

(200)
R290
78-94



✓ UNITED STATES DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY.

[Reports - Open file series]

SUMMARY OF REFERENCES TO MINERAL OCCURRENCES

(OTHER THAN MINERAL FUELS AND CONSTRUCTION MATERIALS)

IN THE BEAVER, BETTLES, AND MEDFRA QUADRANGLES, ALASKA

By

Edward H. Cobb

Open-file Report 78-94

1978

TM
Cobb
Twonala



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

277628

Introduction

These summaries of references are designed to aid in library research on metallic and nonmetallic (other than mineral fuels and construction materials) mineral occurrences in the Beaver, Bettles, and Medfra quadrangles, Alaska. All references to reports of the Geological Survey, to most reports of the U.S. Bureau of Mines, and to most reports of the State of Alaska Division of Geological and Geophysical Surveys and its predecessor State and Territorial agencies released before July 1, 1977, are summarized. Certain, mainly statistical, reports such as the annual Minerals Yearbook of the U.S. Bureau of Mines and the biennial and annual reports of the State of Alaska Division of Geological and Geophysical Surveys and its predecessor State and Territorial agencies are not included.

This report is divided into three parts: a section made up of summaries of references arranged alphabetically first by quadrangle and second by occurrence name; a section that lists synonyms for names in the first section, claim names, and the names of operators and owners of mines and prospects; and a section that lists, by author, all references summarized in the first section.



Summaries of References

For each mineral occurrence there is a page that gives the name of the occurrence; the mineral commodities present (listed alphabetically for metallic commodities and then for nonmetallic commodities) [FM is used for uranium and(or) thorium determined chemically or present as a constituent of an identified mineral other than monazite; RE is used if a mineral (other than monazite) containing any rare-earth element was identified]; the mining district (Ransome and Kerns, 1954) in which the occurrence is located; the name of the 1:250,000-scale topographic quadrangle; coordinates (as described by Cobb and Kachadoorian, 1961, p. 3-4); the metallic mineral resources map number (Cobb, 1972, in the reference list for each quadrangle) and the occurrence number on that map if the occurrence is shown; and the latitude and longitude of the occurrence. These data, presented at the top of the page, are followed by a short, general summary of the published information on the occurrence. This is followed (continued on additional pages, if necessary) by more detailed summaries, arranged chronologically, of all references to the occurrence. Material in brackets is interpretive or explanatory and is not in the summarized reference.

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

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

AOF	Alaska Division of Geological and Geophysical Surveys Open-file Report
B	U.S. Geological Survey Bulletin
C	U.S. Geological Survey Circular
GR	Alaska Division of Geological and Geophysical Surveys (and predecessor State agencies) Geologic Report
IC	U.S. Bureau of Mines Information Circular
OF	U.S. Geological Survey Open-file Report (numbers 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
TDM	Alaska Territorial Department of Mines Pamphlet
USBM OF	U.S. Bureau of Mines Open-file Report

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

References cited only in these introductory paragraphs are:

Cobb, E. H., and Kachadoorian, Reuben, 1961, Index of metallic and nonmetallic mineral deposits of Alaska compiled from published reports of Federal and State agencies through 1959: U.S. Geol. Survey Bull. 1139, 363 p.

Ransome, A. L., and Kerns, W. H., 1954, Names and definitions of regions, districts, and subdistricts in Alaska (used by the Bureau of Mines in statistical and economic studies covering the mineral industry of the Territory): U.S. Bur. Mines Inf. Circ. 7679, 91 p.

(Hosiana Cr.)

Gold(?)

Yukon Flats district

Beaver (9.5-10.0, 17.2) approx.(?)

66°55'N, 148°33'-148°37'W (approx.)(?)

Summary: Good prospects reported in 1910. Hosiana Cr. was the old name of the Hodzana R. The prospecting may well have been at or near Trout and Slate Creeks, as this is the only place in the Hodzana drainage where placer gold mining has been reported. See also (Trout Cr.)

Ellsworth and Parker, 1911 (B 480), p. 167 -- "It is reported that good prospects have been found on Hosiana Creek and in the fall of 1910 about 50 men were prospecting in the vicinity."

(Trout Cr.)

Gold, Molybdenum, Zinc

Yukon Flats district

Beaver (9.5-10.0, 17.2) approx.

MF-439, locs. 1, 2

66°58'N, 148°33'-148°37'N approx.

Summary: Specimen consisted of quartz, pyrite, sphalerite, and molybdenite. Small-scale placer gold mining in 1950's and 1960's. Only mining reported from Yukon Flats district.

Smith, 1942 (B 926-C), p. 197 -- Specimen sent in by a prospector consisted of quartz, pyrite, sphalerite, and molybdenite.

Berg and Cobb, 1967 (B 1246), p. 240 -- Data same as above. Placer gold has been recovered from creek.

Cobb, 1973 (B 1374), p. 177 -- Only reported placer mining in Yukon Flats district was from a small operation on Slate and Trout Creeks during 1950's and 1960's.

(Bettles Bars)

Gold

Koyukuk district
MF-387, loc. 2

Bettles (9.15, 16.0)
66°54'N, 151°40'W

Summary: Very fine gold in top few feet of deposit of cobbles in fine sand about 15 ft. above low-water level. Small-scale mining; some in 1937.

Reed, 1938 p. 163-164 -- Deposit of rounded cobbles as much as 15 ft. above low-water level capped by fine river sand and silt. Very fine gold in fine sand between cobbles in top 3 ft. of cobbles. Mining, 1937; one man said to have recovered gold worth \$600 [about 17 fine oz.] in 2 weeks. All mining small scale.

(Davis Cr.)

Gold

Koyukuk district
MF-387, loc. 6

Bettles (17.4, 17.8)
67°00'N, 150°28'W

Summary: Thick gravel deposit contains a little gold. Sporadic small-scale mining, 1900-09, resulted in production of gold worth \$5,000 (about 240 fine oz.).

Maddren, 1910 (B 442), p. 292, 312 -- Preliminary to Maddren, 1913 (B 532).
Maddren, 1913 (B 532), p. 70 -- Production, 1900-09, was worth \$5,000 [about 240 fine oz.].

p. 107 -- Above mouth creek cuts into thick gravel deposit that contains a little gold. Has been sporadic small-scale mining for 10 years [as of 1909].

Reed, 1938 p. 161 -- Considerable mining in early days; none since.

Mulligan, 1974 (IC 8626), p. 10 -- Thick deposits of washed gravel containing some gold. About \$5,000 of placer gold produced before 1909.

(Dome Cr.)

Gold(?)

Koyukuk district

Bettles

S 1/2 quad.(?)

Summary: Placer gold prospects said to have been found in 1911. North-flowing creek in Kanuti basin. Name not on available maps; might be in Tanana quad.

Brooks, 1912 (B 520), p. 38 -- Placer gold prospects said to have been found, 1911. Stream is a north-flowing creek in the Kanuti drainage basin.

(Gold Bench)

Bismuth(?), Copper, FM, Gold, Lead,
Mercury, Monazite, Tin, Tungsten

Koyukuk district
MF-387, loc. 3

Bettles (16.1, 17.5)
66°59'N, 150°39'W

Summary: Gravel-capped bench on unconsolidated material; about 30 ft. above present grade of South Fork of Koyukuk; slopes gently toward river. Some gold scattered through top 20 ft. of gravel, but most is on false bedrock a few feet below surface. In early 1900's production, all by simple hand methods, was about 6,000 oz. of gold. In 1940's heavy equipment was used; no data on amount of production. Concentrates contained magnetite, hematite, garnet, and small amounts of pyrite, chalcopyrite, cinnabar, rutile, cassiterite, scheelite, monazite, uranothorianite, galena, sphene, and bismuthinite(?). Source of heavy minerals not known; probably reconcentrated from glacial deposits, but some may have been derived from mountains between South Fork and Jim R.

Schrader, 1904 (P 20), p. 101-102 -- Mining on a gently sloping bench 30-60 ft. above South Fork of Koyukuk. Gold is flattened and found within 8-10 ft. of surface. Gold at foot of bench in gravels of South Fork is angular, rough, and honeycombed. Production, 1900-01, was worth \$85,000 [about 4,100 fine oz.].

Maddren, 1910 (B 442), p. 292, 311-312 -- Preliminary to Maddren, 1913 (B 532).

Maddren, 1913 (B 532), p. 70 -- Gold production, 1900-04, worth \$125,000 [about 6,050 fine oz.].

p. 105-107 -- Gravels on sloping bench of unconsolidated deposits. Most gold in surface deposits of fine washed stream gravels composed largely of schist and quartz pebbles. Best gravels mined were 18-24 in. thick in 3 claims (60 acres); most gold on false bedrock of reddish sand, but a little scattered through at least top 20 ft. of gravel (\$80-\$90 per man per day with rockers). Gold was fine, flaky, and flattened. Bedrock source not known, but most likely came from mountains to south between South Fork and Jim R.

Reed, 1938, p. 153-154 -- Bench slopes gently toward river; about 30 ft. higher than present river channel. Mined by hand methods over an area of about 100 acres. Bench is about 1,000 ft. wide and 3/4 mi. long. River gravels on blue clay bedrock [sic]. Production data from Maddren, 1913 (B 532); p. 106. No mining, 1937.

