

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

MINERAL OCCURRENCES

(OTHER THAN MINERAL FUELS AND CONSTRUCTION MATERIALS)

IN THE BETHEL, GOODNEWS, AND RUSSIAN MISSION QUADRANGLES, ALASKA

By

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Open-file report 77-156

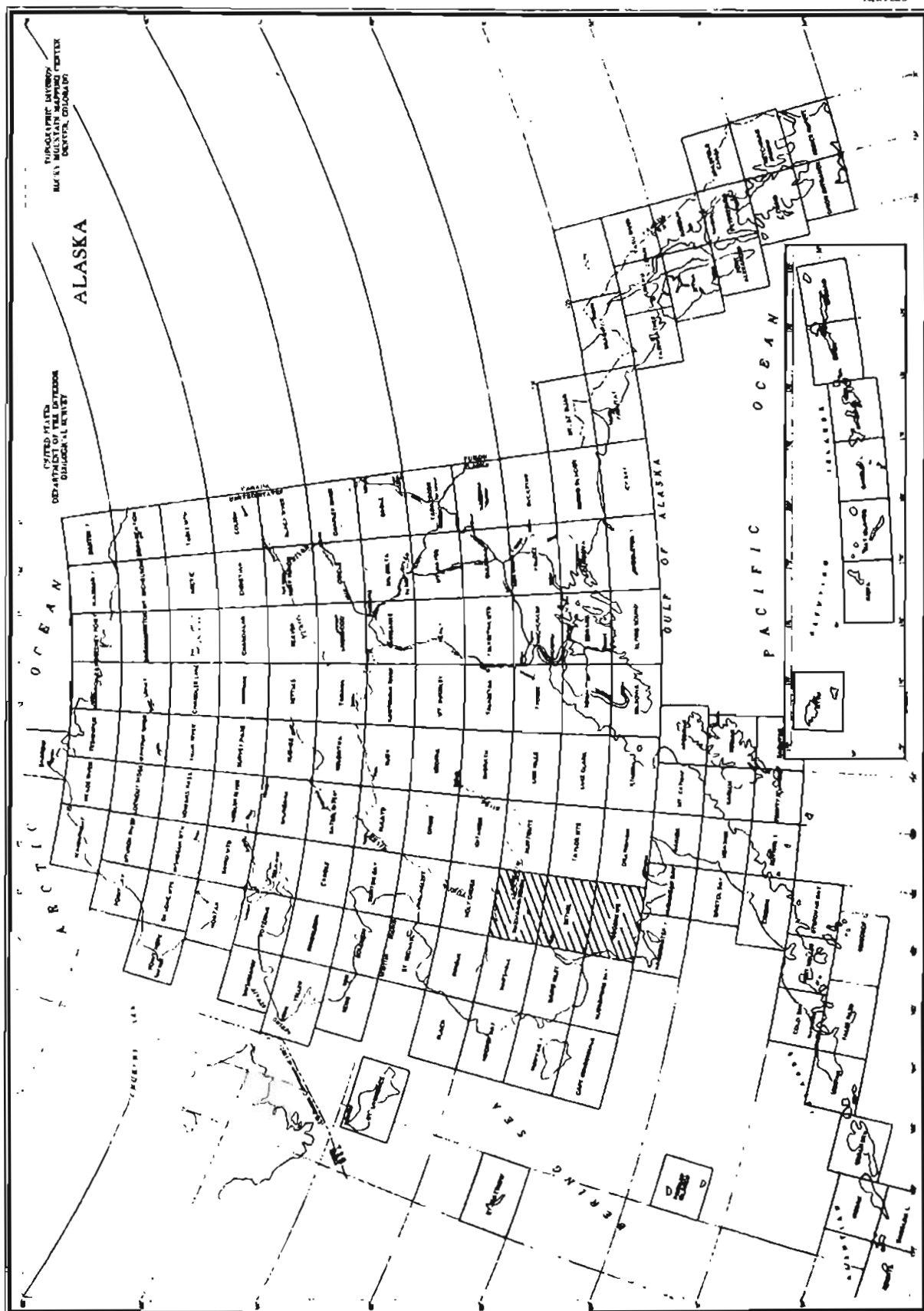
1977

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

## Introduction

These summaries of references are designed to aid in library research on metallic and nonmetallic (other than mineral fuels and construction materials) mineral occurrences in the Bethel, Goodnews, and Russian Mission quadrangles in southwestern Alaska. All references to reports of the Geological Survey, to most reports of the U.S. Bureau of Mines, and to most reports of the State of Alaska Division of Geological and Geophysical Surveys and its predecessor State and Territorial agencies released before January 1, 1976, are summarized. In addition, unpublished data collected by Hoare during more than 30 years of personal familiarity with the region have been added where appropriate. Certain, mainly statistical, reports such as the annual Minerals Yearbook of the U.S. Bureau of Mines and the biennial and annual reports of the State of Alaska Division of Geological and Geophysical Surveys and its predecessor State and Territorial agencies are not included.

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



### Summaries of Data

For each mineral occurrence there is a page that gives the name of the occurrence; the mineral commodities present (listed alphabetically for metallic commodities [FM is used for uranium and(or) thorium determined chemically or present as a constituent of an identified mineral other than monazite; platinum includes all members of the platinum group] and then for nonmetallic commodities); the mining district (Ransome and Kerns, 1954) in which the occurrence is located; the name of the 1:250,000-scale quadrangle of the Alaska Reconnaissance Topographic Series; coordinates (as described by Cobb and Kachadoorian, 1961, p. 3-4); the metallic mineral resources map number (Cobb, 1972; Cobb and Condon, 1972; or Hoare and Cobb, 1972, in the reference list for each quadrangle) and the occurrence number on that map if the occurrence is shown; and the latitude and longitude of the occurrence. These data, presented at the top of the page, are followed by a general summary of information on the occurrence. This is followed (continued on additional pages, if necessary) by more detailed summaries, arranged chronologically, of all references to the occurrence. Material in italic type in summaries is unpublished information added by Hoare. In a few instances he corrected errors (mainly in age assignments) in summaries of individual references; such corrections are also in italic type.

Proper names of mines, prospects, and other mineral occurrences are given if such names appear in the reports summarized. If a deposit does not have such a name, but is near a named geographic feature, the name of that feature is shown in parentheses in lieu of a proper name. If a part

of a proper name is not always used in a reference, that part of the name is shown in parentheses.

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

B	U.S. Geological Survey Bulletin
BMB	U.S. Bureau of Mines Bulletin
C	U.S. Geological Survey Circular
GC	Alaska Division of Mines and Minerals Geochemical Report
I	U.S. Geological Survey Miscellaneous Geologic Investigations Map
IC	U.S. Bureau of Mines Information Circular
OF	U.S. Geological Survey Open-file Report (numbers are informal and used only within the Alaskan Geology Branch of the U.S. Geological Survey)
MF	U.S. Geological Survey Miscellaneous Field Studies Map
P	U.S. Geological Survey Professional Paper
RI	U.S. Bureau of Mines Report of Investigations
TDM	Alaska Territorial Department of Mines Pamphlet

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

References cited only in these introductory paragraphs are:

- Cobb, E. H., and Kachadoorian, Reuben, 1961, Index of metallic and non-metallic mineral deposits of Alaska compiled from published reports of Federal and State agencies through 1959: U.S. Geol. Survey Bull. 1139, 363 p.
- Ransome, A. L., and Kerns, W. H., 1954, Names and definitions of regions, districts, and subdistricts in Alaska (used by the Bureau of Mines in statistical and economic studies covering the mineral industry of the Territory): U.S. Bur. Mines Inf. Circ. 7679, 91 p.

(Arsenic Cr.)

Mercury

Bethel district  
MF-455, loc. 5

Bethel (14.45, 0.25) approx.  
60°00'N, 160°08'W

**Summary:** Quartz veins in faults and shear zones carry cinnabar, realgar, and orpiment. Closely associated with hydrothermally altered diabase sills that cut Cretaceous sandstone and shale. Samples taken across widths of 3-6 in. contained as much as 45.8 lbs. mercury per ton; samples across greater widths contained no more than 10 lbs. mercury per ton. Source of most of mercury in Rainy Cr. Modern mapping shows that deposit is in Bethel quad. rather than in Goodnews quad. as shown on index maps in most of the summarized references. Includes references to lode deposit on Rainy Cr.

Webber and others, 1947 (RI 4065), p. 50-54 -- Deposit probably discovered between 1910 and 1920. A little excavation in 1920's. No production. Bedrock in area is conglomerate, sandstone, and shale. Mineralized faults and shear zones contain quartz, cinnabar, realgar, and orpiment; strike N 30°-45° E and dip 45°-80°; some to NW and some to SE. No igneous rocks in area.

Rutledge, 1948 (RI 4361) -- Data from RI 4065, p. 50-54, repeated. Mineralization along bedding planes and along faults with same strike as, but different dip from that of, bedding. USBM trenching failed to find extensions of already-known deposits. Samples contained 22.8 to 45.8 lbs. of mercury per ton across widths of 3 to 6 in.; samples across greater widths were all below 10 lbs. mercury per ton. [Note: more recent topographic mapping has given a corrected location about 0.8 mi. north of that given in this report.]

Hoare and Coonrad, 1959 (I-285) -- Deposit about a mile south of Bethel quad. boundary; only lode mercury deposit in area [later topographic mapping indicates that occurrence is in Bethel quad.].

Hoare and Coonrad, 1961 (I-339) -- Cinnabar closely associated with small sill-like intrusive bodies of hydrothermally altered diabase. [See note, I-285]

Malone, 1962 (IC 8131), p. 3 -- Deposit was discovered before World War II. p. 36-37 -- Data from RI 4065 and RI 4361.

Malone, 1965 (IC 8252), p. 32 -- Reference to RI 4065.

p. 42 -- Data in IC 8131 summarized.

p. 53 -- References to above USBM reports.

Sainsbury and MacKevett, 1965 (B 1187), p. 50-53 -- Mainly a summary of RI 4361.

Berg and Cobb, 1967 (B 1246), p. 94 -- Quartz veins carry cinnabar, realgar, and orpiment; associated with small hydrothermally altered diabase sills that cut Cretaceous sandstone and shale. No production.

Cobb, 1973 (B 1374), p. 48 -- Source of placer cinnabar in Rainy Cr.

(Canyon Cr.)

Gold

Aniak district  
MF-455, loc. 8

Bethel (17.5-17.75, 3.35-3.55)  
60°11'N, 159°57'-159°58'W

**Summary:** Stream crosses contact zone between Tertiary quartz porphyry and Paleozoic or Mesozoic clastic rocks. Mining reported in almost every year from 1913 until World War II. Probably has been more recent mining.

*The bedrock at Canyon Creek consists of interbedded graywacke, siltstone, shale, argillite, and some tuffs and flows of Early Cretaceous age. These rocks are intruded by small dikes and sills and by a small granitic pluton which underlies the mountain at the head of Canyon Creek. The pluton is surrounded by hornfels. A small gold-bearing quartz vein was found in the hornfels on the right limit near the head of the creek. It pinched out at a depth of 10-12 feet.*

*The valley cut by Canyon Creek is straight, deep, and narrow, and almost certainly fault-controlled. Valleys to the east and west were heavily glaciated but Canyon Creek was protected by the mountain at its head, which was never overridden by ice. The owner stated that when the narrow floodplain was mined they diverted the stream, lifted out the slabby bedrock (which strikes across the stream) and brushed it in tubs of water. Values commonly ran \$2.00 to \$4.00/square foot. All work was done by hand before 1947 when a bulldozer tractor was acquired.*

*The valley is highly asymmetric with bench gravels high on the right limit but none on the left limit. The elevated bench gravels are generally at least 10 feet thick and are said to have gold values from the grass roots to bedrock. Mining of the gravels has been severely limited by the small amount of water available from one or two small tributaries.*

*The method of mining, at least until 1948, when the mine was last visited, was rather crude. Only steel pipe pole riffles were used. The riffles were placed lengthwise in the short sluice box. Most of the nuggets and coarse gold were probably caught but a single pan of the fine tailings yielded a thick string of fine gold several inches long. Mercury used in cross riffles would permit the tailings to be reworked and extend the life of the mine for many years.*

Brooks, 1915 (B 622), p. 67 -- Mining, 1914.

Maddren, 1915 (B 622), p. 303-304 -- Mining, 1914; has been one of major producers in the region.

p. 356-357 -- Gulch about 2 mi. long; ground (except near mouth) 1-4 ft. deep, 50-300 ft. wide. Quartz porphyry dike near head may have been source of mineralization. "Pumpkin seed" gold; small, flat nuggets. Discovered, 1913.

