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UNITED STATES

DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY,

SUMMARY OF REFERENCES TO MINERAL OCCURRENCES

(OTHER THAN MINERAL FUELS AND CONSTRUCTION MATERIALS)

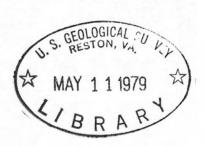
IN THE AFOGNAK, KARLUK, KODIAK, AND TRINITY ISLANDS

QUADRANGLES, ALASKA

By ting Edward H. Cobb. 1916-

Open-file Report 79-860 1978

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



## Introduction

These summaries of references are designed to aid in library research on metallic and nonmetallic (other than mineral fuels and construction materials) mineral occurrences in the Afognak, Karluk, Kodiak, and Trinity Islands quadrangle, Alaska. References to most reports of the Geological Survey, the U.S. Bureau of Mines, and the State of Alaska Division of Geological and Geophysical Surveys and its predecessor State and Territorial agencies released before January 1, 1979, are summarized. Certain, mainly statistical, reports such as the annual Minerals Yearbook of the U.S. Bureau of Mines and biennial and annual reports of the Alaska Division of Geological and Geophysical Surveys and its predecessor State and Territorial agencies are not included. Also not included are data on many claims about which little more than their locations is known (for example, MacKevett and Holloway, 1977, p. 18). These omissions should not be interpreted as a judgement on my part that the claims are not valid mineral occurrences, but only that there are insufficient data to describe any mineral deposit that might be present.

This report is divided into three parts: a section made up of summaries of references arranged alphabetically first 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 in the first section and in these indroductory paragraphs.

## Summaries of References

For each mineral occurrence there is a page that gives the name of the occurrence; the mineral commodities present (listed alphabetically); the mining region (Ransome and Kerns, 1954) in which the occurrence is located; the name of the 1:250,000-scale totpgraphic quadrangle; coordinates (as described by Cobb and Kachadoorian, 1961, p. 3-4); the metallic mineral resources map number (Cobb, 1972, in the reference list for each quadrangle) and the occurrence number on the map if the occurrence is shown; and the latitude and longitude of the occurrence. These data, presented at the top of the page, are followed by a short, general summary of the published information on the occurrence. This is followed (continued on additional pages, if necessary) by more detailed summaries, arranged chronologically, of all references to the occurrence. Material in brackets is interpretive or explanatory and is not in the summarized reference.

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

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:

- AOF Alaska Division of Geological and Geophysical Surveys
  Open-file Report
- B U.S. Geological Survey Bulletin
- GR Alaska Division of Geological and Geophysical Surveys (and predecessor State agencies) Geologic Report
- IC U.S. Bureau of Mines Information Circular
- OF U.S Geological Survey Open-file Report
- MF U.S. Geological Survey Miscellaneous Field Studies Map
- P U.S. Geological Survey Professional Paper

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

(Malina Bay)

Gold, Silver

Kodiak region MF-470, loc. 1

Afognak (8.75, 4.15) 58°14'N, 153°03'W

Summary: Quartz vein reported to carry gold and a little silver; near contact between Jurassic granitic rocks and lower Mesozoic or upper Paleozoic metamorphic rocks (slate). 140-ft.-long adit may have been driven before 1912.

- Brooks, 1912 (B 520), p. 28 -- Report in 1911 that an auriferous quartz vein has been found.
- Martin, 1913 (542), p. 133-134 -- Said to be a quartz vein 14 ft. wide carrying gold and a little silver; said to be at contact of slate with granite and diorite and to be cut by a porphyry dike. Another source reports that an adit 140 ft. long was driven several years ago [as of 1912] on a gold- and silver-bearing quartz vein; reports may or may not be to the same occurrence.

Capps, 1937 (B 880-C), p. 176 -- Passage from Martin, 1913 (B 542) quoted. Berg and Cobb, 1967 (B 1246), p. 87 -- Data from Martin, 1913 (B 542) [not specifically cited].

MacKevett and Holloway, 1977 (OF 77-169F), p. 5, loc. 1 -- Old prospect on quartz vein near contact between Jurassic granitic rocks and Lower Mesozoic or upper Paleozoic metamorphic rocks. Reference to Capps, 1937 (B 880-C).

(Raspberry Beach)

Gold

Kodiak region MF-470, loc. 2

Afognak (6.15-6.2, 1.8-1.9) 58°06'N, 153°20'W

- Summary: Beach placer; gold probably derived from lean glacial deposits. Some mining and prospecting reported, 1935; deposit first reported in 1914.
- Brooks, 1915 (B 622), p. 47 -- Reported in 1914 that low-grade placers have been found.
- Capps, 1937 (B 880-C), p. 172 -- In 1935 2 or 3 men were reported to be mining and prospecting. Gold believed to have been concentrated from large quantities of glacial outwash and till. Prospect drilling in 1935 disproved reports that valley between Raspberry Beach and Onion Bay is underlain by gravel rich enough to dredge.
- MacKevett and Holloway, 1977 (OF 77-169F), p. 5, loc. 2 -- Reference to Capps, 1937 (B 880-C).

(Cape Kubugakli)

Antimony, Gold, Lead, Molybdenum

Bristol Bay region MF-459, locs. 2, 3

Karluk (8.6, 15.6) 57°53'N, 155°05'W

Summary: This quartz stringers (less than ½ in. wide) in felsic dikes that cut Jurassic sedimentary rocks contain gold, stibnite, molybdenite, galena, and tetrahedrite. Stream gravels, richest immediately downstream from quartz stringers, were placer mined from 1915 to as recently as 1923. Total production was about 160 oz. of gold.

Brooks, 1925 (B 773), p. 39 -- A little placer gold has been found; only place on Alaska Peninsula where placers have been mined.

Smith, 1925 (B 773), p. 206-207 -- Placer gold discovered on small stream, 1915. 4 claims staked and a little gold mined annually since then (as of 1923). Total amount about 160 oz. Valley is narrow with steep banks on which glacial material rests; floor about 100 ft. wide with many boulders. Pay streak is a sinuous strip 8-10 ft. wide along creek. Source of gold probably dikes of Mt. Kubugakli and quartz stringers ½ inch or less wide in fine-grained igneous rock that makes up stream bed; richest part of pay streak just downstream from stringers. Stringers contain gold, stibnite, molybdenite, galena, and tetrahedrite. Pieces of magnetite common in sluice boxes.