Wedow and others, 1952 (OF 51), p. 95 -- Concentrate sample contains magnetite, hematite, and garnet and traces of galena, chalcopyrite, cinnabar, bismuthinite, cassiterite, and thorianite.

White, 1952 (C 195), p. 8, 10-11 -- Concentrate sample contained hematite and traces of bismuthinite(?), chalcopyrite, cinnabar, galena, cassiterite, and scheelite associated with uranium-bearing thorianite.

Wedow and others, 1953 (C 248), p. 3, 5 -- Placer concentrate sample contains about 0.18% eU. Radioactivity due to uranothorianite. Hematite and traces of bismuth, copper, lead, tin, and tungsten minerals. Probably derived from a lode source, possibly a vein, in drainage area above Gold Bench.

p. 13-15 -- Repetition of above data.

(Gold Bench) -- Continued

- Nelson and others, 1954 (C 348), p. 16, 18-19 -- Summary and repetition of data from Wedow and others, 1953 (C 248, p. 3, 5) with added information that monazite is present and that sphene, zircon, thorite(?), and uranothorianite are radioactive. No mining in 1952.
- Overstreet, 1967 (P 530), p. 110 -- Concentrates consist of magnetite, garnet, hematite, zircon, olivine, epidote, sphene, pyrite, scheelite, galena, chalcopyrite, rutile, cinnabar, cassiterite, bismuthinite(?), thorianite(?), and traces of monazite.
- Cobb, 1973 (B 1374), p. 159-160 -- Deposit formed when streams in area flowed at a higher level. Bench is about 30 ft. above present grade of South Fork and consists of gravel on false bedrock. In early 1900's about 100 acres was mined and about 6,000 oz. of gold was recovered by hand methods. Maddren thought gold came from hills to south, but it seems reasonable that at least some of gold was reconcentrated from glacial deposits. Concentrate samples contained trace amounts of pyrite, chalcopyrite, cinnabar, rutile, cassiterite, scheelite, monazite, uranothorianite, and various nonmetallic accessory minerals.
- Mulligan, 1974 (IC 8626), p. 10 -- High bench deposit of stream gravels rich enough so that \$85-\$90 per man day could be recovered with rockers in early days. Mined with heavy equipment in 1940's.

(Ironside Bar) (Bench)

Gold

Koyukuk district
MF-387, loc. 4

Bettles (16.4, 17.65)
66°59'N, 150°37'W

Summary: Gold-bearing bench gravels similar to those of Gold Bench.
Gold is fine and flaky and distributed through 6-30 ft. of gravel;
Most is on (false?) bedrock of blue clay. Small-scale mining in
early 1900's and in 1930's.

Schrader, 1904 (P 20), p. 102 -- Lumped production of Ironside Bench and
Eagle Bluff [Wiseman quad.], 1900, was worth \$1,000.

Maddren, 1910 (B 442), p. 312 -- Preliminary to Maddren, 1913 (B 532).

Maddren, 1913 (B 542), p. 107 -- Gold-bearing bench on south side of South
Fork of Koyukuk. A little mining has been done.

Reed, 1938 p. 154-155 -- Deposit generally similar to Gold Bench. Depth
to blue clay bedrock [sic] is 6-30 ft.; originally all frozen. Gold
fine and flaky; some in all of gravel but mostly on bedrock. Area of
about 40 acres worked by hand methods. Mining, 1937. Ground ran
25-50 cents per bedrock foot.

Mulligan, 1974 (IC 8626), p. 10 -- Prospects of gold have been found; little
mining.

(John R. Cr.)

Gold(?)

Koyukuk district

Bettles (16.0, 17.65)

66°59'N, 150°40'W

Summary: Gold may have been (but probably was not) found in prospect holes drilled in 1930. Old name of stream was Jean D'Arc Cr.

Mulligan, 1974 (IC 8626), p. 10 -- Gold reported to have been recovered from 17 holes drilled in creek gravels in 1930. [These data, though not so stated, are from Reed, 1938, p. 157, which reported 17 holes drilled in gravel along Jean D'Arc Cr. with unsatisfactory results. Presence of gold not reported by Reed.].

(Kanuti R.)

Lead, Silver, Zinc

Koyukuk district
MF-387, loc. 1

Bettles (19.95, 9.05)
66°39'N, 150°13'W

Summary: Gossan contains galena and sphalerite disseminated through an oxidized pyritiferous zone about 100 yards long. Samples contained as much as 20,000 ppm lead, 3,000 ppm zinc, and 30 ppm silver. Bedrock is rhyolite (probably early Tertiary) resting on Cretaceous quartz monzonite.

Patton and Miller, 1970 (B 1312-J), p. J8-J9 -- Gossan of oxidized and silicified rhyolite contains disseminated fine grains of galena, sphalerite, and pyrite. Rhyolite is tuff and tuff breccia of probable early Tertiary age; it rests on and probably intrudes Cretaceous biotite quartz monzonite in which are scattered rock pendants of hornfelsic schist. Galena and sphalerite grains as much as 5 mm long are disseminated through an oxidized pyritiferous zone about 100 yds. long. Composite grab samples contained as much as 20,000 ppm Pb, 3,000 ppm Zn, 30 ppm Ag, and 500 ppm Cu [no copper mineral reported].

(Prospect Cr.)

Gold

Koyukuk district

Bettles

NE 1/4 NE 1/4 quad.

Summary: In 1909 Geological Survey party panned gold from gravels of upper Prospect Cr. Occurrence has not been found since.

Maddren, 1910 (B 442), p. 311 -- Preliminary to Maddren, 1913 (B 532).

Maddren, 1913 (B 532), p. 105-106 -- In 1909 Survey party panned gold from gravels in upper part of south branch of Jim R. (Prospect Cr.). Mountains on north side of valley appear to be largely diabase.

Reed, 1938, p. 162-163 -- Reference to Maddren, 1913 (B 532), p. 105.

Prospectors have been unable to find this occurrence.

Mulligan, 1974 (IC 8626), p. 10 -- Reports of placer gold discoveries have not been confirmed.

(Rock Cr.)

Gold

Koyukuk district
MF-387, loc. 5

Bettles (16.95, 17.85)
64°00'N, 150°32'W

Summary: About 35-40 fine oz. of gold was recovered in early 1900's. No other data available.

Reed, 1938, p. 160-161 -- About \$800 in gold [probably old price] was mined in the early days. Creek descends very steeply into valley of South Fork.

(Birch Gulch) (Cr.)

Bismuth, Gold

McGrath district

Medfra (9.8, 3.8)

MF-364, loc. 12

63°13'N, 154°46'W

Summary: Bedrock is slate with either a tongue or an isolated mass of crystalline limestone and porphyry. Overburden is poorly sorted with some very large boulders. Gold is mainly on bedrock, but some is in lowest 3 ft. of overburden, which is as much as 24 ft. thick. Bismuth nuggets in concentrates. Mining, all small-scale, reported in 1924, 1926-27, and 1933.

Brown, 1926 (B 783), p. 135 -- Bedrock is slate with either a tongue or an isolated mass of recrystallized limestone. Porphyry boulders abundant in gravel. Four lode claims were staked, but only placer gold was mined.

p. 137 -- Placer claims downstream from lode claims (above) were leased and a ditch built in 1924. Porphyry bedrock said to be about 24 ft. below surface. Very large boulders in poorly sorted overburden. Pay probably narrow and patchy. Gulch usually dry.

Placer gold on lode claims (above) is coarse and little worn.

Smith, 1929 (B 797), p. 25 -- Mining, 1926.

Smith, 1930 (B 810), p. 31 -- Mining, 1927.

Smith, 1934 (B 864-A), p. 34 -- Mining, 1933.

Mertie, 1936 (B 864-C), p. 195-196 -- Mining, 1933. Gold mainly on bedrock ("limestone heavily impregnated with iron hydroxides"); some in lowest foot of 3 ft. of angular wash beneath 8 ft. of muck. Bismuth nuggets in concentrates. Assay showed 0.961-3/4 Au and 0.033 Ag.

(Boulder Cr.)

Gold(?)

McGrath district

Medfra (10.9, 6.7) approx.

63°22'N, 154°37'W approx.

Summary: Fine flake gold reported; bedrock in area is porphyry. Presence of gold not confirmed and no record of any activity after about 1915. See also (Jones Cr.).

Brown, 1926 (B 783), p. 141 -- Stream in area of porphyry bedrock is said to have colors of fine flake gold.

(Canyon Cr.)

Gold(?)

McGrath district

Medfra (13.0, 7.75) approx.
63°26'N, 154°50'W approx.

Summary: Colors of gold said to have been found. Not confirmed and no record of any activity after about 1915.

Brown, 1926 (B 783), p. 141 -- Colors said to have been found in many places.

(Clearwater Cr.)

Gold(?)

Ruby district

Medfra

SE 1/4 NE 1/4 quad.

Summary: Unconfirmed report of colors of gold in gravel bars.

Brown, 1926 (B 783), p. 141 -- Gravel bars said "to yield colors occasionally".

