PE-119-15

PRELIMINARY REPORT ON LUCKY NELL GROUP OF CLAIMS (Gervais Property) TWELVE MILE ARM PRINCE OF WALES ISLAND, ALASKA

By J. C. Roehm
Associate Mining Engineer
June 7, 1938

Location and Accessibility

The Lucky Nell group of four claims is located on the divide between the heads of Harris and May-Be-So Creeks, 7 1/8 miles northwest of Hollis on Prince of Wales Island. The group extends in a northeast-southwest direction for a distance of 6,000 feet. A partly improved road begins on the beach at the mouth of May-Be-So Creek and a section 4 miles in length has sufficient width, and new log bridges that are suitable for caterpillar. Thence the remaining distance is a brushed trail without bridges from 500 feet elevation over the divide of Harris and May-Be-So Creeks to the showings. An additional expenditure of $3,000 to $5,000 is required to complete this trail to make a caterpillar road to the lower showings. With the completion of the road this property would be made very accessible since it would be open to salt water transportation.

Owner

The owner of these four unpatented claims is G. W. Gervais of Ketchikan, Alaska.

History

The discovery on this group of claims was made in 1900 by G. W. Gervais and Wm. Crowell. Five claims; namely, Flora, Nellie, Commander, Summit and Red Jacket, were staked and called the Commander group. The first report of this group is contained in Professional Paper No. 1 of the U.S.G.S. by A. H. Brooks, pp 92-93. A 50-foot tunnel was reported on the Flora claim and a 30-foot tunnel on the Nellie claim.

According to the present owner the group was optioned in 1902 to an English syndicate, and a small amount of development was accomplished.

Development work was apparently carried on by the owners, as U.S.G.S. Bulletin 259, "Mineral Resources of Alaska, 1904", by Wright Bros., p 66, mentions various tunnels. Alaskan Mineral Resources Bulletin 284, p 42, mentions 500 feet of work done in two tunnels

of the Flora and Nellie group. Wm. Crowell sold his interest to a Mr. Brown of New York in 1902. From 1902 to 1910, five tunnels were driven on this group. In 1905 Brown shipped 6 tons of ore to the Tacoma Smelter and is reported to have received returns of $46.75 per ton. In 1907 the claims were dropped and were relocated in 1908 by Gervais who has held them since. In 1912 Gervais shipped 32 tons of ore to Tacoma and reported that he received returns of $24.63 per ton. In 1932 the property was optioned to Don Meldrum of Portland, Oregon. Meldrum was associated with large pulp and paper interests and his plan is said to have been to utilize the timber found in May-Be-So Creek Valley for pulp and develop the mine at the same time. The following year the property was dropped.

Col. E. J. Ryan is reported to have optioned the property in 1934 for the Alaska British Columbia Gold Mines. An examination was made and assessment work for one year was done by this company and then dropped. In 1936 Mr. Tillie of Spokane optioned the property which was said to have been cancelled in 1938. Under Mr. Tillie the property was examined and sampled by J. Herdlick and some drifting by hand methods was done in the lower No. 5 tunnel.

Geology

The formation noted within the claim lines consists of a diorite porphyrite*. This intrusive mass extends in a northeast-southwest direction and probably represents a later phase of the Granite Mountain quartz diorite. Located on the Flora and Nellie claims is a fault fissure vein which strikes N 68° E and dips 60° SE. This vein can be traced by tunnels and outcrops for a distance of 2,000 feet between elevations of 1300 to 2000 feet. The strike of the vein parallels the general strike of the diorite porphyrite. Movement along this fault fissure is very evident from grooves and striations noted on the hanging wall. These indicate a thrust movement of the footwall wall of 20° off horizontal from the northeast. The gouge was noticed on the footwall of the vein in respect to the quartz lenses which were formed during the thrust movements. Movement both prior to and after the forming of the quartz ore lenses is in evidence. Other showings were reported to the northeast on the Summit and Red Jacket claims. There has not been any recent work on these showings and due to the amount of remaining snow they were not located.

*USGS Bull. 347, "Ketchikan and Wrangell Mining Districts, Alaska" by F.E. and C.W. Wright, p 162

Development

Five tunnels driven on the same vein between elevations of 1300 and 1920 feet, aggregating a total of 826 feet of underground development, constitutes the total workings on the Flora and Nellie claims. Of this amount 740 feet consists of drift, 62 feet of raise between tunnels Nos. 3 and 4, and 24 feet of winze in No. 4 tunnel. All are accessible, in good order and are on the vein.

