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 TANANA QUADRANGLE, ALASKA

SUPPLEMENT TO OPEN-FILE REPORT 77-432

PART A -- SUMMARIES OF DATA TO JUNE 1, 1981

By
Edward H. Cobb

Open-File Report 81-1313A
1981

Introduction

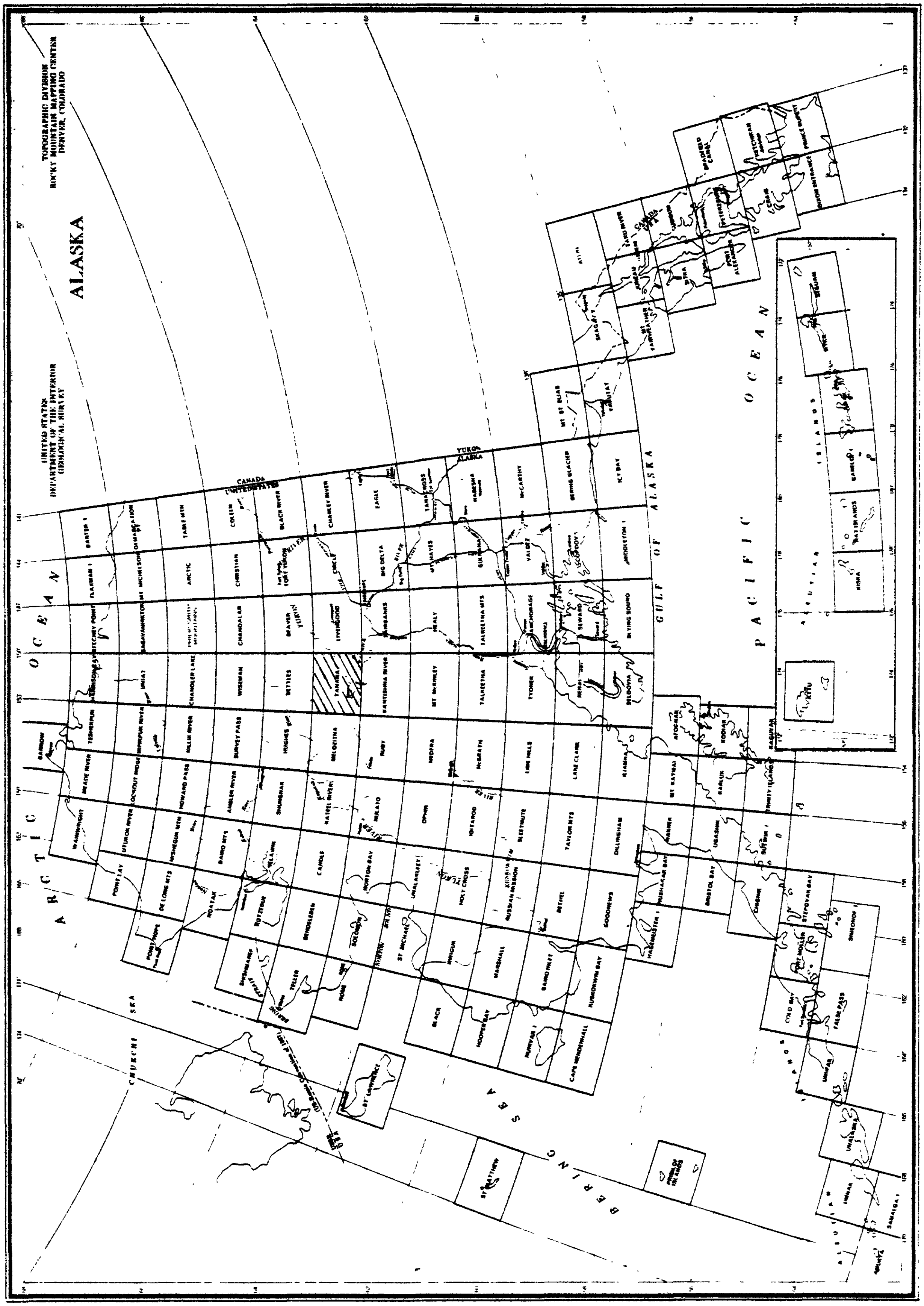
This report was prepared as a supplement to a 1977 report which summarized data on mineral occurrences in the Tanana quadrangle, Alaska (Cobb, E. H., 1977, Summary of references to mineral occurrences (other than mineral fuels and construction materials) in the Tanana quadrangle, Alaska: U.S. Geological Survey Open-File Report 77-432, 110 p.). As a result of suggestions from users of the series of which to 1977 report is a part, this supplement is released in two parts: Part A, which presents summaries of data to June 1, 1981, and Part B, which consists of reference lists for each occurrence.

In Part A data from most reports released by the Geological Survey, the U.S. Bureau of Mines, and the Alaska Division of Geological and Geophysical Surveys bewteen the cut-off date (January 1, 1977) for the original report and June 1, 1981 have been incorporated in rewritten or new summaries where appropriate. For each occurrence described in Part A the name, U.S. Bureau of Mines mining district, reference that has the occurrence plotted on a map on a scale of 1:250,000 (if there is one), list of mineral commodities, and location data are in the same format as in the 1977 report. Also included is a list of synonyms, owners, operators, and claim names.

In both parts citations are 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 of map series and the number of the report or map. 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 Mines and Minerals Geochemical Report
IC	U.S. Bureau of Mines Information Circular
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

In Part B citations to the principal references used in preparing summaries in Part A are preceded by an asterisk. The form of citation used in the reference list for each occurrence is considered sufficient identification for each numbered report or map to be found easily in most libraries. Complete references to reports without identifying numbers are listed at the end of Part B.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Index map

(American Cr.) — Chromite, Gold

Hot Springs district — Tanana (13.2-13.55, 1.5-2.15)
MF-371, loc. 20 — 65°05'-65°07'N, 151°10'-151°13'W

Stream roughly parallel to regional strike of contorted Jurassic(?) and Cretaceous phyllite, slate, shale, sandstone, and siltstone. Valley asymmetrical with steeper southeast wall. Placer gold discovered in 1911 and mined in most years through at least 1975; one or two dredges operated from 1917 through 1940; production through 1940 probably at least 70,000 fine oz of gold. Depth to bedrock generally about 15 ft; alluvium frozen, requiring thawing ahead of mining. Gold in lower 4 ft of gravel and in top 2-3 ft of bedrock. In addition to gold, concentrates contained magnetite, pyrite, ilmenite, barite, chromite, and hematite. Gold may have been derived from quartz-carbonate veins associated with an east-trending shear zone against which the pay streak appears to terminate.

(American Gulch) — Gold

Melozitna district — Tanana (0.4, 4.8)
MF-371, loc. 14 — 65°16'N, 152°56'W

Tributary of Lynx Cr.; good placer gold prospects reported as early as 1911, but there is no report of successful mining. Gravels reported to be 10-12 ft deep and unfrozen and to run as high as $1 per bedrock foot (gold at $20.67). Bedrock interbedded limestone, dolomite, basaltic greenstone, chert, and chloritic schist; probably of middle Paleozoic age.

