UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUMMARIES OF DATA ON AND LISTS OF REFERENCES TO METALLIC AND SELECTED NONMETALLIC MINERAL DEPOSITS IN FIFTEEN QUADRANGLES IN SOUTHWESTERN AND WEST-CENTRAL ALASKA

Atka
Attu
Bristol Bay
Chignik
Cold Bay
Hagemeister Island
Mount Katmai
Naknek
Port Moller
Rat Islands
Saint Lawrence
Stepovak Bay
Ugashik
Unalaska
Unimak

Compiled by
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Open-file Report 80-909

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This report is preliminary
and has not been reviewed
for conformity with U.S.
Geological Survey editorial
standards.

Introduction

These summaries of data on metallic and selected nonmetallic mineral occurrences and lists of selected references to them in Geological Survey, U.S. Bureau of Mines, and State of Alaska Division of Geological and Geophysical Surveys (and predecessor State and Territorial agencies) reports and maps released befor Jan. 1, 1980, and in one abstract of a report presented orally at a scientific meeting, are designed to aid in library research on the mineral resources of 14 quadrangles in southwestern Alaska and the Saint Lawrence quadrangle in west-central Alaska. The references are selected in the sense that mainly statistical reports such as the annual Minerals Yearbook of the U.S. Bureau of Mines and many annual and biennial reports of the Alaska Division of Geological and Geophysical Surveys and its predecessor agencies are not included. Also not included are data on many claims about which little more than their locations is known (for example, localities 11 to 14 in MacKevett and Holloway, 1977 (OF 77-169D), p. 28). These omissions should not be interpreted as a judgement that the claims are not on valid mineral occurrences, but only that there are insufficient data to describe any mineral deposit that might be present. Geochemical anomalies determined by analyses of rock and stream-sediment samples in which no metallic mineral was identified are also omitted. Work now in progress should add greatly to the knowledge of mineral resources in several quadrangles on the Alaska Peninsula.

This report is divided into three parts: a section made up of summaries of data and reference lists arranged alphabetically by occurrence name for each quadrangle; a second section that lists, by quadrangle, synonyms for names in the first scetion, the names of owners and operators of mines and prospects, and claim names (for some quadrangles there are no data to be shown in this section); and a final section that for each quadrangle lists alphabetically by author all references mentioned in the first section and in these introductory paragraphs.

The first section consists of data on each occurrence, for each of which there is a page that gives the name of the occurrence, the

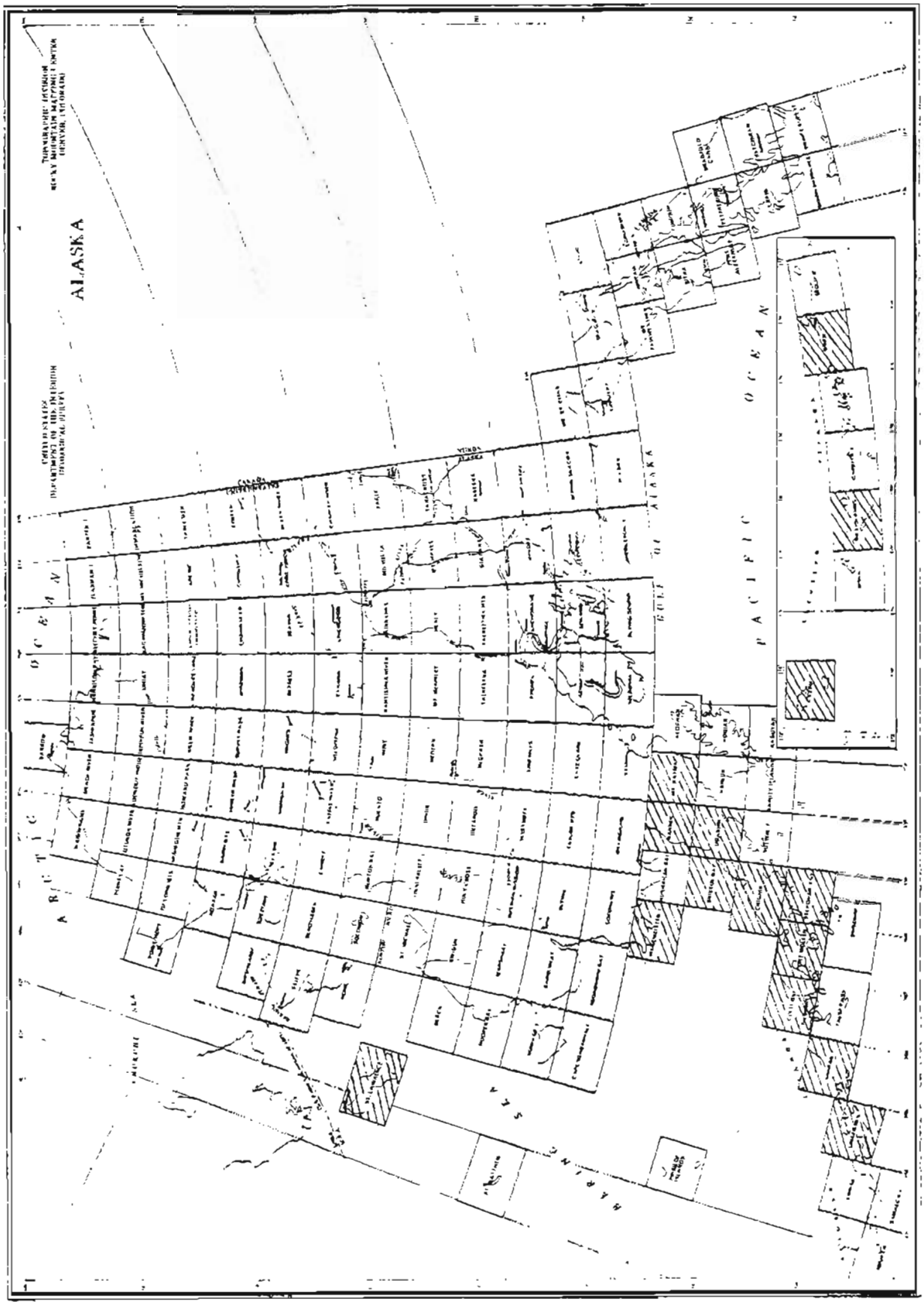
mineral commodities present (listed alphabetically); the mining region or district (Ransome and Kerns, 1954 (IC 7679)) in which the occurrence is located; the name of the 1:250,000-scale topographic quadrangle; coordinates (as described by Cobb and Kachadoorian, 1961 (B 1139), p. 3-4); the number of a map (if there is one) on which the occurrence is shown and the number of the occurrence on that map; 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 data on the occurrence, with the source or sources of the information given in brackets. This is followed by a list, arranged chronologically, of references to the occurrence.

Proper names of mines, prospects, and other mineral occurrences are given if such names appear in the reports cited. 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 no ambiguity would result. All placer mines and prospects are considered under the name of the stream or beach on which they are located. If a deposit has no proper name and is not near a named geographic feature it is titled "Unnamed occurrence" and appears at the end of the list for the quadrangle. If a part of proper name is not always used in the references, that part of the name is shown in parentheses.

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
I	U.S. Geological Survey Miscellaneous Geologic Investigations Map
IC	U.S. Bureau of Mines Information Circular
OF	U.S. Geological Survey Open-file Report (numbers with a hyphen in them are formal; numbers without a hyphen are informal and used only in the Branch of Alaskan Geology of the U.S. Geological Survey)
MF	U.S. Geological Survey Miscellaneous Field Studies Map
P	U.S. Geological Survey Professional Paper
RI	U.S. Bureau of Mines Report of Investigations

SR	Alaska Division of Mines and Geology Special Report
TDM	Alaska Territorial Department of Mines Pamphlet
USBM OF	U.S. Bureau of Mines Open-file Report


ALASKA
PACIFIC
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(Salt I.) Copper(?)

Aleutian Islands region Atka (14.65, 11.9) approx. 52°11'N, 174°38'W

Summary: "It is reported that the natives formerly mined native copper on Salt Island, a small island that lies just northwest of the center of Atka Island. This copper probably occurs in an amygdaloidal lava flow." [Capps, 1934 (B 857-D)] Only data on this reported occurrence.

Reference

Capps, 1934 (B 857-D), p. 149

(Attu I.) Copper, Lead

Aleutian Islands region Attu (8.15, 10.75) approx. (?)
52°52'N, 172°46'E approx. (?)

Summary: East of Abraham Bay introduced pyrite, calcite, albite, and zeolite form chalky white veinlets and white patches, which in many zones give the rocks a claylike appearance where red iron stains are absent. Base-metal sulfides other than pyrite are rare in the mineralized zones. A few crystals of galena and chalcopyrite were noted in veinlets. [Gates and others, 1971 (B 1028-U)] Context of statement on presence of galena and chalcopyrite is unclear; may not refer only to sulfides at the locality for which approximate coordinates are given above, but may refer to any or all of the many pyritic zones scattered over much of the island.

Reference

Gates and others, 1971 (B 1028-U), p. 752

(Cinder River Beach) Gold

Alaska Peninsula region Bristol Bay (14.0-14.3, 2.5-3.0)
MF-456 57°08'-57°10'N, 158°30'-158°32'W

Summary: Generally narrow beach deposits border low, muddy cutbanks. Black-sand deposits along strand line are thin veneers of surf-washed magnetic sands with abundant pyroxene which gives a false impression of the amount of magnetic material. Concentrates from 14 of 15 auger-hole samples contained 10% or more of titaniferous magnetite; all samples contained ilmenite as well. None of the samples contained as much as 50 lbs iron or more than 10.5 lbs TiO_2 per yd^3 of material in place. Traces of flour gold were found in the concentrates from 2 samples, the coordinates for which are given above. [Berryhill, 1963 [RI 6214)]

References

Berryhill, 1963 (RI 6214), p. 31-33
Cobb, 1972 (MF-456)
MacKevett and Holloway, 1977 (OF 77-169F), p. 6, loc. 1

(Cathedral Cr.) Copper, Gold, Lead, Silver, Zinc

Alaska Peninsula region Chignik (17.15, 9.35)
MF-374, loc. 1 57°31'N, 158°44'W

Summary: Gold, lead, silver, and zinc reported. [Cobb, 1972 (MF-374)] [Oral communication from a private exploration geologist to Cobb, March 3, 1970; no other data could be released.] Copper, silver, and zinc in porphyry deposit in strongly altered zone in Tertiary volcanic and subvolcanic rocks. Source given as unpublished U.S. Geological Survey information, 1976. [Specific minerals not listed.] [MacKevett and Holloway, 1977 (OF 77-169F)]

References

Cobb, 1972 (MF-374), loc. 1
MacKevett and Holloway, 1977 (OF 77-169F), p. 7, loc. 1

(Mallard Duck Bay) Copper, Gold(?), Lead, Silver(?), Zinc

Alaska Peninsula region Chignik (20.1, 4.8)
MF-374, loc. 2 56°15'N, 158°32'W

Summary: Altered zones in Tertiary pluton contains pyrite, chalcopyrite, galena, sphalerite, and, reportedly, gold and silver. [MacKevett and Holloway, 1977 (OF 77-169F); Atwood, 1911 (B 467)]

References

Atwood, 1911 (B 467), p. 128
Knappen, 1929 (B 797), p. 222
Wedow and others, 1952 (OF 51), p. 112
Berg and Cobb, 1967 (B 1246), p. 5-6
Cobb, 1972 (MF-374), loc. 2
MacKevett and Holloway, 1977 (OF 77-168F), p. 7, loc. 2

(Port Heiden) Gold, Iron, Titanium

Alaska Peninsula region Chignik (13.7, 13.3)
MF-374, loc. 4 56°45'N, 159°10'W

Summary: Narrow spits and bars on the outer shores of mudflats and local narrow beaches at foot of bluffs of alluvial material extend for 20 mi along shoreline of Bristol Bay. 24 samples were concentrated; titaniferous magnetite made up more than 10% of most concentrates; ilmentite a major constituent of many; flour gold was found in 5. Only one sample contained more than 100 lbs iron per yd^3 and more than 20 lbs TiO_2 per yd^3; all others ran between 2.2 and 22.7 lbs iron and no more than 5.3 lbs TiO_2 per yd^3. Coordinates above for location of richest sample. [Berryhill, 1963 (RI 6214)]

References

Berryhill, 1963 (RI 6214), p. 33-36, 48
Cobb, 1972 (MF-374), loc. 4
Cobb, 1973 (B 1374), p. 6
MacKevett and Holloway, 1977 (OF 77-169F), p. 7, loc. 4

(Port Moller) Iron, Titanium

Alaska Peninsula region Chignik (0.6, -0.25)
56°02'N, 160°31'W

Summary: Auger-hole sample of beach sand contained 83.9 lbs iron and 23.7 lbs TiO_2 per yd^3 of material in place. Concentrate of sample contained 10% or more of titaniferous magnetite and a small amount of ilmenite. 10 other samples from general area were much leaner. [Berryhill, 1963 (RI 6214)] Coordinates above for richest sample. Second part of numerical coordinates is a negative number because occurrence in on overedge part of base map.