(Canyon Cr.) - Continued

- Brooks, 1916 (B 642), p. 22 -- Some placers developed, 1915.  
p. 68 -- 5 mines operated, 1915.
- Smith, 1917 (BMB 153), p. 55 -- Mining, 1916.
- Brooks, 1918 (B 662), p. 60 -- Mining, 1916; output down because of water shortage.
- Brooks, 1922 (B 722), p. 60 -- Mining, 1920.
- Smith, 1926 (B 783), p. 15 -- Mining, 1924.
- Smith, 1929 (B 797), p. 24 -- Mining, 1926.
- Smith, 1930 (B 810), p. 32 -- Mining, 1927.
- Smith, 1930 (B 813), p. 37 -- Mining, 1928.
- Smith, 1932 (B 824), p. 42 -- Mining, 1929.
- Smith, 1933 (B 836), p. 43-44 -- Mining, 1930.
- Smith, 1933 (B 844-A), p. 44 -- Mining, 1931.
- Smith, 1934 (B 864-A), p. 46 -- Mining, 1933.
- Smith, 1936 (B 868-A), p. 47 -- Mining, 1934.
- Smith, 1937 (B 880-A), p. 49-50 -- Mining, 1935.
- Smith, 1938 (B 897-A), p. 59 -- Mining, 1936.
- Smith, 1939 (B 910-A), p. 62 -- Mining, 1937.
- Smith, 1939 (B 917-A), p. 60 -- Mining, 1938.
- Smith, 1941 (B 926-A), p. 57 -- Mining, 1939.
- Smith, 1942 (B 933-A), p. 54 -- No report of mining in 1940.
- Hoare and Conrad, 1959 (I-285) -- Placer gold that contains a little silver being mined. Annual production probably less than \$50,000. Bedrock is the mainly clastic rocks of the Carboniferous(?) to Cretaceous Gemuk Group; Tertiary granitic pluton surrounded by hornfels zone at head of creek.
- Cobb, 1973 (B 1374), p. 42-43 -- Mining in practically every year since gold was discovered in 1913. Creek crosses contact zone between quartz porphyry body and Paleozoic or Mesozoic clastic rocks.



(Columbia Cr.)

Gold

Aniak district

Bethel (10.85, 10.9)

MF-455, loc. 6

60°37'N, 160°44'W

Summary: Has been a placer prospect. Jurassic volcanic rocks and Tertiary granitic intrusive bodies in area.

*The bedrock at Columbia Creek is similar to that at the Tuluksak River and Bear Creek where rich placer deposits have been mined. It consists of interbedded volcanic and sedimentary rocks of Jurassic age intruded by a granitic pluton and several rhyolitic bodies. There is no evidence that the broad valley was glaciated but it contains a thick layer of outwash deposits which came from a large glacier in the Kwethluk valley to the south.*

*The claims were prospected by the New York Alaska Gold-Dredging Corp. in 1949 or 1950 using a churn drill. No mining was attempted. Hydrothermally altered bedrock on the low divide at the head of the valley was prospected by pits and trenches before 1949.*

Hoare and Coonrad, 1959 (I-285) -- Placer prospect symbol on map. Bedrock in drainage basin is Jurassic volcanic rocks intruded by Tertiary granitic rocks.

Cobb, 1973 (B 1374), p. 43 -- Reference to I-285.

(Cripple Cr.)

Gold

Aniak district  
MF-455, locs. 16, 17

Bethel (20.7-21.05, 12.5-13.75)  
60°42'-60°46'N, 159°33'-159°35'W

Summary: Sporadic placer gold mining from about 1911 until after World War II. Most of valley filled with glacial deposits through which stream has cut into Cretaceous clastic rocks.

In 1946, 10 to 15 men were employed. In 1947 the payroll was increased to 22 men. But the men were commonly idle because of equipment break-downs. Consequently the mine closed during the 1947 season. Floodplain deposits are mostly less than 6 ft. deep, reported to run about 11¢/yd. Gold fine and flaky and associated with much black sand (magnetite). The bench gravels on the left limit were prospected in 1947 and said to contain as much gold as the floodplain deposits.

Brooks, 1912 (B 520), p. 41 -- Discovery reported, 1911.

Brooks, 1914 (B 592), p. 70 -- Has been mining, 1913.

Maddren, 1915 (B 622), p. 347-351 -- Lower half of valley filled with glacial deposits that extend down into Salmon R. valley. Stream has cut down to and 10-30 ft. into bedrock (quartzite and slate) in places, mainly across old valley spurs. Many granitic boulders in gravel. Bench placers and stream placers (probably reconcentrated from bench deposits). All gold is fine. No really profitable mining as of 1914.

Moffit, 1927 (B 792), p. 20 -- No mining, 1925.

Smith, 1942 (B 933-A), p. 53-54 -- Mining, 1940.

Hoare and Coonrad, 1959 (I-285) -- Mining ceased between 1946 and 1949. Bedrock in area is mainly graywacke and other clastic rocks of the Cretaceous Kuskokwim Group and small Tertiary albite rhyolite intrusive bodies. Some left limit tributaries head in the Tertiary granitic stock or surrounding hornfels zone of the Cripple Mtns.

(Dominion Cr.)

Gold

Aniak district  
MF-455, locs. 13, 14

Bethel (21.2-22.1, 17.3-17.6)  
60°58'-60°59'N, 159°24'-159°30'W

Summary: Placer gold present; no record of mining. Granitic bodies and hornfels zones in headwaters.

*Dominion Creek is reputed to contain a large amount of low-grade ground--probably suitable for dredging. It was prospected by one man in 1947.*

Maddren, 1915 (B 622), p. 336-338 -- Creek 10 mi. long; filled with outwash now being entrenched in lower half of stream course. Bedrock is sandstone and shale cut and altered by granite in headwater part of basin. Lower half of valley staked; fine colors of gold near mouth. No commercial deposits found as of 1914.

Hoare and Coonrad, 1959 (I-285) -- Gold placer prospect symbol on map. Country rock is graywacke and other clastic rocks of the Cretaceous Kuskokwim Group. Some right-limit tributaries head in Tertiary granitic stocks and surrounding hornfels zones of Mt. Plummer and Marvel Dome.

(Eureka Cr.)

Gold(?)

Aniak district

Bethel (20.2-21.1, 17.2-17.65) approx.  
60°59'N, 159°33'W approx.

Summary: A little gold reported. No mining.

Maddren, 1915 (B 622), p. 339 -- Rises in cirque on E flank of Marvel  
Dome. A little gold is reported to occur in gravel, but there has  
been no mining as of 1914.

(Fisher Cr.)

Gold

Aniak district  
MF-455, loc. 15

Bethel (20.8, 14.9)  
60°50'N, 159°34'W

Summary: Gold in bars at mouth; other prospecting did not find encouraging amounts of gold.

Maddren, 1915 (B 622), p. 346-347 -- Bedrock is sandstone and shale cut by granitic dikes. Gold in bars at mouth of creek. Prospect holes 3-4 mi. above mouth were sunk 15-30 ft. to bedrock, but the results were not encouraging.

(Fisher Dome)

Antimony

Aniak district  
MF-455, loc. 4

Bethel (19.45, 14.75)  
60°49'N, 159°44'W

Summary: Stibnite in small quartz vein cutting rhyolite.

Hoare and Coonrad, 1959 (I-285) -- Stibnite in small quartz vein cutting rhyolite.

Berg and Cobb, 1967 (B 1246), p. 93 -- Same as I-285.

(Fork Cr.)

Gold(?)

Aniak district

Bethel

SW1/4 SE1/4 quad.

Summary: Good prospects reported in 1915. May be a garbled reference to Canyon Cr.

Brooks, 1916 (B 642), p. 68 -- Good prospects reported; benches said to carry gold; 1915.

Golden Butte Mines, Inc.

Gold(?)

Aniak district

Bethel (15.55-15.7, 8.8-9.1) (?)

MF-455, locs. 1, 2(?)

60°30'N, 160°11'-160°12'W(?)

Summary: Prospect on quartz veins said to carry some gold. Probably the same as (Golden Gate Falls). See also (Golden Gate Falls).

Smith, 1932 (B 824), p. 22 -- Prospecting on quartz veins said to carry some gold and to have been traced for several hundred feet, 1929.



(Golden Gate Falls)

Copper

Aniak district  
MF-455, locs. 1, 2

Bethel (15.55-15.7, 8.8-9.1)  
60°30'N, 160°11'-160°12'W

**Summary:** Traces of copper minerals in fault zone in amphibole schist.

*Golden Gate Falls, Golden Butte Mines, Inc., Riglagalik River, and Royal Quartz Mines probably all refer to the same locality on the Kisaralik River which was prospected early in the century and where a small amount of placer mining was attempted. The falls, actually a short, steep rapids, is formed where the Kisaralik River cuts through a resistant ridge of altered mafic volcanic rocks that is flanked on either side by softer sedimentary rocks. The west side of the ridge is defined by a large reverse fault which trends north and dips eastward. The reported mineralization, if true, is probably associated with this fault because no granitic or other intrusive rocks were seen when the area was mapped in 1949. The attempt at placer mining was made just below the falls. The fine gold said to have been recovered could have come from the fault zone but it probably was reconcentrated from the thick blanket of glacial outwash that once overlay the area.*

Hoare and Coonrad, 1959 (I-285) -- Traces of copper minerals in green amphibole schist in a fault zone.

Berg and Cobb, 1967 (B 1246), p. 93-94 -- Same as I-285.

(Granite Cr.)

Gold

Aniak district  
MF-455, loc. 10

Bethel (16.15-16.2, 17.4-17.7)  
60°59'-61°00'N, 160°06'W

Summary: Stream flows mainly in granite. Mining, 1938-40, and probably after World War II.

*The mine was operated by three men in 1946. No mining in 1947 after the property was acquired by New York Alaska Gold-Dredging Corp. The mine crosses the contact between a large granitic pluton of Cretaceous age which intrudes interbedded volcanic and sedimentary rocks of Jurassic age.*

Maddren, 1915 (B 622), p. 331 -- Most of bedrock is massive granite.

Colors of gold discovered before any was found on Bear Cr. Gold appears to have been derived from granitic rocks.

Smith, 1939 (B 917-A), p. 60 -- Mining, 1938.

Smith, 1941 (B 926-A), p. 57 -- Mining, 1939.

Smith, 1942 (B 933-A), p. 53 -- Mining, 1940.

Hoare and Coonrad, 1959 (I-285) -- Mining ceased between 1946 and 1949.

Tributary of Tuluksak R. that flows across Tertiary granitic body and hornfels zone in andesitic volcanic rocks of the Cretaceous Kuskokwim Group.

Cobb, 1973 (B 1374), p. 42 -- Has been mining.

(Kapon Cr.)

Gold, Mercury

Bethel district

Bethel (15.2-16.9, 1.1-3.0) approx.  
60°07'N, 160°10'W approx.

**Summary:** Headwater tributary of Eek R. Slate and conglomerate bedrock cut by granitic intrusives. A little mining in 1914-15. Cinnabar pebbles in concentrates.

*The report of granitic intrusive rocks on Kapon Creek is probably based on erroneous hearsay because Maddren never saw the creek and I saw no granitic rocks when I mapped the area. However there are some rhyolite and diabase dikes and sills. The rocks and the association of gold and cinnabar on Kapon Creek are similar to Arsenic Creek. The course of Kapon Creek is probably fault-controlled because 1) the stream is unusually straight, 2) it cuts across the bedding which strikes northeast and dips consistently southeast, and 3) it is essentially parallel to the upper part of Kwethluk valley which is developed along the Trail Creek fault.*

Brooks, 1915 (B 622), p. 67 -- Mining, 1914.

Maddren, 1915 (B 622), p. 357 -- Headwater tributary of Eek R. Bedrock is slate and conglomerate cut by granitic intrusives. Ground-sluicing in 1914. Gravels coarse and of low tenor. Gold dark and flaky. Concentrates contain magnetite, arsenopyrite, and small cinnabar pebbles.

Brooks, 1916 (B 642), p. 68 -- Mining, 1915.

Cobb, 1973 (B 1374), p. 48 -- Reference to B 622, p. 357.

(Marvel Cr.)

Gold

Aniak district  
MF-455, loc. 12

Bethel (20.2-20.3, 16.0-16.65)  
60°54'-60°56'N, 159°37'-159°38'W

**Summary:** Flows through unglaciated valley. Placer gold derived from contact zone between granitic pluton and Cretaceous clastic rocks. No sulfide minerals in concentrates or in quartz veinlets in contact zone. Nonfloat, hand, and hydraulic mining carried on successfully from about 1912 until after World War II. Dredge installed, 1966.

*Most of the ground on the upper part of the creek had been mined by 1947 and mining probably ceased in 1948. The ground was mostly less than 10 feet deep. Gold values ranged from about 40¢ to 65¢/square foot. The recovered gold was mostly coarse with many nuggets. Much of the fine gold was lost. In 1947 two women reworked some of the fine tailings using a small portable sluice box. In their spare time, while not engaged in culinary duties, they recovered a quart Mason jar of fine gold in less than two months.*

*Mining recommenced on the lower part of the creek sometime prior to 1963 and continued until at least 1970. Most of mining on the lower claims was done with a small floating dredge brought over from the Tuluksak River.*

Brooks, 1913 (B 542), p. 46-47 -- Mining, 1912.

Brooks, 1914 (B 592), p. 70 -- Has been mining. Hydraulic plant being installed, 1913.

Brooks, 1915 (B 622), p. 67 -- Mining, 1914.

Maddren, 1915 (B 622), p. 303-304 -- Mining, 1914; one of most productive creeks in area.

p. 339-346 -- Creek flows 6 mi. from Marvel Dome to Eagle Cr. Bedrock is sandstone and shale cut and altered by granitic bodies in headwater basin. Quartz veinlets, but no signs of sulfide mineralization, in contact zones. Valley not glaciated. Gravels mainly shallow and along present stream; a few discontinuous poorly developed bench deposits. Most of gold on top of or in cracks in bedrock. Production, 1912-14, was worth about \$21,370.

Brooks, 1916 (B 642), p. 68 -- Mining, 1915.

Brooks, 1918 (B 662), p. 60 -- Plans for drilling with a view to installing a dredge, 1916.

Brooks and Martin, 1914 (B 714), p. 93 -- Prospected dredging ground, 1919.

