

IR-085-03

New file
IR - Anchorage 85-3
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SR - JCR - WILLOW CREEK DISTRICT 1938

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SUMMARY REPORT OF MINING INVESTIGATIONS IN THE
WILLOW CREEK DISTRICT TO B. D. STEWART, COM-
MISSIONER OF MINES, AND ITINERARY OF J. O.
ROEHM, ASSOCIATE ENGINEER, TERRITORIAL
DEPARTMENT OF MINES,
July 27 to August 12, 1938.

The discovery of considerable high grade ore in the Independence ^{KX 85-107} and Fern mines in the Willow Creek district within the last year, has created considerable interest and has been the incentive for the reopening of other properties and considerable development. The total production from the Independence mine, since milling started under the Alaska Pacific Consolidated Mines, Inc. last season to date, was reported as above the nine hundred thousand dollar mark. The general activity has been offset somewhat by the closing down of the Lucky Shot and War Baby mines last April. This closing was, however, only for a short period. The holdings of the Willow Creek Mines, including the Lucky Shot, War Baby and Gold Bullion mines, were sold under option to the Connell interests of Toronto. This company, organized and operating as the Willow Creek Mines Canadian, Ltd., began operations on May 18 of this season. A crew of 23 men is maintained and the mill is operating at a low capacity mainly to defray expenses while an extensive development program is being worked out in the search for further orebodies. The results of this program will have considerable bearing on the future of these mines. The starting of a lower drift tunnel below the mill on the gold Cord gives promise of opening up the continuation of the orebody in the bottom of the main or mill level. The opening of the Mabel Mine by Hooking and Emart of Anchorage shows promise of another producing mine for the district. A small production will be obtained from the Gold Mint property under lease to Johnson Bros. ^{KX 85-15} and associates. The renewed interest in other prospects and properties has drawn considerable capital from outside.

The operating companies have joined together and are appropriating money and actually started building a road from Wasilla road to Goose Bay on Cook Inlet. Several operators expressed a desire for the Territory to help in building this road. Trouble has been in securing a dock site on Goose Bay. Thus, with the aid of this road, transportation will be more direct with a much reduced cost in transportation. No doubt this will be a great help to the entire district. This project has met with considerable opposition from the officials of the Railroad and the merchants of Anchorage. The Railroad will lose the greater portion of freight haulage and the merchants are afraid of losing considerable of their trade from the district.

NOTED
SEP 21 1938
B. D. STEWART
Commissioner of Mines

July 27-31. En route from Juneau to Anchorage.

July 31. Leave Anchorage 8 a.m., arrive Mabel Mine 2 p.m.

The Mabel Mine has been acquired by Messrs. Hocking and Emart of Anchorage from the Wm. Martin estate. Mining operations began this year on the tenth of May. The tunnel portals were caved and considerable time was spent in opening the workings, since no work has been done in eight years. A total of 19 claims were acquired, but the terms and purchase price were not learned. New milling machinery has been installed in the old mill building, and consists of a 40-ton Marcy ball mill, Clark-Todd amalgamator, Denver Equipment rake-type classifier and three Denver Equipment flotation cells. The mill is operated by a 35-40 H. P. Hercules diesel engine. The old turbine is at present not used. The mill started operating on July 1. Above the mill an 80-ton ore bin was under construction on the date of visit. The aerial tramway was reconstructed with an upper new tower and ore bin and one in between tower. The old cables were used. New buildings had to be constructed at the tunnel levels. They consist of a 15x24 foot iron sheeted bunk house, combined machine, compressor and blacksmith shop, office and cook house. Two single Ingersoll-Rand 7x6 inch compressors have been installed with receiver tanks. These are run with a 30 H. P. Le Roi and a 15 H. P. Ingersoll gas engines. The total investment was reported at \$25,000. Twenty men are employed. In the lower tunnel 200 feet of the portal had to be mucked out, filled from soft gouge fault filling, and retimbered. The ore has been taken from pillars and odd portions in the stopes. Development began in No. 1 winze on date of visit. This is to be sunk on ore. This winze is down 200 feet on a 32° slope, and is located near the fault in the north end of the south drift. Nos. 2 and 3 winzes are to be sunk later. These are located in the south drift south of No. 1 winze. The ore and all ore pillars have been removed from the sides of this winze most of its length. Stulls were inserted as pillars were taken. This leaves an empty stope on each side and makes a dangerous condition for men working in the winze. However, the low degree of pitch of the winze and stope is a condition in which sudden slides or sloughs would not occur.