Berg and Cobb, 1967 (B 1246), p. 14 -- Low-grade lode is probable source of nearby gold placers; numerous quartz stringers ½ in. or less wide cut fine-grained igneous rock; metallic mineral present are gold, stibnite, molybdenite, galena, and tetrahedrite; may be genetically related to dikes on Mt. Kubugakli.

Cobb, 1973 (B 1374), p. 11-12 -- Data from Smith, 1925 (B 773)

MacKevett and Holloway, 1977 (OF 77-169A), p. 16, locs. 2, 3 -- Reference to Smith, 1925 (B 773). Gold- and sulfide-bearing quartz stringers in felsic dikes that cut Jurassic sedimentary rocks; minor amounts of stibnite, molybdenite, and galena.

(Kodiak I., west coast beaches)

Chromite, Gold, Platinum

Kodiak region MF-459, loc. 5

Karluk (13.1-14.2, 0.15-4.9) 57°00'-57°16'N, 154°31'-154°37'W

Summary: Small-scale mining from before 1895 to as recently as 1952. Beach placers consisting of ephemeral patches of heavy minerals in transit across a planation surface cut on till and outwash. Heavy minerals include magnetite (95%), pyrite, chromite, gold, and a little platinum-group metal (mainly platinum and iridium + osmium); concentrated by wave action, largely during spring and fall storms, from lean glacial deposits. Ultimate source of gold probably quartz veins in interior of island; ultimate sources of chromite, platinum, and at least some of magnetite was ultramafic bodies overridden by ice. Includes references to: (Ayakulik R.), (Canvas Point), (Old Red R.), (Red R.), (Red River Beach).

Becker, 1898, p. 86 -- When visited by Becker in 1895, there was beach mining at Ayakulik and Portage Rivers. Gold in streaks of black sand in beach and in bluffs (average height 50 ft. or more) behind beach. Gold-bearing beach sands in patches "perhaps an inch in thickness an extending over a few square yards." Patches must be gathered immediately and moved beyond reach of waves. Sands consist of magnetite, garnet, quartz, slate, serpentinoid material, and light scaly gold which floats easily and does not amalgamate well.

Martin, 1913 (B 542), p. 134-135 -- Quotation from above. Extensive mining in 1912.

Brooks, 1918 (B 662), p. 23 -- A little platinum said to occur in beach placers near mouth of Red R.

Brooks, 1919 (B 666), p. 96 -- Small quantites of platinum reported from beach placers of Red R.

Maddren, 1919 (B 692), p. 299-319 -- Total production to 1917 variously estimated to be from \$50,000 to \$150,000 [gold at \$20.67]; as many as 100 miners said to have worked in some years, but average not more than 25. Best mining in spring and fall during seasons of heavy storms that rework beaches. Kodiak I. consists of Mesozoic(?) and Paleozoic(?) metasedimentary and metavolcanic rocks intruded by Mesozoic(?) granitic rocks, Tertiary(?) continental deposits, and Quarternary glacial, stream and beach deposits; in the western part of the island most of the stream and beach deposits are derived from glacial deposits rather than from bedrock. Beach bluffs from Cape Alitak Trinity Islands quad. about 30 mi. northward to Old Red River [just east of Bumble Bay] are 25-250 ft. high and composed mainly of till (capped in places by outwash) that is actively eroded by storm waves. Wave-cut platform offshore from bluffs floored by till or rarely by outwash. Beach is 200-500 ft. wide between low and high tide lines; beach sands and gravels commonly 3-6 ft. thick. Beach gold apparently concentrated from material that originally contained probably no more than one cent in gold per 50 cu. yds. Gold concentrations in small ephemeral patches; many formed at high tide during storms; must be mined before being redistributed by next high tide. Concentrates chiefly magnetite, pyrite, chromite, gold, and a little platinum; also artificially introduced material such as bird shot, solder, amalgam, shoe nails, and rust. Sample of platinum from Canvas Point contained 55.3% Pt, 36.2% Ir, Os, Rh, and O.1% Pd, plus impurities. Mining is with rockers and portable sluice boxes, followed by panning, blowing, and separation with hand magnets. Mining is possible only on falling or low tides.

Brooks, 1921 (B 714), p. 38 -- Reference to Maddren, 1919 (B 692), p. 316; platinum has been recovered.

Smith, 1933 (B 836), p. 31 -- Gold said to have been found on Red R.; some revival of interest in 1930.

Capps, 1937 (B 880-C), p. 172 -- 3 or 4 men reported to have been on Red River Beach, 1935.

Smith, 1941 (B 926-A), p. 37 -- Small-scale leisure-time mining, 1939. Smith, 1942 (B 933-A), p. 36 -- Small-scale leisure-time mining, 1940.

Mertie, 1969 (P 630), p. 90 -- Analysis of platinum from Maddren, 1919 (B 692), p. 316, recalculated free of impurities and totaled to 100%; Pt 64.8%, Ir 10.0%, Ir + Os 24.2%, Rh 0.9%, Pd 0.1%.

- McGee, 1972 (AOF 31), p. 4 -- Most of data from Maddren, 1919 (B 692) and Capps, 1937 (B 880-C). Ultimate source of gold probably is quartz veins in Cretaceous slates and graywackes of interior part of island; probable source of platinum and chromite is ultramafic intrusives.
- Cobb, 1973 (B 1374), p. 39-40 -- Gold concentrated from lean glacial outwash and till. Small-scale mining using rockers and portable sluice boxes. Wave action concentrated heavy minerals in a veneer of material in transit across a planation surface cut on glacial deposits. 95% of concentrates magnetite; other heavy minerals include pyrite, chromite, gold, and a little platinum. Chromite, platinum, and at least some of magnetite originally derived from ultramafic bodies that had been overridden by ice. 2 men working, 1951-52.

MacKevett and Holloway, 1977 (OF 77-169F), p. 16, loc. 5 -- Reference to Maddren, 1919 (B 692).

(Puale Bay)

Copper, Gold, Silver

Alaska Peninsula region MF-459, loc. 1

Karluk (2.8, 13.7) approx. 57°47'N, 155°42'W approx.

