

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
SUMMARY OF REFERENCES TO MINERAL OCCURRENCES
(OTHER THAN MINERAL FUELS AND CONSTRUCTION MATERIALS)
IN THE BENDELEBEN QUADRANGLE, ALASKA

By
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Open-file report 75-429

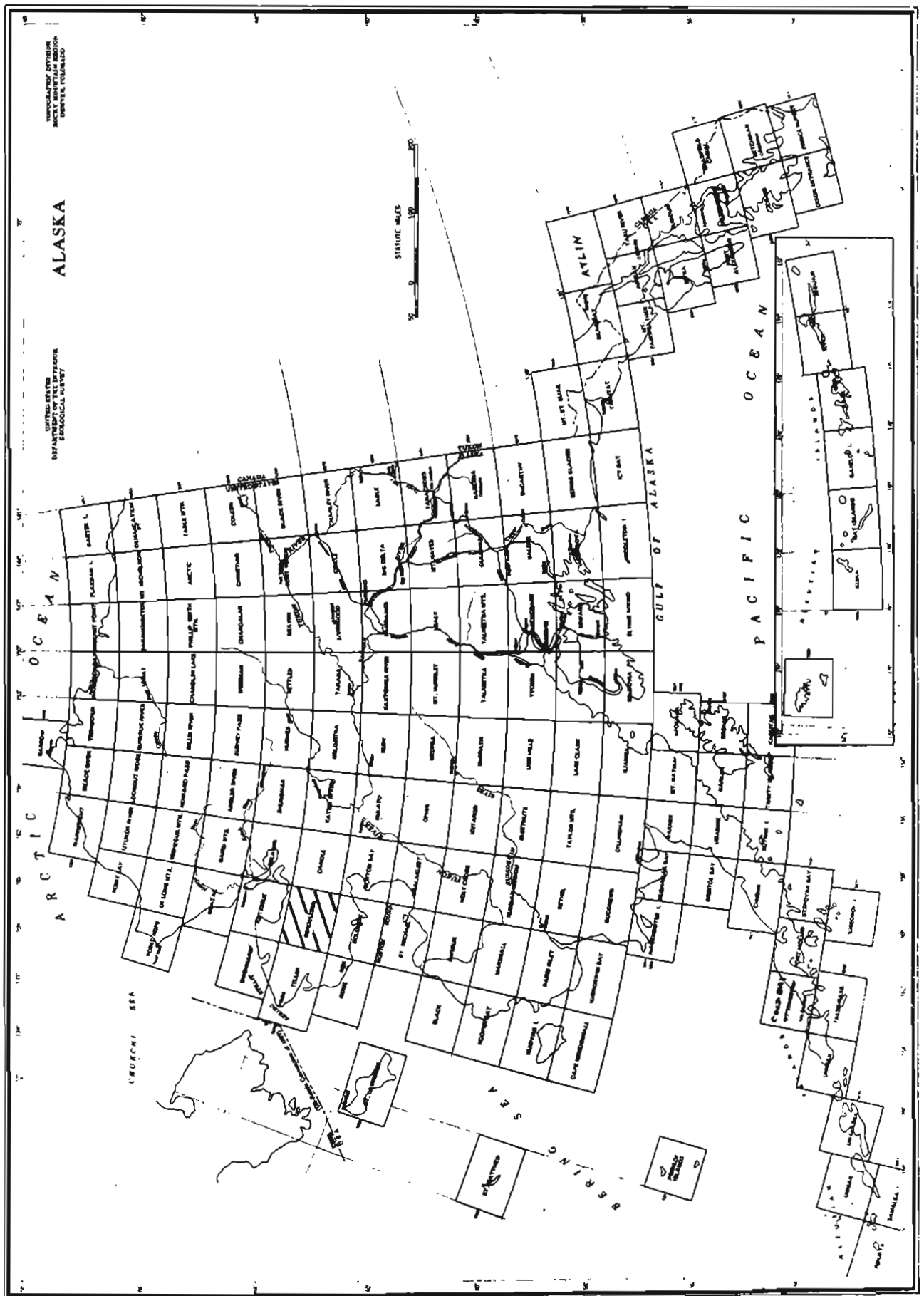
1975

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

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 Bendeleben quadrangle, Alaska. All references to published and open-filed reports of the Geological Survey, to most published and open-filed reports of the U.S. Bureau of Mines, and to most published reports of the State of Alaska Division of Geological and Geophysical Surveys and its predecessor State and Territorial agencies released before January 1, 1975, 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 summary is divided into three parts: a section made up of summaries of references arranged alphabetically by occurrence name; a section that lists synonyms for names in the first section, claim names, and the names of operators and owners of mines and prospects; and a section that lists, by author, all references summarized in the first section and cited in introductory paragraphs. Pages are not numbered because users may wish to add data from other sources.



Location of Bendeleben quadrangle

Summaries of References

For each mineral occurrence this section presents a page that gives the name of the occurrence, the mineral commodities present (listed alphabetically for metallic commodities and then for non-metallic commodities; FM stands for uranium and(or) thorium and RE for rare-earth elements), the mining district (Ransome and Kerns, 1954) in which the occurrence is located, the name of the 1:250,000 scale topographic quadrangle (Bendeleben), coordinates (as described by Cobb and Kachadoorian, 1961, p. 3-4), the metallic mineral resources map number MF-417 (Cobb, 1972) 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.

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 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:

B	U.S. Geological Survey Bulletin
BMB	U.S. Bureau of Mines Bulletin
C	U.S. Geological Survey Circular
GC	Alaska Division of Geological and Geophysical Surveys (and predecessor State agencies) Geochemical Report
GQ	U.S. Geological Survey Geologic Quadrangle Map
GR	Alaska Division of Geological and Geophysical Surveys (and predecessor State agencies) Geological Report
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 are used only within the Alaskan Geology Branch of the 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 Investigation
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 consistency in grammatical usage, although I have tried to edit out ambiguities.

(Albion Gulch) (Cr.)

Gold

Council district
MF-417, loc. 81

Bendeleben (9.55, 0.5)
65°01'N, 163°43'W

Summary: Stream flows across strike of schists and limestone. Stream gravels carry gold for entire length of stream; at least one "hillside placer." Dredge operated 1924-1927. Other types of mining 1907, 1909, 1914, 1918, 1931, 1934-1936.

Collier and others, 1908 (B 328), p. 254 -- Flows across strike of schists and limestone. All gravel locally derived.
Smith, 1908 (B 345), p. 217 -- Two mining camps in 1907. One working a hillside placer by hydraulicking.
Henshaw, 1910 (B 442), p. 362 -- Hydraulic elevator in 1909. Water supply inadequate for continuous operation.
Smith and Eakin, 1911 (B 449), p. 121 -- Auriferous gravel throughout length of stream. Mining in 1907.
Eakin, 1915 (B 622), p. 371 -- Hydraulic mining in 1914.
Cathcart, 1920 (B 712), p. 189 -- Hydraulic mining in 1918.
Smith, 1926 (B 783), p. 18 -- Dredge in 1924.
Moffit, 1927 (B 792), p. 24 -- Dredge in 1925.
Smith, 1929 (B 797), p. 30 -- Dredge in 1926.
Smith, 1930 (B 810), p. 40 -- Dredge in 1927.
Smith, 1933 (B 844-A), p. 49 -- Hydraulic mining in 1931.
Smith, 1936 (B 868-A), p. 51-52 -- Small-scale mining in 1934.
Smith, 1937 (B 880-A), p. 53 -- Small-scale mining in 1935.
Smith, 1938 (B 897-A), p. 65 -- Small-scale mining in 1936.

(American Cr.)

Gold, Tin

Fairhaven district
MF-417, loc. 73

Bendeleben (13.3, 14.9)
65°50'N, 163°08'W

Summary: Small amounts of gold; cassiterite has been found.

Moffit, 1905 (B 247), p. 57 -- Gold not in sufficient quantity to encourage prospectors. Gold brighter than elsewhere in vicinity. Little or no work in 1903. Moffit suggests that this and other creeks that head in Asses Ears might be worth prospecting for tin.
Anderson, 1947 (TDM 5-R), p. 41 -- Placer tin present.
Cobb, 1973 (B 1374), p. 71 -- Cassiterite has been found.

(Anderson Gulch)

Gold

Kougarok district
MF-417, loc. 38

Bendeleben (1.6, 7.85)
65°27'N, 164°46'W

Summary: Gold mined from 2-4 ft. of gravel and 1-1/2-2 ft. of mica-schist bedrock .

Brooks, 1907 (B 314), p. 178 -- Preliminary to B 328.

Collier and others, 1908 (B 328), p. 321 -- As of 1906 most of development in Windy Creek basin had been in Anderson Gulch. Bedrock is silvery mica schist with much iron-stained quartz. Gravels 2-4 feet thick; top 1-1/2-2 ft. bedrock also was mined. Gulch said in reference to be tributary to Windy Cr. from south; maps suggest that gulch actually enters from north.

(Andesite Cr.)

Diatomite

Kougarok district

Bendeleben (7.2-7.9, 9.9-10.3)
64°24'-64°35'N, 163°55'-164°00'W

Summary: Diatomite accumulated in a lava-dammed lake and is partially overlain by a later flow. Exposure of purest material is about 2,500,000 sq. ft.; thickness is not known, as stream and lake banks (4-10 ft. high) do not show base; material becomes darker colored to southwest.

Hopkins, 1963 (B 1141-C), p. C46-C47 -- Diatomite that accumulated in a now almost completely drained lake formerly dammed by Camille lava flow. Much of deposit now buried by more recent Lost Jim lava flow. Age of diatomite late Wisconsin or early Recent.

p. C95 -- Exposure south of Lava Lake is pure white when dry and contains only a few percent of admixed mineral grains and little or no organic material. Color darkens to southwest, probably due to admixed organic matter. Diatomite is exposed through thickness of 4-10 ft. in stream and lake banks, but base is not exposed. Purest material underlies area of 2,500,000 sq. ft.

(Arizona Cr.)

Gold

Kougarok district
MF-417, loc. 32

Bendeleben (1.55, 10.75)
65°37'N, 164°47'W

Summary: Gold in benches as much as 70 ft. above stream and in stream floodplain. Most of mining apparently in bench gravels of Kougarok R.

Brooks, 1907 (B 314), p. 179 -- Preliminary to B 328.

Collier and others, 1908 (B 328), p. 324 -- Gold in both floodplain and benches near mouth. Considerable mining near mouth about 20 ft. above water level.

Smith, 1909 (B 379), p. 296 -- Prospecting in 1908. Movable gravels reported on a bench on the west side of the Kougarok R. 70 ft. above the stream near the mouth of Arizona Cr.

Cathcart, 1920 (B 712), p. 189 -- Mining in 1918.

(Balm of Gilead Gulch)

Gold

Council district
MF-417, loc. 82

Bendeleben (9.65, 0.4)
65°01'N, 163°42'W

Includes reference to (Balmof Gulch).

Summary: Gold in broken limestone bedrock and in bedrock crevices.

Collier and others, 1908 (B 328), p. 254 — Gold in 2-4 ft. of
broken and creviced limestone bedrock beneath 5 ft. of soil.

Richest gold deposits in crevices.

Smith and Eakin, 1911 (B 449), p. 121 — Reference to B 328.

(Bella Cr.)

Gold (?)

Serpentine district

Bendeleben (0.8, 1.4) approx.
65°48'N, 164°54'W approx.

Summary: No record of mining; preparatory work only; no data on occurrence of gold, if any.

Collier, 1902 (P 2), p. 55 — Preparatory work in 1901; no mining.

(Big Bar Cr.)

Gold (?)

Koyuk district

Bendeleben

NE1/4SE1/4 quad.

Summary: Prospecting reported, but no other data. This is probably the stream called Knowles Cr. in other references.

Smith and Eakin, 1911 (B 449), p. 114 -- Prospecting by 1900; deserted in 1903. No data on occurrence of gold, if any. No location, even of prospecting, on creek given.

(Birch Cr.)

Mica

Kougarok district

Bendeleben (7.65, 4.4) approx.
65°15'N, 162°27'W approx.

Summary: Pegmatite with mica in plates 6 in. or more in diameter reported.

Smith and Eakin, 1911 (B 449), p. 69 -- Pegmatite near pass to Niukluk R. Mica in plates sometimes 6 in. or more in diameter. Tourmaline an important accessory mineral.

Anderson, 1947 (TDM 5-R), p. 46 -- Reference to B 449.

(Black Cr.) (Gulch)

Gold

Kougarok district
MF-417, loc. 50

Bendeleben (5.8, 9.25)
65°31'N, 164°12'W

Summary: Bedrock in area is schist with many quartz-calcite veins from which the gold in the placers was evidently derived. Placers are auriferous stream gravel a few feet thick beneath 20-30 ft. of frozen peat and silt. Mammal bones in gravel, which, according to Hopkins, is probably Illinoisan to Recent in age. Profitable mining probably began in 1937 and was in progress as recently as 1948.

Brooks, 1907 (B 314), p. 175 -- Gold found, as of 1906.

Collier and others, 1908 (B 328), p. 314 -- Gold-bearing tributary of Noxapaga R.

Smith, 1939 (B 910-A), p. 66 -- Placer that yielded considerable gold found, 1937.

Smith, 1939 (B 917-A), p. 65 -- Profitable mining, 1938. Bulldozer used to remove tundra cover and gasoline pump to supply water for sluicing.

Smith, 1941 (B 926-A), p. 61 -- Mining, 1939.

Hopkins, 1963 (B 1141-C), p. C42 -- Bones of extinct mammals in probably early Illinoisan to Recent gravel mined for gold.

p. C94 -- Mining in 1947-1948; stream gravels overlain by 20-30 ft. of frozen silt and peat. Gold evidently derived from quartz-calcite veins in schist bedrock.

(Boulder Cr.)

Gold

Kougarok district
MF-417, loc. 47

Bendeleben (4.9, 9.95)
65°33'N, 164°19'W

Summary: Bedrock mainly calcareous schist and limestone with minor amounts of graphitic schist. Coarse, rounded gold from upper 4-5 ft. of gravel. Mining reported in 1901, 1907, 1909, 1918, 1940.

Collier, 1902 (P 2), p. 65-67 -- Gold discovered in 1901. Data repeated in B 328.

Brooks, 1907 (B 314), p. 175 -- Gold had been mined, as of 1906.

Collier and others, 1908 (B 328), p. 314 -- Bedrock mainly calcareous schist and limestone with minor amounts of graphitic schist.

Coarse, rounded gold from upper 4-5 ft. of gravel; deeper gravel frozen and not tested for gold content. About \$7,000 in gold recovered in 1901.

Smith, 1908 (B 345), p. 228 -- 4 men mining in 1907.

Smith, 1909 (B 379), p. 297 -- Prospecting in 1908.

Henshaw, 1910 (B 442), p. 365-366 -- Mining in 1909 hampered by shortage of water.

Cathcart, 1920 (B 712), p. 189 -- One open-cut operation, 1918.

Smith, 1942 (B 933-A), p. 57-58 -- Mining in 1940.

(Bryan Cr.)

Gold (?)

Serpentine district

Bendeleben (0.0, 14.6) approx.
65°50'N, 165°00'W approx.

Summary: No data on possibly auriferous deposits. No record of mining. If there ever was any it was probably near the mouth of Dick Cr.

Collier, 1902 (P 2), p. 55 — Preparatory work, but no mining, in 1901.

(Buzzard Gulch) (Cr.)

Gold

Kougarok district
MF-417, loc. 51

Bendeleben (5.9, 9.2)
65°31'N, 164°11'W

Summary: Country rock is schist with quartz-calcite veins, from which gold in the placers was evidently derived. Placer deposit is a few feet of stream gravel beneath 20-30 ft. of frozen peat and silt. Mining was reported for 1936-1940 and 1947-1948.

Collier and others, 1908 (B 328), p. 314 --Gold has been found.

Smith, 1938 (B 897-A), p. 63 -- Mining in 1936.

Smith, 1939 (B 910-A), p. 66 --Placer that yielded considerable gold found by 1937.

Smith, 1939 (B 917-A), p. 65 -- Profitable mining, 1938. Bulldozer used to remove tundra and gasoline pump to supply water for sluicing.

Smith, 1941 (B 926-A), p. 61 -- Mining in 1939.

Smith, 1942 (B 933-A), p. 57-58 --Mining in 1940.

Hopkins, 1963 (B 1141-C), p. C94 -- Mining in 1947-1948. Auriferous stream gravel a few feet thick overlain by 20-30 ft. frozen peat and silt. Gold evidently derived from quartz-calcite veins in schist bedrock.

(California Cr.)

Gold

Kougarok district
MP-417, loc. 31

Bendeleben (1.35, 11.1)
65°38'N, 164°49'W

Summary: Gold in benches about 20 ft. above stream near mouth. Some gold also in floodplain.

Brooks, 1907 (B 314), p. 179 -- Preliminary to B 328.

Collier and others, 1908 (B 328), p. 324 -- Gold in both floodplain and benches near mouth. Most of mining on benches about 20 ft. above water level.

(Camp Cr., trib. Coffee Cr.)

Gold (?)

Kougarok district

Bendeleben (1.8, 5.35)
65°18'N, 164°45'W

Summary: No data on possible occurrence of gold.

Smith, 1932 (B 824), p. 47 — "... the Coffee Creek Mining Co. spent much of the summer (of 1929) in surveying for patent a tract of some 1,400 acres of placer ground on Coffee Creek and its tributary Camp Creek... No plans for the development of this tract have yet been announced."

(Camp Cr., trib. Tubutulik R.)

Gold

Koyuk district
MF-417, loc. 58

Bendeleben (21.35, 1.1) approx.
65°02'N, 162°07'W approx.

Summary: Bedrock is schist. Small-scale mining in early 1900's.

Smith and Eakin, 1910 (B 442), p. 341 -- Preliminary to B 449.

Smith and Eakin, 1911 (B 449), p. 115-116 -- Bedrock is schist, the probable source of the gold. Mining was by horse scraper and was carried on several years before 1909.

(Candle Cr.)

