



The Blue Ribbon Mine Alaska

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Abstract: This informal article will briefly cover the history, and a little geology describing the mineral deposits, of the Blue Ribbon Mine. The Potato Patch area of the mine is an historic past producer of gold, and other minerals such as tin, platinum group elements, radioactive minerals, gemstones, rare earth elements, and other minerals have been recovered. The mine is currently active within an upland mining lease, and 2 state claims.

For details regarding history, geology, and other subjects, see documents on <https://blueribbonmine.com> or request them.



Fig. 1: Area Location Map. Access is via the Parks Highway then onto the [Petersville Road](#). There is a landing strip on Willow Creek, see U.S.G.S. Talkeetna C-2 map, and places suitable for helicopter operations at the mine. In 2018 the State rebuilt the bridge over Peters Creek 4 miles from the mine, and upgraded the Petersville road. The author upgraded the roads to and around the mine site while conducting exploration in July-September 2018. We plan to construct a new landing strip on our properties.

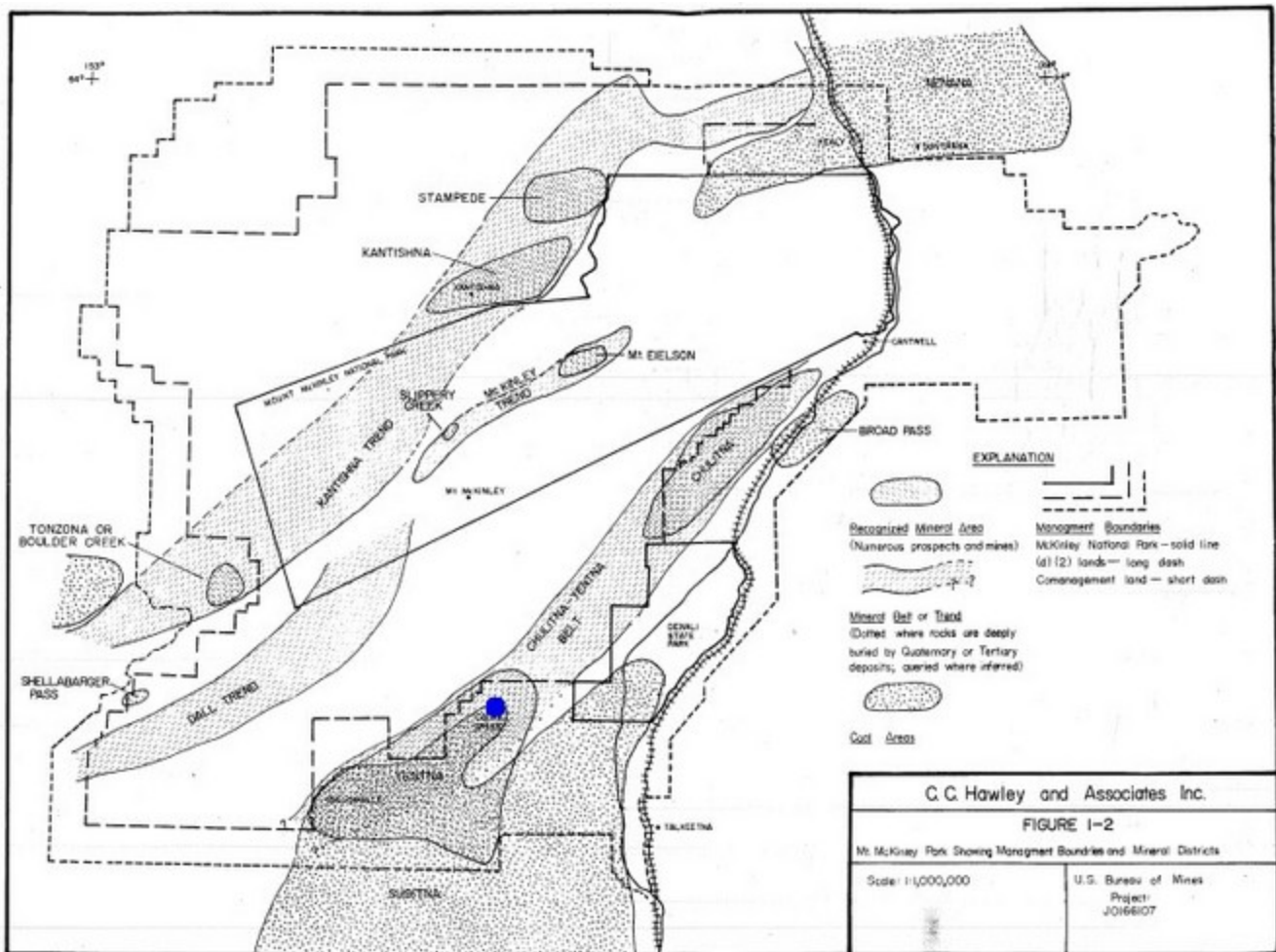


Figure 1-2 Mineral Districts. The Blue Ribbon Mine is in the northern Yentna Mining District, and bordering on the Valdez Creek Mining District. Labeled "Cache Creek", shown as a blue dot. C.C. Hawley and Associates, Inc.

Geography and Environment: Located in the transition zone between Maritime and Continental climatic zones. The topography is dominated by the high, spectacularly glaciated Alaska Range, which forms a northeast-trending arc of mountains in this part of Alaska.

