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SUMMARY OF REFERENCES TO MINERAL OCCURRENCES (OTHER THAN MINERAL FUELS AND CONSTRUCTION MATERIALS) IN THE BERING GLACIER, ICY BAY, MIDDLETON ISLAND, AND YAKUTAT QUADRANGLES, ALASKA

By

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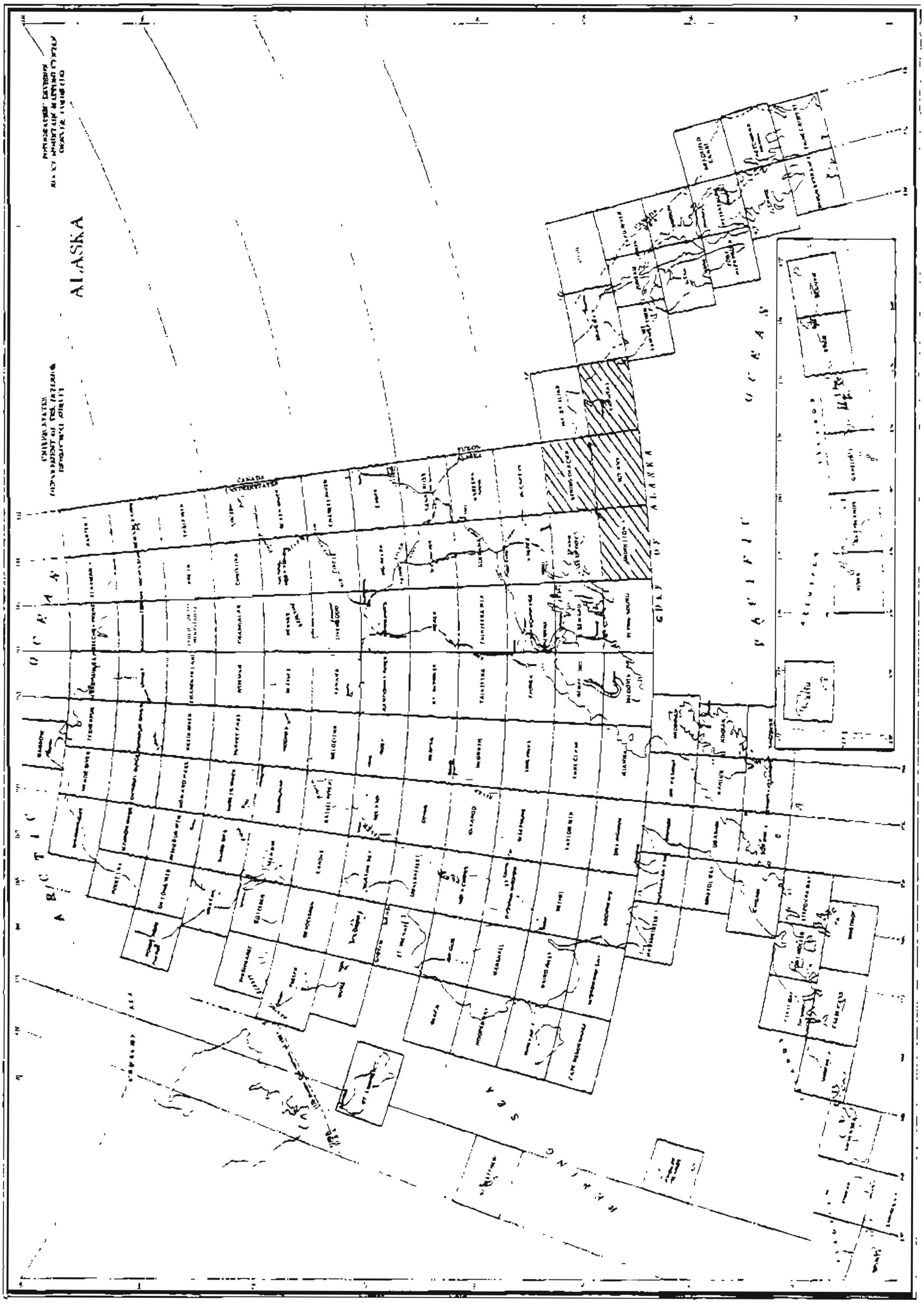
This report is preliminary and has not been edited or reviewed for conformity with Geological Survey standards and nomenclature.

Introduction

This summary of references is designed to aid in library research on metallic and nonmetallic (other than mineral fuels and construction materials) mineral occurrences in the Bering Glacier, Icy Bay, Middleton Island, and Yakutat quadrangles, Alaska. References to most reports of the Geological Survey, U.S. Bureau of Mines, and State of Alaska Division of Geological and Geophysical Surveys released before June 1, 1979, are included. 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 Alaska Division of Geological and Geophysical Surveys and its predecessor agencies are not included. Also not included are data on geochemical anomalies and on many prospects and claims about which little more than their locations is known (for example, some of those in MacKevett and Holloway, 1977 (OF 77-169A)). These omissions should not be interpreted as a judgment on my part that the prospects and claims are not valid mineral occurrences, but only that there are insufficient data to describe any mineral deposits that might be present.

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 and the names of operators and owners of mines and prospects; and a section that lists, by author, all references in the first section and in these introductory paragraphs.



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); the mining region (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 metallic mineral resources map number (Cobb, 1972, in the reference list for each quadrangle) and the occurrence number on the map if the occurrence is shown; and the latitude and longitude of the occurrence. These data, presented at the top of the page, are followed by a short, general summary of the published information on the occurrence. This is followed 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. Names shown for occurrences are those of nearby geographic feature, given in parentheses, because claim names and names of owners and operators in most cases are not known.

