UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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

By

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

Introduction

These summaries of references are designed to aid in library research on metallic and nonmetallic (other than mineral fuels and construction materials) mineral occurrences in the Dixon Entrance 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 June 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
ARCTIC OCEAN
BEAUFORT SEA
GULF OF ALASKA
PACIFIC OCEAN
CANADA
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ROCKY MOUNTAIN MAPPING CENTER
DENVER, COLORADO
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Index map

Summaries of References

For each mineral occurrence there is a page that gives the name of the occurrence; the mineral commodities present (listed alphabetically for metallic commodities and then for nonmetallic commodities); the mining district (Ransome and Kerns, 1954) in which the occurrence is located; the name of the 1:250,000-scale topographic quadrangle (Dixon Entrance); coordinates (as described by Cobb and Kachadoorian, 1961, p. 3-4); the metallic mineral resources map number (MF-434) and the occurrence number on the 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.

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
C	U.S. Geological Survey Circular
GR	Alaska Division of Geological and Geophysical Surveys Geologic Report
IC	U.S. Bureau of Mines Information Circular

MF U.S. Geological Survey Miscellaneous Field Studies Map
OF U.S. Geological Survey Open-file Report (numbers with a hyphen in them are formal; numbers without a hyphen are informal and used only within the Alaskan Geology Branch of the U.S. Geological Survey)
P U.S. Geological Survey Professional Paper
SR Alaska Division of Geological and Geophysical Surveys Special Report

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

References used 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. Geological Survey Bulletin 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. Bureau of Mines Information Circular 7679, 91 p.

In commodity listings the abbreviation FM is used for occurrences of uranium and thorium minerals other than monazite; the abbreviation RE is used for rare-earth minerals other than monazite. Where monazite is present it is listed separately.

Alice

Copper

Ketchikan district
MF-434, loc. 22

Dixon Entrance (19.15, 12.85)
54°43'N, 132°06'W

Summary: Irregular bunches and veinlets of chalcopyrite in limestone interbedded with andesitic greenstone.

Chapin, 1918 (B 662), p. 67 -- Country rock is andesitic greenstone with interbedded limestone. Chalcopyrite in irregular bunches and veinlets in limestone. 2 old shafts were filled with water in 1916.

(Bokan Mtn.) //

Beryllium, FM, Lead, Monazite, Niobium, RE; Fluorite

Ketchikan district
MF-434, locs. 7-13

Dixon Entrance (18.4-19.15, 16.1-16.8)
54°54'-54°57'N, 132°06'-132°11'W

Summary: Area underlain by plutonic rocks of probable Cretaceous age that intruded metasedimentary and metavolcanic rocks of probable Devonian age. Plutonic rocks range in composition from pyroxenite to peralkaline granite. Deposits of uranium-, thorium-, and rare-earth-bearing minerals are in a boss (or in an albitized aureole surrounding it) about 3 sq. mi. in areal extent of peralkaline granite (Bokan Mountain Granite). Deposits of uranium-thorium minerals occur as (1) concentrations of accessory minerals in peralkaline granite; (2) hydrothermal veins or replacement bodies in or near fractures (most common type); (3) disseminated primary minerals in pegmatite and aplite dikes; and (4) hydrothermal minerals in interstices of metasedimentary rocks (one prospect only). Primary minerals in deposits include thorianite, uranothorianite, thorite, uraninite, pyrite, galena, fluorite, monazite, various rare-earth and beryllium minerals, and niobates. Deposits discovered in 1955. Production has been about 120,000 tons of ore averaging about 1% U_3O_8; about the same amount of thorium in ore was not recovered; all from Ross-Adams mine. Ross-Adams ore body is a pipelike, plunging body in peralkaline granite; central zone richest, with surrounding transitional zone grading into normal peralkaline granite. Other prospects are mainly on hydrothermal veins and have not proved to be minable under current conditions; few if any have been thoroughly explored. Includes references to: (Kendrick Bay), I & L, Ross-Adams.

Kaufman, 1958 (IC 7844), p. 13 -- Discovered by airborne survey; very little detailed ground prospecting.

Denny, 1962 -- Ross-Adams deposit discovered in 1955. Exploration and development until production began in 1957, when 15,000 tons of ore was shipped; mined from open pit. In 1959 operations were resumed, but no ore was shipped; stockpiled ore shipped in 1960. Diamond drilling and underground mining began in 1961-62; 7,700 tons of ore shipped. Data on geology and ore deposit mainly from a report preliminary to MacKevett, 1963 (B 1154). Details of mining practice and equipment.