August 1. The Stiles property, located on the north slope of Reed Creek 1-3/4 miles above Fishhook, was visited. The cuts and tunnel were mapped. This group of eight claims is owned by W. A. Stiles and N. W. Smith. One man has been employed under contract in driving the tunnel by hand. The sketch made shows the end of the tunnel 80 feet past the point for which it was intended. The showings consist of four filled cuts, a shaft down 15 feet and filled, and the tunnel, representing some 600 feet of underground work. A large cut on the surface is on the contact vein. This cut was reported as containing 30 inches of decomposed quartz in a wide zone of blue and yellow talc. This vein was reported containing values from \$54 to \$62 per ton in gold (old price). The present tunnel was driven to get under this cut in the hope of picking up this vein. The gouge and vein was crosscut, but contained no quartz. I advised Mr. Stiles to drift alongside the 7-foot gouge vein in the tunnel with the possible chance of finding ore.

August 2. The operations of the Alaska Willow Creek Gold Mines, Inc. were visited. The holdings of this company consist of the Yellowstone, Homestake, Lucky Strike and Opal groups, located one and a half miles below the Fern Mine and across the valley. This is a Washington corporation capitalized at 1,500,000 shares with par value of one cent. Mr. W. R. Smith is president and manager of the company, and those interested are Skinner & Eddy, Wm. Castleton, Nick Bez and both the First National and Pacific National banks of Seattle.

This company began operations on May 12 of this year. A camp was constructed along the road, elevation 2940 feet, and a tunnel on the Lucky Strike group was started above the camp at a 3300 foot elevation. An aerial tram 1500 feet in length was constructed from camp to within 150 feet of the tunnel site. Development to date consists of a tunnel over 600 feet in length including 148 feet of old tunnel driven by Bartholf, formerly on this group. The groups of claims were surveyed by Antone Anderson and a map (copy obtained) showing topography and veins was compiled. Two ore shoots show in the 600 feet of tunnel, supposedly on the Yellowstone vein near the intersection with the Opal vein. No. 1 shoot has a length of 70 feet, the vein including gouge averaging about 12 inches, the quartz varying from 4 to 6 inches in width. The second shoot has a length of 50 feet and the quartz averages 6 inches in width. Mr. Smith reports \$100,000 of developed ore in these shoots. Samples sent to the Territorial assay office at Fairbanks August 2 by Mr. Smith represent channel samples of the No. 2 ore shoot. Nine men are employed. A Sullivan, 2-cylinder V-type compressor run by Budda engine and a rented 40 H. P. diesel Caterpillar comprises the total machinery.

The Webfoot property was visited in company with Mr. J. Conroy. ^{KX 85-12+13+14} He has been engaged in doing assessment work this year on both the Webfoot and Gem properties. The Webfoot group of six claims are located three fourths of a mile below the Fern on the west side of the valley. No development work has been done on this property for several years. One vein, elevation 4000 feet, is exposed on the surface for 1000 feet. This vein varies from 1 to 6 feet in width and averages $2\frac{1}{2}$ feet. Three lenses were noted over its exposed length. It strikes north and south and dips 42° west. A tunnel on the south end has been driven a total distance of 125 feet and shows 78 feet of quartz that averages 2 feet in width. The total length of this lense is 150 feet and it shows a decided rake to the north. Several cuts expose the vein along its traceable length. This vein is only slightly mineralized and sampling in the tunnel was reported to average \$10 per ton gold. Sample JCR. 501 was taken near the center of this lense. Best gold values appear to be in the widest portions of the lenses.

The Gem property, located one-half mile north of the Fern mine and across the valley, was also visited. This property consists of two claims owned by J. Conroy and L. D. Roach. Three short tunnels 25, 60 and 79 feet, respectively, represent the total development. The Gem or upper tunnel, elevation 4125 feet, was driven on a 6 inch quartz vein, known as the Gem vein. High values and considerable high grade specimens were found over a distance of 25 feet on this vein in the tunnel. Only assessment work has been done recently and this has been very slight. KX-47
85-

The underground workings of the Giant mine, located north and adjoining the property of the Fern mine, were visited. They consist of a tunnel, elevation 3645 feet, 220 feet in length. At a point nearly 150 feet from the portal, four veins were cut over a distance of 30 feet. These veins are parallel, striking N. 33° W. and dipping 42-45° SW. They consist of mainly gouge and altered diorite with occasional seams of quartz on the walls. They contain only a pyrite mineralization and values from \$4 to \$12 on channel samples were reported. This property consists of one unpatented and four patented claims. The veins appear to strike toward the Fern vein to the south. One man has been employed doing assessment work on the unpatented claim. KX
85-104

