UNITED STATES DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

SUMMARIES OF DATA ON AND LISTS OF REFERENCES TO METALLIC AND SELECTED NONMETALLIC MINERAL OCCURRENCES IN THE BENDELEBEN QUADRANGLE, ALASKA, SUPPLEMENT TO OPEN-FILE REPORT 75-429

PART A -- SUMMARIES OF DATA TO JANUARY 1, 1980

By

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Introduction

This report was prepared as a supplement to a 1975 report which summarized data on mineral occurrences in the Bendeleben quadrangle, Alaska (Cobb, E. H., 1975, Summary of references to mineral occurrences (other than mineral fuels and construction materials) in the Bendeleben quadrangle, Alaska: U.S. Geological Survey Open-file Report 75-429, 120 unnumbered p.). As a result of suggestions from users of the series of which the 1975 report is a part, this supplement is released in two parts; Part A, which presents summaries of data to January 1, 1980, and Part B, which consists of reference lists for each occurrence.

In Part A data from reports released between the cut-off date (January 1, 1975) for the original report and January 1, 1980 have been incorporated in rewritten or new summaries where appropriate; if there are no new data on a deposit the original summary is repeated. For each deposit the name, list of mineral commodities, and location data are in the same format is in the 1975 report. Also included is an updated list of synonyms, owner, operator, and claim names.

In Part B citations are in standard biblographic 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 number of the report or map. Abbreviations used are:

AOF	Alaska Division of Geological and Geophysical Surveys Open-file Report
B	U.S. Geological Survey Bulletin
BMB	U.S. Bureau of Mines Bulletin
C	U.S. Geological Survey Circular
GR	Alaska Division of Geological and Geophysical Surveys and predecessor State agencies Geologic Report
OF	U.S. Geological Survey Open-file Report
MF	U.S. Geological Survey Miscellaneous Field Studies Map
P	U.S. Geological Survey Professional Paper
RI	U.S. Bureau of Mines Report of Investigations
TDM	Alaska Territorial Department of Mines Pamphlet
USBM OF	U.S. Bureau of Mines Open-file Report

Citations to the principal references used in preparing the summaries in Part A are preceeded by an asterisk.

Because the form of citation used in the reference list for each deposit constitutes sufficient identification of each numbered report or map to allow it to be found easily in most libraries, the general reference list in this report consists only of reports without formal identifying numbers. Numbers given to Geological Survey Open-file Reports listed with complete titles are informal and are used mainly in the Branch of Alaskan Geology of the Geological Survey.

(Albion Gulch) (Cr.) — Gold

Council district — Bendeleben (9.55, 0.5)
MF-417, loc. 81 — 65°01'N, 163°43'W

Stream flows across strike of schists and limestone. Gravels, all of local derivation, carry gold for entire length of stream. At least one "hillside placer." Intermittent mining from 1907 to 1936; dredge operated 1924-27.

(American Cr.) — Gold, Tin

Fairhaven district — Bendeleben (13.3, 14.9)
MF-417, loc. 73 — 65°50'N, 163°08'W

Small amounts of placer gold; cassiterite has been found.

(Anderson Gulch) — Gold

Kougarok district — Bendeleben (1.6, 7.85)
MF-417, loc. 38 — 65°27'N, 164°46'W

Bedrock silvery mica schist with much iron-stained quartz. Gravels 2-4 ft thick; top 1.5-2 ft of bedrock also removed.

(Andesite Cr.) — Diatomite

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

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

(Arctic Cr.) — Copper

Kougarok district — Bendeleben (2.25, 11.3)
MF-417, loc. 3 — 65°39'N, 164°41'W

Banded fine-grained silica containing pyrite and traces of chalcopyrite locally replaced limestone in 2 small klippen. Name not used in several references.