Copper, FM, Gold, Lead

Fairhaven district
MF-417, locs. 66-68

Bendeleben (21.15-21.5, 14.8-15.55)
65°49'-65°51'N, 162°00'-162°04'W

Summary: Bedrock is mainly Paleozoic schist and limestone; cut by many quartz veins and granitic dikes. Some galena veins were uncovered during placer mining; dredge concentrates from gravel downstream from them were mainly galena. The creek placers are 12-18 ft. of gravel beneath 10-20 ft. of tundra; bench placers 4-10 ft. of gravel beneath 5-10 ft. of tundra. The creek gravels were first mined by simple methods until the first dredge was installed in about 1914. One or two dredges operated in almost every year until at least as recently as World War II. Bench gravels were worked mainly by large hydraulic plants. A concentrate sample collected in 1917 contained magnetite, hematite, ilmenite, limonite, zircon, garnet, sphene, rutile, pyrite, galena, arsenopyrite, chalcopyrite, and a uranium-thorium mineral; eU was greater than 5.0%. Samples collected in 1945 did not disclose significant radioactivity. Most of the mining on Candle Cr. was in the Candle quad., but many references are not sufficiently detailed to indicate to which quad. they are applicable and are therefore summarized here.

- Mendenhall, 1902 (P 10), p. 51 -- Creek gravels mined with rockers in 1901; about \$20,000 to \$25,000 reported to have been recovered.
- Moffit, 1904 (B 225), p. 77-78 -- Data summarized in later reports.
- Moffit, 1905 (B 247), p. 60-63 -- Data summarized in later reports.
- Moffit, 1906 (B 284), p. 140 -- Frozen beach gravels drift mined, 1905.
- Brooks, 1907 (B 314), p. 35 -- Winter drift mining, 1906.
- Henshaw, 1909 (B 379), p. 364-368 -- Production, 1901-1908, \$2,245,400; largely from bench gravels. Rest of data summarized in C 250.
- Henshaw, 1910 (B 442), p. 369-370 -- Principal producer in area, 1909, even though richest ground had been exhausted. Candle ditch completed.
- Eskin, 1915 (B 622), p. 371 -- Dredge and many smaller mining operations, 1914.
- Smith, 1917 (BMB 142), p. 28 -- Mining, 1915.
- Mertie, 1918 (B 662), p. 451-452 -- Dredge to be moved from Kugruk R. to Candle Cr. in winter of 1916-17.
- p. 454-455 -- Mining other than by dredging, 1916.
- Harrington, 1919 (B 692), p. 380 -- Staked in 1901.
- p. 391-392 -- Bedrock of creek claims mainly schist; porphyritic andesite in many places on bench claims. Most of data also given in C 250.
- Cathcart, 1920 (B 712), p. 187-189. -- Dredge and other types of mining in 1918.
- Harrington, 1921 (B 714), p. 232-233 -- Dredge operated, 1919.
- Brooks, 1922 (B 722), p. 62 -- Ground thawed preparatory to dredging, 1920.
- Brooks, 1925 (B 773), p. 27 -- Dredge operated, 1923.
- Smith, 1926 (B 783), p. 17 -- Mining other than dredging, 1924.
- Moffit, 1927 (B 792), p. 22, 24 -- 2 dredges operated, 1925.
- Smith, 1929 (B 797), p. 30 -- 2 dredges operated, 1926.
- Smith, 1930 (B 810), p. 39-40 -- 2 dredges operated for a short season, 1927.
- Smith, 1930 (B 813), p. 40 -- Mining, 1928.
- p. 47 -- Dredge operated, 1928.

(Candle Cr.) -- Continued

- Smith, 1932 (B 824), p. 45 -- Mining, 1929.
p. 53 -- Mining, 1929.
- Smith, 1933 (B 836), p. 46 -- Mining, 1930.
p. 54 -- Dredge operated, 1930.
- Smith, 1933 (B 844-A), p. 46-47 -- Mining, 1931.
p. 54 -- Dredge operated, 1931.
- Smith, 1934 (B 857-A), p. 43-44 -- Mining, 1932.
p. 51 -- Dredge operated, 1932.
- Smith, 1934 (B 864-A), p. 49 -- Dredge and probably other mining, 1933.
p. 57 -- Dredge operated, 1933.
- Smith, 1936 (B 868-A), p. 50 -- Dredge operated, 1934. New company formed to mine on a larger scale.
p. 59 -- Dredge operated, 1934.
- Smith, 1937 (B 880-A), p. 53-54 -- 1 dredge, 1 large hydraulic operation, and one other mining operation in 1935.
p. 61 -- Dredge operated, 1935.
- Smith, 1938 (B 897-A), p. 61-62 -- 1 dredge and other mining methods used, 1936.
p. 71 -- 1 dredge operated, 1936.
- Smith, 1939 (B 910-A), p. 66-67 -- 2 dredges and other mining methods used, 1937.
p. 76-77 -- 2 dredges, 1937.
- Smith, 1939 (B 917-A), p. 66 -- 2 dredges, hydraulicking, and other mining methods, 1938.
p. 75 -- 2 dredges operated, 1938.
- Smith, 1941 (B 926-A), p. 62 -- 2 dredges and other mining methods used, 1939.
p. 71 -- 2 dredges operated, 1939.
- Smith, 1942 (B 933-A), p. 58-59 -- 2 dredges and other mining methods used, 1940.
p. 68 -- 2 dredges operated, 1940.
- Anderson, 1947 (TDM 5-R), p. 31 -- Bulk of dredge concentrates said to be galena below small veins of galena in bedrock.
p. 39 -- erroneously quoted reference to platinum.
- Gault and others, 1953 (C 250), p. 11-14 -- Bedrock predominantly mica schist cut by quartz stringers and rhyolite dikes and sills. Creek placers are 12-18 ft. of gravel under 10-20 ft. of tundra, worked by dredges. Bench gravels 4-10 ft. thick under 5-10 ft. of tundra; ground sluiced with hydraulic giants. Old (1917) concentrate sample contained magnetite, hematite, ilmenite, limonite, zircon, garnet, sphene, rutile, pyrite, galena, arsenopyrite, chalcopyrite, and a U-Th mineral; $eU > 5.0$. Sample could not be duplicated in 1945 (highest $eU = 0.025$; concentration ratio $> 15,000$).
- Koschmann and Bergendahl, 1968 (P 610), p. 17 -- Rich placers found in 1901. District produced steadily and was still active in 1957.
- Cobb, 1973 (B 1374), p. 69-71 -- Bedrock of area is mainly poorly exposed Paleozoic schist and limestone cut by at least one granitic dike. Source of gold is quartz veins in older rocks, particularly schist.

(Chicago Cr.)

Gold

Fairhaven district
MF-417, loc. 62

Bendeleben (18.15, 16.35) approx.
65°54'N, 162°28'W approx.

Summary: Gold-bearing gravel present; some mining; no data on mode of occurrence.

Mendenhall, 1902 (P 10), p. 51 -- As of 1901, a bench claim at mouth of creek was said to "prospect well."

Moffit, 1905 (B 247), p. 67 -- Claim located on creek.

Brooks, 1907 (B 314), p. 35 -- Mining in 1906.

Henshaw, 1910 (B 442), p. 369 -- Workable prospects found in 1909.

Cobb, 1973 (B 1374), p. 71 -- Auriferous gravel found.

(Coarse Gold Cr.)

Gold

Kougarok district
MF-417, loc. 33

Bendeleben (1.7, 10.35)
65°35'N, 164°46'W

Summary: Bedrock diorite and schist. Very little production.

Brooks, 1907 (B 314), p. 179 -- Preliminary to B 328.

Collier and others, 1908 (B 328), p. 323 -- Bedrock beneath part of course of creek is diorite; schist near mouth. Alluvium carries gold, but little has been mined.

Smith, 1909 (B 379), p. 296 -- Mining in 1908.

(Coffee Cr.)

Gold, Mercury

Kougarok district
MF-417, loc. 43-45

Bendeleben (1.4-2.35, 5.3-5.6)
65°18'-65°19'N, 164°42'-164°48'W

Summary: Most of stream cut in gravel covered by muck. Near head rich placer ground was found in a residual placer; deposit is 4-7 ft. of angular schist and quartz debris. Angular, spongy, bright gold in deposit and in weathered schist bedrock; probably derived from altered mineralized zone in bedrock. Lower part of course in terrace gravel; schist bedrock exposed in placer workings. Cinnabar has been found in concentrates. Mining began in 1901 and was reported 1906-1909, 1913-1915, 1918, 1927, 1937, 1940, and after World War II.

Collier, 1902 (P 2), p. 61-62 -- Mining in 1901. Appears to be a large body of low-grade gravel.

Brooks, 1907 (B 314), p. 171, 174 -- Preliminary to B 328.

Collier and others, 1908 (B 328), p. 308 -- Mining in 1906.

p. 311-313 -- Lower part of course incised in gravel terrace; in upper part of valley gravel beneath 10-25 ft. of muck. Rich placer ground found (1906) in talus near head of creek; deposit nearly in place; gold is angular, spongy, and bright; in 4-7 ft. of angular schist and quartz debris and in weathered schist bedrock.

Smith, 1908 (B 345), p. 228 -- 5-6 men working, 1907.

Smith, 1909 (B 379), p. 295 -- Winter dumps sluiced; summer prospecting, 1908.

Henshaw, 1910 (B 442), p. 364 -- Drift mining and sluicing of winter dumps, 1909.

Chapin, 1914 (B 592), p. 394 -- 2 men mining, 1913.

Eakin, 1915 (B 622), p. 372 -- 2 sluicing plants operated, 1914.

Smith, 1917 (BMB 142), p. 28 -- Mining, 1915.

Cathcart, 1920 (B 712), p. 189 -- 1 open-cut operation, 1918.

Brooks, 1925 (B 773), p. 19 -- Reference to B 328.

Smith, 1930 (B 810), p. 35 -- Small-scale mining on benches, 1927.

Smith, 1930 (B 813), p. 42 -- Prospect drilling in 1928.

Smith, 1932 (B 824), p. 47 -- Some placer ground near Camp Cr. surveyed for patent in 1929.

Smith, 1938 (B 897-A), p. 63 -- Preparatory work, 1936.

Smith, 1939 (B 910-A), p. 66 -- Drag line mining, 1937.

Smith, 1942 (B 933-A), p. 58 -- Mining, 1940.

Anderson, 1947 (TDM 5-R), p. 34 -- Cinnabar in concentrates.

Sainsbury and others, 1969 (OF 377), p. 27-28 -- References to B 328; extensive mining since World War II.

Cobb, 1973 (B 1374), p. 76-77 -- Gold in small residual placer near head.

(Collins Cr.)

Gold, Lead (?)

Fairhaven district
MF-417, loc. 70

Bendeleben (12.8, 16.0)
65°54'N, 163°22'W

Summary: Coarse gold reported; no data on mode of occurrence or production history. Lead minerals reported.

Moffit, 1905 (B 247), p. 54 -- First colors in Hannum Cr. drainage from Collins Cr.; coarse gold present.

Anderson, 1947 (TDM 5-R), p. 31 — Lead minerals said to have been found in concentrates.

(Crooked Cr.)

Gold, Mercury (?), Silver

Council district

Bendeleben (9.2-9.9, 0.35-0.8)

MF-417, loc. 12-13, loc. 80

65°01'-65°02'N, 164°40'-164°44'W

Summary: Bedrock and gravels composed of schist and limestone. A mineralized zone near mouth of creek is about 12 ft. wide, in schistose limestone, and contains vein quartz and pyrite; sample said to assay as high as 0.06 oz. gold per ton and a trace of silver. A similar lode near head of creek consists of quartz veins containing as much as 2 oz. gold per ton. Much of the placer gold is probably of local derivation; a specimen from near mouth was fragile and crystalline. Placers are in creek and in benches; one near head is probably residual. Near junction with Ophir Cr. paystreak was 250 ft. wide, 6 ft. thick, and averaged \$4.50 per cubic yard. Concentrates mainly garnet and magnetite; some topaz. Mining began in 1900. Dredging reported in most years from 1914 to 1922; other types of mining reported in most years between 1904 and 1907 and between 1928 and 1935. An early report of cinnabar and amalgam (B 284) has not been confirmed.

Brooks and others, 1901, p. 113-114 -- Mining in 1900. Other data also in later reports.

Brooks, 1905 (B 259), p. 23 -- Mining, 1904.

Purington, 1905 (B 263), p. 53, 209 -- Data on stream flow and fineness of gold.

Moffit, 1906 (B 284), p. 138-139 -- Mining in 1905. Cinnabar reported from quartz veins and gold amalgam in gravels. [This is the only report of cinnabar and should be considered as unconfirmed.]

Smith, 1907 (B 314), p. 150-151 -- Additional water needed. Mining in 1906.

p. 155 -- Data in B 328.

Collier and others, 1908 (B 328), p. 244 -- Quartz stringer near mouth of creek mineralized with pyrite and assayed 0.06 oz. per ton gold and a trace of silver. Gold has been produced from Crooked Cr.

p. 251-253 -- Bedrock and gravels composed of schist and limestone. Mainly creek placers; bench placers, some of which appear to be nearly in place (residual placers) near head. Near mouth floodplain merges with that of Ophir Cr.

p. 262 -- Gold probably of local derivation; specimen from near mouth fragile and crystalline.

Smith, 1908 (B 345), p. 217 -- Hand mining, 1907.

Smith and Eakin, 1911 (B 449), p. 120-121 -- Bedrock is schistose limestone near mouth with a 12-ft.-wide mineralized zone containing vein quartz and pyrite; sample said to assay as high as \$8 per ton. Similar lode on divide between Crooked and Goldbottom Creeks. Near junction with Ophir Cr. paystreak is 250 ft. wide, about 6 ft. thick, and averages about \$4.50 per cu. yard. Some gold coarse and well rounded; other is sharp and angular with quartz attached. Concentrates mainly garnet and magnetite and some topaz.

p. 128 -- Repetition of part of above.

(Crooked Cr.) - Continued

- Chapin, 1914 (B 592), p. 392 -- Mining, 1913.
Eakin, 1915 (B 622), p. 371 -- Dredge and other types of mining, 1914.
Smith, 1917 (BMB 142), p. 28 -- 1 dredge and 1 hydraulic plant operated, 1915.
Mertie, 1918 (B 662), p. 452 -- Dredge operated, 1916.
Harrington, 1921 (B 714), p. 232-233 -- Dredge operated, 1919.
Brooks, 1922 (B 722), p. 63 -- Dredge operated, 1920.
Brooks, 1923 (B 739), p. 9 -- Dredge operated, 1921.
Brooks and Capps, 1924 (B 755), p. 14 -- Dredge operated, 1922.
Smith, 1930 (B 813), p. 40-41 -- Prospecting yielded small amounts of gold, 1928.
Smith, 1934 (B 857-A), p. 45 -- Open-cut mine operated, 1932.
Smith, 1934 (B 864-A), p. 50 -- Small open-cut mine operated, 1934.
Smith, 1936 (B 868-A), p. 51-52 -- Open-cut mine operated, 1934.
Smith, 1937 (B 880-A), p. 53 -- Open-cut mine operated, 1935.
Smith, 1938 (B 897-A), p. 65 -- Mining, 1936.
Berg and Cobb, 1967 (B 1246), p. 113 -- Near mouth of creek quartz stringers that cut schist or limestone carry pyrite and small amounts of gold and silver. A sample of one assayed 0.06 oz. gold per ton and a trace of silver. A lode near the head of the creek consists of one or more quartz veins containing as much as 2 oz. gold per ton.
Sainsbury and others, 1969 (OF 377), p. 28 -- Reference should be to Windy Cr., trib. Kougarok R.

(Cunningham Cr.) (Gulch)

Gold, Lead, Silver

Fairhaven district
MF-417, loc. 75

Bendeleben (11.9-12.0, 16.45)
65°56'N, 163°19'-163°20'W

Summary: Tributary of Hannum Cr. where gold mining was reported 1901, 1903, 1927, 1959-1963; probably was mining in other years also. Bedrock schist and limestone. Argentiferous galena and pyrite in creek gravels and in colluvial material in creek bank. Manganese minerals present. Deposit seems to be derived from contact zone between limestone and schist, which can be traced to Hannum lode prospect.

Moffit, 1905 (B 247), p. 53-54 -- Bedrock is schist; lava cap rock on valley walls. Gravels are schist and vein quartz with minor limestone near lower end of creek. Gold coarser than in Hannum Cr.

Gold worth \$1,200 said to have been recovered near mouth in 1901.

Smith, 1930 (B 810), p. 34 -- A little mining in 1927.

Anderson, 1947 (TDM 5-R), p. 31 -- Sample of concentrate from drift mine (1942) assayed 50% Pb and 5.7 oz. per ton Ag. Most common minerals were lead carbonates and pyromorphite; some galena.

Mulligan, 1957 p. 3 -- Silver-bearing galena in sluice boxes in 1903; traced to what later became Hannum prospect.

Mulligan, 1965 (USBM OF 6-65), p. 12-16 -- Gold mining in 1959 downstream from Harrys Cr. Gold coarse and with much galena and pyrite. 1959-1963 gold mining was extended down creek. Galena, pyrite, manganese minerals and gold apparently from contact zone between limestone and schist. Deposit can be traced to Hannum lead-silver prospect.

(Dahl Cr.)

Gold

Kougarok district
MF-417, loc. 4, loc. 42

Bendeleben (1.75-2.1, 6.1-6.4)
65°21'-65°22'N, 164°42'-164°45'W

Summary: Bedrock is phyllite or mica schist with many clay-rich altered zones containing ground-up vein quartz. Both creek and bench placers worked; gold probably derived from mineralized altered zones. Mammoth and horse bones in frozen muck over placer deposits. Production reported 1901-1908, 1914-1916, 1918, 1927, 1931, 1932, 1934, 1936, 1939, 1940, and after World War II until as recently as 1967. Nuggets worth more than \$100 have been recovered.

Collier, 1902 (P 2), p. 61 -- Every claim for 1 mi. from mouth worked in 1901. Bench deposit 50 ft. above creek being worked. Gravel covered with frozen muck containing mammoth and horse bones. No bedrock exposed in workings.

Brooks, 1904 (B 225), p. 54 -- Mining, 1903.

Brooks, 1905 (B 259), p. 24 -- Has been one of the major producers in district. Drilling in 1904 showed bench gravels to a depth of more than 180 ft.

Brooks, 1907 (B 314), p. 169, 171, 173-175 -- Preliminary to B 328.

Collier and others, 1908 (B 328), p. 307-308 -- Some production annually, 1901-1906. Ditch built.

p. 310-312 -- Bedrock in most of basins of Quartz and Dahl Creeks is phyllite or mica schist. Gold in lowest 5 claims is on false bedrock of clay beneath which is white quartz gravel; a 187-foot-deep shaft did not reach bedrock. Bench near mouth carries gold in 3-4 ft. of gravel on blue clay and beneath 15-20 ft. of muck.

Smith, 1908 (B 345), p. 228 -- About 10 men mining, 1907.

Smith, 1909 (B 379), p. 295 -- Winter dumps sluiced; 3 claims worked in summer, 1908.

Eakin, 1915 (B 622), p. 372 -- 4 sluicing plants operated, 1914.