<u>Reference</u>
Berryhill, 1963 (RI 6214), p. 39-42

(Warner Bay) Copper, Gold(?), Lead, Molybdenum, Silver(?), Zinc

Alaska Peninsula region Chignik (21.5, 3.1)
MF-374, loc. 3 56°10'N, 158°25'W

Summary: Extensive altered zone in Tertiary(?) pluton; local brecciation and veining may reflect more than one stage of mineralization. Deposit contains chalcopyrite, molybdenite, pyrite, galena, sphalerite, and quartz; gold and silver reported. Has been recent [as of 1977] diamond drilling. [MacKevett and Holloway, 1977 (OF 77-168F); Atwood, 1911 (B 467)] Includes references to (Prospect Bay).

References

Atwood, 1909 (B 379), p. 152
Atwood, 1911 (B 467), p. 21, 129, 131
Brooks, 1921 (B 714), p. 35
Knappen, 1929 (B 797), p. 222-223
Wedow and others, 1952 (OF 51), p. 112
Berg and Cobb, 1967 (B 1246), p. 6-7
Cobb, 1972 (MF-374), loc. 3
MacKevett and Holloway, 1977 (OF 77-168F), p. 7, loc. 3

(Moffet Point) Iron, Titanium

Alaska Peninsula region Cold Bay (14.9-15.1, 8.6-8.8)
MF-441 55°29'-55°30'N, 162°29'-162°30'W

Summary: Peninsula covered by sand dunes as much as 100 ft high; outer beach broad and smooth. Dunes contain some magnetite. Wind classification has resulted in erratically distributed magnetite stringers throughout the area. Concentrates from 16 auger-hole and shovel samples of beach material contained (with one exception) 10% or more titaniferous magnetite; most also contained traces of franklinite. Two samples contained more than 100 lbs iron and 25 lbs TiO_2 per yd^3 of material in place. All others were much lower grade. [Coordinates above are for beach between localities of 2 richest samples.] [Berryhill, 1962 (RI 6214)]

References

Berryhill, 1963 (RI 6214), p. 45-48
Cobb, 1972 (MF-441)
Cobb, 1973 (B 1374), p. 6
MacKevett and Holloway, 1977 (OF 77-169F), p. 9, loc. 1

(Boulder Cr.) Gold, Platinum

Goodnews Bay district Hagemeister I. (7.1, 16.55)
58°56'N, 161°43'W

Summary: Platinum has been mined. Analysis of precious metal recovered (recalculated to excude impurities) showed 77.99% Pt, 16.28% Ir, 3.41% Os, 0.15% Ru, 1.31% Rh, 0.21% Pd, and 0.55% Au. Tributary of Salmon R. [Mertie, 1976 (P 938)] See also (Salmon R.).

References

Reed, 1933, p. 116-117
Mertie, 1976 (P 938), p. 26
Cobb, 1977 (OF 77-168B), p. 24, loc. 8
Eberlein and others, 1977 (OF 77-168D), p. 50, loc. 6

(Chagvan Bay) Chromite, Gold, Iron, Platinum

Goodnews Bay district Hagemeister I. (6.7-6.8, 13.7-15.0)
MF-362, loc. 13 58°47'-58°51'N, 161°45'-16°46'W

Summary: Pan concentrates from 5 auger holes put down by U.S. Bureau of Mines contained chromite and magnetite as major (more than 10%) constituents and traces of gold and platinum. Iron, calculated for material in place, was less than 50 lb per yd^3, not enough to be of commercial interest in 1963. [Berryhill, 1963 (RI 6214)]

References

Berryhill, 1963 (RI 6214), p. 13-16, 48
Cobb, 1972 (MF-362), loc. 13
Cobb, 1973 (B 1374), p. 50
Cobb, 1977 (OF 77-168B), p. 24, loc. 2
Eberlein and others, 1977 (OF 77-168D), p. 50, loc. 1

(Clara Cr.) Chromite, Gold, Platinum

Goodnews Bay district
MF-362, loc. 10

Hagemeister I. (7.1-7.3, 16.7-16.8)
58°57'-58°58'N, 161°42'-161°43'W

Summary: Tributary of Salmon R. that rises in ultramafic mass of Red Mtn. Creek gravels made up mainly of rocks of local derivation; also some from glacial and glaciofluvial deposits. Platinum discovered in 1928; creek now mined out. Mean of analyses of 6 samples of precious metals (recalculated free of impurities) was 88.61% Pt, 6.05% Ir, 0.97% Os, 0.09% Ru, 1.01% Rh, 0.40% Pd, and 2.87% Au. Considerable chromite, some intergrown with platinum, in concentrates. [Mertie, 1976 (P 938); Mertie, 1940 (B 918)] See also (Salmon R.). Includes references to (Clara Creek Mining Co.).

References

Smith, 1930 (B 813), p. 37-38
Smith, 1932 (B 824), p. 66
Reed, 1933, p. 111-116
Smith, 1933 (B 836), p. 68
Smith, 1933 (B 844-A), p. 66
Smith, 1934 (B 857-A), p. 62
Smith, 1934 (B 864-A), p. 67
Smith, 1936 (B 868-A), p. 70
Smith, 1937 (B 880-A), p. 73
Smith, 1938 (B 897-A), p. 83
Mertie, 1939 (B 910-B), p. 128-131
Smith, 1939 (B 917-A), p. 82-83
Mertie, 1940 (B 918), p. 57-59, 67-70
Smith, 1941 (B 926-A), p. 76-77
Smith, 1942 (B 933-A), p. 73-74
Mertie, 1969 (P 630), p. 77, 85-86
Cobb, 1972 (MF-362), loc. 10
Cobb, 1973 (B 1374), p. 50
Mertie, 1976 (P 938), p. 4, 23, 26-27
Cobb, 1977 (OF 77-168B), p. 24, loc. 8
Eberlein and others, 1977 (OF 77-168D), p. 50, loc. 6

(Dowry Cr.) Gold, Platinum

Goodnews Bay district
MF-362, loc. 11

Hagemeister I. (7.1-7.2, 16.7-16.75)
58°57'N, 161°42'-161°43'W

Summary: Tributary of Salmon R. that was worked after Clara Cr. had been mined out; was itself mined out by 1940 or 1941. Heads in ultramafic mass of Red Men. Mean of 5 analyses of samples of precious metals (recalculated free of impurities) was 81.56% Pt, 7.34% Ir, 1.47% Os, 0.12% Ru, 1.25% Rh, 0.46% Pd, and 1.80% Au. [Mertie, 1976 (P 938)] See also (Salmon R.).

References

Reed, 1933, p. 116
Smith, 1937 (B 880-A), p. 73
Smith, 1942 (B 933-A), p. 74
Mertie, 1969 (P 630), p. 77, 85
Cobb, 1972 (MF-362), loc. 11
Cobb, 1973 (B 1374), p. 50
Mertie, 1976 (P 938), p. 4, 23, 26
Cobb, 1977 (OF 77-168B), p. 24, loc. 8
Eberlein and others, 1977 (OF 77-168D), p. 50, loc. 6

(Dry Gulch) (Cr.) Platinum

Goodnews Bay district Hagemeister I. (6.9, 16.2-16.25)
MF-362, loc. 12 58°55'-58°56'N, 161°44'W

Summary: Small tributary of Platinum Cr. from which some platinum was recovered; now mined out. [Mertie, 1976 (P 938)] See also (Salmon R.).

References

Reed, 1933, p. 121-122, 125
Smith, 1933 (B 844-A), p. 66
Smith, 1934 (B 857-A), p. 62
Mertie, 1940 (B 918), p. 57-58
Smith, 1942 (B 933-A), p. 73-74
Mertie, 1969 (P 630), p. 77
Cobb, 1972 (MF 362), loc. 12
Cobb, 1973 (B 1374), p. 50
Mertie, 1976 (P 938), p. 4, 23
Cobb, 1977 (OF 77-168B), p. 24, loc. 8
Eberlein and others, 1977 (OF 77-168D), p. 50, loc. 6

(Fox Gulch) (Cr.) Chromite, Gold, Platinum

Goodnews Bay district Hagemeister I. (6.75, 16.2)
MF-362, loc. 12 58°55'N, 161°45'W

Summary: Tributary of Platinum Cr. Heads in ultramafic body of Red Mtn. Pay streak extended into and down Platinum Cr. Gravels mainly large angular pieces of ultramafic rock. Most of platinum fine grained; in some of the uncommon nuggets chromite was intergrown with platinum metals; random sample of chromite pebbles contained 0.05 oz platinum metals per ton of chromite. Mean of 6 analyses of samples of precious metals (recalculated free of impurities) was 50.56% Pt, 39.14% Ir, 7.74% Os, 0.71% Ru, 1.62% Rh, 0.14% Pd, and 0.09% Au. Placer discovered in 1926; mined out before World War II. [Mertie, 1976 (P 938)] See also (Salmon R.).

References

Smith, 1932 (B 824), p. 66
Reed, 1933, p. 112, 122, 125
Smith, 1933 (B 836), p. 68
Smith, 1933 (B 844-A), p. 66
Smith, 1934 (B 857-A), p. 62
Smith, 1934 (B 864-A), p. 67
Smith, 1936 (B 868-A), p. 70
Smith, 1937 (B 880-A), p. 73
Smith, 1938 (B 897-A), p. 83
Mertie, 1939 (B 910-B), p. 120-125
Smith, 1939 (B 917-A), p. 82-83
Mertie, 1940 (B 918), p. 57-64
Mertie, 1969 (P 630), p. 77, 80-81, 85-86
Cobb, 1972 (MF-362), loc. 12
Mertie, 1976 (P 938), p. 4, 23-24, 41
Cobb, 1977 (OF 77-168B), p. 24, loc. 8
Eberlein and others, 1977 (OF 77-168D), p. 50, loc. 6

(Goodnews Bay) Copper, Platinum

Goodnews Bay district Hagemeister I. (6.25-7.5, 15.25-17.55)
58°52'-59°00'N, 161°40'-161°49'W

Summary: General data on Goodnews Bay area that can not be tied down to specific localities. Platinum metals occur as metallic osmium, as alloys [Ir-Ru-Os and Os-Ir], and as the minerals mertieite [$Pt_5(Sb, As)_2$], sperrylite [$PtAs_2$], cooperite [(Pt, Pd, Ni)(S, As)], laurite [RuS_2], and unnamed Ir-Pd and Ir-Rh-Pd sulfides. Anomalous amounts of platinum metals have been reported in samples from beaches, offshore sediments, and zones in Red Mtn. ultramafic mass. A few minute crystals of chalcopyrite have been identified in the product of Goodnews Bay mining. [Page and others, 1973 (P 820); Mertie, 1976 (P 938); Mertie, 1969 (P 630)] See also: (Red Mtn.), (Salmon R).

References

Mertie, 1969 (P 630), p. 86
Page and others, 1973 (P 820), p. 539, 541-543
Bird and Clark, 1976, p. 717
Mertie, 1976 (P 938), p. 14-17

(Hagemeister Strait) Chromite, Gold

Bristol Bay region
MF-362, locs. 14-20

Hagemeister I. (7.95-15.5, 10.5-15.5)
58°36'-58°53'N, 161°16'-161°50'W

Summary: Gold in beach deposits northwest of Hagemeister I. and on Slug R. was probably reconcentrated from glacial deposits, though some may have been derived from nearby deposits containing sulfide minerals. Several hundred dollars worth was recovered during a small stampede in 1937. Concentrates from shovel and auger-hole samples of beach sands collected by the U.S. Bureau of Mines contained trace amounts of chromite at locs. 14 and 15, MF-362. Most of the 39 samples collected contained magnetite (some titaniferous), but none carried more than 7.3 lb/yd^3 iron calculated for material in place, not enough to be of commercial interest. [Smith, 1939 (B 910-A); Hoare and Coonrad, 1961 (I-321); Cobb, 1973 (B 1374); Berryhill, 1963 (RI 6214)] Includes references to (Togiak Bay).