Freeman, 1963 (B 1155), p. 30-31 -- On Marietta claim fractured mass of andesite surrounded by granodiorite contains uranium (uraninite tentatively identified). Nearby pegmatite dike contains uranium-titanium minerals [probably a lapsus for uranium-thorium minerals]. Float samples contained as much as 8.6% U_3O_8. Deposit not similar to that at Ross-Adams property.

MacKevett, 1963 (B 1154) -- Area (about 71 sq. mi.) largely underlain by plutonic rocks of probable Cretaceous age that intruded metasedimentary and metavolcanic rocks of probably Devonian age. Plutonic rocks range in composition from pyroxenite to peralkaline granite and syenite; consist chiefly of diorite, quartz diorite, granodiorite, and quartz

(Bokan Mtn.) -- Continued

monzonite. Xenoliths and roof pendants of older rocks are fairly common. Peralkaline granite forms a boss about 3 sq. mi. in areal extent and contains abnormal quantities of many minor elements. Pegmatite and aplite dikes common in and near boss, but uncommon elsewhere. Fine-grained mafic dikes (chiefly andesite and dacite) abundant and diabase, rhyolite(?), and quartz latite(?) dikes sparsely distributed. Most uranium-thorium deposits genetically related to peralkaline granite; occur either in the boss or in an albitized aureole as much as 1-1/2 miles wide surrounding it. Uranium-thorium minerals have 4 modes of occurrence: (1) concentrations of accessory minerals in peralkaline granite; (2) veins or local replacements of hydrothermal origin in or near fractures (commonest mode of occurrence); (3) disseminated primary minerals syngenetic in pegmatite and aplite dikes; and (4) hydrothermal minerals in interstices of metasedimentary rocks (Cheri prospect only). Deposits staked in 1955 and 1956. Only production has been from Ross-Adams property; 15,000 tons of high-grade (more than 0.80% U_3O_8) ore mined in 1957; high in thorium, but only uranium recovered. Very little exploration at other prospects. Deposits contain uranium-thorium minerals, rare-earth minerals, niobates, and fluorite. Partial list of minerals reported is: uranothorite, uranoan thorianite, uraninite, xenotime, allanite, monazite, ellsworthite, parisite, brannerite, bastnaesite(?), pyrite, galena, zircon, tourmaline, riebeckite, acmite, cordierite, and fluorite.

Matzko and Freeman, 1963 (B 1155), p. 44-49 -- Granite cut by pegmatites and quartz veins. Many claims staked in 1955. Radioactive minerals include thorianite, uranothorianite, thorite, bassetite, novacekite, skoldowskite, beta-uranophane, and gummite at Ross-Adams property and brannerite(?) elsewhere. Niobium, a metamict columbate-tantalate(?), and rare-earth elements reported also; some fluorite. [This report is based on 1955 field work before there was much exploration or any mining.]

Noel, 1966, p. 53 -- Deposits discovered in 1955. Ross-Adams mine operated intermittently until 1964.

p. 55 -- Between 1955 and 1964 Ross-Adams mine produced about 30,000 tons of ore grading about 1% U_3O_8.

p. 63 -- Ross-Adams mine is in an irregular elongate ore body in boss of peralkaline granite; high-grade core surrounded by a lower grade transition zone; at south end faulted to west and down. Main ore minerals are uranothorite and uranoan thorianite disseminated in ore and in thin veinlets with hematite and calcite; some fluorite, pyrite, galena, and quartz.

Berg and Cobb, 1967 (B 1246), p. 183-184 -- Data from MacKevett, 1963 (B 1154) [not specifically cited]. Beryllium mineral(s) identified.

Eakins, 1970 (GR 41) -- Most geologic data from MacKevett, 1963 (B 1154). Geobotanical prospecting seems to give the best results using material from lodgepole pine or humus. Not enough data from stream-sediment sampling for valid interpretation.

Finch and others, 1973 (P 820), p. 461 -- Uranothorite and uranoan thorianite are late-crystallizing accessory minerals. Ross-Adams mine has yielded about 70,000 tons of ore that averaged more than 0.60% U_3O_8. Uranium-

(Bokan Mtn.) -- Continued

thorium ratio is about 1:1, but no thorium was recovered.
p. 472 — Type of thorium-bearing vein that comprises uranothorite or uranothorianite deposits.