Smith, 1917 (BMB 142), p. 28 -- Mining, 1915.

Mertie, 1918 (B 662), p. 455 -- 2 open-cut mines, 1916.

Cathcart, 1920 (B 712), p. 189 -- 3 open-cut mines, 1918.

Brooks, 1925 (B 773), p. 22 -- Reference to B 328.

Smith, 1930 (B 810), p. 35 -- 3 small mines, 1927.

Smith, 1933 (B 844-A), p. 48 -- 10 men mining, 1931. A nugget worth \$200 was found.

Smith, 1934 (B 857-A), p. 45 -- More than 10 men mining, 1932.

Smith, 1936 (B 868-A), p. 53 -- Hydraulic mining, 1934. A nugget worth \$130 was found.

Smith, 1938 (B 897-A), p. 63 -- Hydraulic mining, 1936.

Smith, 1941 (B 926-A), p. 61 -- Mining by 2 outfits, 1939.

Smith, 1942 (B 933-A), p. 58 -- Mining in 1940.

Sainsbury and others, 1969 (OF 377), p. 27-28 -- Placers have produced since about 1901; still some production in 1967. Placers contain coarse gold intergrown with quartz. Old shaft reported in B 328, p. 312, as being in gravel was in clayey altered zone containing ground-up vein quartz. What older reports called false bedrock is similar altered bedrock.

(Dahl Cr.) - Continued

Cobb, 1973 (B 1374), p. 76 -- Have been large nonfloat operations.

(Dick Cr.)

Gold, Tin, Tungsten

Serpentine district
MF-417, loc. 19

Bendeleben (0.0-0.25, 13.6-14.55)
65°46'-65°49'N, 164°57'-165°00'W

Summary: Only site of commercial placer mining in Serpentine district. Scheelite and cassiterite in concentrates. Dredge operated in 1914. Most of mining by nonfloat methods between 1916 and 1952 when the deposit was worked out.

Hess, 1906 (B 284), p. 157 -- Carries some stream tin.

Collier and others, 1908 (B 328), p. 282 -- Has been mining; probably is a large body of "rather low-grade auriferous gravel."

Chapin, 1914 (B 592), p. 388, 393 -- Dredge freighted in, but not installed, 1913.

Eakin, 1915 (B 622), p. 372 -- Dredge operated, 1914.

Mertie, 1918 (B 662), p. 455 -- Open-cut mine, 1916.

Harrington, 1919 (B 692), p. 353 -- Reference to B 284.

Cathcart, 1920 (B 712), p. 189 -- Open-cut mine, 1918.

Smith, 1926 (B 783), p. 17 -- Mining, 1924.

Moffit, 1927 (B 792), p. 22 -- Mining, 1925.

Smith, 1930 (B 810), p. 35 -- Hydraulicking, 1927.

Smith, 1930 (B 813), p. 42 -- Mining, 1928.

Smith, 1932 (B 824), p. 47 -- Mining, 1929.

Smith, 1933 (B 836), p. 48 -- Mining, 1930.

Smith, 1934 (B 857-A), p. 46 -- Mining, 1932.

Smith, 1934 (B 864-A), p. 51 -- Mining, 1933.

Smith, 1936 (B 868-A), p. 53 -- Mining, 1934.

Smith, 1937 (B 880-A), p. 55 -- Mining, 1935.

Smith, 1938 (B 897-A), p. 63 -- Mining, 1936.

Smith, 1939 (B 910-A), p. 66 -- Mining, 1937.

Smith, 1939 (B 917-A), p. 65 -- Mining, 1938.

Smith, 1941 (B 926-A), p. 61 -- Mining, 1939.

Smith, 1942 (B 933-A), p. 58 -- Mining, 1940.

Anderson, 1947 (TDM 5-R), p. 41 -- Placer tin present.

p. 43-44 -- Placer scheelite present.

Moxham and West, 1953 (C 265), p. 4, 6 -- Placer cassiterite reported. Mining in 1946.

Cobb, 1973 (B 1374), p. 98 -- Only site of commercial placer mining in Serpentine district. Ended in 1952 when deposit was worked out. Scheelite and cassiterite in concentrates.

(Discovery Gulch) (Cr.)

Gold

Fairhaven district
MF-417, loc. 71

Bendeleben (13.8, 15.7) approx. (?)
65°53'N, 163°05'W approx. (?)

Summary: Mining from at least 1936 through 1939. No data on mode of occurrence or amount of production. According to D. M. Hopkins (1/18/67) this gulch is probably near the mouth of the Pinnell R.; Jack Hoogendorn's father mined there for years.

Smith, 1938 (B 897-A), p. 62 -- Mining in 1936.

Smith, 1939 (B 910-A), p. 68 -- Mining in 1937.

Smith, 1939 (B 917-A), p. 66 -- Mining in 1938.

Smith, 1941 (B 926-A), p. 63 -- Hydraulic plant of David Hoogendorn, 1939.

(Dixie Cr.)

Gold

Fairhaven district
MF-417, loc. 59

Bendeleben (19.1, 9.6)
65°31'N, 162°22'W

Summary: Small-scale placer mining in 1903. No data on deposit.

Moffit, 1905 (B 247), p. 51 — Prospected, 1903.

p. 64-65 -- Two men reported making good wages, 1903.

Cobb, 1973 (B 1374), p. 71 -- Placer mining, 1903.

(Dome Cr.)

Gold (?)

Koyuk district

Bendeleben

SE1/4NE1/4 quad.

Summary: Good prospects reported in 1901; no data on occurrence; no exact location given.

Mendenhall, 1902 (P 10), p. 51 - Good prospects reported in 1901.

(Dreamy Gulch)

Gold

Kougarok district
MF-417, loc. 30

Bendeleben (1.5, 11.55)
65°40'N, 164°48'W

Summary: Small gulch carrying coarse gold in 3-4 ft. of gravel on calcareous schist bedrock. Mined in 1903.

Collier and others, 1908 (B 328), p. 324 -- Small depression in hillside and benches east of Kougarok R. 3-4 ft. of gravel on calcareous schist bedrock. Gold coarse, rusty, well rounded. Mined in 1903. Largest nugget valued at \$1.10.

(Eagle Gulch)

Gold

Kougarok district
MF-417, loc. 45

Bendeleben (2.1, 5.5) approx.
65°19'N, 164°43'W approx.

Summary: A small hydraulic plant operated in 1931-32. No other data.

Smith, 1933 (B 844-A), p. 48 -- Small hydraulic plant, 1931.

Smith, 1934 (B 857-A), p. 45 -- Small hydraulic plant, 1932.

(Esperanza Cr.)

Gold

Fairhaven district
MF-417, loc. 55

Bendeleben (8.3, 14.2) approx.
65°48'N, 163°52'W approx.

Summary: Shallow narrow paystreak in bed of narrow creek between muck banks. There was a little mining in 1909. This and Humboldt Cr. are only streams in Goodhope drainage where mining has been reported.

Smith, 1909 (B 379), p. 369 -- Gold discovered, winter of 1907-08.

Henshaw, 1910 (B 442), p. 366 -- Only site of mining in Goodhope drainage in 1909. Stream has low gradient (about 25 ft. per mile) in lower part of course; channel narrow and between muck banks. Paystreak is narrow and shallow in creek bed. In early 1909 preparations had been made to mine on 6 claims. A little gold was recovered using rockers.

Cobb, 1973 (B 1374), p. 73 -- Summary of above.

(Eureka Cr.)

Gold

Kougarok district
MP-417, loc. 34

Bendeleben ([.], 10.7)
65°37'N, 164°42'W

Summary: A small amount of fine gold has been recovered about a mile above mouth from gravel consisting of schist and vein-quartz pebbles.

Brooks, 1907 (B 314), p. 178 -- Gold reported.

Collier and others, 1908 (B 328), p. 321 -- Creek valley is narrow and contains gravel composed of schist and vein-quartz fragments. Gold fine (largest piece worth 7 cents). A small amount of gold mined about 1 mi. above mouth.

Foster

Antimony, Copper, Gold, Lead,
Silver, Tin, Zinc

Council district
MF-417, loc. 15

Bendeleben (17.95, 0.75)
65°01'N, 162°34'W

Summary: Gossan of galena and secondary lead and iron minerals on crest of anticline in siliceous limestone. Assays showed as much as 25.6% lead, 7.6% zinc, 9.3% tin, 14.9 oz. silver per ton, 0.05 oz. gold per ton, and trace of antimony and copper. Deposit trenched and drilled and a few tons of hand-picked ore saved, but no commercial production.

Mulligan, 1962 (RI 6018), p. 1-2, 7, 10, 12, 14-17, 25-41 -- Data summarized in B 1246.

Herreid, 1965 (GR 11), p. 4-5 -- Quote from RI 6018.

Berg and Cobb, 1967 (B 1246), p. 109.-- On crest of same anticline as Omilak. In bleached and weathered limestone and consists of about 700 ft. of lead- and silver-bearing gossan along a vertical fault zone that strikes northwest. Only recognizable mineral is galena, which forms nodules as much as 2 ft. in diameter. Nodules residually concentrated near surface. Gossan is earthy aggregate of secondary lead and iron minerals, clay, quartz, and partly decomposed siliceous limestone. Trenched by prospectors in 1949; several tons of hand-sorted ore piled nearby. Assays of samples from U.S.B.M. drilling and trenching in 1953-1954 showed tr. to 25.6% lead, 5.7% to 42.5% iron, up to 7.6% Zn, 0.3% tin, traces of antimony and copper, 0.02-14.9 oz. silver and tr. to 0.05 oz. gold per ton.

(Frost Cr.)

Gold

Kougarok district
MF-417, loc. 54

Bendeleben (6.35, 9.8)
65°33'N, 164°07'W

Summary: No data given other than report that gravel is auriferous. In this general area placers consist of a few feet of auriferous gravel overlain by 20-30 ft. of frozen peat and silt. Gold evidently derived from quartz-calcite veins in schist bedrock (B 1141-C, p. C94).

Collier and others, 1908 (B 328), p. 314 -- Gravel said to be auriferous.
Hopkins, 1963 (B 1141-C), p. C94 -- Reference to B 328.

(Game Cr.)

Gold

Kougarok district

Bendeleben
W1/2 quad.

Includes reference to (Gem Cr.).

Summary: Mining reported, 1939-1940. No data on occurrence or location.

Smith, 1941 (B 926-A), p. 61 -- Mining in 1939.

Smith, 1942 (B 933-A), p. 58 -- Mining in 1940.

(Garfield Cr.)

Gold

Kougarok district
MF-417, loc. 40

Bendeleben (3.65, 8.0)
65°27'N, 164°30'W

Summary: Creek flows in broad valley with benches and cover of moss and muck. Early investigators thought gold was on false bedrock, but Sainsbury and others (1969, OF 377) consider it to be intensely altered and mashed slaty bedrock, probably near a thrust fault. About \$25,000 in coarse, dark-colored, irregular gold mined in 1900-1901. Mining also reported in 1906, 1907, and 1918.

Brooks and others, 1901, p. 122-123, 125 -- Data also in B 328.

Collier, 1902 (P 2), p. 65 -- Gold recovered in 1900 from shallow pay-streak on white clay false bedrock in creek bed. No mining in 1901.

Brooks, 1907 (B 314), p. 169, 171 -- Preliminary to B 328.

p. 175 -- Production 1900-1901 had been about \$25,000. Other data in B 328.

Collier and others, 1908 (B 328), p. 306 -- Gold discovered in 1900.

p. 309 -- Mining in 1906.

p. 313-314 -- Gold occurs on white clay false bedrock beneath about 2 ft. of gravel in creek bed. Gold coarse, dark colored, irregular shaped. Placers in part of stream course that traverses upland. Valley is broad, with benches; bedrock is covered by moss and muck. By 1906 the creek had been almost abandoned.

Smith, 1908 (B 345), p. 228 -- 5 men mining, 1907.

Eakin, 1915 (B 622), p. 372 -- 2 sluicing plants operated, 1914.

Cathcart, 1920 (B 712), p. 189 -- Open-cut mine, 1918.

Sainsbury and others, 1969 (OF 377), p. 28 -- Placer gold associated with intensely mashed and veined slaty rocks that Sainsbury and others believe mark proximity of a thrust fault.

Cobb, 1973 (B 1374), p. 78 -- Placers yielded about \$25,000 from shallow paystreak in creek bed in 1900-1901. Mining reported in 3 later years; none since World War I.

(Glacier Cr.)

Gold

Fairhaven district
MF-417, loc. 60

Bendeleben (20.6, 10.6)
65°35'N, 162°09'W

Summary: Gold values found for 1-1/2 miles above Candle ditch intake. Bedrock is interbedded schist and limestone. Mining in 1908, 1909, 1927 reported.

Henshaw, 1909 (B 379), p. 368-369 -- Bedrock interbedded schist and limestone. Gold discovered in 1908 in a 20-ft.-wide paystreak. Two men recovered \$400 in 7 hours.

Henshaw, 1910 (B 442), p. 369-371 -- Values in gold found from Candle ditch intake to the forks about 1-1/2 mi. upstream. Considerable mining in 1909.

Smith, 1930 (B 810), p. 34 -- Mining in 1927.

Cobb, 1973 (B 1374), p. 71 -- Considerable mining, beginning in 1908 or 1909.

(Goldbottom Cr.)

Gold

Council district
MF-417, loc. 76

Bendeleben (8.55, 0.35)
65°01'N, 163°51'W

Summary: Bedrock is schist and limestone cut by quartz veins and lenses, some of which contain pyrite. In 1903, fine, angular gold was sluiced from 3 ft. of schist gravel beneath 2 ft. of sod and muck near head of creek. All other mining on Goldbottom Cr. was in Solomon quad.

Collier and others, 1908 (B 328), p. 254-255 -- On a claim near head of creek 3 ft. of schist gravel beneath 2 ft. of sod and muck was shovelled into a sluice box and yielded fine, angular gold in 1903. Regional bedrock is schist with interbedded crushed and crumpled limestone. Quartz veins and lenses are common; many contain pyrite.

(Gold Run)

Gold, Tungsten; Kyanite

Fairhaven district
MF-417, loc. 61

Bendeleben (21.25-21.75, 10.15-10.65)
65°33'-65°35'N, 162°00'-162°04'W

Summary: Gold discovered in 1908 on upper part of creek in ground 6-12 ft. deep. Considerable mining in 1909. Small-scale mining or prospecting reported annually 1927-1940. Kyanite in bedrock in a placer cut. Concentrate sample from 11 mi. above mouth of creek was largely kyanite, scheelite, and wolframite. Part of stream is in Candle quad.; some of the references below may apply to that part of creek only.

- Henshaw, 1910 (B 442), p. 369 -- Considerable mining in 1909.
p. 371 -- Gold found in 1908 on upper part of Gold Run. Ground is 6-12 ft. deep.
- Smith, 1930 (B 810), p. 34 -- Mining, 1927.
Smith, 1930 (B 813), p. 40 -- Mining, 1928.
Smith, 1932 (B 824), p. 45 -- Mining, 1929.
Smith, 1933 (B 836), p. 46 -- Prospecting, 1930.
Smith, 1933 (B 844-A), p. 47 -- Prospecting, 1931.
Smith, 1934 (B 857-A), p. 44 -- Prospecting, 1932.
Smith, 1934 (B 864-A), p. 49 -- Prospecting, 1933.
Smith, 1936 (B 868-A), p. 50-51 -- Prospecting, 1934.
Smith, 1937 (B 880-A), p. 54 -- Prospecting, 1935.
Smith, 1938 (B 897-A), p. 62 -- Mining, 1936.
Smith, 1939 (B 910-A), p. 67 -- Prospecting, 1937.
Smith, 1941 (B 926-A), p. 62 -- Prospecting, 1939.
Smith, 1942 (B 933-A), p. 59 -- Prospecting, 1940.
- Anderson, 1947 (TDM 5-R), p. 45 -- Kyanite, scheelite, and wolframite make up considerable portion of a sample from about 11 mi. above mouth of creek.
p. 57 -- Kyanite in bedrock in placer cut.
- Cobb, 1973 (B 1374), p. 71 -- Considerable placer mining for a few years beginning in 1908 or 1909. Bedrock in area is schist, limestone, and granite. Kyanite, scheelite, and wolframite made up a large part of a concentrate sample.

(Goose Cr.) (Gulch)

Gold

Kougarok district
MF-417, loc. 52

Bendeleben (6.1, 9.25)
65°31'N, 164°10'W

Summary: Placers consist of a few feet of auriferous gravel beneath 20-30 ft. of frozen peat and silt. Gold evidently derived from quartz-calcite veins in schist bedrock. Gold discovered in 1900. Mining carried on intermittently until as recently as 1948.

Brooks and others, 1901, p. 123 — Prospector claimed to have found gold, 1900.

Collier, 1902 (P 2), p. 65 — Gold has been mined.

p. 67 — Bedrock mica schist and limestone. One claim mined in 1901.

Brooks, 1907 (B 314), p. 175 — Gold has been mined.

Collier and others, 1908 (B 328), p. 314 — Gold discovered in 1900. A little mining between then and 1906.

Smith, 1941 (B 926-A), p. 61 — Mining in 1939.

Hopkins, 1963 (B 1141-C), p. C94 — Mining in 1947-1948. In this general area placers consist of a few feet of auriferous gravel beneath 20-30 ft. of frozen peat and silt. Gold evidently derived from quartz-calcite veins in schist bedrock.

Cobb, 1973 (B 1374), p. 77 — Gold discovered in 1900; production reported intermittently for many years.

(Grouse Cr., trib. Noxapaga R.)

Gold

Kougarok district
MF-417, loc. 49

Bendeleben (5.15, 9.05)
65°31'N, 164°13'W

Summary: Gold reported to have been found by 1906. Placer deposit consists of a few feet of auriferous gravel beneath 20-30 ft. of frozen peat and silt. Gold evidently derived from quartz-calcite veins in schist bedrock. Mining reported in 1947-48, 1957.

Brooks, 1907 (B 314), p. 175 -- Gold has been found.

Collier and others, 1908 (B 328), p. 314 -- Gravels said to be auriferous.

Hopkins, 1963 (B 1141-C), p. C94 -- Mining in 1947-48. Placer consists of a few feet of auriferous gravel beneath 10-20 ft. of frozen peat and silt. Gold evidently derived from quartz-calcite veins in schist bedrock.

Cobb, 1973 (B 1374), p. 77 -- Mining in 1957.

(Grouse Cr., trib. Tubutulik R.)