North America's tallest mountain Denali, lies approximately 30 miles to the northwest. South-central Alaska Range foothills, of low vertical relief (1600' - 6500' above sea level), is the primary topography within the property, which is located on the eastern flank of the Dutch Hills.

The Dutch Hills is a group of rounded hills about fifteen miles long with the long axis trending southwest-northeast. To the southwest of the Dutch Hills lies the valley of the Kahiltna River, tributary of the Yentna; to the northeast lies the valley of the Tokositna Glacier and River, tributary of the Chulitna. The Alaska Range lies to the north and to the west of the Dutch Hills. To the east, a broad

depression, probably of glacial origin, separates the Dutch Hills from the Peters Hills.

The Peters Hills Lineament and Dutch Hills Lineaments (Clark and Hawley, USGS 1968) are major faults, and are consistent with the areas' typical NE strike, and are steeply dipping. These faults have played a large role in controlling the emplacement of igneous bodies and apparently the subsequent formation of placer deposits.

Precipitation is relatively high, (average annual rainfall is 30" and average mean annual snowfall is about 130") due to the barrier created by the Alaska Range. Temperature ranges from +80F in the summer to -20F in winter. The region is protected from the harsh continental extremes of the Interior by the Alaska Range. Vegetation is primarily sub-alpine brush or mosses, and a few stunted trees are widely scattered about.

Some animals, such as Moose, Black and Grizzly Bears, Wolves, Beavers, small mammals, birds, and others call this area home. Existing environmental baseline data are incomplete at this time.