August 3. The Fern mine, operated by the Fern Gold Leasing Company and located on Archangel Creek, has been operating continuously all year. A crew of 37 men has been maintained. The No. 3 tunnel, elevation 3560 feet, which was started last season, hit the orebody at a distance of 300 feet from the portal. The orebody was followed for a short distance and the ore was piled along the sides, then the drift was turned into the hanging wall and driven to a point below the extension of the 35° Winze on No. 2 or tram level. The extension of this winze by raising has just been completed and a station is being cut with pockets to hoist ore to No. 2 level. The extremities of the orebody on this level are not known. However, widths up to 8 feet are evident. Values were reported as exceptional and the character of the ore shows good quality. Thus the completion of the No. 3 level station will provide for the hoisting of ore to No. 3 level. A new hoist is installed in the winze between No. 2 and No. 3 levels. Upon the strength of the orebody found on No. 3 level, a No. 4 tunnel has been started 250 feet north of camp on a level with the mill. This elevation is 3400 feet. This tunnel is in a distance of 150 feet and still in slide rock and boulders. Its size is 7x7 feet and is a cross-tunnel which is expected to cut the vein between 800 and 900 feet. At the point where this crosscut tunnel intersects the vein a distance of nearly 1,000 feet of drifting will be necessary to hit the downward extension of the present orebody. This drift will be under the creek bed and considerable water may be encountered as the depth of moraine and slide rock is not known. The present milling ore is being stoped from above No. 2 and No. 1 levels. In the stope above KX-85-26

No. 2 level the vein is 6 feet in width and consists of 4 feet of gouge fill and 2 feet of banded quartz. Only the quartz is mined and the gouge which contains lower values is used for back fill. A few stulls are used while stoping, and some are removed when filling. This makes a safe mining condition, but the gouge filling is a terrible waste of ore. For two reasons this kind of mining is being done: First, the capacity of the mill is limited to the extent that a profit can be made only on the high grade ore. Second, the cost of mining, taking the vein fill, would increase due to the necessary timber required. A new stope is started above No. 1 level east of the stopes worked last fall. A raise from the top of the stope where the ore ended was not put through to the surface last fall, since the ground was badly broken and considerable trouble would have been encountered in keeping it open. Instead the No. 1 level was extended out to the surface and a well timbered portal was constructed. This makes a total of three openings and escapeways. Good ventilation is now established throughout from No. 1 level down raises to No. 2 level and thus down winzes and out No. 3 level. The effect of this ventilation has thawed the tunnel portal of No. 2 level. This portal for a distance of 100 feet has been driven in slide rock and contains the old timber. This timber has held due to continued frost. Now it has thawed and the timbers, being considerably rotted, makes a dangerous condition. Unless this section for a distance of 100 feet is retimbered a cave-in is sure to result. The mine foreman stated that this was their intention this summer. This was pointed out to Mr. McAllen, now superintendent, and no doubt this section will receive attention. This level being the tram level and only haulage level would considerably delay milling if a cave-in occurred. Considerable new mine and mill machinery has been bought, including a 470 cu. ft. Sullivan compressor, Finley loader, and Mancha electric locomotive. The most interesting point in the near future will be whether or not the high tenor of the ore will persist through to the present mill tunnel level. This will give a vertical depth of the ore over 700 feet, which will be exceptional for this district.

Antone Anderson has three lode claims, called the Patsy Association, adjoining the ground of the Fern Mine on the east side of the valley. This is apparently on the Fern vein structure. At a point near the head of the valley, elevation 4000 feet, a crosscut tunnel is to be started this fall to cut this structure in the hopes of picking up the Fern vein. The surface is covered with slide rock and high grade float has been found. Three men are employed and are engaged in moving a compressor to the above tunnel site.

