IR-095-01

SUMMARY REPORT OF MINING INVESTIGATIONS IN THE PORT WELLS DISTRICT, PRINCE WILLIAM SOUND TO B. D. STEWART, COMMISSIONER OF MINES AND ITINERARY OF J. C. ROEHL, ASSOCIATE ENGINEER, TERRITORIAL DEPARTMENT OF MINES August 11 to 20, 1938.

Mining activities and interest have increased in the Port Wells district within the last year. This is shown by the fact that one new mine has been brought into production this year, another is to be put into production this fall, and nearly all the active properties held have been optioned. Two properties, the Portage Bay Gold Mines, Ltd. and Merrill Mining Company are producing at the present time on a small scale with a promise of a small production from the property of the Superior Mines, Inc. The Granite Mine, a past producer, is at present idle. The Culross group on Culross Island, the Esther group on Esther Island, and the Watson-Buffo property on Avery River have been recently optioned, with promises of development on the latter this fall and winter. The property recently optioned by Superior Mines, Inc. on Picot Bay will be operated during the fall and winter. The effect of this interest and activity has been to stimulate the property holders into restaking several more of the old prospects.

August 11-14. En route from the Willow Creek district to Cordova.

August 15. En route from Cordova to Jack's Bay, Culross Island, Port Wells district.

The Culross group of four claims, located at the head of Jack's Bay and one mile northwest of the Culross Mine, was visited. The group is owned by Wm. B. Harris, who obtained the property by relocation in July, 1937, and who made the discovery in the fall of 1911. In August of this year the property was optioned to D. J. McRae of Vancouver for the total sum of $10,000. The claims extend from tidewater at the head of Jack's Bay northwestward for a distance of four claim lengths. Located on Culross claim No. 3, elevation 700 feet, a shear zone 15 to 18 feet in width is exposed for a distance of 1500 feet. This zone strikes N. 46° E. with a steep dip to the north, and cuts the schistosity of the thinly bedded graywacke and slate at a low angle. The formations are composed mainly of graywacke and graywacke schist with some narrow schisted slate bands which strike N. 23° E. and dip 75 to 80° N. Contained in this shear zone, which is in itself somewhat mineralized, are numerous bunches and veinlets of a white milky quartz. These bunches vary in size from the largest, 40 feet in length and 10 feet in width, down to mere veinlets. They are most numerous on a small knoll opposite Discovery post of No. 3 claim at 700 feet elevation. At the bottom of the knoll, alongside a small creek which cuts the zone, a tunnel has been driven 32 feet along the footwall of the shear. Along the hanging wall portion of the tunnel which is nearly the

center of the shear, a zone ranging from 8 to 12 inches in width shows considerable movement and contains small lenses of a dark banded quartz. This quartz contains greater pyrite mineralization than the white milky quartz and visible gold was seen in the graphitic bands. This quartz band was noted above in the cuts, and it is apparently of a later generation and contains the greater portion of values. Sample JCR. 507 was taken across 4 feet of the footwall section in the face of the tunnel. Sample JCR. 508 was taken across 20 inches representing the center high grade portion of the zone at the face. No samples were taken from the numerous cuts due to the highly oxidized and leached condition of the quartz. Free gold was reported panned from these cuts. Pyrite and free gold was the only mineralization noted, and other than the high grade band, this is apparently quite weak. The gangue minerals are grayish banded quartz of the high grade zone to white milky quartz bunches and veinlets with inclusions of wall rock, graphite, and calcite.

August 16. The Portage Bay Gold Mines, Ltd., located on the Dominick Vietti property three miles inland from the head of Poe Bay on Portage Bay, started milling one shift, 6-ton capacity, on July 14 of this year. At the end of last season after the installation of the mill a test run was made and eight ounces of gold was recovered. Very little development work has been done since the mine was visited two years ago. This has consisted of the completion of the No. 1 raise, north drift, to surface, a vertical distance of 160 feet. A short drift from the top of this raise was driven to the surface under a small stream. The end section of the drift was bulkheaded and used as a reservoir from which a 12-inch pipe line leads down the raise and out the crosscut tunnel to the portal, where a Pelton wheel, which runs a 2-stage Gardner-Denver compressor, has been set underground 30 feet from the portal. Other development consisted of starting of two stopes up 20 feet in the south drift and one stope, north, 50 feet in length and up 35 feet. At the top of the raise to surface, the company is engaged in starting a tunnel with a 30-foot back on the vein in an effort to follow the vein north past the faulted section. Ore for the mill is obtained from this tunnel and the north stope of the mill level. The total drifting on the vein amounts to 345 feet, the crosscut tunnel is 275 feet in length, raises total 240 feet and with stoping, represents the total development.