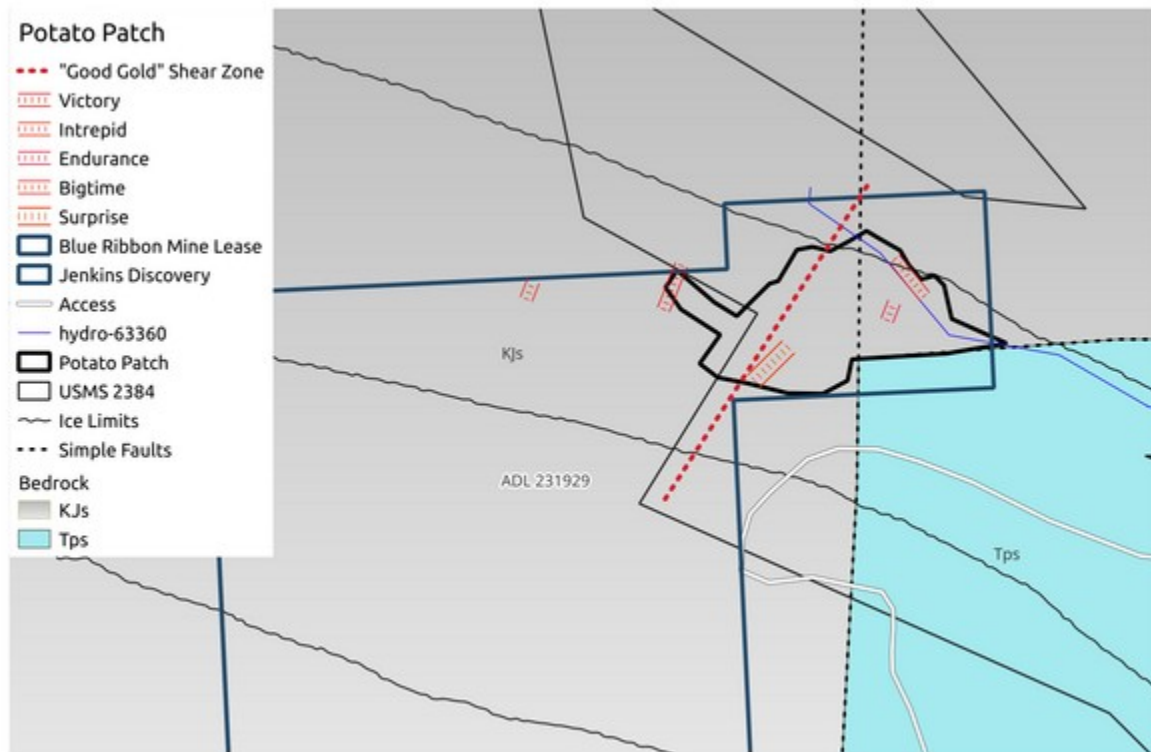


Fig. 2: Known Gold-Bearing Lodes (red ladders) described below, working pit, ponds and other infrastructure, and other features, Northeast Blue Ribbon Mine. The Surprise Vein returned an assay of 37.5/oz Gold/Ton, an anomalous high value.

Ditches from previous mining operations on the properties are generally in very fine condition and could be put into service either to divert water away, or to, the mining operations. The ditches could also supply water for a hydro-power plant, and for camp use.

History and Past Production: Gold was reported by the USGS in this drainage in 1898, (also known separately as the Yentna District or Cache Creek District, and recently, the “Petersville” district) of the upper Susitna Valley, and the first reported mining in what was to become The Blue Ribbon Mine took place in 1906 concurrent with claim-staking. About 200,000 oz (12,000 lb; 5,700 kg) of gold has been produced from the placer deposits of the district. (A.L. Clark, 1973).

Except for some stretches when no known significant mining took place, some gold has been recovered every year since. The total amount recovered is unknown, but between 1500 and 1800 ounces have been reported from The Potato Patch. At least as much as has been reported, and probably more, remain, according to a report by Clark and Hawley, USGS, 1968. Some under-reporting is expected.

Numerous lode and placer claims were staked and worked at various times in the past under Federal Laws before the lands became state property, and after. There are some signs and local knowledge that some work was done on the lodes and placers, but almost all evidence in the field has long since been reclaimed by nature and the years, as is the case with much of the written documentation, with the exception of The Potato Patch.

However, in the Alder thickets one can find evidence such as hand-stacked tailings and rusty metal. In a crack in the country rock I found a jar of Vaseline and some nails. Another time I found a baby food jar with a rusted-out lid containing several ounces of gold. I have also found evidence of 8 camps around the mine.

Some references state that the previous owner, Frank Jenkins, would return with large pieces of gold- quartz material after 2 days away from camp. The source of his gold-quartz is unknown, but there are clues in old reports and recent discoveries, and is an incentive for a detailed lode and residual placer exploration program.

By 1927, a road from Talkeetna was constructed into the mining area, known today as The Petersville Road. The mining camp of Petersville served as the area Post Office for several years. The Petersville post office was located here from 1936 to 1939 (Ricks, 1965, p. 51).

One area has been set aside for recreational gold mining, known as the [Petersville Recreational Mining Area](#). Many small-to-medium scale and family placer mining operations continue today in the District.

