and free gold.

Race and Rose, 1967 (G C B), p. 2 -- Small chalcopyrite-pyrite-quartz vein in Hyd Formation.

p. 19 -- Pyrite and chalcopyrite in veinlets of quartz in zone in quartz-mica schist 20 ft. wide and 200 ft. long; explored by 60-ft. shaft and 25-ft. drift; 1% to 1.7% Cu.

(Siginaka Is.) Copper

Chichagof district Sitka (11.6, 3.0)
MF-467, loc. 51 57°10'N, 135°27'W

Summary: Limonite -stained greenstone contains pyrite, chalcopyrite, and covellite.

Loney and others, 1963 (I-388), analysis 14 -- Pyrite, chalcopyrite, and covellite in limonite-stained greenstone.
Berg and Cobb, 1967 (B 1246), p. 146 -- Same as above.

(Silver Bay)

Gold(?), Silver(?)

Chichagof district

Sitka
SW1/4SW1/4SE1/4 quad.

Summary: Area where there was development in late 1890's. See also: Liberty, (Silver Bay) Port Alexander quad.

Wright, 1908 (B 345), p. 91 -- Some assessment work, 1907.
Wright, 1909 (B 379), p. 73 -- Little if any work, 1908.

Snow Slide

Copper

Chichagof district
MF-467, loc. 19

Sitka (3.85, 13.95)
57°48'N, 136°15'W

Summary: 6-ft. zone of quartzose green schist contains pyrite, chalcopyrite, and possibly some pyrrhotite. A 171-ft. long tunnel driven to undercut mineralized zone did not reach it. Work in about 1916.

Overbeck, 1919 (B 692), p. 123 -- Two claims located in 1916. Zone of "thin-banded quartzose green schist highly mineralized with pyrite, chalcopyrite, and possibly some pyrrhotite" is about 6 ft. wide. Country rock is green schist. Tunnel driven 171 ft. to intersect zone at depth did not reach it.

South-Side

Gold

Chichagof district
MF-467, loc. 13

Sitka (4.3, 14.7)
57°50'N, 136°13'W

Summary: Reported that quartz vein 20 in. thick contains free gold.

Buddington, 1925 (B 773), p. 123 -- Reported that quartz vein 20 in. wide is exposed for 300 ft. No assay data, but material is said to pan well. Tunnel reported to have been driven 8-10 ft.

(Stag Bay) Copper, Gold, Iron

Chichagof district Sitka (3.0-3.4, 16.0-16.1)
MF-467, locs. 7, 9 57°55'N, 136°18'-136°21'W

Summary: Veins containing free gold have been found in a small dioritic mass and adjacent metamorphic rocks on north side of bay; little if any development. Sheared gabbro or diorite south of entrance to bay locally is made up of about 60% magnetite, 20% each of epidote and quartz, and locally abundant pyrite and a little (no more than 2%) chalcopyrite; only development is 2 trenches.

Overbeck, 1919 (B 692), p. 121 -- Gold claim located in 1917. Quartz vein 1-3 ft. thick in diorite said to yield colors when crushed and panned. No visible metallic minerals.

Buddington, 1925 (B 773), p. 114 -- New gold find reported, 1917, on north side of Stag Bay.

Twenhofel and others, 1949 (B 963-A), p. 23-24 -- Country rock is sheared and altered fine-grained gabbro or diorite. 2 trenches expose 55 and 35 ft. of mineralized rock consisting of about 60% magnetite, about 20% each of epidote and quartz, and locally abundant pyrite and a little (no more than 2%) chalcopyrite.

Rossman, 1959 (B 1058-E), p. 213 -- Veins containing free gold have been found.

Berg and Cobb, 1967 (B 1246), p. 142 -- Auriferous veins in small diorite mass and adjacent metamorphic rocks. Sheared gabbro or diorite south of entrance to bay is locally made up of about equal parts magnetite and rock containing epidote, quartz, pyrite, and minor chalcopyrite.