Eakins, 1975 (GR 44), p. 7, 9-10 -- About the same as parts of Eakins, 1970 (GR 41).

Miller, 1976 (OF 76-246), p. 1-2 -- Reference to MacKevett, 1963 (B 1154); Production from Ross-Adams has been about 120,000 tons of ore averaging about 1% U_3O_8.

Shawe, 1976 (P 933), p. 33-34 -- Small amounts of fluorite associated with uranium ores. Individual deposits and total amount small.

Staatz, 1977 (C 751-B), p. B74-B75 -- Ross-Adams deposit is an irregular steeply dipping pipe in the Bokan Mountain Granite. Other deposits are localized in pegmatites in central part of Bokan Mountain Granite or in veins in outer parts of granite or in adjacent country rock. I & L vein system comprises parallel and subparallel veins that dip steeply, strike N 50°-75° W, and are 0.25 to 154 cm thick; have been traced for about 2.6 km from Bokan Mtn. (elevation 370 m) to west arm of Kendrick Bay at sea level. Zone bounded on both sides by well-defined fractures. Small transverse veins on N. side of main vein system in one place . Veins contain thorium-bearing uraninite, brannerite, thorite, allanite, bastnaesite, xenotime, and monazite. Uranium, thorium, and rare-earth contents variable from place to place. Rare earths apparently were fractionated in individual veins; yttrium family and cerium family in different parts. Veins also contain abnormally high concentrations of beryllium, barium, niobium, strontium, tin, and zirconium; association of beryllium and rare earths and thorium uncommon.

U.S. Geological Survey, 1977 (P 1050), p. 28 -- Summary of Staatz, 1977 (C 751-B), p. B74-B75.

Decker & West

Copper(?)

Ketchikan district

Dixon Entrance (20.0, 13.8) approx.
54°46'N, 132°01'W approx.

Summary: Reported copper prospect; no reliable data.

Smith, 1914 (B 592), p. 83 -- Reported copper prospect near Stone Rock Bay. No reliable data.

Feickert

Copper

Ketchikan district
MF-434, locs. 23, 24

Dixon Entrance (18.8-19.4, 12.6-13.25)
54°42'-54°45'N, 132°05'-132°09'W

Summary: Two prospects near Nichols Bay. Chalcopyrite-bearing quartz veins in andesitic greenstone and granitic rocks. Little work was done on them.

Chapin, 1918 (B 662), p. 67 -- 2 prospects on chalcopyrite-bearing quartz veins. At one [loc. 24; 54°42'N, 132°95'W (19.4, 12.6)] country rock is granite and quartz diorite; vein is about a foot thick, strikes N 50° E, and is about vertical; some surface stripping in 1916. At other prospect [loc. 23; 54°45'N, 132°09'W (18.8, 13.25)] country rock is andesitic greenstone; explored by a shaft, other openings, and open cuts.

(Forrester Point) Molybdenum

Ketchikan district Dixon Entrance (4.75, 14.65)
54°50'N, 133°32'W

Summary: Pyrite- and molybdenite-bearing quartz monzonite.

Clark and others, 1971 (OF 456), p. 2, 7 -- Pyrite- and molybdenite-bearing quartz monzonite.

Goodhope	Copper, Iron
Ketchikan district MF-434, loc. 20	Dixon Entrance (17.3, 15.35) 54°52'N, 132°17'W

Summary: Quartz veins in altered volcanic rocks intruded by granitic dikes contain magnetite, chalcopyrite, and pyrite. Not enough work to determine size or grade. Includes reference to (Hunter Bay).

Chapin, 1916 (B 642), p. 91 -- Irregular bunches of magnetite and chalcopyrite in greenstone near contact with granitic rocks. Adit driven 40 ft. cut a lens of ore.

Berg and Cobb, 1967 (B 1246), p. 176 -- Quartz veins containing irregular bunches of magnetite, chalcopyrite, and pyrite in volcanic rocks cut by granitic dikes near Tah and Hunter Bays. Has been a little work, but not enough to determine size or grade.

Lakeside — Copper

Ketchikan district — Dixon Entrance (12.6, 17.45)
MF-434, loc. 5 — 55°00'N, 132°45'W

Summary: Shear zones along contact between pyroxenite and greenstone contain chalcopyrite-bearing rock. Explored by a shaft 51 ft. deep and a crosscut 41 ft. long that penetrated 2 shear zones. No record of any production.