(Ash Cr.) — Gold, Tin

Melozitna district — Tanana (1.35, 6.7)
65°23'N, 152°48'W

Tributary of Tozimoran Cr. Samples from 5 drill holes within 2,400 ft of mouth of creek contained gold and 5.529 g tin in 190.35 g of samples. No record of any mining. 10-12 ft of sand and gravel and 1-4 ft of muck overlie Ordovician or Cambrian quartz-mica schist, phyllite, quartzite, and slate. See also (Tozimoran Cr.).

Avnet — Manganese, Silver

Rampart district — Tanana (19.3, 5.0)
MF-371, loc. 7 — 65°16'N, 150°22'W

Psilomelane in loose quartzite rubble and frost boils in an area about 3,000 ft by 600 ft. Psilomelane, of possible hydrothermal origin, occurs as irregular masses 2-3 in. in largest dimension, as latticeworks of thin seams in vein quartz, and as thin surface coatings on rubble. Analyses of samples showed from 0.59% to 34.4% Mn and 0 to 0.28 oz Ag per ton. Bedrock is Paleozoic metamorphic rocks. See also (Baldry Mtn.).

(Baldry Mtn.)	Manganese
Rampart district MF-371, loc. 10	Tanana (19.5, 5.8) approx. 65°18'N, 150°20'W approx.

Reported exploration work on a psilomelane prospect west of Baldry Mtn. May be the same as Avnet; Baldry Mtn. mislocated on old maps. See also Avnet.

(Bear Cr.)	Gold(?)
Melozitna district	Tanana NW¼SE¼ quad.

Has been prospecting and (possibly) placer gold mining. References in Part B may not all be to the same Bear Cr.

(Bonanza Cr.)	Gold, Tin
Melozitna district MF-371, loc. 18	Tanana (12.2, 5.9) 65°19'N, 151°20'W

Tributary of Morelock Cr. Bedrock is schist, greenstone, cherty dolomite and limestone, and barren milky quartz veins. Gold and cassiterite is basal part of 5-6 ft of gravel, on irregular bedrock surface, and in crevices in bedrock. Material in USBM drill holes ran 0.0443 lb tin and 0.00973 oz gold per yd^3. Concentrates contain gold, magnetite, cassiterite, and ilmenite. All work was prospecting rather than mining. See also (Morelock Cr.).

(Boulder Cr.)	Chromite, Gold, Monazite, RE(?)
Hot Springs district MF-371, locs. 4, 22, 23	Tanana (14.0-15.6, 2.55-3.0) 65°08'-65°09'N, 150°53'-151°06'W

Asymmetrical valley with a broad bench in gentler north wall; placers are part of a large body of low-grade gravel with a workable width of 1,200 ft that extends for several miles parallel to the stream and about 1,000 ft from it. Minerals in concentrate samples include magnetite, ilmenite, zircon, gold, rutile, garnet, sphene, monazite, and aeschynite(?). Mining, 1915-17, 1930-39, and 1965-72. Total production not known. Stream heads in Cretaceous (90 m.y.) quartz monzonite of Roughtop pluton and Devonian or Permian metasedimentary rocks; most of course, however, in area underlain by Jura-Cretaceous sandstone, shale, siltstone, and argillite. Serpentinized ultramafic rock on ridge to south of creek contains disseminated grains of chromite; pieces of chromite in float are as much as 6 in. in diameter. Includes reference to (Big Boulder Cr.).

(Cache Cr.) — Chromite, Gold, Niobium, RE, Silver, Tin

Hot Springs district — Tanana (16.15, 2.0-2.05)
MF-371, loc. 33 — 65°06'N, 150°49'W

Bedrock Jura-Cretaceous phyllite, slate, graywacke, quartzite, and sandstone; many essentially barren quartz veins. Gravels mainly locally derived; some cobbles of serpentinized gabbroic rock. Gravel overlain by muck and loess several tens of feet thick; entire deposit frozen. Gold and cassiterite discovered 1909-10. Main pay streak (in upper valley) essentially mined out by 1913; very rich in places; some nuggets as much as 4 oz. Later mining (continued until at least as recently as 1940 or 1941) farther downstream. Total production through 1956 was 3,650 oz gold, 409 oz silver, and 5,155 lb cassiterite concentrates. Heavy minerals in concentrates include cassiterite (mainly intergrown with tourmaline), gold, ilmenite, magnetite, barite, picotite, and aeschynite (Nb, Ti, Ce mineral). Chromite fragments in gravel. See also: (Ferguson Draw), (Sullivan Cr.).

(California Cr.) — Gold

Hot Springs district — Tanana
SE¼ quad.

Small-scale mining in 1932 reported. Location of creek uncertain; may be small tributary of American Cr. or possibly tributary of the New York Cr. near Eureka.

(Chapman Cr.) — Antimony, Gold

Rampart district — Tanana (21.1-22.0, 6.05)
MF-371, locs. 11, 43 — 65°19'N, 150°00'-150°07'W

Auriferous gravel present. Small-scale mining in 1912; no data on amount of production. Lode stibnite prospect in headwaters reported; no further data. Bedrock in area is Jura-Cretaceous sedimentary rocks.

(Chicago Cr.) — Gold

Hot Springs district — Tanana (19.45, 3.5)
MF-371, loc. 38 — 65°11'N, 150°22'W

Small tributary of Omega Cr. Gold discovered near mouth, 1904. Mining reported for years 1917, 1935-37, 1973. No reliable information on production. 5-6 ft of fine gravel on Cretaceous dark-gray shale. Nuggets 0.3-0.8 in. in diameter; very rough with attached quartz. A few roller-shaped nuggets. Finer fraction rough and shotty. See also: (Omega Cr.), (Thanksgiving Cr.).

(Chicken Cr.)	Gold(?)
Melozitna district	Tanana (1.5, 6.7) 65°23'N, 152°49'W

Tributary of Tozimoran Cr. Placer gold reported, but has been no systematic prospecting.

(Colorado Cr.)	Gold
Hot Springs district	Tanana (13.45, 1.9)(?) 65°06'N, 151°11'W(?)

Small-scale mining in 1937 reported. Location of stream uncertain; probably the one shown on some modern maps as Colorado Gulch, tributary of American Cr.

(Cooney Cr.)	Gold
Hot Springs district MF-371, loc. 36	Tanana (16.8, 2.35) 65°07'N, 150°44'W

Large area of very low-grade placer-gold ground reported in 1912; gold irregularly distributed. Sporadic small production through 1975. Includes reference to (Coonie Cr.). See also: (Gold Basin Cr.), (Killarney Cr.).

(Dalton Gulch) (Cr.)	Gold, Tin
Hot Springs district MF-371, loc. 32	Tanana (16.0, 2.0) 65°06'N, 150°50'W

Mining, 1910 to World War I. Total production was 466 oz Au and 3,000 lb cassiterite concentrate. Source of one of the first cassiterite shipments from district. Overburden about 60 ft thick; gravels thin. Most pay streaks small and discontinuous; localized on steeper parts of terraced surface of Jura-Cretaceous sedimentary rocks. A little cassiterite and gold in old dumps east of creek. See also: (Cache Cr.), (Ferguson Draw), (Harter Gulch).