References

Maddren, 1915 (B 622), p. 358
Smith, 1939 (B 910-A), p. 63
Smith, 1939 (B 917-A), p. 62
Hoare and Coonrad, 1961 (I-321)
Berryhill, 1963 (RI 6214), p. 8-9, 14-23, 48
Cobb, 1972 (MF-362), locs. 14-20
Cobb, 1973 (B 1374), p. 12
Cobb, 1977 (OF 77-168B), p. 24, locs. 10-12
Eberlein and others, 1977 (OF 77-168D), p. 50, locs. 2, 3 [in part]

(Last Chance Cr.) Platinum

Goodnews Bay district Hagemeister I. (7.1, 16.45)
58°56'N, 161°43'W

Summary: Platinum metals present, but no workable placers have been found. Tributary of Salmon R. [Mertie, 1976 (P 938)] See also (Salmon R.). Includes reference to (First Chance Cr.).

References

Mertie, 1976 (P 938), p. 23, 26
Cobb, 1977 (OF 77-168B), p. 24, loc. 8
Eberlein and others, 1977 (OF 77-168D), p. 50, loc. 6

(McCann Cr.) Platinum

Goodnews Bay district Hagemeister I. (7.1, 17.1)
58°58'N, 161°43'W

Summary: Platinum metals present, but no minable pay streak was found. Creek drains into Smalls R. from Red Mtn. Aqua regia-soluble parts of 8 grains of platinum metals contained 95.5% Pt, 2.8% Ir, 1.2% Rh, and 0.5% Pd (recalculated to exclude impurities). [Mertie, 1976 (P 938)]

References

Reed, 1933, p. 113
Mertie, 1976 (P 938), p. 23, 27, 39
Cobb, 1977 (OF 77-168B), p. 24, loc. 6

(Platinum Cr.) Chromite, Gold, Platinum

Goodnews Bay district Hagemeister I. (6.8-7.15, 16.1-16.2)
MF-362, loc. 12 58°55'-58°56'N, 161°43'-151°45'W

Summary: Mining from about 1927 to 1968 [or later]. Creek essentially barren of platinum above mouth of Fox Gulch, which rises in an area underlain by Red Mtn. ultramafic body; upper Platinum Cr. drains area underlain only by sedimentary rocks (some metamorphosed). Above mouth of Squirrel Cr. platinum generally fine grained; some intergrown with chromite. Mean of 26 analyses of precious metal (recalculated to exclude impurities) from Fox Gulch and Platinum Cr. above Squirrel Cr. was 63.71% Pt, 28.01% Ir, 5.39% Os, 0.47% Ru, 1.82% Rh, 0.23% Pd, and 0.37% Au. 2 pay streaks for a short distance below mouth of Squirrel Cr.; principal one from Squirrel Cr., (probable source of at least 80% of the platinum in lower valley). Mean of 38 analyses of precious metal (recalculated free of impurities) from lower valley was 77.03% Pt, 16.76% Ir, 3.62% Os, 0.27% Ru, 1.44% Rh, 0.34% Pd, and 0.84% Au. All gold derived from Nebraskan glacial deposits. [Mertie, 1976 (P 938)] See also (Salmon R.).

References

Smith, 1930 (B 813), p. 60
Smith, 1932 (B 824), p. 66
Reed, 1933, p. 112, 120-121, 125
Smith, 1933 (B 836), p. 68
Smith, 1933 (B 844-A), p. 66
Smith, 1934 (B 857-A), p. 62
Smith, 1934 (B 864-A), p. 67
Smith, 1936 (B 868-A), p. 70
Smith, 1938 (B 897-A), p. 83
Mertie, 1939 (B 910-B), p. 120-125
Smith, 1939 (B 917-A), p. 82-83
Mertie, 1940 (B 918), p. 57-64
Smith, 1942 (B 933-A), p. 73-74
Hoare and Coonrad, 1961 (I-321)
Mertie, 1969 (P 630), p. 77, 80-81, 84-87
Cobb, 1972 (MF-362), loc. 12
Cobb, 1973 (B 1374), p. 50
Mertie, 1976 (P 938), p. 4-5, 23-26
Cobb, 1977 (OF 77-168B), p. 24, loc. 8
Eberlein and others, 1977 (OF 77-168D), p. 50, loc. 6
Eberlein and Menzie, 1978 (OF 78-1-D), p. 39

(Platinum-Salmon River beach) Chromite, Gold, Platinum

Goodnews Bay district Hagemeister I. (6.3-6.7, 15.2-17.6)
MF-362, loc. 4 58°52'-59°00'N, 161°47'-161°48'W

Summary: Prospecting and auger-hole sampling, mainly by U.S. Bureau of Mines, showed that chromite made up more than 10% of the concentrates from most samples. Gold and platinum were present in most concentrates in trace to very small amounts (no more than 0.0736 oz gold and 0.0573 oz platinum per yd^3). These samples showed no more than 38.4 lb iron per yd^3 of material in place. Lack of economically significant placers is probably because the strand line at the time of placer formation was far to the west of the present strand at a time of lower sea level. [Berryhill, 1963 (RI 6214); Mertie, 1969 (P 630); Mertie, 1976 (P 938)] Includes references to beach of Kuskokwim Bay near Red Mtn.

References

Berryhill, 1963 (RI 6214), p. 13-16, 48
Mertie, 1969 (P 630), p. 80-81
Cobb, 1972 (MF-362), loc. 4
Cobb, 1973 (B 1374), p. 50
Mertie, 1976 (P 938), p. 5, 36-38
Cobb, 1977 (OF 77-168B), p. 24, loc. 1
Eberlein and others, 1977 (OF 77-168D), p. 50, loc. 4

(Red Mtn.) Chromite, Gold, Platinum

Goodnews Bay district Hagemeister I. (6.55-6.85, 16.15-16.9)
MF-362, locs. 5-9 58°55'-58°57'N, 161°45'-161°47'W

Summary: U.S. Bureau of Mines shovel samples and pan concentrates from streams draining the west slopes of the mountain showed more than 10% chromite and traces of gold and platinum. A little platinum and gold were recovered from residual(?) material in a small cirquelike opening in the ridge near the head of Platinum Cr. Detailed petrographic and electron-microprobe studies of samples of dunite established that platinum metals are present as inclusions in chromite. Spectrochemical analyses of 40 rock samples averaged 0.16 ppm Pt and 0.04 ppm Pd. The Red Mtn. ultramafic complex is similar to the concentric-type complexes of southeastern Alaska rather than to alpine-type complexes such as that near Seldovia. [Eberlein and others, 1977 (OF 77-168D); Mertie, 1976 (P 938); Bird and Clark, 1976]

References

Berryhill, 1963 (RI 6214), p. 13-16
Mertie, 1969 (P 630), p. 80-81, 84
Cobb, 1972 (MF-362), locs. 5-9
Cobb, 1973 (B 1374), p. 50
Bird and Clark, 1976, p. 717-725
Mertie, 1976 (P 938), p. 5, 39
Cobb, 1977 (OF 77-168B), p. 24, locs. 7, 9
Eberlein and others, 1977 (OF 77-168D), p. 50, loc. 5

(Salmon R.) Chromite, Gold, Mercury, Platinum

Goodnews Bay district Hagemeister I. (6.85-7.35, 15.2-16165)
MF-362, loc. 12 58°52'-58°57'N, 161°41'-161°45'W

Summary: Mined, mainly be dredging, from 1937 to 1975, when operations were terminated. Total production, including that from tributaries, is estimated to have been more than 650,000 troy oz of platinum metals plus about 15,600 oz of gold. Platinum so far has all been from Salmon R. and its western tributaries that drain the Red Mtn. dunite intrusive mass (Jurassic?). Pay streak in present Salmon R. valley floor consists of glaciofluvial and fluvial material and reportedly became noncommercial at lower end of claim 15 below Discovery after having been worked over a length of about 6 mi. Bench pay streak on left limit was formed in early Pleistocene and has been dredged for a distance of about 2½ mi. Traced farther southwestward by drilling. The platinum metals are in the form of platinum and osmium-iridium pseudoeutectically intergrown. Weighted chemical means are 73.62% Pt, 9.94% Ir, 1.89% Os, 0.15% Ru, 1.15% Rh, 0.34% Pd, 2.06% Au, and 10.85% impurities [probably includes data from tributaries]. Concentrates contain chromite and small amounts of cinnabar and native mercury. Proximate source of gold is glacial deposits; ultimate source probably quartz veins associated with Jurassic dioritic intrusive rocks to east. [Eberlein and others, 1977 (OF 77-168D); Mertie, 1976 (P 938)] Includes references to Goodnews Bay Mining Co. unless some other stream is specificed.

References

Reed, 1933, p. 122-124
Smith, 1934 (B 864-A), p. 67-68
Smith, 1937 (B 880-A), p. 73
Smith, 1938 (B 897-A), p. 83
Mertie, 1939 (B 910-B), p. 127-128
Smith, 1939 (B 910-A), p. 62, 89
Smith, 1939 (B 917-A), p. 61, 82-83
Mertie, 1940 (B 918), p. 65-67
Smith, 1941 (B 926-A), p. 76-77
Smith, 1942 (B 933-A), p. 73-74
Hoare and Coonrad, 1961 (I-321)
Mertie, 1969 (P 630), p. 77, 79-88
Cobb, 1972 (MF-362), loc. 12
Cobb, 1973 (B 1374), p. 49-50
Page and others, 1973 (P 820), p. 540
Mertie, 1976 (P 938), p. 4-5, 23, 27-39
Cobb, 1977 (OF 77-168B), p. 24, loc. 8
Eberlein and others, 1977 (OF 77-168D), p. 50, loc. 6
Eberlein and Menzie, 1978 (OF 78-1-D), p. 12

(Security Cove) Gold

Goodnews Bay district
MF-362, loc. 3

Hagemeister I. (5.1, 11.45)
58°39'N, 161°57'W

Summary: On June 1, 1972, Allen L. Clark told Cobb that lode gold had been found at this locality. [Cobb, 1972 (MF-362)] No further data available.

Reference

Cobb, 1972 (MF-362), loc. 3

(Slug R.) Gold

Bristol Bay region Hagemeister I.
SE¼SW¼ quad.

Summary: Placer gold reported somewhere in valley of Slug R. Probably reconcentrated from glacial deposits. Small stampede in 1937 resulted in recovery of a few hundred dollars worth of gold from valley of Slug R. and beaches northwest of Hagemeister I. [Smith, 1939 (B 910-A); Hoare and Coonrad, 1961 (I-321)] See also (Hagemeister Strait).

References

Smith, 1939 (B 910-A), p. 63
Smith, 1939 (B 917-A), p. 62
Hoare and Coonrad, 1961 (I-321)

(Smalls R.) Gold, Platinum

Goodnews Bay district Hagemeister I. (6.75, 17.4)
58°15'N, 161°45'W

Summary: Exploratory drill hole sunk in Smalls R. valley reached bedrock at depth of 192 ft; both platinum and gold present, but no workable ground was found. Hole probably bottomed in a pot hole beneath surface scoured by Illinoian(?) glacier. [Mertie, 1969 (P 630); Mertie, 1976 (P 938)]

References

Mertie, 1969 (P 630), p. 81
Mertie, 1976 (P 938), p. 5
Cobb, 1977 (OF 77-168B), p. 24, loc. 5
Eberlein and others, 1977 (OF 77-168D), p. 50, loc. 7

(Squirrel Cr.) Chromite, Gold, Platinum

Goodnews Bay district
MF-362, loc. 12

Hagemeister I. (7.0, 16.2-16.35)
58°56'N, 161°44'W

Summary: Principal tributary of Platinum Cr. on which there was mining from about 1927 to World War II. Creek heads in Red Mtn. ultramafic mass. Average thickness of overburden about 13 ft; pavstreak 150-500 ft wide; mined for a length of 3,900 ft, first partly by small-scale operations and later entirely by dragline; tenor reported to have been 0.03 oz platinum metals per yd^3. Platinum coarser than in other creeks in area; nugget weighing 1.5 oz recovered. Mean precious-metal content (recalculated to exclude impurities) of 22 samples was 77.21% Pt, 15.68% Ir, 3.92% Os, 0.72% Ru, 1.58% Rh, 0.34% Pd, and 0.55% Au. Chromite in concentrates. [Mertie, 1976 (P 938); Mertie, 1940 (B 918)] See also (Salmon R.).