Summary: Samples reported to be from chalcopyrite lenses, probably in a terrane of Upper Jurassic sedimentray rocks, assayed as much as 0.31 oz. gold and 8.1 oz. silver per ton and 24.4% copper. No record of any development.

Berg and Cobb, 1967 (B 1246), p. 7 -- In 1920 samples of copper ore reportedly from chalcopyrite lenses near head of Puale Bay; lode said to be traceable for a mile. Assays showed as much as 0.31 oz. gold and 8.1 oz. silver per ton and 24.4% copper. MacKevett and Holloway, 1977 (OF 77-169F), p. 16, loc. 1 -- Reference to above. Chalcopyrite-bearing lenses; probably in a terrane of Upper Jurassic sedimentary rocks.

(Sevenmile Beach)

Gold

Kodiak region MF-459, loc. 4

Karluk (17.0-18.4, 11.56-11.8) 57°39'N, 154°02'-154°11'W

Summary: Sand and gravel beach in front of bluffs of till from which gold was concentrated by wave action rests on planation surface cut on till. Placer mining in 1911 and/or 1912.

No platinum in concentrates. Includes reference to beach near Uyak.

Brooks, 1912 (B 520), p. 37 -- New beach placers reported to have been discovered near Uyak in 1911.

Martin, 1913 (B 542), p. 134 -- Broad sand and gravel beach in front of 60-ft.-high bluffs of till, from which gold was concentrated by wave action. Most of gold in stretch of beach 3-3/4 mi. along shore; on "clay bedrock" (till) 1-6 ft. below surface in a pay streak 12-18 in. thick; some nuggets worth as much as 25 cents [gold at \$20.67] were recovered. Pay streak said to be worked out, 1912.

Brooks, 1918 (B 662), p. 23 -- No platinum found in sample from beach. Capps, 1937 (B 880-C), p. 172 -- Has been placer mining.

MacKevett and Holloway, 1977 (OF 77-169F), p. 16, loc. 4 -- Reference to Martin, 1913 (B 542).

Gold

Kodiak region MF-460, loc. 2

Kodiak (1.8, 8.05) 57°28'N, 152°49'W

- Summary: Auriferous quartz vein about 3 ft. thick in Mesozoic slate intruded by a small sill-like felsic body contains pyrite and gold not visible to naked eye. Developed by about 500 ft. of underground workings and surface excavations. Work mainly before 1915. Production probably worth considerably less than \$10,000 (gold at \$20.67). Includes references to: Aniak Gold Mining Co., Katmai Mining Co.
- Martin, 1913 (B 542), p. 132-133 -- Several auriferous quartz veins cut black slate country rock intruded by a small sill-like body of keratophyre. Principal vein (average thickness 3 ft., maximum 5 ft.) strikes N45°W (mag) and dips 80°SW; cuts across both foliation and bedding of slate. Vein is quartz with a little pyrite as the only other constituent visible to the naked eye. Minor quartz veinlets, some parallel to slaty cleavage, nearby. Prospect explored by about 520 ft. of underground workings and several surface excavations. 2 stamp mills on property have never been used.
- Brooks, 1914 (B 592), p. 64 -- Work continued, 1913. Mill run to test ore.
- Brooks, 1915 (B 622), p. 47 -- Work continued, 1914; no known production during year.
- Smith, 1929 (B 797), p. 12 -- Prospecting, 1926. Katmai Mining Co. plans to start mining when necessary development work is done. [Some or all of prospecting may have been at other prospects in neighborhood; reference too general to tell.]
- Capps, 1937 (B 880-C), p. 175-176 -- Quotation from Martin, 1913 (B 542). Property idle and underground workings flooded in 1934. 5-stamp mill (erected in about 1906) burned and replaced in 1912 by a 10-stamp mill from which only a few hundred dollars' worth of gold was produced. Mining ceased in 1913; was resumed, 1926-27, but ore was too low grade for profitable mining.
- Berg and Cobb, 1967 (B 1246), p. 83 -- Auriferous quartz veins in slate; only visible metallic mineral is pyrite. Principal vein averages 3 ft. thick. About 500 ft. of underground workings and several trenches. Production in early 1900's was at least \$8,000 in gold [probably lapsus for Wanberg production].
- McGee, 1972 (AOF 31), p. 5-6 -- References to Capps, 1937 (B 880-C), and Berg and Cobb, 1967 (B 1246)
- MacKevett and Holloway, 1977 (OF 77-169F), p. 17, loc. 2 -- Reference to Capps, 1937 (B 880-C). Country rock is Mesozoic metaflysch, mainly slate.

(Anton Larsen Bay

Copper, Gold, Silver

Kodiak region MF-460, loc. 14-16 Kodiak (12.75-12.85, 15.6-15.65) 57°53'N, 152°37'-153°38'W

Summary: Several prospects on gold- and silver-bearing quartz veins as much as 3 ft. thick in Tertiary granodiorite and quartz diorite intruded into upper Mesozoic slate and graywacke. Veins contain pyrrhotite, pyrite, arsenopyrite, and small amounts of chalcopyrite; highest precious metal assays reported are 0.28 oz. gold and 3.50 oz. silver a ton. Deposits first staked in 1903 or 1904; has been only minor sporadic exploration; adits 33 and 10 ft. long and an open cut. No recorded production. Includes references to: Kizhuyak, (Kizhuyak Bay).

- Martin, 1913 (B 542), p. 133 -- Several prospects near group of islands at mouth of easternmost arm of Kizhuyak Bay. Probably in or near granite mass near Women's Bay prospect.
- Capps, 1937 (B 868-B), p. 130-132 -- Preliminary to Capps, 1937 (B 880-C).
- Capps, 1937 (B 880-C), p. 180-181 -- First located in 1903 or 1904. Several openings were made on quartz stringers and veins as much as 3 ft. thick in diorite that intruded slate and gray-wacke; sedimentary rocks near contact also mineralized. In places quartz contains considerable sulfides, mainly pyrite and arsenopyrite, and their oxidation products. Several tons of sulfide ore stacked near an adit 33 ft. long on Larsen I.; grab sample assayed 0.14 oz. gold and 0.74 oz. silver a ton. Another adit 10 ft. long and an open cut on Kodiak I.; no data on gold or silver content.
- Berg and Cobb, 1967 (B 1246), p. 86-87 -- Data from Capps, 1937 (B 880-C) [not specifically cited].
- Rose and Richter, 1967 (GR 31), p. 5-6 -- Quartz veins in granodiorite contain pyrrhotite and small amounts of chalcopyrite. One of 5 samples from veins contained 0.28 [oz. a ton] gold and 3.50 [oz. a ton] silver; the others contained considerably less.
- McGee, 1972 (AOF 31), p. 4 -- Data from Capps, 1937 (B 880-C).
- MacKevett and Holloway, 1977 (OF 77-169F), p. 18, loc. 14 -- References to Capps, 1937 (B 880-C) and Rose and Richter, 1967 (GR 31). Gold-bearing quartz veins localized in Tertiary granodiorite and quartz diorite; generally near upper Mesozoic flysch.