(Cottonwood Cr.)

Gold

McGrath district
MF-364, loc. 7

Medfra (10.0, 7.0) approx.
63°24'N, 154°44'W approx.

Summary: Colors of gold have been found between Hosmer and Cottonwood Creeks. Granodiorite nearby.

Brown, 1926 (B 783), p. 118 -- Granodiorite in a small area about 3 mi. northwest of mouth of creek.

p. 141 -- Colors of gold have been found between Hosmer and Cottonwood Creeks. Prospectors thought gold came from coarse conglomerate beds; Brown suspects it is "more probably connected with the intrusive monzonite (p. 118) in the region."

(Crystal Gulch)

Bismuth, Gold

McGrath district
MF-365, loc. 9

Medfra (9.65, 4.25)
63°14'N, 154°47'W

Summary: Gulch heads in area where gold lodes have been mined. Placer gold was mined out by about 1924. Concentrates contained much coarse magnetite and a little bismuth.

Brown, 1926 (B 783), p. 138 -- A little placer mining of low-grade ground at lower end of gulch in 1924; all the better ground has been mined out. Gold undoubtedly derived from lode claims at head of gulch.

Traces of bismuth in placers; also considerable coarse lump magnetite.

Mertie, 1936 (B 864-C), p. 196-197 -- Heads in area of gold lodes that have been mined. Small amount of high-grade ground; worked out.

Reed and Miller, 1971 (B 1312-K), p. K16 -- Reference to Brown, 1926 (B 783), p. 138.

(Eagle Cr.)

FM, Gold, RE, Tungsten

McGrath district
MF-365, loc. 14

Medfra (8.9, 2.6)
63°09'N, 154°53'W

Summary: Near a small lode gold mine near contact between limestone and a small granitic stock. Was placer mining in 1920's, early 1930's, 1949, and probably at other times. A concentrate sample contained allanite, garnet, ilmenite, scheelite, uraniferous thorianite, and a trace of sphene. Includes reference to (Crooked Cr.).

Brown, 1926 (B 783), p. 139 -- Clow and Strand reported to have found gravel running \$0.38 per sq. ft. on 2 claims on Crooked Cr. Expected to mine in 1924.

Smith, 1929 (B 797), p. 25 -- Mining, 1926.

Smith, 1930 (B 810), p. 31 -- Mining, 1927.

Smith, 1930 (B 813), p. 36-37 -- Mining, 1928.

Smith, 1932 (B 824), p. 42 -- Mining, 1929.

Smith, 1933 (B 836), p. 43 -- Mining, 1930.

Smith, 1933 (B 844-A), p. 43 -- Mining, 1931.

Smith, 1934 (B 864-A), p. 45 -- Mining, 1933.

Mertie, 1936 (B 864-C), p. 197 -- One man mining, 1933.

Wedow and others, 1952 (OF 51), p. 89 -- Heavy-mineral concentrates contain fluorite and minor amounts of thorianite.

White and Stevens, 1953 (C 279), p. 16, 18-19 -- Sample of sluice-box concentrate contained uraniferous thorianite, allanite, and sphene; eU content was 0.26%. A sample of a placer concentrate that may have come from Eagle Cr. contained uraninite, uraniferous thorianite, and allanite; eU content was 0.18%; U content was 0.06%. Placer mining in 1949.

Cobb, 1973 (B 1374), p. 53 -- Placer gold mining on a small scale in 1920's and early 1930's. Concentrate sample contained allanite, garnet, ilmenite, scheelite, thorianite, and a trace of sphene. Near Stone lode mine.

(Hidden Cr.)

Bismuth, Gold, Tungsten

McGrath district

Medfra (9.75-10.0, 3.7-4.1)

MF-365, locs. 4, 13

63°13'-63°14'N, 154°44'-154°46'W

Summary: Initial gold discovery in area, June, 1917. Bedrock in most of mined area is quartz monzonite, as are most of gravels; limestone downstream, where lode prospect was staked on a pyroxenite dike with copper carbonate minerals (only production from claims was placer). Bedrock 10-12 ft. deep where mined; becomes abruptly much deeper (as much as 200 ft. downstream), possibly because of a collapsed cavern in limestone. Gold on or near (but not in) bedrock; where bedrock is deep, there is a little gold on a clay false bedrock. Concentrates contain much bismuth, also a little scheelite and barite. Mining from discovery until 1935 or later. Includes references to Matthews & Blackburn.

Brooks, 1922 (B 722), p. 60 -- Placer mining, 1920. Deposit is 75-125 ft. wide and 4 ft. deep.

Martin, 1922 (B 722), p. 149 -- For several years [prior to 1920] there was small-scale placer mining.

p. 159 -- Sample from Mathews & Blackburn lode prospect contained no nickel.

p. 161 -- Lode prospect is on a pyroxenite (mainly augite) dike in limestone; copper carbonates present. Placer mine is just inside area of monzonite. Pay gravel said to be 75-125 ft. wide and has been shoveled in to a depth of about 4 ft., 1920.

Brown, 1926 (B 783), p. 127 -- Quotation from Martin, 1922 (B 722).

p. 135-137 -- Reference to and quotation from Martin, 1922 (B 722), for data on Matthews & Blackburn lode deposit, which did not develop into anything economic. In area being placer mined bedrock is "rotten monzonite" beneath 10-12 ft. of boulders, gravel, sand, silt, and muck. Gold near or on bedrock. Native bismuth abundant in concentrate. Cleanup in 1923 was worth about \$14,000; that for 1924 expected to be less.

p. 139 -- Lode source of gold has not been found.

Smith, 1926 (B 783), p. 15 -- Placer mining, 1924.

Smith, 1929 (B 797), p. 25 -- Placer mining, 1926.

Smith, 1930 (B 810), p. 31 -- Placer mining, 1927.

Smith, 1930 (B 813), p. 36-37 -- Placer mining, 1928.

Smith, 1932 (B 824), p. 42 -- Placer mining, 1929.

Smith, 1933 (B 836), p. 43 -- Placer mining, 1930.

Smith, 1933 (B 844-A), p. 43 -- Placer mining, 1931.

Smith, 1934 (B 864-A), p. 45 -- Placer mining, 1933.

Mertie, 1936 (B 864-C), p. 193-195 -- Gold placers discovered, 1917. Monzonite in headwater tributaries from north. Bedrock in most of mined area is quartz monzonite, as are most of the gravels. Bedrock 10-12 ft. deep where mined, but abruptly becomes much deeper (as much as 200 ft.) a short distance downstream; possibly because of a collapsed cavern in limestone. Gold on (but not in) or close to bedrock; where bedrock is deep there is a little gold on a clay false bedrock. Average

(Hidden Cr.) -- Continued

of 14 assays was 0.928 Au and 0.059 Ag. Largest nugget weighed 4-3/4 oz. Concentrates contain much native bismuth; also scheelite and barite.

p. 235 -- Same fineness data as on p. 195.

Smith, 1936 (B 868-A), p. 46 -- Placer mining in valley, 1934; all small scale.

Smith, 1937 (B 880-A), p. 48-49 -- Small-scale placer mining in valley, 1935.

White and Stevens, 1953, p. 12 -- Bismuth in placers above Dry Gulch. No mining, 1949.

Jasper, 1961, p. 49 -- Gold discovered, June, 1917.

Herreid, 1966 (GR 22), p. 6 -- Gold discovered, 1917.

Maloney, 1966 (USBM OF 4-66), p. 6 -- Gold discovered, 1917.

Cobb, 1973 (B 1374), p. 52-53 -- Gold discovered, 1917. Bismuth in concentrates.

(Holmes Gulch) (Cr.)

Bismuth, Gold

McGrath district
MF-365, loc. 11

Medfra (9.65, 3.85)
63°13'N, 154°47'W

Summary: Bedrock is iron-stained limestone about half a mile west of monzonite intrusive. About 10 ft. of coarse angular gravel with porphyry, monzonite, and limestone boulders. Most of gold fine, but some is coarse with attached quartz or containing fragments of silicified limestone. Concentrates chiefly magnetite; a little bismuth. Gold was traced upstream to lode at Whalen mine.

Martin, 1922 (B 722), p. 161 -- Bedrock is limestone about a mile west of margin of monzonite. Sluicing, 1920.

Brown, 1926 (B 783), p. 137 -- Being mined in 1924 and has produced for several years. Tracing gold up gulch resulted in finding Whalen-mine lode. Stream channel wholly in limestone, some of which may be slightly altered, suggesting proximity of monzonite. Gravel 9-10 ft. deep and very coarse; boulders of porphyry, monzonite, and limestone (some copper stained). Some of gold contains fragments of silicified limestone stained with copper. Black sand is chiefly magnetite; contains traces of bismuth.

Smith, 1926 (B 783), p. 15 -- Mining, 1924.

Smith, 1930 (B 813), p. 36-37 -- Mining, 1928.

Smith, 1932 (B 824), p. 42 -- Mining, 1929.

Smith, 1933 (B 836), p. 43 -- Mining, 1930.

Smith, 1933 (B 844-A), p. 43 -- Mining, 1931.