Three placer operations were being conducted on Willow Creek and two of its headwater tributaries, Gopher and Ruby Gulch, by 1917 under then-owner Frank Jenkins. This is the area of the Potato Patch section of the Blue Ribbon Mine and

the adjacent claims. About 2000 ounces were reported produced from Little Willow Creek, which drains the Gopher Mountain/Blue Ribbon Mine area, in the mid- 1930's. About 5,000 ounces was reported from the Willow Creek Canyon prior to 1940.

Hydraulicking, Cat and hand-mining operations continued yearly under then-owners Frank and Helena Jenkins, until September of 1939, when they and 2 other persons were murdered near the mine. About 500 ounces of gold had been found in their cabin on Little Willow Creek below The Potato Patch, but the rest of the gold from that year's mining season, and perhaps previous seasons, is apparently stashed away or was recovered by persons unknown and never reported. The murderer(s) have never been caught. More information about this subject can be found in "The Mystery of the Cache Creek Murders" by Roberta Sheldon.

The area was actively prospected and mined before WWII. Essentially no new serious exploration work was done from the early 1940s' due to the war, until 1972 (except for Clark and Hawley, USGS 1968), (See also A.L. Renshaw, P.E., 1973), when the price of gold started to move up. A number of exploration and mining programs of varying detail have resulted in many reports, both Government and private, being created since then, and new data are being generated from recent surveys conducted by the Alaska Division of Geological and Geophysical Surveys, other agencies and individuals, and this author.

In the interest of national defense, the War Production Board, in 1942, issued its Limitation Order L- 208 ordering nonessential gold mines to close down. After WWII when the Order was lifted, many mines did not operate because it was not economical to do so until the 1970's.

The following excerpt is from a report written in 1973 by A.L. Renshaw, P.E. "By ditching water around Gopher Mountain from Judy [Jody] Gulch, [Frank] Jenkins , the prior owner, was able to sluice some of the surface gravels above Gopher Creek and along its northerly tributaries. " "Took one small pan of decomposed bedrock-counted over 70 very small colors".

An old report states that Jenkins recovered \$32,000 worth of gold from decomposed bedrock in one three-acre area, the present-day Potato Patch, when gold was selling for \$18 per ounce, about 1,700 ounces.

Type of Exploration and Mining Deposit Targets: Placer gravel deposits, ranging from unmined bench deposits and residual deposits to tailings containing economic quantities of recoverable metals, and stream deposits; Age of economic deposits range from Tertiary to present-day. Some areas include gold-bearing quartz veins, and residual materials that require additional mapping and sampling, see map above.

The pay gravel is composed of well-rounded to sub-angular materials from silt to rare large (> 3' diameter) boulders. Some clay is found in some placer gravels and in the White Quartz conglomerate, and some areas are composed of highly weathered bedrock containing quartz and gold. These all present excellent targets for further exploration and profitable mining development.

While placer and lode gold is the primary target, other minerals have been recovered such as Rare Earth Elements, Cassiterite, the only ore of Tin, Platinum, Lead, and others. Common, though not abundant, heavy minerals include zircon and tourmaline. The total black sands in the sluiceway is relatively low compared to other mines in the District.

Depth of overburden ranges from 0-+5', with bedrock exposures common around the mine area. Overburden consists of vegetative materials, soil, clay, sand, silt, and tailings primarily composed of large rocks from previous operations, piled on pay ground. These would easily be removed to allow mining of the virgin ground beneath.



Fig. 3 View of The Potato Patch, showing contact, old mining pit, overburden, and cut in quartz veins.

Bedrock consists of folded, faulted, fractured and weathered marine sedimentary rocks such as Slate, Argillite and Graywacke, and Tertiary Conglomerate, as well as an Argillite sequence that has been weathered in some areas to an orange-blue clay. Areas of iron-staining indicates a layer upon which the rusty gold rests.

"...Mertie (1919, p. 257-260, p. 261-262) stated specifically that the gold and cassiterite in Poorman, Willow, Long, and Canyon Creeks were largely derived from visibly mineralized rocks of their drainage areas.