References

Smith, 1930 (B 813), p. 60
Smith, 1932 (B 824), p. 66
Reed, 1933, p. 112, 117-120, 125-126
Smith, 1933 (B 836), p. 68
Smith, 1933 (B 844-A), p. 66
Smith, 1934 (B 857-A), p. 62
Smith, 1934 (B 864-A), p. 67
Smith, 1936 (B 868-A), p. 70
Smith, 1937 (B 880-A), p. 73
Smith, 1938 (B 897-A), p. 83
Mertie, 1939 (B 910-B), p. 125-126
Mertie, 1940 (B 918), p. 57-58, 64-65, 85
Smith, 1942 (B 933-A), p. 73-74
Hoare and Coonrad, 1961 (I-321)
Mertie, 1969 (P 630), p. 77, 81, 85
Cobb, 1972 (MF-362), loc. 12
Mertie, 1976 (P 938), p. 4, 23-26
Cobb, 1977 (OF 168B), p. 24, loc. 8
Eberlein and others, 1977 (OF 77-168D), p. 50, loc. 6

(Susie Mtn.) Copper

Goodnews Bay district
MF-362, loc. 1

Hagemeister I. (7.8, 16.8)
58°58'N, 161°38'W

Summary: On June 1, 1972, Allen L. Clark told Cobb that copper minerals had been found at this locality. [Cobb, 1972, MF-362)] No further data available.

Reference

Cobb, 1972 (MF-362), loc. 1

Unnamed occurrence | Gold

Goodnews Bay district | Hagemeister I. (9.5, 15.7)
MF-362, loc. 2 | 56°54'N, 161°27'W

Summary: On June 1, 1972, Allen L. Clark told Cobb that lode gold had been found at this locality. [Cobb, 1972 (MF-362)] No further data available.

Reference

Cobb, 1972 (MF-362), loc. 2

Kami | Copper

Redoubt district | Mt. Katmai (13.6, 15.9)
OF 77-169F, loc. 3 | 58°54'N, 154°30'W

Summary: Chalcopyrite-bearing veins near border of a Jurassic quartz diorite pluton. Apparent post-1950 activity at prospect. [MacKevett and Holloway, 1977 (OF 77-169F)] Note: Table in above reference calls pluton Jurassic; map shows pluton as Tertiary and intruded rocks as Upper and Middle Jurassic sedimentary rocks.

Reference

MacKevett and Holloway, 1977 (OF 77-169F), p. 26, loc. 3

(Kukak Bay) Copper, Gold, Silver

Bristol Bay region Mt. Katmai (15.5, 5.9) approx.
MF-461 58°20'N, 154°20'W approx.

Summary: Old copper prospect on which some work was done about the time of World War I. [Martin, 1920 (B 712)] Incompletely identified magazine clipping dated March 1918 states that ore is reported to have run 4% to 6% copper, $1.50 to $4.60 gold, and as high as 36 oz silver; a shaft [winze] was sunk 10 ft from a point 40 ft from portal of a tunnel 180 ft long; prospect 2 mi from Kukak Bay.

References

Martin, 1920 (B 712), p. 35
Berg and Cobb, 1967 (B 1246), p. 16
Cobb, 1972 (MF-461)
MacKevett and Holloway, 1977 (OF 77-169F), p. 26, loc. 1

Nix	Gold
Bristol Bay region OF 77-169F, loc. 2	Mt. Katmai (8.85, 16.45) 58°56'N, 155°01'W

Summary: Gold in stream (headwaters of American Cr.) placers. About at contact between Lower Jurassic volcanic flows and pyroclastic rocks with minor interbedded sandstone and argillite and Tertiary and/or Upper Cretaceous volcanic rocks with interbedded tuff, breccia, and tuffaceous sandstone. [MacKevett and Holloway, 1977 (OF 77-169F)]

Reference

MacKevett and Holloway, 1977 (OF 77-169F), p. 26, loc. 2

(Egegik Beach) Gold, Iron, Titanium

Bristol Bay region Naknek (3.6-3.85, 0.2-2.2)
MF-442, loc. 2 58°01'-58°08'N, 157°35'-157°37'W

Summary: Beach 100 yds to a mile wide made up of detritus varying in size from silt to small boulders. Coarse material largely of igneous origin transported from Aleutian Range by glacial and glaciofluvial processes. Fine material, also derived from glacial and glaciofluvial deposits, largely quartz and feldspar with patches of black sand as veneer or layers, few of which are more than 6 in thick, parallel to beach berm and mainly high on beach. Buried layers are similar and in same position in beach profile. Principal component of black sand is hypersthene. Table concentrates of samples taken by U.S. Bureau of Mines in 1958-59 investigation contained more than 10% titaniferous magnetite and smaller amounts of ilmenite; a few contained flour gold in trace amounts. Excluding one aberrant sample each, the iron contents of the magnetic fractions ran 4.3 to 83.3 lbs per yd^3 and the TiO_2 contents 1.6 to 27.6 lbs per yd^3. In another U.S. Bureau of Mines study in 1969 most of the 49 samples taken and analyzed contained from a trace to 0.003 oz gold per ton. [Kimball, 1972 (USBM OF 21-72); Berryhill, 1963 (RI 6214)]

References

Berryhill, 1963 (RI 6214), p. 28-31, 48
Cobb, 1972 (MF-442), loc. 2
Kimball, 1972 (USBM OF 21-72), p. 4-18, 21-27
Cobb, 1973 (B 1374), p. 12
MacKevett and Holloway, 1977 (OF 77-169F), p. 27, loc. 2

(Keefers Bar) Gold

Bristol Bay region Naknek (2.3, 15.9)
MF-442, loc. 1 58°54'N, 157°45'W

Summary: Flour gold can be panned from bar on Nushagak R. [Mertie, 1938 (B 903)] Includes reference to (Keelers Bar).

References

Mertie, 1938 (B 903), p. 91
Cobb, 1972 (MF-442), loc. 1
Cobb, 1977 (OF 77-168B), p. 38, loc. 1
MacKevett and Holloway, 1977 (OF 77-169F), p. 27, loc. 1

Apollo (Consolidated) Copper, Gold, Lead, Silver, Zinc

Alaska Peninsula region Port Moller (14.35, 3.45)
MF-443, loc. 6 55°11'N, 160°34'W

Summary: Source of practically all of the about 100,000 oz of gold and some accompanying silver from lodes on Unga I. Ore body a reticulated network of mineralized fractures in intensely altered (propylitized) Tertiary andesite and dacite containing free gold, pyrite, galena, sphalerite, chalcopyrite, and native copper in gangue of quartz and subordinate calcite and feldspar. Minerals deposited in open spaces at relatively shallow depths. Main ore body averaged about 0.4 oz gold per ton; was a northward-plunging shoot 5-40 ft wide and several hundred feet long. Extensive workings; one tunnel more than 6,000 ft long. Major operations ended in early 1900's; there were sporadic small-scale operations until World War II, but little production. Some identified resources remain. [Berg and Cobb, 1967 (B 1246); MacKevett and others, 1978 (OF 78-1-E)]

References

Becker, 1898, p. 62-63, 83-85
Martin, 1905 (B 259), p. 100-101
Brooks, 1906 (B 284), p. 6
Brooks, 1908 (B 345), p. 28-29
Atwood, 1909 (B 379), p. 149-150
Brooks, 1909 (B 394), p. 196, 199
Brooks, 1910 (B 442), p. 34
Atwood, 1911 (B 467), p. 21, 125-126
Brooks, 1911 (B 480), p. 33
Brooks, 1911 (B 480), p. 66
Brooks, 1912 (B 520), p. 28
Brooks, 1913 (B 542), p. 38
Brooks, 1915 (B 622), p. 47
Brooks, 1918 (B 662), p. 49-50
Brooks and Capps, 1924 (B 755), p. 33
Smith, 1933 (B 844-A), p. 24
Smith, 1941 (B 926-A), p. 28
Bain, 1946 (IC 7379), p. 22
Wedow and others, 1952 (OF 51), p. 111
Berg and Cobb, 1967 (B 1246), p. 5
Koschmann and Bergendahl, 1968 (P 610), p. 23
Cobb, 1972 (MF-443), loc. 6
MacKevett and Holloway, 1977 (OF 77-169F), p. 28, loc. 6
MacKevett and others, 1978 (OF 78-1-E), p. 43

(Balboa Bay) Copper

Alaska Peninsula region
MF-443, loc. 2

Port Moller (14.05, 10.5)
55°35'N, 160°35'W

Summary: Copper minerals in shear zone in Tertiary andesitic lavas. Tertiary granite pluton exposed nearby. Was a little prospecting in 1890's or early 1900's. [MacKevett and Holloway, 1977 (OF 77-169F); Atwood, 1911 (B 467)]

References

Atwood, 1909 (B 379), p. 152
Atwood, 1911 (B 467), p. 21, 129
Brooks, 1921 (B 714), p. 35
Wedow and others, 1952 (OF 51), p. 112
Berg and Cobb, 1967 (B 1246), p. 6-7
Cobb, 1972 (MF-443), loc. 2
MacKevett and Holloway, 1977 (OF 77-169F), p. 28, loc. 2

(Mt. Hague) Sulfur

Alaska Peninsula region Port Moller (0.3, 6.5) approx.
55°22'N, 161°58'W approx.

Summary: In 1946, 6 large and many small fumaroles in a gully on the southwest side of Mt. Hague had built up cones 3-4 ft high around each vent and had formed extensive deposits of pure sulfur in the gully. Large blocks of sulfur had fallen onto the glacier below. Sulfur fumes prevented close approach to the cones. [Kennedy and Waldron, 1955 (B 1028-A)]

Reference

Kennedy and Waldron, 1955 (B 1028-A), p. 15

(Nelson Lagoon) Iron, Titanium

Alaska Peninsula region
MF-443, loc. 7 [in part]

Port Moller (3.8-8.5, 16.25-17.8)
55°56'-56°01'N, 161°08'-161°37'W

Summary: Concentrates of 22 shovel and auger-hole samples of beach sands from a long spit covered by sand dunes as much as 40 ft high above water table contained 10% or more of titaniferous magnetite and lesser amounts of hematite and ilmenite. Analyses showed 309.7 lbs iron and 78.6 lbs TiO_2 per yd^3 of material in place at one sample site [loc. 7, MF-443; 56°01'N, 161°09'W (8.3, 17.75)]. Other analyses were much lower; averaged 44.01 lbs iron and 11.44 lbs TiO_2 per yd^3. Magnetite sands are thin veneers along strand line and occasional stringers in dunes. [Berryhill, 1963 (RI 6214)]

References

Berryhill, 1963 (RI 6214), p. 42-45, 48
Cobb, 1972 (MF-443), loc. 7
Cobb, 1973 (B 1374), p. 6
MacKevett and Holloway, 1977 (OF 77-169F), p. 28, loc. 7

(Popof I.) Gold

Alaska Peninsula region
MF-443, locs. 3, 9

Port Moller (14.85-15.0, 5.5-5.6)
55°18'-55°19'N, 160°30'-160°31'W

Summary: Several lode gold prospects, at least one of which was explored by underground workings, in area underlain by weathered Tertiary andesitic rocks near Tertiary granitic plutons. Weathered zone 5-10 ft thick; visible free gold; samples reported to have assayed as much as $20 per ton in gold [gold at $20.67]. One rich assay reported from unweathered rock. On nearby beach about $12,000 in gold [gold at $20.67] recovered in 1904-05; gold all below mid-tide level; mainly around large boulders at about low-tide line. [Atwood, 1911 (B 467); MacKevett and Holloway, 1977 (OF 77-169F)]

References

Martin, 1905 (B 259), p. 101
Atwood, 1909 (B 379), p. 149
Brooks, 1909 (B 379), p. 52
Atwood, 1911 (B 467), p. 20, 125
Brooks, 1912 (B 520), p. 37
Brooks, 1913 (B 542), p. 43
Brooks, 1915 (B 622), p. 47
Brooks, 1925 (B 773), p. 23
Smith, 1932 (B 824), p. 23
Wedow and others, 1952 (OF 51), p. 112
Berg and Cobb, 1967 (B 1246), p. 5
Cobb, 1972 (MF-443), locs. 3, 9
MacKevett and Holloway, 1977 (OF 77-169F), p. 28, locs. 3, 9

(Port Moller, lode) Gold

Alaska Peninsula region
MF-443, loc. 1

Port Moller (17.15, 13.9)
55°47'N, 160°16'W

Summary: Gold in altered Tertiary basalt near Tertiary granitic pluton. Claims were staked in early 1900's, but no development work as of the end of 1908. [Atwood, 1911 (B 467); MacKevett and Holloway, 1977 (OF 77-169F)]

References

Atwood, 1911 (B 467), p. 128
Berg and Cobb, 1967 (B 1246), p. 5-6
Cobb, 1972 (MF-443), loc. 1
MacKevett and Holloway, 1977 (OF 77-169F), p. 28, loc. 1

(Port Moller, placer) Gold, Iron, Titanium

Alaska Peninsula region
MF-443, loc. 8

Port Moller (14.15-14.2, 16.4-16.6)
55°56'N, 160°03'W

Summary: Beaches on large spits, one of which (Harbor Point) is probably on an old moraine. Concentrates of 7 shovel samples contained 10% or more titaniferous magnetite. 2 samples representative of surf concentrations contained an average of 169.5 lbs iron and 47.5 lbs TiO_2 per yd^3 of material in place and traces of gold. The other samples contained less than 20 lbs iron and 5 lbs TiO_2 per yd^3 of material in place. [Berryhill, 1963 (RI 6214)] Coordinates above are for area of 2 richest samples.