(Arizona Cr.) — Gold

Kougarok district — Bendeleben (1.55, 10.75)
MF-417, loc. 32 — 65°37'N, 164°47'W

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

(Balm of Gilead Gulch) — Gold

Council district — Bendeleben (9.65, 0.4)
MF-417, loc. 82 — 65°01'N, 163°42'W

Gold in 2-4 ft of broken and creviced limestone bedrock beneath 5 ft of soil. Richest deposits in crevices. Includes reference to (Balmof Gulch).

(Bella Cr.) — Gold (?)

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

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

(Big Bar Cr.) — Gold (?)

Koyuk district — Bendeleben
NE1/4SE1/4 quad.

Prospecting reported, but no other data. This is probably the stream called Knowles Cr. in other references. See also (Knowles Cr.)

Billiken — Copper, Iron

Fairhaven district — Bendeleben (18.05, 12.6)
65°42'N, 162°30'W

Brecciated magnetite cemented by dolomite and locally cut by pyrite-chalcopyrite veinlets.

(Birch Cr.) — Mica

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

Pegmatite with mica in plates 6 in or more in diameter reported. Tourmaline is an important accessory mineral.

(Black Cr.) (Gulch) — Gold

Kougarok district — Bendeleben (5.8, 9.25)
MF-417, loc. 50 — 65°31'N, 164°12'W

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

(Boulder Cr.) — Gold

Kougarok district — Bendeleben (4.9, 9.95)
MF-417, loc. 47 — 65°33'N, 164°19'W

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, and 1940.

(Bryan Cr.) — Gold(?)

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

Preparatory work in 1901 reported; no further mention of this creek. If there ever was any mining it probably was near the mouth of Dick Cr.

(Buzzard Gulch) (Cr.) — Gold

Kougarok district — Bendeleben (5.9, 9.2)
MF-417, loc. 51 — 65°31'N, 164°11'W

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 1936-40 and 1947-48.

(California Cr.) — Gold

Kougarok district — Bendeleben (1.35, 11.1)
MF-417, loc. 31 — 65°38'N, 164°49'W

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

(Camp Cr., trib. Coffee Cr.) — Gold(?)

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

In 1929 land on Coffee Cr. and Camp Cr. was surveyed for patent. Any mining on Camp Cr. probably was reported with that on Coffee Cr.

(Camp Cr., trib. Tubutulik R.) — Gold

Koyuk district — Bendeleben (21.35, 1.1) approx.
MF-417, loc. 58 — 65°02'N, 162°07'W approx.

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

(Candle Cr.)	Copper, Gold, Lead, Thorium, Uranium
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

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 all are therefore summarized here and listed in Part B.

(Chicago Cr.)	Gold
Fairhaven district MF-417, loc. 62	Bendeleben (18.15, 16.35) approx. 65°54'N, 162°28'W approx.

Gold-bearing gravel present; was some mining

(Coarse Gold Cr.)	Gold
Kougarok district MF-417, loc. 33	Bendeleben (1.7, 10.35) 65°35'N, 164°46'W

Was very little production of placer gold. Bedrock diorite and schist.

(Coffee Cr.)	Gold, Mercury
Kougarok district MF-417, locs. 43-45	Bendeleben (1.4-2.35, 5.3-5.6) 65°18'-65°19'N, 164°42'-164°48'N

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 mineralized altered mineralized zone in nedrock. 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 1906-09, 1913-15, 1918, 1927, 1937, 1940, and after World War II.

(Collins Cr.)	Gold, Lead(?)
Fairhaven district MF-417, loc. 70	Bendeleben (12.8, 16.0 65°54'N, 163°22'W

Coarse gold reported; no data on mode of occurrence or production history. Lead minerals said to have been found.

(Crooked Cr.)	Gold, Mercury(?), Silver
Council district MF-417, locs. 12, 13, 80	Bendeleben (9.2-9.9, 0.35-0.8) 65°01'-65°02'N, 164°40'-164°44'W

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 gravel and in benches; one near head is probably residual. Near junction with Ophir Cr. pay streak was 250 ft wide, 6 ft thick, and averaged $4.50 (gold at $20.67) per yd^3. 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 has not been confirmed.