Citations are given in standard bibliographic format with the exception that references to reports and maps in numbered publication series also show, in parentheses, an abbreviation for the report or map series and the report or map number. Abbreviations used are:

AOF	Alaska Division of Geological and Geophysical Surveys Open-file Report
B	U.S. Geological Survey Bulletin
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 within the Alaskan Geology Branch of the U.S. Geological Survey)
MF	U.S. Geological Survey Miscellaneous Field Studies Map
P	U.S. Geological Survey Professional Paper
RI	U.S. Bureau of Mines Report of Investigations

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.

(Bearhole Cr.) Copper

Nizina district
MF-373, loc. 1

Bering Glacier (12.8, 17.3)
60°55'N, 142°30'W

Summary: Altered zone about 20 ft. wide in metamorphosed rocks of the Pennsylvanian and Permian Skolai Gp. contain quartz-feldspar vein(s) with graphite, pyrite, and a little chalcopyrite. No record of any development.

Brabb and Miller, 1962 (I-341) -- Altered rocks of Strelna Fm. exposed in a zone about 20 ft. wide in deep gullies. One quartz-feldspar vein contains about 20% graphite and pyrite; some chalcopyrite also present.

MacKevett and Holloway, 1977 (OF 77-169A), p. 11, loc. 1 -- Sparsely distributed copper minerals in pyrite-bearing altered zones in metamorphosed rocks of Skolai Gp. (Pennsylvanian and Permian).

(Kiagna R.) Gold

Nizina district Bering Glacier (14.25, 16.75) approx. 60°57'N, 142°20'W

Summary: Placer gold present. First explored in about 1904 and claims staked; little mining. Small stampede in winter of 1914-15; interest soon died out. River drains glaciated area underlain by Mesozoic and possibly Cenozoic altered volcanic and sedimentary rocks intruded by granitic rocks. Sulfide-bearing vein reported.

Moffit, 1916 (B 642), p. 135 -- Presence of placer gold known for many years (probably as early as 1904 or 1905). A few men prospected near headwaters for several years; small stampede in winter of 1914; disappointing and stream deserted in summer of 1915.

Moffit, 1918 (B 675), p. 77-78 -- First explored, probably about 1904, by prospectors who came upstream from Chitina R.; ground staked, but little mining. Also visited in 1905 or 1906 and in 1907 by men crossing mountains from Yakataga. Miniature stampede in winter of 1914-15; nothing appears to have come of it. Rocks exposed reported to include black shale or slate, schist, greenstone, and granite; shale and granite "much disturbed" and cut by quartz veins. Apparently on strike with sedimentary gold-bearing rocks of Bremner R. [Cordova quad.]. No record of amount of gold mined; too small to encourage miners to continue work. Large vein of sulfide minerals crosses branches of Kiagna; no work has been done on it.

Brabb and Miller, 1962 (I-341) -- Reference to Moffit, 1918 (B 675).

Cobb, 1973 (B 1374), p. 32 -- Reference to Moffit, 1916 (B 642). Kiagna R. drains a practically unexplored glaciated area where granitic rocks intrude Mesozoic and possibly Tertiary altered volcanic and sedimentary rocks.

Henning and Dobey, 1973 (AOF 25), p. 7 -- Placer gold present.

MacKevett, 1976 (MF-733B) -- Reference to Moffit, 1918 (B 675).

MacKevett and Holloway, 1977 (OF 77-169A), p. 11, loc. 3 -- Reference to Moffit, 1918 (B 675).

(Natural Arch)

Copper

Yakataga district
MF-373, loc. 3

Bering Glacier (13.35, 8.8)
60°30'N, 142°53'W

Summary: Native copper in volcanic rocks of Valdez Gp. Malachite and azurite in quartz veins that cut volcanic rocks.

Brabb and Miller, 1962 (I-341) -- Small amounts of native copper in volcanic rocks. Malachite and azurite in quartz veins that cut volcanic rocks.

Berg and Cobb, 1967 (B 1246), p. 73 -- Native copper, malachite, and azurite in volcanic rocks.

MacKevett and Holloway, 1977 (OF 77-169A), p. 11, loc. 4 -- Reference to Brabb and Miller, 1962 (I-341). Country rock Valdez Gp.

(White R.) Gold, Silver

Yakataga district
MF-373, loc. 4

Bering Glacier (15.7-16.4, 1.45-1.55)
60°04'-60°05'N, 142°08'-142°12'W

Summary: Stream and bench gravels contain fine gold. An unknown amount was mined from a bench 15-40 ft. above stream level by hydraulic methods in a few of the years between 1908 and 1916. Contribution to district production of gold and alloyed silver probably small.

Brooks, 1912 (B 520), p. 37 -- Hydraulic plant that had been installed "some years ago" was operated in 1911. Mine about 8 mi. east of Yakataga and 5 mi. from beach. Best values on bench whose floor is about 10 ft. above water level; gravel said to be about 8 ft. thick.

Brooks, 1913 (B 542), p. 43 -- Not operated, 1912; ditch line being extended.