Gold

Koyuk district
MF-417, loc. 57

Bendeleben (20.6, 1.4)
65°03'N, 162°13'W

Summary: In 1948 signs of old placer-gold mining were observed. Stream flows from basalt terrain in headwaters along contact between granite and Paleozoic carbonate rocks, black slate, and schist. A slightly radioactive heavy-mineral concentrate contained ilmenite, magnetite, garnet, and sphene.

West, 1953 (C 300), p. 3 -- Stream follows contact between granite and Paleozoic sedimentary rocks (mainly limestone with subordinate dolomite, black slate, and schist); headwaters in basalt. No mining or prospecting in 1948, but evidence of old placer-gold mining observed.

p. 6-7 -- Heavy-mineral concentrate (SG 73.3) contained ilmenite, magnetite, garnet, and sphene, slightly radioactive.

Cobb, 1973 (B 1374), p. 81 -- Summary of above.

Hannum

Gold, Lead, Manganese, Silver, Zinc

Fairhaven district
MF-417, loc. 7

Bendeleben (11.75, 16.35)
65°56'N, 163°21'W

Includes references to (Harry(s) Cr.)

Summary: Lead- and zinc-bearing silicified zones 30-150 ft. wide in limestone; trend northwestward over distance of at least 4,000 ft. Ore is galena-pyrite-sphalerite in silicified marble. Rhodochrosite also present. Assays showed 0.05% copper, 0.12%-10.0% lead, 0.38%-2.2% Zn, 0.04 oz. or less gold per ton, and 1.76 oz. or less silver per ton.

Moffit, 1905 (B 247), p. 54 -- Galena in limestone exposed in prospect hole. Anderson, 1947 (TDM 5-R), p. 31 -- Galena float on Harris Cr., lode source reported to have been found in 1943. Anderson's use of Harris Cr. is a lapsus for Harrys Cr.

Mulligan, 1957 -- Data summarized in GR 23 and B 1246.

Mulligan, 1965 (USEM OF 6-65) -- Data summarized in GR 23 and B 1246.

Herreid, 1966 (GR 23), p. 5-6 -- Lead- and zinc-bearing silicified zones 30-150 ft. wide in marble; trend northwest. On Harrys Cr. an irregular zone is exposed in creek bank; quartzite probably replaced marble; contact between quartzite and marble marked by 18-inch band of gossan (sic) with central vein (2-3 inches wide) of galena. Zone can be traced up hill by float; exposed by several trenches. In one gossan disseminated pyrite and galena are associated with partially silicified marble. Zone extends to Hannum Cr., where a trench exposes a 6-foot-wide silicified zone that contains scattered grains of pyrite and sphalerite.

p. 10.-- Most promising ore deposit in area. Ore is galena-pyrite-sphalerite in a quartzite (silicified marble) zone. Material probably introduced along a northwest-trending fault zone. Discontinuous low-grade quartz-pyrite-galena deposits along margins of quartzite zone.

p. 17 -- Assays of 3 samples showed 0.05% Cu, 0.12%-10.0% Pb, 0.38%-2.2% Zn, 0.04 oz. or less Au per ton, 1.76 oz. or less Ag per ton,

p. 24-25 -- Data on analyses of geochemical samples.

Berg and Cobb, 1967 (B 1246), p. 114-115 -- Deeply weathered and oxidized deposits of argentiferous galena, pyrite, and rhodochrosite in limestone on Hannum and Harrys Creeks discovered in placers in early 1900's. Explored by U.S. Bureau of Mines in 1956, 1959, 1963. Northwest-trending shear zone several hundred feet wide and at least 4,000 ft. long. Analyses of specimens showed as much as 0.73% Pb, 1.12 oz. silver per ton and a trace of gold. Continuity and average grade of deposit could not be determined.

(Hannum Cr.)

Gold, Lead, Silver, Tin

Fairhaven district

Bendeleben (12.15-13.0, 16.0-16.35)

MF-417, loc. 8, loc. 69

65°54'-65°56'N, 163°11'-163°19'W

Summary: Bedrock is schist and slate with occasional thin limestone beds; lava rim rock on valley walls. Gold probably derived from quartz-calcite veins in schist. Stream gravel mainly schist and quartz. A mineralized shear zone that extends between Harrys and Hannum Creeks contains argentiferous galena and sphalerite (see Hannum). Placer gold concentrated on bedrock (mainly schist decomposed to blue clay). Concentrates contain lead minerals and cassiterite. Gold discovered in 1901 and reported to have been mined in 1901, 1903, 1909; probably also was mining in other years in early 1900's.

Mendenhall, 1902 (P 10), p. 51 -- Mining reported in 1901.

Moffit, 1904 (B 225), p. 77-78 -- Has been production (as of 1903).

Moffit, 1905 (B 247), p. 49 -- Gold discovered, 1900.

p. 51-54 -- Bedrock is schist and slate with occasional thin limestone beds. Lava rim rock on valley walls. Quartz veins in schist. Gravel mainly schist and quartz with smaller amounts of limestone and lava. Gold irregularly concentrated on bedrock, which is generally blue clay (decomposition product of schist). Concentrates contain hematite, pyrite, a little galena (probably from limestone area W. of Cunningham Cr.). As of 1903 mining was between Collins and Cunningham Creeks.

Purington, 1905 (B 263), p. 209 -- Gold worth \$18.25 per ounce.

Moffit, 1906 (B 284), p. 140 -- Has been production (as of 1905).

Henshaw, 1909 (B 379), p. 355 -- Reference to B 247.

p. 357 -- Ditch built from Cunningham Cr. to mine near Collins Cr., 1908.

Henshaw, 1910 (B 442), p. 367 -- Mining near Milroy Cr., 1909.

Anderson, 1947 (TDM 5-R), p. 31 -- Lead minerals said to be in concentrates.

p. 41 -- Placer cassiterite present.

Mulligan, 1965 (USBM OF 6-65), p. 13-16 -- Data summarized in GR 23 and B 1246.

Herreid, 1966 (GR 23), p. 5-6, 10, 17, 24-25 -- Data included with that for Hannum and summarized under Hannum.

Berg and Cobb, 1967 (B 1246), p. 114-115 -- Data on lode occurrence included with that for Hannum and summarized under Hannum. Mineralized shear zone extends from Harrys Cr. to Hannum Cr.

Koschmann and Bergendahl, 1968 (P 610), p. 17 -- Gold discovered 1900.

Cobb, 1973 (B 1374), p. 71 -- Lava rim rock on valley walls. Gold probably derived from quartz-calcite veins in schist bedrock. Cassiterite and lead minerals in concentrates.

(Harris Cr.)

Gold

Kougarok district
MF-417, loc. 35

Bendeleben (3.0-3.55, 10.8-11.0)
65°37'-65°39'N, 164°30'-164°35'W

Summary: Bedrock is schist and carbonate rocks. Valley broad in upper part, but narrows to a canyon 2 mi. above mouth. Lowest 3-1/2 mi. and extreme headwaters in limestone; rest in siliceous mica schist. Best prospects in part underlain by limestone. Auriferous bench 3-1/2 mi. above mouth. All gold is rough. Area cut by thrust faults; carbonate rocks for 3 mi. above mouth part of klippe according to Sainsbury and others (1969, OF 377), who also state that some of this part of stream was dredged. A concentrate sample said to have come from Harris Cr. had eU content of 1.335%; could not be duplicated in 1946. Mining reported in 1901, 1903, 1906, 1908, 1916, 1918, 1927; probably was carried on, but not reported in many other years, judging from area shown as mined by Sainsbury and others, 1969. (OF 377).

Brooks and others, 1901, p. 122-124 -- Data in B 328.

Collier, 1902 (P 2), p. 63 -- Mining in 1901. Gold being recovered from gravel on clay false bedrock.

Brooks, 1904 (B 225), p. 54 -- Mining, 1903.

Brooks, 1905 (B 259), p. 24 -- As of 1904 had been one of major producers in district.

Brooks, 1907 (B 314), p. 169, 171, 178 -- Preliminary to B 328.

Collier and others, 1908 (B 328), p. 306 -- Claims staked in 1900.

p. 309 -- Mining in 1906.

p. 321-323 -- Bedrock is schist with interbedded limestone.

Valley broad in upper part, but narrows to a canyon 2 mi. above mouth. Lowest 3-1/2 mi. of course in Silurian limestone; extreme headwaters also in limestone; rest in siliceous mica schist. All good prospects in part underlain by limestone. Bench deposit 3-1/2 mi. above mouth is auriferous. All gold is rough; probably derived from quartz veins in schist and concentrated on rough limestone bedrock.

Smith, 1909 (B 379), p. 296 -- Gold, with garnet, found in brecciated limestone, 1908.

Mertie, 1918 (B 662), p. 455 -- Open-cut mine, 1916.

Cathcart, 1920 (B 712), p. 189 -- 2 open-cut mines, 1918.

Smith, 1930 (B 810), p. 35 -- 2 outfits mining about a mile above mouth, 1927.

Moxham and West, 1953 (C 265), p. 1 -- Old sample showed 1.335% eU; said to have come from Harris Cr.

p. 6 -- No samples collected in 1946 nearly as radioactive as an old one said to have come from Harris Cr.

Sainsbury and others, 1969 (OF 377), p. 30 -- A dredge mined gravels on Harris Cr. "in the thrust plate of carbonate rocks."

Cobb, 1973 (B 1374), p. 76 -- Has been nonfloat mining.

(Henry Cr.)

Gold

Kougarok district
MF-417, loc. 29

Bendeleben (1.15, 11.4)
65°39'N, 164°50'W

Summary: Bedrock mainly schist intruded by many greenstone bodies; limestone at extreme head of creek. Gold flat and relatively coarse. A little mining reported between 1903 and 1906; mining reported in 1927, 1937.

Collier, 1902 (P 2), p. 62-64 --Good prospects (as of 1901).

Brooks, 1907 (B 314), p. 179 -- Little mining between 1903 and 1906.

Collier and others, 1908 (B 328), p. 324 -- Bedrock mainly schist that has been intruded by many greenstone bodies; limestone at extreme head of creek. Gold flat and relatively coarse; largest grains worth 3 or 4 cents. Mining in 1903.

Smith, 1908 (B 345), p. 228 -- Prospecting in 1907.

Smith, 1930 (B 810), p. 35 -- Mining, 1927.

Smith, 1939 (B 910-A), p. 66 -- Dragline, 1937.

(Homestake Cr.)

Gold, Tungsten

Kougarok district
MF-417, loc. 37

Bendeleben (1.2-1.35, 11.9-12.0)
65°41'N, 164°48'-164°50'W

Summary: Bedrock is graphitic and calcareous mica schist. Some gold in gravel for full length of creek. Some gold very coarse; one nugget found in 1906 or earlier worth \$14.40. Scheelite in placers. Mining reported in 1903, 1918, 1927.

Brooks, 1904 (B 225), p. 54 -- Mining, 1903.

Purington, 1905 (B 263), p. 209 -- Gold worth \$18.75 per ounce.

Brooks, 1907 (B 314), p. 179 -- Gold has been found.

Collier and others, 1908 (B 328), p. 325-326 -- Bedrock is graphitic and calcareous mica schist. Some gold in gravel for full length of creek. About 1/4 mi. from mouth 4-5 ft. muck and fine sand on bedrock; gold coarse; one nugget worth \$14.40.

Smith, 1909 (B 379), p. 279 -- Prospecting in 1908.

Cathcart, 1920 (B 712), p. 189 -- Open-cut mine, 1918.

Smith, 1930 (B 810), p. 35 -- Mining near mouth in 1927.

Anderson, 1947 (TDM 5-R), p. 43 -- Scheelite in placers.

Moxham and West, 1953 (C 265), p. 4 -- Scheelite said to have come from Homestake Cr. shown USGS party in 1946.

Cobb, 1973 (B 1374), p. 77 -- Scheelite has been reported.

(Hot Springs Cr.)

FM, Mercury, RE, Tin (?)

Serpentine district

Bendeleben (1.8-3.2, 14.25-15.3)
65°49'-65°53'N, 164°32'-164°45'W

Includes reference to (Hot Springs).

Summary: Headwaters drain granitic stock cut by pegmatitic quartz-muscovite veins and felsic dikes. Pan concentrate from small gully contained cinnabar. Some bedrock and gravel samples contained allanite, sphene, zircon, and secondary uranium minerals.

Collier, 1904 (B 229), p. 17, 28 -- Area near Hot Springs would be a good place to prospect for tin. Samples of tin ore purported to have come from there brought to Nome in 1902.

Wedge and others, 1952 (OF 51), p. 47 -- Data in C 265.

Moxham and West, 1953 (C 265), p. 4. -- Headwaters underlain by granitic stock cut by pegmatitic quartz-muscovite veins, fine-grained felsic dikes, dark-colored dike-like masses similar in composition to early mafic differentiates. Cinnabar in pan concentrate from small gully on south side of eastern fork of creek.

p. 6-11 -- Many samples from both bedrock and gravel showed anomalous eU in concentrates, but none sufficiently high to be of commercial interest in 1946. Radioactivity due mainly to thorium in allanite, zircon, and sphene and partially to secondary uranium minerals.

Cobb, 1973 (B 1374), p. 99 -- Reference to C 265.

(Rumboldt Cr.)

Gold, Lead, Silver, Tin

Fairhaven district
MF-417, loc. 2, loc. 20

Bendeleben (4.0-4.15, 14.4-14.8)
65°49'~65°51'N, 164°25'-164°26'W

Summary: Bedrock is pre-Ordovician slate, schist, and schistose limestone (intruded by mafic rocks) in thrust-fault contact with younger Paleozoic carbonate rocks; intruded by granitic stock, which hornfelsed surrounding rocks; followed by episode of movement on high-angle faults. Altered zone with anomalous concentrations of many metals crosses upper part of basin. Silver-rich galena crops out southwestern headwater area. Placer deposits are stream gravels that contain gold and so much coarse (up to 4 in. in diameter) cassiterite that sluicing for gold was difficult. A few hundred pounds of cassiterite was saved (but not sold) in 1919. Gold mining was reported in 1918-1919, 1927-1928, and 1931-1936. Remaining gravel might be dredged at a profit with gold and cassiterite as coproducts.

Knopf, 1908 (B 345), p. 266 -- Preliminary to B 358.

Knopf, 1908 (B 358), p. 63 -- Headwaters drain granite of Hot Springs Dome. Samples of black sand contain much cassiterite and less than \$5 per ton in gold. About 2/3 of sample was pyrite.

Henshaw, 1910 (B 442), p. 367 -- Prospecting, 1909. Some gold found.

Cathcart, 1920 (B 712), p. 189 -- Mining in 1918.

p. 195-196 -- Placer tin discovered, 1918.

Martin, 1920 (B 712), p. 22, 52 -- Placer tin discovered, 1918.

Brooks and Martin, 1921 (B 714), p. 71 -- About 30 tons of tin concentrate containing about 36,000 lbs. metallic tin produced in 1919.

Harrington, 1921 (B 714), p. 236 -- A few hundred pounds of tin concentrate saved in course of gold mining, but not shipped, 1919.

Smith, 1930 (B 810), p. 36 -- Fairly successful mining near head of valley in 1927.

Smith, 1930 (B 813), p. 42 -- Mining, 1928.

Smith, 1932 (B 824), p. 45 -- Prospecting drill shipped in, 1929.

Smith, 1933 (B 844-A), p. 47 -- Hydrauliclicking, 1931.

Smith, 1934 (B 857-A), p. 44 -- Hydrauliclicking, 1932.

Smith, 1934 (B 864-A), p. 49 -- Hydrauliclicking, 1933.

Smith, 1936 (B 868-A), p. 51 -- Hydrauliclicking, 1934.

Smith, 1937 (B 880-A), p. 54 -- Hydrauliclicking, 1935.

Smith, 1938 (B 897-A), p. 62 -- Mining, 1936.

Smith, 1939 (B 910-A), p. 68 -- Company said to have taken over a large tract; no report of mining, 1937.

Anderson, 1947 (TDM 5-R), p. 41 -- Cassiterite most common mineral in concentrate sample.

Moxham and West, 1953 (C 265), p. 4 - Placer cassiterite present; gold has been mined.

p. 6 -- No mining in 1946.

p. 11 -- Maximum eU of gravels in place 0.00012%.

Sainsbury and others, 1968 (C 565) -- Regional bedrock is pre-Ordovician slate, schist, and schistose limestone (intruded by mafic rocks)

(Humboldt Cr.) - Continued

and younger Paleozoic carbonate rocks in thrust-fault contact with the older rocks. A granitic stock intruded both sequences after thrust faulting; rocks around stock hornfelsed. Placer deposit carries much cassiterite, some pieces as much as 4 in. in diameter, some brecciated, and some showing crystal faces and intergrown with quartz. Cassiterite not commercially mined; did, however, interfere with gold recovery. Sample of bulk concentrate showed 60% tin, enough to meet requirements for high-grade concentrate. Lode source not found, but should be searched for.

Sainsbury and others, 1969 (OF 377), p. 32 -- Reference to C 565 and B 1312-H.

Sainsbury and others, 1970 (B 1312-H), p. H4-H8, H10 -- Various pre-Ordovician metamorphic rocks in thrust-fault contact with younger Paleozoic carbonate rocks; both cut by granitic stock and related dikes; area then cut by several sets of steep faults. Altered zone with anomalous concentrations of many metals crosses upper part of basin. Silver-rich galena with anomalous amounts of many metals crops out in southwestern headwater area.

p. H12 -- Panned concentrates were better prospecting tools than stream sediment samples.

Cobb, 1973 (B 1374), p. 73 -- Gold mined for many years, but sluicing was hampered by large amounts of cassiterite. Stream rises near a granitic pluton. Remaining gravel might be dredged at a profit if both gold and cassiterite were recovered.

(Idaho Cr.)

Gold

Kougarok district
MF-417, loc. 46

Bendeleben (1.9, 4.2)
65°14'N, 164°45'W

Summary: Bedrock of area is schist. Colors of gold found in prospect pit that did not reach bedrock.

Brooks and others, 1901, p. 123 -- Narrow valley. A mile above mouth prospectors in 1899 dug an 18-ft. test pit but did not reach bedrock. Colors of gold reported; work hampered by large rock fragments. Bedrock in area is schist.

Cobb, 1973 (B 1374), p. 77 — Colors of gold found, but no mining reported.

(Imuruk Lake)

Gold (?)

Fairhaven district

Bendeleben

Central part of quad.

Summary: No new gold finds reported from claims near margin of lava fields.

Smith, 1939 (B 910-A), p. 68 -- Claims near margin of lava fields; no new finds reported.