Chapin, 1918 (B 662), p. 69 -- Country rock is altered pyroxenite that intruded greenstone and associated sedimentary rocks, now all schistose; pyroxenite and schists cut by quartz diorite. Shear zones along contact between pyroxenite and greenstone are mineralized with chalcopyrite; one shear zone is about 5 ft. wide, strikes N 20° W, dips NE; the other is about 2 ft. wide, is vertical, and strikes N 20° W. As of September 1916 development consisted of a 51-ft. shaft and a 41-ft. crosscut that crossed the 2 shear zones described above.

Berg and Cobb, 1967 (B 1246), p. 176 -- Copper prospect explored in 1916 by shaft and crosscut consists of chalcopyrite-bearing rock in shear zones along contact between pyroxenite and greenstone.

Lucky Strike — Copper

Ketchikan district
MF-434, loc. 3

Dixon Entrance (10.55, 15.8) approx.
54°54'N, 132°56'W approx.

Summary: Copper prospect staked on a shear zone in schist; quartz and chalcopyrite in shear zone. Little if any development.

Chapin, 1918 (B 662), p. 72 -- Country rock is "metamorphic schist, limestone schist, and thin beds of limestone." Deposit appears to be in a shear zone in schist and carries chalcopyrite, pyrite, and much limonitic material; cut by stringers of quartz that cross the schistosity and carry bunches of pure chalcopyrite. Little if any development other than an access trail.

Berg and Cobb, 1967 (B 1246), p. 176 -- Claim staked on a shear zone carrying chalcopyrite and quartz. Amount of development, if any, not known.

Bufvers, 1967 (SR 1), p. 20 -- Copper prospect discovered by Aaron Shellhouse.

(Mallard Bay)

Iron

Ketchikan district
MF-434, loc. 18

Dixon Entrance (20.05, 13.7)
54°46'N, 132°01'W

Summary: Magnetite in pyroxenite. Staked in 1958. Greatest magnetite concentration in USGS thin sections was about 10%; company reported much higher concentrations. See also (McLean Arm).

MacKevett, 1963 (B 1154), p. 61 — Several claims staked for iron, 1958. In pyroxenite.

p. 100-101 -- Magnetite in pyroxenite; highest magnetite concentration found in thin sections was about 10% by volume; company reported much higher concentrations. Staked on magnetic anomaly.

Berg and Cobb, 1967 (B 1246), p. 176 -- Claims staked for iron.

(McLean Arm)

Iron

Ketchikan district
MF-434, loc. 14

Dixon Entrance (20.1, 14.65)
54°49'N, 132°01'W

Summary: Magnetite associated with hornblende-rich concentrations in diorite and quartz diorite. Claims staked on magnetic anomaly in 1958. See also Polson & Ickis.

MacKevett, 1963 (B 1154), p. 100-101 -- Claims staked in 1958 on magnetic anomaly caused by magnetite associated with hornblende-rich concentrations in diorite and quartz diorite.

(McLeod Bay) Copper, Gold, Lead

Ketchikan district Dixon Entrance (12.85-13.35, 12.0-12.3) approx.

MF-434, loc. 4 54°41'-54°42'N, 132°11'-132°14'W approx.

Summary: Before World War I many claims were located on quartz veins and stringers in shear zones in schist. Mainly prospected for gold with open cuts and several adits (also probably some drifting); deposits contain chalcopyrite, pyrite, galena, and a little visible gold, but as a whole are low grade. Samples collected in 1940's contained as much as about 0.6 oz. a ton gold, but most were leaner. No recorded production. Includes references to: Daykoo, (Daykoo Harbor), Delaware, Elk, Elks Pup, Golden Chariot, McLeod, New York, No Name, Virginia, West Virginia.

Wright and Wright, 1905 (B 259), p. 67 -- Elk and Virginia groups are on 4 quartz ledges from 5 to 30 ft. wide in limestone and slate. Gold associated with chalcopyrite and galena; assays from $10 to $50 reported. Some work in 1904.