Prospecting done since the visits of Capps (1913) and Mertie has resulted in the discovery of additional lode sources." "Gold-bearing lodes in the Yentna district, which have not been as well described, include small and locally very rich deposits associated with felsic dikes and apparently low-grade deposits in major shear and altered zones." Assays exceeding 1 ounce of gold per ton have been obtained from three of these areas, and selected quartz-arsenopyrite vein material from one prospect assayed about 200 ounces of gold per ton.

"In the Yentna district, the variety of placer deposits, together with the difficulty of finding bench or buried channel-type deposits¹ in extensively alluviated terrain, suggests that undiscovered deposits exist in the area. Some of the small

1 See "Shallow Buried Placers and lodes Yentna District" by this author <https://img1.wsimg.com/blobby/go/54bc6986-696a-440c-831d-2f7b50ca5ce0/downloads/buried-placers-lodes-v2.pdf?ver=1679442539332>

vein deposits of the Yentna district are locally rich enough in gold and tungsten to be exploited profitably if mined on a small scale". (USGS, Clark and Hawley, 1972).



Image 1: Hand-stacked tailings and worked mining trench in gold-bearing Argillite, Potato Patch/Blue Ribbon Mine. Fieldbook is for scale. Bedrock, primarily Argillite is visible on the right. Free gold can be panned from this area. Large rocks are primarily Graywacke rolled down the mountain and thrown out of the pit and sluice.

Recovered gold is bright and angular, meaning it's close to the source and has not been reworked by fluvial placer actions. Previous miners piled tailings on pay, because they were seeking only coarse gold and were doing very well. These areas represent a significant rework potential, sites for immediate production and additional virgin ground to be discovered by the exploration and mining operations.

Above this location are the newly-discovered gold-bearing quartz veins including the Victory and Intrepid veins on the property, map Fig. 2 above.



Image 2: “Hand Stacked” tailings piled on pay ground. Note the abundant large angular quartz vein chunks (rock hammer is for scale, ~ 14”), on Argillite bedrock. Some of these piles, which are common around the mine, indicate the former locations of sluiceboxes and worked areas. Settling pond below the Trommel in upper left.

One old report mentions a 12 foot wide hard quartz vein at the mine. This is a clue for an exploration plan.

Some of those rocks are a plague to metal detectors: Hornfels. They are an abundant “Hot Rock”, and are the possible source of the Platinum Group metals found in some samples, and in streams draining Gopher Mountain. They may also contain gold. Hornfels is a metamorphic rock formed by the contact between mudstone / shale, or other clay-rich rock, and a hot igneous body, and represents a heat-altered equivalent of the original rock. This process is termed contact metamorphism. The Hornfels rocks found at the mine have been rendered exceedingly tough and durable.



Image 3: Gold-Bearing Quartz Veins, Endurance on the previous map Fig. 2 above. Upper Gopher Gulch, Potato Patch/Blue Ribbon Mine. Rock hammer is for scale. Free gold can be panned from this outcrop and from crushed samples, visible gold in quartz. Near vertical dip, strike NE; deposit is open to depth and length along strike.



Image 4: Gold-bearing quartz veins, Big Time Vein System. Rock hammer is for scale. Free gold can be recovered from this, open along strike and depth.



Image 5: Exploration trench on the Surprise Vein System discovered by this author, Potato Patch. Free gold can be panned or tabled from this outcrop and from crushed quartz vein material. Fieldbook is for scale. This is a significant lode exploration and development target, and is road accessible. Open to depth along strike. 1 assay returned a value of 37.5 oz/T gold.

The White Quartz Conglomerate: “The approximate source for most of the Peters Creek gold is in Tertiary deposits, essentially residual in character. The base of the Tertiary section crosses the head of Peters, Willow, Poorman, Divide, and Canyon Creeks. The base is locally a white quartz conglomerate (see image below) containing angular gold.

One such occurrence is plastered on weathered quartz-veined argillite in the NE 1/4 section 25, T29N, R9W in what is known as the Gopher, Sidehill, or Jennings [Jenkins] cut, where about 1500 ounces were mined from residual material in a 320 by 660 foot cut”. This is the present-day Potato Patch. From C. C. Hawley and Associates, 1978 USBM OFR 24-78.