References

Berryhill, 1963 (RI 6214), p. 39-42, 48
Cobb, 1972 (MF-443), loc. 8
Cobb, 1973 (B 1374), p. 6
MacKevett and Holloway, 1977 (OF 77-169F), p. 28, loc. 8

Pyramid | Copper, Molybdenum(?)

Alaska Peninsula region | Port Moller (13.0, 11.0)
OF 77-169F, loc. 10 | 55°37'N, 160°41'W

Summary: Extensive altered zone and porphyry-type mineralization in a Mesozoic porphyry complex that intrudes Eocene sedimentary rocks. Porphyry complex zoned outward about a barren potassic core through strongly pervasive quartz-sericite to propylitic alteration zones. Highest hypogene copper grades near inner limit of pervasive quartz-sericite alteration. Has been some supergene enrichment; process presently active. [Christie and Wolfhard, 1977; MacKevett and Holloway, 1977 (OF 77-169F)] No metallic mineral listed; undoubtedly are copper (and probably molybdenum) minerals.

References

Christie and Wolfhard, 1977
MacKevett and Holloway, 1977 (OF 77-169F), p. 28, loc. 10

Shumagin | Gold

Alaska Peninsula region | Port Moller (14.2, 4.1)
MF-443, loc. 4 | 55°14'N, 160°35'W

Summary: Quartz ledges as much as 50 ft thick in shear zones in Tertiary volcanic rocks near Tertiary granitic plutons carry gold. One ledge 2-3 ft wide reported to carry between $4 and $5 (nowhere less than $2) per ton [gold at $20.67]. Explored by about 685 ft of underground workings. No reported production. [Atwood, 1911 (B 467); MacKevett and Holloway, 1977 (OF 77-169F)]

References

Martin, 1905 (B 259), p. 101
Atwood, 1909 (B 379), p. 149, 151
Atwood, 1911 (B 467), p. 21, 125, 127
Wedow and others, 1952 (OF 51), p. 111
Cobb, 1972 (MF-443), loc. 4
MacKevett and Holloway, 1977 (OF 77-169F), p. 28, loc. 4

Sitka | Gold, Lead, Zinc

Alaska Peninsula region | Port Moller (14.45, 3.6)
MF-443, loc. 5 | 55°12'N, 160°33'W

Summary: Quartz (with subordinate calcite) veins in shear zone in Tertiary andesite and dacite near Tertiary granitic plutons contain free gold, galena, sphalerite, and pyrite. Ore too low grade to have been worked at a profit; some was run through Apollo mill, with which mine was connected by a tramway, in 1908. [Atwood, 1911 (B 467); MacKevett and Holloway, 1977 (OF 77-169F)] Includes reference to King.

References

Martin, 1905 (B 259), p. 101
Atwood, 1909 (B 379), p. 149-150
Atwood, 1911 (B 467), p. 21, 125-127
Smith, 1941 (B 926-A), p. 28
Wedow and others, 1952 (OF 51), p. 111
Cobb, 1972 (MF-443), loc. 5
MacKevett and Holloway, 1977 (OF 77-169F), p. 28, loc. 5

(Unga I.) Gold

Alaska Peninsula region Port Moller
SE¼ quad.

Summary: Beach mining on island in 1911 reported. No other data. [Brooks, 1912 (B 520)]

Reference
Brooks, 1912 (B 520), p. 37

(Little Sitkin I.) Sulfur

Aleutian Islands region Rat Islands (5.9, 12.25)
51°57'N, 179°32'W

Summary: Acitive fumarole area in breached crater contains much sulfur in an area of about 10 acres; deposit replaces Quaternary low-silica dacite flow. All rocks in crater area are bleached and altered to white kaolinitic(?) clay. Sulfur occurs as veins and vug linings in clay; surface deposit usually massive, mammillary aggregates of sulfur crystals without much rock clay. Small amounts of H_2S gas always present in the abundant water vapor being emitted. Sulfur probably being deposited primarily as near-surface partial oxidation of gas and secondarily as sublimate. Replacement presumably decreases markedly with depth. Sample from central part of deposit contained 95.8% sulfur by weight. In the unlikely event that the deposit averages this grade for the surface zone 10 ft thick, 200,000 tons of sulfur would be present. [Snyder, 1959 (B 1028-H)]

Reference

Snyder, 1959 (B 1028-H), p. 205-206

(Booshu Camp) Copper, Molybdenum

Bering Sea region St. Lawrence (1.4, 10.4)
MF-465, loc. 3 63°27'N, 171°49'W

Summary: Wave-cut bench on quartz monzonite containing disseminated grains and scaly fracture fillings of molybdenite with a little accompanying chalcopyrite and pyrite. Samples cut across a zone of what appeared to be the richest material contained 0.71% MoS_2 over 3 ft, 0.28% over 6 ft, and only 0.17% over 15 ft. Samples from nearby quartz monzonite contained less than 0.10% MoS_2. [Anderson, 1947 (TDM 5-R); Patton and Csejtey, 1971 (P 684-C)] Includes references to West Cape). Note: Delete loc. 6 from MF-465.

References

Anderson, 1947 (TDM 1), p. 24, 35-36
Berg and Cobb, 1967 (B 1246), p. 9
Patton and Csejtey, 1971 (P 684-C), p. C8-C10, samples 1-3
Cobb, 1972 (MF-465), loc. 3

(Boxer Bay) Tin(?)

Bering Sea region St. Lawrence (3.5, 8.5) approx.
63°21'N, 171°35'W approx.

Summary: There have been occasional reports of the occurrence of cassiterite near Boxer Bay. [Anderson, 1947 (TDM 5-R)] Recent investigations by U.S. Geological Survey personnel did not find cassiterite in this area. [Oral communication, Béla Csejtey, Jr., May 24, 1972]

References

Anderson, 1947 (TDM 5-R), p. 41-42
Berg and Cobb, 1967 (B 1246), p. 9
Cobb, 1973 (B 1374), p. 9

(Kangik R.) Copper

Bering Sea region
MF-465, loc. 2

St. Lawrence (2.15, 2.6) approx.
63°35'N, 171°43'W approx.

Summary: "A small amount of native copper was found in float of a mafic volcanic hornfels 4½ miles northeast of Vngyat Point." [Patton and Csejtey, 1971 (P 684-C)]

References

Patton and Csejtey, 1971 (P 684-C), p. C15
Cobb, 1972 (MF-465), loc. 2

(Moghoweyik R., lower) Molybdenum

Bering Sea region St. Lawrence (1.6, 10.6)
MF-465, loc. 4 63°28'N, 171°48'W

Summary: Thin veinlets of molybdenite in highly oxidized pyritiferous [Cretaceous] quartz monzonite cut by aplite dikes and quartz veins. Pan concentrate of sample of riverbed gravels contained 70 ppm Mo and 5,000 ppm W. [Patton and Csejtey, 1971 (P 684-C)]

References

Patton and Csejtey, 1971 (P 684-C), p. C8, C10, samples 5-7
Cobb, 1972 (MF-465), loc. 4

(Moghoweyik R., upper) Molybdenum

Bering Sea region St. Lawrence (3.05, 10.75
MF-465, loc. 8 63°27'N, 171°37'W

Summary: Molybdenite sparsely distributed through half-mile-wide zone of heavily oxidized limonite-stained pyritiferous [Cretaceous] quartz monzonite of Sevuokuk pluton near contact with Cretaceous volcanic rocks. Molybdenite occurs as scales and thin veinlets along fine fractures and as large euhedral crystals in drusy quartz veins. [Patton and Csejtey, 1971 (P 684-C)]

References

Patton and Csejtey, 1971 (P 684-C), p. C8, C10-C11, samples 8-10
Cobb, 1972 (MF-465), loc. 8

(Okok R.) Copper

Bering Sea region St. Lawrence (4.8, 8.7)
MF-465, loc. 10 63°22'N, 171°23'W

Summary: Grab samples of [Permian?] gabbro contained disseminated magnetite, ilmenite, pyrite, and chalcopyrite. Chalcopyrite identified in polished sections; not visible in hand specimens. [Patton and Csejtey, 1971 (P 684-C)]

References

Patton and Csejtey, 1971 (P 684-C), p. C8, C14-C15, samples 13, 14
Cobb, 1972 (MF-465), loc. 10

(Poovookpuk Mtn.) Copper, Molybdenum

Bering Sea region St. Lawrence (3.8, 10.25)
MF-465, loc. 9 63°27'N, 171°31'W

Summary: Small [Cretaceous] quartz monzonite porphyry stock which intruded Cretaceous volcanic rocks contains sparsely distributed chalcopyrite, malachite, pyrite, and minor molybdenite. Volcanic rocks heavily pyritized and extensively oxidized, but no sulfides other than pyrite were identified. [Patton and Csejtey, 1971 (P 684-C)]

References

Patton and Csejtey, 1971 (P 684-C), p. C8, C11-C14, samples 11, 12
Cobb, 1972 (MF-465), loc. 9

(Powooiliak Point) Copper, Lead

Bering Sea region St. Lawrence (5.6, 8.75)
MF-465, loc. 12 63°22'N, 171°17'W

Summary: A calcite vein ½ to 2 in thick in a small exposure of limestone contains galena, chalcopyrite, pyrite, and pyrrhotite. Pyrite and galena are present in irregular quartz veins cutting kaolinized limonite-stained lithic tuffs; well exposed along beach at base of wave-cut cliff. [Berg and Cobb, 1967 (B 1246); Patton and Csejtey, 1971 (P 684-C)] Inculdes reference to (Cape Puguviliak). Note: Listing of zinc (sphalerite) in B 1246 and MF-465 apparently is not correct.

References

Berg and Cobb, 1967 (B 1246), p. 9
Patton and Csejtey, 1971 (P 684-C), p. C8, C15, sample 16
Cobb, 1972 (MF-465), loc. 12

(St. Lawrence I.) Iron (?)

Bering Sea region St. Lawrence
Somewhere in quad.