Mertie, 1936 (B 864-C), p. 196 -- Mining, 1933. Pay streak has been traced upstream toward Whalen lode for 4,000 ft. Bedrock at mine is "greatly decayed and iron-stained limestone" said to be cut by porphyritic dikes. Overburden is about 11 ft. of angular gravel. Most of gold is fine grained; some larger rough, angular grains with attached quartz.

Smith, 1937 (B 880-A), p. 48-49 -- Small-scale mining, 1935.

Smith, 1941 (B 926-A), p. 56 -- Small-scale mining, 1939.

Reed and Miller, 1971 (B 1312-K), p. K9 -- Placer gold has been mined.

(Jones Cr.)

Gold(?)

McGrath district

Medfra (10.15, 6.3) approx.
63°21'N, 154°42'W approx.

Summary: Unconfirmed report of colors of fine flake gold. See also
(Boulder Cr.).

Brown, 1926 (B 783), p. 141 -- Stream said to yield colors of fine flake
gold.

(Mystery Cr.)

Gold

McGrath district

Medfra (9.9, 4.3) approx.
63°15'N, 154°45'W approx.

Summary: Placer gold was found soon after the discovery of gold on Hidden Cr. (1917).

Herreid, 1966 (GR 22), p. 6 -- Placer gold discovered soon after discovery on Hidden Cr. (June, 1917).

Maloney, 1966 (USBM OF 4-66), p. 6 -- Placer gold was found.

Nixon Fork (Mining Co.)

Bismuth, Copper, FM, Gold, Silver, Tungsten

McGrath district

Medfra (9.75, 4.25)

MF-365, loc. 2

63°14'N, 154°46'W

Summary: Production from Nixon Fork and Whalen was an estimated 40,000-60,000 oz. of gold plus a little silver, mainly between World Wars I and II; some mining in 1960's. Regionally, Paleozoic limestone and Cretaceous clastic rocks were intruded by quartz monzonite stocks with local porphyritic quartz latite border facies and dikes in quartz monzonite. At stock at mines ore is in small, locally rich, contact metamorphic deposits mainly in crystalline limestone within a few hundred feet of contact; a few deposits in stock itself. Some deposits may be later hydrothermal replacement bodies in limestone. Ore minerals are auriferous chalcopyrite and pyrite; in most mines ore is oxidized and gold enriched. Ore also contains a little bismuth. Scheelite and uranium- and thorium-bearing minerals found in samples from a dump. Most ore bodies were lenticular, less than 100 ft. in vertical or horizontal dimensions, and without well-defined walls. Mined from shafts with extensive branching levels and from a few pits and trenches. Data on Whalen mine generally mixed with those on Nixon Fork mines. Includes references to: Crystal, Garnet, High Grade, Keen, McGowan & Lind, McGowan & Mespelt, Mespelt & Co., Mespelt Bros., Nixon, Pearson & Strand, Recreation, Southern Cross, Texas, Twin, Winan & McGowan. See also Whalen.

Brooks, 1933 (B 722), p. 59-60 -- Large-scale prospecting, summer of 1920.

During previous winter several hundred tons of ore was mined from the Crystal shaft and later was shipped. Exploration by Alaska Treadwell Gold Mining Co. included about 525 ft. of shafts, drifts, and crosscuts.

Martin, 1922 (B 722), p. 158-161 -- All ore deposits are on or near the western contact of a monzonite stock and limestone. Except for Crystal shaft all workings are in oxidized material; small masses of malachite and azurite; ore mainly valuable for gold. Crystal shaft sunk 65 ft. in monzonite near contact with limestone in winter of 1919-20; ore not oxidized; chalcopyrite, pyrite, and bornite in carbonate and zeolite gangue; ore body mined was reported to have been a lens 10x20x65 ft.

Brooks, 1923 (B 739), p. 42 -- Development work continued in 1921; 2,297 ft. of underground work; maximum depth of 290 ft. in one shaft; mill completed. [Probably includes work at Whalen; see Whalen.].

Brooks and Capps, 1924 (B 755), p. 47 -- Development and mining continued in 1922; 1,890 ft. of underground workings. Mill operated June to September. [Probably work was mainly at Whalen; see Whalen.].

Mertie and Harrington, 1924 (B 754), p. 116 -- Gold lode discovered, winter of 1918-19. Some production reported, 1919. Reference to Martin, 1922 (B 722).

Brooks, 1925 (B 773), p. 15 -- Only productive lode property in Kuskokwim basin, 1923 [Probably really refers to Whalen.].

Nixon Fork (Mining Co.) -- Continued

consist of several shafts (most inclined), few of which were more than 100 ft. deep (from the surface). Gold very variable in fineness (from 0.71525 to 0.794).

Smith, 1936 (B 868-A), p. 21-22 -- Mining, 1934, from Mespelt and Southern Cross.

Smith, 1937 (B 880-A), p. 27-28 -- Mining, 1935; about the same scale as for the last several years.

Smith, 1938 (B 897-A), p. 33 -- Mining, 1936.

Smith, 1939 (B 910-A), p. 28 -- Mining, 1937. Mill operated for 56 days.

[May have been some work at Southern Cross; reference says Whelan, but almost identical wording in B 917-A is for Southern Cross.]

Smith, 1939 (B 917-A), p. 29 -- Mespelt and Southern Cross operated, 1938; output at Mespelt lower than in past years. At Mespelt vertical shaft is about 300 ft. deep; during 1938 225 ft. of drifting was done. Work at Southern Cross was mainly development rather than productive mining.

Smith, 1941 (B 926-A), p. 26 -- Mining at Mespelt and a little (no ore milled) at Southern Cross in 1939.

Smith, 1942 (B 933-A), p. 26 -- Mining at Mespelt and a little (probably no ore milled) at Southern Cross in 1940.

Wedow and others, 1952 (OF 51), p. 89 -- Minor amounts of uranium in carbonate and silicate minerals such as parisite, vesuvianite, and garnet. Thorium in allanite.

White and Stevens, 1953 (C 279), p. 10, 12 -- Short summary of data in, and references to Martin, 1922 (B 722), Brown, 1926 (B 783), and Mertie, 1936 (B 864-C).

p. 16-19 -- Ore samples contained no more than 0.019% eU. Garnet rock from near Crystal shaft contained as much as 0.025% eU and 0.006% U.

Jasper, 1961 -- Historical and geological data summarized or quoted from USGS reports. Gold production by Mespelt Bros. from 1926 to 1950 or 1952 was probably worth about \$1,000,000; total was probably about \$1,315,000 [this may include production from Whalen]. About 300 tons of ore was mined in 1960 from a partially refilled cavern in limestone. Ore minerals (in order of abundance) are chrysocolla, malachite, azurite, free gold, and minor amounts of pyrite and chalcopyrite. Ore is in small, high-grade bodies with no connections between them. Development has been by sinking shafts on outcropping ore bodies.

Herreid, 1966 (GR 22), p. 6-12 -- Historical data same as in earlier reports. Pondered tailings reputedly contain 10,000 tons of material averaging \$30 per ton in gold. Most data on geology and development at mines summarized from older reports. Mespelts mined about 5,000 tons of ore from High Grade shaft; 2 tabular ore bodies.

Maloney, 1966 (USBM OF 4-66) -- Most of history and geology are from older reports. The rest of this report is mainly detailed sample descriptions and data on metallurgical tests.

Berg and Cobb, 1967 (B 1246), p. 96-97 [Includes data applicable to Whalen, which is not mentioned.] Lode mines [including Whalen] have produced an estimated 40,000-60,000 oz. gold and a little silver, mainly between World Wars I and II. Principal lodes in recrystallized Paleozoic limestone near contact with Tertiary quartz monzonite. Primary minerals (principally gold-bearing copper and iron sulfides) have been extensively oxidized

Brown, 1926 (B 783), p. 127-128 -- From 1920 to late 1923 a subsidiary of Alaska Treadwell Gold Mining Co. prospected and developed Whalen & Griffin, Pearson & Strand, McGowan & Mespelt and other groups of claims. Most of work was at Whalen & Griffin. Mill built in 1921. Production 1922 was worth \$114,024 in gold; total through 1923 about \$235,000. Some from Pearson & Strand. Operations probably were at a loss; in 1923 claims reverted to original owners.

p. 130-134 -- Mainly quotations from Martin, 1922 (B 722). All mines and prospects in limestone close to contact with monzonite; deepened shaft and winze at Garnet shaft were in monzonite with little or no ore. Most ore oxidized; gold enrichment and secondary copper minerals. Ore at Crystal shaft not oxidized. Treadwell Co. milled ore from several shafts; recovery probably less than 50%.

Smith, 1930 (B 810), p. 15-16 -- Gold produced from Pearson & Strand mine, 1927.

Smith, 1930 (B 813), p. 18 -- Gold produced from Pearson & Strand mine, 1928.

Smith, 1932 (B 824), p. 20-21 -- Gold produced from Pearson & Strand mine, 1929.

Smith, 1933 (B 836), p. 21 -- Mining, 1930. 4-5 men employed all year at Pearson & Strand.

Smith, 1933 (B 844-A), p. 22 -- Pearson & Strand mine operated 10 months and mill 2 months, 1931.