(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

Tributary of Hannum Cr. on which gold mining was reported in 1901, 1903, 1927, 1959-63; 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 lead prospect.

(Dahl Cr.)	Gold
Kougarok district MF-417, loc. 42	Bendeleben (1.75-2.1, 6.1-6.4) 65°21'-65°22'N, 164°42'-164°45'W

Bedrock is phyllite or mica schist with many clay-rich altered zones containing ground-up vein quartz. Much of placer gold is intergrown with quartz; probably derived from altered zones. Both creek and bench placers were worked; false bedrock reported in old reports is altered bedrock. Mammoth and horse bones in frozen muck over placer deposits. Production reported intermittently from 1901 to as recently as 1967. Gold nuggets worth more than $100 (gold at $35) have been recovered.

(Dick Cr.) — Gold, Tin, Tungsten

Serpentine district — Bendeleben (0.0-0.25, 13.6-14.55)
MF-417, loc. 19 — 65°46'-65°49'N, 164°57'-165°00'W

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.

(Discovery Gulch) (Cr.) — Gold

Fairhaven district — Bendeleben (13.8, 15.7) approx. (?)
MF-417, loc. 71 — 65°53'N, 163°05'W approx. (?)

Mining from at least 1936 through 1939. No data on mode of occurrence or amount of production. According to D. M. Hopkins (oral commun., 1/18/67) this gulch is probably near the mouth of the Pinnell R.

(Dixie Cr.) — Gold

Fairhaven district — Bendeleben (19.1, 9.6)
MF-417, loc. 59 — 65°31'N, 162°22'W

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

(Dome Cr.) — Gold(?)

Koyuk district — Bendeleben
SE1/4NE1/4 quad.

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

(Dreamy Gulch) — Gold

Kougarok district — Bendeleben (1.5, 11.55)
MF-417, loc. 30 — 65°40'N, 164°48'W

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

(Eagle Gulch) — Gold

Kougarok district — Bendeleben (2.1, 5.5) approx.
MF-417, loc. 45 — 65°19'N, 164°43'W approx.

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

(Esperanza Cr.) — Gold

Fairhaven district — Bendeleben (8.3, 14.2) approx.
MF-417, loc. 55 — 65°48'N, 163°52'W approx.

Shallow, narrow paystreak in bed of narrow creek between muck banks. There was a little mining in 1909.

(Eureka Cr.) — Gold

Kougarok district — Bendeleben (2.2, 10.7)
MF-417, loc. 34 — 65°37'N, 164°42'W

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

Foster — Gold, Lead, Silver

Council district — Bendeleben (17.95, 0.75)
MF-417, loc. 15 — 65°01'N, 162°34'W

Gossan of galena (some nodules as much as 2 ft in diameter) and secondary lead and iron minerals on crest of anticline in bleached and weathered siliceous limestone. Assays showed as much as 25.6% Pb, 7.6% Zn (no zinc mineral reported), 0.03% Sn, 14.9 oz Ag and 0.06 oz Au per ton, and traces of Sb and Cu. Deposit drilled and trenched and a few tons of hand-picked ore saved, but no commercial production.

(Frost Cr.) — Gold

Kougarok district — Bendeleben (6.35, 9.8)
MF-417, loc. 54 — 65°33'N, 164°07'W

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.

(Game Cr.) — Gold

Kougarok district — Bendeleben
W1/2 quad.

Mining reported, 1939-1940. No data on occurrence or location. Includes reference to (Gem Cr.).

(Garfield Cr.) Gold

Kougarok district
MF-417, loc. 40

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

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.

(Glacier Cr.) Gold

Fairhaven district
MF-417, loc. 60

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

Gold values found for 1.5 miles above Candle ditch intake. Bedrock is interbedded schist and limestone. Mining in 1908, 1909, 1927 reported. Production may have been about 20 kg of gold.

(Goldbottom Cr.) Gold

Council district
MF-417, loc. 76

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

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.