Maddren, 1914 (B 592), p. 133-134 — Stream placers contributed a small amount to the estimated district total (through 1913) of approximately 9,772 fine oz. of gold and 1,073 fine oz. of silver.

p. 138-143 -- 3 separate parts of a bench covered with glaciofluvial material (some very coarse with large boulders); from 5 to 15 ft. of gravel with surface 15 ft. (at upstream end) to 35-40 ft. (at downstream end) above average river level; bench as much as 500 ft. wide, decreasing in width upstream. Gravel contains fine, light, flaky gold and a few small nuggets (one worth $3 reported). Small-scale hydraulicking since 1908 when water was available. 9,000-ft.-long flume being built in 1913 to allow large-scale hydraulicking. Gravels of present stream also contain gold, but are not accessible to mining. Ultimate source of gold probably lodes in St. Elias Range to north beyond present headwaters of White R.

Brooks, 1915 (B 622), p. 43 -- Hydraulic mine operated full season, 1914.

Brooks, 1916 (B 642), p. 54 -- Hydraulic mine operated, 1915.

Koschmann and Bergandahl, 1968 (P 610), p. 22 -- Data from Maddren, 1914 (B 592).

Miller, 1971 (I-610), p. 2 -- Have been attempts to mine gold in stream deposits.

Cobb, 1973 (B 1374), p. 33 -- Gold mined for a few years from bench and stream gravels.

MacKevett and Holloway, 1977 (OF 77-169A), p. 11, loc. 5 -- Reference to Maddren, 1914 (B 592).

(Yakataga) — Chromite, Copper, Gold, Iron, Silver, Thorium, Titanium, Uranium

Yakataga district
MF-373, loc. 5 — Bering Glacier (13.7-17.2, 0.65-1.3)
60°01'-60°04'N, 142°02'-142°21'W

Summary: Beach mined since about 1897 with rockers and portable sluice boxes. Total production probably between 15,000 and 16,000 oz. of gold (also some alloyed silver); includes a small amount from White R. Other heavy minerals include garnet (bulk of concentrates), chromite, native copper, magnetite, rutile, sphene, ilmentite, much zircon (radioactive) and unidentified thorium and uranium minerals; no platinum. Source of heavy minerals is mineralized rocks in St. Elias Range; disseminated in Cenozoic glacial-marine Yakataga Fm., from which it was concentrated by wave action. Some of heavy minerals in area, but probably not in Yakataga Beach, may have been brought directly from source by streams. Placer deposits concentrated in small patches that are likely to be dispersed by next storm or high tide. Includes references to: (Cape Yaktag), (Yakataga Beach).

Martin, 1905 (B 259), p. 88-89 -- Data compiled from various sources; not visited by USGS. Bedrock shale with interbedded limestone and sandstone; Miocene fossils present [may mean in similar rocks at Controller Bay]. Anticlinal structure with axis parallel to and close to shore. Said to be a belt of crystalline rocks farther inland. Fine gold (some nuggets worth a few dollars reported) in beach sands; best mining after storms. Beach sands made up of gold, magnetite, garnet, hornblende, pyroxene, zircon, quartz, feldspar, calcite, mica, and schistose rock fragments; probably derived from morainal material. About 200 people at beach in winter of 1903-04; production reported to have been $10,000-$15,000 [about 485-725 fine oz.] in gold.

Brooks, 1907 (B 314), p. 34 -- Production in 1906 worth about $25,000.

Brooks, 1909 (B 379), p. 52 -- Chief center of beach mining in 1908. Production from all beach mining in Alaska estimated at $20,000-$30,000.

Brooks, 1910 (B 442), p. 41 -- 1909 was about the same as 1908.

Brooks, 1911 (B 480), p. 37 -- Mining continued, 1910. Plans for mining on a larger scale.

Brooks, 1912 (B 520), p. 37 -- 15-20 men mining in parts of 1910-11. Gold-bearing gravels extend for about 16-1/2 or 17-1/2 miles along beach. Mined by shovelling into sluice boxes; washed with water from a lagoon or lake behind an elevated beach, which contains gold, but not in minable quantities.

Brooks, 1913 (B 542), p. 43 -- 15-20 men doing beach mining, 1912.

Brooks, 1914 (B 592), p. 60 -- Beach mining in 1913 on about the same scale as in previous years.

Maddren, 1914 (B 592), p. 132-138 -- Gold discovered in about 1897 or 1898; small-scale beach mining since about 1899. Gold in beach sands for about 8 mi. each side of mouth of White R. Proximate source of gold is glaciofluvial gravels, with concentration of heavy minerals by wave action (largely during storms) eroding scarp behind beach. All gold fine; largest pieces worth about 4 cents; unconfirmed report of a nugget worth $43.

(Yakataga) -- Continued

Heavy minerals mainly garnet, with some magnetite, zircon, and native copper nuggets. Early mining was with rockers; later sluice boxes lined with blankets were used. Production from beach and a little from White R. through 1913 estimated to have been about 9,772 fine oz. of gold and 1,673 fine oz. of silver.

p. 142-143 -- Ultimate source of heavy minerals probably lodes in St. Elias Range to north beyond headwaters of White R., which seems to have been principal conduit of auriferous gravel to beach.

Brooks, 1915 (B 622), p. 43 -- Beach mining, 1914; production worth not much more than $3,000-$4,000.

Brooks, 1916 (B 642), p. 54 -- About 20 men mining, 1915; unusually successful season reported.

Brooks, 1918 (B 662), p. 41 -- Mining in district in 1916 [reference somewhat indefinite; mining may have been at Lituya Bay (Mt. Fairweather quad.) only].