Smith, 1934 (B 857-A), p. 19 -- Mining at Pearson & Strand, 1932; probably less than in 1931.

Smith, 1934 (B 864-A), p. 23 -- Mining at Pearson & Strand, 1933; mine operated all year, but mill operated part of summer only (water shortage).

Mertie, 1936 (B 864-C), p. 229-241 -- Placer gold found in nearby creeks in 1917; traced upstream to lodes, which were found in 1918. Several hundred tons of high-grade ore mined during winter of 1919-20 and shipped to smelter. Treadwell Co. took over most of claims in 1920, installed a mill, and mined in 1921-22 (Whalen mined in 1923 also), after which the properties reverted to the original owners, Pearson & Strand, and then the Mespelts, mined and operated the mill continuously from 1926 [as of 1933].

Country rock is Paleozoic limestone and Cretaceous sandstone and shale intruded by a mass of Tertiary quartz monzonite and related rocks. Ore deposits are at or near contact between limestone and intrusive; most are in limestone; few are more than 100 ft. from contact, which is very irregular and in places modified by cross faulting, some of which occurred before ore deposition. Some mineralization followed faults as well as the contact. Ore bodies are lenticular and less than 100 ft. horizontally or vertically. Ore was originally auriferous copper and iron sulfides; now most are oxidized except in Crystal lode. Highest gold values are not necessarily where there is the most copper. Silver present (1-15 oz. per ton), but no free silver reported and very little alloyed with the gold. Also is a small amount of native bismuth. Some of ore is in contact-metamorphic deposits with typical contact-metamorphic minerals, but much is not; probably ore-bearing fluids were introduced later with sulfide replacement of limestones that had already been recrystallized; some ore deposition was probably low temperature. Mines

with resultant release of gold from sulfides and residual enrichment in oxidized zone. Ore is secondary iron and copper minerals, gold, and a little native bismuth. Copper content of 2-12 percent; was no effort to recover it. Ore bodies, commonly less than 100 ft. in horizontal and vertical extent, were worked by shafts with extensive branching levels and a few pits and trenches. Scheelite and radioactive minerals found in a dump near a shaft.

Reed and Miller, 1971 (B 1312-K), p. K1, K3-K4 -- Complexly folded Paleozoic limestone 5,000-7,000 ft. thick is overlain by Cretaceous clastic rocks at least 5,000 ft. thick that have developed slaty cleavage and are hornfelsed near contacts with granitic stocks. Quartz latite porphyry occurs locally along borders and as dikes in stock near the mines. Gold lodes are small, locally rich contact metamorphic deposits in limestone; generally within a few hundred feet of quartz monzonite contact. Chief ore minerals are auriferous pyrite and chalcopyrite. Locally extensive oxidation has resulted in release of gold from sulfides and enrichment in oxidized zone. [Foregoing general statements apply to Whalen as well as to Nixon Fork.]

p. K14 -- Keen shaft reported to have been sunk on a 4-ft.-wide vein of banded quartz, arsenopyrite, and pyrite.

p. K18 -- Gold lodes occur as small, but locally rich, contact metamorphic deposits in limestone, generally within a few hundred feet of the quartz monzonite contact.

(Nixon Fork, headwaters)

Gold(?)

McGrath district

Medfra

SW 1/4 SW 1/4 NE 1/4 quad.

Summary: Gold strikes between 1910 and 1915 reported; local stampedes evidently were fruitless.

Brown, 1926 (B 783), p. 141 -- From 1910 to 1915 reported gold strikes at head of Nixon Fork near Von Frank Mtn. caused a few local stampedes, from which nothing ever developed. Signs of activity (pits, ditches, dams, and cabins) remain [1924].

(Our Cr.)

Gold

Ruby district

Medfra

NW 1/4 NW 1/4 NE 1/4 quad.

Summary: Placer gold near head of creek.

Eakin, 1916 (B 642), p. 220 -- Preliminary to B 667.

Eakin, 1918 (B 667), p. 51 -- Placer gold has been reported from the head of Our Cr., a tributary of the Nowitna.

Brown, 1926 (B 783), p. 141 -- Prospectors in Our Cr. region near the head of Bridge Cr. found prospects at several places but apparently nothing minable.

Henning, 1973 (AOF 23), p. 2 -- Gold placer near head of creek.

(Riddle Gulch)

Gold

McGrath district
MF-365, loc. 10

Medfra (9,95, 4.0)
63°13'N, 154°45'W

Summary: Headwater of Hidden Creek that is now called Encio Gulch; not the stream now called Riddle Gulch. Pay streak extends down gulch and then a mile down Hidden Cr. Mining, 1929-31, and probably 1968. Includes reference to (Encio Gulch).

Smith, 1932 (B 824), p. 42 -- Mining, 1929.

Smith, 1933 (B 836), p. 43 -- Mining, 1930.

Smith, 1933 (B 844-A), p. 43 -- Mining, 1931.

Mertie, 1936 (B 864-C), p. 194 -- Headwater of Hidden Cr. Pay streak extends down Riddle Gulch and a mile on down Hidden Cr.

Reed and Miller, 1971 (B 1312-K), p. K14 -- Gold placer working [implication that there was mining in 1968].

(Ruby Cr.)

Bismuth, Copper, FM, Gold, Tin, Tungsten

McGrath district

Medfra (9.55, 4.2)

MF-365, loc. 8

63°14'N, 154°47'W

Summary: Gold discovered, 1917; derived from lodes at head of Crystal Gulch. Concentrates contain much magnetite and traces of bismuth. A sample of a sluice box concentrate also contained cassiterite, ilmenite, scheelite, thorianite, sphene, hematite, malachite, and zircon, several of which contained uranium. Mining from about 1917 to 1933 or later.

Brooks, 1922 (B 722), p. 60 -- One deep placer mine and one small open cut being mined, 1920.

Martin, 1922 (B 722), p. 149 -- For several years [prior to 1920] there was small-scale placer mining.

p. 161 -- Drift placer mine near contact between limestone and monzonite.

Brown, 1926 (B 783), p. 127 -- Quotation from Martin, 1922.

p. 138 -- Small placers have been worked for several years [as of 1924] below mouth of Crystal Gulch. Gold derived from lodes at head of Crystal Gulch. Trace of bismuth and much coarse lump magnetite in placers.

Smith, 1929 (B 797), p. 25 -- Mining, 1926.

Smith, 1930 (B 810), p. 31 -- Mining, 1927.

Smith, 1930 (B 813), p. 36-37 -- Mining, 1928.

Smith, 1932 (B 824), p. 42 -- Mining, 1929.

Smith, 1933 (B 836), p. 43 -- Mining, 1930.

Smith, 1933 (B 844-A), p. 32 -- Mining, 1931.

Mertie, 1936 (B 864-C), p. 196-197 -- A little mining, 1933. Average fineness of gold mined in 1929 was 0.807-3/4 Au and 0.107 Ag.

p. 235 -- Fineness for 1929 given as 0.808 Au, 0.107 Ag.

White and Stevens, 1953 (C 279), p. 10 -- Placer gold discovered, 1917.

p. 12-13, 15-16 -- Sample of sluice-box concentrate contained 0.078% eU; minerals identified in it included cassiterite, gold, ilmenite, magnetite, scheelite, thorianite, unknown secondary minerals, sphene, hematite, malachite, and zircon, several of which contained uranium.

p. 19 -- Summary of data on p. 12, 16.

Herreid, 1966 (GR 22), p. 6 -- Placer gold found soon after discovery on Hidden Cr. in June, 1917.

Maloney, 1966 (USBM OF 4-66), p. 6 -- Placer gold was found.

Cobb, 1973 (B 1374), p. 52-53 -- Placer gold discovered, 1917. Bismuth in concentrates.

Stone

Gold

McGrath district
MF-365, loc. 5

Medfra (8.9, 2.5)
63°08'N, 154°53'W

Summary: Small lode gold mine near contact between Paleozoic limestone and a small monzonite intrusive body. Operated in 1949 and probably other years. See also (Eagle Cr.).

White and Stevens, 1953 (C 279), p. 10 -- Gold lode prospect on Eagle Cr.
p. 18 -- Mine operated, 1949. Near contact between limestone and a small monzonite mass.

Berg and Cobb, 1967 (B 1246), p. 97 -- Gold mine is near contact between Paleozoic limestone and a small intrusive body similar to the one in the Nixon Fork area. No data on development or production.

(Submarine Cr.)

Gold

McGrath district

Medfra (10.1, 4.75) approx.

63°16'N, 154°43'W approx.

Summary: Placer gold was found soon after the discovery of gold on Hidden Cr. (1917).

Herreid, 1966 (GR 22), p. 6 -- Placer gold found soon after discovery on Hidden Cr. in June, 1917.

Maloney, 1966 (USBM OF 4-66), p. 6 -- Placer gold was found.

(Sunshine Mts.)

Gold

McGrath and Ruby districts

Medfra (7,0-9.0, 7,75-9.5) approx.
63°26'-63°32'N, 154°50'-155°05'W approx.

Summary: Colors of gold reported to have been found in many places. See also: (Clearwater Cr.), (Cottonwood Cr.).