(Gold Run) Gold, Kyanite, Tungsten

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

Gold discovered in 1908 on upper part of creek in ground 6-12 ft deep. Considerable mining in 1909. Small-scale mining or prospecting annually 1927-40. Kyanite in bedrock in a placer cut. Concentrate sample from 11 mi above mouth of creek largely kyanite, scheelite, and wolframite. Part of stream is in Candle quad.; some of data in references may apply only to that part of creek.

(Goose Cr.) (Gulch) Gold

Kougarok district
MF-417, loc. 52

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

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.

(Granite Cr.) — Lead (?)

Koyuk district — Bendeleben (17.95, 4.55)
65°14'N, 162°33'W

Siliceous metasedimentary rocks cut by thin quartz-fluorite veins locally contain disseminated galena(?). Altered intrusive rocks nearby.

(Grouse Cr., trib. Noxapaga R.) — Gold

Kougarok district — Bendeleben (5.15, 9.05)
MF-417, loc. 49 — 65°31'N, 164°13'W

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.

(Grouse Cr., trib. Tubutulik R.) — Gold

Koyuk district — Bendeleben (20.6, 1.4)
MF-417, loc. 57 — 65°03'N, 162°13'W

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. Includes reference to (Grove Cr.).

Hannum — Copper, Gold, Lead, Manganese, Silver, Zinc

Fairhaven district — Bendeleben (11.75, 16.35)
MF-417, loc. 7 — 65°56'N, 163°21'W

Sulfide-bearing material as much as several feet thick disseminated in siliceous schist that underlies dolomitized marble containing irregular veins or pods of partly oxidized sulfides. Minerals identified include galena, pyrite, arsenopyrite, chalcopyrite, sphalerite, and rhodochrosite; assays showed 0.05% Cu, 0.12%-10.0% Pb, 0.38%-2.2% Zn, 0.04 oz or less per ton Au, and 1.76 or less per ton Ag. Zone extends from Harrys Cr. to Hannum Cr. Pebbles and cobbles of massive galena abundant in stream bed of Harrys Cr. downstream from dolomitized zone. Includes references to (Harry(s) Cr.). See also (Hannum Cr.).

(Hannum Cr.) — Gold, Lead, Silver, Tin

Fairhaven district — Bendeleben (12.15-13.0, 16.0-16.35)
MF-417, locs. 8, 69 — 65°54'-65°56'N, 163°11'-163°19'W

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. 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. See also Hannum.

(Harris Cr.) — Gold

Kougarok district — Bendeleben (3.0-3.55, 10.8-11.0)
MF-417, loc. 35 — 65°37'-65°39'N, 164°30'-164°35'W

Bedrock is schist; overlying carbonate rocks for 3 mi above mouth are part of a klippe. Valley broad in upper part, but narrows to a canyon 2 mi above mouth. Best prospects in part of course underlain by carbonate rocks. All gold is rough. Mining in 7 years between 1901 and 1927 reported; probably was some in many other years; some dredging reported. Old concentrate sample said to have come from Harris Cr. contained 1.335% eU; could not be duplicated in 1946 investigation.

(Henry Cr.) — Gold

Kougarok district — Bendeleben (1.15, 11.4)
MF-417, loc. 29 — 65°39'N, 164°50'W

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 and 1937.

(Homestake Cr.) — Gold, Tungsten

Kougarok district — Bendeleben (1.2-1.35, 11.9-12.0)
MF-417, loc. 37 — 65°41'N, 164°48'-164°50'W

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

(Hot Springs Cr.) — Mercury, RE, Uranium

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

Headwaters drain granitic stock cut by pegmatitic quartz-muscovite veins and felsic dikes. Pan concentrate from a sml1 gully contained cinnabar. Some bedrock and gravel samples contained allanite, sphene, zircon, and secondary uranium minerals. Includes reference to (Hot Springs).

(Humboldt Cr.) — Gold, Lead, Silver, Tin

Fairhaven district — Bendeleben (4.0-4.15, 14.4-14.8)
MF-417, locs. 2, 20 — 65°49'-65°51'N, 164°25'-164°26'W

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 in 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 in 1918-1919, 1927-1928, and 1931-1936 was reported. Remaining gravel might be dredged at a profit with gold and cassiterite as coproducts.