(Deep Cr. and tributaries)	Chromite, Gold, Monazite, Niobium, RE, Silver, Tin, Tungsten
Hot Springs district MF-371, loc. 26	Tanana (14.85-15.1, 1.2-1.35) 65°04'N, 150°57'-151°00'W

Bench north of creek is crossed by small tributaries in poorly defined valleys. In most places bedrock (mainly Jura-Cretaceous phyllite and slate) is well over 100 ft deep. Mining by drifting in basal few feet of gravel and top foot of bedrock. Placer discovered by prospect drilling in 1913; mining continued until as recently as 1955. Production was

7,684 oz Au, 653 oz Ag, and 64,200 lb cassiterite concentrate. Concentrates contained gold, cassiterite (some in the form of wood tin), ilmenite, picotite, zircon, pyrite, magnetite, monazite, much chromite (more than 10% of concentrates in places), rutile, scheelite, columbite, aeschynite, and ellsworthite. Average recovery per yd^3 of channel samples of tailings piles was 7.08 lb concentrate containing 4 lb Sn and 0.0105 oz Au. Includes references to: Bock & Hanson, (Hokeley Gulch), (Innesvale Gulch), (Oakley Cr.).

(Dry Cr.) — Gold

Hot Springs district — Tanana
NW¼SW¼SE¼ quad.

In Boulder Cr. basin. Slate, graywacke, quartzite, and schist make up bedrock and gravel. Small-scale mining in 1917 reported.

(Eureka Cr.) — Gold

Hot Springs district — Tanana (20.45-20.7, 3.7-4.15)
MF-371, loc. 40 — 65°11'-65°13'N, 150°11'-150°13'W

Site of first placer-gold discovery in district, 1898. Valley markedly asymmetrical with 2 well-defined benches along more gentle NW valley wall; other bedrock terraces that have no surface expression. Bedrock is Lower Cretaceous quartzite, sheared grit, and argillaceous rock; small quartz veins; locally much disseminated pyrite. Gold in base of gravel and in cracks in bedrock where blocky. Gold bright and chunky; some with attached vein quartz. One small pebble of cassiterite has been found; possibly could have been planted as a prank. Mining from about 1899 to as recently as 1975; total production unknown, but large. See also Farmer & Jones.

Farmer & Jones — Gold

Hot Springs district — Tanana (20.45-20.8, 3.35-4.15)
65°10'-65°13'N, 150°11'-150°13'W

Operated a hydraulic mine in 1928. Only location given is Eureka Cr. area. See also: (Eureka Cr.), (McCaskey Bar).

(Ferguson Draw) — Gold, Tin

Hot Springs district — Tanana (16.2, 2.05)
MF-371, loc. 33 — 65°06'N, 150°49'W

Small tributary of Cache Cr. Gravel thin or absent; in places 40 ft of muck rests directly on bedrock placer. Pay streak ran 0.3-0.4 oz Au and 0.1-0.4 lb cassiterite per ft^2 of bedrock. Terminated upstream against bedrock terrace. See also (Cache Cr.).

(Florida Cr.) — Gold

Rampart district — Tanana (21.2-21.25, 7.65-7.85)
MF-371, loc. 47 — 65°25'N, 150°06'-150°07'W

Small stream in narrow, deep valley in bench east of Minook Cr. Bedrock mainly diabase. Placers narrow and as much as 15-20 ft deep; contain nuggets as large as 1.6 oz. Small-scale mining in early 1900's and 1939-40. Total production probably no more than 200-300 oz of gold.

(Glen(n) Cr.) (Gulch) — Gold, Tin(?)

Hot Springs district — Tanana (20.2-20.25, 3.5-3.6)
MF-371, loc. 39 — 65°11'N, 150°15'-150°16'W

Small stream that flows in an open, shallow valley in the bench between Eureka and Omega Creeks. Bedrock is weathered Jura-Cretaceous slate and quartzite. In some places sliderock overlies pay gravels. Pay streak 50-100 ft wide and was very rich (more than $10 per pan when gold was $20.67/oz) in spots; gold reconcentrated from bench deposits of Shirley Bar. Pay extended 2 ft into crevices in bedrock. Mined from 1901 to 1939. Production to 1931 was about 48,500 oz. A few cassiterite pebbles that may have been the work of pranksters have been found. See also (Shirley Bar).

(Gold Basin Cr.) — Gold, Tin

Hot Springs district — Tanana (16.5, 2.25)
MF-371, loc. 34 — 65°07'N, 150°46'W

Small amounts of rounded cassiterite and fine gold on Jura-Cretaceous phyllite bedrock at depths of 40-80 ft. Considerable prospecting by shafts and drill holes, but there probably was very little gold production. See also (Killarney Cr.).

(Golden Cr.) — Gold

Melozitna district — Tanana (0.05, 5.2)
MF-371, loc. 13 — 65°18'N, 153°00'W

Placer gold has been mined; no cassiterite reported. See also (Golden Cr.) Melozitna quad.

(Gold Hill) — Gold, Silver

Melozitna district — Tanana (1.65, 3.6)
MF-371, loc. 2 — 65°12'N, 152°46'W

In about 1890 in the first attempt at lode mining in interior Alaska an adit was driven 110 ft on a vein of sheared and rusty quartz in lower Paleozoic micaceous quartz schist. Vein contained small amounts of gold (0.05 oz/ton) and silver (0.3 oz/ton), not enough to establish a mine.

(Gold Run) — Gold

Hot Springs district — Tanana (20.15, 3.65)
MF-371, loc. 39 — 65°11'N, 150°16'W

Initially staked, 1899. Pay streak 150 ft wide and about 1,500 ft long drifted from one end to the other. Mined intermittently until at least 1973. Production through 1931 was about 9,675 oz of gold. Fineness reportedly about 775 Au. Well-rounded gravel 16-18 ft thick composed mainly of slate, quartzite, and grit overlain by about 2 ft of frozen muck. Bedrock Jura-Cretaceous carbonaceous schistose grit, slate, graywacke, siltstone, and shale. Gold bright, shotty, and well worn. Some pieces show crystal faces. 4-oz nuggets reported. Gold reconcentrated from Shirely Bar. See also: (Glen Cr.), (Shirley Bar).

(Grant Cr.) — Gold, Tin

Melozitna district — Tanana (1.1, 4.1)
MF-371, loc. 15 — 65°14'N, 152°51'W

Bedrock is a complex of intensely folded Cambrian or Ordovician schist, limestone, quartzite, and greenstone. Placer gold deposits prospected or mined sporadically from 1909 to about 1975; production probably small (several hundred ounces?). Gold medium fine with some small nuggets. Fineness about 866. Depth to bedrock reported to be 5-30 ft. Placer tin said to have been collected in 1929; none found during mining in 1942-43. Includes references to (Lynx Cr.).

(Harter Gulch) — Gold, Tin

Hot Springs district — Tanana (15.9, 1.9)
MF-371, loc. 31 — 65°06'N, 150°51'W

Has been placer gold mining, most recently probably in 1977. About 5,000 fine oz gold may have been produced. Tailings piles contain cassiterite and more gold than is usual in tailings piles in district. Recovery per yd^3 from channel samples of one tailing pile averaged 0.84 lb concentrate that contained 0.27 lb Sn and 0.017 oz Au. Gravel largely angular phyllite and graywacke with some rounded sandstone clasts. Magnetite and hematite in Jura-Cretaceous crystalline limestone bed near a small Tertiary(?) mafic intrusive body. See also (Cache Cr.)

(Homestake Cr.) — Gold

Melozitna district — Tanana (12.05, 5.8)
MF-371, loc. 17 — 65°19'N, 151°21'W

Placer gold has been mined near confluence of this creek with Morelock Cr. Little is known about this occurrence. See also (Morelock Cr.).