Loney and others, 1975 (P 792), p. 92 -- Reference to Twenhofel and others, 1949 (B 963-A).

Submarine	Gold(?)
Chichagof district	Sitka (5.4, 11.55)
MF-467, loc. 34	57°40'N, 136°05'W

Summary: Prospect. Only development was a shallow pit.

Overbeck, 1919 (B 692), p. 120 -- Prospect has been located and relocated a number of times. In 1917 workings consisted of a shallow, water filled pit.

(Takanis Bay)

Copper(?), Nickel(?)

Chichagof district

Sitka
NW1/4NW1/4NW1/4 quad.

Summary: Claims, probably for nickel-copper, were located south of Takanis Bay.

Buddington, 1925 (B 773), p. 95 -- "In 1923 Vevelstad also located..... two claims south of Takanis Bay...." Probably located for nickel.
Buddington, 1929 (B 800), p. 373 -- Nickel-copper property.

3 J

Copper, Molybdenum

Chichagof district
MP-467, loc. 47

Sitka (15.15, 13.85) approx.
57°47'N, 135°03'W approx.

Summary: Irregular aplite(?) dikes cut coarse-grained biotite-hornblende quartz diorite. Chalcopyrite and molybdenite in both aplite(?) and quartz diorite. Chip sample of dike contained 0.01% molybdenum and 0.07% copper; chip sample of quartz diorite contained less than 0.01% of each.

Smith, 1942 (B 926-C), p. 175-176 -- Irregular aplite (?) dikes, one at least 20 ft. thick, cut coarse-grained biotite-hornblende quartz diorite. Chalcopyrite and molybdenite in both quartz diorite (more chalcopyrite) and aplite(?) (more molybdenite). Chip sample of dike contained 0.01% Mo and 0.07% Cu; chip sample of quartz diorite contained less than 0.01% each of Mo and Cu.

Berg and Cobb, 1967 (B 1246), p. 145 -- Claim staked in 1941 on molybdenite-chalcopyrite lode in biotite-hornblende quartz diorite and dikes finer grained lighter colored rock. Chip samples of dike rock and quartz diorite each contained 0.01% Mo.

Eakins, 1975 (GR 44), p. 22 -- Reference to Berg and Cobb, 1967 (B 1246), p. 145, 146. [Reference to p. 146 is in error].

Tillson — Gold (?)

Chichagof district — Sitka (5.25, 11.9)
MF-467, loc. 27 — 57°41'N, 136°06'W

Summary: 2 faults along which quartz is locally present. Tunnel driven about 95 ft. along one fault; other fault also in tunnel for about 65 ft. According to Plate 3 country rock is graywacke. No data on metal content of rocks at prospect.

Reed and Coats, 1941 (B 929), p. 133 -- Tunnel driven about 95 ft. along 2 faults about 6 ft. apart; one fault diverges from tunnel about 65 ft. from portal. Quartz locally present along both faults.

Wakefield	Gold (?)
Chichagof district	Sitka (3.4, 16.75) approx. 57°57'N, 136°18'W approx.

Summary: Claims, presumably for gold, staked in 1920 parallel to Apex claims.

Buddington, 1925 (B 773), p. 124 -- Only assessment work has been done on 3 claims and a fraction staked in 1920 parallel to Apex.

Unnamed occurrence — Andalusite

Chichagof district — Sitka (3.1, 14.1)
57°48'N, 136°20'W

Summary: Andalusite deposits may be part of a contact aureole around Mirror Harbor pluton. For data on pluton see (Mirror Harbor).

Loney and others, 1975 (P 792), p. 92 -- Andalusite deposits along coast north of Mirror Harbor may be part of contact aureole around the Mirror Harbor pluton [see (Mirror Harbor).]

Unnamed occurrence — Chromite

Chicagof district — Sitka (12.95, 1.9)
MF-467, loc. 53 — 56°06'N, 135°18'W

Summary: Magnetite and chromite in serpentinite.