Brooks, 1922 (B 622), p. 60 -- Mining, 1920.

Moffit, 1927 (B 792), p. 20 -- No mining, 1925.

Smith, 1930 (B 810), p. 32 -- Mining, 1927.

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

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

Smith, 1933 (B 836), p. 43-44 -- Mining, 1930.

Smith, 1933 (B 844-A), p. 44 -- Mining, 1931.

(Marvel Cr.) - Continued

- Smith, 1934 (B 857-A), p. 41 -- Mining, 1932.  
Smith, 1934 (B 864-A), p. 46 -- Mining, 1933.  
Smith, 1936 (B 868-A), p. 47 -- Mining, 1934.  
Smith, 1937 (B 880-A), p. 49-50 -- Mining, 1935.  
Smith, 1938 (B 897-A), p. 59 -- Mining, 1936.  
Smith, 1939 (B 910-A), p. 62 -- Mining, 1937.  
Smith, 1939 (B 917-A), p. 60-61 -- Preparatory work; no mining, 1938.  
Smith, 1941 (B 926-A), p. 57 -- Mining, 1939.  
Smith, 1942 (B 933-A), p. 53 -- Mining, 1940.  
Hoare and Coonrad, 1959 (I-285) -- Mining ceased sometime between 1946 and 1949. Bedrock is graywacke and other clastic rocks of Cretaceous Kuskokwim Group; small albite rhyolite body and granitic stock surrounded by hornfels zone (Marvel Dome) near head of creek.  
Cobb, 1973 (B 1374), p. 42 -- Successful mining for many years; gold derived from contact zones between granitic plutons and clastic Cretaceous rocks. No sulfide minerals reported from concentrates or quartz veinlets in contact zones. Small dredge brought in 1966; all earlier work by hydraulic, nonfloat, or hand methods.

(Riglagalik R.)

Gold(?), Tin(?)

Aniak district

Bethel (15.55-15.7, 8.8-9.1) approx(?)  
60°30'N, 160°11'-160°12'W approx.(?)

Summary: Questionable reports of fine gold and cassiterite. Riglagalik is an old name for Kisaralik R. Includes reference to (Rigugalik R.). See also (Golden Gate Falls).

Brooks, 1912 (B 520), p. 41 -- Fine gold reported, 1911. Data from H. W. Reeth.

Martin, 1919 (B 692), p. 20 -- Report [never confirmed] of cassiterite in concentrates, 1917.

Cobb, 1973 (B 1374), p. 43 -- Report of cassiterite probably false.

(Robin Cr.)

Gold(?)

Aniak district

Bethel (20.3-20.6, 17.55-17.7) approx.  
60°59'N, 159°05'W

Summary: Stream in glaciated valley. Claims were staked, but there is no definite report that gold was found.

Maddren, 1915 (B 622), p. 337-339 -- Tributary of Dominion Cr. Heads in cirque on Marvel Dome. Valley pretty well filled with morainal or outwash material. Quartz veins (apparently barren) near head. Claims were staked because of a supposed similarity to Marvel Cr., which, however, was not glaciated.

(Rocky Cr.)

Gold, Mercury

Aniak district  
MF-455, loc. 18

Bethel (20.45, 8.75)  
60°29'N, 159°38'W

Summary: Placer mining reported.

*The symbol on the map (Hoare and Coonrad, 1959, I-285) is incorrect. It should have been a prospect symbol. The creek was prospected by one man in 1949. Pan concentrates contained a few gold and cinnabar colors.*

Hoare and Coonrad, 1959 (I-285) -- Placer mine symbol on map. Stream flows through glacial drift and outwash and sedimentary rocks of the Cretaceous Kuskokwim Group.

Cobb, 1973 (B 1374), p. 43 -- Reference to I-285.



Royal Quartz

Antimony(?), Gold(?), Silver(?)

Aniak district

Bethel (15.55-15.7, 8.8-9.1)(?)

MF-455, locs. 1, 2(?)

60°30'N, 160°11'-160°12'W approx.

Summary: Claims reported to have been staked in 1911 on quartz veins in shear zones; antimony, gold, and silver said to be present. May be the same as (Golden Gate Falls). See also (Golden Gate Falls).

Brooks, 1912 (B 520), p. 35 -- Bedrock reported to be slate with granitic and other intrusive rocks. Shear zones reported to be mineralized. Quartz veins said to bear gold, silver, and antimony. Claims called Royal Quartz mines staked and a little development reported, 1911.

(Tuluksak R.)

Copper, Gold, Platinum, Silver

Aniak district

Bethel (14.9-17.3, 16.9-17.6)

MF-455, locs. 3, 9, 11

60°58'-61°00'N, 159°56'-160°11'W

Summary: Andesitic bedrock contains traces of copper minerals. Placer gold contains minor amounts of silver and is accompanied by a small amount of platinum. Most of mining was by dredges before 1965. See also (Tuluksak R.) Russian Mission quad.

Maddren, 1915 (B 622), p. 332 -- Fine gold in shaft sunk about 50 ft. in frozen ground 5 mi. below mouth of Granite Cr.

Hoare and Coonrad, 1959 (I-285) -- Placer gold with a minor amount of silver being dredge mined; annual production (including that from tributaries) probably somewhat more than \$450,000. Small amount of platinum recovered with gold. Traces of copper minerals brought up by dredge; in andesitic bedrock. Map shows symbol for copper lode prospect.

Berg and Cobb, 1967 (B 1246), p. 93-94 -- Copper minerals in andesitic bedrock brought up by dredge.

Cobb, 1973 (B 1374), p. 42 -- Last dredge in area shut down at end of 1964 season.

(Windy Cr.)

Gold(?)

Aniak district

Bethel

SE 1/4 quad.

Summary: Prospecting and mining reported, 1915-16. Creek not shown on available maps. Sources of reports not given.

Brooks, 1916 (B 642), p. 68 -- Good prospects reported to have been found, 1915.

Smith, 1917 (BMB 153), p. 55 -- Good returns said to have been obtained, 1916.

(Arolik R.)

Gold, Platinum

Bethel district

Goodnews (4.25-6.0, 7.75-10.0) approx.  
59°27'-59°33'N, 161°20'-161°31'W approx.

Summary: Much prospecting in valley; gold and platinum present. Major production in basin has been from tributaries. See also: (Butte Cr.), (Kowkow Cr.), (Snow Gulch).

Martin, 1919 (B 692), p. 21-22 -- Platinum has been found in concentrates.  
[Probably means one or more of Butte and Kowkow Creeks and Snow Gulch.]

Brooks, 1914 (B 714), p. 38 -- Minute quantities of platinum have been found.

Mertie, 1923 (B 739), p. 158 -- Platinum has been found.

Smith, 1930 (B 810), p. 32 -- Prospecting, 1927.

Smith, 1930 (B 813), p. 37 -- Prospect drilling, 1928.

Smith, 1932 (B 824), p. 43 -- Test drilling in valley did not continue, 1929.

Smith, 1933 (B 836), p. 44 -- Test drilling resumed, 1930.

Smith, 1933 (B 844-A), p. 44 -- Mining in valley, 1931.

Smith, 1934 (B 857-A), p. 42 -- A little mining, 1932.

Smith, 1934 (B 864-A), p. 47 -- No information on testing of low-grade deposits in recent years (1933).

Smith, 1936 (B 868-A), p. 47 -- No data on results of exploration program (1934).

Smith, 1937 (B 880-A), p. 50 -- No data on results of exploration program (1935).

Smith, 1938 (B 897-A), p. 59 -- Many (apparently much exaggerated) rich finds in area; hydraulic outfit reported to have been taken in; 1936.

Smith, 1939 (B 910-A), p. 62 -- Much prospecting in basin, 1937; many claims staked.

Koschmann and Bergendahl, 1968 (P 610), p. 15 -- Placers along river mined on a small scale in early 1900's.

(Bear Cr.)

Gold, Platinum

Goodnews Bay district  
MF-447, locs. 16, 17

Goodnews (7.8-7.9, 7.2-7.4)  
59°24'-59°25'N, 161°08'W

Summary: Gold discovered, 1916; mining reported, 1917, 1919, 1920, 1926-31, 1934, 1936. Small amounts of platinum recovered with gold. Bedrock is limestone, calcareous argillite, sandstone, conglomerate, and basaltic volcanic rocks. According to geologic map (Hoare and Coonrad, 1961, I-339) these rocks are part of the Carboniferous to Cretaceous Gemuk Group and are intruded by a Tertiary granitic body at the head of a headwater tributary.

Brooks, 1918 (B 662), p. 61 -- Gold discovered, 1916.

Harrington, 1921 (B 714), p. 222-224 -- Mining, 1919. Placers low grade; miners who worked them in 1917 and 1919 did not make wages. Country rock is sedimentary and basaltic volcanic rocks; no granitic intrusives in basin. Placers probably are postglacial.  
p. 226-227 -- Staked in 1916 (may also have been staked earlier). Very little work until 1917. Bedrock in basin is limestone, calcareous argillite, sandstone, grit, conglomerate, and fine-grained basic igneous rock; gravels same rock types. Bedrock not reached in area being worked in 1919.

Brooks, 1922 (B 722), p. 61 -- Mining, 1920.

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

Smith, 1930 (B 810), p. 32 -- Mining, 1927.

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

Smith, 1932 (B 824), p. 43 -- Mining, 1929.

Smith, 1933 (B 836), p. 44 -- One man mining, 1930.

Smith, 1933 (B 844-A), p. 44 -- Mining, 1931.

Smith, 1936 (B 868-A), p. 47 -- Mining, 1934.

Mertie, 1969 (P 630), p. 89-90 -- Placer platinum recovered with gold; production reported with that reported for Goodnews platinum placers [Hagemeister I. quad.]. Analysis of platinum indicated Pt - 72.82%, Ir - 15.58%, Os - 8.17%, Ru - 5.05%, Rh - 0.78%, Pd - 0.36%.

Cobb, 1973 (B 1374), p. 48 -- Claims staked, 1916.

(Butte Cr.)

Gold, Platinum

Bethel district

Goodnews (4.7-5.0, 8.75)

MF-447, loc. 6

59°30'N, 161°28'-161°29'W

Summary: Gold placer mining, with a few intermissions, from early 1900's to at least as recently as 1940. A little platinum, probably derived from mafic rocks to the south, was recovered with the gold. Placers are probably pre-Pleistocene; some of gold on false bedrock that resembles till. Precambrian metamorphic rocks near head of creek; most of valley is in glacial outwash.

Brooks, 1912 (B 520), p. 41 -- Mining reported, 1911. Output worth about \$12,000. Bedrock reported to be slate with some limestone and schist cut by igneous dikes.

Brooks, 1914 (B 592), p. 71 -- Mining, 1913.

Brooks, 1915 (B 622), p. 67 -- Mining, 1914.

Maddren, 1915 (B 622), p. 299 -- Mining, 1900 or soon thereafter.

p. 303-304 -- Mining, 1914: one of most productive creeks in area.

p. 357-358 -- Mining has been done for about 10 years [as of 1914]; total production worth \$50,000 to \$60,000. Gravels about 5 ft. thick. Mountains in area made up of crystalline and granitic rocks.

Brooks, 1918 (B 662), p. 61 -- Mining, 1916.

Harrington, 1921 (B 714), p. 220-222 -- Quotation from B 622, p. 299-301. Estimated production through 1919 was worth about \$70,000. In 1919 claims were being held, but not worked. Outside water will be needed for much more mining.

p. 227 -- Gold in false bedrock that resembles till; true bedrock said to be 15-25 ft. below the false bedrock. Gravels of local origin. No mining in 1919.

Moffit, 1927 (B 792), p. 20 -- No mining; may have been prospecting, 1925.

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

Smith, 1930 (B 810), p. 32 -- Mining, 1927.

p. 52-53 -- A little platinum was recovered with the gold, 1927.

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

Smith, 1937 (B 880-A), p. 50 -- Mining, 1935.

Smith, 1938 (B 897-A), p. 59 -- Mining, 1936.

Smith, 1939 (B 910-A), p. 62 -- Mining, 1937.

Smith, 1939 (B 917-A), p. 62 -- Mining, 1938.

Smith, 1941 (B 926-A), p. 58 -- Mining, 1939.

Smith, 1942 (B 933-A), p. 54 -- Mining, 1940.

Hoare and Coonrad, 1961 (I-339) -- Placers probably pre-Pleistocene. A little platinum was recovered; probably derived from mafic intrusive rocks to south. Precambrian metamorphic rocks near head; most of valley in outwash.

Mertie, 1969 (P 630), p. 89-90 -- Placer platinum recovered with gold; production included with that reported from Goodnews platinum placers [Hagemeister I. quad.]. Analysis of platinum indicated Pt - 59.07%; Ir - 15.38%; Os - 14.82%; Ru - 9.31%; Rh - 0.96%; Pd - 0.46%.

Cobb, 1973 (B 1374), p. 48 -- Has been placer gold mining; a little platinum recovered with it.

(Canyon Cr.)

Gold

Goodnews Bay district  
MP-447, loc. 18

Goodnews (8.1, 7.55)  
59°25'N, 161°06'-161°07'W

Summary: Gold placer prospect.

Hoare and Coonrad, 1961 (I-339) -- Placer prospect symbol. Bedrock in area is mainly sedimentary and volcanic rocks of the Carboniferous to Cretaceous Gemuk Group; small bodies of Tertiary granitic rocks, some with hornfels around borders.

(Cascade Cr.)

Gold (?)