(Barling Bay)

Gold, Silver

Kodiak region MF-460, loc. 5

Kodiak (5.8, 3.9) 57°13'N, 153°23'W

Summary: Gold claims staked in 1930's on quartz veins that cut upper Mesozoic slate and graywacke near a Tertiary dike; fault cuts both dike and country rock. The vein that has been explored consists of quartz and some slate and graywacke in a zone about 15 ft. thick. Assays of several dollars a ton in gold and silver were reported. Exploration minor; no record of production.

Capps, 1937 (B 880-C), p. 181-182 -- Gold claims staked in 1933-34 on 3 quartz veins in slate and graywacke country rock cut by at least one dike [rock type not specified]. Most promising vein (Brown Bear lode) said to have been traced for several miles; as exposed in open cuts near a dike and a fault the lode is about 15 ft. wide, is exposed for a length of 90 ft., and is made up of crushed quartz containing specks and bunches of sulfides (mainly arsenopyrite and pyrite); elsewhere bands of quartz are separated by bands of oxidized country rock (total width about 15 ft.). "The vein matter is said to assay several dollars a ton in gold and silver." Has not been much development.

Berg and Cobb, 1967 (B 1246), p. 87 -- Data from above [not specifically cited].

McGee, 1972 (AOF 31), p. 4 -- Reference to Capps, 1937 (B 880-C).

MacKevett and Holloway, 1977 (OF 77-169F), p. 17, loc. 5 -- Reference
Capps, 1937 (B 880-C). Prospects on quartz veins that cut upper
Mesozoic slate and graywacke near a Tertiary dike.

Baumann & Strickler

Gold

Kodiak region MF-460, loc. 8

Kodiak (7.6, 14.8) 57°50'N, 153°11'W

- Summary: Thin quartz vein in shear zone in upper Mesozoic slate and graywacke near and parallel to a Tertiary thin felsic dike. Vein contains gold and is stained from oxidation of pyrite. Mill test in 1935 reported to have given satisfactory results. No record of other production.
- Capps, 1937 (B 868-B), p. 132-133 -- Preliminary to Capps, 1937 (B 880-C).
- Capps, 1937 (B 880-C), p. 177 -- Located in 1934. Quartz vein strikes a little west of north, dips gently eastward, and cuts Mesozoic slates and graywackes. Consists of 2-8 in. of quartz with 1-2 in. of gouge both above and below; dike 6 in. thick above hangingwall gouge. Shear zone was active both before and after introduction of dike and quartz vein. Visible free gold; high assays reported. Stained from oxidation of pyrite. Ore run through a prospecting mill in 1935 gave satisfactory returns.
- Berg and Cobb, 1967 (B 1246), p. 83 -- Data from above [not specifically cited].
- McGee, 1972 (AOF 31), p. 5 -- Data from Capps, 1937.
- MacKevett and Holloway, 1977 (OF 77-169F), p. 17, loc. 8 -- Reference to Capps, 1937 (B 880-C). Thin pyrite-bearing quartz vein in upper Mesozoic slate and graywacke; near a Tertiary felsic dike.

Bear (Uyak Bay)

Gold

Kodiak region MF-460, loc. 1

Kodiak (0.7, 9.05) 57°31'N, 153°55'W

Summary: Quartz vein about  $2\frac{1}{2}$  ft. thick in upper Mesozoic metasedimentary rocks contains arsenopyrite, pyrite, and free gold. Was a little production of gold in 1890's.

Becker, 1898, p. 63 -- Mispickel present.

p. 80 -- Quartz vein as much as 6 ft. (average about  $2\frac{1}{2}$  ft.) thick strikes N25°W, dips 40°SW; contains some fragments of carbonaceous schist or slate country rock, arsenopyrite, pyrite, and free gold, which can be panned from outcrops. Some gold has been extracted with an arrastre.

Martin, 1913 (B 542), p. 172 -- Above reference quoted.

Capps, 1937 (B 880-C), p. 175 -- Quotation from Becker, 1898, p. 80.

MacKevett and Holloway, 1977 (OF 77-169F), p. 17, loc. 1 -- Reference to Capps, 1937 (B 880-C). Country rock upper Mesozoic metaflysch.

Brennemann Gold

Kodiak region MF-460, loc. 9

Kodiak (7.3, 16.6) 57°57'N, 153°13'W

Summary: In about 1915 an adit was driven about 60 ft. on a quartz vein as much as  $2\frac{1}{2}$  ft. thick in upper Mesozoic flysch. Vein reported to carry gold. Claim said to have been patented. No record of production. Includes reference to Brennan.

Brooks, 1915 (B 622), p. 47 -- Adit driven about 56 ft. on an auriferous quartz vein.

Capps, 1937 (B 868-B), p. 133 -- Preliminary to Capps, 1937 (B 880-C). Capps, 1937 (B 880-C), p. 177 -- Reported that about 20 years ago [circa 1915] a 60-ft. adit was run on a quartz vein said to carry gold and to be as much as  $2\frac{1}{2}$  ft. thick. Claim said to have been patented; no work for many years.

Berg and Cobb, 1967 (B 1246), p. 83 -- Data from Capps, 1937 (B 880-C) [not specifically cited].

McGee, 1972 (AOF 31), p. 5 -- Reference to Capps, 1937.

MacKevett and Holloway, 1977 (OF 77-169F), p. 17, loc. 9 -- Reference to Capps, 1937 (B 880-C). Vein cuts upper Mesozoic flysch.