Loney and others, 1963 (I-388), analysis 32 -- Magnetite and chromite in serpentinite.
Berg and Cobb, 1967 (B 1246), p. 146 -- Serpentine carries a little magnetite, chromite, and [by spectrographic analysis] a little Ni.

Unnamed occurrence — Copper

Chichagof district — Sitka (8.4, 7.6)
MF-467, loc. 45 — 57°26'N, 135°46'W

Summary: Disseminated sulfides and secondary copper minerals in greenstone.

Loney and others, 1963 (1-388), analysis 34 -- Disseminated sulfides and secondary copper minerals in greenstone.

Berg and Cobb, 1967 (B 1246), p. 146 -- Sample of greenstone contained disseminated copper and iron sulfides, secondary copper minerals, and [by spectrographic analysis] traces of copper and zinc.

Unnamed occurrence	Copper
Chichagof district	Sitka (8.1, 9.4)
MF-467, loc. 43	57°32'N, 135°49'W

Summary: Secondary copper minerals in quartz and epidote amygdules in greenstone.

Loney and others, 1963 (1-388), analysis 33 -- Secondary copper minerals in quartz and epidote amygdules in greenstone.

Berg and Cobb, 1967 (B 1246), p. 146 -- Secondary copper minerals in greenstone.

Unnamed occurrence	Copper
Chichagof district	Sitka (7.4, 10.8)
MF-467, loc. 41	57°37'N, 135°53'W

Summary: Chalcopyrite, pyrite, and secondary copper minerals in amygdaloidal greenstone.

Loney and others, 1963 (1-388), analysis 39 -- Chalcopyrite, pyrite, and secondary copper minerals in amygdaloidal greenstone.
Berg and Cobb, 1967 (B 1246), p. 146 -- Same as above.

Unnamed occurrence	Copper
Admiralty district	Sitka (21.65, 13.2)
MF-467, loc. 69	57°44'N, 134°21'W

Summary: Disseminated pyrrhotite and chalcopyrite in schist; copper content estimated at 0.1%.

Race and Rose, 1967 (GC 8), p. 10, loc. 6 -- Disseminated pyrrhotite and chalcopyrite in fine-grained schist contains an estimated 0.1% copper.

Unnamed occurrence — Copper

Chichagof district — Sitka (14.65, 14.05)
MF-467, loc. 46 — 57°58'N, 135°06'W

Summary: Diabase dike contains chalcopyrite and secondary copper minerals.

Loney and others, 1963 (1-388), analysis 3 -- Chalcopyrite, malachite, hematite(?), covellite, and calcite vein in diabase dike.

Berg and Cobb, 1967 (B 1246), p. 146 -- Diabase dike contains chalcopyrite, secondary copper minerals, and [by spectrographic analysis] traces of Ni, Zn, and Cr.

Unnamed occurrence	Copper, Gold, Silver
Admiralty district	Sitka (22.7, 11.95)
MF-467, loc. 67	57°40'N, 134°13'W

Summary: Sample of vein of massive pyrite and chalcopyrite (with a little quartz) in sheared and fractured chert contained 2% copper and 0.04 oz. gold and 0.66 oz. silver a ton.

Race and Rose, 1967 (GC 8), p. 9, loc. 2 -- Vein of massive pyrite and chalcopyrite with a little quartz in sheared and fractured chert; chip sample contained 2% Cu and 0.04 oz. Au and 0.66 oz. Ag a ton.

Unnamed occurrence — Gold

Chichagof district — Sitka (3.5, 17.05)
MF-467, loc. 4 — 57°58'N, 136°17'W

Summary: Sample from mineralized fault zone contained traces of gold.

Rossman, 1959 (B 1058-E), p. 212 -- Mineralized fault zone between diorite and quartz diorite; sample contained traces of gold.

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. Many descriptions of some groups of deposits give information applicable to most or all of the individual occurrences, so the names of all the prospects or mines and their owners and operators are in this section with a notation to refer to the description of the entire group, which commonly is a geographic location and therefore shown in parentheses.