Brown, 1926 (B 783), p. 141 -- Men who prospected in Sunshine Mts. reported finding colors in many places.

Henning, 1973 (AOF 23), p. 2 -- Gold placer claims have been located,

Whalen (& Griffin)

Bismuth, Copper, FM, Gold, Nickel(?),
RE, Silver, Tungsten

McGrath district

Medfra (9.75, 4.0)

MF-364, loc. 3

63°13'N, 154°46'W

Summary: First lode production from area. Total production, 1920-24 (all gold and silver) was worth probably a little more than \$400,000 (old price of gold); some of this may have been from Nixon Fork. Ore body in limestone close to quartz monzonite; contact offset by cross faults. Most of ore was oxidized, but in some a little original auriferous chalcopryrite and pyrite remained. Copper probably not more than 1-2 percent in most of ore. Ore mined in 1924 estimated to have run about \$56 a ton in gold and 1-3 oz. a ton in silver. Workings consisted of a 200-ft.-deep inclined shaft and drifts; in one area "glory hole" caved from surface to 40-ft. level. Minerals identified in material in mine and on dumps included gold, chalcopryrite and secondary copper minerals, allanite, parisite, scheelite, and bismuth. Report of nickel was not verified. In literature data on Whalen mine are quite thoroughly mixed with those for the other mines in the area; for summary of data on geology, on deposits, and history of mining, see Nixon Fork sheet. See also (Holmes Gulch), Nixon Fork.

Brooks and Martin, 1921 (B 714), p. 93 -- Specimen sent to Survey by Dr. W. F. Green contained copper and a little nickel, 1919.

Brooks, 1922 (B 722), p. 59-60 -- Part of group of properties being explored by Alaska Treadwell Gold Mining Co., 1920.

Martin, 1922 (B 722), p. 159-160 -- Sample collected by Martin contained no nickel (see Brooks and Martin, 1921 (B 714), p. 93). Shaft 100 ft. deep; at 40-ft. level 160 ft. of drifts. Crosscuts show 32 ft. of ore said to average \$68 per ton in gold. Vein is in limestone close to contact with monzonite. Ore oxidized; contains small masses of copper carbonates and a few small masses of chalcopryrite or pyrite.

Brooks, 1923 (B 739), p. 42 -- [Data on exploration and development lumped with those for Nixon Fork; see Nixon Fork.]

Brooks and Capps, 1924 (B 755), p. 47 -- [Data lumped with those for Nixon Fork; see Nixon Fork.]

Brown, 1926 (B 783), p. 127-130 -- Historical data quoted from Martin, 1922 (B 722). From 1920 to late 1923 a subsidiary of Alaska Treadwell Gold Mining Co. prospected and developed Whalen & Griffin, Pearson & Strand, McGowan & Mespelt, and other groups of claims. Most work at and production from Whalen & Griffin. Mill built in 1921. Production in 1922 was worth \$114,024 in gold; total through 1923 was about \$235,000. Operations probably were at a loss. In 1923 claims reverted to original owners. Ore left in Whalen mine was milled; estimated that cleanup in 1924 would be worth about \$80,000. Deposit is in crystalline limestone near faulted contact with monzonite; limestone contains irregular masses of typical contact-metamorphic rocks; some of workings penetrated monzonite. Most of ore oxidized, but some of original pyrite and chalcopryrite with free gold remain. Oxidized ore enriched in gold. Copper probably

Whalen (& Griffin) -- Continued

not more than 1-2 percent of most of ore. Ore milled in 1924 estimated to run about \$56 a ton in gold. Ore also carried 1 to 3 oz. silver per ton.

Smith, 1926 (B 783), p. 9 -- Only productive lode-gold mining in Kuskokwim basin, 1924. Mine and mill practically closed down after milling ore mined winter of 1923-24.

Moffit, 1927 (B 792), p. 13 -- Substantial production reported, 1925.
[Probably was at Nixon Fork.]

Smith, 1930 (B 810), p. 16 -- Prospecting resumed, 1927, after discontinuance of about 2 years; no production.

Smith, 1932 (B 824), p. 21-22 -- Trenching, 1929. Some ore worth mining reported to have been found.

Smith, 1933 (B 836), p. 21 -- Trenching, 1930. Some ore worth more work said to have been found.

Smith, 1933 (B 844-A), p. 22 -- Trenching, 1931.

Smith, 1934 (B 857-A), p. 19 -- Trenching, 1932.

Smith, 1934 (B 864-A), p. 23 -- Trenching reported, 1933.

Mertie, 1936 (B 864-C), p. 230-236 -- Data on regional geology and ore deposits. Summarized in sheet for Nixon Fork. Fineness of gold from Whalen averaged 0.812 Au and 0.171 Ag.

p. 241-242 -- No work in 1933 and workings inaccessible. Data quoted from Brown (1926).

Smith, 1939 (B 910-A), p. 28 -- Development work rather than productive mining reported, 1937. [This may be in error; the work probably was at Southern Cross.]

White and Stevens, 1953 (C 279), p. 10, 12, 14 -- Main shaft 200 ft. deep inclined at 85° angle down contact between limestone and monzonite; in 1949 was filled with ice to within 12 ft. of top. Allanite, which contains 0.004% U, in limestone boulders on dump. Heavy-mineral concentrate was 98% allanite and the rest zircon, kyanite, and scheelite. Radioactive parisite in limestone in walls of glory hole that had caved to 40-ft. level.

p. 18-19 -- Summary of data on p. 10, 12, 14.

Jasper, 1961, p. 49-51 -- Historical and geological data summarized or quoted from USGS reports.

Herreid, 1966 (GR 22), p. 6-7, 10-11 -- Most of data from older reports.

Maloney, 1966 (USBM OF 4-66), p. 6-7 -- Historical data from old reports.

Reed and Miller, 1971 (B 1312-K) -- [Data included with those for Nixon Fork. See Nixon Fork.]

(Whirlwind Cr.)

Gold(?)

McGrath district

Medfra

NW 1/4 NW 1/4 SE 1/4 quad.

Summary: Gold reported. Local stampedes between 1910 and 1915 evidently were fruitless.

Brown, 1926 (B 783), p. 141 -- Several local stampedes between 1910 and 1915 resulted from reports of gold strikes on lower Whirlwind Cr., but nothing ever developed.

(Wyoming Cr.)

Antimony, Mercury

Innoko district
MF-365, loc. 1

Medfra (0.55, 10.05)
63°34'N, 155°55'W

Summary: Vein is near a contact between a monzonite stock and Cretaceous sedimentary rocks. Vein is 30 in. thick and consists of alternating layers of quartz intergrown with cinnabar and of coarse stibnite with interstitial quartz.

Brooks, 1916 (B 649), p. 50 -- Vein reported to be about 30 in. thick. A specimen shows two bands. One is quartz, some in crystals normal to banding, intergrown with cinnabar. The other is coarse columnar stibnite with interstitial vitreous quartz; longer axes of stibnite crystals roughly parallel to banding.

Mertie and Harrington, 1916 (B 642), p. 258-259 -- 30-inch vein of stibnite and quartz. A specimen shows that quartz and cinnabar form the walls and stibnite the center of the vein, which is said to be in the contact zone between monzonite and sedimentary rocks.

Mertie and Harrington, 1924 (B 754), p. 116 -- Same as Mertie and Harrington (1916, p. 258-259).

Mertie, 1936 (B 864-C), p. 228 -- Same as Brooks, 1916 (B 649), p. 50.

Joesting, 1942 (TDM 1), p. 26 -- Reference to Mertie and Harrington, 1924 (B 754), p. 116.

Malone, 1962 (IC 8131), p. 51 -- Reference to Mertie and Harrington, 1916 (B 642).

Malone, 1965 (IC 8252), p. 50 -- Same as Malone, 1962 (IC 8131), p. 51 [but without reference citation].

p. 56 -- Incorrect reference to Webber and others, 1947, Mercury deposits of southwestern Alaska: U.S. Bur. Mines Rept. Inv. 4065.

Berg and Cobb, 1967 (B 1246), p. 227-228 -- Monzonite stock cuts Cretaceous sedimentary rocks. Vein about 30 in. thick consists of alternating layers of quartz intergrown with cinnabar and of coarse stibnite with interstitial quartz. Deposit has not been worked.

Unnamed creek

Gold(?)

Ruby district

Medfra

SE 1/4 NW 1/4 NE 1/4 quad.

Summary: Placer gold reported from a tributary of the Sulukna R. that heads against Our Cr. No confirmation of this occurrence and no reports of prospecting after 1915.

Eakin, 1916 (B 642), p. 220 -- Preliminary to Eakin, 1918 (B 667).

Eakin, 1918 (B 667), p. 51 -- Placer gold reported from a tributary of the Sulukna that heads against Our Cr. Prospectors on their way to this reported occurrence in 1915.

Unnamed occurrence

Manganese

McGrath district

Medfra (9.25, 1.1)

MF-365, loc. 6

63°03'N, 154°50'W

Summary: Sedimentary manganese carbonate in shale and sandstone exposed for 500 ft. along north bank of Kuskokwim R.