The white quartz conglomerates form important paystreaks in the district, and have been traced in Dollar, Thunder, Willow, and Bunco Creeks. They have been described variously; however, according to Capps (1925, p. 54), the white quartz conglomerate is the basal unit of the Kenai Formation. Capps interpreted the conglomerate as follows:

“The lower portion of the Eocene beds, in places having a thickness of 60 feet, consists primarily of subangular or partly rounded fragments of quartz, with some imperfectly rounded graywacke fragments, and a smaller amount of well-rounded pebbles of quartz and graywacke. The pebble-sand fragments are embedded in a bluish-white clayey matrix that is itself composed largely of broken vein quartz and siliceous clay. This quartzose stratum is gold bearing throughout, though there is a main concentration.”

Three features of the white quartz conglomerate generally agreed on by all observers are noteworthy:

1. Fragments are generally angular to subangular.
2. Matrix is primarily clay and very fine grained quartz, and
3. The white quartz conglomerate is overlain, probably disconformably, by sediments more typical of the Kenai Formation.

The first two features indicate that the white quartz conglomerates are not typical fluvial sediments. Any extensive reworking of the white quartz conglomerate would have rounded the pebbles and destroyed the clay matrix. Therefore, the white quartz conglomerate is very near its source.



Image 6: Gold-Bearing White Quartz Conglomerate placer deposit described above, The Potato Patch. Pan and rock hammer are for scale. Fine material only contains fine gold; coarse material contains coarse and fine gold. This material is very fine to very coarse. This is a target for a large-scale long-term placer mine. Free gold can be recovered from this formation, and according to some old reports (that refer to it variously as The White Channel, The Old Channel, or The High Channel), contain values of up to 1 oz/gold per yard.

A one ounce gold nugget with quartz was found laying on the surface. This formation also contains coproduct recovery minerals such as Rare Earth Elements.

Depth and extent of this economic deposit is unknown, but surface exposures created from previous mining operations indicate a large tonnage deposit.

Placer gold characteristics (See Image Below). Characteristics of gold from the placers indicate that the gold is associated with faulting, veining, and igneous intrusives, and that the gold is very near its source. The following characteristics have been noted:

1. Most of the gold is coarse and angular to subangular, and crystalline particles and wire gold are common. Some coarse gold grains are subrounded. Shapes of grains suggest that the gold has not been extensively reworked.
2. Much of the gold is slickensided. Many samples show oxidized slickensided surfaces that cannot be attributed to the placer operations. The close association

of the placers with known faults, the small amount of reworking, and the large number of slickensided particles strongly suggest that the slickensided gold is genetically connected with faulting in the area.

3. Detailed studies of the fineness (purity) of gold in the area (Smith, 1941, p. 175-176), showed that the gold is very uniform, averaging 865 fine. Since Fisher (1945) has demonstrated that the fineness of gold increases with increasing distance from the source, the uniform fineness of the gold in this area strongly suggests that the placer gold is near its' source. The uniform fineness also indicates a common source or type of source (Fisher, 1956).

4. Some fragments of placer gold have cassiterite, (the only ore of Tin) included, indicating that the gold has not moved far and has not been reworked. Cassiterite is also common in the heavy sand concentrates, and this association suggests the source rock is high in tin. Only the intrusives in the area are high in tin. From U.S. Geological Survey Open-File report #68-1, Clark and Hawley.



Image 7: Typical Potato Patch Gold, larger piece is over one ounce with quartz, with a 1/2 and 3/4 ounce and smaller nuggets of residual placer gold found by the author during exploration operations.

Conclusion: "The region is, when compared with most other terrains or areas, strongly mineralized, and if it existed in a more accessible or climatically hospitable region, would certainly have had much more extensive mineral production, and the mineral potential remains factual, needing mostly human desires and ingenuity for it to be realized. All studies suggests a potential for new additional placer and lode deposits in the district. " From Clark and Hawley U.S.G.S. PP 758-A.

A comprehensive exploration, development, mining and reclamation plan has been prepared for this project, and an exploration program will take place this season.