Brooks, 1922 (B 722), p. 34 -- Very small operation(s), 1920.

Brooks and Capps, 1924 (B 755), p. 26 -- 5 men mining by groundsluicing, 1922. Good prospects reported to have been found in spruce timber back of beach.

Brooks, 1925 (B 773), p. 23 -- Reference to Maddren, 1914 (B 592).

p. 37 -- A little beach mining, 1923.

Smith, 1926 (B 783), p. 12 -- A little mining, 1924.

Moffit, 1927 (B 792), p. 14-15 -- A little mining, 1925.

Smith, 1929 (B 797), p. 16 -- Mining in 1926 on about the same scale as in recent years.

Smith, 1930 (B 810), p. 21 -- 3 camps mining, 1927.

Smith, 1930 (B 813), p. 24 -- A little mining, 1928.

Smith, 1932 (B 824), p. 27-28 -- A little mining, 1929.

Smith, 1933 (B 836), p. 26-27 -- Considerably more than half the placer gold mined in 1930 in southeastern Alaska came from Yakataga.

Smith, 1933 (B 844-A), p. 27-28 -- Mining from Lituya Bay to Yakataga in 1931 was on about the same scale as in recent years.

Smith, 1934 (B 857-A), p. 26 -- Mining from Lituya Bay to Yakataga in 1932 was on about the same scale as in recent years.

Smith, 1934 (B 864-A), p. 29 -- Mining from Lituya Bay to Yakataga in 1933 was on about the same scale as in recent years.

Smith, 1936 (B 868-A), p. 30 -- Mining from Lituya Bay to Yakataga in 1934 was on about the same scale as in recent years.

Smith, 1937 (B 880-A), p. 34 -- Mining from Lituya Bay to Yakataga in 1935 was on about the same scale as in recent years.

Smith, 1938 (B 897-A), p. 40 -- In Lituya Bay-Yakataga area mining in 1936 was on about the same scale as in recent years.

Smith, 1939 (B 910-A), p. 38 -- In Lituya Bay-Yakataga area mining in 1937 was on about the same scale as in recent years.

Smith, 1939 (B 917-A), p. 37 -- In Lituya Bay-Yakataga area mining in 1938 was on about the same scale as in recent years.

Smith, 1941 (B 926-A), p. 33 -- In Lituya Bay-Yakataga area mining in 1939 was on about the same scale as in recent years.

Smith, 1942 (B 933-A), p. 32-33 -- In Lituya Bay-Yakataga area mining in 1940 was on about the same scale as in recent years.

Moxham and Nelson, 1952 (C 184), p. 11-14 -- Placer gold mining since 1897. In 1946 six drill holes were put down to prospect an area about 4,000 ft.

(Yakataga) -- Continued

long along beach east of Cape Yakataga; results evidently discouraging, as project was abandoned. Heavy-mineral fractions of concentrated samples of beach material contained an average of 0.044% eU. Most of radioactivity in zircon. Also 2 unidentified radioactive minerals, one of which contained uranium; radioactivity of the other attributed to thorium. Heavy minerals probably came from St. Elias Range.

Thomas and Berryhill, 1962 (RI 5986), p. 2 -- Placer gold has been mined. Rumors of platinum not confirmed.

p. 7 -- Gold discovered in 1897 or 1898. Auriferous sands extend for about 18 miles along coast. Estimated $320,000 [about 15,480 fine oz.] produced through 1930; intermittent mining since then, but no data on amount of production.

p. 16-17, 19-20 -- Data on USBM sampling program. Minerals recognized in samples included trace to small amounts of chromite, zircon, rutile, ilmenite, staurolite, and sphene; gold in one sample; rock fragments, common rock-forming minerals, and garnet generally were the major constituents. Iron content of samples no more than 6.2 lb. per cu. yd. (calculated for material in place); most samples contained less than 2 lb. iron per cu. yd. TiO_2 content less than 2 lb. per cu. yd. in magnetic fraction; as much as 7.3 lb. per cu. yd. in nonmagnetic fraction, but generally less than 2 lb. per cu. yd.

Koschmann and Bergendahl, 1968 (P 610), p. 22-23 -- Data mainly from Maddren. 1914 (B 592). Total production from district through 1959 was 15,709 oz. of gold; only 75 oz. from 1950 through 1959.

Miller, 1971 (I-610), p. 2 -- Has been placer mining since gold was discovered at Umbrella Reef in 1897. Most of recent production has been from beach just west of Cape Yakataga. Raised beach deposit east of Cape Yakataga has been prospected by drilling.

Cobb, 1973 (B 1374), p. 33 -- A little gold recovered in most years since 1890's. Storm waves are eroding a coastal plain of glacial and glaciofluvial deposits resting on Tertiary marine rocks. Coastal-plain sediments contain a little fine gold that is concentrated by wave action in patches, some of which are rich enough to mine. Garnet is commonest constituent of concentrates; also present are magnetite, zircon, small amounts of chromite, rutile, gold, native copper, and rock-forming minerals; no platinum.

Reimnitz and Plafker, 1976 (B 1415), p. 3-4 -- Historical data from older reports. Beach-placer gold production from Yakataga district was 15,000-16,000 oz.

p. 7 -- Gold probably reworked from marine-glacial deposits of the Cenozoic Yakataga Fm. Some gold in general area may have been derived directly from mineralized bedrock in mountains and carried by streams to coast; this method probably not applicable to Yakataga Beach.

p. 12-13 -- Some of heavy minerals apparently are moved to offshore shelf and probably not returned to active beach. Heavy minerals carried westward by littoral drift; may be deflected offshore by Cape Yakataga and its submarine extension.