Independence

Gold, Lead, Silver, Zinc

Fairhaven district
MF-417, loc. 9

Bendeleben (18.4, 12.25)
65°41'N, 162°27'W

Includes references to: (Independence Cr.), Perkeypile & Ford, silver and lead on Kugruk R.

Summary: Argentiferous galena veins in marmorized limestone near contact with granite. Exposed in open cuts for width of 7-12 ft. and traced on surface for 2,000 ft. Several hundred feet of underground workings; ore not encountered on 140-ft. level. One reportedly contained 30% lead, a trace of zinc, and 150 oz. silver and 0.1 oz. gold per ton. Specimens from dump averaged about 20% lead and 20 oz. silver per ton. Some are reported to have been shipped in 1921 and possibly in 1922.

Harrington, 1919 (B 692), p. 399 -- Argentiferous lead prospect not visited by Harrington. Considerable development work said to have been done.

Cathcart, 1920 (B 712), p. 194-195 -- 6 to 10 men worked on property in 1918. 30-ft. shaft has been sunk on ore body and a 40-ft. tunnel driven. Assay returns from what owner said was an average sample showed 150 oz. silver and \$2.45 in gold per ton, 30% lead, and a trace of zinc. Deposit is said to occur in marmorized limestone along a limestone-granite contact, to be from 7 to more than 12 ft. wide where opened, and to be traceable for 2,000 ft. on surface. 50 tons of ore ready for shipment.

Harrington, 1921 (B 714), p. 236-237 -- 6 to 14 men work all of 1919, mainly sinking a shaft. No ore was shipped. More work planned.

Cathcart, 1922 (B 722), p. 176, 183 -- Same data as in B 714. No shipments made as of 1920.

Brooks, 1923 (B 739), p. 43 -- Some galena was shipped in 1921. Underground working includes a 136-ft. shaft and 250 ft. of drifts on two levels.

Brooks and Capps, 1924 (B 755), p. 47 -- No new ore mined; production from old dumps; 1922.

Anderson, 1947 (TDM 5-R), p. 31-32 -- Considerable work, 1916-1921. Silver-lead lode. Several hundred ft. of drifts and shafts. Ore body 10-12 ft. wide. Specimens from dump averaged 20 oz. Ag per ton and 20% Pb. No ore found on 140-ft. level and work abandoned.

Wedow and others, 1952 (OF 51), p. 42 -- Argentiferous lead deposit; said to carry also zinc, and traces of copper and gold. Source of data on zinc, copper, and gold not given.

Berg and Cobb, 1967 (B 1246), p. 114 -- Summary of data in B 712.

(Inmachuk R.)

Gold, Mercury

Fairhaven district
MF-417, loc. 71

Bendeleben (13.5-14.65, 15.7-17.2)
65°53'-65°58'N, 162°57'-163°08'W

Summary: River rises in limestone terrain; most of its course is through schist with thin interbedded limestone. Young lava form rim rock on valley walls. Lava buried at least one old channel which has been traced down tributaries into Inmachuk R. valley and from which gold was reconcentrated. Some of the gravel that has been mined may be correlative with Kougarak Gravel of Hopkins (late Tertiary to early Pleistocene). Much of gravel mined was frozen. Concentrate from dredge contained much cinnabar in pebbles as much as 1/2 inch in diameter. No large-scale mining until Fairhaven Ditch brought water from Imuruk Lake. One or two dredges were reported to be operating in nearly every year between 1913 and 1918 and between 1931 and 1940. Other types of mining were reported in some of these and most other years, 1903-1940.

Moffit, 1904 (B 225), p. 76 -- Most productive part as of 1903 below mouth of Pinnell R.

Moffit, 1905 (B 247), p. 58-60 -- River rises in limestone terrain; most of course is through schist with thin interbedded limestone. Lava cap rock on valley walls. Above Hannum Cr. valley is narrow and steep; below widens from 400-500 ft. to more than 1/4 mi. Gravel mainly schist, with vein quartz, limestone, and lava; much sand; frozen. In places clay covers bedrock; gold very little worn; some contains quartz; in some specimens gold in veins in hematite pebbles. Surface muck 2-7 ft. thick over as much as 8 ft. of gravel; Where bedrock is limestone at least one foot must be mined.

Purington, 1905 (B 263), p. 209 -- Gold worth \$18.39 per ounce.

Moffit, 1906 (B 284), p. 140 -- Mining in 1905.

Henshaw, 1909 (B 379), p. 355 -- Since 1903 most of production has been from below mouth of Pinnell R. (as of 1908).

p. 357-361 -- Prospecting above Hannum Cr.; creek gravels 6-8 ft. deep, not over 200 ft. wide. Below Pinnell R. most mining has been by winter drifting. Most of gold in natural riffles in limestone beds of interbedded schist and limestone bedrock and in basal part of river gravel. Fairhaven Ditch completed, 1908. One fairly large-scale mining operation below Washington Cr. in summer of 1908.

Henshaw, 1910 (B 442), p. 367-368 -- Mining in 1909 on a larger scale; using water from Fairhaven ditch. Location of some of richest claims on Inmachuk R. suggests that some of gold may have been reconcentrated from old channel found beneath lava cap on Perry Cr., traced down Pinnell R., and across Inmachuk.

Brooks, 1911 (B 480), p. 42 -- Mining in 1910.

Chapin, 1914 (B 592), p. 388, 394-395 -- 2 dredges, 1913.

Eakin, 1915 (B 622), p. 372 -- 2 dredges operated, 1914.

Smith, 1917 (BMB 142), p. 28 -- Mining, 1915.

Mertie, 1918 (B 662), p. 452 -- Dredge operated, 1916.

p. 454-455 -- 5 mines other than dredge, 1916.

(Inmachuk R.) - Continued

- Cathcart, 1920 (B 712), p. 187-189 -- Dredge and several other types of mining operated in 1918.
- Smith, 1926 (B 783), p. 17 -- Mining other than dredging, 1924.
- Moffit, 1927 (B 792), p. 22 -- Shafts through lava cap rock encountered auriferous gravel, but no paystreaks.
- Smith, 1929 (B 797), p. 26 -- Hydraulic plant worked in 1926.
- Smith, 1930 (B 810), p. 34 -- Hydraulic plant near Arizona Cr. was principal producer in 1927.
- Smith, 1930 (B 813), p. 40 -- A little mining and prospecting, 1928.
- Smith, 1932 (B 824), p. 45 -- Hoogendorn mined in 1929.
- Smith, 1933 (B 844-A), p. 47, 54 -- Dredge operated, 1931.
- Smith, 1934 (B 857-A), p. 43-44, 51 -- Dredge operated, 1932.
- Smith, 1934 (B 864-A), p. 49, 57 -- Dredge operated, 1933.
- Smith, 1936 (B 868-A), p. 51, 59 -- Dredge operated, 1934.
- Smith, 1937 (B 880-A), p. 54, 61 -- Dredge operated, 1935.
- Smith, 1938 (B 897-A), p. 62, 71 -- Dredge operated, 1936.
- Smith, 1939 (B 910-A), p. 67-68 -- Dredge and other mining, 1937.
p. 76 -- Dredge operated, 1937.
- Smith, 1939 (B 917-A), p. 66, 75 -- Dredge operated, 1938.
- Smith, 1941 (B 926-A), p. 62-63, 71 -- Dredge operated, 1939.
- Smith, 1942 (B 933-A), p. 59 -- 2 dredges and other types of mining, 1940.
p. 68 -- 2 dredges operated, 1940.
- Anderson, 1947 (TDM 5-R), p. 34 -- Cinnabar pebbles as much as 1/2 in. in diameter in dredge concentrates.
- Hopkins, 1963 (B 1141-C), p. C32 -- Some of gravel mined may be correlative with late Tertiary or early Pleistocene Kougark Gravel.
- Cobb, 1973 (B 1374), p. 71 -- Lava rim rock on valley walls. Bedrock in area is Paleozoic schist and crystalline limestone. Gold probably derived from quartz-calcite veins in schist. Dredge concentrates contained cinnabar pebbles as much as half an inch in longest dimension.

(Joe Cr.)

Gold

Kougarok district
MF-417, loc. 41

Bendeleben (1.95, 6.55)
65°22'N, 164°44'W

Summary: Before 1906 some gold had been mined near mouth of creek.

Collier and others, 1908 (B 328), p. 311-312 -- Gold near mouth; some mining before 1906. Tributary of Quartz Cr.

(Joseph Cr.)

Gold

Fairhaven district

Bendeleben
NE1/4 quad.

Summary: Creek not shown on available maps. Mining reported in 1916.

Mertie, 1918 (B 662), p. 454 -- Deep placer mine being worked in 1916.

(Jump Cr.)

Gold

Fairhaven district
MF-417, loc. 64

Bendeleben (21.3-21.5, 16.2)
65°53'-65°54'N, 162°00'-162°04'W

Summary: Major tributary of Candle Cr. on which gold was discovered in 1901. Mining was reported or implied in 1914, 1916-1918, 1927-1933, 1936-1940 and probably was carried on in many of the intervening years. Much of the mining was in the part of the creek in the Candle quad.; references are not sufficiently detailed to determine to which quad. they apply, so all are summarized here.

Moffit, 1905 (B 247), p. 50 -- Gold discovered by Thomas, Patterson, and Schneider.
Henshaw, 1909 (B 379), p. 364 -- Gold discovered 2 mi. above mouth in 1901.
Eakin, 1915 (B 622), p. 371 -- Drift mining in 1914.
Harrington, 1919 (B 692), p. 392 -- 11 men mined on Jump Cr. in winter of 1916-17.
Cathcart, 1920 (B 712), p. 189 -- Hydraulic mining, 1918.
Smith, 1930 (B 810), p. 34 -- Small mining camps, 1927.
Smith, 1930 (B 813), p. 40 -- Probably was mining in 1928; reference somewhat ambiguous.
Smith, 1932 (B 824), p. 45 -- Probably was mining in 1929; reference somewhat ambiguous.
Smith, 1933 (B 836), p. 46 -- Probably was mining in 1930; reference somewhat ambiguous.
Smith, 1933 (B 844-A), p. 46 -- Probably was mining in 1931; reference somewhat ambiguous.
Smith, 1934 (B 857-A), p. 43 -- Probably was mining in 1932; reference somewhat ambiguous.
Smith, 1934 (B 864-A), p. 49 -- Probably was mining in 1933; reference somewhat ambiguous.
Smith, 1938 (B 897-A), p. 62 -- Mining, 1936.
Smith, 1939 (B 910-A), p. 67 -- Mining, 1937.
Smith, 1939 (B 917-A), p. 66 -- Mining, 1938.
Smith, 1941 (B 926-A), p. 62 -- Mining, 1939.
Smith, 1942 (B 933-A), p. 59 -- Mining, 1940.
Cobb, 1973 (B 1374), p. 70 -- Mining was by simple methods until many ditches had been constructed.

(Knowles Cr.)

Gold (?)

Koyuk district

Bendeleben (16.5, 8.5) approx. (?)
65°28'N, 162°44'W approx. (?)

Summary: Prospecting, but no data on results. Bedrock schist. This is probably the stream called Big Bar Cr. in B 449, p. 114.

Mendenhall, 1901, p. 213 -- Bedrock schist, with considerable quartz.

Prospected, but results not known.

Smith and Eakin, 1910 (B 442), p. 340 -- Reference to Mendenhall, 1901, and statement that there was no sign of activity in 1903.

Koschmann and Bergendahl, 1968 (P 610), p. 18 -- Reference to B 442.

(Kougarok R.)

Copper, Gold, Lead, Mercury,
Silver, Tin

Kougarok district
MF-417, loc. 1, loc. 23, loc. 24

Bendeleben (0.5-2.05, 9.55-12.2)
65°33'-65°44'N, 164°43'-164°56'W

Includes references to (Washington
Cr.); Collier, 1902 (P 2), p. 62, 64,
is to this stream, though called
Kugruk R.

Summary: Major productive stream of Kougarok district; mining practically continuously since 1900, with one or two dredges mining from 1913 until at least as recently as 1940 in stream gravels and with major nonfloat operations on benches. Bedrock is complexly faulted pre-Ordovician metasedimentary and mafic volcanic or intrusive rocks and younger Paleozoic carbonate rocks. Quartz veins that carry pyrite and/or copper sulfides are common. One copper-sulfide bearing vein in metamorphosed limestone is near the mouth of Taylor Cr. Placer concentrates contain magnetite, pyrite, galena, a silver-rich sulfide, cassiterite, and gold-cemented fractured quartz. Most of the major placer gold deposits are spatially correlated with altered high-angle or thrust fault zones which contain crushed quartz veinlets or fine-grained silica with pyrite.

Brooks and others, 1901, p. 69 -- Estimated production of "Kugruk" placer field in 1900 was \$50,000.

Collier, 1902 (P 2), p. 62, 64 -- Data in later reports; called "Kugruk" in this report.

Brooks, 1907 (B 314), p. 169-172, 176-178 -- Preliminary to B 328.

Collier and others, 1908 (B 328), p. 306-309 -- Gold discovered in 1900, but very little work done until after much ditch construction, 1903-1906. In 1906 mining above mouth of Taylor Cr. and drifting in bench gravels on west side of river near Taylor Cr.

p. 315-320 -- Valley underlain mainly by schist, crystalline limestone on each side. Probable source of gold is pyrite-bearing quartz veins, which are common in phyllite units in schist. Gold found for 40 mi. along river. Benches on both sides of river. Floodplain 100-800 ft. wide. Most of gravel is rounded with few boulders more than 2 ft. in diameter. Gold from main stream is dark; that from tributaries is, in general, bright.

Knopf, 1908 (B 345), p. 266 -- A sample of concentrates contained considerable cassiterite, 85 oz. per ton Au, 66% pyrite, 10% magnetite.

Knopf, 1908 (B 358), p. 63 -- Same as B 345, p. 266.

Smith, 1908 (B 345), p. 228 -- Creek and bench gravels being worked in 1907.

p. 244 -- Copper lode reported near mouth of Taylor Cr.

Specimen is copper sulfides in much metamorphosed limestone.

Smith, 1909 (B 379), p. 295-296 -- Prospecting for dredging ground, 1908.

Very little mining, but some dead work near Taylor Cr.

Henshaw, 1910 (B 442), p. 364-365 -- Many placer mines, most small, operated in 1909. Considerable winter drift mining.

(Kougarok R.) - Continued

- Brooks, 1911 (B 480), p. 42 -- Hydraulicking bench gravels, 1910.
Chapin, 1914 (B 592), p. 388 -- Dredge, 1913.
 p. 394 -- Dredge and other mining, 1913.
Eakin, 1915 (B 622), p. 372 -- 1 dredge and several other types of mining,
 1914. A second dredge was being freighted in.
Smith, 1917 (BMB 142), p. 27-28 -- 2 dredges operated, 1915.
Mertie, 1918 (B 662), p. 452 -- 2 dredges operated, 1916.
 p. 455 -- 2 open-cut mines, 1916.
Cathcart, 1920 (B 712), p. 189 -- Open-cut operation, 1918.
Harrington, 1921 (B 714), p. 233 -- Dredge operated, 1919.
Brooks, 1922 (B 722), p. 63 -- Dredge operated, 1920.
Cathcart, 1922 (B 722), p. 181 -- Reference to B 345, p. 244.
Brooks, 1923 (B 739), p. 9 -- 2 dredges operated, 1921 --
Brooks and Capps, 1924 (B 755), p. 14 -- Dredge operated, 1922.
Brooks, 1925 (B 773), p. 27 -- Dredge operated, 1923.
Smith, 1926 (B 783), p. 18 -- 2 dredges operated, 1924.
Moffit, 1927 (B 792), p. 22, 24 -- Dredge operated, 1925.
Smith, 1929 (B 797), p. 27, 30 -- Dredge operated, 1926. Company re-
 ported that its ground was mined out and that it had sold its
 holdings.
Smith, 1930 (B 813), p. 42 -- Mining other than dredging in 1928.
Smith, 1932 (B 824), p. 47 -- Mining other than dredging in 1929.
Smith, 1933 (B 836), p. 48-49 -- Mining other than dredging in 1930; old
 dredge being rehabilitated.
Smith, 1933 (B 844-A), p. 48 -- Dredge operated between Arizona and Henry
 Creeks, 1931. Probably also a few smaller operations, but all may
 have been on tributaries.
 p. 54 -- Dredge operated, 1931.
Smith, 1934 (B 857-A), p. 45 -- Dredge operated, 1932. Probably also a
 few smaller operations, but all may have been on tributaries.
 p. 51 -- Dredge operated, 1932.
Smith, 1934 (B 864-A), p. 51 -- Shortage of water; dredge did not operate
 in 1933.
Smith, 1936 (B 868-A), p. 53 -- Trial run of new dredge at mouth of Nugget
 Cr., 1934.
 p. 59 -- Dredge operated, 1934.
Smith, 1937 (B 880-A), p. 55, 62 -- Dredge operated, 1935.
Smith, 1938 (B 897-A), p. 63 -- 2 dredges and other types of mining, 1936.
 p. 71 -- 2 dredges operated, 1936.
Smith, 1939 (B 910-A), p. 65-66 -- 2 dredges and other types of mining,
 1937.
 p. 76 -- 2 dredges operated, 1937.
Smith, 1939 (B 917-A), p. 64 -- 2 dredges and other types of mining, 1938.
 p. 75 -- 2 dredges operated, 1938.
Smith, 1941 (B 926-A), p. 61 -- 2 dredges and other types of mining, 1939.
 p. 71 -- 2 dredges operated, 1939.
Smith, 1942 (B 933-A), p. 58 -- 2 dredges and other types of mining, 1940.
 p. 68 -- 2 dredges operated, 1940.
Anderson, 1947 (TDM 5-R), p. 22 -- Reference to B 345, p. 244.

(Kougarok R.) - Continued

- Wedow and others, 1952 (OF 51), p. 46 -- Copper and other sulfides in metamorphosed limestone near mouth of Taylor Cr.
- Moxham and West, 1953 (C 265), p. 4 -- "Cinnabar has been recognized in some of the gravels of the lower Kougarok River valley." This might refer to Coffee Cr. and/or Wonder Gulch.
- p. 6 -- Placer deposits in stream gravel and in benches at 2 or more levels. Bench gravels 10-20 ft. thick. Stream gravel at dredge site in 1946 18 ft. thick. All gravels characteristically barren except within a few inches of bed-rock.
- Berg and Cobb, 1967 (B 1246), p. 118 -- Copper and other sulfides in metamorphosed limestone near mouth of Taylor Cr.
- Sainsbury and others, 1969 (OF 377), p. 30 -- Numerous small benches and most of the river above North Fork has been dredged or mined by dragline. Mining was practically continuous from Taylor Cr. upstream, including Washington and Macklin Creeks for several miles. Only mining in 1967-68 was bench of Washington Cr. 1 mi. above confluence with Macklin Cr. Most of main placer gold deposits spatially correlated with altered high-angle or thrust fault zones, which contain crushed quartz veinlets or fine-grained silica with pyrite. Concentrates contain galena, pyrite, a silver-rich sulfide, and gold cementing fractured quartz, and cassiterite. Placer cuts expose numerous pyrite-bearing hydrothermally altered zones in graphitic schist.
- Marsh and others, 1972 (OF 536), p. 2 -- Bits of cassiterite and base-metal sulfides in placer gold deposits of Washington Cr.
- Cobb, 1973 (B 1374), p. 76-77 -- Major production has been from dredges and large nonfloat operations on benches. Concentrates contain pyrite, magnetite, and hematite.