Wright and Wright, 1906 (B 284), p. 43 -- On Elk group a band of decomposed schist 50 or more ft. wide carries enough gold values to constitute low-grade ore. Explored by 2 tunnels (total length about 465 ft.) and several open cuts. On Virginia group bands of mineralized schist and quartz veins as much as 10 ft. wide carry gold, pyrite, chalcopyrite, and galena; said to be richer than Elk. Explored by shallow shafts and short tunnels. Country rock amphibolite schist and narrow bands of interbedded crystalline limestone.

Wright, 1907 (B 314), p. 62 -- A little development, 1906.

Wright and Wright, 1908 (B 347), p. 181 -- Same as Wright and Wright, 1906 (B 284), p. 43.

Chapin, 1918 (B 662), p. 70-71 -- Many claims. Principal work on a lode consisting of a quartz vein 40-60 ft. wide and a parallel stringer lode along sides of a mineralized zone 200-600 ft. wide. Country rock is crystalline limestone and siliceous schist and quartzite with a little greenstone schist; bedding strikes N 45° W, dips 30°-40° NE. Large quartz vein is about parallel to bedding and follows contact between limestone and schist; gouge along both walls and in hanging wall parallel to vein. Being exploited for gold content; quartz is brecciated and carries chalcopyrite, pyrite, galena, and a little visible gold. Workings consist of 2 adits and open cuts; vein traced for several claim lengths. Near beach, lode is mineralized quartzose schist with several "strong veins of quartz and innumerable stringers and gash veins." Individual veins are lenticular. Lode would have to be worked as a large [low-grade] deposit.

Brooks, 1921 (B 714), p. 18 -- Shear-zone deposits.

Berg and Cobb, 1967 (B 1246), p. 176 -- Many claims located on quartz veins and stringers in schist; prospected for gold; contain chalcopyrite, pyrite, and galena, mainly in veins, but also sparsely disseminated in bordering schists. A few veins reportedly contained appreciable gold, but on the whole the deposits are low grade; considerable development, but no production. Little interest after World War I.

(McLeod Bay) -- Continued

Bufvers, 1967 (SR 1), p. 31-32 -- Principal McLeod prospect located in 1900; traced by open cuts for about 800 ft. At least 3 adits and probably some drifting. Trenching across vein in 1947 for a length of 500 ft. showed an average width of 6 ft. with values close to $4 [about 0.114 oz.] a ton. Near beach is an adit 175 ft. long; probably intended to undercut vein. Virginia prospect is on a vein as much as 10 ft. wide; explored by open cuts and 2 shallow shafts. Sample from dump (taken in 1943) assayed a little more than $21 [about 0.6 oz.] per ton; other samples lower in value.

(Moira Sound, South Arm) Gold

Ketchikan district
MF-434, loc. 6

Dixon Entrance (18.0, 16.55)
54°56'N, 132°13'W

Summary: Auriferous calcite vein that carries pyrite and occupies a fault zone in altered volcanic rocks exposed by a narrow open cut 8 ft. long.

MacKevett, 1963 (B 1154), p. 95 -- Gold prospect.

p. 100 -- Narrow cut about 8 ft. long. On a subsidiary fault that strikes N 16° E and dips 85° SE in highly fractured siliceous metavolcanic rocks near a major northward-trending fault zone. Gold associated with calcite veins; accompanied by pyrite, chlorite, and secondary iron oxides. Gold content evidently was too low to encourage much exploration.

Berg and Cobb, 1967 (B 1246), p. 175 -- Narrow open cut 8 ft. long exposed auriferous calcite veins in a fault zone cutting metamorphosed volcanic rocks. Only primary metallic minerals are pyrite and a little gold.

Mount Vesta

Copper, Gold, Lead, Silver, Zinc

Ketchikan district
MF-434, loc. 2

Dixon Entrance (10.5, 16.35) approx.
54°56'N, 132°57'W

Summary: Tetrahedrite, chalcopyrite, galena, and sphalerite in small seams and veinlets in limestone near contact with granite; reported to carry gold and silver. Explored in early 1900's by open cuts and an 80-ft. tunnel. No recorded production. Includes reference to Mount Vista.

Brooks, 1902 (P 1), p. 110 -- Group of claims said to be located along contact between limestone and granite. Ore body said to be very large and to carry high values in copper, gold, and silver.

Wright and Wright, 1905 (B 259), p. 67 -- Stringers and small masses of tetrahedrite ore carry high values in gold and silver. Several small tunnels.