No. 1 tunnel is located along a steep bluff on the east side of a small creek at an elevation of 1920 feet. Its length is 72 feet, along which 30 feet of a quartz lens is exposed which averages 3 feet in width. This is a portion of No. 1 lens. Sample No. 411 was taken across 21 inches of quartz, 15 feet in from the portal. This gave results of 0.16 ounces of gold and 0.2 ounces of silver per ton. On the surface above No. 1 tunnel and the No. 1 lens is exposed for over 100 feet and averages 21 inches in width of quartz.

No. 2 tunnel is located below No. 1 tunnel along the cliff at an elevation of 1780 feet. Its length is 63 feet and follows No. 2 lens which averages 18 inches in width over its entire length. This lens contains massive bands of galena and pyrite.

No. 3 tunnel is located 700 feet southwest of No. 2 along a small creek at an elevation of 1475 feet. Exposed at the portal and across the creek bed for a distance of 50 feet is No. 3 quartz lens. The vein outcrop has a width of 3 feet, contains a well banded quartz with massive bands of pyrite and galena. Included in the banded vein are streaks of graphitic schist. While this type of material is lacking in the porphyrite, its souce has apparently been from slates either above or below. The highest values appear to be associated with these graphitic bands. The total exposed length of this lens is 75 feet and it terminates in the 105-foot tunnel, 25 feet in from the portal. The quartz lenses appear to rake along the direction of movement or 20° off vertical to the northeast, as this lens is again exposed in the raise below No. 3 tunnel and again along the drift in No. 4 tunnel. Sample 413 was taken at the portal of No. 3 tunnel across the 3-foot vein width. This gave returns of 1.58 ounces of gold and 9.10 ounces of silver to the ton.

No. 4 tunnel is below No. 3 tunnel and connected with a 62-foot raise at an elevation of 1425 feet. This tunnel has a length of 475 feet. It follows the vein for nearly 400 feet.

Along this length a section 288 feet long was reported from channel sampling to contain ore values. The No. 3 quartz lens exposed at the portal of No. 3 tunnel appears to have a greater length at this depth. Located below the connecting raise (note Plate No. 2) a winze was reported sunk to a depth of 24 feet on the vein. This winze contained water and was not accessible. A width of 40 inches of ore was reported at the bottom. In the east end of this tunnel the vein pinches to a small gouge with strong walls. Sample 414 was taken across 20 in. of banded quartz 10 feet above the drift in the raise. Returns of 0.65 ounces of gold and 3.2 ounces of silver were received.

Tunnel No. 5 is located 400 feet southwest of tunnel No. 4 at an elevation of 1330 feet. This tunnel has a length of 25 feet and shows two small quartz veinlets paralleling the walls of the fault fissure. In the 60-foot cut of the tunnel approach these veins unite forming a 6 to 8 inch quartz vein with small bands of pyrite and galena. Sample No. 410 was taken across 3'6" at the face of this tunnel and gave returns of 0.06 ounces gold and 0.4 ounces silver per ton.

Mineralization

The metallic minerals noted in this ore are in order of abundance: pyrite, galena, sphalerite and chalcopyrite. These contain the corresponding gold and silver. The ratio of these sulphides to the white quartz gangue is 4 to 1. Besides quartz, green chlorite and some calcite minerals were noted. The greatest concentrations of sulphides are in the widest portions of the quartz lenses, where they occur as massive bands. These bands carry the highest gold and silver values. The small amount of free gold contained in the ore, with the high ratio of sulphides, entails a higher milling cost which has apparently been one of the factors that has retarded the development of this property.

Developed Ore

J. Herdlick, engineer for Mr. Tillie, is reported to have estimated, as a result of channel sampling, a block of positive ore amounting to $53,400 between No. 3 and No. 4 tunnels. It is believed that further ore could easily be developed into positive ore.

Timber and Water Power

There is sufficient water for milling on the property from the small mountain streams, but water power is lacking. There is abundant timber in both the May-Be-So and Harris Creek Valleys.

The following plates show surface outcroppings, underground workings, and positions with results of all samples taken.