(Kougarok R., North Fork)

Gold

Kougarok district

Bendeleben (3.15, 10.7)

MF 417, loc. 36

65°37'N, 164°34'W

Summary: Bedrock in area is interbedded schist and limestone. Gold probably derived from small quartz veins in schist. Where mined bedrock is limestone; much of gold was recovered from crevices in top 3 ft. Concentrates mainly hematite and magnetite. Most of reported mining was in 1908 and earlier.

Collier, 1902 (P 2), p. 62-63 -- Good prospects reported.

Brooks, 1904 (B 225), p. 54 -- Mining, 1903.

Brooks, 1907 (B 314), p. 178 -- Workable placers have been found.

Collier and others, 1908 (B 328), p. 321 -- Gravel benches said to be auriferous. Bedrock interbedded schist and limestone.

p. 323 -- In 1903 mining one mile above mouth of Harris Cr. Bedrock is Silurian limestone. Gold is coarse, bright, and well rounded; most of it is in crevices between large blocks of limestone bedrock. Top 3 ft. of bedrock is mined. Concentrates mainly hematite and magnetite. In bench on north side of creek gravels are schist, quartz, and limestone. Source of gold probably small quartz veins in schist.

Smith, 1908 (B 345), p. 228 -- 2 men sluicing near Eureka Cr., 1907.

Smith, 1909 (B 379), p. 296 -- 3 camps mining on benches, 1908.

Smith, 1930 (B 810), p. 35 -- Small-scale mining at mouth, 1927; may have been on main Kougarok R.

Cobb, 1973 (B 1374), p. 77 -- Pyrite, hematite, and magnetite in concentrates.

(Kugruk R.)

Gold

Fairhaven district
MF-417, loc. 63 --

Bendeleben (18.25, 15.85)
65°53'N, 162°27'W approx.

Includes references to Kugruk;
see also Independence.

Summary: Major stream between Immachuk and Kiwalik drainages. Bedrock schist, limestone, and Tertiary coal-bearing continental rocks. Placer gold mining was near Chicago Cr. Production (at least part from drift mining) 1903-1905 was \$150,000. Dredging in 1913, 1914, and possibly in 1915 or 1916. Mining reported 1925, 1927, 1935-1937, 1940. Some may have been by dredge, as an abandoned dredge lay in the river in 1970.

Henshaw, 1909 (B 379), p. 361 -- Some data as in B 442. Production 1903-1905 was \$150,000. No mining in 1908.

Henshaw, 1910 (B 442), p. 369 -- Prospecting (in 1909) 3 mi. above Chicago Cr. Only place where deposits are rich enough to mine by drifting is 1 mi. above Chicago Cr. 8-10 ft. gravel beneath 5-7 ft. overburden. Bedrock schist and limestone.

Chapin, 1914 (B 592), p. 388, 394-395 -- Dredge installed and mined for 1-1/2 months in 1913.

Eakin, 1915 (B 622), p. 372 -- Dredging, 1914.

Mertie, 1918 (B 662), p. 451 -- Dredge to be moved to Candle Cr. in winter, 1916-17.

Moffit, 1927 (B 792), p. 22 -- Small amount of gold mined, 1925.

Smith, 1930 (B 810), p. 34 -- Mining, 1927.

Smith, 1937 (B 880-A), p. 54 -- Mining, 1935.

Smith, 1938 (B 897-A), p. 62 -- Mining reported, 1936.

Smith, 1939 (B 910-A), p. 67 -- A little mining reported, 1937.

Smith, 1939 (B 917-A), p. 66 -- A little prospecting reported, 1938.

Smith, 1941 (B 926-A), p. 62 -- Potential placer ground drilled, 1939.

Smith, 1942 (B 933-A), p. 59 -- Mining a short distance W. of Chicago Cr., 1940.

Cobb, 1973 (B 1374), p. 71-72 -- Auriferous gravel found near Chicago Cr. Dredging for a few years before dredge was moved away in 1916 and again in later years (dredge lay abandoned in river in 1970).

(Macklin Cr.)

Gold

Kougarok district
MF-417, loc. 26

Bendeleben (1.05-1.55, 12.85-13.3)
65°44'-65°45'N, 164°47'-164°51'W

Summary: A principal headwater fork of Kougarok R. and the site of major nonfloat mining. Geology similar to that along Kougarok R.; very few data applicable specifically to Macklin Cr. area. Mining reported intermittently from 1901 until as recently as 1940.

Collier, 1902 (P 2), p. 62-64 -- Good prospects and some mining reported, 1901. Bedrock is feldspathic, graphitic mica schist. Part of paystreak runs as high as 75¢ per pan.
Brooks, 1907 (B 314), p. 179 -- Gold has been mined (as of 1906).
Collier and others, 1908 (B 328), p. 326 -- No work in 1903 because of litigation. Some rich gravel has been found.
Smith, 1908 (B 345), p. 228 -- 2 men mining, 1907.
Smith, 1909 (B 379), p. 297 -- Prospecting, 1908; gravel would be minable if water were available.
Henshaw, 1910 (B 442), p. 365 -- Several parties mining until July, 1909, when water gave out.
Chapin, 1914 (B 592), p. 394 -- 15 men mining in 1913.
Eakin, 1915 (B 622), p. 372 -- 2 sluicing plants, 1914.
Smith, 1917 (BMB 142), p. 28 -- Hydraulic plant operated, 1915.
Mertie, 1918 (B 662), p. 455 -- 3 open-cut mines, 1916.
Cathcart, 1920 (B 712), p. 189 -- Hydraulic plant operated, 1918.
Smith, 1930 (B 810), p. 35 -- Mining about a mile above mouth, 1927.
Smith, 1933 (B 844-A), p. 48-49 -- Small-scale development, 1931.
Smith, 1934 (B 857-A), p. 45 -- Small-scale claim development, 1932.
Smith, 1934 (B 864-A), p. 51 -- Open-cut mining, 1933.
Smith, 1939 (B 910-A), p. 66 -- Dragline mining, 1937.
Smith, 1942 (B 933-A), p. 58 -- Mining in 1940.
Sainsbury and others, 1969 (OF 377), p. 30 -- Mined for several miles above confluence with Washington Cr.
p. 34 -- Richest placer in Bendeleben D-6 quad.
Cobb, 1973 (B 1374), p. 76 -- Have been large nonfloat operations.

(Mascot Cr.) (Gulch)

Gold, Tin

Kougarok district
MF-417, loc. 21

Bendeleben (0.2, 12.95)
65°44'N, 164°58'W

Summary: Small residual placer at head of small gulch. Bedrock is slate or phyllite. Some of gold shows crystal faces. Considerable cassiterite in concentrates.

Brooks, 1907 (B 314), p. 179 -- Gold has been mined (as of 1906).

Collier and others, 1908 (B 328), p. 320 -- Bedrock mica slate or phyllite with many quartz stringers covered by 2-3 ft. talus and decomposed bedrock. Gold in irregular patches on bedrock. Gold bright, angular; some shows crystal faces. Considerable cassiterite in concentrates.

Gulch has steep gradient and carries very little water.

Cobb, 1973 (B 1374), p. 76-77 -- Gold in small residual placer.

(Merritt Gulch)

Gold

Kougarok district

Bendeleben (1.15, 11.4) (?)
65°39'N, 164°50'W (?)

Summary: In Henry Creek valley. Mining in 1927; preparations reported in 1925 and 1932.

Moffit, 1927 (B 792), p. 22 -- Ditch being built in 1925.

Smith, 1930 (B 810), p. 35 -- Mining in 1927.

Smith, 1934 (B 857-A), p. 46 -- Preparation for mining (1932).

(Milroy Cr.)

Gold (?), Lead (?)

Fairhaven district

Bendeleben (12.35, 16.35)
65°55'N, 163°16'W

Summary: Lead minerals reported from concentrates. Gold, though not mentioned, is assumed to be present.

Anderson, 1947 (TDM 5-R), p. 31 -- Concentrates similar to those from Cunningham Cr. (lead carbonates, pyromorphite, galena).

(Mina Cr.)

Gold (?)

Fairhaven district

Bendeleben (18.7, 13.3) approx.
65°44'N, 162°23'W approx.

Summary: Workable prospects reportedly found in 1909. As there is no more recent report on Mina Cr., this report is suspect.

Moffit, 1905 (B 247), pl. 3 -- Symbol indicates auriferous gravel.
Henshaw, 1910 (B 442), p. 369 — Workable prospects found in 1909.

(Montana Cr.)

Gold (?)

Fairhaven district

Bendeleben (19.4, 14.6) approx.
65°54'N, 162°17'W approx.

Summary: A map symbol indicates auriferous gravel. No text description,
so occurrence is suspect.

Moffit, 1905 (B 247), pl. 3 -- Map symbol shows presence of auriferous
gravel. No text description.

(Nelson Gulch)

Gold

Fairhaven district
MF-417, loc. 72

Bendeleben (13.0-13.05, 15.05-15.5)
65°51'N, 163°11'W

Summary: Schist bedrock with quartz veins. Sample of one vein and some wall rock assayed 0.7 oz. gold per ton. Last reported mining in 1909, though there probably has been some since then. Gold recovered was rough and angular. Concentrates mainly pyrite; some garnet; a little magnetite.

Moffit, 1905 (B 247), p. 56-57 -- Small gulch tributary to Old Glory Cr. Bedrock is schist. Gravel terraces near mouth. Gold rough, angular; contains considerable quartz. Concentrates contain much pyrite, some ruby sand (garnet), and a little black sand (magnetite).

Henshaw, 1910 (B 442), p. 368 -- Mining in 1909.

Hopkins, 1963 (B 1141-C), p. C94 -- Has been mining.

Herreid, 1966 (GR 23), p. 7 -- Schist bedrock with quartz veins exposed in old placer cut. Sample of vein and wall rock assayed 0.70 oz. gold per ton.

(Neva Cr.)

Gold

Kougarok district
MF-417, loc. 39

Bendeleben (2.4, 8.15)
65°28'N, 164°40'W

Summary: Small gold production from shallow gravels; no other data.

Collier, 1902 (P 2), p. 62-63 -- Good prospects reported. Some sluicing
in 1901.

Collier and others, 1908 (B 328), p. 321 -- Has been small production.
Shallow gravels.

(Noxapaga R.)

Gold

Kougarok district
MF-417, loc. 53

Bendeleben (6.2, 9.2)
65°31'N, 164°04'W

Summary: A small patch of old gravel (Kougarok Gravel of Hopkins) near mouth of Goose Cr. is sparsely auriferous; not mined.

Hopkins, 1963 (B 1141-C), p. C94 -- Small patch of Kougarok Gravel near mouth of Goose Cr. is sparsely auriferous. Kougarok Gravel considered to be middle to late Tertiary and possibly partly early Quaternary (p. C29).

Cobb, 1973 (B 1374), p. 77 -- A small patch of old gravel is auriferous, but has not been mined.

(Old Glory Cr.)

Gold, Tin

Kougarok district
MF-417, loc. 72

Bendeleben (13.05-13.75, 15.0-15.35)
65°51'-65°52'N, 163°05'-163°11'N

Summary: Stream flows from limestone terrain across schist belt that forms natural riffles in stream bed. Quartz in lenses and stringers in schist is probable source of gold. Concentrates contain cassiterite. Gold mined in 1900 and intermittently for about 10 years.

Mendenhall, 1902 (P 10), p. 51 -- Production in 1901.

Collier, 1904 (B 229), p. 29 -- Data in B 247.

Moffit, 1904 (B 225), p. 77-78 -- Data in B 247.

Hess and Graton, 1905 (B 260), p. 181 -- Tin present.

Moffit, 1905 (B 247), p. 51 -- Has been gold producer.

p. 54-56 -- Rises in limestone area near Asses Ears; lower 4 mi. of course in schist. Lava rim rock on valley walls. Quartz lenses and stringers in all schist outcrops. Gravel is schist with some quartz and limestone. Stream flows across schistosity, which forms natural riffles. Well defined benches near Nelson Gulch. Pyrite, hematite, and cassiterite in concentrates. 27 oz. tin metal obtained from gold turned in to bank; tin from cassiterite mixed with gold.

Hess, 1906 (B 284), p. 157 -- Cassiterite present.

Moffit, 1906 (B 284), p. 140 -- Had produced gold, as of 1905.

Henshaw, 1909 (B 379), p. 355 -- Gold discovered.

p. 357 -- Old workings abandoned by 1908.

Harrington, 1919 (B 692), p. 353 -- Reference to B 284, p. 157.

Anderson, 1947 (TDM 5-R), p. 41 -- Cassiterite has been found.

Hopkins, 1963 (B 1141-C), p. C94 -- Gold mined in 1900 and intermittently for about 10 years.

Koschmann and Bergendahl, 1968 (P 610), p. 17 -- Gold discovered, 1900.

Cobb, 1973 (B 1374), p. 71 -- Cassiterite present.

Omilak

Antimony, Gold, Lead, Silver, Tin

Council district
MF-417, loc. 14

Bendeleben (17.15, 0.95)
65°02'N, 162°41'W

Summary: One of first productive mines in Alaska. Operated 1881-1890 and shipped 300-400 tons of ore that averaged 10% lead and 4 oz silver per ton. Sporadic attempts to reopen the mine until early 1920's were not successful. Workings consisted of a 180-ft shaft, 2 working levels, a 500-ft adit. Deposit consists of argentiferous galena, stibnite, and gold in irregular, discontinuous replacement lodes in slightly recrystallized, dolomitic limestone intercalated with schist on the west limb of a gently northward-plunging anticline. Sulfides are locally oxidized to secondary minerals. Mineralized rock is marked by small-scale folds and faults, but there is no evidence of major faulting at the mine. One analyzed sample contained 0.2% tin.

Schrader and Brooks, 1900, p. 27 -- Data in B 449.

Brooks and others, 1901, p. 67 -- Galena deposits discovered in 1881.

Mendenhall, 1901, p. 213-214 -- Silver-lead ore shipped to San Francisco in 1884-1886. No mining by 1900. Bedrock is white marble, schistose gray limestone, and dark schist "which in places seems to be an altered dioritic intrusive." Ore along contact or in limestone near contact. Pyrite, argentiferous galena, and, reportedly, stibnite.

Smith, 1907 (B 314), p. 156 -- Attempt to reopen mine, 1906.

Collier and others, 1908 (B 328), p. 236 -- First attempts at mining on Seward Peninsula were at Omilak.

Smith, 1908 (B 345), p. 245-246 -- Mining and exploration in 1907.

Brooks, 1909 (B 379), p. 28 -- Galena ore had been shipped in 1881.

Brooks, 1909 (B 394), p. 201 -- Data in B 449.

Smith and Eakin, 1910 (B 442), p. 345-349 -- Preliminary to B 449.

Brooks, 1911 (B 480), p. 88, 92 -- References to B 449.

Smith and Eakin, 1911 (B 449), p. 130-133 -- Deposit discovered before 1880; staked 1881. Claims patented 1894. Structure complex. Bedrock in area is crystalline limestone and schist with much quartz and biotite and some graphite. Sheared greenstone near mine. Ore minerals are argentiferous galena and stibnite. Galena ore in disconnected pockets, mainly in limestone; some oxidized and covered with lead carbonate. Stibnite well crystallized; thicker veins seem to follow fault planes in fractured limestone. Probably total of about 600 ft of workings. Total production 300-400 tons of ore, including float picked up on surface. Assays of ore shipped show up to \$7.43 per ton in gold, \$137.29 per ton in silver, and up to 1,494 lbs per ton lead; highest value per ton was \$198.81. Other assays showed up to 0.1 oz per ton gold, 142.2 oz per ton silver, and 74.7% lead. Smith and Eakin conclude that the quantity of ore is too small to warrant extensive developments.

Moffit, 1913 (B 533), p. 127 -- Data in B 449.

Omilak - Continued

- Brooks, 1915 (B 622), p. 20 -- Lead ore shipped sometime in the past.
- Brooks, 1916 (B 642), p. 69 -- Silver-lead ore shipped sometime in the past.
- Brooks, 1916 (B 649), p. 50, 57-58 -- References to Mendenhall, 1901, and B 449.
- Mertie, 1918 (B 662), p. 440, 446 -- References to Mendenhall, 1901, B 449 and B 649.
- Cathcart, 1922 (B 722), p. 176, 183, 185, 224 -- References to Mendenhall, 1901, B 449, B 649.
- Brooks, 1923 (B 783), p. 5 -- A little galena produced as early as 1881.
- Smith, 1942 (B 933-A), p. 79 -- Lead ore shipped sometime in the past.
- Anderson, 1947 (TDM 5-R), p. 12 -- Reference to B 649.
- p. 27-28 -- Reference to B 449.
- Wedow and others, 1952 (OF 51), p. 39 -- Argentiferous galena and stibnite in pockets at contact between greenstone and limestone.
- Mulligan, 1962 (RI 6018), p. 1-2, 7, 10, 12-14, 39 -- Data summarized in B 1246.
- p. 41-42 -- Radioactivity of samples low. Analyses of 2 samples indicated as much as 0.2% tin.
- Herried, 1965 (GR 11), p. 4 -- Shaft in marble on crest of small overturned anticline. Ore probably contact-metamorphic deposit. Marble around ore zone coarser grained, with a more blocky fracture than elsewhere in area. Other data from B 449.
- Berg and Cobb, 1967 (B 1246), p. 108-109 -- One of first productive lodes in Alaska. Operated 1881-1890 and shipped 300-400 tons of ore that averaged 10% lead and 4 oz silver per ton. Workings consisted of 180-ft shaft with 2 working levels and a 500-ft adit. Sporadic unsuccessful attempts to reopen mine until early 1920's. Deposit is slightly recrystallized, partly dolomitic limestone intercalated with schist on west limb of gently northward-plunging anticline. Mineralized layer (outcrop width of more than 700 ft) marked by small-scale folds and faults. Deposit consists of argentiferous galena, stibnite, and gold in irregular, discontinuous replacement lodes in limestone. Locally the sulfides are oxidized to secondary minerals.