Calaveras

Gold, Lead

Kodiak region MF-460, loc. 1

Kodiak (0.7, 9.05) 51°31'N, 153°55'W

Summary: Quartz vein in upper Mesozoic metasedimentary rocks is 20 in. thick and contains pyrite, arsenopyrite, and galena. Similar to Bear vein, so is assumed to carry gold. See also Bear (Uyak Bay).

Becker, 1898, p. 62-63 -- Galena and mispickel present.

p. 80 -- Quartz vein in schist or slate is near and parallel to Bear vein (strike N25°W, dip 40°SW); 20 in. thick; contains pyrite, arsenopyrite, and galena. [No data on gold content.]

Martin, 1913 (B 542), p. 132 -- Above reference quoted.

Capps, 1937 (B 880-C), p. 175 -- Quotation from Becker, 1898, p. 80.

MacKevett and Holloway, 1977 (OF 77-169F), p. 17, loc. 1 -- Reference to Capps, 1937 (B 880-C). Country rock is upper Mesozoic metaflysch.

(Chalet Mtn.)

Copper, Tungsten

Kodiak region MF-460, loc. 13

Kodiak (12.7, 14.0) 57°47'N, 152°39'W

Summary: Interbedded upper Mesozoic slate and graywacke cut by many faults with small displacements. Quartz veinlets as much as 2 in. thick along some faults. Scheelite forms thin coatings on some veins and fracture surfaces and is disseminated in small pods and concentrations in quartzitic zones in graywacke. Small amounts of arsenopyrite, chalcopyrite, and pyrite accompany scheelite. All scheelite occurrences are small and low grade.

Seitz, 1963 (B 1155), p. 72-77 -- Bedrock is alternating layers of fissile slate and massive graywacke from a few inches to hundreds of feet thick; cut by many faults which strike generally eastward, dip 70° or more to the south, and exhibit right-lateral displacements of 3-6 ft. Quartz veins along many of faults; from paper thin to 2 in. thick. Ultraviolet-light traverse revealed 16 small showings of scheelite in an area 300 ft. by 1,600 ft. Scheelite forms thin coatings on quartz veins and fracture surfaces and is disseminated in quartzose zones in graywacke. Disseminated scheelite in pods less than 2 ft. long and zones about 2 ft. thick and no more than 6 ft. across. Source of scheelite mineralization not known; introduced after quartz, but may or may not have had a common source. 2-ft.-long channel samples from 2 pits contained from 0.05% to 0.56% WO3. Exposures of tungsten-bearing rock are too low grade and too small to warrant more exploration or development (as of 1956). Geochemical soil sampling failed to reveal anomalous amounts of tungsten.

Berg and Cobb, 1967 (B 1246), p. 87 -- Data from above [not specifically cited].

Rose and Richter, 1967 (GR 31), p. 4-5 -- Data largely from Seitz, 1963 (B 1155). Has been suggested that host rock for scheelite may be a silicified limy bed or beds in graywacke. Source of tungsten mineralization may have been granitic bodies exposed in general area or, more likely, an as yet not unroofed pluton. Small to trace amounts of arsenopyrite, chalcopyrite, and pyrite accompany the scheelite.

MacKevett and Holloway, 1977 (OF 77-169F), p. 17, loc. 13 -- Reference to Seitz, 1963 (B 1155). Country rock upper Mesozoic.

(Cornelius Cr.)

Tungsten

Kodiak region MF-460, loc. 12

Kodiak (12.55, 14.3) 57°49'N, 152°39'W

Summary: Scheelite-bearing float and scheelite-bearing graywacke; sample across 27 inches contained 3.45% WO3.

Rose and Richter, 1967 (GR 31), p. 4 -- Scheelite-bearing float and scheelite-bearing graywacke; sample across 27 in. contained 3.45% WO<sub>3</sub>.

MacKevett and Holloway, 1977 (OF 77-169F), p. 17, loc. 12 -- Reference to above. Country rock upper Mesozoic.

Dan Gold

Kodiak region MF-460, loc. 1

Kodiak (0.7, 9.05) 57°31'N, 153°55'W

Summary: Quartz vein, probably the same one as at Bear prospect, contains well-crystallized arseonpyrite. Gold assumed to be present. Country rock is upper Mesozoic metasedimentary rocks. See also Bear (Uyak Bay).

Becker, 1898, p. 63 -- Mispickel present.

p. 80 -- Apparently on same vein as Bear, but has not been traced through intervening 500 yds. of heavy timber. Arsenopyrite well crystallized. Has been very little work on prospect. [No

Martin, 1913 (B 542), p. 132 - Above reference quoted.

Capps, 1937 (B 880-C), p. 175 -- Quotation from Becker, 1898, p. 80.

MacKevett and Holloway, 1977 (OF 77-169F), p. 17, loc. 1 -- Reference to Capps, 1937 (B 880-C). Country rock is upper Mesozoic metaflysch.

(Dry Spruce I.)

Gold

Kodiak region MF-460, loc. 10

Kodiak (9.1, 16.8) 57°57'N, 153°01'W

Summary: Network of quartz veins in contorted upper Mesozoic slate; little visible mineralization. About 135 ft. of workings near high-tide level in early 1900's. High gold assays reported. Several tons of ore said to have been shipped to mill at Uyak Bay.

Capps, 1937 (B 868-B), p. 132 -- Preliminary to Capps, 1937 (B 880-C). Capps, 1937 (B 880-C), p. 178 -- Contorted and faulted slate in sea cliff cut by network of irregular quartz veins as much as 18 in. thick and showing little visible mineralization. Most are nearly vertical and strike NE, but some strike NW. In early 1900's a shaft was sunk 30 or 40 feet, but was abandoned because of water; adit driven 90 ft. from high-tide level and crosscut run 10 ft. from it. Very high assays reported. Several tons of ore said to have been shipped to Amok Gold Mining Co. mill at Uyak Bay. No data on amount of production.

Berg and Cobb, 1967 (B 1246), p. 86 -- Data from Capps, 1937 (B 880-C) [not specifically cited].

McGee, 1972 (AOF 31), p. 5 -- Reference to Capps, 1937.

MacKevett and Holloway, 1977 (OF 77-169F), p. 16, loc. 10 -- Reference to Capps, 1937 (B 880-C). Country rock is upper Mesozoic flysch.