Wright and Wright, 1906 (B 284), p. 43-44 -- High-grade ore consisting of tetrahedrite, chalcopyrite, galena, and sphalerite in small seams or veinlets a few inches wide separated by wide areas of crystalline limestone. Workings consist of open cuts and a tunnel 80 ft. long.

Wright and Wright, 1908 (B 347), p. 181 -- Same as Wright and Wright, 1906 (B 284), p. 43-44.

Smith, 1914 (B 592), p. 91-92 -- Has been work in the past; none in 1913.

Wedow and others, 1952 (OF 51), p. 66 -- Silver-bearing tetrahedrite-chalcopyrite veins.

Berg and Cobb, 1967 (B 1246), p. 176 -- Veinlets of tetrahedrite, chalcopyrite, galena, and sphalerite in limestone; said to carry appreciable gold and silver; explored by open cuts and an 80-ft. tunnel; evidently not rich enough to mine.

Polson & Ickis — Copper, Gold, RE

Ketchikan district — Dixon Entrance (19.8-20.0, 13.9-14.0)
MF-434, locs. 16, 17 — 54°47'N, 132°01-132°03'W

Summary: Quartz-calcite-barite veins in fault zones in monzonite carry pyrite, chalcopyrite, hematite, bornite, gold, and secondary iron and copper minerals. Xenotime is an accessory mineral in monzonite. Explored by about 520 ft. of underground workings and open cuts. Probably was no production. Copper content of samples from 2 adits was 0.4%-5.7% copper and 0.02-0.58 oz. a ton gold. Includes references to: Adit, Apex, Astor, Daly-West, Hillside, Johnson & Gouley, Thompson, Veda, Veta, Wano, and prospects and occurrences of metallic commodities (other than iron) near McLean Arm.

Wright, 1909 (B 379), p. 83 -- Has been minor development (including some in 1908) at several prospects near McLean Arm; copper mineral(s), including chalcopyrite. At Veta prospect a brecciated vein in greenstone schist is said to have been followed for 1,200 ft.

Knopf, 1910 (B 442), p. 143 -- Development at Veta prospect, 1909. Deposit said to be 20 ft. wide. Shaft 30 ft. deep and 78 ft. of drifts and crosscuts. Valuable for both gold and copper.

Knopf, 1911 (B 480), p. 102 -- Minor development at Veta prospect, 1910.

Smith, 1914 (B 592), p. 82-83 -- Country rock is a band of greenstone and greenstone schist between bodies of granodioritic rock. Claims have been staked, but there has been little work. Chalcopyrite mainly occurs in greenstone and schist, but there is some in granodiorite.

Chapin, 1916 (B 642), p. 90 -- Has been development at McLean Arm for a number of years [as of 1915].

Chapin, 1918 (B 662), p. 66-67 -- Country rock is greenstone intruded by diorite; both intruded by porphyritic alaskite bodies. Ore deposits in shear zones in greenstone and porphyritic rocks; consist of chalcopyrite and secondary copper minerals and associated quartz. Deposits followed for short distances by adits, drifts, and surface excavations.

Brooks, 1921 (B 714), p. 18 -- Shear-zone deposits.

Smith, 1938 (B 897-A), p. 18-19 -- Discovery of rich gold-quartz ore in 1936 near McLean Arm led to considerable activity, including diamond drilling.

Smith, 1939 (B 910-A), p. 21 -- Considerable activity by Anaconda Copper Co. in 1937; although considerable ore was taken out during testing and preliminary work, the work was stopped during the year.

MacKevett, 1963 (B 1154), p. 55 -- Deposit at Veta prospect in a fault.

p. 94-98 -- Prospects primarily for copper, in some the value of gold exceeds that of copper; assays showed as much as 5.7% copper and 0.58 oz. per ton gold, but most were much lower. Total exploration amounted to about 520 ft. of underground workings and several open cuts. Bedrock is largely monzonite locally grading into syenite; some quartz diorite and diorite (local fine-grained facies called greenstone by Chapin); a few diabase dikes; granodiorite and pyroxenite in general area, but not at any of prospects. Xenotime is an

accessory mineral in monzonite. Ore minerals (pyrite, chalcopyrite, bornite, hematite, gold, and secondary iron and copper minerals) localized in quartz-calcite-barite veins in steep fault zones, most of which strike N to N 25° E. Veins displaced and shattered by post-ore faulting. Some mineralized veinlets in wall rock. Fairly intense argillic alteration of wall rock near veins.