Bethel district

Goodnews (6.9, 5.85)

59°20'N, 161°14'W

Summary: Prospect drilling planned, 1931. No data on progress or possible results of program.

Smith, 1933 (B 844-A), p. 44 -- Negotiations for future drilling to establish feasibility of development, 1931.



(Domingo Cr.)

Gold

Bethel district

Goodnews (4.3, 7.85)

MF-447, 19c. 4

59°27'N, 161°31'W

Summary: Gold placer mine; deposits probably pre-Pleistocene.

Hoare and Coonrad, 1961 (I-339) -- Placer mine symbol on map. Bedrock in area is a Tertiary granitic body and a band of serpentized ultramafic rocks. Precambrian metamorphic rocks and Carboniferous to Cretaceous rocks (including limestone) of Gemuk Group. Placer deposits are probably pre-Pleistocene, but were protected from glacial erosion by Island Mtn.

(Fox Cr.)

Gold

Bethel district

Goodnews (5.15, 8.95)

MF-447, loc. 7

59°31'N, 161°26'W

Summary: Recent placer activity; oral commun., W. L. Coonrad, 11/10/53.

(Fox Gulch)

Gold

Goodnews Bay district  
MF-447, loc. 15

Goodnews (7.85, 6.3)  
59°21'N, 161°08'W

Summary: Gold placer mine. No data on deposit or production.

Smith, 1938 (B 897-A), p. 59 -- Small output recorded, 1936.

Hoare and Coonrad, 1961 (I-339) -- Placer mine symbol. Uplands composed of rocks of Carboniferous to Cretaceous mainly sedimentary Gemuk Group; valleys floored with glacial drift. Gulch is tributary of Slate Cr.

(Goodnews Bay)

Chromite, Gold, Mercury, Platinum;  
Diamond(?)

Goodnews Bay district  
MF-447, locs. 10-12

Goodnews (0.8-2.0; 0.1-2.1) approx.  
59°00'-59°07'N, 161°48'-161°55'W

Summary: Beach sands contain traces of gold and small amounts of chromite. Iron content no more than 6.1 lbs. per cu. yd. No platinum.

*In 1969 the unconsolidated deposits in Goodnews Bay were sampled by taking numerous core samples. Chemical analyses revealed detectable amounts of platinum in a great many of the samples. The platinum was concentrated in the clay layers rather than the sand layers. Most samples also contained both native mercury and cinnabar and a single tiny diamond was said to have been found. The best values were found along the north side of the bay, south of Beluga Peak, which consists of altered mafic volcanic rocks and fine-grained volcanogenic sedimentary rocks. There is also a small exposure of serpentine about three miles north of the bay. In 1970 a more elaborate sampling program was undertaken and an airborne magnetometer survey was made. The results of the sampling program are unknown. An unconfirmed report is that the samples became mixed in transport and were never analysed. The source of the platinum is conjectural because the values decrease eastward toward Goodnews River--one possible source--and southward toward Red Mountain (Hagemeister Island quad.) where the Goodnews Bay platinum placer mine is located.*

Berryhill, 1963 (RI 6214), p. 13-16 -- Pan concentrates of samples of beach sand contained chromite, magnetite, and traces of gold. Highest iron content, calculated for material in place, was 6.1 lbs. per cu. yd.; most samples contained no more than 2.5 lbs. per cu. yd.  
Cobb, 1973 (B 1374), p. 50 -- Chromite, but no platinum, in beach samples.

(Goodnews R.)

Gold

Goodnews Bay district

Goodnews (6.5-8.0, 5.5-6.5) approx.

59°19'-59°25'N, 161°08'-161°14'W approx.

Summary: Small output in 1936 was reported. Major production in basin was from Bear and Wattamuse Creeks. See also: (Bear Cr.), (Wattamuse Cr.).

Smith, 1938 (B 897-A), p. 59 -- Small output reported, 1936.

(Jacksmith Cr. tributary)

Gold

Bethel district

Goodnews (7.75, 6.9)

MF-447, loc. 3

59°24'N, 161°35'W

Summary: Has been placer activity, oral commun., W. L. Coonrad, 11/10/53.

(Kagati Lake)

Antimony, Mercury

Bethel district  
MF-447, loc. 1

Goodnews (18.3, 16.3) approx.  
59°55'N, 159°55'W approx.

**Summary:** Shear zones in Tertiary(?) quartz monzonite and granodiorite stock intruded into Jurassic and Cretaceous graywacke, shale, and volcanic rocks contain veinlets and fracture coatings of quartz, cinnabar, stibnite, realgar, and orpiment. Cinnabar ore bodies are from a few inches to 2 ft. thick; none has been traced more than 10 ft. along strike; none has been completely delineated. Exploration has been mainly by bulldozer stripping and trenching; no production. Includes reference to mercury near Mt. Oratia.

Sainsbury and MacKevett, 1960 (P 400-B), p. 36 -- In strongly fractured quartz monzonite and granodiorite of probable Tertiary age. Mercury deposits localized along favorable joints and faults, commonly in irregular quartz veins and pods. Most well-defined ore bodies only a few inches wide; traceable for less than 10 ft. along strike. Most in "main shear zone" that strikes N 20° W; a few in subparallel fractures and in ones that strike more nearly N 45° W.

Hoare and Coonrad, 1961 (I-339) -- Weak cinnabar mineralization for several hundred ft. along shear zone in quartz monzonite. Stibnite, orpiment, and realgar also present.

Malone, 1962 (IC 8131), p. 52 -- Deposit staked and a now-caved adit driven, 1927. Restaked, 1956, and prospected for 3 years. A little mineralization in 2 shear zones in granite. Cinnabar with quartz and realgar in both shear zones; stibnite float found near one shear zone. No recorded production.

Malone, 1965 (IC 8252), p. 51 -- Same as IC 8131, p. 52.  
p. 56 -- Reference to IC 8131.

Sainsbury and MacKevett, 1965 (B 1187), p. 53-56 -- Claims staked in 1956 and explored by pits, trenches, and bulldozer stripping. No production. Deposits are in a quartz monzonite and granodiorite stock of probable Tertiary age intruded into Jurassic and Cretaceous graywacke, shale, and volcanic rocks of the Gemuk Group; argillaceous rocks near stock are hornfelsed. Tertiary mafic rocks (mainly diabase) intrude Gemuk Group. Ore deposits consist of cinnabar filling veinlets and coating fractures and fault gouge. Realgar, stibnite, orpiment, and secondary antimony minerals in quartz and minor iron oxides. Individual ore bodies are from 2 in. to 2 ft. thick; none traced for more than 10 ft. along strike; none completely delineated. Cinnabar is youngest hydrothermal mineral in veins. Clay minerals present probably formed by both hydrothermal and weathering processes.

Berg and Cobb, 1967 (B 1246), p. 94 -- Quartz, cinnabar, stibnite, realgar, and orpiment sporadically distributed in shear zones in Tertiary quartz monzonite. Exploration in 1927, 1956-58; no production.

(Kemuk R.)

Copper

Bristol Bay region

Goodnews (19.4, 11.85)  
59°40'N, 159°49'W

**Summary:** *Trace of copper mineralization in fine-grained tuff or tuffaceous sedimentary rock in a large north-trending fault or fault zone. Occurrence is in a large area yielding anomalous copper values in stream sediments.*



(Kowkow Cr.)

Gold, Platinum

Bethel district

Goodnews (4.9-5.15, 8.25-8.4)

MF-447, loc. 5

59°28'-59°29'N, 161°26'-161°28'W

**Summary:** Gold placers discovered and mining begun in 1913; continued until 1940 or later. Small amounts of platinum recovered with the gold. Placers are probably pre-Pleistocene. Bedrock in area is chert, clastic rocks, and mafic volcanic rocks with a mafic intrusive body at the head of the creek. Most of valley is in glacial outwash. Some of gold is on false bedrock that resembles till. Includes references to: (Chowchow Cr.), (Cow Cow Cr.).

Brooks, 1914 (B 592), p. 71 -- Mining, 1913.

Madden, 1915 (B 622), p. 357-358 -- Mining, 1914. Gravels about 6 ft. thick. Mountains in area made up of crystalline and granitic rocks.

Brooks, 1913 (B 662), p. 61 -- Mining, 1916.

Harrington, 1921 (B 714), p. 221-222 -- Mining, 1919; total production through 1919 worth less than \$30,000.

p. 227 -- Mining begun in 1913. 6-7 ft. overburden, 3-4 ft. gravel, 8-15 in. fine gravel on false bedrock that resembles till. Depth to true bedrock not known. Gravels of local origin. Gold said to assay \$17.60 an ounce.

Brooks, 1922 (B 722), p. 61 -- Mining, 1920.

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

p. 40 -- Platinum has been found.

Smith, 1930 (B 810), p. 32 -- Mining, 1927.

p. 52-53 -- A little platinum was recovered with the gold, 1927.

Smith, 1934 (B 864-A), p. 47 -- A little mining, 1933.

Smith, 1936 (B 868-A), p. 47 -- Mining, 1934.

Smith, 1937 (B 880-A), p. 50 -- Mining, 1935.

Smith, 1939 (B 910-A), p. 62 -- Mining, 1937.

Smith, 1939 (B 917-A), p. 61-62 -- Mining, 1938. Major producer in Arolic basin.

Smith, 1941 (B 926-A), p. 58 -- Mining, 1939.

Smith, 1942 (B 933-A), p. 54 -- Mining, 1940.

Hoare and Conrad, 1961 (I-339) -- Placers probably pre-Pleistocene. A little platinum recovered with gold; probably derived from mafic intrusive rocks to south. Creek rises in body of Tertiary mafic rocks that intruded interbedded chert, clastic rocks, and mafic volcanics of the Carboniferous to Cretaceous Gemuk Group; hornfels zone around intrusive body. Most of valley in outwash.

Cobb, 1973 (B 1374), p. 48 -- Mining from 1913 to World War II. A little platinum recovered with gold.

(Lake Elva)

Gold (?)

Bristol Bay region

Goodnews (25.0-25.5, 11.0-11.75) approx.  
59°37'N, 159°10'W approx.

Summary: A little placer gold reported from streams entering Lake Elva.  
No other information available.

The main stream entering Lake Elva flows westward and heads in a small granitic pluton of early Tertiary age. The pluton intrudes sedimentary and volcanic rocks of probable Jurassic age and is surrounded by hornfels. This is the probable source of the reported gold.

Eakins, 1968 (GC 17), p. 8 -- Prospectors have reportedly found a little gold in streams entering Lake Elva.

(Malaria Cr.)

Gold (?)

Goodnews Bay district

Goodnews (6.5, 6.0) approx.  
59°20'N, 161°18'W approx.

Summary: Prospecting in 1936, no information on results.

Smith, 1938 (B 897-A), p. 59 -- Prospecting, 1936. Tributary of Granite Cr.

(Olympi(a)c Cr.)

Gold

Goodnews Bay district  
MF-447, loc. 14

Goodnews (7.1, 6.0) approx.  
59°20'N, 161°13'W approx.

Summary: Mining reported, 1926-31. Geologic map (Hoare and Coonrad, 1961, I-339) shows basin to be underlain by Carboniferous to Cretaceous clastic and volcanic rocks and chert of the Gemuk Group and Tertiary granitic intrusives with hornfels zone along contact.

Smith, 1929 (B 797), p. 25 -- Mining, 1926.  
Smith, 1930 (B 810), p. 25 -- Mining, 1927.  
Smith, 1930 (B 813), p. 37 -- Mining, 1928.  
Smith, 1932 (B 824), p. 43 -- Mining, 1929.  
Smith, 1933 (B 836), p. 44 -- One man mining, 1930.  
Smith, 1933 (B 844-A), p. 44 -- Mining, 1931.

(Rainy Cr.)

Gold, Mercury.

Bethel district  
MF-447, loc. 19

Goodnews (16.5, 17.75) approx.  
64°00'N, 160°09'W

Summary: Placer gold, probably reconcentrated from glacial or glacio-fluvial deposits, was mined in 1914-15 and early 1940's. About a ton of cinnabar concentrates, derived mainly from lodes on Arsenic Cr. (Bethel quad.) was also recovered. Most of mining and possibly all of cinnabar recovery was in part of creek in Bethel quad. See also (Rainy Cr.) Bethel quad.

Brooks, 1915 (B 622), p. 67 -- Mining, 1914.

Maddren, 1915 (B 622), p. 357 -- Headwater tributary of Eek R. Gold discovered, 1911; prospecting, 1912-14. Country rocks reported to be slates and concentrates cut by granitic rocks.

Brooks, 1916 (B 642), p. 68 -- Mining, 1915.

Smith, 1942 (B 933-A), p. 54-55 -- New property opened up, 1940. Good results.

Webber and others, 1947 (RI 4065), p. 51 -- About 2,000 lbs. of cinnabar concentrate recovered mainly from below mouth of Arsenic Cr. during placer gold mining has been shipped [nearly all was probably from part of creek in Bethel quad.].

Rutledge, 1948 (RI 4361), p. 1, 3 -- Data same as in RI 4065, p. 51.

Hoare and Coonrad, 1961 (I-339) -- Gold placer probably reconcentrated from glacial deposits. Cinnabar concentrates recovered [mainly in Bethel quad.].

Malone, 1962 (RI 8131), p. 36, 57 -- 2,000 lbs. of high-grade cinnabar produced from gold placer; recorded mercury production is 6 flasks in 1941. [Most, if not all, was from part of creek in Bethel quad.].

Malone, 1965 (IC 8252), p. 42, 53 -- References to and repetition of data in USBM reports cited above.