MacKevett and Holloway, 1977 (OF 77-169A), p. 11, loc. 6 -- References to Maddren, 1914 (B 592) and Thomas and Berryhill, 1962 (RI 5986).

Unnamed occurrence

Gold

Nizina district
MF-373, loc. 2

Bering Glacier (13.3, 15.2)
60°51'N, 142°26'W

Summary: Trace of gold in quartz vein (possibly in a felsic dike) in rocks of Cretaceous Valdez Gp. Not enough gold (less than 0.0001 g per 0.5 kg) to be of commercial interest.

Brabb and Miller, 1962 (I-341) -- Trace of gold in quartz dike [sic] that cuts rocks of Valdez Gp. 500-gram sample yielded a flake of gold weighing less than 0.0001 g; not of commercial interest.

Berg and Cobb, 1967 (B 1246), p. 63 -- Data from above.

MacKevett and Holloway, 1977 (OF 77-169A), p. 11, loc. 2 -- Minor amounts of gold in quartz veinlets in a felsic dike that cuts Valdez Gp. (Cretaceous). Reference to Brabb and Miller, 1962 (I-341).

(Icy Bay)

Chromite, Gold, Titanium, Rare earth elements

Yakataga district
MF-411, locs. 1-6 (in part)

Icy Bay (20.65-22.75, 15.65-17.95)
59°52'-60°00'N, 141°25'-41°39'W

Summary: Trace to small amounts of chromite, gold, magnetite, ilmenite, rutile, sphene, and zircon in concentrates of samples of beach sand. Concentrations probably too small to be of any current economic interest.

Thomas and Berryhill, 1962 (RI 5986), p. 18, 21-22 -- Minerals identified in concentrates from auger-hole and shovel samples of beach sand include (mainly in trace to small amounts) magnetite, ilmenite, chromite, zircon, xenotime, rutile, garnet, sphene, and gold. Magnetic fractions of concentrates contained no more than 6.2 lb. iron per cu. yd. and 1 lb. TiO_2 per cu. yd. of beach material in place; nonmagnetic fractions contained as much as 6.4 lb. TiO_2 per cu. yd. of material in place (most samples contained less than 2 lb. TiO_2 per cu. yd.).

MacKevett and Holloway, 1977 (OF 77-169A), p. 27 -- Placer gold deposits have been reported from near Icy Bay [no other data].

(Yahtse-Yana beach) Gold

Yakataga district
MF-411, locs. 7, 8 (in part)

Icy Bay (23.0-26.5, 14.2-15.4)
59°42'-49°52'N, 141°00'-141°39'W

Summary: Trace to small amounts of ilmenite, zircon, rutile, sphene, and gold in concentrates of samples of beach sand. Concentrations too low to be of current economic interest.

Thomas and Berryhill, 1962 (RI 5986), p. 18, 22-23, 25 -- Minerals identified in concentrates from auger-hole and shovel samples of beach sands between the mouth of the Yahtse R. and long. 141° 00' W include small to trace amounts of pyrite, ilmenite, zircon, rutile, garnet, sphene, and gold. Magnetic fractions of concentrates contained no more than 5 lb. iron and 0.7 lb. TiO_2 per cu. yd. of material in place. Nonmagnetic fraction contained 4.7 lb. TiO_2 in one sample; all others contained no more than 1.3 lb. TiO_2 per cu. yd.

(Kayak I.)

Yakataga district

Gold

Middleton Island
NE 1/4 NE 1/4 quad.

Summary: Auriferous beach sands reported; of little value.

Schrader and Spencer, 1901, p. 91 -- "At various places along the shores of Kayak Island auriferous sands are known to occur, but they have thus far proved to be of little value."

(Little Kayak I.) Gold

Yakataga district Middleton I.
NE 1/4 NE 1/4 quad.

Summary: Gold reported to be in beach sands. Little Kayak I. is now called Wingham I. Most of island is in Cordova quad., but part most exposed to storm waves appears to be in Middleton Island quad.

Schrader and Spencer, 1901, p. 91 -- "Also, upon Little Kayak gold is present in the beach sands."

(Middleton I.) Gold

Prince William Sound district
MF-380, loc. 1

Middleton Island (5.65, 7.15)
59°24'N, 146°22'W

Summary: Beach placer at southwest end of island was source of about 385 oz. of gold in early 1900's. Gold and accompanying garnet concentrated from late Cenozoic Yakataga Fm., which is made up of glacial marine clastic material originally derived from mountains north of Gulf of Alaska and having gone through one or more cycles of deposition.

Brooks, 1913 (B 542), p. 43 -- Gold placers at SW end of island at foot of bluffs. Garnet associated with gold, much of which is flat and in small grains; small nuggets (largest worth 83 cents) have been found. First mining was in 1901; production has been about $8,000 [about 387 oz.] of gold.

Brooks, 1925 (B 773), p. 23 -- A little gold has been mined from beach.

Cobb, 1973 (B 1374), p. 32 -- Most of data from Brooks, 1913 (B 542). Heavy minerals from Tertiary marine clastic rocks deposited in part from floating ice.