(Hoosier Cr.)	Copper, Gold, Lead, Mercury, Tungsten
Rampart district	Tanana (21.2-21.45, 8.15-8.35)
MF-371, loc. 48	65°26'-65°27'N, 150°04'-150°06'W

Poorly defined shallow (6-15 ft) pay streak 100-150 ft wide. Some of gold is coarse, a nugget worth $250 (gold at $20.67) was recovered. Gold is high grade; one assay indicated 941½ Au and 53 Ag. Heavy minerals in concentrates include hematite, ilmenite, barite, magnetite, pyrite, gold, garnet, picotite, scheelite, zircon, native copper, galena, and a few grains of cinnabar. Bedrock mainly greenstone containing quartz veins as much as 18 in. thick. Gold was discovered in 1898 or soon thereafter and was mined in most years until as recently as 1952. Total production not known, but may have been about 10,000 oz.

(Hot Springs Dome)	Cobalt, Copper, Gold, Lead, Manganese, Monazite, Nickel(?), Silver
Hot Springs district	Tanana (16.7, 0.8)
MF-371, loc. 6	65°02'N, 150°45'W

At least 6 mineralized shear zones in metamorphosed Jura-Cretaceous sedimentary rocks close to and roughly parallel to the contact with a large Tertiary biotite granite intrusive body. Most of the material oxidized to a depth of at least 446 ft (deepest diamond-drill hole). Sulfides identified are galena, chalcopyrite, pyrrhotite, and pyrite. Other minerals include siderite, cerussite, limonite, goethite, hematite, pyrolusite, malachite, azurite, and erythrite (cobalt bloom). Assays of oxidized material indicated $1-$2 in gold (at $20.67) and 5-8 oz silver per ton. Sample from a dike that cuts granite contained monazite; dikes also contain as much as 15% tourmaline. Unverified report of nickel in a pyrrhotized basalt dike. Only exploration was at Barrett prospect, where 3 shallow shafts were sunk, a short adit driven, and several trenches and pits excavated; 8 U.S. Bureau of Mines diamond-drill holes. No production.

(Hunter Cr.)	Gold
Rampart district	Tanana (21.35-21.8, 8.8-8.9)
MF-371, locs. 51, 52	65°29'N, 150°00'-150°04'W

Stream cuts through benches east of Minook Cr. and into fractured greenstone of Permian to Triassic Rampart Group in a narrow V-shaped valley with low gravel benches. Both creek and bench deposits have been mined; in places 16 in. of bedrock had to be taken up with the gravel. Much of gold is "pumpkin seed," but some is nuggets as large as 10 oz. One assay indicated fineness of 919. Mining began by 1896 and continued until at least as recently as 1940. Most concentrate samples and much of mining in part of creek in Livengood quad. Total production not known, but probably was a few tens of thousands of oz. See also (Hunter Cr.), Livengood quad.

(Hutlinana Cr.)	Gold
Hot Springs district	Tanana SE¼SE¼ quad.

Placer gold in upper part of basin, but there has been no successful mining. The ground is deep and unfrozen, so small-scale operations are not practicable. Some (or possibly all) of the reported gold may be in the part of the basin in the Livengood quad. Includes references to: (Hootlenana Cr.), (Hutlina Cr.).

(Idaho Gulch) (Cr.)	Gold, Monazite, Niobium, RE, Silver, Tin
Hot Springs district MF-371, locs. 5, 28	Tanana (15.2-15.4, 1.6-1.85) 65°05'N, 150°55'-150°57'W

Small gossan (MF-371, loc. 5; at 65°05'N, 150°57'W) in quartzite; random sample contained 1.34 oz/ton Ag. Placer deposit (MF-371, loc. 28; at 65°05'N, 150°55'W) consisted of small, discontinuous, not particularly rich concentrations in as much as 40 ft of gravel; total depth to bedrock is 24-85 ft. Total recorded production, 1907-56, was 61 oz gold and 300 lb cassiterite concentrate; probably total production was much more and mainly included with that from Sullivan Cr. Concentrates contained gold and cassiterite and (by implication in a general statement) aeschynite, columbite, monazite, and zircon. Tailings piles contain cobbles of brecciated quartz with brown tourmaline and cassiterite. Recovery from samples of tailings averaged 2.67 lb concentrate per yd^3 containing 1.00 lb Sn and 0.02 oz Au. See also (Sullivan Cr.).

Johnson & Hensley	Gold
Hot Springs district	Tanana SE¼SE¼ quad.

Operated hydraulic mine in 1928. No location other than Eureka Cr. area.

(Joseph Cr.)	Antimony
Rampart district MF-371, loc. 8	Tanana (20.2, 4.7) 65°15'N, 150°15'W

Partly oxidized stibnite float found in 1931 along ridgetop between Granite and upper Minook Creeks. Shallow trenches failed to penetrate the residual cover to bedrock, which is schistose Ordovician(?) chert and phyllitic slate. Several bright red and canary-yellow stained zones. No signs of mining or diligent exploration.

(Karshner Cr.)	Monazite
Hot Springs district MF-371, loc. 37	Tanana (17.6, 0.35) 65°00'N, 150°38'W

Sample of sand from stream bed 100 yds upstream from Hot Springs Slough

contained tourmaline, magnetite, andalusite, brookite, zircon, monazite, and common rock-forming minerals. Stream drains Tertiary biotite granite of Hot Springs Dome.

(Killarney Cr.) — Gold, Tin

Hot Springs district — Tanana (16.7, 2.35)
MF-371, loc. 35 — 65°07'N, 150°44'W

Prospected for several years after 1912 by churn drilling and shafts. Small rounded pebbles of cassiterite and very fine gold on Jura-Cretabeous phyllite bedrock at depths of 40-80 ft in belt ½ mi wide north of junction of Gold Basin and Killarney Creeks. May mark northeast limit of the Tofty "tin belt." Creek heads in Roughtop Mountain quartz monzonite intrusive (Cretaceous; 90±5 m.y.). No record of mining. See also: (Gold Basin Cr.), (Coonie Cr.).

(Lancaster Cr.) — Gold(?)

Melozitna district — Tanana (1.75, 3.75) approx.
65°13'N, 152°45'W approx.

Open cut, 1917. No production reported.

(Little Boulder Cr.) — Gold

Hot Springs district — Tanana (13.75, 2.75) approx.
65°09'N, 151°08'W approx.

Prospecting, 1918-19, of low-grade placer-gold ground. Layers and lenses of angular slate fragments in 6-12 ft of silt.