Summary: "The University of Alaska Archaeological Expedition to St. Lawrence Island reported the occurrence of bog-iron ore on the island. No indication of the size of the deposit is given." [Anderson, 1947 (TDM 5-%)]

Reference

Anderson, 1947 (TDM 5-R), p. 26

(Tiflighak Bay) Lead

Bering Sea region St. Lawrence (2.7, 15.75)
MF-465, loc. 1 63°46'N, 171°39'W

Summary: Galena in small quartz veins in Cretaceous quartz monzonite exposed near top of cliff. [Oral communication, Béla Csejtey, Jr., May 24, 1972]

Reference
Cobb, 1972 (MF-465), loc. 1

Unnamed occurrence	Copper
Bering Sea region MF-465, loc. 5	St. Lawrence (2.05, 10.55) 63°28'N, 171°44'W

Summary: Pyrite and chalcopyrite are disseminated in [Cretaceous] quartz monzonite [of the Sevuokuk pluton]. [Patton and Csejtey, 1971 (P 684-C)]

References

Patton and Csejtey, 1971 (P 684-C), p. C8, sample 4
Cobb, 1972 (MF-465), loc. 5

Unnamed occurrence	Copper, Lead, Zinc
Bering Sea region	St. Lawrence (4.9, 8.2)
MF-465, loc. 11	63°20'N, 171°23'W

Summary: Calcite veinlet 1-2 in wide cutting fine-grained [Permian?] gabbro contains galena, sphalerite, chalcopyrite, and pyrite. Veinlet strikes about N35°E and is well exposed on wave-cut bench in tidal zone. [Patton and Csejtey, 1971 (P 684-C)]

References

Patton and Csejtey, 1971 (P 684-C), p. C8, C15, sample 15
Cobb, 1972 (MF-465), loc. 11

Unnamed occurrence	Lead
Bering Sea region	St. Lawrence NW¼ quad.

Summary: "The University of Alaska Archaeological Expedition to St. Lawrence Island reports the presence of galena in small amounts on the western end of the idland. No commercial importance is attached to these occurrences." [Anderson, 1947 (TDM 5-R)] Note: Delete loc. 7, MF-465; the occurrences reported may be one or more of those at locs. 11-14, MF-465, or occurrences at otherwise unidentified locations.

References

Anderson, 1947 (TDM 5-R), p. 33
Berg and Cobb, 1967 (B 1246), p. 9
Cobb, 1972 (MF-465), loc. 7 -- Delete, not correct

Unnamed occurrence	Lead, Zinc
Bering Sea region MF-465, loc. 13	St. Lawrence (6.9, 10.15) 63°27'N, 171°01'W

Summary: Galena and sphalerite in quartz veins cutting altered [Cretaceous] andesitic volcanic rocks. [Patton and Csejtey, 1971 (P 684-C)]

References

Patton and Csejtey, 1971 (P 684-C), p. C8, C15, sample 18
Cobb, 1972 (MF-465), loc. 13

Unnamed occurrence	Lead, Zinc
Bering Sea region	St. Lawrence (7.55, 11.85)
MF-465, loc. 14	63°32'N, 171°02'W

Summary: Irregular stringers in [Mississippian] marble in contact with [Cretaceous quartz monzonite of] Taphook pluton contain galena, sphalerite, and pyrite. [Patton and Csejtey, 1971 (P 684-C)]

References

Patton and Csejtey, 1971 (P 684-C), p. C8, C15, samples 19, 20
Cobb, 1972 (MF-465), loc. 14

(Stepovak Bay) Sulfur

Alaska Peninsula region Stepovak Bay (0.85, 16.55)
55°57'N, 159°55'W

Summary: Deposit exposed on virtually inaccessible nearly vertical slope at an elevation of slightly over 3,000 ft. Steaming fumaroles at west end of deposit, which appears to be one-fourth to one-third of a mile long (may be longer; snow cover may have hidden some when seen from the air). Sulfur-bearing material is breccia layer that appears to be about 100 ft thick. Float boulders contain sulfur veinlets as much as ¼ in wide and pockets as much as 1 in in diameter. Some specimens estimated to contain as much as 20% sulfur; most material thought to contain only 5% to 10%. Some specimens contain finely disseminated pyrite; one was about half and half opal (not gem quality) and pyrite. Area underlain by Tertiary volcanic rocks; Tertiary sedimentary rocks underlie lower areas between deposit and Stepovak Bay. [Eakins, 1970 (SR 4)]

References

Maddren, 1919 (B 692), p. 297-298
Eakins, 1970 (SR 4), p. 1-7

"Mike" Molybdenum

Alaska Peninsula region Ugashik (7.85, 1.6)
OF 77-169F, loc. 1 57°05'N, 157°11'W

Summary: Molybdenite in altered Tertiary(?) sedimentary or volcanic rocks and, to a lesser extent, in Tertiary(?) porphyritic quartz diorite dikes. Extensive altered zones in general vicinity. Exploration in 1977. [MacKevett and Holloway, 1977 (OF 77-169F)]

Reference

MacKevett and Holloway, 1977 (OF 77-169F), p. 35, loc. 1

(Ugashik Beach) Gold

Bristol Bay region Ugashik (3.15-3.4, 13.8-15.55)
57°47'-57°53'N, 157°38'-157°40'W

Summary: Beach made up of detritus varying in size from silt to small boulders. Coarse material largely of igneous origin transported from Aleutian Range by glacial and glaciofluvial processes. Fine material, also derived from glacial and glaciofluvial deposits, largely quartz and feldspar with patches of black sand as veneer or layers, few of which are more than 6 in thick, parallel to beach berm and mainly high on beach. Buried layers are similar and in same position in beach profile. Principal component of black sand is hypersthene. In U.S. Bureau of Mines investigation in 1969 gold from a trace to 0.007 oz per ton was found in 53 of the 76 samples collected and analyzed. [Kimball, 1972 (USBM OF 21-72)]

Reference

Kimball, 1972 (USBM OF 21-72), p. 4-21, 15-27

(Amaknak I.) Gold

Aleutian Islands region Unalaska (15.05, 11.3)
MF-446, loc. 1 53°53'N, 166°33'W

Summary: Auriferous quartz vein reported. [Drewes and others, 1961 (B 1028-S)] Map (pl. 75) shows island to be underlain by Tertiary (lower Miocene or older) Unalaska Fm., which is mainly slightly altered andesite and basalt.

References

Drewes and others, 1961 (B 1028-S), p. 657
Berg and Cobb, 1967 (B 1246), p. 8
Cobb, 1972 (MF-446), loc. 1

(Makushin R.) Gold

Aleutian Islands region Unalaska (12.65, 11.6)
MF-446, loc. 4 53°54'N, 166°47'W

Summary: A few minute grains of gold panned from 2 tributaries on north side of Makushin R. Above these streams is a conspicuous gossan of severly altered and pyritized rocks of the Tertiary Unalaska Fm. near a contact with granodiorite. [Drewes and others, 1961 (B 1028-A)]

References

Drewes and others, 1961 (B 1028-S), p. 657
Cobb, 1972 (MF-446), loc. 4
Cobb, 1973 (B 1374), p. 7

(Makushin Volcano) Sulfur

Aleutian Island region Unalaska (11.0, 11.3)
53°53'N, 166°56'W

Summary: Volcano is composite cone with crater about 2 mi long and 1½ mi wide; crater floor is 300-500 ft below higher parts of rim and is snow or ice covered except for 20-30 acres of bare ground of the sulfur area. Basalt at surface much decomposed and altered to gray to creamy white mantle more than 16 ft thick. Several fumaroles. Richest sulfur deposits within 2 ft of surface, but some sulfur present to depth of at least 16 ft. Sulfur most conspicuous along cracks and crevices and as incrustations partly or wholly sealing fumarole vents. Part of deposit explored by drilling (deepest hole 16 ft). Only parts of about 5 acres of ground contain high-grade material; estimated to be about 12,000 tons of sulfur within 2 ft of surface; underlying lower grade material might run 4,900 tons of sulfur per acre. [Maddren, 1919 (B 692)] No record of any production.

References

Brooks, 1911 (B 480), p. 42
Brooks, 1916 (B 642), p. 56
Brooks, 1919 (B 666), p. 102
Maddren, 1919 (B 692), p. 284-292
Bain, 1946 (IC 7379), p. 82
Snyder, 1959 (B 1028-H), p. 206
Drewes and others, 1961 (B 1028-S), p. 657

(Pyramid Peak) Copper, Gold

Aleutian Islands region Unalaska (15.1, 10.8)
MF-446, loc. 2 53°51'N, 166°32'W

Summary: Among several relatively low-grade gold lodes on island the most noteworthy are near Pyramid Peak. Vertical quartz veins as much as 7 ft thick cut andesite and contain abundant limonite and sparse gold-bearing sulfides, chiefly pyrite and chalcopyrite. Several adits were driven and a 3-stamp mill built about 1900; some gold may have been recovered, but no production was recorded. [Berg and Cobb, 1967 (B 1246)] Includes references to: (Captain's Bay), Hague.

References

Becker, 1898, p. 62, 85
Collier, 1905 (B 259), p. 103
Atwood, 1909 (B 379), p. 151-152
Atwood, 1911 (B 467), p. 127-128
Wedow and others, 1952 (OF 51), p. 112
Drewes and others, 1961 (B 1028-S), p. 657
Berg and Cobb, 1967 (B 1246), p. 8
Cobb, 1972 (MF-446), loc. 2

(Sedanka I.) Cadmium, Copper, Gold, Lead, Silver, Zinc

Aleutian Islands region Unalaska (18.65, 9.75)
MF-446, loc. 3 53°47'N, 166°12'W

Summary: Quartz and ankerite in nearly vertical veins in fractures in diorite that forms hanging wall of a fault that strikes about N80°E and dips 55°S; richest mineralization near fault; fine-grained greenstone of footwall is barren. Veins contain sphalerite, abundant pyrite, subordinate chalcopyrite and galena, and small amounts of gold and silver. U.S. Bureau of Mines stripping and sampling program in 1946. Average zinc content of 29 samples along 240 ft of a narrow mineralized zone was 6.8%; 19 consecutive samples averaged 9.1% Zn, 0.24% Pb, 0.45% Cu, and 0.04 oz Au and 1.4 oz Ag per ton. Beneficiation tests showed that concentrates contained 0.3% cadmium. [Webber and others, 1946 (RI 3967)]

References

Bain, 1946 (IC 7379), p. 42-43
Webber and others, 1946 (RI 3967)
Twenhofel, 1953 (C 252), p. 7
Drewes and others, 1961 (B 1028-S), p. 657-658
Berg and Cobb, 1967 (B 1246), p. 8
Cobb, 1972 (MF-446), loc. 3

(Akun I.) Sulfur

Aleutian Islands region Unimak (3.9, 4.8) approx.
54°16'N, 165°37'W approx.

Summary: Sulfur-bearing area is 15-20 acres 1,300 to 1,500 ft above sea level on a ridge northeast of Akun Peak. Highly decomposed material forms surface layer 1-4 ft thick that grades downward to much less decomposed, but still altered, andesitic lava. Solfataric activity mild and restricted [as of 1917] to an area of 5 acres. Sulfur disseminated through decomposed surface layer and lining small cavities and narrow crevices; practically no bodies of solid sulfur. Resource estimated to be about 1,200 tons per acre, assuming an average thickness of 2 ft of surficial decomposed material with an average sulfur content of 40%. Explored by some open cuts. Other than a reported test shipment in 1918 there is no record of production. [Maddren, 1919 (B 692); Martin, 1920 (B 712)]

References

Maddren, 1919 (B 692), p. 292-297
Martin, 1920 (B 712), p. 35
Brooks, 1921 (B 714), p. 55
Brooks and Martin, 1921 (B 714), p. 75, 78
Brooks, 1922 (B 722), p. 33, 43
Brooks, 1923 (B 739), p. 20
Brooks and Capps, 1924 (B 755), p. 22, 33
Smith, 1933 (B 836), p. 82
Smith, 1933 (B 844-A), p. 82
Smith, 1934 (B 857-A), p. 76
Smith, 1937 (B 880-A), p. 88
Bain, 1946 (IC 7379), p. 82

Synonym

(Prospect Bay) -- see (Warner Bay)

Synonyms, Owners, Operators, and Claim Names

Alice — see (Salmon R.)
Chanie & McCann -- see (Dry Gulch)
Chanie & St. Clair -- see (Dry Gulch)
Clara Creek Mining Co. -- see (Clara Cr.), (Dowry Cr.), (Dry Gulch), (Salmon R.)
Corrigal -- see (Fox Gulch)
Ethel -- see (Salmon R.)
(First Chance Cr.) -- see (Last Chance Cr.)
Garthe -- see (Clara Cr.)
Goodnews Bay Mining Co. -- see (Dry Gulch), (Fox Gulch), (Platinum Cr.), (Red Mtn.), (Salmon R.), (Squirrel Cr.)
Halson -- see (Clara Cr.)
Hannah -- see (Salmon R.)
Haralsen & Wicklund -- see (Clara Cr.), (Salmon R.)
Haroldson & Wicklund -- see (Clara Cr.)
Iridium -- see (Salmon R.)
Jean & Smith -- see (Squirrel Cr.)
McIntyre -- see (Fox Cr.), (Platinum Cr.), (Salmon R.), (Squirrel Cr.)
Moeck & Wolters -- see (Clara Cr.), (Platinum Cr.), (Salmon R.), (Squirrel Cr.)
Olson (& associates) -- see (Clara Cr.), (Fox Gulch), (Platinum Cr.), (Salmon R.)
Osmium -- see (Salmon R.)
Palladium -- see (Salmon R.)
Platinum -- see (Salmon R.)
Rhodium — see (Salmon R.)
Ruthenium -- see (Salmon R.)
St. Clair -- see (Squirrel Cr.)
Sampson & Garthe -- see (Clara Cr.)
Samuelson -- see (Platinum Cr.)
Smith -- see (Platinum Cr.)
(Snow Gulch) -- see (Salmon R.)
Strandberg & Sons -- see (Dowry Cr.), (Dry Gulch), (Platinum Cr.), (Salmon R.), (Squirrel Cr.)
Thompson (& St. Clair) — see (Squirrel Cr.)
Thorsen -- see (Clara Cr.), (Fox Gulch), (Platinum Cr.)
Thorson & Olson -- see (Clara Cr.)
(Togiak Bay) -- see (Hagemeister Strait)
Tonietzko & Bennett -- see (Platinum Cr.)
Wickert -- see (Boulder Cr.), (Platinum Cr.)
Wolters -- see (Squirrel Cr.)
Wolters & Corrigal -- see (Dowry Cr.)