(Ophir Cr.)

Gold

Council district
MF-417, locs. 78-79

Bendeleben (9.7-9.95, 0.1-1.1)
65°00'-65°03'N, 163°39'-163°41'W

Summary: Major producing creek in Council district. Bedrock is calcareous schist and limestone, both of which contain small quartz and calcite veins that carry sulfide minerals and visible gold; one near mouth of Ophir Cr. yielded gold when crushed and panned; veins are probable source of gold. Scheelite reported, probably erroneously, in 1901. Both stream and bench placers; some concentration by solifluction or other rapid mass movement. Some of gold in stream placers reconcentrated from terrace gravels. Parts of stream first worked by simple methods and then reworked later by dredges. Gold discovered in 1897; mining reported in nearly every year from then to 1940. First dredge installed in 1903; at times as many as 3 dredges were working in different parts of the creek and in the flats of the Niukluk R. at the mouth of Ophir Cr. One dredge was operating as recently as 1968. Most of mining was in Solomon quad., but, as in many references it is impossible to determine what part of Ophir Cr. is discussed, all are summarized here.

Schrader and Brooks, 1900, p. 27-28 -- Data in later reports.

Brooks and others, 1901, p. 25, 69, 111-114 -- Scheelite reported; other data in later reports. As this is the most recent report of scheelite and more detailed descriptions of the placers do not mention it, the report should not be credited.

Brooks, 1903 (B 213), p. 46 -- Production for 1901 estimated at \$1,000,000.

Brooks, 1904 (B 225), p. 54 -- Many quartz veins have been located, but no systematic prospecting, 1903.

Brooks, 1905 (B 259), p. 23 -- Mining, 1904.

Purington, 1905 (B 263), p. 37, 42 -- Cost and operational data as of early 1900's.

p. 194 -- Much fine gold, most of which is lost.

p. 209 -- Gold worth \$18.49 per oz.

Moffit, 1906 (B 284), p. 137-138 -- Dredge and several scraper plants, 1905.

Smith, 1907 (B 314), p. 147 -- One of productive tributaries of Niukluk R.

p. 150-151 -- Ditch from Pargon R. completed. Dredge and other types of mining in 1906.

Collier and others, 1908 (B 328), p. 235-236, 242-250, 261-263 -- Summarized in B 449.

Smith, 1908 (B 345), p. 216-217 -- 2 dredges, 4 hydraulic elevators, 7 other types of mining in 1907.

Smith, 1909 (B 379), p. 293-294 -- Major producer in Council district in 1908; dredge and many other methods of mining used. Mining most of way from mouth to Crooked Cr.

(Ophir Cr.) - Continued

- Henshaw, 1910 (B 442), p. 360-363 -- Much systematic prospecting of creek gravel, most of which is unfrozen, in 1909. Several mining camps and a dredge operating.
- Smith and Eakin, 1910 (B 442), p. 343 -- Preliminary to B 449.
- Smith and Eakin, 1911 (B 449), p. 117-121 -- Gold discovered 1896-97. In 1903 dredge near mouth; 1,000 men working in vicinity. Claim near mouth of Sweetcake Cr. both creek and bench gravels rich. Richest claim in Ophir Cr. basin at mouth of Dutch Cr. 1 1/2 mi above Dutch Cr. 5-14 ft of auriferous gravel on limestone bedrock. Terrace gravel near mouth of Crooked Cr. being mined in 1903; bedrock calcareous schist; dredge installed 1908-09 to mine creek gravels. Bench at head of canyon being mined in 1903. Some of gold reconcentrated from terrace gravels; other of local origin in quartz stringers. Schist next to one stringer near mouth of Ophir Cr., yielded gold when crushed and panned. Some concentration by solifluction or other rapid mass movement.
- p. 128 -- Schist adjacent to quartz stringer near mouth of Ophir Cr., when crushed and panned, yielded free gold.
- Smith, 1912 (B 520), p. 342 -- 2 dredges operating, 1911.
- Chapin, 1914 (B 592), p. 388, 391-392 -- 3 dredges and about 30 men engaged in other kinds of placer mining, 1913.
- Eakin, 1915 (B 622), p. 371 -- 2 dredges and 5 other mining plants operated, 1914.
- Smith, 1917 (BMB 142), p. 28 -- 2 dredges and 2 hydraulic plants operated, 1915.
- Smith, 1917 (BMB 153), p. 56 -- Dredge moved in, 1916.
- Mertie, 1918 (B 662), p. 452-453 -- 3 dredges operated, 1916. Hydro-electric plant built; to provide power for 2 dredges.
- p. 455 -- 2 hydraulic elevators, 1916.
- Cathcart, 1920 (B 712), p. 187 -- 3 dredges operated, 1918.
- p. 189 -- Mining other than dredge, 1918.
- Harrington, 1921 (B 714), p. 233 -- 3 dredges operated, 1919.
- Brooks, 1922 (B 722), p. 63 -- 2 dredges operated, 1920.
- Cathcart, 1922 (B 722), p. 206-207 -- Sources of placer gold not rich enough for lode mining.
- Brooks, 1923 (B 739), p. 9 -- 3 dredges operated 1921.
- Brooks and Capps, 1924 (B 755), p. 14 -- 3 dredges operated, 1922.
- Brooks, 1925 (B 773), p. 19 -- Reference to B 328.
- p. 27 -- 3 dredges in 1923.
- Smith, 1926 (B 783), p. 18 -- 2 dredges operated, 1924.
- Moffit, 1927 (B 792), p. 24 -- 1 dredge operated, 1925.
- Smith, 1929 (B 797), p. 30 -- 2 dredges operated, 1926.
- Smith, 1930 (B 810), p. 40 -- 2 dredges operated, 1927.
- Smith, 1930 (B 813), p. 40 -- 2 dredges and other types of mines operated, 1928.
- p. 47 -- 2 dredges operated, 1928.
- Smith, 1932 (B 824), p. 46 -- 2 dredges and 1 hydraulic mine operated, 1929.
- p. 53 -- 2 dredges operated, 1929.

(Ophir Cr.) - Continued

- Smith, 1933 (B 836), p. 47 -- 2 dredges and 1 hydraulic mine operated, 1930.
 p. 54 -- 2 dredges operated, 1930.
- Smith, 1933 (B 844-A), p. 49, 54 -- 2 dredges operated, 1931.
- Smith, 1934 (B 857-A), p. 45 -- 2 dredges and 1 open-cut mine operated, 1932.
 p. 51 -- 2 dredges operated, 1932.
- Smith, 1934 (B 864-A), p. 50 -- 2 dredges and 3 open-cut mines operated, 1933.
 p. 57 -- 2 dredges operated, 1933.
- Smith, 1936 (B 868-A), p. 51-52 -- 2 dredges and several open-cut mines operated, 1934.
 p. 59 -- 2 dredges operated, 1934.
- Smith, 1937 (B 880-A), p. 53 -- 2 dredges (one in gravel terrace of Niukluk R. at mouth of Ophir Cr.) and a few open-cut mines operated, 1935.
 p. 61 -- 2 dredges operated, 1935.
- Smith, 1938 (B 897-A), p. 65 -- Dredge and other types of mining, 1936.
 p. 71 -- 2 dredges operating, 1936.
- Smith, 1939 (B 910-A), p. 69 -- Dredging, 1937.
 p. 76 -- 2 dredges operating, 1937.
- Smith, 1939 (B 917-A), p. 75 -- 1 dredge operating, 1938.
- Smith, 1941 (B 926-A), p. 71 -- 1 dredge operating, 1939.
- Koschmann and Bergendahl, 1968 (P 610), p. 17 -- Rich gravels discovered 1896-97.
- Cobb, 1973 (B 1374), p. 64 -- Workable placers discovered in 1897. Bedrock schist and limestone, both of which contain small quartz and calcite veins that carry sulfide minerals and visible gold. Although not themselves minable, these veins are the probable source of the gold in the placers. Workable placers in both stream and bench deposits. Dredge operated in 1968.

(Otter Cr.)

Gold, Silver, Tin

Koyuk district

Bendeleben (19.2, 2.05-2.25)

MF-417, loc. 17, MF-417, loc. 56

65°06'N, 162°24'W

Summary: Quartz veinlets in quartz-mica schist contain as much as 0.03 oz. Au and 0.27 oz. Ag per ton. Nearby alluvium contains cassiterite.

Herreid, 1965 (GR 11), p. 5-6 — Bulldozer cuts in alluvium yielded placer tin. No mineralized rock seen in bedrock exposures. Bedrock is quartz-biotite-garnet schist; granite about a mile to NW. Nearby 20-foot-deep prospect shaft in quartz-mica schist contains less than 1% sulfides along tiny cross-cutting quartz veins. Grab samples contained as much as 0.03 oz. Au and 0.27 oz. Ag per ton.

Berg and Cobb, 1967 (B 1246), p. 119 — Same as above.

Cobb, 1973 (B 1374), p. 82 — Cassiterite in alluvium.

(Oxide Cr.)

Gold

Council district
MF-417, loc. 77

Bendeleben (9.4, 1.2)
65°04'N, 163°43'W

Summary: Gold has been produced; no other data given.

Collier and others, 1908 (B 328), p. 244 -- Gold has been produced.

(Pargon Mtn.)

Mica

Council district

Bendeleben (10.5, 3.25) approx.
65°11'N, 163°35'W approx.

Includes reference to (Oregon Cr.).

Summary: Books of muscovite found as float. Some said to have been used for stove windows and lamps in early 1900's. Claims relocated in 1943 and some exploratory work done.

Smith and Eakin, 1911 (B 449), p. 69 -- Pegmatite, large mica plates.

Several attempts have been made to develop a commercial deposit.

Anderson, 1947 (TDM 5-R), p. 46 -- Claims staked in 1901. Float mica used for stove windows and lamps. Sheets as much as 6 inches in diameter not uncommon. Largest sheet reported to have been found was about 20 in. by 14 in. Deposit relocated in 1943. Bedrock in area is schist, limestone, and gneiss. No idea of size or attitude of pegmatite.

(Patterson Cr.)

Gold, Lead, Silver

Fairhaven district

Bendeleben (20.75-21.2, 15.2-15.3)

MF-417, loc. 10, MF-417, loc. 65

65°50'-65°51'N, 162°02'-162°06'W

Summary: A major tributary of Candle Cr. Mining was reported or implied in 1909, 1918, 1924, 1927-1933, 1937-1940; probably was carried on in most other years after 1909. Placer drift mining exposed several small galena veins; some said to contain considerable silver. A shaft sunk on a vein 3 ft. wide, which was reported to have pinched out within a few feet. A placer concentrate sample panned from old tailings in 1945 was slightly radioactive (eU .002%).

- Moffit, 1905 (B 247), p. 61 -- At mouth 6-8 ft. of gravel and slide material rest on blue clay.
- Henshaw, 1910 (B 442), p. 370 -- Mining in 1909.
- Cathcart, 1920 (B 712), p. 189 -- 2 hydraulic operations, 1918.
- Smith, 1926 (B 783), p. 17 -- 2 camps mining in 1924.
- Smith, 1930 (B 810), p. 34 -- 3 open-cut mines, 1927.
- Smith, 1930 (B 813), p. 40 -- Probably there was mining in 1928; reference somewhat ambiguous.
- Smith, 1932 (B 824), p. 45 -- Probably there was mining in 1929; reference somewhat ambiguous.
- Smith, 1933 (B 836), p. 46 -- Probably there was mining in 1930; reference somewhat ambiguous.
- Smith, 1933 (B 844-A), p. 46 -- Probably there was mining in 1931; reference somewhat ambiguous.
- Smith, 1934 (B 857-A), p. 43 -- Probably there was mining in 1932; reference somewhat ambiguous.
- Smith, 1934 (B 864-A), p. 49 -- Probably there was mining in 1933; reference somewhat ambiguous.
- Smith, 1939 (B 910-A), p. 67 -- Mining in 1937.
- Smith, 1939 (B 917-A), p. 66 -- Mining in 1938.
- Smith, 1941 (B 926-A), p. 62 -- Mining in 1939.
- Smith, 1942 (B 933-A), p. 59 -- Mining in 1940.
- Anderson, 1947 (TDM 5-R), p. 31 -- Small galena veins exposed by placer drift mining. Several veins 8 in. to 1 ft. wide; some said to contain considerable silver. A shaft sunk in a vein 3 ft. wide; vein reported to have pinched out within a few feet.
- Gault and others, 1953 (C 250), p. 14 -- Concentrate sample slightly radioactive. Panned in 1945 from old tailings.
- Berg and Cobb, 1967 (B 1246), p. 115 -- Galena veins followed for short distance.
- Cobb, 1973 (B 1374), p. 70 -- Placers mined by simple methods until ditches had been built.

(Perry Cr.)

Gold

Fairhaven district
MF-417, loc. 75

Bendeleben (13.7, 14.55)
65°49'N, 163°03'W

Summary: Gravel beneath a lava flow is auriferous, but no great amount of gold was mined. Gravel may be correlative with Kougarok Gravel (late Tertiary and early Pleistocene(?)) of Hopkins. Bedrock mica schist.

Mendenhall, 1902 (P 10), p. 51 — Mining in 1901.

Moffit, 1905 (B 247), p. 49 -- Staked in 1901.

p. 58 — Fine, bright gold; some nuggets worth 10-15 cents.

Gravel mainly quartz pebbles.

Henshaw, 1910 (B 442), p. 368 — Old channels under lava cap on both sides of creek; 200-250 ft. above Pinnell R.; one old channel (52 ft. higher than the other) contains mixed gravel and lava.

Hopkins, 1963 (B 1141-C), p. C32 — Gravel possibly correlative with Kougarok Gravel (late Tertiary and early Pleistocene (?)) has been mined. 3-9 ft. auriferous gravel; on schist bedrock; overlain by 20 ft. of muck containing fragments of wood at base. Much overlain by lava flow 25 ft. thick. Tailing from mine consist of mica schist, graphite schist, metalimestone, lime-silicate rock, and basalt; rounded cobbles and boulders as much as 1 ft. long. Log 3 ft. in diameter reported to have been found in workings.

p. C94 -- Auriferous gravel below lava flow; no great amount of gold mined.

Cobb, 1973 (B 1374), p. 71 -- Same as B 1141-C, p. C94.

(Pinnell R.)

Gold

Fairhaven district
MF-417, loc. 72

Bendeleben (13.75-13.85, 15.35-15.7)
65°52'-65°53'N, 163°04'-163°05'W

Includes references to (Purnell R.)

Summary: Drains area east of Asses Ears. Bedrock schist with many quartz-calcite veins, which are probable source of gold in placers. Old channel beneath lava rim rock can be traced down left side of valley and across Inmachuk R. Principal mine was a hydraulic operation near junction with Inmachuk R.; operated 1929-1934, 1936.

Moffit, 1905 (B 247), p. 57-58 -- Drains area east of Asses Ears. Production as of 1903 all from below mouth of Old Glory Cr.

Moffit, 1906 (B 284), p. 140 -- As of 1905; little successful mining.

Henshaw, 1910 (B 442), p. 368 -- Old channel beneath lava-cap rock can be traced down Pinnell R. on left side of valley. It then crosses Inmachuk R. and follows north valley wall for 3 or 4 mi.

Smith, 1932 (B 824), p. 45 -- Hydraulic mine near junction with Inmachuk R.; principal producer in area in 1929.

Smith, 1933 (B 836), p. 46 -- Mining in 1930.

Smith, 1933 (B 844-A), p. 47 -- Hydraulic mining, 1931.

Smith, 1934 (B 857-A), p. 44 -- Hydraulic mining, 1932.

Smith, 1934 (B 864-A), p. 49 -- Hydraulic mining, 1933.

Smith, 1936 (B 868-A), p. 51 -- Hydraulic plant practically closed down because of company's financial difficulties and litigation, 1934.

Smith, 1937 (B 880-A), p. 54 -- No mining in 1935; tied up in litigation.

Smith, 1938 (B 897-A), p. 62 -- Successful mining, 1936; old hydraulic operation revived.

Smith, 1939 (B 917-A), p. 66-67 -- Negotiation for dredge in 1938.

Cobb, 1973 (B 1374), p. 71 -- Lava rim rock overlooks part of valley.

Gold probably derived from quartz-calcite veins in schist bedrock.

(Fish R.)

Tin (?)

Serpentine district

Bendeleben (3.2, 15.5) approx.
65°55'N, 164°24'W approx.

Summary: Tin said to be present; no other data given. Fish R. is parallel to and near Humboldt Cr., which does carry considerable cassiterite.

Anderson, 1947 (TDM 5-R), p. 41 -- "Several streams....yield placer tin in some quantity. Fish River and....are among these." No source of data given.

(Quartz Cr.)

Gold, Tungsten

Kougarok district
MF-417, loc. 42

Bendeleben (2.05-2.4, 6.2-6.5)
65°22'N, 164°42'W

Summary: Bedrock is phyllite on mica schist. Upper part of valley is cut in bedrock and lower part in terraces of Kougarok R. Gold both on bedrock and on false bedrock of blue clay. Some gold probably reconcentrated from older gravel. Gravels in some tributaries contain scheelite. Much of gold in lower part of course probably contributed by Dahl Cr. Mining reported in 1900, 1901, 1908, 1918, 1940.

Brooks and others, 1901, p. 120-121 -- Stream incised in gravel terrace. Both bench and creek deposits with gold on clay false bedrock.

p. 123 -- Gold probably reconcentrated from old gravels.

p. 125 -- Gold discovered in 1899.

Collier, 1902 (P 2), p. 60-62 -- Data repeated in later reports.

Moffit, 1906 (B 284), p. 140 -- As of 1905, had been placer mining.

Brooks, 1907 (B 314), p. 169, 173, 175 -- Preliminary to B 328.

Collier and others, 1908 (B 328), p. 306 -- Gold discovered in 1900.

p. 311-312 -- Bedrock is phyllite or mica schist. Part of valley cut in bedrock; part in terraces of Kougarok R. is steep-walled trench. Placers chiefly in bedrock-floored part of valley. Mining near mouth of Dahl Cr. in 1900-1901 in pay-streak 2-3 ft. thick on blue clay false bedrock. Gold medium coarse; probably came from Dahl Cr.

Smith, 1909 (B 379), p. 295 -- Winter dumps sluiced in spring, 1908.

Chapin, 1914 (B 592), p. 394 -- Dead work only, 1913. Dry year, so no water in creek.

Smith, 1917 (BMB 142), p. 28 -- Prospect drilling, 1915.