(Little Minook Cr.) — Bismuth, Chromite, Copper, Gold, Lead, Manganese, Mercury(?), Silver, Tungsten

Rampart district — Tanana (21.45-21.8, 8.45-8.5)
MF-371, locs. 12, 50 — 65°27'N, 150°00'-150°04'W

Creek cuts auriferous gravel benches east of Minook Cr.; gold in placers largely reconcentrated from bench gravels. Some of gold coarse; one 17½-oz nugget reported. Assays show fineness of about 920 Au and 75 Ag. Gold in base of 5-12 ft of locally derived stream gravels beneath as much as 30 ft of frozen silt and muck and in top 1-2 ft of bedrock. Bedrock is Permian-Triassic slate, shale, limestone, chert, and greenstone; rocks jointed and sheared; mineralized with pyrite and chalcopyrite; many quartz-carbonate and quartz veins, at least one of which is auriferous. Lode occurrence of rhodonite or rhodochrosite reported. Placer concentrates contain gold, native copper, native silver, hematite, barite, pyrite, galena, chromite, ilmenite, magnetite, argentite, tetradymite, picotite, scheelite, cinnabar(?), garnet, zircon, and sphene. Gold discovered in 1893; mining began in 1896 and continued to as recently as 1975; nearly all by drifting, groundsluicing, and shovelling in. Total production pro-

bably about 65,000 fine oz of gold; over half of total for district. Included reference to (Little Mynook Cr.).

(Little Minook Jr. Cr.) — Gold, Lead

Rampart district — Tanana (21.5-21.65, 8.3-8.4)
MF-371, loc. 49 — 65°27'N, 150°02'-150°03'W

Placer gold discovered in 1898 or soon thereafter; intermittent small-scale production until at least World War II. Total production not known, but more than 14,325 oz of gold. Short frequently dry creek with headwaters in Pliocene(?) high bench east of Minook Cr.; lower part of valley cut in Triassic-Permian diabase of Rampart Group; father upstream cut in chert and iron-stained tuff. Most of placers in gravels of present stream; gravels 4-5 ft thick beneath 18-25 ft of muck and colluvium; gold mainly in upper 1½ ft of bedrock. Gold flat and flaky; largest reported nugget about 10 oz. Fineness about 915-920 Au and 75-80 Ag. Concentrates contain pyrite, hematite, ilmenite, barite, magnetite, garnet, sphene, zircon, gold, and galena.

(McCaskey Bar) — Gold, Mercury

Hot Springs district — Tanana (20.6-20.8, 3.35-3.4)
MF-371, loc. 42 — 65°10'N, 150°11'-150°13'W

Low-grade placer at least 100 ft wide in bench gravels about 250 ft above level of present streams; 15-18 ft of frozen overburden. Bedrock is altered phyllite and argillite cut by quartz veins. Most of gold within 1 ft of bedrock. One assay indicated fineness of 802-3/4 Au and 191 Ag. Minerals in concentrate sample included ilmenite, picotite, gold, cinnabar, magnetite, zircon, and tourmaline. Mining, 1924-39 and probably since World War II. See also Farmer & Jones.

(McKinley Cr.) — Gold(?)

Hot Springs district — Tanana (19.75, 3.5) approx.
65°10'N, 150°19'W approx.

Prospects reported in 1902. No further mention of this creek in the literature.

(Melozimoran Cr.) — Gold(?), Tin(?)

Melozitna district — Tanana (0.55, 7.5)
65°26'N, 152°55'W

Drains north flank of Moran Dome. Bedrock is metamorphosed lower Paleozoic sedimentary and mafic igneous rocks and Cretaceous granite. Valley alluvium and a few bench gravels in broad, swampy valley. A little prospecting, 1913-18; unconfirmed reports of finding gold and cassiterite; test pits dug in 1943 failed to find either.

(Miller Gulch) (Cr.)	Gold, Monazite(?), Niobium, RE(?), Silver, Tin
Hot Springs district MF-371, loc. 27	Tanana (15.3, 1.5) 65°04'N, 150°56'W

Discovered by drilling program in 1912. Sporadic drift mining and resluicing of old tailings piles until 1940. Old channel cut across a series of terraces in bedrock with local enrichment at each channel-terrace intersection. Pay gravel in fairly continuous narrow pay streak beneath 35-120 ft of muck. Concentrates contain gold, cassiterite, columbite, and probably aeschynite, monazite, and zircon (reference, Moxham, 1954 (C 317), p. 5) is not clear). Total production through 1956 was 17,576 oz gold, 2,668 oz silver, and 101,875 lb cassiterite concentrate. Analyses of U.S. Bureau of Mines channel samples of tailings piles indicated per yd^3 recovery of 2.635 lb concentrate containing 0.775 lb Sn, 0.0175 lb Nb_2O_5, and 0.0175 oz Au. As much as 7% Nb_2O_5 in individual samples. See also (Sullivan Cr.).

(Minook Cr.)	Gold, Silver
Rampart district MF-371, loc. 45	Tanana (20.95-21.0, 6.9-7.5) 65°22'-65°24'N, 150°08'W

Gold discovered in 1890's. Valley narrow; incised into closely folded middle Paleozoic slate, limestone, quartzite, and schist and Permian to Triassic diabase, shale, and tuff; Tertiary continental rocks near mouth. Valley has several terraces on east side at elevations above creek of 10 to about 1,000 ft near mouth; some terraces extend up tributary valleys; terraces approach creek gradient upstream. Top terrace capped by 100 ft of Pliocene(?) gravel. Terrace gravels auriferous; gold reconcentrated into rich placers on some of tributaries, but placers on main stream too low grade to support small-scale mining. Much of mining was bar sniping and small operations in richer spots. In places most of gold (probably of local derivation rather than from the benches) was in nuggets weighing 1-4 oz. Total production certainly was no more than a few thousand ounces; may have been less than 1,000 oz; most of reported mining probably was on tributaries. Nuggets of native silver accompany gold. Includes references to: (Big Minook Cr.), (Mynook Cr.).

(Morelock Cr.)	Gold, Tin
Melozitna district MF-371, loc. 19	Tanana (12.2, 5.8) 65°19'N, 151°20'W

Bedrock is Paleozoic (possibly some Precambrian and Mesozoic) metamorphosed sedimentary and mafic igneous rocks; many quartz veins barren except for minute pyrite crystals. Bedrock surface irregular; average thickness of gravel 5-6 ft beneath 2-3 ft of silt. Heavy minerals in basal few inches of gravel, on bedrock, and in crevices in bedrock. Concentrates contain coarse gold, cassiterite, magnetite, ilmenite, hematite, and garnet. No lode source for gold or cassiterite has been

found. Exploration by prospectors, U.S. Bureau of Mines, and Geological Survey. Sporadic prospecting and small-scale mining from about 1901 into 1940's. Total production probably no more than a few hundred oz of gold.

Ness — Gold

Hot Springs district — Tanana
SE¼SE¼ quad.

Operated a hydraulic mine in 1928. Only location given is Eureka Cr. area.

(New York Cr.) — Gold

Hot Springs district — Tanana
SE¼ quad.

Small-scale mining in 1937. This stream may be the New York Cr. that is a tributary of the North Fork of Baker Cr or possibly the New York Gulch that is a tributary of American Cr.

(New York Gulch) (Cr.) — Gold

Hot Springs district — Tanana (13.55, 2.0)
MF-371, loc. 21 — 65°06'N, 151°10'W

Tributary of American Cr. Prospecting or mining reported in 1921 and 1926. Concentrates contain magnetite, barite, ilmenite, picotite, and gold. See also (American Cr.).

(Omega Cr.) — Gold, Mercury, Tungsten

Hot Springs district — Tanana (19.5-19.7, 3.5-3.55)
MF-371, loc. 38 — 65°11'N, 150°19'-150°21'W

Bedrock mainly Lower Cretaceous black slate; quartzite in valley wall to south. Upper part of creek course along strike; north wall gentler than south wall. Gravel (containing a few boulders of quartzite and vein quartz) 5-10 ft thick beneath variable thin layer of muck. Concentrates contain gold (some exhibiting crystal faces), many pyrite crystals, ilmenite, zircon, picotite, garnet, scheelite, and cinnabar. Gold discovered in 1899; mining from 1901 to as recently as 1975. No data on total production; probably was many thousands of ounces of gold. Includes reference to (Orange Cr.).