Owner or Operator

Shelikof Mining Co. -- see (Kukak Bay)

Synonym

(Keelers Bar) -- see (Keefers Bar)

Synonyms, Owners, and Operators

Herman (& Duchen) -- see (Popof I.)
King -- see Sitka
(Sand Point) -- see (Popof I.)

Synonyms

(Cape Puguviliak) -- see (Powooiliak Point)
(West Cape) -- see (Booshu Camp)

Synomyms, Owners, Operators, and Claim Names

Biorka -- see (Sedanka I.)
(Captain's Bay) -- see (Pyramid Peak)
Centralia -- see (Makushin Volcano)
Dumond -- see (Makushin Volcano)
Hague -- see (Pyramid Peak)
Johnstone & Brown -- see (Sedanka I.)
Social -- see (Makushin Volcano)
Welcome -- see (Makushin Volcano)

Synonyms, Owners, and Claim Names

(Akun Head) -- see (Akun I.)
Akun King -- see (Akun I.)
Akun Queen -- see (Akun I.)
Alaska (Northwest) Sulphur Co. -- see (Akun I.)
Dorothy -- see (Akun I.)
Matrona -- see (Akun I.)
Pacific Sulphur Co. -- see (Akun I.)
Paula -- see (Akun I.)

References Cited

Capps, S. R., 1934, Notes on the geology of the Alaska Peninsula and Aleutian Islands: U.S. Geological Survey Bulletin 857-D, p. 141-153.

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.

References Cited

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.

Gates, Olcott, Powers, H. A., and Wilcox, R. E., 1871, Geology of the Near Islands, Alaska, with a section on surficial geology by John P. Schafer: U.S. Geological Survey Bulletin 1028-U, p. 709-882.

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.

References Cited

Berryhill, R. V., 1963, Reconnaissance of beach sands, Bristol Bay, Alaska: U.S. Bureau of Mines Report of Investigations 6214, 48 p.

Cobb, E. H., 1972, Metallic mineral resources map of the Bristol Bay quadrangle, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-456, 1 sheet, scale 1:250,000.

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.

MacKevett, E. M., Jr., and Holloway, C. D., 1977, Map showing metalliferous mineral deposits in the western part of southern Alaska: U.S. Geological Survey Open-file Report 77-169F, 39 p. + 1 sheet, scale 1:1,000,000.

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.

References Cited

Atwood, W. W., 1909, Mineral resources of southwestern Alaska: U.S. Geological Survey Bulletin 379, p. 108-152.

Atwood, W. W., 1911, Geology and mineral resources of parts of the Alaska Peninsula: U.S. Geological Survey Bulletin 467, 137 p.

Berg, H. C., and Cobb, E. H., 1967, Metalliferous lode deposits of Alaska: U.S. Geological Survey Bulletin 1246, 254 p.

Berryhill, R. V., 1963, Reconnaissance of beach sands, Bristol Bay, Alaska: U.S. Bureau of Mines Report of Investigations 6214, 48 p.

Brooks, A. H., 1921, The future of Alaska mining: U.S. Geological Survey Bulletin 714, p. 5-57.

Cobb, E. H., 1972, Metallic mineral resources map of the Chignik quadrangle, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-374, 1 sheet, scale 1:250,000.

Cobb, E. H., 1973, Placer deposits of Alaska: U.S. Geological Survey Bulletin 1374, 213 p.

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.

Knappen, R. S., 1929, Geology and mineral resources of the Aniakchak district: U.S. Geological Survey Bulletin 797, p. 161-227.

MacKevett, E. M., Jr., and Holloway, C. D., 1977, Map showing metalliferous mineral deposits in the western part of southern Alaska: U.S. Geological Survey Open-file Report 77-169F, 39 p. + 1 sheet, scale 1:1,000,000.

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.

Wedow, Helmuth, Jr., White, M. G., and Moxham, R. M., 1952, Interim report on an appraisal of the uranium possibilities of Alaska: U.S. Geological Survey Open-file Report 51, 123 p.

References Cited

Berryhill, R. V., 1963, Reconnaissance of beach sands, Bristol Bay, Alaska: U.S. Bureau of Mines Report of Investigations 6214, 48 p.

Cobb, E. H., 1972, Metallic mineral resources map of the Cold Bay quadrangle, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-441, 1 sheet, scale 1:250,000.

Cobb, E. H., 1973, Placer deposits of Alaska: U.S. Geological Survey Bulletin 1374, 213 p.

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.

MacKevett, E. M., Jr., and Holloway, C. D., 1977, Map showing metalliferous mineral deposits in the western part of southern Alaska: U.S. Geological Survey Open-file Report 77-169F, 39 p. + 1 sheet, scale 1:1,000,000.

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.

References Cited

Berryhill, R. V., 1963, Reconnaissance of beach sands, Bristol Bay, Alaska: U.S. Bureau of Mines Report of Investigations 6214, 48 p.

Bird, M. L., and Clark, A. L., 1976, Microprobe study of olivine chromitites of the Goodnews Bay ultramafic complex, Alaska, and the occurrence of platinum: U.S. Geological Survey Journal of Research, v. 4, no. 6, p. 717-725.

Cobb, E. H., 1972, Metallic mineral resources map of the Hagemeister Island quadrangle, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-362, 1 sheet, scale 1:250,000.

Cobb, E. H., 1973, Placer deposits of Alaska: U.S. Geological Survey Bulletin 1374, 213 p.

Cobb, E. H., 1977, Placer deposits map of central Alaska: U.S. Geological Survey Open-file Report 77-168B, 64 p. + map, scale 1:1,000,000.

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.

Eberlein, G. D., Chapman, R. M., Foster, H. L., and Gassaway, J. S., 1977, Map and table describing known metalliferous and selected nonmetalliferous mineral deposits in central Alaska: U.S. Geological Survey Open-file Report 77-168D, 132 p. + map, scale 1:1,000,000.

Eberlein, G. D., and Menzie, W. D., 1978, Maps and tables describing areas of metalliferous mineral resource potential of central Alaska: U.S. Geological Survey Open-file Report 78-1-D. 43 p. + 2 pl., scale 1:1,000,000.

Hoare, J. M., and Coonrad, W. L., 1961, Geologic map of the Hagemeister Island quadrangle, Alaska: U.S. Geological Survey Miscellaneous Geologic Investigations Map I-321, 1 sheet, scale 1:250,000.

Maddren, A. G., 1915, Gold placers of the lower Kuskokwim with a note on copper in the Russian Mountains: U.S. Geological Survey Bulletin 622, p. 292-360.

Mertie, J. B., Jr., 1939, Platinum deposits of the Goodnews Bay district, Alaska: U.S. Geological Survey Bulletin 910-B, p. 115-145.

Mertie, J. B., Jr., 1940, The Goodnews platinum deposits, Alaska: U.S. Geological Survey Bulletin 918, 97 p.

Mertie, J. B., Jr., 1969, Economic geology of the platinum minerals: U.S. Geological Survey Professional Paper 630, 120 p.

Mertie, J. B., Jr., 1976, Platinum deposits of the Goodnews Bay district, Alaska: U.S. Geological Survey Professional Paper 938, 42 p.

Page, N. J, Clark, A. L., Desborough, G. A., and Parker, R. L., 1973, Platinum-group metals, in Brobst, D. A., and Pratt, W. P., eds., United States mineral resources: U.S. Geological Survey Professional Paper 820, p. 537-545.

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.

Reed, Irving, 1933, Goodnews Bay district, in Stewart, B. D., Mining investigations and mine inspection in Alaska, including assistance to prospectors, biennium ending March 31, 1933: Juneau, Alaska, p. 103-126.

Smith, P. S., 1930, Mineral industry of Alaska in 1928: U.S. Geological Survey Bulletin 813, p. 1-72.

Smith, P. S., 1932, Mineral industry of Alaska in 1929: U.S. Geological Survey Bulletin 824, p. 1-81.

Smith, P. S., 1933, Mineral industry of Alaska in 1930: U.S. Geological Survey Bulletin 836, p. 1-83.

Smith, P. S., 1933, Mineral industry of Alaska in 1931: U.S. Geological Survey Bulletin 844-A, p. 1-82.

Smith, P. S., 1934, Mineral industry of Alaska in 1932: U.S. Geological Survey Bulletin 857-A, p. 1-91.

Smith, P. S., 1934, Mineral industry of Alaska in 1933: U.S. Geological Survey Bulletin 864-A, p. 1-94.

Smith, P. S., 1936, Mineral industry of Alaska in 1934: U.S. Geological Survey Bulletin 868-A, p. 1-91.

Smith, P. S., 1937, Mineral industry of Alaska in 1935: U.S. Geological Survey Bulletin 880-A, p. 1-95.

Smith, P. S., 1938, Mineral industry of Alaska in 1936: U.S. Geological Survey Bulletin 897-A, p. 1-107.

Smith, P. S., 1939, Mineral industry of Alaska in 1937: U.S. Geological Survey Bulletin 910-A, p. 1-113.

Smith, P. S., 1939, Mineral industry of Alaska in 1938: U.S. Geological Survey Bulletin 917-A, p. 1-113.

Smith, P. S., 1941, Mineral industry of Alaska in 1939: U.S. Geological Survey Bulletin 926-A, p. 1-106.

Smith, P. S., 1942, Mineral industry of Alaska in 1940: U.S. Geological Survey Bulletin 933-A, p. 1-102.

References Cited

Berg, H. C., and Cobb, E. H., 1967, Metalliferous lode deposits of Alaska: U.S. Geological Survey Bulletin 1246, 254 p.

Cobb, E. H., 1972, Metallic mineral resources map of the Mount Katmai quadrangle, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-461, 1 sheet, scale 1:250,000.

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.

MacKevett, E. M., Jr., and Holloway, C. D., 1977, Map showing metalliferous mineral deposits in the western part of southern Alaska: U.S. Geological Survey Open-file Report 77-169F, 39 p. + 1 sheet, scale 1:1,000,000.

Martin, G. C., 1920, The Alaskan mining industry in 1918: U.S. Geological Survey Bulletin 712, p. 11-52.

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.

References Cited

Berryhill, R. V., 1963, Reconnaissance of beach sands, Bristol Bay, Alaska: U.S. Bureau of Mines Report of Investigations 6214, 48 p.

Cobb, E. H., 1972, Metallic mineral resources map of the Naknek quadrangle, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-442, 1 sheet, scale 1:250,000.

Cobb, E. H., 1973, Placer deposits of Alaska: U.S. Geological Survey Bulletin 1374, 213 p.