Gold

Friedland and associates

Kodiak region MF-460, loc. 11

Kodiak (10.85, 17.1) 57°58'N, 152°50'W

Summary: Shaft sunk on quartz vein in upper Mesozoic slate and arrastre constructed; in 1924 had been abandoned for many years. Gold content too small for profitable mining; little gold was produced. Includes references to (Whale I.).

Capps, 1937 (B 868-B), p. 132 -- Preliminary to Capps, 1937 (B 880-C). Capps, 1937 (B 880-C), p. 178 -- Many years before 1934 a shaft was sunk on a quartz vein cutting Mesozoic slate and graywacke near the beach; in 1934 ruins of an arrastre and a water wheel remained and shaft was flooded. Tenor of quartz said to have been too low for profitable mining and that little gold was produced.

Berg and Cobb, 1967 (B 1246) p. 86 -- Data from above [not specifically cited].

McGee, 1972 (AOF 31, p. 5 -- Reference to Capps, 1937.

MacKevett and Holloway, 1977 (OF 77-169F), p. 17, loc. 11 -- Reference to Capps, 1937 (B 880-C). Upper Mesozoic slate and graywacke country rock.

Lake Gold(?)

Kodiak region MF-460, loc. 3

Kodiak (1.55, 10.05) 57°34'N, 153°50'W

Summary: Quartz vein a foot thick in a joint in upper Mesozoic slate and graywacke contains a little arsenopyrite. Gold probably present also, but no data on amount, if any.

Becker, 1898, p. 63 -- Mispickel present.

p. 80-81 -- Vein a foot wide in joint (one of a nearly rectangular system in slate) strikes N70°E and dips 80°S. Contains a little arsenopyrite [no data on gold content]. Nearby joints cut both sandstone and shale; quartz  $\frac{1}{4}-\frac{1}{2}$  in. wide in parts of joints in sandstone, but very much thinner, if present at all, in shale.

Martin, 1913 (B 542), p. 132 -- Above reference quoted.
Capps, 1937 (B 880-C), p. 175 -- Quotation from Becker, 1898, p. 80-81.
MacKevett and Holloway, 1977 (OF 77-169F), p. 17, loc. 3 -- Reference to Capps, 1937 (B 880-C). Country rock is upper Mesozoic slate and graywacke.

Matson Gold(?)

Kodiak region

Kodiak (1.8, 7.9) 57°27'N, 153°49'W

Summary: Several open cuts and a short adit on a quartz vein 6-10 in. thick that cuts upper Mesozoic slate and graywacke.

No data on gold content, if any.

Martin, 1913 (B 542), p. 133 -- Quartz vein 6-10 in. thick strikes N55°W (mag) and dips 60°SW cuts; slate and fine-grained graywacke. Short adit and several open cuts on property. [No data on gold content.]

Capps, 1937 (B 880-C), p. 176 -- Above reference quoted.

MacKevett and Holloway, 1977 (OF 77-169F), p. 17, loc. 2 -- Reference to Capps, 1937 (B 880-C). Country rock is upper Mesozoic metaflysch, mainly slate.

(Miners Point Beach)

Gold

Kodiak region MF-460, loc. 18

Kodiak (2.75, 15.5) 57°53'N, 153°42'W

Summary: Beach placer has been mined. Gold concentrated from unconsolidated glacial deposits.

Capps, 1937 (B 880-C), p. 172 -- Beach placer has been mined. Gold concentrated by wave action from unconsolidated glacial material. McGee, 1972 (AOF 31), p. 4 -- Beach placer.

MacKevett and Holloway, 1977 (OF 77-169F), p. 18, loc.16 -- Reference to Capps, 1937 (B 880-C).

Moyle

Gold, Silver

Kodiak region MF-460, loc. 7

Kodiak (6.85, 14.25) 57°49'N, 153°16'W

- Summary: Irregular bunches and stringers of pyritiferous quartz along contact between upper Mesozoic slate and graywacke and Tertiary granodiorite that intruded and contact metamorphosed the older rocks. Samples assayed from \$7.60 to \$11.67 per ton in gold and silver (gold probably at \$35). Opened by 3 short adits in early 1930's; no production reported.
- Capps, 1937 (B 868-B), p. 133 -- Preliminary to Capps, 1937 (B 880-C). Capps, 1937 (B 880-C), p. 176-177 -- Irregular bunches and stringers of pyritiferous quartz at contact between diorite and contact-metamorphosed sedimentary rocks. By August 1934 3 adits from 6 to 18 ft. long had been driven. Samples contained from \$7.60 to \$11.67 a ton in gold and silver [probably at 1934 prices]. Has been no production.
- Berg and Cobb, 1967 (B 1246), p. 83, 86 -- Data from Capps, 1937 (B 880-C) [not specifically cited].
- McGee, 1972 (AOF 31), p. 5 -- Reference to Capps, 1937.
- MacKevett and Holloway, 1977 (OF 77-169F), p. 17, loc. 7 -- Reference to Capps, 1937 (B 880-C). Upper Mesozoic shale and graywacke intruded by Tertiary granodiorite.

Old Harbor Copper

Kodiak region Kodiak (6.3, 2.5) MF-460, loc. 6 57008'N, 153020'W

Summary: Pyrrhotite, pyrite, and chalcopyrite in shear zone along footwall contact between a gabbro sill and Cretaceous(?) slate and graywacke. Chalcopyrite mainly disseminated (copper content of material 0.09%); 2 concentrations of sulfides (one sample contained 5.52% copper). Explored by 3 short adits and several trenches. In 1944 USBM considered deposit subeconomic. See also (Barling Bay).

Berg and Cobb, 1967 (B 1246), p. 87-88 -- Sulfide-bearing shear zone at least 2,500 ft. long and 10-20 ft. wide along footwall contact between a gabbro sill and slate and graywacke. In general mineralization is uniformly disseminated pyrrhotite, pyrite, and sparse chalcopyrite. In 2 places 1,250 ft. apart small masses of sulfides contain abundant chalcopyrite. Assays range from 0.09% copper in disseminated material to 5.52% copper in one of the chalcopyrite-rich masses. Explored before World War II by 3 short adits and several trenches. USBM examined property in 1944 and concluded that the deposit was subeconomic in size and grade under prevailing economic conditions.

McGee, 1972 (AOF 31), p. 6 -- Reference to above.