(Idaho Cr.) — Gold

Kougarok district — Bendeleben (1.9, 4.2)
MF-417, loc. 46 — 65°14'N, 164°45'W

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

Independence — Gold, Lead, Silver

Fairhaven district — Bendeleben (18.4, 12.25)
MF-417, loc. 9 — 65°41'N, 162°27'W

Complex vein-veinlet stockwork containing argentiferous galena in sheared calcareous schist adjacent to marble and near a contact with granite. Ore shipped in 1921-22 (amount uncertain; most recent reference says about 32 metric tons; another says several hundred tons) contained 30.1% Pb, 4.9% Zn (no zinc mineral listed), and 1,130 g per ton Ag; one reference lists $2.45 in gold (about 0.12 oz) per ton. Gold content reported to increase with depth. Five ore bodies on 2 levels totalling perhaps 660 metric tons per vertical meter of ore averaging 6.4% Pb and 290 g per metric ton Ag. Mineralization extends for more than 1,500 m along strike. Most work was done between 1916 and 1921; has been some exploration at least as recently as 1965. Includes references to: (Independence Cr.), Perkeypile & Ford, silver and lead on Kugruk R.

(Inmachuk R.) — Gold, Mercury

Fairhaven district — Bendeleben (13.5-14.65, 15.7-17.2)
MF-417, loc. 71 — 65°53'-65°58'N, 162°57'-163°08'W

River rises in limestone terrain; most of its course is though schist with thin interbedded limestone. Young lava forms 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 Kougarok 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 0.5 in in diameter. No large-scale mining until Fairhaven Ditch brought water from Imuruk Lake in 1908. 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. Deposits, although extensively mined, are not exhausted.

(Joe Cr.) — Gold

Kougarok district — Bendeleben (1.95, 6.55)
MF-417, loc. 41 — 65°22'N, 164°44'W

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

(Joseph Cr.) — Gold

Fairhaven district — Bendeleben
NE1/4 quad.

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

(Jump Cr.) — Gold

Fairhaven district — Bendeleben (21.3-21.5, 16.2)
MF-417, loc. 64 — 65°53'-65°54'N, 162°00-164°04'W

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.

(Knowles Cr.) — Gold (?)

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

Prospecting, but no data on results. Bedrock schist. This is probably the stream called Big Bar Cr. in Smith and Eakin, 1911 (B 449), p. 114. See also (Big Bar Cr.).

(Kougarok R.) — Copper, Gold, Lead, Mercury, Silver, Tin

Kougarok district — Bendeleben (0.5-2.05, 9.55-12.2)
MF-417, locs. 1, 23, 24 — 65°33'-65°44'N, 164°43'-164°56'W

Major productive stream in Kougarok district; mining practically continuously from about 1900 to at least as recently as 1968, with one or two dredges mining from 1913 to 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 gold, magnetite, pyrite, galena, a silvery sulfide mineral containing Ag, Bi, and Sn, cassiterite, and gold-cemented quartz. Most of the major placer gold deposits are spatially correlated with altered high-angle or thrust zones which contain crushed quartz veinlets or fine-grained silica with pyrite. Includes references to (Washington Cr.).

(Kougarok R., North Fork) — Gold

Kougarok district — Bendeleben (3.15, 10.7)
MF-417, loc. 36 — 65°37'N, 164°34'W

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.

(Kugruk R.) — Gold

Fairhaven district — Bendeleben (18.25, 15.85)
MF-417, loc. 63 — 65°53'N, 162°27'W approx.

Major stream between Inmachuk 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) 1903-05 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. Includes references to Kugruk. See also Independence.

(Macklin Cr.) — Gold

Kougarok district — Bendeleben (1.05-1.55, 12.84-13.3)
MF-417, loc. 26 — 65°44'-65°45'N, 164°47'-164°51'W

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.