Cobb, E. H., 1977, Placer deposits map of central Alaska: U.S. Geological Survey Open-file Report 77-168B, 64 p. + map, scale 1:1,000,000.

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.

Kimball, A. L., 1972, Reconnaissance of Ugashik beach sands, Bristol Bay, Alaska: U.S. Bureau of Mines Open-file Report 21-72, 28 p.

MacKevett, E. M., Jr., and Holloway, C. D., 1977, Map showing metalliferous mineral deposits in the western part of southern Alaska: U.S. Geological Survey Open-file Report 77-169F, 39 p. + 1 sheet, scale 1:1,000,000.

Mertie, J. B., Jr., 1938, The Nushagak district, Alaska: U.S. Geological Survey Bulletin 903, 96 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.

References Cited

Atwood, W. W., 1909, Mineral resources of southwestern Alaska: U.S. Geological Survey Bulletin 379, p. 108-152.

Atwood, W. W., 1911, Geology and mineral resources of parts of the Alaska Peninsula: U.S. Geological Survey Bulletin 467, 137 p.

Bain, H. F., 1946, Alaska's minerals as a basis for industry: U.S. Bureau of Mines Information Circular 7379, 89 p.

Becker, G. F., 1898, Reconnaissance of the gold fields of southern Alaska, with some notes on general geology: U.S. Geological Survey 18th Annual Report, pt. 3, p. 1-86.

Berg, H. C., and Cobb, E. H., 1967, Metalliferous lode deposits of Alaska: U.S. Geological Survey Bulletin 1246, 254 p.

Berryhill, R. V., 1963, Reconnaissance of beach sands, Bristol Bay, Alaska: U.S. Bureau of Mines Report of Investigations 6214, 48 p.

Brooks, A. H., 1906, The mining industry in 1905: U.S. Geological Survey Bulletin 284, p. 4-9.

Brooks, A. H., 1908, The distribution of mineral resources in Alaska: U.S. Geological Survey Bulletin 345, p. 18-29.

Brooks, A. H., 1909, The mining industry in 1908: U.S. Geological Survey Bulletin 379, p. 21-62.

Brooks, A. H., 1909, Mineral resources of Alaska, in U.S. Geological Survey, Papers on the conservation of mineral resources (reprinted from report of the National Conservation Commission, February, 1909): U.S. Geological Survey Bulletin 394, p. 172-207.

Brooks, A. H., 1910, The mining industry in 1909: U.S. Geological Survey Bulletin 442, p. 20-46.

Brooks, A. H., 1911, The mining industry in 1910: U.S. Geological Survey Bulletin 480, p. 21-42.

Brooks, A. H., 1911, Geologic features of Alaskan metalliferous lodes: U.S. Geological Survey Bulletin 480, p. 43-93.

Brooks, A. H., 1912, The mining industry in 1911: U.S. Geological Survey Bulletin 520, p. 17-44.

Brooks, A. H., 1913, The mining industry in 1912: U.S. Geological Survey Bulletin 542, p. 18-51.

Brooks, A. H., 1915, The Alaskan mining industry in 1914: U.S. Geological Survey Bulletin 622, p. 15-68.

Brooks, A. H., 1918, The Alaskan mining industry in 1916: U.S. Geological Survey Bulletin 662, p. 11-62.

Brooks, A. H., 1921, The future of Alaska mining: U.S. Geological Survey Bulletin 714, p. 5-57.

Brooks, A. H., 1925, Alaska's mineral resources and production, 1923: U.S. Geological Survey Bulletin 773, p. 3-52.

Brooks, A. H., and Capps, S. R., 1924, The Alaska mining industry in 1922: U.S. Geological Survey Bulletin 755, p. 3-49.

Christie, J. S., and Wolfhard, M. R., 1977, Pyramid porphyry copper-molybdenum prospect, Alaska [abs.]: in 1977 Annual Meeting, Geological Association of Canada, Society of Economic Geologists Program with abstracts, v. 2, p. 12.

Cobb, E. H., 1972, Metallic mineral resources map of the Port Moller quadrangle, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-443, 1 sheet, scale 1:250,000.

Cobb, E. H., 1973, Placer deposits of Alaska: U.S. Geological Survey Bulletin 1374, 213 p.

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.

Kennedy, G. C., and Waldron, H. H., 1955, Geology of Pavlof Volcano and vicinity, Alaska: U.S. Geological Survey Bulletin 1028-A, p. 1-19.

Koschmann, A. H., and Bergendahl, M. H., 1968, Principal gold-producing districts of the United States: U.S. Geological Survey Professional Paper 610, 283 p.

MacKevett, E. M., Jr., and Holloway, C. D., 1977, Map showing metalliferous mineral deposits in the western part of southern Alaska: U.S. Geological Survey Open-file Report 77-169F, 39 p. + 1 sheet, scale 1:1,000,000.

MacKevett, E. M., Jr., Singer, D. A., and Holloway, C. D., 1978, Maps and tables describing metalliferous mineral resource potential of southern Alaska: U.S. Geological Survey Open-file Report 78-1-E, 45 p. + maps, scale 1:1,000,000.

Martin, G. C., 1905, Gold deposits of the Shumagin Islands: U.S. Geological Survey Bulletin 259, p. 100-101.

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.

Smith, P. S., 1932, Mineral industry of Alaska in 1929: U.S. Geological Survey Bulletin 824, p. 1-81.

Smith, P. S., 1933, Mineral industry of Alaska in 1931: U.S. Geological Survey Bulletin 844-A, p. 1-82.

Smith, P. S., 1941, Mineral industry of Alaska in 1939: U.S. Geological Survey Bulletin 926-A, p. 1-106.

Wedow, Helmuth, Jr., White, M. G., and Moxham, R. M., 1952, Interim report on an appraisal of the uranium possibilities of Alaska: U.S. Geological Survey Open-file Report 51, 123 p.

References Cited

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.

Snyder, G. L., 1959, Geology of Little Sitkin Island, Alaska: U.S Geological Survey Bulletin 1028-H, p. 169-210.

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.

References Cited

Anderson, Eskil, 1947, Mineral occurrences other than gold deposits in northwestern Alaska: Alaska Department of Mines Pamphlet 5-R, 48 p.

Berg, H. C., and Cobb, E. H., 1967, Metalliferous lode deposits of Alaska: U.S. Geological Survey Bulletin 1246, 254 p.

Cobb, E. H., 1972, Metallic mineral resources map of the Saint Lawrence quadrangle, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-465, 1 sheet, scale 1:150,000.

Cobb, E. H., 1973, Placer deposits of Alaska: U.S. Geological Survey Bulletin 1374, 213 p.

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.

Patton, W. W., Jr., and Csejtey, Béla, Jr., 1971, Preliminary geologic investigations of western Saint Lawrence Island, Alaska: U.S. Geological Survey Professional Paper 684-C, p. C1-C15.

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.

References Cited

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.

Eakins, G. R., 1970, Mineralization near Stepovak Bay, Alaska Peninsula, Alaska: Alaska Division of Mines and Geology Special Report 4, 12 p.

MacKevett, E. M., Jr., and Holloway, C. D., 1977, Map showing metalliferous mineral deposits in the western part of southern Alaska: U.S. Geological Survey Open-file Report 77-169F, 39 p. + 1 sheet, scale 1:1,000,000.

Maddren, A. G., 1919, Sulphur on Unalaska and Akun islands and near Stepovak Bay: U.S. Geological Survey Bulletin 692, p. 283-298.

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.

References Cited

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.

Kimball, A. L., 1972, Reconnaissance of Ugashik beach sands, Bristol Bay, Alaska: U.S. Bureau of Mines Open-file Report 21-72, 28 p.

MacKevett, E. M., Jr., and Holloway, C. D., 1977, Map showing metalliferous mineral deposits in the western part of southern Alaska: U.S. Geological Survey Open-file Report 77-169F, 39 p. + 1 sheet, scale 1:1,000,000.

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.

References Cited

Atwood, W. W., 1909, Mineral resources of southwestern Alaska: U.S. Geological Survey Bulletin 379, p. 108-152.

Atwood, W. W., 1911, Geology and mineral resources of parts of the Alaska Peninsula: U.S. Geological Survey Bulletin 467, 137 p.

Bain, H. F., 1946, Alaska's minerals as a basis for industry: U.S. Bureau of Mines Information Circular 7379, 89 p.

Becker, G. F., 1898, Reconnaissance of the gold fields of southern Alaska, with some notes on general geology: U.S. Geological Survey 18th Annual Report, pt. 3, p. 1-86.

Berg, H. C., and Cobb, E. H., 1967, Metalliferous lode deposits of Alaska: U.S. Geological Survey Bulletin 1246, 254 p.

Brooks, A. H., 1911, The mining industry in 1910: U.S. Geological Survey Bulletin 480, p. 21-42.

Brooks, A. H., 1916, The Alaskan mining industry in 1915: U.S. Geological Survey Bulletin 642, p. 16-71.

Brooks, A. H., 1919, Alaska's mineral supplies: U.S. Geological Survey Bulletin 666, p. 89-102.

Cobb, E. H., 1972, Merallic mineral resources map of the Unalaska quadrangle, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-446, 1 sheet, scale 1:150,000.

Cobb, E. H., 1973, Placer deposits of Alaska: U.S. Geological Survey Bulletin 1374, 213 p.

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.

Collier, A. J., 1905, Auriferous quartz veins on Unalaska Island: U.S. Geological Survey Bulletin 259, p. 102-103

Drewes, Harald, Fraser, G. D., Snyder, G. L., and Barnett, H. F., Jr., 1961, Geology of Unalaska Island and adjacent insular shelf, Aleutian Islands, Alaska: U.S. Geological Survey Bulletin 1028-S, p. 583-676.

Maddren, A. G., 1919, Sulphur on Unalaska and Akun islands and near Stepovak Bay: U.S. Geological Survey Bulletin 692, p. 283-298.

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.

Snyder, G. L., 1959, Geology of Little Sitkin Island, Alaska: U.S Geological Survey Bulletin 1028-H, p. 169-210.

Twenhofel, W. S., 1953, Potential Alaskan mineral resources for proposed electrochemical and electrometallurgical industries in the upper Lynn Canal area, Alaska: U.S. Geological Survey Circular 252, 14 p.

Webber, B. S., Moss, J. M., and Rutledge, F. A., 1946, Exploration of Sedanka zinc deposit, Sedanka Island, Alaska: U.S. Bureau of Mines Report of Investigations 3967, 15 p.

Wedow, Helmuth, Jr., White, M. G., and Moxham, R. M., 1952, Interim report on an appraisal of the uranium possibilities of Alaska: U.S. Geological Survey Open-file Report 51, 123 p.

References Cited

Bain, H. F., 1946, Alaska's minerals as a basis for industry: U.S. Bureau of Mines Information Circular 7379, 89 p.

Brooks, A. H., 1921, The future of Alaska mining: U.S. Geological Survey Bulletin 714, p. 5-57.

Brooks, A. H., 1922, The Alaskan mining industry in 1920: U.S. Geological Survey Bulletin 722, p. 7-67.

Brooks, A. H., 1923, The Alaska mining industry in 1921: U.S. Geological Survey Bulletin 739, p. 1-44.

Brooks, A. H., and Capps, S. R., 1924, The Alaska mining industry in 1922: U.S. Geological Survey Bulletin 755, p. 3-49.

Brooks, A. H., and Martin, G. C., 1921, The Alaskan mining industry in 1919: U.S. Geological Survey Bulletin 714, p. 59-95.

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.

Maddren, A. G., 1919, Sulphur on Unalaska and Akun islands and near Stepovak Bay: U.S. Geological Survey Bulletin 692, p. 283-298.

Martin, G. C., 1920, The Alaskan mining industry in 1918: U.S. Geological Survey Bulletin 712, p. 11-52.

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.

Smith, P. S., 1933, Mineral industry of Alaska in 1930: U.S. Geological Survey Bulletin 836, p. 1-83.

Smith, P. S., 1933, Mineral industry of Alaska in 1931: U.S. Geological Survey Bulletin 844-A, p. 1-82.

Smith, P. S., 1934, Mineral industry of Alaska in 1932: U.S. Geological Survey Bulletin 857-A, p. 1-91.

Smith, P. S., 1937, Mineral industry of Alaska in 1935: U.S. Geological Survey Bulletin 880-A, p. 1-95.