Reimnitz and Plafker, 1976 (B 1415), p. 3 -- Reference to Brooks, 1913 (B 542). Production was a few hundred ounces of gold.

p. 7 -- Gold originally derived from mineralized bedrock in mountains north of Gulf of Alaska; involved in one or more cycles of deposition in Cenozoic clastic rocks of region; proximate source is marine glacial deposits of late Cenozoic Yakataga Fm., which underlies entire island and much of surrounding shelf.

(Akwe Beach) — Chromite, Iron, Titanium

Yakutat district — Yakutat (16.0-20.25, 3.5-5.9)
MF-408, loc. 9 (in part) — 59°11'-59°19'N, 138°45'-139°13'W

Summary: Local concentrations of magnetite and ilmenite in beach placers. Traces of chromite and rutile in a few samples. Magnetic fractions of concentrates contained no more than 10.5 lb. iron and 1.0 lb. TiO_2 per cu. yd. of material in place.

Thomas and Berryhill, 1962 (RI 5986), p. 30-31, 33 -- 22 auger samples taken. In magnetic fractions of concentrates iron content was from 0.6 to 10.5 lb. per cu. yd. and TiO_2 content from a trace to 1.0 lb. per cu. yd. of material in place; in nonmagnetic fraction TiO_2 content was from 0.3 to 4.5 lb. per cu. yd. in place. Traces of chromite and rutile in a few samples.

MacKevett and Holloway, 1977 (OF 77-169A), p. 84, loc. 7 -- Reference to above. Local concentrations of magnetite and ilmenite in beach placers.

(Alsek R.) Copper(?), Gold(?)

Yakutat district Yakutat(?)
E 1/2 SE 1/4 quad.(?)

Summary: Prospectors reported finding colors of gold in canyons in early 1900's. Copper stains also reported. Occurrences may be in Canada.

Blackwelder, 1907 (B 314), p. 87 -- Prospectors report finding colors of gold at several points in canyons. Copper stains reported.

Berg and Cobb, 1967 (B 1246), p. 195 -- Green copper stains reported; possibly in Canada.

MacKevett and Plafker, 1970 (B 1312-L), p. L3 -- Reference to Blackwelder, 1907 (B 314). Copper stains could not be found during this investigation.

(Black Sand Beach) — Gold, Iron, Platinum, Titanium

Yakutat district — Yakutat (12.5-15.0, 6.4-8.0)
MF-408, locs. 6, 7 (in part) — 59°21'-59°27'N, 139°20'-139°36'W

Summary: Beach sands contain magnetite, ilmenite and other titanium minerals, and a little gold. Several samples contained more than 20 lb. iron per cu. yd. of beach material in place; one contained 0.5 ppm gold. Reliable report of platinum. Includes reference to (Situk).

Thomas and Berryhill, 1962 (RI 5986), p. 24, 26-28 -- 13 auger-hole samples of beach material taken. Minerals identified in nonmagnetic fractions of concentrates include trace to small amounts of ilmenite, zircon, rutile, and sphene and much garnet; TiO_2 content was from a trace to 47.4 lb. per cu. yd. of material in place (6 of samples contained more than 10 lb. TiO_2 per cu. yd.). Magnetic fractions contained from 0.8 to 150.3 lb. iron (5 of samples contained more than 20 lb. iron) and from a trace to 6.5 lb. TiO_2 per cu. yd. of material in place. Richest sample was of sands that were river concentrated at mouth of Situk R. One sample contained 0.00012 oz. gold per cu. yd. of material in place.

MacKevett and Plafker, 1970 (B 1312-L), p. L4-L5, L7, L10 (sample 67Apr76C) -- Selected sample of black beach sand contained 0.5 ppm gold; representative of richer parts of beach sands; bulk of beach sands and beach terrace sands probably are considerably leaner. Sample contained more than 20% iron.

Reimnitz and Plafker, 1976 (B 1415), p. 9 -- Reference to MacKevett and Plafker, 1970 (B 1312-L).

MacKevett and Holloway, 1977 (OF 77-169A), p. 84, loc. 6 -- References to above.

Oral communication, George Plafker, July 2, 1979: Platinum was a constituent of a sample from the mouth of the Situk R.

(Black Sand I.)

Gold

Yakutat district
MF-408, loc. 8

Yakutat (13.4, 7.5) approx.
59°25'N, 139°30'W approx.

Summary: In late 1890's or early 1900's there was a little desultory generally unsuccessful placer gold mining of deposits of black sand. Has been some prospecting more recently.

Blackwelder, 1907 (B 314), p. 86-87 -- Deposits of black sand contain small amounts of gold; have been worked in a desultory way without material success.

Thomas and Berryhill, 1962 (RI 5986), p. 6-7 -- Was mining near turn of the [20th] century. Prospecting by churn drilling near Black Sand I. in 1957.

Johnson and Plafker, 1969 (OF 379), p. 2 -- Reference to Blackwelder, 1907 (B 314).

MacKevett and Holloway, 1977 (OF 77-169A), p. 84, loc. 6 -- Reference to Blackwelder, 1907 (B 314).

(Khantaak Beach) Gold

Yakutat district
MF-408, loc. 4

Yakutat (10.6-11.15, 10.15-11.0)
59°34'-59°37'N, 139°45'-139°48'W

Summary: One of sites of early beach placer mining in Yakutat Bay. Most mining in 1886-89 and 1891; last reported was in 1905. Total production probably no more than a few hundred ounces of gold. Gold and other heavy minerals concentrated from glacial material behind beach; glacial material came from metamorphic terrane in mountains to north.

Tarr, 1906 (B 284), p. 64 -- On ocean beach waves are cutting into cliff made up of glacial gravel. Intermittent mining as of 1905.