Sainsbury and MacKevett, 1965 (B 1187), p. 50 -- About 2,000 lbs. of high-grade cinnabar concentrates recovered during gold placer mining below mouth of Arsenic Cr.

Berg and Cobb, 1967 (B 1246), p. 94 -- About 2,000 lbs. cinnabar concentrates recovered [mainly, if not entirely, in Bethel quad.].

Cobb, 1967 (B 1374), p. 48 -- Gold, probably reconcentrated from glacial or glaciofluvial deposits, and about a ton of cinnabar concentrates recovered.

(Sam Cr.)

Gold

Bethel district

Goodnews (10.7, 14.55)  
59°50'N, 160°47'W

*Summary: Bedrock is Cretaceous sandstones and shales intruded by small mafic pluton. Small sluice box and small-scale digging abandoned prior to 1950.*

Hoare and Coonrad, 1961 (I-339) -- Placer prospect symbol on map.

(Slate Cr.)

Gold

Goodnews Bay district  
MF-447, loc. 13

Goodnews (7.0, 5.5-5.6)  
59°19'N, 161°14'W

Summary: Tributary of Goodnews R. into which Wattamuse Cr. flows. According to geologic map (Hoare and Conrad, 1961, I-339), bed-rock in basin is clastic and volcanic rocks of the Carboniferous to Cretaceous Gemuk Group intruded by one or more Tertiary granitic plutons with hornfels around margins. Most production from basin was from Wattamuse Cr. See also (Wattamuse Cr.).

Smith, 1933 (B 844-A), p. 44 -- Arrangements made for prospect drilling, 1931.

Smith, 1934 (B 864-A), p. 46-47 -- Rich bench ground found near Slate and Wattamuse Creeks. Some development and probably production, 1933.

Smith, 1938 (B 897-A), p. 59 -- Prospecting near head, 1936.

Smith, 1939 (B 910-A), p. 62 -- Extensive drilling and exploration near Wattamuse Cr., 1937.

Smith, 1939 (B 917-A), p. 61 -- A little small-scale mining reported, 1938.

Cobb, 1973 (B 1374), p. 48 -- Mining on Slate and/or Wattamuse Creek reported, 1916 to as recently as 1961.

(Snow Gulch)

Gold, Platinum

Bethel district  
MF-447, loc. 8

Goodnews (5.1-5.25, 9.55-9.9)  
59°33'N, 161°25'-161°26'W

**Summary:** Gold placer mining reported, 1913, 1938-40. Platinum recovered with the gold. Bedrock in area is Precambrian metamorphic rocks.

*Snow Gulch is excavated along a northeast-trending fault in Precambrian metamorphic rocks. No intrusive igneous rocks are known and the probable source of the placer gold is mineralization along the fault. The source of the platinum is unknown as there are no known ultramafic rocks in the Snow Gulch drainage.*

Brooks, 1914 (B 592), p. 71 -- Mining, 1913.

Smith, 1939 (B 917-A), p. 62 -- Mining, 1938.

Smith, 1941 (B 926-A), p. 58 -- Mining, 1939.

Smith, 1942 (B 933-A), p. 54 -- Mining, 1940.

Hoare and Coonrad, 1961 (I-339) -- Gold placer mine symbol. Bedrock shown as Precambrian metamorphic rocks.

Mertie, 1969 (P 630), p. 89-90 -- Placer platinum recovered with gold; production included with that reported from Goodnews platinum placers [Hagemeister I. quad.]. Analysis of platinum indicated Pt - 76.32%; Ir - 8.34%; Os - 8.34%; Ru - 5.05%; Rh - 1.26%; Pd - 0.69%. [Creek incorrectly listed as Snow Gulch in table 38.]

Cobb, 1973 (B 1374), p. 48 -- Mining, 1913 to World War II. A little platinum recovered with the gold.



(Sunshine Valley)

Gold (?)

Bristol Bay region

Goodnews (24.75-26.0, 8.5-9.75) approx.  
59°30'N, 159°10'W approx.

Summary: A little placer gold reported to have been found in streams that drain ridge SW of Sunshine Valley. No other information available.

Eakins, 1968 (GC 17), p. 8 -- Prospectors reported to have found a little placer gold in streams that drain ridge SW of valley.

(Togiak Lake)

Copper

Bristol Bay region

Goodnews (20.5, 11.8)  
59°39'N, 159°41'W

**Summary:** *Copper minerals (malachite and chalcopyrite) in a small quartz vein in quartz diorite near intrusive contact with hornfelsed sediments. Occurrence is in a large area yielding anomalous copper values in stream sediments.*

(Togiak R.)

Copper, Zinc.

Bristol Bay region  
MF-447, loc. 2

Goodnews (16.35, 5.5) approx.  
59°18'N, 159°10'W approx.

Summary: Quartz vein in recrystallized pillow lava contains about 30% coarsely crystalline, nearly black sphalerite and a little pyrite and chalcopyrite.

Hoare and Conrad, 1961 (I-339) -- Coarsely crystalline, nearly black sphalerite makes up about 30% of a quartz vein that also contains a little pyrite and chalcopyrite. Vein is 12-15 in. thick, is exposed for a length of about 25 ft.; in recrystallized pillow lavas of Carboniferous to Cretaceous Gemuk Group. Small gabbro body exposed across Togiak R.

Berg and Cobb, 1967 (B 1246), p. 16 -- Same data as in I-339.

(Trail Cr.)

Gold

Bristol Bay region  
MF-447, locs. 20, 21

Goodnews (20.65-21.0, 17.5-17.75) approx.  
59°59'-60°00'N, 159°37'-159°39'W approx.

**Summary:** Has been placer mining. Placers probably formed by reconcentration of gold from glacial deposits.

Hoare and Coonrad, 1961 (I-339) -- Placer mine symbols on map. Bedrock is Gemuk Group (sedimentary and volcanic rocks) of Carboniferous to Cretaceous age. Placers probably formed by secondary concentration of glacial gravels. No granitic rocks in vicinity. Mining for a few years before World War II.

Cobb, 1973 (B 1374), p. 12 -- Signs of placer mining; results not known.

(Tyone Cr.)

Gold

Bethel district  
MF-447, loc. 9

Goodnews (5.9, 9.65)  
59°33'N, 161°20'W

Summary: Has been placer mining.

Hoare and Coonrad, 1961 (I-339) -- Placer mine symbol on map. Bedrock in area is mainly Precambrian metamorphic rocks.

(Wattamuse Cr.)

Gold

Goodnews Bay district  
MF-447, loc. 13

Goodnews (6.5-7.0, 5.6-6.1)  
59°19'-59°20'N, 161°14'-161°16'W

**Summary:** Placer gold discovered in 1917 and mined until as recently as 1961. Both bench and creek placers, which were probably formed mainly by reconcentration of terrace gravels. Creek heads in body of Tertiary granitic rock that intruded and caused contact metamorphism in Paleozoic and Mesozoic chert and clastic and mafic volcanic rocks. Placer gold probably derived from quartz veins in contact zone.

Martin, 1919 (B 692), p. 40 -- Placer gold discovered, 1917. Gravels said to be about 4 ft. thick and to yield \$2 to \$4 a square foot.

Harrington, 1921 (B 714), p. 221-223 -- Gold discovered, 1917. Production, 1917-18, worth about \$35,000. Mining, 1919. Large granite boulders in gravel on upper claims hinder mining.

p. 225-226 -- Repetition of some of above data. Bedrock is mainly slaty argillite, sandstone, chert, and basalt. Gravels contain these rock types, conglomerate, and granite. Overburden 2-5 ft. thick; 1-2 ft. of gravel is sluiced; top 6 in. of slate or sandstone also must be taken up.

Brooks, 1922 (B 722), p. 61 -- Mining, 1920.

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

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

Smith, 1930 (B 810), p. 32 -- Mining, 1927.

Smith, 1930 (B 813), p. 37 -- No mining (high water), 1928.

Smith, 1932 (B 824), p. 42-43 -- No mining, 1929.

Smith, 1933 (B 836), p. 44 -- One man mining, 1930.

Smith, 1933 (B 844-A), p. 44 -- Arrangements for drilling program, 1931.

Smith, 1934 (B 857-A), p. 42 -- Mining, 1932.

Smith, 1934 (B 864-A), p. 46-47 -- Rich bench deposits found near Slate and Wattamuse Creeks. Development and probably some production, 1933.

Smith, 1936 (B 868-A), p. 47 -- Mining, 1934.

Smith, 1937 (B 880-A), p. 50 -- Mining, 1935.

Smith, 1939 (B 910-A), p. 62 -- Extensive drilling and exploration, 1937.

Smith, 1939 (B 917-A), p. 61, 75-76 -- Dredge installed, 1938. Operated only 2 weeks because of mechanical problems.

Smith, 1941 (B 926-A), p. 58, 71 -- Dredge operated, 1939.

Smith, 1942 (B 933-A), p. 54, 68 -- Dredge operated, 1940.

Hoare and Coonrad, 1961 (I-339) -- Mining, 1953-55. Rich placer probably mainly formed by reconcentration of terrace gravels. Creek heads in body of Tertiary granitic rock that intruded and caused contact metamorphism in chert and clastic and mafic volcanic rocks of the Carboniferous to Cretaceous Gemuk Group.

Cobb, 1973 (B 1374), p. 48-49 -- Rich placer deposits found, 1916 or soon thereafter; mining on Wattamuse Cr. or Slate Cr., into which it flows, until 1961. Source of gold is probably quartz veins in contact zones around granitic plutons in divide at head of creek.

Arnold

Copper, Gold, Lead, Molybdenum, Silver,  
Tungsten

Marshall district  
MF-444, loc. 1

Russian Mission (0.9, 14.7) approx.  
61°50'N, 161°53'W approx.

Summary: Quartz-calcite veins as much as a foot thick in locally pyritiferous greenstone contain native gold, pyrite, galena, pyrrhotite, magnetite, chalcopyrite, scheelite, molybdenite, and many secondary minerals; ore reported to carry considerable silver. Claims staked, 1914. Explored by open cuts. Test shipment in 1915 returned \$80 a ton, presumably in gold and silver. Includes references to lodes near head of Disappointment Cr. and east of Willow Cr. near head.

Brooks, 1915 (B 622), p. 66 -- Specimens from altered rhyolite porphyry dike near head of Disappointment Cr. contain galena and molybdenite, said to assay a little gold.

Brooks, 1916 (B 642), p. 67-68 -- Vein carrying gold, galena, and molybdenite said to have been found on divide between Disappointment and Willow Creeks, 1915. Test shipment of ore from small quartz vein near head of Willow Cr. said to carry considerable gold and silver. [These are probably the same occurrence, but with data from 2 sources.]

Smith, 1917 (BMB 142), p. 26 -- Test shipment [see above, B 642, p. 67] returned \$80 a ton.

Harrington, 1918 (B 662), p. 345-346 -- Preliminary to B 683.

Harrington, 1918 (B 683) - p. 57 -- Claims staked, 1914; test shipment made in 1915.

p. 63-64 -- Staked, 1914. Only development work is a series of open cuts to determine size and continuity of quartz veins, which are 4 in. to a foot thick and carry calcite, pyrite, galena, molybdenite, free gold and alteration products of sulfides. Other veins nearby carry a little chalcopyrite and its oxidation products.

Brooks, 1925 (B 773), p. 46 -- Work continued, 1923.

Smith, 1942 (B 926-C), p. 198-199 -- Reference to and quotation from B 683, p. 63-64. Secondary minerals are in cracks in vein quartz. Unidentified mineral that probably contains molybdenum was in specimens sent to Geological Survey.

Wedow and others, 1952 (OF 51), p. 83 -- Same data as B 683, p. 63-64.

West, 1954 (C 328), p. 8-9 -- Quartz veins in (in places heavily pyritized) greenstone; one vein 6-12 in. wide was traced more than 100 ft. in trenches. Minerals in veins include pyrite, galena, pyrrhotite, magnetite, gold, chalcopyrite, scheelite, molybdenite, calcite, quartz, and many secondary minerals. No samples contained more than 0.001% eU.

Hoare and Coonrad, 1959 (I-292) -- Lode gold prospect symbol near contact between unit of mafic volcanic and interbedded clastic rocks and a small granitic body.

Arnold -- Continued

Berg and Cobb, 1967 (B 1246), p. 235 -- Quartz-calcite veins as much as a foot thick in locally pyritiferous greenstone contain native gold, pyrite, galena, molybdenite, chalcopyrite, and traces of scheelite and wolframite. One vein was traced along strike for more than 100 ft. Exploration was by trenches and pits.

Koschmann and Bergendahl, 1968 (P 610), p. 29 -- Reference to B 683, p. 57.

Cobb, 1973 (B 1374), p. 161 -- Reference to B 1246, p. 235; this and similar lodes probably were sources of placer gold in area.



(Bear Cr.)

Copper (?), Gold, Mercury

Aniak district

Russian Mission (18.25-19.05, 0.6-1.4)  
approx.

MF-444, loc. 20

61°01'-61°05'N, 159°42'-159°51'W approx.

**Summary:** Gold placer mining from 1909 until 1940 or later; first dredge installed in 1925-26; last dredge in area shut down in 1964. Bedrock is much jointed granite cut by altered diabasic dikes. Gold placers probably older than outwash of valley fill. Much cinnabar in dredge concentrates from below mouth of Bonanza Cr. Quartz veins near creek (some possibly in Bethel quad.) carry traces of copper minerals.