The mill, located below the portal crosscut tunnel, elevation 1680 feet, is constructed of wooden timbers covered with corrugated sheet iron. The ore is dumped over a 4x8 foot steel rail grizzly with 3/4-inch mesh into a 50-ton ore bin. The coarse is fed to a Marcy crusher with 8x12-inch jaws. A belt feeder conveys the ore to a Marcy ball mill, 20-ton capacity. The flow from the ball mill passes through a Clark-Todd amalgamator and thence to a Dorr classifier and overflow to a three-quarter size Wilfley table. The ore is ground to 60 mesh and a 90 per cent recovery was reported. The mill is powered by a 30 H. P. diesel engine. Belt drives are used and a 3½ H. P. gasoline engine generates lights for the mill and camp. The camp consists of a combined shower, dry, bunk, store and cook house at the same elevation as the mill alongside the bluff. A 1500-foot aerial tram operated by a tugger air hoist is used to pull supplies from the glacier below to the camp site.

An unsafe factor, that has resulted from the bulkheading of the water from the creek at the top of the raise with two vertical drift posts and wooden bulkhead, is the water storage. This storage and bulkhead will be subject to freezing during winter time. At the present time no grave danger to men would come about as the lower level tunnel would act as a drainage tunnel. However, if sinking is undertaken below this level a grave danger exists. Another factor is the loose and unguarded belts in the mill. Two first-aid kits are kept at the bunk house and mill and a few of the miners have had first-aid training.

August 17. The recently acquired property of the Superior Mines, Inc., located at the head of Picot Bay, was visited.

This property is known as the Blue Fox group and consists of five adjoining lode claims. These claims are situated 2,000 feet inland from the head of the bay. They are owned by G. W. Gilson and C. Peterson of Valdez. The property was acquired on a 10 per cent royalty of the gross production to apply on the purchase price and extending over a period of four years. The total purchase price was not learned. This prospect was discovered in 1913 by Jack Irving and J. D. Hamilton and was known as the Hidden Treasure. C. Peterson discovered the extension of the same vein in 1914 and staked the Homestake claim. The properties were optioned by B. F. Millard in 1916 for $100,000. The present tunnels were driven during and following the option.

Three small quartz veins in highly schistose and crinkled graphitic phyllites comprise the showings. No. 1, or main showing, is a vein on which small lenses of quartz occur. This vein has been traced for 3,000 feet, beginning on the valley flat a few feet above sea level, at which point a shaft has been sunk 40 feet and is now filled with water, to an elevation of 700 feet along the hillside. Several old cuts expose the vein along its strike of N. 35° E. The dip is 50-60° N. This vein cuts the schistosity of the phyllites at a low angle both as to strike and dip. The latter strikes N. 45° E. and has a variable steep dip to the north. Several acid dike boulders were noted in the creek below the vein, but no dikes were noted in close proximity to the vein. At an elevation of 520 feet a 90-foot crosscut tunnel was driven intersecting No. 1 vein. At a point 40 feet from the portal No. 2 vein was cut. This vein is not exposed on the surface, but strikes the same as No. 1 and dips 65° N. This vein has a width 6 to 8 inches and has the same character as No. 1 vein. On No. 1 vein a drift has been driven NE. a distance of 110 feet. This drift exposes a quartz lense 50 feet in length with a width from a few inches to 13 inches, averaging 12 inches. It has free walls with considerable gouge filling occurring on both walls. C. Peterson reported this lense averages $43 in gold per ton by channel sampling. The quartz is banded, folded and curled, with graphitic bands containing the greater portion of the mineralization. The better values are contained in the widest portions. On the surface above this

tunnel the lense has a length of 90 feet, as shown in the cuts, and an average width of 18 inches. Gold values, some amounting to $100 per ton, were reported from these cuts. No. 3 vein, elevation 1600 feet, is possibly an extension of either No. 1 or No. 2 vein. It is exposed a distance of 700 feet and ore occurs in spots and kidneys, some of which are high grade. This vein has a width that varies from 6 to 10 inches. Average values were reported nearly $100 per ton. A crosscut tunnel below the vein is in a distance of 140 feet, and a distance of 40 feet remains to be driven before the vein will be intercepted. On No. 1 vein over its traceable length of 3000 feet three short quartz lenses are exposed.