MacKevett and Holloway, 1977 (OF 77-169F), p. 17, loc. 6 -- Reference to Berg and Cobb, 1967 (B 1246). Sedimentary rocks of Cretaceous(?) age.

(Uganik Beach)

Gold

Kodiak region MF-460, loc. 19

Kodiak (4.5, 16.65) 57°57'N, 153°31'W

- Summary: Beach placer; considerable gold recovered in early 1900's and possibly in 1890's. Gold concentrated from glacial deposits.
- Martin, 1913 (B 542), p. 135 -- Considerable gold has been recovered from beach placer from time to time [as of 1912]; beach lies at foot of low alluvial bluffs.
- Capps, 1937 (B 880-C), p. 172 -- Has been placer mining. Gold concentrated by wave action from unconsolidated glacial material.
- MacKevett and Holloway, 1977 (OF 77-169F), p. 18, loc. 17 -- Reference to Capps, 1937 (B 880-C).

Wanberg Gold

Kodiak region Kodiak (1.8, 8.05) approx. MF-460, loc. 2 57°28'N, 153°49'W approx.

Summary: Quartz vein in upper Mesozic slaty rocks mined for a few years in early 1900's; crops out on beach. Production was about 387 fine oz. of gold.

Martin, 1913 (B 542), p. 133 -- Wanberg mined quartz vein cropping out on beach near workings of Amok Gold Mining Co.; reported to have taken out about \$8,000 [about 387 fine oz. of gold] with arrastre in 3 or 4 years (all before 1912].

Capps, 1947 (B 880-C), p. 176 -- Above reference quoted.

MacKevett and Holloway, 1977 (OF 77-169F), p. 17, loc 2 -- Reference to Capps, 1937 (B 880-C). Country rock is upper Mesozoic flysch, mainly slate.

Wanberg & Boyer

Gold(?)

Kodiak region MF-460, loc. 4

Kodiak (1.3, 11.35) 57°39'N, 153°52'W

Summary: Quartz vein 7 in. thick in upper Mesozoic flysch contains arsenopyrite and probably gold. No activity reported since 1895 or earlier.

Becker, 1898, p. 63 -- Mispickel present.

p. 81 -- Veinlet 7 inches wide strikes about N55°E and dips 65°SE; roughly the same strike, but not dip, as "sedimentary schist" country rock. [No data on gold content.]

Martin, 1913 (B 542), p. 132 -- Above reference quoted.

Capps, 1937 (B 880-C), p. 175 -- Quotation from Becker, 1898, p. 81.

MacKevett and Holloway, 1977 (OF 77-169F), p. 17, loc. 4 -- Reference

to Capps, 1937 (B 880-C). Country rock is upper Mesozoic flysch.

(Womens Bay

Copper, Gold, Lead, Silver, Zinc

Kodiak region MF-460, loc. 17

Kodiak (12.9, 16.15) 57°55'N, 152°37'W

Summary: Staked in 1906; most exploration (174 ft. of underground workings) soon thereafter. A mainly barren quartz vein 12-14 ft. thick in Tertiary granitic rocks contains horses of country rock and a band of second-generation quartz carrying arsenopyrite, pyrite, chalcopyrite, sphalerite, galena, about 0.1 to 0.24 oz. gold a ton, and as much as 1.19 oz. silver a ton. No record of production. Modern name for this Womens Bay (there is another on Kodiak I.) is Shakmanof Cove.

Martin, 1913 (B 542), p. 133 -- Bear claim at an elevation of about 540 ft. Ore body is 4 ft. 2 in. wide at surface and trends N60°W (mag). Ore consists of pyrrhotite with considerable sphalerite and very small amounts of chalcopyrite; only gangue mineral is quartz. Country rock is mica granodiorite. [No data on tenor or amount of development.]

Capps, 1937 (B 868-B), p. 129-130 -- Preliminary to Capps, 1937 (B 880-C).

Capps, 1937 (B 880-C), p. 178-180 -- Prospect staked in 1906; has changed hands several times; most exploration (22-ft. shaft and 152-ft. adit) within a few years of original staking. Quartz vein with diorite horses is 12-14 ft. thick in diorite and is said to have been traced for 1,800 ft. along strike. Strikes N60°W and dips about 75°SW. Most of vein is nearly barren first-generation quartz; a second generation of quartz with sulfides (arsenopyrite, pyrite, chalcopyrite, sphalerite, and galena) and their oxidation products is in a band that at the shaft thins abruptly from 18 in. to 4-5 in. in thickness. Assays of samples (how taken not known) are said to have shown averages of \$2-\$3 a ton in gold at \$20.67 and \$8.40 a ton in gold at \$35 [about 0.1 to 0.25 fine oz. a ton]. Sample of sulfide-rich material contained 1.19 oz. a ton silver.

Berg and Cobb, 1967 (B 1246), p. 86 -- Data from Capps, 1937 (B 880-G) [not specifically cited].

Rose and Richter, 1967 (GR 31), p. 7 -- Data from Capps, 1937 (B 880-C). McGee, 1972 (AOF 31), p. 4-5 -- Data from Capps, 1937 (B 880-C).

MacKevett and Holloway, 1977 (OF 77-169F), p. 18, loc. 15 -- Reference to Capps, 1937 (B 880-C). Granitic rocks Tertiary.

(Cape Alitak)

Gold

Kodiak region MF-468, loc. 1

Trinity Islands (16.35, 15.05) 56°51'N, 154°18'W

- Summary: Gold and magnetite, derived directly or by way of beaches from glacial deposits, in dune sands. Has been a little gold recovered; success or failure of mechanized mining plant being installed in 1935 was not reported. See also (Kodiak I., west coast beaches).
- Smith, 1933 (B 836), p. 31 -- "Near Cape Alitak in the extreme southern part of the island [Kodiak], showings of placer gold were reported to have been found on the Red River, and some local revival of interest occurred in 1930, when it was said that plans were under way to prospect these deposits." [This reference may apply only to area in Karluk quad. rather than to deposit at Cape Alitak.]
- Capps, 1937 (B 880-C), p. 172-173 -- Mill being constructed in 1935 to treat wind-blown dune sands for their gold content; results of operation not known. Narrow barrier beach extends NW from Cape Alitak, which is underlain by quartz diorite. Material in beach evidently derived from glacial deposits in bluffs behind west coast beaches northward to and beyond Ayakulik R. [Karluk quad.]. Dune sands have been piled up by winds from NW sweeping across barrier beach and dropping their load at the low, narrow neck of land between Cape Alitak and Tanner Head (NE of Cape Alitak). For several years (as of 1935) a small amount of gold has been recovered from dune sands, which also contain a large amount of magnetite.
- McGee, 1972 (AOF 31), p. 4 -- Attempt has been made to mine beach sands near Cape Alitak [may refer to beach sands NW of Cape Alitak].
- Cobb, 1973 (B 1374), p. 40 -- Placer is unusual in that the small amount of fine gold recovered came from dune sands derived directly or by way of beach sands from bluffs of glacial material.
- MacKevett and Holloway, 1977 (OF 77-169F), p. 34, loc. 1 -- Reference to Capps, 1937 (B 880-C).