Tarr and Butler, 1909 (P 64), p. 165 -- References to report of Eleventh Census and an article in National Geographic Magazine, 1891. Mining 1886-89, 1891; $3,000 worth of gold sluiced out in 1891 by 3 men. Sample of beach sand contained gold, magnetite, garnet, hornblende, pyroxene, zircon, quartz, feldspar, calcite, mica, and rock fragments; derived from a metamorphic terrane.

p. 167 -- Mining in 1905. Beach sediments derived from glacial material; sand at SE end of island, which was depressed as a result of the earthquake of 1899. Water supply a big problem for placer mining.

Brooks, 1918 (B 662), p. 23 -- No platinum in sample of auriferous sand from north end of island.

Thomas and Berryhill, 1962 (RI 5986), p. 6 -- Reference to Tarr and Butler, 1909 (P 64).

p. 24, 26-27 -- 2 shovel samples of beach sand contained trace to very small amounts of iron and TiO_2 and as much as 0.00052 oz. gold per cu. yd. of material in place.

MacKevett and Holloway, 1977 (OF 77-169A), p. 84, loc. 4 -- Reference to Tarr and Butler, 1909 (P 64).

(Logan Beach) Gold

Yakutat district Yakutat (12.2-12.6, 13.75-14.9)
MF-408, loc. 3 59°47'-59°51'N, 139°35'-139°37'W

Summary: Small production (only a few ounces a year in early 1900's) of gold from beach placers formed by wave erosion of glacial gravel bluffs.

Tarr, 1906 (B 284), p. 64 -- Waves cut into gravel terrace made up of glacial material. 3 men barely making wages in 1905; shortage of water for rockers.

Tarr and Butler, 1909 (P 64), p. 165-167 -- Sample of beach sand essentially the same as one from Khantaak Beach described on (Khantaak Beach) sheet. Waves entering Yakutat Bay beat on Logan Beach, maintaining steep bluffs in glacial deposits back of beach; gold in thin patches on surface of beach. Gold associated with magnetite and garnet. In 1905 mining was with rockers and was done only after rains when water was available from a small ephemeral stream; miners made only small wages. Output worth no more than a few hundred dollars annually.

Thomas and Berryhill, 1962 (RI 5986), p. 6 -- Reference to Tarr and Butler, 1909 (P 64).

p. 26-27 -- 2 shovel samples of beach sand contained trace to very small amounts of iron and TiO_2.

MacKevett and Holloway, 1977 (OF 77-169A), p. 84, loc. 3 -- Reference to Tarr and Butler, 1909 (P 64).

(Numatak Fiord) Gold

Yakutat district Yakutat (17.25, 14.9)
MF-408, loc. 1 59°50'N, 139°03'W

Summary: Thin quartz veins cutting metamorphic rocks of Mesozoic or older(?) age carry pyrite and a little gold; analysis of one sample showed 0.08 ppm gold.

MacKevett and Plafker, 1970 (B 1312-L), p. L4-L5, L7-L8 (sample 67Apr34A) -- sulfide-bearing quartz veins a few inches wide cut metamorphic rocks near Fairweather fault; sample contained 0.08 ppm gold. Map (pl. 1) shows country rock as foliated rocks of Mesozoic and older(?) age about 1.5 mi. from contact with Mesozoic or Tertiary intrusive igneous rocks. [Cobb, 1972 (MF-408) lists reference with authors reversed.]

MacKevett and Holloway, 1977 (OF 77-169A), p. 84, loc. 1 -- Reference to above. Described as pyrite-bearing quartz veins in amphibolite and Tertiary granite with minor gold concentrations; type of deposit hydrothermal.

(Russell Fiord)

Yakutat district

Copper(?)

Yakutat
W 1/2 NE 1/4 quad.

Summary: Reported that chalcopyrite-bearing vein was staked somewhere on shore of Russell Fiord in 1906; existence of deposit unconfirmed.

Blackwelder, 1907 (B 314), p. 87 -- Vein of sulfide minerals in rocks of Yakutat series reported to have been found in 1906 and staked; specimens of ore appear to be chalcopyrite; located on tidewater.

Berg and Cobb, 1967 (B 1246), p. 195 -- Data from above [not specifically cited].

MacKevett and Plafker, 1970 (B 1312-L), p. L3 -- Reference to Blackwelder, 1907 (B 314); deposit could not be found in this investigation.

(Sitkagi Bluffs)	Gold
Yakutat district	Yakutat (4.75, 12.3) approx. 59°42'N, 140°28'W approx.

Summary: As much as 16 ppm gold in samples of beach sand.

Reimnitz and Plafker, 1976 (B 1415), p. 9, pl. 1 -- Beach-sand sample collected east of Sitkagi Bluffs contained 16 ppm gold; another sample from the vicinity contained 0.89 ppm gold.

(Yakutat Bay) — Gold, Platinum(?)

Yakutat district — Yakutat (10.5-17.1, 5.4-14.9)
59°18'-59°51'N, 139°06'-139°49'W

Summary: Has been intermittent beach mining for gold since 1886 or 1887; all small scale and not very productive. Old report of platinum not confirmed by examination of sample from Khantaak Beach.

Schrader and Spencer, 1901, p. 91 -- "In the vicinity of Yakutat Bay beach diggings have been known for several years, and though these attracted considerable interest in 1900, they seem to be of only moderate value. A small amount of platinum is said to occur with the gold."