(Mascot Cr.) (Gulch) — Gold, Tin

Kougarok district — Bendeleben (0.2, 12.95)
MF-417, loc. 21 — 65°44'N, 164°58'W

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

(Merritt Gulch) — Gold

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

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

(Milroy Cr. — Gold(?), Lead(?)

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

Reported that concentrates are similar to those from Cunningham Cr., which contain lead carbonates, pyromorphite, and galena. Gold probably present.

(Mina Cr.) — Gold (?)

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

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

(Nelson Gulch) (Cr.) — Gold

Fairhaven district — Bendeleben (13.0-13.05, 15.05-15.5)
MF-417, loc. 72 — 65°51'N, 163°11'W

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

(Neva Cr.) — Gold

Kougarok district — Bendeleben (2.4, 8.15)
MF-417, loc. 39 — 65°28'N, 164°40'W

Small gold production from shallow gravels; no other data.

(Noxapaga R.) — Gold

Kougarok district — Bendeleben (6.2, 9.2)
MF-417, loc. 53 — 65°31'N, 164°04'W

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

(Nutroyuk Cr.) — Copper

Koyuk district — Bendeleben (19.8, 4.85)
65°15'N, 162°18'W

Marble, locally dolomitic and silicified, cut by quartz veinlets and some oxidized sulfide veinlets. Minor malachite staining.

(Old Glory Cr.) — Gold, Tin

Kougarok district — Bendeleben (13.05-13.75, 15.0-15.35)
MF-417, loc. 72 — 65°51'-65°52'N, 163°05'-163°11'W

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.

Omilak — Antimony, Gold, Lead, Silver

Council district — Bendeleben (17.15, 0.95)
MF-417, loc. 14 — 65°02'N, 162°41'W

One of the 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; 41 tons of hand-picked ore contained 75% lead and 142 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.

(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

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.

(Otter Cr.) Gold, Silver, Tin

Koyuk district
MF-417, locs. 17, 56

Bendeleben (19.2, 2.05-2.25)
65°06'N, 162°24'W

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.

(Oxide Cr.) Gold

Council district
MF-417, loc. 77

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

Gold has been produced; no other data given.

(Pargon Mtn.) Mica

Council district

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

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. Includes reference to (Oregon Cr.).

(Patterson Cr.) Gold, Lead, Silver

Fairhaven district
MF-417, locs. 10, 65

Bendeleben (20.75-21.2, 15.2-15.3)
65°50'-65°51'N, 162°02'-162°06'W

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 galena veins 8 in to 1 ft wide; 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%).

(Perry Cr.) — Gold

Fairhaven district — Bendeleben (13.7, 14.55)
MF-417, loc. 75 — 65°49'N, 163°03'W

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.

(Pinnell R.) — Gold

Fairhaven district — Bendeleben (13.75-13.85, 15.35-15.7)
MF-417, loc. 72 — 65°52'-65°53'N, 163°04'-163°05'W

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. Includes references to (Purnell R.).

(Pish R.) — Tin (?)

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

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

(Quartz Cr.) — Gold, Tungsten

Kougarok district — Bendeleben (2.05-2.4, 6.2-6.5)
MF-417, loc. 42 — 65°22'N, 164°42'W

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.

(Schlitz Cr.) — Gold (?)

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

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

(Solomon Cr.) — Gold

Kougarok district
MF-417, loc. 28 — Bendeleben (2.9, 12.3)
65°42'N, 164°36'W

Gravel in a bench near mouth and in stream 0.5 mi above mouth have been mined. Some mining in 1906. Modern name for stream is Salmon Cr.

(Taylor Cr.) — Gold

Kougarok district
MF-417, loc. 27 — Bendeleben (1.15, 12.0)
65°41'N, 164°46'W

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.

(Timber Cr.) — Copper, Gold, Silver

Koyuk district
MF-417, loc. 18 — Bendeleben (20.0, 5.25) approx.
65°16'N, 162°16'W approx.

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.