Directly below the lower tunnel at an elevation of 370 feet a mill is under construction connected with the tunnel by a jig-back aerial tram. The ore above the tunnel is to be stoped and milled. The mill is expected to be in operation by October. The building is 16x28 feet with an additional 40-ton ore bin. It contains a Straub jaw crusher, a 3x4 foot Straub ball mill, average daily capacity 15 tons, a hydraulic classifier, a Gibson amalgamator followed by plates, and a Wilfley table. Flotation cells may be added later. The mill is run by a 20 H. P. Fairbanks Morse diesel engine. An R 40 Ingersoll Rand 3-stage compressor run by a 40 H. P. Fairbanks Morse diesel engine is also contained in the building. This machinery has been moved from the Giant and Big Four properties held by the company near Valdez. The camp is located on the beach where a small American sawmill is operating, and a new camp is under construction at the mill site at the present time. No mining or development has been done to date by the company. Ten men are employed.

The Merrill Mining Company, located at Bettles Bay, has been operating since the middle of May. R. J. Merrill, son and partner comprise the total crew, with one man mining, one tramming and one milling. To date a total of 100 tons has been milled. The ore has been obtained from pillars and hanging wall sections of the old stope on the intermediate level above the 100-foot level. This orebody consisted of a quartz lense 300 feet in length, averaging 2 to 5 feet in width and cutting across metamorphosed argillites paralleling the end of a granite stock. This lense dips into the granite where it apparently loses its values. The walls are frozen, show no movement, and it is beyond doubt a filled structural opening. The ore milled this season averages better than $12 per ton. This fall a crosscut is to be driven into the footwall with hopes of picking up a footwall parallel lense.

August 18. The Esther group of two claims, located on the southwest side of Esther Island directly across from the Granite Mine, was visited. These claims are owned by Mr. & Mrs. Wm. Harris. The showing on these claims consists of a vein, located via trail 1500 feet back from the beach at an elevation of 450 feet, and across the bed of a small creek. This vein strikes N. 42° E. and dips 85° N. The vein cuts across the steep creek banks and is exposed in graywacke, graywacke

schist for a distance of 100 feet. A tunnel, in 8 feet, was started on the northeast bank. In the tunnel the vein shows a 4-foot width consisting of narrow schist and quartz bands. It has a very strong nature with free walls and could no doubt be traced for a considerable distance. In the bed of the creek and exposed a distance of 40 feet is a quartz lense 3 feet in width. This quartz is very granular and crumbles under the hammer, and contains considerable visible gold, galena and pyrite. This discovery was made in 1914 by Wm. Harris and the tunnel and stripping represents the total work. It was restaked in 1935 and a few rock cuts have been blasted into the lense. This group of claims was recently optioned to D. J. McRae for the sum of $10,000.

August 19. The Granite Mine has not operated this season. A watchman, located on the beach, has been the only employee this season. An application for a $50,000 RFC development loan has been made which is at present pending with no examination made to date.

Hugo Johnson has the Gold Eagle claims at Golden and has been engaged in doing assessment work this season.

Dominick Vietti discovered a small quartz vein in graywacke above the claims of the Portage Bay mine in Poe Bay. He has been engaged in opening it up and doing assessment work.

Assessment work has been done on the Watson-Buffo property on Avery River. This fall this property was optioned to Mr. Lyman from Utah, who stated he expects to employ three or four men this winter. They will be engaged in tunnelling.

Assessment work has been done on two prospects known as the Jensen prospect and Tomboy ledge, the latter owned by Isaac Westburg, at the head of Picot Bay.

R. J. Longyear of the E. J. Longyear (diamond drill) Company examined the old Copper Bullion property owned by F. A. Dickey on Knight Island for New York capital.