Alaska -- see (Mirror Harbor)
Alaska Gypsum Co. -- see Gypsum-Camel
Alaska Nickel Co. -- see (Mirror Harbor)
Alaska Nickel Mines -- see (Mirror Harbor)
Andy -- see Handy-Andy Mining Co.

Anna -- see Hirst-Chichagof
Apex -- see Apex-El Nido
Armstrong & Nyland -- see Golden Hand
Aurora -- see (Mirror Harbor)
Bach, Gamble & Kelly -- see Chichagoff

Bahrt -- see Hirst-Chichagof
Baker, Toby & Bolyan -- see (Baker Peak), Snow Slide
Bauer -- see Radio
Bear -- see Hirst-Chichagof
Bear Extension -- see Tillson

Bear in All -- see Hirst-Chichagof
Bell Boy -- see (Gypsum Cr.)
Bergstrom & Gustafson -- see Falcon Arm
Bernard -- see Hirst-Chichagof
Bertha -- see Hirst-Chichagof

Betty -- see (Bohemia Basin)
Bez -- see Alaska-Chichagoff Mining Co.
Big Four -- see Chichagoff
Bohemia -- see (Bohemia Basin)
Brown -- see (Gambier Bay)

Brown Bear (Doolth Mtn.) -- see Hirst-Chichagof
Brown Bear (Pinta Bay) -- see New Chichagof Mining Symdicate
Camel Gypsum Co. -- see Gypsum-Camel
Cann -- see Apex-El Nido, Etna
Canyon -- see (Bohemia Basin)

Casey -- see Chichagoff
Chichagof Extension Mining Co. -- see Chichagof Extension, Handy-Andy Mining Co.
Chichagoff Development Co. -- see Chichagoff
Chichagoff Gold Mining Co. -- see Chichagoff
Chichagoff Mines, Ltd. -- see Chichagoff

Chopp, Repik, Ronning, Thompson & Schotter -- see Goldwin
Clyde -- see (Mineral Hill)
Condor Mining Co. -- see Apex-El Nido
Cook -- see (Gambier Bay)
Copper Chief -- see (Seymour Canal)

Cox & Bolyan -- see Cobol (Slocum Arm)
Cox, Bolyan & Loberg -- see Cobol (Pinta Bay)
Cox Bros., Bolyan & Loeberg -- see Cobol (Pinta Bay)
(Davison Bay) -- see (Mirror Harbor)
(Deep Bay) -- see New Chichagof Mining Syndicate

De Groff -- see Chichagoff
Deining -- see Magoun
East Tripod -- see (Bohemia Basin)
El Nido -- see Apex-El Nido
Elsinore -- see Hirst-Chichagof

(Falcon Arm) -- see Falcon Arm
Falcon Bay Co. -- see Falcon Arm
Falcon Mining Co. -- see Falcon Arm
Fir-Tex Insulating Board Co. -- see Gypsum-Camel
Fleming -- see (Mirror Harbor)

(Fleming I.) -- see (Mirror Harbor)
Freeburn & Rust -- see Chichagoff
Fries -- See Hirst-Chichagof
Gold Bug -- see Hirst-Chichagof
Gold-Copper -- see (Baker Peak)

Golden Copper -- see (Baker Peak)
Golden Gate (Mining Co.) -- see Chichagoff
Golden Horn -- see Chichagoff
Goldwan -- see Goldwin
Gypsum -- see Gypsum-Camel, (Gypsum Cr.)