(Trinity Cr.) — Gold

Kougarok district
MF-417, loc. 22 — Bendeleben (0.8, 12.8)
65°44'N, 163°53'W

Gold reported; no other data. Small tributary of Kougaruk R. above Homestake Cr.

(Trio Cr.) — Gold

Fairhaven district
MF-417, loc. 61 — Bendeleben (21.25, 10.1) approx. (?)
65°33'N, 162°04'W approx. (?)

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

(Tubutulik R.)	Gold
Koyuk district	Bendeleben SE1/4SE1/4 quad.

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

(Turner Cr.)	Gold
Kougarok district	Bendeleben (4.5, 9.5) approx. (?) 65°32'N, 164°23'W approx. (?)

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.

(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

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.

(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

Grab samples of a quartz vein and of fractured monzonite of the Windy Creek pluton (Cretaceous) 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

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.

(Wonder Gulch)	Gold, Lead, Mercury
Kougarok district MF-417, locs. 5, 45	Bendeleben (1.9, 5.5) 65°19'N, 164°44'W

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.

Unnamed occurrence	Copper
Fairhaven district	Bendeleben (18.15, 9.35) 65°31'N, 162°30'W

Vein of solid chalcopyrite about 4 in thick in a limestone cliff; above a very large magnetic anomaly.

Unnamed occurrence	Copper, Gold(?)
Council district MF-417, loc. 11	Bendeleben (8.75, 3.0) approx. 65°10'N, 163°49'W approx.

Chalcopyrite disseminated in lenses and stringers and alteration products near contact between limestone and schist. Gold also reported. Includes reference to (Nesbit Cr.).

Unnamed prospect	Copper, Lead, Silver
Council district	Bendeleben (8.3, 3.6) 65°12'N, 163°52'W

Prospect pit with reported copper, lead, and silver next to an altered Cretaceous or Tertiary dike in Precambrian metamorphic rocks.

Unnamed occurrence	Fluorite
Council district	Bendeleben (17.55, 3.05) approx. 65°09'N, 167°37'W approx.

Quartz veins as much as 3 ft wide and traceable for several hundred feet contain colorless to greenish fluorite intimately intergrown with quartz; fluorite content variable.

Unnamed occurrence	Iron, Lead, Silver
Fairhaven district MF-417, loc. 6	Bendeleben (12.1, 15.2) approx. 65°52'N, 163°19'W approx.

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

Unnamed occurrence	Lead
Council district MF-417, loc. 16	Bendeleben (17.95, 0.75) 65°01'N, 162°33'W

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

Unnamed prospect	Lead, Silver
Council district	Bendeleben (8.5, 3.45) 65°12'N, 163°50'W

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

Synonyms, Owners, Operators, and Claim Names

(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
Berg -- see Independence
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.)
(Grove Cr.) -- see (Grouse Cr., trib. Tubutulik R.)
(Harry(s) Cr.) -- see Hannum
Henry Creek Gold Dredging Co. -- see (Kougarok R.)
Homestake -- see (Inmachuk R.)
Hoogendorn -- see (Discovery Gulch) (Cr.), (Inmachuk R.)
(Hot Springs) -- see (Hot Springs Cr.)
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 (Kougarok R.)
Kimball & Saupe -- see (Ophir Cr.)
Kougarok Consolidated Placers Inc. -- see (Kougarok R.)
Kougarok Mining Co. -- see (Kougarok R.)
Kugruk -- see (Kugruk R.)
Kugruk Galena Mines -- see Independence
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 Cr.) -- see (Humboldt Cr.)
Midnight Sun Mining Co. -- see (Boulder Cr.)
Nashenweng -- see (Dahl Cr.), (Quartz Cr.)
(Nesbit Cr.) -- see unnamed occurrence, copper, gold(?), at 65°10'N, 136°49'W approx.
North American Mines, Inc. -- see (Inmachuk R.)
Northern Light Mining Co. -- see (Ophir Cr.)
North Fork Dredging Co. -- see (Harris Cr.)
Omalik -- see Omilak
Omilak Gold & 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)