Cathcart, 1920 (B 712), p. 189 -- 1 open-cut mine, 1918.

Smith, 1942 (B 933-A), p. 58 -- Mining in 1940.

Anderson, 1947 (TDM 5-R), p. 43 -- Gravels in tributaries contain relatively large amounts of scheelite.

Cobb, 1973 (B 1374), p. 76 -- Gold found in body of old gravel in basin.

(Schlitz Cr.)

Gold (?)

Serpentine district

Bendeleben (1.15, 14.6) approx.
65°49'N, 164°49'W approx.

Summary: Development work, but no mining, in 1901 was reported. No other data given.

Collier, 1902 (P 2), p. 55 - Development work preparatory to mining reported in 1901.

(Solomon Cr.)

Gold

Kougarok district
MF-417, loc. 28

Bendeleben (2.9, 12.3)
65°42'N, 164°36'W

Summary: Gravel in a bench near mouth and in stream 1/2 mi. above mouth have been mined. Some mining in 1906. Modern name for stream is Salmon Cr.

Brooks, 1907 (B 314), p. 171, 179 -- Preliminary to B 328.

Collier and others, 1908 (B 328), p. 308 -- Ground sluicing in 1906.
p. 325 - Sloping bench near mouth mined. Auriferous gravel
3-7 ft. thick under 8-10 ft. muck. Stream gravel has been
mined 1/2 mi. above mouth.

(Taylor Cr.)

Gold

Kougarok district
MF-417, loc. 27

Bendeleben (1.15, 12.0)
65°41'N, 164°46'W

Summary: Bedrock is dark schist near mouth; limestone about 6 mi above mouth. Some mining near mouth before 1906. Mining 6 mi upstream in 1907. Dredging reported in 1918, 1920, 1923. This dredge was reported as on the Kougarok R. in some of the intervening years, so the actual mining may well have been in the Kougarok Valley at or near the mouth of Taylor Cr. rather than actually on Taylor Cr.

Brooks, 1907 (B 314), p. 179 -- Preliminary to B 328.

Collier and others, 1908 (B 328), p. 324-325 -- Bedrock is dark schist near mouth and limestone about 6 mi above mouth. Some mining has been done near mouth.

Smith, 1908 (B 345), p. 228 -- 2 men shoveling in 6 mi above mouth, 1907.

Smith, 1909 (B 379), p. 296-297 -- No mining in 1908.

Smith, 1912 (B 520), p. 342 -- Dredge hauled in, winter of 1911-12.

Cathcart, 1920 (B 712), p. 187 -- Dredge, 1918. Probably in Kougarok Valley at mouth of Taylor Cr.

Brooks, 1922 (B 722), p. 63 -- Dredge, 1920. Probably in Kougarok Valley at mouth of Taylor Cr.

Brooks, 1925 (B 773), p. 27 -- Dredge, 1923.

(Timber Cr.)

Copper, Gold, Silver

Koyuk district
MF-417, loc. 18

Bendeleben (20.0, 5.25) approx.
65°16'N, 162°16'W approx.

Summary: Shallow pits were sunk (1906-07) on copper-stained greenstone near a contact with granite. Malachite practically only copper mineral. Assays said to show 17-70 oz silver and up to \$1 in gold per ton.

Smith, 1908 (B 345), p. 244 — Earlier version of data in B 449.

Prospect located only as being "... on upper branches of Koyuk River ..."

Smith and Eakin, 1911 (B 449), p. 134 -- Several shallow prospect pits sunk, 1906-07, on copper-stained greenstone near contact with limestone. Mineralization too slight for development and ground abandoned after desultory prospecting. Samples (obviously carefully selected) for assay contained, according to the owners, 17 to 70 oz per ton silver, up to \$1 in gold per ton, and high content of copper. Malachite practically only copper mineral present. Smith and Eakin concluded that the occurrence was not worth further investigation.

Cathcart, 1922 (B 722), p. 181 — Reference to B 449.

Anderson, 1947 (TDM 5-R), p. 20 -- Reference to B 449.

Wedow and others, 1952 (OF 51), p. 42 -- Malachite in copper-stained greenstone near contact with limestone.

Berg and Cobb, 1967 (B 1246), p. 119 — Same data as B 449.

(Trinity Cr.)

Gold

Kougarok district
MF-417, loc. 22

Bendeleben (0.8, 12.8)
65°44'N, 163°53'W

Summary: Gold reported; no other data.

Brooks, 1907 (B 314), p. 179 -- Small tributary of Kougarok R. above
Homestake Cr. that has "yielded values".

(Trio Cr.)

Gold

Fairhaven district
MF-417, loc. 61

Bendeleben (21.25, 10.1) approx. (?)
65°33'N, 162°04'W approx. (?)

Summary: In 1909 gold was found and there was some development work.

Henshaw, 1910 (B 442), p. 371 -- Gold found and some development work
in 1909. Tributary of Gold Run Cr.

(Tubutulik R.)

Gold

Koyuk district

Bendeleben
SE $\frac{1}{4}$ SE $\frac{1}{4}$ quad.

Summary: Doubtful that there ever was productive mining. Gold on river bars.

Mendenhall, 1901, p. 212 -- Gold in surface gravels of river bars at least as far upstream as "the granite area". Small stampede in 1900.

Smith and Eakin, 1910 (B 442), p. 341-342 -- Preliminary to B 449.

Smith and Eakin, 1911 (B 449), p. 115-116 -- In 1909 no prospectors or signs of recent activity. Basin considered not likely to have good prospects.

Cathcart, 1920 (B 712), p. 189 -- Table lists one open-cut operation in 1918; probably on a tributary; possibly not in Bendeleben quad.

(Turner Cr.)

Gold

Kougarok district

Bendeleben (4.5, 9.5) approx. (?)
65°32'N, 164°23'W approx. (?)

Summary: Mining reported only in 1938. Good prospects reported in 1901. Bedrock is limestone and calcareous mica schist; not exposed in lower 4 mi of stream course.

Collier, 1902 (P 2), p. 65-66 -- Bedrock in upper part of course is limestone and calcareous mica schist; bedrock not exposed in lower 4 mi. Good prospects reported and whole creek staked, but no mining as of 1901.

Smith, 1938 (B 897-A), p. 65 -- Mining in 1938. Location on creek not given.

(Windy Cr., trib. Kougarok R.)

Gold

Kougarok district
MF-417, loc. 38

Bendeleben (1.5-1.75, 7.65-7.9)
65°27'N, 164°45'-174°47'W

Summary: Placers associated with altered graphitic slate veined with abundant carbonate and quartz veinlets and are near a known fault. Most of mining was near Anderson Gulch, from which placers have been traced for 1,500 ft along the slope of Windy Cr. Valley. Mining reported in 1907-1909; undoubtedly carried on in other years also.

Collier, 1902 (P 2), p. 62-63 -- Good prospects reported.

Brooks, 1907 (B 314), p. 171, 178 -- Preliminary to B 328.

Collier and others, 1908 (B 328), p. 308 -- Ground sluicing, 1906.

p. 320-321 -- Most of mining in basin on Anderson Gulch, from which placers have been traced for 1,500 ft along slope of valley of Windy Cr. Bedrock silvery mica schist with much iron-stained quartz. Gold also found in other parts of basin, but not in paying quantities.

Smith, 1908 (B 345), p. 228 -- 2 men ground sluicing, 1907.

Smith, 1909 (B 379), p. 295-296 -- 2 claims being mined, 1908.

Henshaw, 1910 (B 442), p. 365 -- Stripping and hydraulicking on a bench near Anderson Gulch, 1909.

Sainsbury and others, 1969 (OF 377), p. 28 -- Placers associated with altered graphitic slate veined with abundant carbonate and quartz; near a known fault. In this reference, Windy Cr. is incorrectly called Crooked Cr.

(Windy Cr., trib. Telephone Cr.)

Lead, Molybdenum, Zinc

Council district

Bendeleben (17.45-17.6, 3.2-3.4)
65°10'N, 162°37'-162°38'W

Summary: Grab samples of a quartz vein and of fractured monzonite of the Windy Creek pluton (Cretaceous) contained galena, pyrite, fluorite, and molybdenite.

Miller and others, 1971 (OF 478), p. 11 -- Grab samples of a quartz vein and of fractured monzonite contained galena, pyrite, fluorite, and molybdenite.

(Winona Cr.)

Gold

Kougarok district
MF-417, loc. 48

Bendeleben (5.5, 9.35)
65°32'N, 164°15'W

Summary: Gold evidently derived from quartz-calcite veins in schist bedrock. Auriferous stream gravels a few feet thick beneath 20-30 ft of frozen peat and silt. Mining in 1947-1948.

Hopkins, 1963 (B 1141-C), p. C94 -- Auriferous stream gravel a few feet thick beneath 20-30 ft of frozen peat and silt. Mining in 1947-1948.

(Wonder Gulch)

Gold, Lead, Mercury

Kougarok district
MF-417 loc. 5, loc. 45

Bendeleben (1.9, 5.5)
65°19'N, 164°44'W

Summary: Small gulch with auriferous quartz ledge at head. An attempt to mine it was not successful. Concentrates from creek contained cinnabar, cerrusite, and pyromorphite. Small-scale mining reported in 1918, 1931, 1932.

Cathcart, 1920 (B 712), p. 189 -- Open-cut mine, 1918.

Smith, 1933 (B 844-A), p. 48 -- Small hydraulic plant operated, 1931.

Smith, 1934 (B 857-A), p. 45 -- Small hydraulic plant operated, 1932.

Anderson, 1947 (TDM 5-R), p. 28 -- Cerrusite and pyromorphite in concentrates.

p. 34 -- Cinnabar in concentrates.

Sainsbury and others, 1969 (OF 377), p. 28 -- Attempt has been made to mine an auriferous quartz ledge at the head of the gulch. Iron-stained quartz boulders in creek.

Cobb, 1973 (B 1374), p. 77 -- Cinnabar and lead minerals in concentrates.

Unnamed occurrence

Copper

Kougarok district

Bendeleben (2.25, 11.3)

MF-417, loc. 3

65°39'N, 164°41'W

Sainsbury and others, 1969 (OF 377), p. 30-31 -- Banded fine-grained silica containing pyrite and traces of chalcopyrite locally has replaced limestone in 2 small klippe above a thrust.

Unnamed occurrence

Copper, Gold (?)

Council district

Bendeleben (8.75, 3.0) approx.

MF-417, loc. 11

65°10'N, 163°49'W approx.

Summary: Disseminated chalcopyrite and alteration products near contact between limestone and schist. Gold also reported.

Smith and Eakin, 1911 (B 449), p. 135 -- On divide between Kingsland and Nugget Creeks. Disseminated chalcopyrite and alteration products near contact between limestone and schist; granitic dikes in area. A little gold reported, but no data on mode of occurrence. Prospecting only.

Cathcart, 1922 (B 722), p. 181 -- Reference to B 449.

Anderson, 1947 (TDM 5-R), p. 20 -- Reference to B 449.

Berg and Cobb, 1967 (B 1246), p. 114 -- Same as B 449.

Unnamed occurrence

Iron, Lead, Silver

Fairhaven district
MF-417, loc. 6

Bendeleben (12.1, 15.2) approx.
65°52'N, 163°19'W approx.

Summary: Galena, said to be argentiferous, limonite, magnetite, and pyrite in specimens from ridge between Collins Cr. and Inmachuk R.

Mertie, 1918 (B 662), p. 446 -- Specimen shown Mertie in 1916 contained galena (said to be argentiferous), limonite, magnetite, and pyrite.
Anderson, 1947 (TDM 5-R), p. 30 -- Galena and silver lode with limonite capping similar to that of the Sinuk R. deposits (Nome quad.).
Magnetite said to be present. Some development work reported.
Statement by Anderson that this occurrence is mentioned in B 722 seems to be in error; he probably meant B 662.
Berg and Cobb, 1967 (B 1246), p. 115 -- Same as B 662.

Unnamed occurrence

Lead

Council district
MF-417, loc. 16

Bendeleben (17.95, 0.75)
65°01'N, 162°33'W

Summary: Sample from small gossan contained 6.3% lead. Cerrusite and galena in gossan.

Mulligan, 1962 (RI 6018), p. 43 -- Limonite and cerrusite with some galena. 6.3% lead in specimen from a small gossan. 3,000 ft S60°E of Foster prospect.

Unnamed occurrence

Lead, Silver

Council district

Bendeleben (8.5, 3.45)
65°12'N, 163°50'W

Summary: Prospect pit with lead and silver; no other data given.

Sainsbury and others, 1973 (B 1361), pl. 2 -- Prospect pit with lead and silver.

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.

(Admiral Cr.) -- see (Camp Cr., trib. Tubutulik R.)
Alaska Dredging Association -- see (Candle Cr.)
Alaska Kougarok Co. -- see (Kougarok R.), (Taylor Cr.)
Alaska-Kougarok Dredging Co. -- see (Kougarok R.)
Alaska Taylor Mining Co. -- see (Kougarok R.)

Alexander -- see (Dahl Cr.)
Anderson -- see (Macklin Cr.)
Arctic Circle Exploration, Inc. -- see (Candle Cr.)
(Balmof Gulch) -- see (Balm of Gilead Gulch)
Bandy -- see Foster

Behring Dredging Co. -- see (Kougarok R.), (Taylor Cr.)
Benson -- see Foster
Bering Dredging Co. -- see (Kougarok R.), (Taylor Cr.)
Blue Goose (Mining Co.) -- see (Ophir Cr.)
Bodis -- see (Dick Cr.)

Candle Creek Dredging Co. -- see (Candle Cr.)
Candle Creek Mining Co. -- see (Candle Cr.)
Candle Ditch Co. -- see (Candle Cr.)
Carroll -- see (Kougarok R.)
Coal Creek Dredging Co. -- see (Kougarok R.)

Coffee Creek Mining Co. -- see (Camp Cr., trib. Coffee Cr.), (Coffee Cr.)
Continental Gold Mining Co. -- see (Henry Cr.), (Merritt Gulch)
Cordovado (Mining Co.) -- see (Pinnell R.)
Crooked Creek Dredging Co. -- see (Albion Cr.), (Crooked Cr.)
Dahl Creek Mining Co. -- see (Dahl Cr.)

Darby -- see Foster
Dashley -- see (Inmachuk R.)
Dearborn Investment Co. -- see (Kugruk R.)
Deering Dredging & Mining Co. -- see (Inmachuk R.)
Dick Creek Mining Co. -- see (Dick Cr.)

Dry -- see Foster
Dry Creek Dredging Co. -- see (Inmachuk R.), (Pinnell R.)
Dry Creek Mining Co. -- see (Inmachuk R.), (Pinnell R.)
Fairhaven Ditch Co. -- see (Inmachuk R.)
Fairhaven Ditch & Hydraulic Co. -- see (Inmachuk R.)

Fairhaven Ditch & Water Co. -- see (Inmachuk R.)
Fairhaven Gold Dredging Co. -- see (Candle Cr.)
Fernegal & Hanson -- see (Crooked Cr.)
Flodin & Hutton -- see (Dick Cr.)
Flume Dredging Co. -- see (Crooked Cr.), (Ophir Cr.)

Forsgren (& Vollmer) Dredging Co. -- see (Inmachuk R.)
Fox Bar Dredging Co. -- see (Kougarok R.)
French -- see (Jump Cr.)
Fries (Dredging Co.) -- see (Inmachuk R.)
(Gem Cr.) -- see (Game Cr.)

Godfrey -- see (Kougarok R.)
Golden Center Mines, Inc. -- see (Candle Cr.)
Golofnin Bay Mining Co. -- see Omilak
Gossan -- see Foster
Granby-Alaska Co. -- see Omilak

Grant Mining Co. -- see (Coffee Cr.)
(Harry(s) Cr.) -- see Hannum
Henry Creek Gold Dredging Co. -- see (Kougarok R.)
Homestake -- see (Inmachuk R.)
Hoogendorn -- see (Discovery Gulch), (Inmachuk R.)

(Hot Springs) -- see (Hot Springs Cr.)
(Independence Cr.) -- see Independence
Inmachuk Gold Dredging Co. -- see (Inmachuk R.)
(Ipnichuk R.) -- see (Inmachuk R.)
Jim -- see Foster

Johnson -- see (Candle Cr.), (Kugruk R.)
Johnston -- see (Cunningham Cr.)
Kanari -- see (Kougarok R.)
Keenan & Castleton -- see (Kougarok R.)
Kelliher (Dredging Co.) -- see (Kougraok R.)

Kimball & Saupe -- see (Ophir Cr.)
Kougarok Consolidated Placers, Inc. -- see (Kougarok R.)
Kougarok Mining Co. -- see (Kougarok R.)
Kugruk -- see (Kugruk R.)
Kugruk Mines, Inc. -- see (Kugruk R.)

Lammers-Fitzpatrick Mining & Exploration Co. -- see (Buzzard Gulch)
Laurin Bros. -- see (Macklin Cr.)
Mascot Mining Co. -- see (Kougarok R.)
Mebes & Hanson -- see (Albion Cr.)
Midnight Sun Mining Co. -- see (Boulder Cr.)

Nashenweng -- see (Dahl Cr.), (Quartz Cr.)
North American Mines, Inc. -- see (Inmachuk R.)
North Fork Dredging Co. -- see (Harris Cr.)
Northern Light Mining Co. -- see (Ophir Cr.)
Omaliak -- see Omilak

Omilak Gold and Silver Mining Co. -- see Omilak
Oonilak -- see Omilak
Ophir Gold Dredging Co. -- see (Ophir Cr.)
(Oregon Cr.) -- see (Pargon Mtn.)
Ost -- see (Pargon Mtn.)

Perkeypile & Ford -- see Independence
Pioneer -- see Omilak
Polar Bear -- see (Inmachuk R.)
Poppy -- see Foster
Purkeypile & Ford -- see Independence

(Purnell R.) -- see (Pinnell R.)
Ridge -- see Foster
Rolando -- see (Game Cr.)
Russian-American Mining Exploration Co. -- see Omilak
(Salmon Cr.) -- see (Solomon Cr.)

Smith & Shane -- see (Jump Cr.)
Stick & Co. -- see (Albion Cr.)
Taylor Creek Ditch Co. -- see (Kougarok R.)
Tweet Bros. -- see (Kougarok R.)
Utica -- see (Inmachuk R.)

Utuan -- see Foster
Waldhelm -- see (Dahl Cr.)
(Washington Cr.) -- see (Kougarok R.)
Wells Bros. -- see (Henry Cr.), (Merritt Gulch)
Would Be -- see Foster

Xavier -- see (Gold Run)

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References are listed 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.

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