Maddren, 1910 (B 410), p. 63 -- Mining, 1909.

Brooks, 1911 (B 480), p. 40 -- Mining, 1910.

Brooks, 1913 (B 542), p. 46 -- Productive mining has been reported, 1912.

Brooks, 1914 (B 592), p. 70-71 -- Has been mining for several years.

Prospect drilling, 1913.

Brooks, 1915 (B 622), p. 67 -- Mining, 1914.

Maddren, 1915 (B 622), p. 300 -- Gold in paying quantities discovered, 1907 or 1908; mining since then.

p. 303-304 -- Mining, 1914; one of the most productive creeks in the area.

p. 309-321 -- Major headwater tributary of Tuluksak R. Wide floodplain 2-3 ft. above bedrock is entrenched from 10 to 100 ft. in old valley fill. Bedrock is much jointed granitic rock cut by diabasic dikes now much weathered. Gold is near bedrock and has washed deep into bedrock crevices; much care in cleaning required to get good recovery. Gold bearing gravels are older than outwash of valley fill; gold deposits not the result of reconcentration from valley fill.

p. 324-325 -- Some gold may have been contributed by Spruce Cr.

p. 327-330 -- Some of gold may have been derived from bedrock beneath the placers. Mining mainly by simple hand methods. Production from Bear Cr. and tributaries, 1909-14, was worth about \$35,000.

Brooks, 1916 (B 642), p. 68 -- Mining, 1915.

Brooks, 1922 (B 722), p. 60 -- Mining, 1920.

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

Moffit, 1927 (B 792), p. 20 -- Dredge construction, 1925.

Smith, 1929 (B 897), p. 24, 30 -- Dredge operated, 1926.

Smith, 1930 (B 810), p. 31-32, 40 -- Mining, including a dredge, 1927.

Smith, 1930 (B 813), p. 36, 47 -- Dredge operated; very successful season, 1928.

Smith, 1932 (B 824), p. 41-42, 52 -- Dredge operated, 1929; poorer season than in 1928.

Smith, 1933 (B 836), p. 43, 54-55 -- Dredge shut down, 1930.

Smith, 1933 (B 844-A), p. 42, 44, 54 -- Dredge operated, 1931.

Smith, 1934 (B 857-A), p. 41, 51 -- Dredge improved; mined into November, 1932.

(Bear Cr.) -- Continued

- Smith, 1934 (B 864-A), p. 46, 57 -- Dredge operated, 1933.  
Smith, 1936 (B 868-A), p. 46-47, 59 -- Dredge operated, 1934.  
Smith, 1937 (B 880-A), p. 49, 61 -- 2 dredges operated, 1935.  
Smith, 1938 (B 897-A), p. 58, 71 -- Dredge operated, 1936.  
Smith, 1939 (B 910-A), p. 61, 76-77 -- Mining, including 2 dredges, 1937.  
Smith, 1939 (B 917-A), p. 60, 75 -- 2 dredges operated, 1938.  
Smith, 1941 (B 926-A), p. 56-57, 71 -- 2 dredges operated, 1939. Hydro-electric plant on Tuluksak R. completed.  
Smith, 1942 (B 933-A), p. 53, 68 -- Mining, including 2 dredges, 1940.  
Hoare and Coonrad, 1959 (I-292) -- Reference to Maddren, 1915 (B 622).  
Cinnabar constituted a large part of dredge concentrates below mouth of Bonanza Cr.; lode source not known. Quartz veins with traces of copper mineralization in mountain SE of Bear Cr. and in bench near mouth [may be in Bethel quad.]. Bedrock in basin mainly is Jurassic andesitic volcanic rocks and Cretaceous granitic plutons surrounded by hornfels zones. Mafic intrusive rocks are exposed near the head of a left-limit tributary.  
Koschmann and Bergendahl, 1968 (P 610), p. 16 -- Reference to B 622, p. 300.  
Cobb, 1973 (B 1374), p. 42 -- Placer deposits in area mined from 1909 until last dredge shut down at end of 1964 season. Cinnabar constituted a large part of concentrates of dredge operating near Bonanza Cr.; probably originally associated with altered diabasic dikes or sills. Gold probably derived from low-grade gold- and sulfide-bearing veins in contact zone between Jurassic volcanic rocks and Cretaceous granitic plutons and in plutons themselves.

Bering Alaska Placers

Gold

Aniak district

Russian Mission (17.8, 0.35) approx.(?)  
61°01'N, 159°54'W approx.(?)

Summary: Mining, 1937. May have been on Tiny Gulch. See also (Tiny Gulch).

Smith, 1939 (B 910-A), p. 61 -- Small gulch tributary to Bear Cr. 4 men seem to have had an especially successful season in 1937.

(Black Mtn.)

Antimony, Gold, Silver.

Aniak district  
MF-444, loc. 3

Russian Mission (22.25, 14.2) approx.  
61°47'N, 159°19'W approx.

Summary: Vein about 2 in. thick in shaly sandstone about 50 ft. from contact with a granite body contains stibnite and traces of gold and silver. Includes references to antimony on Owhat R.

Ebbley and Wright, 1948 (RI 4173), p. 5 -- Examined by USBM, Nov. 1944.

p. 40 -- Near summit of Black Mtn. vein has average width of 2 in. Sample along 50 ft. of central part of vein contained 48.9% Sb, 0.02 oz. Au per ton, and 0.2 oz. Ag per ton. Vein fades out 75 ft. beyond sampled section in each direction. Walls not mineralized; no parallel veins found. Vein is in shaly sandstone roughly parallel to and 50 ft. from contact with granite.

Cady and others, 1955 (P 268), p. 122 -- Claims recorded at Aniak.

Hoare and Coonrad, 1959 (I-292) -- Reference to RI 4173, p. 5, 40.

Berg and Cobb, 1967 (B 1246), p. 93 -- Data are summary of those in RI 4173, p. 40.

(Bobtail Cr.)

Gold, Mercury

Marshall district  
MF-444, loc. 14

Russian Mission (4.95, 16.0) approx.  
61°55'N, 161°25'W

Summary: Gold placer mining, 1938-40 and possibly at other times. A little cinnabar (source not known) in concentrates. Bedrock in area is mafic volcanic and interbedded clastic rocks intruded by granitic rocks and an albite rhyolite(?) stock or plug near the head of the creek. See also (Kako Cr.).

Smith, 1939 (B 917-A), p. 52 -- Dragline mining operation, 1938.

Smith, 1941 (B 926-A), p. 46-47 -- Mining, 1939. Water shortage.

Joesting, 1942 (TDM 1), p. 27 -- Rare placer cinnabar.

Smith, 1942 (B 933-A), p. 44 -- Only mining in area, 1940.

Hoare and Coonrad, 1959 (I-292) -- Placer mine symbol on map. Bedrock is mafic volcanic and interbedded clastic rocks. Tertiary granitic stock to SW; Tertiary albite rhyolite(?) stock or plug near head of creek.

Malone, 1965 (IC 8252), p. 54 -- Placer cinnabar present.

Cobb, 1973 (B 1374), p. 162 -- Has been mining; cinnabar (source not known) in concentrates.

(Bogus Cr.)

Gold

Aniak district  
MF-444, loc. 15

Russian Mission (16.3, 3.4) approx.  
61°11'N, 160°05'W

Summary: Colors of placer gold.

Maddren, 1915 (B 622), p. 331-332 -- Upper course in foothills between  
Granite Cr. and Kuskokwim lowlands. Colors of placer gold. In  
about 1904 a prospect shaft was sunk 50 ft. in frozen gravel.

(Bonanza Cr.)

Copper, Gold.

Aniak district  
MF-444, loc. 20

Russian Mission (18.75, 1.25) approx.  
61°03'-61°04'W, 159°45'W

Summary: Bedrock is granitic rock with considerable biotite. Thin quartz stringer has malachite stains. Placer deposit at mouth (mined in about 1913 and in 1915) really in floodplain of Bear Cr.

Brooks, 1914 (B 592), p. 71 -- Has been mining, 1913.

Maddren, 1915 (B 622), p. 311-312 -- Has been productive mining on Discovery claim at mouth of creek; claim belongs essentially to floodplain of Bear Cr.

p. 327-329 -- Granitic rock with considerable biotite. Thin quartz stringer has some green malachite stains. Has been mining on Discovery claim.

Brooks, 1916 (B 642), p. 68 -- Mining, 1915.

Brink, H.

Molybdenum

Aniak district  
MF-444, loc. 4

Russian Mission (22.7, 14.55) approx.  
61°48'N, 159°16'W approx.

Summary: Specimens of float contained molybdenite and powellite(?) in quartz. Country rock is part of a small granitic pluton. Includes references to: molybdenum on Owhat R. and to unnamed occurrence in Akiak district. See also (Bear Cr.).

Smith, 1942 (B 926-C), p. 200-201 -- In 1918 and 1919 D. E. Stubbs sent the Geological Survey specimens of float that contained molybdenite and powellite(?) in quartz. Location and mode of occurrence (other than as float) not known.

Cady and others, 1955 (P 268), p. 122 -- Molybdenite reported.

Hoare and Coonrad, 1959 (I-292) -- Molybdenum reported from upper Owhat R. Prospect symbol in Tertiary small granitic pluton that intruded rocks mapped (with a query) as clastic rocks of the Cretaceous Kuskokwim Group.

Berg and Cobb, 1967 (B 1246), p. 94 -- Molybdenite reported.



(Buster Cr.)

Gold

Marshall district  
MF-444, loc. 10

Russian Mission (4.75, 15.75) approx.  
61°54'N, 161°27'W

Summary: Mining reported, 1924, 1927, 1933. Tributary of Montezuma Cr. Geologic map (Hoare and Coonrad, 1959, I-292) shows bed-rock in region as Carboniferous to Cretaceous mafic volcanics, clastic rocks, and limestone of Gemuk Group intruded by Tertiary granitic rocks.

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

Smith, 1930 (B 810), p. 30 -- A little mining, 1927.

Smith, 1934 (B 864-A), p. 43 -- Mining, 1933. Men made better than wages.

(California Cr.)

Gold, Silver

Aniak district

Russian Mission (17.45-17.8, 1.1-1.6)  
approx.

MF-444, loc. 17

61°03'-61°05'N, 159°53'-159°56'W

Summary: Mining of placer gold that contains a little silver after World War II. California Cr. was name formerly applied to headwater part of Tuluksak R.; older references to California Cr. are entered on (Tuluksak R.) card. Below references are to mining on what is now called California Cr.

*California Creek and its headwater tributary, Rocky Creek, are incised in hornfels formed by the intrusion of a large granitic pluton of Cretaceous age into interbedded sedimentary and andesitic volcanic rocks of Jurassic age. The ground was prospected by churn drill in 1946. Mining began with a dredge a year or so later and continued until at least 1960. The ground was said to be some of the richest found in the Tuluksak drainage. Values increased upstream and were richest in the headwater tributary called Rocky Creek. A quartz vein containing coarse crystalline gold was found and staked on the ridge north of California Creek in 1945.*

Hoare and Coonrad, 1959 (I-292) -- Placer gold that contains a minor amount of silver currently [about 1959] being mined. Bedrock is Cretaceous clastic rocks intruded by Tertiary granitic plutons; hornfels near contacts.

Cobb, 1973 (B 1374), p. 42 -- Placer deposits on Bear and California Creeks and Tuluksak R. mined from 1909 to end of 1964 season when last dredge was shut down.

(Cobalt Cr.)

Antimony, Copper, Gold, Lead, Nickel(?),  
Silver, Tin(?), Zinc.

Aniak district  
MF-444, loc. 6

Russian Mission (24.1, 12.25) approx.  
61°55'N, 159°06'W approx.

**Summary:** Discovered before 1900. Explored by shallow shafts, pits, and trenches. Vein 30-60 in. thick and associated breccia zones in quartz monzonite traced for about 4,000 ft. Samples contained copper, lead, zinc, and iron sulfides, cuprite, malachite, and native copper. Sample from dump reported to have contained small amounts of gold and silver. Owner reported (in about 1914) a trace of nickel. Samples from a nearby shaft reported to have contained 1.22 and 1.40 percent tin. Includes references to copper lode in Russian Mtns.

Brooks, 1915 (B 622), p. 67 -- 25-ft. shaft sunk on fissure vein 30-60 in. wide that has been traced 4,000 ft. Ore contains chalcopyrite, arsenopyrite, pyrite, and stibnite. Owner reports that ore contains gold, silver, copper, and a trace of nickel.

Maddren, 1915 (B 622), p. 304 -- Fissure vein composed chiefly of chalcopyrite and arsenopyrite; contains copper, gold, and silver. Prospected (1914) by shaft about 40 ft. deep.

p. 359-360 -- 4 claims staked along fissure vein that can be traced on surface for about 4,000 ft. Strikes generally N 20° W and dips 85° SW. In shaft, walls of vein are 5 ft. apart at surface, narrowing to 30 in. at 25 ft.; same to bottom of shaft at 40 ft. Quartz gangue; metallic sulfides are chalcopyrite, arsenopyrite, and pyrite; ore carries copper, gold, and silver. Talcose gouge with malachite stains along both walls. Bedrock is a porphyritic granitic rock.

Brooks, 1921 (B 714), p. 35 -- Reference to B 622, p. 304-305.

Brooks, 1922 (B 722), p. 60 -- Development work reported, 1920. Shaft sunk 50 ft. [probably means shaft was deepened to 50 ft.].

Wedow and others, 1952 (OF 51), p. 87 -- Most of data same as B 622, p. 359-360. Chemical analyses of samples from area [location not given] showed "presence of minor amounts of gold, silver, and tin."