Berg and Cobb, 1967 (B 1246), p. 175 -- Metalliferous quartz-calcite-barite veins explored by open cuts, adits, and a few drifts. Veins follow steeply dipping faults in monzonite and contain pyrite, chalcopyrite, bornite, hematite, gold, and secondary iron and copper minerals. Assays of veins in 2 adits showed 0.4-5.7% Cu and 0.02-0.58 oz. gold per ton. At another prospect [Veta] 2 inaccessible shafts and other workings explored a 3-ft. fault zone locally carrying pyrite, chalcopyrite, bornite, specular hematite, and secondary copper minerals.

Bufvers, 1967 (SR 1), p. 31 -- Considerable development at 2 prospects on McLean Arm; one has been brought into production; several tunnels driven and some high-grade ore found. [This is at variance with information from other sources.]

Eakins, 1970 (GR 41), p. 9 -- Ores localized in quartz-calcite-barite veins in fault zones. Pyrite, chalcopyrite, hematite, chrysocolla, and traces of bornite and gold.

Ranger	Copper, Iron
Ketchikan district MF-434, loc. 21	Dixon Entrance (17.05, 14.7) 54°50'N, 132°19'W

Summary: Magnetite with considerable chalcopyrite in altered volcanic rocks cut by granitic dikes and quartz veins. Not enough work has been done to determine size or grade of mineralized material. Includes reference to (Tah Bay).

Chapin, 1918 (B 662), p. 67-68 -- Country rock is greenstone tuff, volcanic breccias, and graywacke and grit. Near ore deposits greenstone is cut by many granite dikes and associated quartz veins. Only development is a prospect adit 10 ft. long and some surface clearings to expose outcrops. Largest outcrop is about 25 ft. across and is essentially magnetite with considerable chalcopyrite in places. Work not sufficient to show size of ore bodies or nature and extent of copper-bearing rock.

Berg and Cobb, 1967 (B 1246), p. 176 -- At Tah and Hunter Bays two lodes consisting of quartz veins carrying irregular bunches of magnetite, chalcopyrite, and pyrite in volcanic rocks cut by granitic dikes. Not enough work to determine size or grade.

Spik

Copper

Ketchikan district
MF-434, loc. 15

Dixon Entrance (19.45, 14.0)
54°47'N, 132°05'W

Summary: Large irregular masses of bornite, chalcopyrite, and pyrrhotite in greenstone that was intruded by granite. Minor development only, probably in about 1915. Includes reference to Hanson.

Smith, 1914 (B 592), p. 83 -- Hanson prospect said to be mainly valuable for copper.

Chapin, 1918 (B 662), p. 67 -- Country rock is greenstone intruded by granite. A few open cuts and a short adit expose high-grade ore consisting of bornite, chalcopyrite, and pyrrhotite occurring as large masses in greenstone.

Buddington and Chapin, 1929 (B 800), p. 323 -- Bornite, chalcopyrite, and pyrrhotite in irregular masses in greenstone.

(Stonerock Bay)

FM, Monazite(?)

Ketchikan district
MF-434, loc. 19

Dixon Entrance (20.2, 13.65)
54°36'N, 132°00'W

Summary: Radioactive minerals in quartz-hematite veins in altered andesite(?) dikes that cut syenite. Monazite questionably identified. Only exploration is a few shallow pits.

MacKevett, 1963 (B 1154), p. 94 -- Radioactive minerals in quartz-hematite veins in altered andesite(?) dikes that cut syenite; a younger set of calcite veinlets does not carry radioactive minerals. Monazite questionably identified. Only exploration is a few shallow pits.

Berg and Cobb, 1967 (B 1246), p. 184 -- Radioactive minerals in altered andesite(?) dikes.

Eakins, 1975 (GR 44), p. 10 -- Low radioactivity in altered andesite dikes cutting syenite.

(Wood Cove) /

Copper, Molybdenum

Ketchikan district
MF-434, loc. 1

Dixon Entrance (4.85, 14.4)
54°49'N, 133°31'W

Summary: Veinlets and disseminations in altered porphyritic quartz monzonite to granodiorite and in hornfelsed metaconglomerate contain quartz, molybdenite, chalcopyrite, pyrite, and pyrrhotite. No development.