Berg and Cobb, 1967 (B 1246), p. 97 -- Sedimentary manganese carbonate in northward-dipping shale and sandstone; deposit could be traced for 500 ft. on north bank of Kuskokwim R. in 1961. Samples contained as much as 23% manganese, contains a trace of iron, and is intergrown with quartz(?) needles.

Synonyms, Claim Names, Operators, and Owners

Many mines and prospects have undergone changes in both their own names and in the names of their operators and owners. All names that appear in the cited references appear in this summary either in the first section as occurrence names or in this as synonyms. Descriptions of placer deposits commonly give little information on the location of individual mines or claims, so the names of all operators and owners of placer mines and claims are in this section with a notation to refer to the description of the stream that was mined or prospected.

(Hodzana R.) -- see (Hosiana Cr.)

(Slate Cr.) -- see (Trout Cr.)

(Jean D'Arc Cr.) -- see (John R. Cr.)

(John R. Cr.) -- see (John R. Cr.)

(John R. Cr.) -- see (John R. Cr.)

(John R. Cr.) -- see (John R. Cr.)

(John R. Cr.) -- see (John R. Cr.)

(John R. Cr.) -- see (John R. Cr.)

(John R. Cr.) -- see (John R. Cr.)

(John R. Cr.) -- see (John R. Cr.)

(John R. Cr.) -- see (John R. Cr.)

(John R. Cr.) -- see (John R. Cr.)

(John R. Cr.) -- see (John R. Cr.)

(John R. Cr.) -- see (John R. Cr.)

(John R. Cr.) -- see (John R. Cr.)

(John R. Cr.) -- see (John R. Cr.)

(John R. Cr.) -- see (John R. Cr.)

(John R. Cr.) -- see (John R. Cr.)

(John R. Cr.) -- see (John R. Cr.)

(John R. Cr.) -- see (John R. Cr.)

(John R. Cr.) -- see (John R. Cr.)

(John R. Cr.) -- see (John R. Cr.)

(John R. Cr.) -- see (John R. Cr.)

(John R. Cr.) -- see (John R. Cr.)

Alaska Threadwell Gold Mining Co. -- see Nixon Fork
Alaska Treadwell (Gold Mining Co.) -- see Nixon Fork, Whalen
Clow & Strand -- see (Eagle Cr.)
(Crooked Cr.) -- see (Eagle Cr.)
Crystal -- see Nixon Fork

Eakin -- see Nixon Fork
(Encio Gulch) -- see (Riddle Gulch)
Garnet -- see Nixon Fork
Griffin & Whalen -- see (Holmes Gulch)
Groble & Blackburn -- see (Hidden Cr.)

Groshong -- see (Birch Gulch)
High Grade -- see Nixon Fork
(Hosmer Cr.) -- see (Cottonwood Cr.)
Jensen & Matson -- see (Holmes Gulch)
Keen -- see Nixon Fork

Matthew -- see (Hidden Cr.)
Matthews (& Blackburn) -- see (Hidden Cr.)
McGowan & Lind -- see Nixon Fork
McGowan & Mespelt -- see Nixon Fork
Mespelt & Almasy -- see (Birch Gulch), (Hidden Cr.), Nixon Fork, (Ruby Cr.),
Whalen

Mespelt & Co. -- see Nixon Fork
Mespelt Bros. -- see Nixon Fork
Nixon -- see Nixon Fork
O'Malley & Walden -- see (Ruby Cr.)
Pearson & Strand -- see (Crystal Gulch), Nixon Fork, (Ruby Cr.)

Recreation -- see Nixon Fork
Southern Cross -- see Nixon Fork
Strand -- see Nixon Fork, (Ruby Cr.)
Strandberg & Sons, Inc. -- see Nixon Fork, Whalen
Texas -- see Nixon Fork

Threadwell Yukon Co., Ltd. -- see Nixon Fork
Treadwell Yukon Co., (Ltd.) -- see Nixon Fork, Whalen
Twin -- see Nixon Fork
(Von Frank Mtn.) -- see (Nixon Fork, headwaters)
Walen (& Griffin) -- see Nixon Fork

Whelan -- see Whalen
Wilcox and associates -- see Nixon Fork, Whalen
Winan & McGowan -- see Nixon Fork

References Cited

References are listed, by quadrangle, in standard format alphabetically by author and, secondarily, chronologically if an author prepared more than one report or map. This section was prepared by stacking bibliography cards in a document protector and duplicating them on an office copying machine. This procedure makes retyping unnecessary, but has the disadvantages that the edges of cards reproduce as horizontal lines between entries and that margins and spacing are not constant.

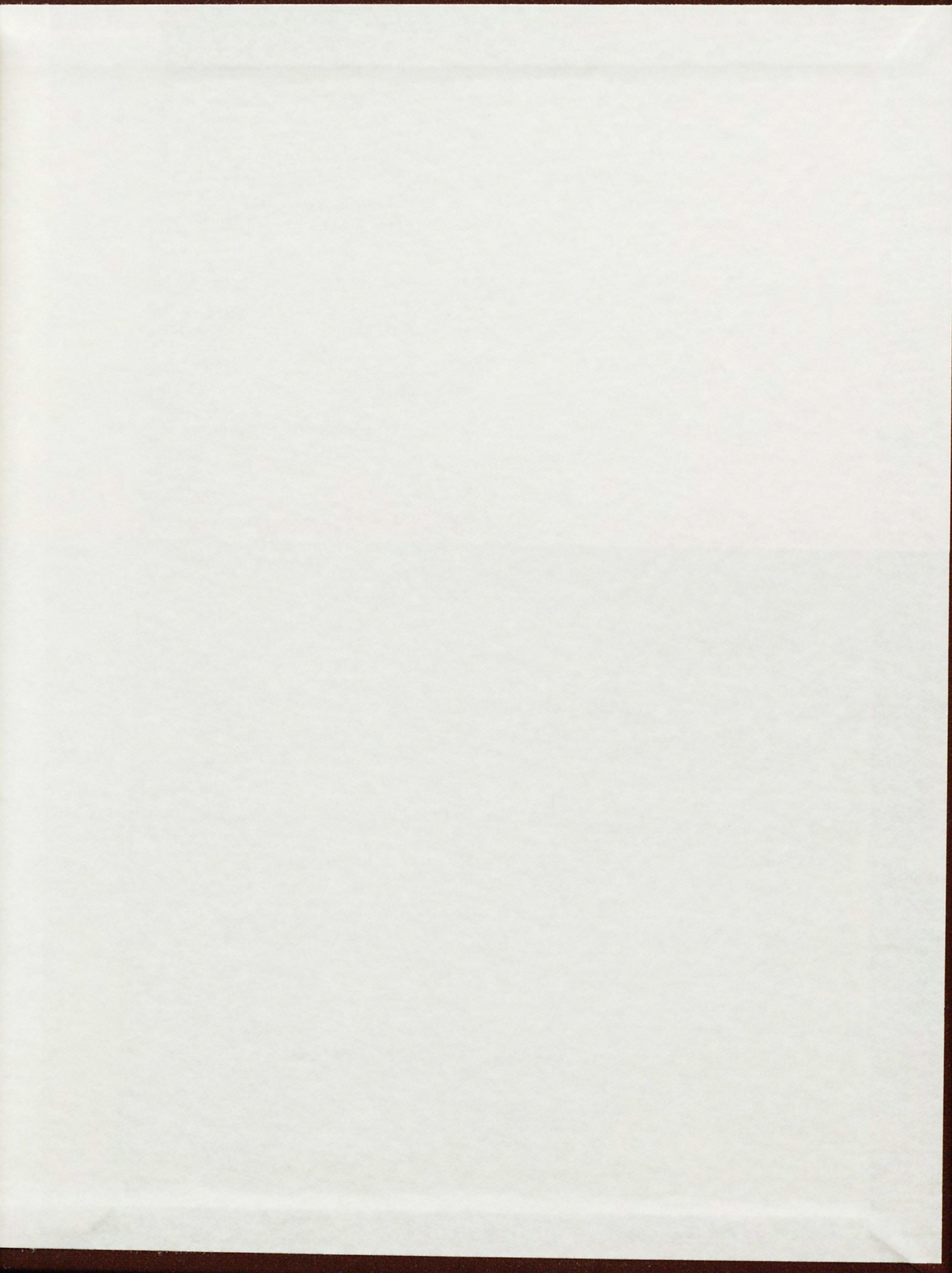
- Berg, H. C., and Cobb, E. H., 1967, Metalliferous lode deposits of Alaska: U.S. Geol. Survey Bull. 1246, 254 p.
- Cobb, E. H., 1972, Metallic mineral resources map of the Beaver quadrangle, Alaska: U.S. Geol. Survey Misc. Field Studies Map MF-439, 1 sheet, scale 1:250,000.
- Cobb, E. H., 1973, Placer deposits of Alaska: U.S. Geol. Survey Bull. 1374, 213 p.
- Ellsworth, C. E., and Parker, G. L., 1911, Placer mining in the Yukon-Tanana region: U.S. Geol. Survey Bull. 480, p. 153-172.
- Smith, P. S., 1942, Occurrences of molybdenum minerals in Alaska: U.S. Geol. Survey Bull. 926-C, p. 161-210.