West, 1954 (C 328), p. 5-7 -- Discovered about 1900. Vein 2-1/2 to 5 ft. wide in quartz monzonite and associated mineralized breccia zones traced for about 4,000 ft.; explored by 3 shallow shafts and several pits and trenches. Vein strikes N 25° W, dips 80° SW. Ore contains copper, gold, and silver; sample from a dump reportedly contained 11% Cu, less than 0.25 oz. Au per ton, and traces of Ag. Other samples from a shaft 1,000 ft. west of vein are reported to have contained 1.22 and 1.40 percent tin. Heavy minerals identified in samples include arsenopyrite, chalcocite, chalcopyrite, cuprite, galena, magnetite, malachite, native copper, pyrite, pyrrhotite, and sphalerite.

Cady and others, 1955 (P 268), p. 122 -- Discovered before 1900. Other data same as in C 328, p. 5-7.

(Cobalt Cr.) -- Continued

Hoare and Coonrad, 1959 (I-292) -- Reference to P 268, p. 121-122, on  
lodes in Russian Mtns.

Berg and Cobb, 1967 (B 1246), p. 93 -- Essentially a summary of C 328,  
p. 5-7.

(Disappointment Cr.)

Gold, Platinum

Marshall district  
MF-444, loc. 8

Russian Mission (0.9, 15.2-15.4) approx.  
61°52'N, 161°53'W

Summary: Slate and conglomerate near mouth, which was site of most of the mining (1914-17, 1922, 1924, 1937, 1939). Principal mineral in concentrates was hematite; a little platinum recovered with gold.

Brooks, 1915 (B 622), p. 66 -- Mining, 1914.

Brooks, 1916 (B 642), p. 67 -- Mining, 1915.

Smith, 1917 (BMB 142), p. 26 -- Mining, 1915.

Smith, 1917 (BMB 153), p. 53 -- Mining, 1916.

Harrington, 1918 (B 662), p. 342-343 -- Preliminary to B 683.

Harrington, 1918 (B 683), p. 57 -- Mining, 1914-16.

p. 59-60 -- Mining near mouth, 1916. Principal mineral in concentrates is hematite; a little magnetite and platinum. Movable width about 300 ft.; depth to bedrock 10-12 ft.; more than 35 ft. at mouth. Bedrock sedimentary (slate and conglomerate nearby) cut by dikes.

Martin, 1919 (B 692), p. 39 -- Mining, 1917.

Brooks and Capps, 1924 (B 755), p. 45 -- Mining, 1922; ground ran \$1.29 a cu. yd.

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

Smith, 1939 (B 910-A), p. 54 -- Mining, 1937.

Smith, 1941 (B 926-A), p. 46 -- Mining, 1939.

West, 1954 (C 328), p. 8 -- Has been placer gold mining.

Hoare and Coonrad, 1959 (I-292) -- Placer mine symbol near contact between small Tertiary granitic pluton and Carboniferous(?) to Cretaceous mafic volcanic and interbedded clastic rocks.

Cobb, 1973 (B 1374), p. 162 -- Small amount of platinum recovered.

(Edgar Cr.)

Gold

Marshall district  
MF-444, loc. 2

Russian Mission (1.7, 15.75) approx.  
61°54'N, 161°47'W approx.

Summary: In about 1916 claims were staked on quartz veins carrying free-milling gold. Bedrock in area is mafic volcanic rocks with interbedded clastic rocks. No other data available.

Harrington, 1918 (B 662), p. 345 -- Preliminary to B 683.

Harrington, 1918 (B 683), p. 63 -- Free-milling gold in quartz veins reported near head of Edgar Cr.; claims have been staked [as of 1916].

West, 1954 (C 328), p. 8 -- Free-milling gold reported from quartz veins near head.

Hoare and Coonrad, 1959 (I-292) -- Lode gold prospect symbol. Bedrock shown as mafic volcanic and interbedded clastic rocks of the Carboniferous(?) to Cretaceous Gemuk Group.

Berg and Cobb, 1967 (B 1246), p. 235 -- Free-milling gold reported in quartz veins near head of creek.

(Elephant Cr.)

Gold, Tungsten

Marshall district

Russian Mission (1.1-1.2, 15.05-15.15)  
approx.

MF-444, loc. 9

61°51'-61°52'N, 161°52'W

Summary: Prospecting or placer gold mining intermittently from 1913 to as recently as 1940. A little scheelite in concentrates. See also (Wilson Cr.).

Brooks, 1915 (B 622), p. 66 -- Prospects found, winter of 1913-14.

Brooks, 1916 (B 642), p. 67 -- Prospecting with churn drill, 1915.

Smith, 1917 (BMB 153), p. 53 -- Hydraulic plant being installed, 1916.

Harrington, 1918 (B 662), p. 342 -- Preliminary to B 683.

Harrington, 1918 (B 683), p. 59 -- Mining, 1916. Hydraulic plant to be installed.

Martin, 1919 (B 692), p. 39 -- Mining, 1917.

Smith, 1936 (B 868-A), p. 43 -- Mining, 1934.

Smith, 1939 (B 910-A), p. 54 -- Mining, 1937.

Joesting, 1942 (TDM 1), p. 40 -- Rare placer scheelite.

Smith, 1942 (B 933-A), p. 44 -- Mining, 1940.

West, 1954 (C 328), p. 8 -- Has been placer gold mining.

Hoare and Coonrad, 1959 (I-292) -- Placer mine symbols. Bedrock shown as mafic volcanic and interbedded clastic rocks of Carboniferous(?) to Cretaceous Gemuk Group; small Tertiary granitic plutons near head.

Cobb, 1973 (B 1374), p. 162 -- Scheelite in concentrates.

(Happy Cr.)

Gold

Marshall district

Russian Mission (1.2, 15.5) approx.  
61°53'N, 161°51'W approx.

Summary: Fine gold on and near bedrock.

Brooks, 1915 (B 622), p. 66 -- In basin of Wilson Cr. Gold concentrated on and near bedrock; fine, well-worn, shotty particles with only a scattering of small nuggets.



(Kako Cr.)

Gold

Marshall district

Russian Mission (4.7-5.1, 15.75-16.0)  
approx.

61°54'-61°55'N, 161°24'-161°28'W

Summary: Tributary of Yukon. Mining was on tributaries from west. According to geologic map (Hoare and Coonrad, 1959, I-292) these creeks drain an area underlain by clastic and volcanic rocks of the Carboniferous to Cretaceous Gemuk Group that were intruded by Tertiary granitic stock. Includes reference to (Kato Cr.). See also: (Bobtail Cr.), (Buster Cr.), (Montezuma Cr.).

*Mining by one man 1960-1961, probably 1962.*

Harrington, 1918 (B 683), p. 56 -- Colors said to be obtainable by panning.

Brooks, 1922 (B 722), p. 57 -- New placer ground said to have been developed on Kato Cr., 1920.

Smith, 1929 (B 797), p. 23-24 -- Mining in area, 1926.

Smith, 1939 (B 910-A), p. 54 -- No activity, 1937.

(Mission Cr.)

Antimony(?), Copper, FM, Gold, Lead,  
Silver, Tungsten.

Aniak district  
MF-444, loc. 5

Russian Mission (23.85, 11.9) approx.  
61°54'N, 159°08'W approx.

**Summary:** Quartz veins and thin layers of breccia and gouge in quartz monzonite in zone 200 ft. wide that has been traced for 1,000 ft. Discovered, 1920, and explored by 900 ft. of underground workings and pits and trenches. Minerals identified include arsenopyrite, chalcopyrite, galena, hematite, meta-zeunerite, pyrite, pyrrhotite, and scheelite. Assays indicate that ore contains an average of 1.0% copper and 0.1 oz. gold and 1.0 oz. silver per ton. An old (1915) report of antimony is very questionable. Includes references to Konechney. See also (Cobalt Cr.).

*The adits on Mission Creek were excavated in the belief that the weakly mineralized vein high on the ridge would be much richer at depth. Most, or all of the work was done by one man, Konechney, by hand in the course of several years before 1943. Konechney said that when he had driven the main adit to a depth of about 800 feet he hit water and that about half the adit flooded because the working face was lower than the portal. In 1944 R. E. Wallace and E. J. Webber examined as much of the adit as possible. They found a zone of altered rock on the projected dip of the vein exposed on the ridge high above the adit and concluded that Konechney had not recognized the vein when he went through it. (They never told Konechney this because he was about 70 years old and still thought that if he could get the water out, "one more round would do it.")*

Maddren, 1915 (B 622), p. 304 -- Gold (placer) prospects reported, but no activity in 1914.

p. 359 -- Gold-bearing antimony deposit at or near contact between porphyritic granitic intrusive and sedimentary rocks reported. Creek below lode said to have placer gold prospects.

Brooks, 1916 (B 649), p. 47 -- Quotation from B 622, p. 359.

Wedow and others, 1952 (OF 51), p. 87 -- Zeunerite present.

Wedow and others, 1953 (C 248), p. 2 -- Zeunerite identified in old sample of concentrate from vein. In 1952 source of old sample was not accessible; highest eU of any sample was 0.004%.

p. 4 -- Cretaceous graywacke and slate intruded by Tertiary quartz monzonite; one deposit is fissure veins and breccia filling in quartz monzonite. Vein material is arsenopyrite, chalcopyrite, pyrite, malachite, chrysocolla, limonite, hematite, arsenic compounds, quartz, and zeunerite. eU of bedrock is 0.004%; of vein material is 0.002% or less.

(Mission Cr.) - Continued

West, 1954 (C 328), p. 2 -- Samples collected in 1944 contained traces of zeunerite (now called metazeunerite).

p. 5-7 -- Lode deposit discovered, 1920. 2 adits with about 900 ft. of underground excavations, surface pits, and trenches; none accessible in 1952. Mineralized zone is 200 ft. wide and was traced 1,000 ft. on surface; quartz veins and thin layers of breccia and gouge in quartz monzonite parallel nearly vertical basalt dikes that strike N 25° W. Assays indicate that ore has average of 1.0% Cu and 0.1 oz. Au and 1.0 oz. Ag per ton. Placer gold reported in creek. Samples of vein material and country rock contained no more than 0.006% eU. Minerals identified in samples include arsenopyrite, azurite, chalcopyrite, chrysocolla, galena, hematite, ilmenite, limonite, magnetite, malachite, metazeunerite, pyrite, pyrrhotite, and scheelite.

p. 10 -- Additional prospecting for radioactive minerals is warranted.

Cady and others, 1955 (P 268), p. 122 -- Same data as in C 328, p. 5-7. Hoare and Coonrad, 1959 (I-292) -- Reference to P 268, p. 121-122, on lodes in Russian Mtns.

Berg and Cobb, 1967 (B 1246), p. 93 -- Essentially a summary of C 328, p. 5-7.

(Montezuma Cr.)

Gold

Marshall district

Russian Mission (4.7-5.1, 15.85-15.9)  
approx.

MF-444, locs. 11-13

61°54'N, 161°24'-161°28'W

Summary: Tributary to Kako Cr. Mining reported 1924, 1929-36. See  
also (Kako Cr.).

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

Smith, 1932 (B 824), p. 41 -- Mining, 1929.

Smith, 1933 (B 836), p. 41 -- Mining, 1930.

Smith, 1933 (B 844-A), p. 40 -- Mining, 1931.

Smith, 1934 (B 857-A), p. 38 -- 2 men mining, 1932.

Smith, 1934 (B 864-A), p. 43 -- Mining, 1933. Men made better than  
wages.

Smith, 1936 (B 868-A), p. 43 -- Mining, 1934. 2 men made better than  
wages.

Smith, 1937 (B 880-A), p. 45 -- 2 men mining, 1935.

Smith, 1938 (B 897-A), p. 53 -- 2 men mining, 1936.

Cobb, 1973 (B 1374), p. 162 -- Has been mining.

(Ophir Cr.)

Gold

Aniak district

Russian Mission (17.55-18.25, 4.25-4.95)  
approx.

MF-444, loc. 16

61°14'-61°17'N, 159°51'-159°57'

Summary: Fine gold widely distributed. Prospecting, but no mining.

Maddren, 1915 (B 622), p. 332-336 -- Heads against Bear Cr. on W. flank of Mt. Hamilton. Bedrock is mafic fragmental volcanic rocks with interbedded shale and sandstone; intruded by granitic body and dikes. Hot spring on a major headwater tributary. Valley does not appear to have been glaciated. Fine colors found in 1901-02; serious prospecting did not begin until 1913. Most of ground not frozen. Scattered fine colors widely distributed on creek and in 2 left-limit tributaries. No mention of mining; only prospecting. Cobb, 1973 (B 1374), p. 42 -- Deposit less rich and less extensive than, but similar to, that at Nyac was mined or prospected.

(Spruce Cr.)

Gold

Aniak district  
MF-444, loc. 19

Russian Mission (18.4, 1.0) approx.  
61°03'N, 159°49'W

Summary: Tributary (3 mi. long) of Bear Cr. Upper mile cut in bedrock; rest in fill of Bear Cr. valley. Some of gold is coarse with attached quartz; probably derived from contact zone around granite body at head. Mining reported, 1914-15.

Maddren, 1915 (B 622), p. 311-312 -- Open-cut mining near mouth.

p. 321-327 -- Three-mile-long tributary of Bear Cr. Upper mile in bedrock (agglomerates, tuffs, interbedded sandstones and shales, granitic intrusives) basin; rest cut in fill of Bear Cr. valley. Some of gold is coarse with quartz attached; probably derived from contact zone around intrusive at head of creek. Mining in lower part of creek.

p. 330 -- Mining in lower part of creek, 1914.