(Patterson Cr.) — Gold, Silver, Tin

Hot Springs district — Tanana
MF-371, locs. 25-33 — SW¼SE¼ quad.

Gold discovered, 1907, at mouth of Sullivan Cr. Most (if not all) of mining was on tributaries and benches between tributaries. According to Thomas (1957 (RI 5373), p. 7) production through 1956 was 2,599 oz gold, 385 oz silver, and 20,282 lb cassiterite concentrate; he also lists production from many of tributaries, so the source of the reported production is not clear. See also: (Cache Cr.), (Deep Cr.), (Sullivan Cr.), (Woodchopper Cr.).

(Pioneer Cr. and tributaries) — Gold, Mercury, Tungsten

Hot Springs district — Tanana (20.55-21.05, 3.7-4.0)
MF-371, loc. 41 — 65°11'-65°12'N, 150°09'-150°13'W

Asymmetrical valley (steeper on south side) parallel to upper Eureka Cr. Several gravel-covered terraces on north valley wall. Richest is about 250 ft above and 2,000 ft north of creek; on lower benches placers are lower grade, but minable in places. Bedrock is Jura-Cretaceous(?) pyritized sheared sandstone and slate, phyllite, and quartzite; cut by a few quartz veins. Gravels (locally derived) are 3-12 ft thick. Gold reconcentrated into rich placers where benches are crossed by small tributary streams. Concentrates contain picotite, ilmenite, pyrite, zircon, gold, sphene, barite, magnetite, garnet, scheelite, cinnabar, and tourmaline. Mining from 1902 to as recently as 1975. No data on total production; probably was many tens of thousands of ounces of gold. Includes references to: (Boothby Cr.), (Doric Cr.), (Jordan Bar), (Last Bench), (Seattle Bar), (Seattle Jr. Cr.), (Skookum Cr.), (What Cheer Bar).

(Poker Cr.) — Gold(?)

Hot Springs district — Tanana (19.75, 3.5) approx.
65°10'N, 150°19'W approx.

Prospecting, 1931. Small tributary of McKinley Cr. No data on results.

(Quartz Cr., trib. Sullivan Cr.) — Gold, RE, Tin

Hot Springs district — Tanana (15.7, 2.45)
MF-371, loc. 24 — 65°08'N, 150°52'W

Bench deposit, about 2 mi north of Tofty tin belt, consists largely of creep and slopewash material (3-4 ft thick) with a thin (3-ft) cover of silt. Gold placer not rich; small-scale mining in 1908-14 and 1930 reported. Extensive prospect drilling, 1940. A concentrate sample contained a little xenotime and a few grains of clear brown, angular cassiterite. Both gold, which has a greenish cast, and cassiterite are different from those in samples from within the tin belt.

(Quartz Cr., trib. Yukon R.) — Gold(?), Lead, Silver

Melozitna district — Tanana (12.0, 4.85)
MF-371, loc. 3 — 65°16'N, 151°22'W

Adit driven in about 1915 on a 10-ft-wide stockwork of argentiferous galena, quartz, and calcite veinlets in Silurian or Devonian limestone about 1 mi north of and 300-400 ft above Yukon R. Galena veins reported to be as much as several inches across in places; said to contain "profitable" amounts of silver and gold; no recorded production. No known nearby intrusive rocks. In 1971 old adit was caved and a few tiny galena crystals in dark gray schist were the only observed indications of lead mineralization.

(Rhode Island Cr.) — Gold

Hot Springs district — Tanana (20.05-20.15, 3.6-3.7)
MF-371, loc. 39 — 65°11'N, 150°16'-150°17'W

Creek flows across strike of Lower Cretaceous phyllite with quartz stringers. Both stream and bench deposits mined. Many vertebrate remains in silt overburden on benches. Gold on or in cracks in top few feet of bedrock. Largest nugget reported was about 0.87 oz. No data on composition of concentrates. Gold discovered in early 1900's, but major mining was from 1931 to 1940; some mining in 1975. No data on amount of production; probably in the tens of thousands of ounces of gold.

(Rosa Cr.) — Gold

Melozitna district — Tanana (12.6, 5.5)

65°18'N, 151°17'W

Trbutary of Morelock Cr. on which there was a little placer mining in about 1950-52. See also (Morelock Cr.).

(Ruby Cr.) — Bismuth, Gold, Silver

Rampart district — Tanana (20.4-20.85, 7.4-7.55)
MF-371, loc. 46 — 65°23'-65°24'N, 150°09'-150°13'W

Placer gold mining carried on sporadically from 1901 to at least as recently as 1971. Production data incomplete; about 650 fine oz through 1904 and 11 oz in clean up in 1970 from 2,000 ft^2 of open cut. Stream drains area underlain by Paleozoic schists and phyllite. Alluvium in lower valley 300-400 ft wide consists of locally derived medium-sized gravel and 1-4 ft of muck. Gold, probably also locally derived, on bedrock across entire width. Nuggets of gold as large as 8.5 oz and of native silver as large as 2 oz. Concentrates also contain native bismuth and abundant barite and garnet.

(Schieffelin Cr.) — Gold

Melozitna district — Tanana
SW¼NW¼SE¼ quad.

Gold-bearing gravels prospected 1907-08. No further data on this creek. Includes reference to (Shevlin Cr.).

(Seattle Cr.) — Gold

Hot Springs district — Tanana (20.05, 3.7)
MF-371, loc. 39 — 65°11'N, 150°17'W

Bedrock is Jurassic or Lower Cretaceous slaty graphitic arkose and schistose calcareous grit. Overlain by 8-30 ft of gravel and 1-3 ft of muck. Gravel is fragments of local bedrock, quartzite, and vein quartz. Gold fine, bright, and shotty; probably derived from older bench gravels. A little mining in 1904 and 1931. See also: (Gold Run), (Shirley Bar), (Rhode Island Cr.), (Glen Cr.).

(Shirley Bar) (Bench) — Gold, Lead, Mercury

Hot Springs district — Tanana (20.05-20.35, 3.5-3.7)
MF-371, loc. 39 — 65°11'N, 150°14'-150°17'W

Bench between Glen Cr. and Gold Run. Gravel 2-10 ft thick; gold distributed throughout, with largest nuggets (about 2-3/4 oz) near surface. Most of gold fine and shotty; fineness about 792 Au and 204 Ag. Bar contributed gold to gulches to form high-grade placers. Bench placers semiresidual; angular gravel derived mainly from local Jura-Cretaceous sedimentary rocks. Sporadic mining from 1901 until as recently as 1938; no reliable data on amount of production. Minerals in concentrates include gold, pyrite, cinnabar, picotite, barite, galena, ilmenite, garnet, and sphene.