- Brooks, A. H., 1912, The mining industry in 1911: U.S. Geol. Survey Bull. 520, p. 17-44.
- Cobb, E. H., 1972, Metallic mineral resources map of the Bettles quadrangle, Alaska: U.S. Geol. Survey Misc. Field Studies Map MF-387, 1 sheet, scale 1:250,000.
- Cobb, E. H., 1973, Placer deposits of Alaska: U.S. Geol. Survey Bull. 1374, 213 p.
- Maddren, A. G., 1910, The Koyukuk-Chandalar gold region: U.S. Geol. Survey Bull. 442, p. 284-315.
- Maddren, A. G., 1913, The Koyukuk-Chandalar region, Alaska: U.S. Geol. Survey Bull. 532, 119 p.
- Mulligan, J. J., 1974, Mineral resources of the trans-Alaska pipeline corridor: U.S. Bur. Mines Inf. Circ. 8626, 24 p.
- Nelson, A. E., West, W. S., and Matzko, J. J., 1954, Reconnaissance for radioactive deposits in eastern Alaska, 1952: U.S. Geol. Survey Circ. 348, 21 p.
- Overstreet, W. C., 1967, The geologic occurrence of monazite: U.S. Geol. Survey Prof. Paper 530, 327 p.
- Patton, W. W., Jr., and Miller, T. P., 1970, Preliminary geologic investigations in the Kanuti River region, Alaska: U.S. Geol. Survey Bull. 1312-J, p. J1-J10.
- Reed, I. McK., 1938, Upper Koyukuk region, Alaska: Alaska Dept. Mines unpublished report, 169 p.
- Schrader, F. C., 1904, A reconnaissance in northern Alaska across the Rocky Mountains, along Koyukuk, John, Anaktuvuk, and Colville rivers and the Arctic coast to Cape Lisburne, in 1901, with notes by W. J. Peters: U.S. Geol. Survey Prof. Paper 20, 139 p.
- Wedow, Helmuth, Jr., and others, 1953, Preliminary summary of reconnaissance for uranium and thorium in Alaska, 1952: U.S. Geol. Survey Circ. 248, 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. Geol. Survey open-file report 51, 123 p.
- White, M. G., 1952, Radioactivity of selected rocks and placer concentrates from northeastern Alaska: U.S. Geol. Survey Circ. 195, 12 p.

- Berg, H. C., and Cobb, E. H., 1967, Metalliferous lode deposits of Alaska: U.S. Geol. Survey Bull. 1246, 254 p.
- Brooks, A. H., 1916, Antimony deposits of Alaska: U.S. Geol. Survey Bull. 649, 67 p.
- Brooks, A. H., 1922, The Alaskan mining industry in 1920: U.S. Geol. Survey Bull. 722, p. 7-67.
- Brooks, A. H., 1923, The Alaskan mining industry in 1921: U.S. Geol. Survey Bull. 739, p. 1-44.
- Brooks, A. H., 1925, Alaska's mineral resources and production, 1923: U.S. Geol. Survey Bull. 773, p. 3-52.
- Brooks, A. H., and Capps, S. R., 1924, The Alaskan mining industry in 1922: U.S. Geol. Survey Bull. 755, p. 3-49.
- Brooks, A. H., and Martin, G. C., 1921, The Alaskan mining industry in 1919: U.S. Geol. Survey Bull. 714, p. 59-95.
- Brown, J. S., 1926, The Nixon Fork country: U.S. Geol. Survey Bull. 783, p. 97-144.
- Cobb, E. H., 1972, Metallic mineral resources map of the Medfra quadrangle, Alaska: U.S. Geol. Survey Misc. Field Studies Map MF-365, 1 sheet, scale 1:250,000.
- Cobb, E. H., 1973, Placer deposits of Alaska: U.S. Geol. Survey Bull. 1374, 213 p.
- Eakin, H. M., 1916, Exploration in the Cosna-Nowitna region: U.S. Geol. Survey Bull. 642, p. 211-222.
- Eakin, H. M., 1918, The Cosna-Nowitna region, Alaska: U.S. Geol. Survey Bull. 667, 54 p.
- Henning, M. W., 1973, Geologic and mineral evaluation of the Nowitna River drainage basin, Alaska: Alaska Div. Geol. Geophys. Surveys open-file report AOF 23, 6 p.
- Herreid, Gordon, 1966, Geology and geochemistry of the Nixon Fork area, Medfra quadrangle, Alaska: Alaska Div. Mines and Minerals Geol. Rept. 22, 34 p.
- Jaspar, M. W., 1961, Mespelt mine, Medfra quadrangle, in Alaska Division of Mines and Minerals, Report for the year 1961: Juneau, Alaska, p. 49-53, 56-58.
- Joesting, H. R., 1942, Strategic mineral occurrences in interior Alaska: Alaska Dept. Mines Pamph. 1, 46 p.

- Malone, Kevin, 1962, Mercury occurrences in Alaska: U.S. Bur. Mines Inf. Circ. 8131, 57 p.
- Malone, Kevin, 1965, Mercury in Alaska, in U. S. Bureau of Mines, Mercury potential of the United States: U.S. Bur. Mines Inf. Circ. 8252, p. 31-59.
- Maloney, R. P., 1966, Investigation of the Nixon Fork area, Kuskokwim River basin, Alaska: U.S. Bur. Mines open-file rept. 4-66, 24 p.
- Martin, G. C., 1922, Gold lodes in the upper Kuskokwim region: U.S. Geol. Survey Bull. 722, p. 149-161.
- Mertie, J. B., Jr., 1936, Mineral deposits of the Ruby-Kuskokwim region, Alaska: U.S. Geol. Survey Bull. 864-C, p. 115-255.
- Mertie, J. B., Jr., and Harrington, G. L., 1916, Mineral resources of the Ruby-Kuskokwim region: U.S. Geol. Survey Bull. 642, p. 223-266.
- Mertie, J. B., Jr., and Harrington, 1924, The Ruby-Kuskokwim region, Alaska: U.S. Geol. Survey Bull. 754, 129 p.
- Moffit, F. H., 1927, Mineral industry of Alaska in 1925: U.S. Geol. Survey Bull. 792, p. 1-39.
- Reed, B. L., and Miller, R. L., 1971, Orientation geochemical soil survey at the Nixon Fork mines, Medfra quadrangle, Alaska: U.S. Geol. Survey Bull. 1312-K, p. K1-K21.
- Smith, P. S., 1926, Mineral industry of Alaska in 1924: U.S. Geol. Survey Bull. 783, p. 1-30.
- Smith, P. S., 1929, Mineral industry of Alaska in 1926: U.S. Geol. Survey Bull. 797, p. 1-50.
- Smith, P. S., 1930, Mineral industry of Alaska in 1927: U.S. Geol. Survey Bull. 810, p. 1-64.
- Smith, P. S., 1930, Mineral industry of Alaska in 1928: U.S. Geol. Survey Bull. 813, p. 1-72.
- Smith, P. S., 1932, Mineral industry of Alaska in 1929: U.S. Geol. Survey Bull. 824, p. 1-81.
- Smith, P. S., 1933, Mineral industry of Alaska in 1930: U.S. Geol. Survey Bull. 836, p. 1-83.
- Smith, P. S., 1933, Mineral industry of Alaska in 1931: U.S. Geol. Survey Bull. 844-A, p. 1-82.
- Smith, P. S., 1934, Mineral industry of Alaska in 1932: U.S. Geol. Survey Bull. 857-A, p. 1-91.

- Smith, P. S., 1934, Mineral industry of Alaska in 1933: U.S. Geol. Survey Bull. 864-A, p. 1-94.
- Smith, P. S., 1936, Mineral industry of Alaska in 1934: U.S. Geol. Survey Bull. 868-A, p. 1-91.
- Smith, P. S., 1937, Mineral industry of Alaska in 1935: U.S. Geol. Survey Bull. 880-A, p. 1-95.
- Smith, P. S., 1938, Mineral industry of Alaska in 1936: U.S. Geol. Survey Bull. 897-A, p. 1-107.
- Smith, P. S., 1939, Mineral industry of Alaska in 1937: U.S. Geol. Survey Bull. 910-A, p. 1-113.
- Smith, P. S., 1939, Mineral industry of Alaska in 1938: U.S. Geol. Survey Bull. 917-A, p. 1-113.
- Smith, P. S., 1941, Mineral industry of Alaska in 1939: U.S. Geol. Survey Bull. 926-A, p. 1-106.
- Smith, P. S., 1942, Mineral industry of Alaska in 1940: U.S. Geol. Survey Bull. 933-A, p. 1-102.
- Wedow, Helmuth, Jr., White, M. G., and Moxham, R. M., 1952, Interim report on an appraisal of the uranium possibilities of Alaska: U.S. Geol. Survey open-file report 51, 123 p.
- White, M. G., and Stevens, J. M., 1953, Reconnaissance for radioactive deposits in the Ruby-Poorman and Nixon Fork districts, west-central Alaska: U.S. Geol. Survey Circ. 279, 19 p.



USCS LIBRARY-RESTON



3 1818 00072943 2