Brooks, 1916 (B 642), p. 68 -- Mining, 1915.

Brooks, 1922 (B 722), p. 60 -- Report that hydraulic plant was being installed, 1920.

(Stuyak Cr.)

Gold (?)

Marshall district

Russian Mission (?)

NE 1/4 NW 1/4 quad. (?)

~~Summary~~: Placer ground reported; no other data. This is probably a garbled reference to Flat Cr. in the Stuyahok R. drainage in the Holy Cross quad.

Brooks, 1922 (B 722), p. 57 -- Development of new placer ground reported, 1920. Creek flows into Yukon about 8 mi. above Russian Mission.

(Tiny Gulch)

Gold

Aniak district  
MF-444, loc. 18

Russian Mission (17.8, 0.35) approx.  
61°01'N, 159°54'W

Summary: Small tributary of Bear Cr. Total production, 1909-14, probably did not exceed \$5,000 in value; all from 2 claims. See also: (Bear Cr.), Bering Alaska Placers.

Maddren, 1915 (B 622), p. 312 -- Has been mining [as of 1914].

p. 328-329 -- Most of gold mined from Bear Cr. area in 1909 (worth about \$3,500) was from Tiny Gulch. Total production from Tiny Gulch, 1909-14, probably did not exceed \$5,000; all from 2 claims.

Brooks, 1922 (B 722), p. 60 -- Report that hydraulic plant is being installed, 1920.



(Tuluksak R.)	Gold; Asbestos, Graphite
Aniak district	Russian Mission (17.45-17.5, 0.2-1.1) approx.
MF-444, loc. 17	61°00'-61°03'N, 159°56'-159°57'W

**Summary:** River flows across a granitic pluton and contact zones on both sides of it. Other bedrock is andesitic volcanics. Tuluksak R. and tributaries in Bethel and Russian Mission quads were mined by various methods from 1909 until the last dredge shut down after the 1964 season. Dredge brought up asbestos and graphite from bedrock. Lode gold prospect near contact between granitic and andesitic rocks; no other data on it. Includes early references to California Cr. See also (Tuluksak R.) Bethel quad.

- Brooks, 1909 (B 379), p. 58 -- Rich placers reported to have been discovered, 1908.
- Brooks, 1910 (B 442), p. 46 -- Mining, 1909.
- Maddren, 1910 (B 410), p. 63 -- Mining, 1908-09.
- Brooks, 1912 (B 520), p. 41 -- Mining, 1911; production reported to be worth about \$15,000.
- Maddren, 1915 (B 622), p. 331 -- Much granitic rock in basin; probable source of gold. [Reference is to California Cr.; probably applies to headwater part of Tuluksak R.]
- Smith, 1938 (B 897-A), p. 58 -- Prospecting and development preparatory to dredging, 1936.
- Smith, 1939 (B 910-A), p. 61 -- Prospecting, possibly preliminary to installing a dredge, 1937.
- Joesting, 1942 (TDM 1), p. 44 -- Asbestos and graphite dredged from bedrock.
- Hoare and Coonrad, 1959 (I-292) -- Lode gold prospect shown near contact between Tertiary granitic rocks and Cretaceous andesitic rocks. River crosses large granitic pluton and hornfels zones on both sides.
- Cobb, 1973 (B 1374), p. 42 -- Tuluksak R. and tributaries were mined from 1909 until last dredge was shut down at end of 1964 season.

(Willow Cr.)

Gold, Platinum, Silver

Marshall district  
MF-444, loc. 7

Russian Mission (0.75-0.85, 14.15-14.5)  
61°48'-61°50'N, 161°54'-161°55'W

**Summary:** Gold discovered, 1913-14, and mined until at least as recently as about 1959; major producing creek in area near Marshall. Gold contains minor amounts of silver. Magnetite, hematite, ilmenite, and a little platinum in concentrates. Bedrock is mafic volcanic and interbedded clastic rocks intruded by small bodies of granitic rock. Platinum probably derived from mafic rocks; gold from Arnold and similar lodes in altered volcanic rocks. See also Arnold.

Brooks, 1915 (B 622), p. 66 -- Gold discovered, winter of 1913-14.

Brooks, 1916 (B 642), p. 67 -- Placer mining, 1915.

Smith, 1917 (BMB 142), p. 26 -- Gold discovered, 1915. Prospecting and mining, 1915.

Smith, 1917 (BMB 153), p. 53 -- Rich placers developed, 1916. Gold produced was worth about \$250,000.

Brooks, 1918 (B 662), p. 59 -- Rich placers developed, 1916. Output for district rose from \$25,000 in 1915 to \$320,000 in 1916.

Harrington, 1918 (B 662), p. 343-345 -- Preliminary to B 683.

Harrington, 1918 (B 683), p. 56-57 -- Gold discovered, 1914; mining began, 1914.

p. 60-62 -- Only west fork is mined. Bedrock greenstone; 6-16 ft. deep. Gold coarse; assay said to have given value of \$18.30 an ounce. Much of gold on clay false bedrock about 2 ft. above true bedrock. Concentrates contain magnetite, ilmenite, hematite; a few grains of platinum said to have been found. Mining, 1915-17.

Martin, 1919 (B 692), p. 39 -- Mining, 1917.

Brooks, 1922 (B 722), p. 57 -- Mining, 1920; source of most of gold in district. Placers reported to be 2-3 ft. deep; recovery \$4 to \$6 a cu. yd.

Brooks, 1923 (B 739), p. 40 -- Richest deposits have been mined out.

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

Smith, 1929 (B 797), p. 24 -- Small production, 1926.

Smith, 1930 (B 810), p. 30 -- Mining, 1927.

Smith, 1930 (B 813), p. 35 -- Mining, 1928.

Smith, 1932 (B 824), p. 40-41 -- Mining, 1929. Large boulders interfere with mining.

Smith, 1933 (B 836), p. 41 -- Mining, 1930.

Smith, 1933 (B 844-A), p. 40 -- One man prospecting in area, 1931.

Smith, 1934 (B 857-A), p. 38 -- 2 prospectors in area, 1932.

Smith, 1934 (B 864-A), p. 43 -- One prospector in area, 1933.

Smith, 1936 (B 868-A), p. 43 -- 3 camps in area had a good season, 1934.

Smith, 1937 (B 880-A), p. 45 -- Mining, 1935; major producer in area.

Smith, 1938 (B 897-A), p. 53 -- Mining, 1936.

Smith, 1939 (B 910-A), p. 54 -- Mining, 1937; major producer in area.

Smith, 1939 (B 917-A), p. 52 -- Mining, 1938.

Smith, 1941 (B 926-A), p. 46 -- Mining, 1939.

(Willow Cr.) - Continued

Joesting, 1942 (TDM 1), p. 20 -- Platinum in placers.

Smith, 1942 (B 933-A), p. 44 -- Mining, 1940.

West, 1954 (C 328), p. 8 -- Minor amounts of platinum in concentrates.  
Placer gold mining, 1952.

Hoare and Coonrad, 1959 (I-292) -- Placer gold that contains minor amounts of silver being mined [as of about 1959]. A small amount of platinum is associated with the gold. Bedrock is mafic volcanic rocks and interbedded clastic rocks of the Carboniferous(?) to Cretaceous Gemuk Group and, near the head of the creek, small bodies of Tertiary granitic rocks.

Koschmann and Bergendahl, 1968 (P 610), p. 29 -- Placers discovered; production began in 1914.

Cobb, 1973 (B 1374), p. 161-162 -- Mining for many years. Platinum recovered.

(Wilson Cr.)

Gold, Platinum

Marshall district  
MF-444, loc. 8

Russian Mission (0.9-1.0, 15.4) approx.  
61°52'N, 161°53'W

**Summary:** Mafic volcanic and interbedded clastic rocks; small granitic bodies in areas drained by some tributaries. Gold discovered, 1913. Placer mining reported, 1914-16, 1938, and probably carried on in other years. Concentrates contain gold, hematite, magnetite, and a little platinum, which was probably derived from mafic rocks. Gold probably derived from quartz-calcite veins similar to Arnold lode (across divide to south). See also: (Disappointment Cr.), (Elephant Cr.).

Brooks, 1915 (B 622), p. 65-66 -- Bedrock reported to be schists, greenstones, and intrusive rhyolite dikes. At mouth of Disappointment Cr. depth to bedrock is 3-12 ft.; increases rapidly downstream. Gold discovered, July, 1913. Creek and bench placers found. Open-cut mining, 1914.

Brooks, 1916 (B 642), p. 67 -- Mining, 1915.

Smith, 1917 (BMB 142), p. 26 -- Mining, 1915.

Harrington, 1918 (B 662), p. 342-343 -- Preliminary to B 683.

Harrington, 1918 (B 683), p. 56-57 -- Gold discovered, 1913. Mining, 1914-16.

p. 59-60 -- Mining at mouth of Disappointment Cr. Concentrates contain hematite, magnetite, and a little platinum. Bedrock sedimentary; slate and conglomerate exposed in creek bank; cut by dikes.

Smith, 1939 (B 917-A), p. 52 -- Mining, 1938.

Joesting, 1942 (TDM 1), p. 20 -- Platinum in placers.

West, 1954 (C 328), p. 8 -- Has been placer gold mining. Minor amounts of platinum in concentrates.

Hoare and Coonrad, 1959 (I-292) -- Small amount of platinum accompanies the placer gold. Bedrock is mafic volcanic and interbedded clastic rocks of the Carboniferous(?) to Cretaceous Gemuk Group; small Tertiary granitic bodies in areas drained by some of tributaries.

Koschmann and Bergendahl, 1968 (P 610), p. 29 -- Gold discovered, 1913.

Cobb, 1973 (B 1374), p. 161-162 -- Gold discovered, 1913. Small amounts of platinum, probably derived from greenstone, recovered with gold.

### Synonyms, Claim Names, Operators, and Owners

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

Andersen Bros. -- see (Canyon Cr.)  
Camp Robber -- see (Marvel Cr.)  
Corrigal -- see (Arsenic Cr.), (Rainy Cr.)  
Dahl & Wilson -- see (Marvel Cr.)  
Davidson -- see (Cripple Cr.)

Eek River Mining Co. -- see (Rainy Cr.)  
Garrison Co. -- see (Granite Cr.)  
Hess -- see (Marvel Cr.)  
Hornet -- see (Marvel Cr.)  
Jones -- see (Rainy Cr.)

Koamme & Co. -- see (Canyon Cr.)  
Kvanme & Anderson -- see (Canyon Cr.)  
Kvanme & Co. -- see (Canyon Cr.)  
Marvel Creek Mining (& Development) Co. -- see (Marvel Cr.)  
McCann -- see (Arsenic Cr.)

Oman -- see Golden Butte Mines (Inc).  
Peck & Rice -- see (Cripple Cr.)  
Pioneer -- see (Marvel Cr.)  
Ready Money -- see (Marvel Cr.)  
(Rigugalik R.) -- see (Riglagalik R.)

Wild Horse -- see (Marvel Cr.)  
Wilson -- see (Marvel Cr.)  
Yellow Jacket -- see (Marvel Cr.)

(Aloric R.) -- see (Arolik R.)  
(Arolic R.) -- see (Arolik R.)  
(Atmugiak Cr.) -- see (Kagati Lake)  
Bethel Exploration Co. -- see (Kagati Lake)  
Bradford and associates -- see (Arolik R.)

Bristol Bay Mining Co. -- see (Wattamuse Cr.)  
(Chowchow Cr.) -- see (Kowkow Cr.)  
(Cow Cow Cr.) -- see (Kowkow Cr.)  
Discovery Mining Co. -- see (Wattamuse Cr.)  
Geiger -- see (Kagati Lake)

Goodnews Bay Mining Co. -- see (Arolik R.), (bear Cr.), (Butte Cr.), (Snow  
Gulch)

Huff -- see (Butte Cr.)  
Jackson & Long -- see (Kagati Lake)  
Jones -- see (Rainy Cr.)  
Kow Kow Mining Co. -- see (Kowkow Cr.)

Mosness -- see (Snow Gulch)  
(Mt. Oratia) -- see (Kagati Lake)  
Pioneer Gold Dredging Co. -- see (Arolik R.)  
Sunshine Mining Co. -- see (Kagati Lake)  
(Wahmus Cr.) -- see (Wattamuse Cr.)

(Watermouse Cr.) -- see (Wattamuse Cr.)  
(Watermuse Cr.) -- see (Wattamuse Cr.)

Bettles -- see (Cobalt Cr.)  
Bumblebee -- see (Willow Cr.)  
February -- see (Cobalt Cr.)  
Johnson & Ostnes -- see (Willow Cr.)  
(Kato Cr.) -- see (Kako Cr.)

Konechney -- see (Mission Cr.)  
Marsh -- see (Tuluksak R.)  
New York-Alaska Gold Dredging Co. -- see (Bear Cr.), (Tuluksak R.)  
(Owhat R.) -- see (Black Mtn.), Brink  
Plunkett -- see Arnold

Rhode & Edgar -- see (Wilson Cr.)  
(Russian Mts.) -- see (Cobalt Cr.), (Mission Cr.)  
Wilson Creek Mining Co. -- see (Disappointment Cr.), (Elephant Cr.),  
(Wilson Cr.)  
Yukon Mining Co. -- see (Bobtail Cr.)



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

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