(Slate Cr., trib. Minook Cr.) — Copper, Gold, Silver

Rampart district — Tanana (20.55-20.8, 6.75-6.85)
MF-371, loc. 44 — 65°22'N, 150°09'-150°11'W

Narrow valley in lower Paleozoic schistose chert, slate, and phyllite; limestone near mouth; many quartz veins, the probably source of the gold in the placers. Creek placer about 26 ft deep; gold in basal 3 ft of gravel and in crevices in top 1½ ft of bedrock over a 50-ft width. Bench placer 15-20 ft above creek on NW side. Gold rough and coarse with nuggets of as much as 5 oz; fineness about 915. Concentrates contain nuggets of native copper and native silver and abundant barite. Mining 1902-16, 1926-39, and as recently as 1975. No data on amount of production.

(Slate Cr., trib. Tozimoran Cr.) — Gold(?)

Melozitna district — Tanana
NW¼NW¼SW¼ quad.

Placer gold reported; no systematic prospecting. See also (Tozimoran Cr.).

(Sullivan Cr.)	Chromite, Copper, Gold, Lead, Monazite, Niobium(?), RE, Tin
Hot Springs district MF-371, locs. 24, 30	Tanana (15.5-15.65, 1.75-2.4) 65°05'-65°07'N, 150°53'-150°54'W

Mining on benches, 1907 to 1970's; 2-14 ft of gravel overlain by 40-70 ft of silt and muck containing many vertebrate remains. Heavy minerals mainly in basal 1-2 ft of gravel and in crevices in top few inches of bedrock (mainly crumpled Jura-Cretaceous soft graphitic phyllite and graywacke). Some very rich spots in benches; in places selected pans ran $10-$15 in gold (at $20.67) and as much as ½ lb cassiterite. Total production through 1956 (including that from reworked old tailings) was 58,156 oz gold, 5,463 oz silver, and 215,445 lb cassiterite concentrate. Heavy minerals in concentrates include cassiterite, pyrite, ilmenite, picotite, magnetite, zircon, monazite, aeschynite, xenotime, gold, native copper, galena, arsenopyrite, chromite, apatite, brookite, and anatase; columbite may also be present. In upper basin (MF-371, loc. 24; 65°07'N, 150°53'W) north of the tin belt the gold is greenish and more angular than in tin belt. Includes references to: Abe Lincoln, Lieber & File, Midnight Sun, and bench placer east of Sullivan Cr. See also: (Idaho Gulch), (Miller Gulch), (Quartz Cr,, trib.Sullivan Cr.), (Tofty Gulch).

(Thanksgiving Cr.)	Gold
Hot Springs district MF-371, loc. 38	Tanana (19.3-19.45, 3.5) 65°11'N, 150°22'-150°23'W

Tributary of Omega Cr. in broad bench north of Baker Cr. Bedrock is Jura-Cretaceous schistose grit, shale, and siltstone cut by white quartz veins. Gravel mainly subangular pieces of quartzite, grit, vein quartz, slate, and monzonitic rock. Magnetite in concentrates. Pay streak 25-45 ft wide, 1½-9 ft thick; some gold in overlying 10-12 ft of muck. Sporadic mining, 1903-75; no data on production; probably no more than a few thousand ounces.

(Tofty Gulch)	Chromite, Gold, Monazite(?), Niobium(?), RE(?), Silver, Tin
Hot Springs district MF-371, loc. 29	Tanana (15.5, 1.75) 65°05'N, 150°54'W

Open-cut mining; gravel as much as 7 ft thick beneath 10-25 ft of frozen silt and muck that contained many remnants of trees. Heavy minerals in gravel and upper 2-3 ft of Jura-Cretaceous phyllite and interbedded graywacke with many quartz veins that carry pyrite but no gold or cassiterite. Concentrates contained gold, cassiterite, and chromite. Columbite, aeschynite, monazite, and zircon may also have been present. Gold discovered in winter of 1906-07; mining 1909-12, 1917, 1929, 1941, 1975, and probably in other years as well. Total production through 1956 was 8,855 oz gold, 1,376 oz silver, and 19,600 lb cassiterite concentrate. Includes reference to (Tufty Gulch). See also (Sullivan Cr.).

(Tozimoran Cr.)	Gold, Lead, Silver, Tin
Melozitna district MF-371, locs. 1, 16	Tanana (1.35-1.5, 6.6-6.7) 65°22'-65°23'N, 152°48'-152°49'W

Gold discovered in 1902. Considerable prospecting and a little hand mining on a bench downstream from Ash Cr. Alluvium on bench consists of 4 ft of gravel beneath 3 ft of muck; a little gold and cassiterite in bottom 2 ft of gravel; gold, but not cassiterite, in cracks in upper part of bedrock. A little gold and cassiterite in unfrozen creek alluvium. Deposits explored and sampled by U.S. Bureau of Mines, Geological Survey, and owner under DMEA contract. Combined samples of gold assayed 835 fine. Total production was probably no more than a few ounces of gold and a few hundred pounds of cassiterite concentrate (which may not have been sold). Bedrock is metamorphosed lower Paleozoic sedimentary and mafic igneous rocks. Quartz-calcite veins in quartz-mica schist contain some argentiferous galena and cerussite. Includes references to: (Columbe Cr.), (Moraine Cr.), and to (Moran Cr.) unless specifically to Melozimoran Cr. See also (Ash Cr.).

(Wells Cr.)	Gold(?)
Melozitna district	Tanana NW¼NW¼SW¼ quad.

Tributary of Tozimoran Cr; placer gold reported; no known systematic prospecting.

(Woodchopper Cr.)	Gold, Silver, Tin
Hot Springs district MF-371, loc. 25	Tanana (14.65-14.7, 1.1-1.2) 65°03'N, 151°01'W

Gold and cassiterite discovered in deep channel and on buried benches 100-200 ft below surface in 1913; large-scale drift mining preceded by prospect drilling with few interruptions until 1956 and probably later. Total production through 1956 was 28,501 oz gold, 3,402 oz silver, and 40,300 lb cassiterite concentrate. Average per yd^3 recovery from channel samples of tailings pile was 1.54 lb concentrate containing 0.72 lb Sn and 0.045 oz Au. Gravel contains quartz-tourmaline cobbles. Concentrates contain gold, cassiterite, ilmenite, picotite, pyrite, and magnetite. Includes references to: Albrecht & Hanson (if no other location is given), Bock & Co.

Unnamed occurrence	Lead, Silver
Hot Springs district MF-371, loc. 9	Tanana (21.4, 4.6) 65°14'N, 150°05'W

Lead-silver prospect reported before 1931. Assays of sulfides said to have indicated 100 oz/ton silver and 70% lead.