(Gypsum) -- see (Gypsum Cr.)
Handy -- see Handy-Andy Mining Co.
Hanse & Bolshan -- see Elbow Passage
Henrietta -- see Hirst-Chichagof
Hirst -- see Hirst-Chichagof

Hirst Cove Mining Co. -- see Hirst-Chichagof
Hodson (& Berkland) -- see Hirst-Chichagof
Housel -- see Gypsum-Camel
Hurst -- see Hirst-Chichagof
Inspiration -- see (Bohemia Basin)

(Iyoukeen Cove) -- see Gypsum-Camel, (Gypsum Cr.)
Juneau Sea Level Copper Mines -- see (Mirror Harbor)
Juneau Sea Level Copper Mining Co. -- see (Mirror Harbor)
Kaiser Industries, Inc. -- see (Gypsum Cr.)
Kay -- see Hirst-Chichagof

Klag Bay Mining Co. -- see Duluth, Gold Reef No. 1, Jumbo, Minnesota
Knutson & Berkland -- see Tillson
Lagergren -- see Big Ledge
Lagergren & Winerman -- see Baldy Lode
Larson & Anderson and associates -- see Gypsum-Camel

Lena -- see Tillson
Lillian -- see Lillian & Princela
(Magoun Is.) -- see Magoun
Mayflower -- see (Bohemia Basin)
McKallick Chichagoff Gold Mines, Inc. -- see Alaska-Chichagoff Mining Co.

McKallick Chichagof Mines, Inc. -- see Lillian & Princela
Mills -- see Chichagoff
Mills & Simons -- see Chichagoff
Monte Cristo -- see Chichagof Prosperity Mining Co.
Mosquito Ledge -- see Big Ledge

Mother Lode -- see Hirst-Chichagof
Newell & Young -- see Chichagoff
(Nickel) -- see (Mirror Harbor)
Nickel Corp. of America -- see (Bohemia Basin)
North Muskeg -- see (Bohemia Basin)

North Takanis -- see (Bohemia Basin)
Pacific Coast Gypsum Co. -- see (Gypsum Cr.)
Paramount -- see Goldwin
Pihl, Simmons & Mills -- see Chichagoff
(Pinta Bay), (Cove) -- see Cobol (Pinta Bay), (Mirror Harbor)

Pinta Bay Mining Co. -- see (Baker Peak), Cobol (Pinta Bay), New Chichagof Mining Syndicate, South-Side
Portia -- see (Bohemia Basin)
Portlock Horbor Copper Mining Co. -- see (Baker Peak)
Princela -- see Lillian & Princela
Romanof, Dixon & Hirst -- see Hirst-Chichagof

Romanof, Dixon, Hirst & Archangelsky -- see Hirst-Chichagof
Ronning, Repik, Chopp, Thompson & Schotter -- see Goldwin
Rose -- see Hirst-Chichagof
Rust & Wallace -- see Chichagoff
Rust, Wallace, Bratnober & Jarvis -- see Chichagoff

Schaffer -- see Hirst-Chichagof
Schetter, Dodge & Borland -- see Goldwin
Schotter, Dodge & Borland -- see Goldwin
Sholin -- see Hirst-Chichagof
Side Hill -- see (Bohemia Basin)

Sitka -- see Chichagoff
(Slocum Arm) -- see Cobol (Slocum Arm)
Smith -- see Gold Reef No. 1, Jumbo, Minnesota
Smith & Martinson -- see Hirst-Chichagof
South Muskeg -- see (Bohemia Basin)

South Takanis -- see (Bohemia Basin)
Standard Gypsum Co. -- see (Gypsum Cr.)
Stannard & Martin -- see 3 J
Sunday Alliance -- see Hirst-Chichagof
Sunday Queen -- see Hirst-Chichagof

Surprise -- see Hirst-Chichagof
Tasmania -- see (Bohemia Basin)
Thetis -- see (Billy Basin)
Topscott, Simmons & Mills -- see Chichagoff
Tripod -- see (Bohemia Basin)

Tunnel -- see (Bohemia Basin)
Turner -- see Liberty
Vevelstad -- see (Bohemia Basin), (Takanis Bay)
Vevelstad and associates -- see (Mirror Harbor)
Vevelstad, Sholtz and associates -- see (Bohemia Basin)

West Coast Development Co. -- see Cobol (Pinta Bay)
West Tripod -- see (Bohemia Basin)
Woll -- see Lucky Shot
Yakobi -- see (Bohemia Basin)
(Yakobi I.) -- see (Bohemia Basin)

Young -- see Chichagoff

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