Clark and others, 1971 (OF 456), p. 2-3, 6 -- Country rock is porphyritic quartz monzonite to granodiorite, generally strongly propylitally altered. Cut by (1) quartz-molybdenite, (2) quartz-pyrite-molybdenite, (3) epidote, and (4) pyrite veinlets; average density about 4 to 8 per square foot, with about half having megascopically visible molybdenite. Pyrite in veinlets and disseminated in host rock. Polished-section studies indicated that magnetite, chalcopyrite, and pyrrhotite are also present and that minor molybdenite is also disseminated in host rock. Analyses of 11 samples showed average molybdenum content is about 200 ppm (0.02%). Nearby quartz veins 1-6 in. thick in hornfelsed metaconglomerate contain small disseminated flakes and thin veinlets of molybdenite; molybdenum content of quartz veins is from 500 to 700 ppm.

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.

Adit -- see Polson & Ickis
Alaska Industrial Co. -- see Mount Veta
American Metals Climax -- see (Bokan Mtn.)
Anaconda Copper Co. -- see Polson & Ickis
Annie -- see (Bokan Mtn.)

Apex -- see Polson & Ickis
Astor -- see Polson & Ickis
Atom Marietta -- see (Bokan Mtn.)
Atom Rose -- see (Bokan Mtn.)
Bay West, Inc. -- see (Bokan Mtn.)

Boots -- see (Bokan Mtn.)
Bowman & Weston -- see (Bokan Mtn.)
Climax Molybdenum Co. -- see (Bokan Mtn.)
Carol Anne -- see (Bokan Mtn.)
Cheri -- see (Bokan Mtn.)

Cotter Co. -- see (Bokan Mtn.)
Cub -- see (Bokan Mtn.)
(Dakoo Harbor) -- see (McLeod Bay)
Daly-West -- see Polson & Ickis
Daykoo -- see (McLeod Bay)

Delaware -- see (McLeod Bay)
Dotson & Blazek -- see (Bokan Mtn.)
Elk -- see (McLeod Bay)
Elks Pup -- see (McLeod Bay)
Florence -- see (Bokan Mtn.)

Geiger -- see (Bokan Mtn.)
Golden Chariot -- see (McLeod Bay)
Hanson -- see Spik
Hillside -- see (Polson & Ickis
Hollenbeak (& Miller) -- see (Bokan Mtn.)

I & L -- see (Bokan Mtn.)
(Hunter Bay) -- see Goodhope
Ickes -- see Polson & Ickis
I, L, & M -- see (Bokan Mtn.)
Irene -- see (Bokan Mtn.)

Johnson & Gouley -- see Polson & Ickis
Jott Mining Co. -- see (Bokan Mtn.)
(Kendrick Bay) -- see (Bokan Mtn.)
Lazo -- see (Bokan Mtn.)
Lee -- see (Bokan Mtn.)

Little Jim -- see (Bokan Mtn.)
Little Joe -- see (Bokan Mtn.)
Little Mary Rose -- see (Bokan Mtn.)
Little Ray -- see (Bokan Mtn.)
Ludwigsen, Antonsen, Zaugg & Olson -- see (Bokan Mtn.)

Marietta -- see (Bokan Mtn.)
Marx -- see (Bokan Mtn.)
McLeod -- see (McLeod Bay)
Mount Vista -- see Mount Vesta
Newlun -- see (Bokan Mtn.)

Newmont Exploration Ltd. -- see (Bokan Mtn.)
New York -- see (McLeod Bay)
(Nichols Bay) -- see Alice, Feickert, Spik
No Name -- see (McLeod Bay)
Old Crow -- see (Bokan Mtn.)

Peterson & Carlson -- see Polson & Ickis
Pieper and associates -- see (Bokan Mtn.)
Pieper's Purple -- see (Bokan Mtn.)
Polson & Ichis -- see Polson & Ickis
Ross-Adams -- see (Bokan Mtn.)

Shellhouse -- see Lucky Strike
Smith -- see (Stonerock Bay)
(Tah Bay) -- see Ranger
Thompson -- see Polson & Ickis
Thornton & Kilpatrick -- see Alice

Tucker & Gould -- see Lakeside
Veda -- see Polson & Ickis
Veta -- see Polson & Ickis
Virginia -- see (McLeod Bay)
Volk -- see (McLeod Bay)

Wano -- see Polson & Ickis
Wennie -- see (Bokan Mtn.)
West Virginia -- see (McLeod Bay)
Worthington, McKern & Jucius -- see (Bokan Mtn.)

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