(Chirikof I.)

Gold

Alaska Peninsula region

Trinity Islands (5.6, 4.65) approx. 55°55'N, 155°35'W approx.

Summary: Gold-bearing beach placer known; resource potential of island regarded as minimal.

MacKevett and Holloway, 1977 (OF 77-169F), p. 34, loc. 3 -- USBM claim map shows placer prospect with no apparent post-1950 activity.

MacKevett and others, 1978 (OF 78-1-E), p. 44 -- "Chirikof Island, southwest of area 10, contains one known gold-bearing beach placer, but the resource potential of the island is regarded as minimal."

(Kodiak I., west coast beaches) Chromite(?), Gold, Platinum(?)

Kodiak region MF-468, loc. 2 Trinity Islands (14.15-15.6, 16.8-17.65) 56°57'-57°00'N, 154°22'-154°31'W

Summary: Has been small-scale placer mining of beach deposits. Heavy minerals concentrated by wave action from lean glacial deposits. Heavy minerals include magnetite, chromite, gold, and a little platinum; chromite and platinum may occur only in beaches in Karluk quad. Data applicable to beaches in Karluk quad. are generally applicable here also; most description are sufficiently generalized to make impossible the separation of data applicable only to beaches in Trinity Islands quad. See also: (Cape Alitak), (Kodiak I., west coast beaches) Karluk quad.

Maddren, 1919 (B 692), p. 299-319 -- Beaches at foot of bluffs 25-250 ft. high extend from Cape Alitak about 30 mi. northward to just east of Bumble Bay [Karluk quad.]. Bluffs composed mainly of till (capped in places by glacial outwash) that is actively eroded by storm waves. Wave-cut platform offshore from bluffs is floored by till, or rarely outwash. Gold in beaches is derived from glacial deposits containing probably no more than one cent in gold per 50 cu. yds. In beach, gold concentrations are in small ephemeral patches; many formed at high tide during storms; must be removed before being redistributed by next high tide. Mining all small scale with rockers and portable sluice boxes. Concentrates 95% magnetite; the rest is mainly pyrite, chromite, gold, and platinum [chromite and platinum may be in Karluk guad. only .

Smith, 1933 (B 836), p. 31 -- "Near Cape Alitak, in the extreme southern part of this island [Kodiak], showings of placer gold were reported to have been found on Red River, and some local revival of interest occurred in 1930, when it was said that plans were under way to prospect these deposits." [This reference may apply only to area in Karluk quad. .

McGee, 1972 (AOF 31), p. 4 -- Attempt has been made to mine beach sands near Cape Alitak. [May refer to dune sands at Cape Alitak.]

Cobb, 1973 (B 1374), p. 39-40 -- Data from Maddren, 1919 (B 692).

MacKevett and Holloway, 1977 (OF 77-169F), p. 34, loc. 2 -- Reference to Maddren, 1919 (B 692).

(Tugidak I.)

Gold

Kodiak region

Trinity Islands (12.1, 7.2) approx. (?) 56°24'N, 154°45'W approx. (?)

- Summary: Natives reported to have recovered a little placer gold from beach; location not certain. Total probably was no more than a few hundred dollars' worth.
- Smith, 1933 (B 836), p. 31 -- "It is said that almost every year some natives resort to Tigidik [Tugidak] Beach to recover enough placer gold to help pay for some of their needs. According to persons familiar with that region, the value of the gold thus taken out seldom amounts to more than a few hundred dollars."
- MacKevett and Holloway, 1977 (OF 77-169F), p. 34, loc. 5 -- USBM claim map shows placer gold claims active since 1950. [Report in above reference is assumed to refer to mining at about this location.]

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 section as synonyms.

(Driver Bay) -- see (Raspberry Beach)

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(Ayakulik R.) -- see (Kodiak I., west coast beaches)
(Bumble Bay) -- see (Kodiak I., west coast beaches)
(Canvas Point) -- see (Kodiak I., west coast beaches)
Mason -- see (Cape Kubugakli)
(Old Red River) -- see (Kodiak I., west coast beaches)

(Portage R.) -- see (Kodiak I., west coast beaches)
(Red R.) -- see (Kodiak I., west coast beaches)
(Red River Beach) -- see (Kodiak I., west coast beaches)
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Aniak Gold Mining Co. -- see Amok Anton Larsen -- see (Anton Larsen Bay) Bear (Womens Bay) -- (Womens Bay) Blue Hill -- see (Chalet Mtn.) Brennan -- see Brennemann Brown Bear -- see (Barling Bay) (Chiachi Point) -- see Friedland and associates Fields -- see (Dry Spruce I.) Hinton, Krauter, Cook & Christianson -- see (Barling Bay) Katmai Mining Co. -- see Amok Kizhuyak -- see (Anton Larsen Bay) (Kizhuyak Bay -- see (Anton Larsen Bay) (Kizhuyak Point) -- see (Womens Bay) Kodiak Exploration Co. -- see (Chalet Mtn.) (Larson I.) -- see (Anton Larsen Bay) Mayle -- see Moyle Peninsula Exploration Co. -- see Old Harbor Red Cloud -- see (Chalet Mtn.) (Shakmanof Cove) -- see (Womens Bay) Silver Queen -- see (Barling Bay) (Sitkalidak I.) -- see Old Harbor Wamberg & Boyer -- see Wanberg & Boyer (Whale I.) -- see Friedland and associates

Alaska Westward Mining Co. -- see (Cape Alitak) (Tigidik Beach) -- see (Tugidak I.)

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