Brooks, 1904 (B 225), p. 46 — Gold has been found in beach placers, apparently concentrated from glacial material by wave action. This and similar placers near Lituya Bay suggest that there may be gold-bearing rocks in the St. Elias Range.

Tarr, 1906 (B 284), p. 64 -- Everywhere they were tested beach gravels in Yakutat Bay are auriferous, but gold is rarely in paying quantities.

Tarr and Butler, 1909 (P 64), p. 165 -- Data from report of Eleventh Census. Gold excitement in 1886-87; miners were getting $40 to the ton from black sand beaches until oil from dead dogfish interfered with amalgamation and a tidal wave removed the black sand. As of 1905 only mining had been on Khantaak and Logan Beaches.

Brooks, 1918 (B 662), p. 23 -- Old reports of platinum in placers not confirmed; none in sample from Khantaak I.

Brooks, 1925 (B 773), p. 23 -- A little beach gold has been recovered.

Thomas and Berryhill, 1962 (RI 5986), p. 6 -- Auriferous sands in beaches around bay. Mined in a desultory manner for many years; total production not known, but undoubtedly small.

Johnson and Plafker, 1969 (OF 379), p. 2 -- Reference to Tarr and Butler, 1909 (P 64).

p. 5 -- Beach deposits have local concentrations of gold-bearing black sands.

p. 7 -- Magnetic anomalies apparently are not related to old or modern beaches, with the possible exception of an anomaly near Dangerous R.

MacKevett and Plafker, 1970 (B 1312-L), p. L3 -- References to Blackwelder, 1907 (B 314) [Black Sand I.] and Thomas and Berryhill, 1962 (RI 5986).

p. L10-L11 -- None of magnetic anomalies correlate directly with beaches.

Cobb, 1973 (B 1374), p. 105 -- Has been intermittent mining.

Reimnitz and Plafker, 1976 (B 1415), p. 3-4 -- Historical data summarized. Total production from Yakutat and Lituya [Mt. Fairweather quad.] Bays areas was no more than 3,700 oz. of gold. Minor amounts of platinum reported to have been recovered [source of reports not given]. Seismic-reflection surveys and bottom-sampling project failed to find gold concentrations in Yakutat Bay.

p. 7 -- Some of placer gold apparently derived from mineralized bedrock in mountains and transported to coast by glaciers and/or streams.

(Yakutat Beach)

Gold, Iron, Titanium, Tungsten

Yakutat district
MF-408, loc. 5

Yakutat (10.5-12.3, 8.1-9.25)
59°27'-59°32'N, 139°37'-139°49'W

Summary: Beach sands contain local concentrations of magnetite and ilmenite and other titanium minerals. Overall tenor of beach deposits for this and other beaches to SE (on the basis of USBM sampling) is about 35 lb. iron and 20.5 lb. TiO_2 per cubic yard. Traces of gold and scheelite.

Thomas and Berryhill, 1962 (RI 5986), p. 1 -- Yakutat and nearby beaches have average tenor of about 35 lb. iron and 20.5 lb. TiO_2 per cu. yd.; maxima are, respectively, greater than 300 lb. and 100 lb.

p. 24, 26-30 -- Nonmagnetic fractions of 17 auger-hole and shovel samples of beach sands contained trace to small amounts of scheelite, pyrite, zircon, rutile, topaz, and sphene and larger amounts of ilmenite and garnet; TiO_2 content as much as 98.2 (commonly more than 10) lb. per cu. yd. of material in place. Magnetic fractions contained as much as 306 (commonly more than 25) lb. iron and 16.1 (commonly less than 4) lb. TiO_2 per cu. yd. of material in place. One sample contained 0.00052 oz. gold per cu. yd. in place. Data on USBM mineral dressing tests on composite sample.

MacKevett and Holloway, 1977 (OF 77-169A), p. 84, loc. 5 -- Reference to above. [Reference to MacKevett and Plafker, 1970 (B 1312-L), p. L4-L5, L7, is to a sample collected on what I have considered to be part of Black Sand Beach.]

Unnamed occurrence — Gold

Yakutat district — Yakutat (25.45, 9.15)
MF-408, loc. 2 — 59°30'N, 138°09'W

Summary: Disseminated pyrite in greenstone of Mesozoic and older(?) age about 0.3 mi. from contact with Mesozoic or Tertiary intrusive igneous rock (probably quartz diorite) contains minor gold values. Sample contained 0.08 ppm gold. Note: One reference states that deposit is in altered zone in quartz diorite; other states that it is in greenstone.

MacKevett and Plafker, 1970 (B 1312-L), p. L4-L5, L7-L8 (sample 68Apr85E) -- Altered zone about 100 ft. wide in quartz diorite; sample contained 0.08 ppm gold. Map (pl. 1) shows country rock as foliated rocks of Mesozoic and older(?) age 0.3 mi. from contact with a body of Mesozoic or Tertiary intrusive igneous rock. [Cobb, 1972 (MF-408) lists references with authors reversed.]

MacKevett and Holloway, 1977 (OF 77-169A), p. 84, loc. 2 -- Reference to above. Described as hydrothermal(?) deposit; greenstone with disseminated pyrite that contains minor gold values.

(Cape Yaktag) -- see (Yakataga)
White River Mining Co. -- see (White R.)
(Yakataga Beach) -- see (Yakataga)

(Wingham I.) -- see (Little Kayak I.)

(Situk) -- see (Black Sand Beach)

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