NOTES ON DEVELOPMENT OPERATIONS OF LUCKY NELL MINING COMPANY
In Ketchikan Precinct, Alaska
by J. C. Roehm,
Associate Mining Engineer

August 5, 1947

The Lucky Nell Mining Company has nine men employed who are all at present engaged in road building. This road has been under construction for the last three years. The road is now extended to the old Gervais camp site on top of the divide at an elevation of 1500 feet and a distance of over seven miles. There are 23 log bridges over small ravines and streams. The condition of the road renders it passable to caterpillars only during dry periods. The camp site is being prepared for camp buildings. The plans call for constructing a sawmill and afterward a camp, completion of the road another half a mile to the mill site below the lower adit, and then the start of underground development.

The operation is now under the direction of H. M. Fowler, who came from the Missouri School of Mines.

The first mile of road is in good condition, since it is located in the lower May-Be-So River flats and has a gravel base. Theother six miles is narrow and follows the old right-of-way cut several years ago by Geo. Gervais. An attempt has been made to put the heavy mill and mining machinery over the road. As a result it has been cut up by caterpillar into a state to where it is next to impassable. The result has been that the machinery is scattered from the beach along the road for five miles. This machinery consists of a ball mill of undetermined make, and an estimated capacity of 25 to 30 tons, a jaw crusher, secondary crushing rolls, rake classifier, tables, gas engines, diesel motor and generating unit, several motors, a sawmill unit and other equipment. Several of these units remain in mud holes along the road, and as a result are subject to rapid deterioration. The soft mud and poor drainage contion of the road bed makes it doubtful if the machinery gets moved this season.

The company intends to ask the Territory for additional funds for road building. The plan is to cut and saw timber sufficient to build a plank road. This plan calls for considerable time and money. In fact, the cost to complete the road with this plan is greater

than the amount of developed ore. (Note former report of the Lucky Nell Mine by the writer). The writer further suggests that before any additional road money is advanced that a personal letter be addressed to Mr. Fowler for his impressions and plans for the company. He gave the impression as being of good character and ability and his deduction would be important in this matter.

The Northland Steamship Company has offered to haul concentrates from Hollis to Tacoma for five dollars per ton in lots of 50 tons or more. A pyrite, lead and zinc separation will have to be made from this ore in order to realize the full value. To date this separation has not been successfully made on this ore.

Excerpt from Itinerary Report (IR) by J.C. Roehm, Associate Mining Engineer for Territorial Department of Mines - June 6-7, 1938

June 6-7. The Lucky Nell group of four claims owned by G. W. Gervis of Ketchikan, located 7-1/8 miles northwest of Hollis via trail between the Harris and May-be-so Creek divide, was visited. Since 1936 this property has been under option to Mr. Tillie of Spokane. Prior the property was bonded to Col. E. J. Ryan. Two men were engaged in assessment work on date of visit. They were engaged in driving the lower, or No. 5, tunnel by hand. According to Mr. Gervis, the payment by Tillie for the month of May had not been made and he is serving Tillie with notice to abandon the property. Further that he is offering the property for $50,000 on terms, or a $10,000 reduction over the former price.

A map was made of the workings, which consist of five tunnels at various elevations between 1330 and 2,000 feet. A total of approximately 750 feet of drifting, with a 62-foot raise and a 24-foot winze, represent the total underground workings. All are accessible, in good order, and on the vein. The raise and winze are on ore with the former connecting up No. 3 and No. 4 tunnels. This proves an ore lense 50 feet in length, nearly a hundred feet in depth, and averaging 18 inches in width. Ore was reported in the bottom of the winze. According to J. Herdlick's report (engineer for Tillie) who sampled at 10 foot intervals, this block represents $53,400 in positive ore. The probable ore runs into the hundred thousands. Three lenses of this magnitude occur in the workings with vein material heavily mineralized, which no doubt carries values. Samples were taken in representative spots in the workings. The problems in regard to this property mainly hinge on transportation. The trail for two miles from the beach has been bridged and made into a suitable caterpillar road. The remaining mile has to be bridged and widened. There is sufficient water for milling, but water power is lacking. Very little free gold is contained in the ore. It is mainly contained in the sulphides which have a ratio of 1 to 4, making for large tonnage in concentrates that would necessitate hauling and shipping to a smelter. This property has, however, good possibilities and no doubt considerable more ore could be proven with an intelligent development program. Samples JCR 410-414, inclusive, were taken in the tunnels.

USGS Bulletin references on Lucky Nell Property

P 1, pp. 92-93 (Professional Paper)
B 259, p. 66
B 284, p. 42
B 314-C, pp. ~~102-103~~/ 62
B 347, pp. 162-163
B 592-B, p. 79
B 692-B, p. 88