Synonyms, Owners, Operators, and Claim Names

Abe Lincoln -- see (Sullivan Cr.)
Alaska Gold Dredging Co., Ltd. -- see (Idaho Gulch), (Sullivan Cr.), (Tofty Gulch)
Albrecht & Hanson -- see (Woodchopper Cr.)
Albrecht & Hanson Co. -- see (Deep Cr.)
Albrecht, Mellianic & Dean -- see (Deep Cr.)
American Creek Dredging Co. -- see (American Cr.)
American Creek Mining Co. -- see (American Cr.)
American Creek Operating Co. -- see (American Cr.)
American Eagle -- see (Tofty Gulch)
Bargery -- see (Woodchopper Cr.)
Barrett -- see (Hot Springs Dome)
Beardsley, Belsea & Dillon -- see (Glen Cr.)
Benson -- see (Cache Cr.)
Besonen (& McKinzie) -- see (Deep Cr.)
(Big Boulder Cr.) -- see (Boulder Cr.)
(Big Denver Cr.) -- see (Hot Springs Dome)
(Big Minook Cr.) -- see (Minook Cr.)
Bittner -- see Avnet
Bock -- see (Deep Cr.), (Tofty Gulch), (Woodchopper Cr.)
Bock & Co. -- see (Woodchopper Cr.)
Bock & Danielson -- see (Deep Cr.)
Bock & Hanson -- see (Deep Cr.)
(Boothby Cr.) -- see (Pioneer Cr.)
Borghill -- see (Deep Cr.)
Boston Boys -- see (Eureka Cr.)
Brock and associates -- see (Pioneer Cr.)
Brock & Johnson -- see (Eureka Cr.)
Busby -- see Avnet
Cameron & Midgeley -- see (Cache Cr.)
Cessford, Albrey & Amlon -- see (Tofty Gulch)
Cleary Hill Mines, Inc. -- see (Idaho Gulch), (Quartz Cr., trib. Sullivan Cr.), (Sullivan Cr.), (Tofty Gulch)
Cleopatra -- see (Deep Cr.)
(Colombe Cr.) -- see (Tozimoran Cr.)
(Coonie Cr.) -- see (Cooney Cr.)
Cunningham and associates -- see (Little Minook Cr.)
(Dakota Bar) -- see (Sullivan Cr.)
Danielson -- see (Deep Cr.)
Dean -- see (Miller Gulch)
Deep Creek Mining Co. -- see (Deep Cr.)
Dellas & Hanson -- see (Deep Cr.)
Dietz, Kobich and others -- see (Dalton Gulch)
Donahue -- see (Idaho Gulch)
Donnelly -- see (Hot Springs Dome)
(Doric Cr.) -- see (Pioneer Cr.)
Eagle Mining Co. -- see (Glen Cr.)
Eglar, Wallick and others -- see (Tofty Gulch)
Erickson -- see (Cache Cr.)
Fisher (& Fisher) -- see (Grant Cr.)
Frank & Graham -- see (Pioneer Cr.)

Frank, J. R., & Co. -- see (Eureka Cr.), (Pioneer Cr.)
Gill -- see (Eureka Cr.), (Pioneer Cr.)
Golden Straw -- see (Deep Cr.)
Good Hope -- see (Deep Cr.)
Granite Quartz -- see (Hot Springs Dome)
Hansen (& Albrecht) -- see (Deep Cr.)
Hansen & Linberg -- see (Woodchopper Cr.)
Hanson & Albrecht -- see (Deep Cr.)
Hanson & Bock -- see (Gold Basin Cr.), (Killarney Cr.)
Hanson & Hasler -- see (Woodchopper Cr.)
Hanson, Tilleson & Linder -- see (Woodchopper Cr.)
Hard Luck -- see (Deep Cr.)
Harter -- see (Tofty Gulch)
Hartner -- see (Sullivan Cr.)
Hillside Association -- see (American Cr.)
(Hokeley Gulch) -- see (Deep Cr.)
(Homestake Bar) -- see (Quartz Cr., trib. Sullivan Cr.)
(Hootlenana Cr.) -- see (Hutlinana Cr.)
Hovley -- see (Cache Cr.)
Howell -- see (Deep Cr.), (Miller Gulch), (Sullivan Cr.)
Howell & Bargery -- see (Gold Basin Cr.), (Killarney Cr.)
Howell & Cleveland -- see (Boulder Cr.), (Sullivan Cr.), (Woodchopper Cr.)
Howell & Stewart -- see (Miller Gulch)
Howell & Sullivan -- see (Cache Cr.)
Hunter -- see (Hunter Cr.)
(Hutlina Cr.) -- see (Hutlinana Cr.)
(Innesvale Gulch) -- see (Deep Cr.)
Iron Mask -- see (Hot Springs Dome)
Jarvi -- see (Woodchopper Cr.)
Jarvi & Linder -- see (Deep Cr.)
Johnson & Johnson -- see (Glen Cr.)
Johnson & Toftaker -- see (Glen Cr.), (Shirley Bar)
(Jordan Bar) -- see (Pioneer Cr.)
Jorgensen (& Clegg) -- see (Woodchopper Cr.)
Junction -- see (Sullivan Cr.)
Kemper -- see (Tofty Gulch)
Lake -- see (Deep Cr.)
Langford -- see (Little Minook Cr.)
Larsen -- see (Deep Cr.)
(Last Bench) -- see (Pioneer Cr.)
Lieber & File -- see (Sullivan Cr.)
(Little Mynook Cr.) -- see (Little Minook Cr.)
Lorain -- see (Woodchopper Cr.)
(Lynx Cr.) -- see (Grant Cr.)
Marietta -- see (Deep Cr.)
McGee -- see (Idaho Gulch), (Sullivan Cr.), (Tofty Gulch)
McLaughlin -- see (Harter Gulch)
McLean -- see (Little Minook Jr. Cr.)
McVicar, Snyder & Marshall -- see (Sullivan Cr.)
Midnight Sun -- see (Sullivan Cr.)
Millianich -- see (Miller Gulch)
Minook -- see (Little Minook Cr.)
Minook, Ltd. -- see (Little Minook Cr.)

Mohawk Association -- see (Woodchopper Cr.)
Montana Mining Co. -- see (Omega Cr.)
(Moraine Cr.) -- see (Tozimoran Cr.)
(Moran Cr. (Gulch) -- see (Tozimoran Cr.)
(Mynook Cr.) -- see (Minook Cr.)
Nelson & Johnson -- see (Deep Cr.)
(Oakley Cr.) -- see (Deep Cr.)
Olga -- see (Deep Cr.)
(Orange Cr.) -- see (Omega Cr.)
Pearl -- see (Deep Cr.)
Pringle and associates -- see (Rhode Island Cr.)
Purkeypile & Webories -- see (Tozimoran Cr.)
Rachel -- see (Deep Cr.)
Radovich -- see (Miller Gulch)
Rampart Gold Mining Co. -- see (Minook Cr.)
Richards -- see (Dalton Gulch), (Harter Gulch)
Rolke -- see (Woodchopper Cr.)
(Seattle Bar) -- see (Pioneer Cr.)
(Seattle Jr. Cr.) -- see (Pioneer Cr.)
(Shevlin Cr.) -- see (Schieffelin Cr.)
(Skookum Cr. (Gulch) -- see (Pioneer Cr.)
Snyder (, Harter & Kamper) -- see (Tofty Gulch)
Snyder & Kampter -- see (Sullivan Cr.)
Stewart, McLean & McKinzie -- see (Miller Gulch)
Strandberg Mines, Inc. -- see (Deep Cr.), (Idaho Gulch), (Sullivan Cr.), (Tofty Gulch), (Woodchopper Cr.)
Tilleson & L'Heureux -- see (Sullivan Cr.)
(Tufty Gulch) -- see (Tofty Gulch)
U.S. Association -- see (Miller Gulch)
Vogt -- see (Bonanza Cr.), (Morelock Cr.)
Webories & Purkeypile -- see (Tozimoran Cr.)
(What Cheer Bar) -- see (Pioneer Cr.)
Wild Goose -- see (Deep Cr.)
Wild Goose Association -- see (American Cr.)
Zickwolff -- see (Tozimoran Cr.)