August 4. The Gold Mint Mine, located on the south side of the Susitna River, 2 miles above the mouth of Archangel Creek, has been leased to Fred Johnson, G. Gustafson, L. Grua and Fred Headman. They began operations on May 10 and began milling on June 27. They have milled 90 tons of ore with a reported assay of \$80 per ton, and of which only \$50 per ton was recovered. They have been stoping in a faulted block and were nearly to the end of the ore. The workings were mapped and the vein extension was found, on which they intend to drift. Whether or not they will find another ore lense on it, could not be determined from lack of surface exposures. KX
85-15

August 5. The Gold Cord Mine, located at the head of Fishhook Creek, has been milling continually all year. A new tailing mill, consisting of a regrind and flotation cells, was constructed below the tailing pond, and has a daily capacity of 30 tons of tailings. This tailing pond was reported as containing 10,000 tons which average \$11 in gold per ton. A new crosscut tunnel, located 70 feet vertically below the old mill, has been started and has a present length of 91 feet. This tunnel will intersect the orebody below the present mill level. Upon completion of the tunnel the ore will be trammed to the new regrind mill, and it will connect up with the 180 foot winze below the mill level. Good ore was reported extending down in this winze. The last payment of \$25,000 on the property is to be made in January. Twelve men are employed.

The Independence and Martin mines are now held by the newly organized Pacific Alaska Consolidated Mining Company. The new capitalization is three million shares, and two dividends have already been paid this year. The company is operating both the new and old mills, making a daily capacity of nearly 50 tons of mine ore. A total production of over \$900,000 has been made since this company began milling over a year ago, according to reports. Development has been confined to the Independence Mine, where the ore zone has been found to extend nearly 600 feet in length and 700 feet in depth on the dip. It consists of small parallel and cross veins on which quartz lenses up to 8 feet in width are found. Development, however, has not been advanced to the extent to prove a definite structure. One of the remarkable features is that the cross veins, which consist of banded altered diorite only, contain good values. One block of ore above the main level has been blocked out on four sides and averages \$300 per ton. High grade ore has been found on upper No. 1 level and this is trammed to the old mill. An incline winze is being sunk on the vein below the main level on a 28° dip and is down 228 feet to date. A crosscut and drift is in a distance of 950 feet off from the main level toward the Martin property. Development in the Martin property is to be done from this level. At the present time no work is being carried on in this mine.

In regard to safety conditions in the mine, they are good and carefully watched. The low degree of dip in winzes and stopes makes in itself a safe condition. The diorite is fractured and cut by slips in some of the stopes. Stulls are used and back filling is immediately done. This makes a safe working condition, unless too great an area is opened at once and allowed to remain. This apparently has not been done.

A regrind tailing plant with flotation cells has recently been constructed and is now operating with a capacity of 30 tons daily. Part of the tailings from the new mill and all from the old mill are reground. The old tailing ponds are to be reground and floated.

A new three-story steam heated bunk house 24x60 feet has been built and several additions are being constructed on the cook house and office buildings for storage. Also several small dwelling houses are being built along the road. Due to the hastily constructed mills and machinery installations, several unguarded belts and fly wheels were noted. Safety kits are needed in the office, mills and mine. I mentioned to Mr. Stoll the fact that with all the new fine buildings, he does not have any fire protection. In regard to unprotected belts and moving machinery parts, it will be necessary to send a letter to this effect. Gus Oien has promised to send a map now being made showing all the underground workings. A total of 100 men are employed.

August 7. The Lucky Shot, War Baby and Gold Bullion properties were taken over by the Connell interests of Toronto on April 20 of this year. They are operating under the name of the Willow Creek Mines Canadian, Ltd. This new company started operations on May 18 of this year under the direction of Mr. Morrison. Mr. J. A. Reed, noted Canadian geologist, is now making an examination and is directing a development program. The mill is operating one shift with a capacity of 10 to 12 tons. Two hundred tons have been milled to date. This ore has been taken from pillars and stope ends in the Lucky Shot mine. The company intends to maintain the capacity if possible to help with expenses during development. The development program is to continue the 500-foot level along the west fault into the west block in an effort to pick up the westward extension of the Lucky Shot vein. From the 410 level of the War Baby, which is extended under the Capps fault and on the supposed Lucky Shot vein, a raise is to be put up from a crosscut into the footwall, and the unexplored block between the 650 foot level of the Lucky Shot and the 410 foot level of the War Baby. 800 feet depth on the dip of the vein is to be diamond drilled. The company has good chances of finding ore in the unexplored block to the west of the Lucky Shot, however, much depends upon the vertical displacement of this large rotational fault. The shaft of the War Baby is kept pumped. A total of 23 men are employed.

Visited the Ready Bullion Mine, located near the head of Craigie Creek and adjoining the Gold Bullion property on the north. The property, consisting of a group of six claims, is owned by Sidney Black. He has leased the property to his brothers Herman and Wm. Black, who are mining and operating a 2-ton Straub mill. They are engaged in building a 3,000 foot aerial tram and expect to install a 3-foot Denver ball mill. They have three men employed besides themselves. They are mining a small flat vein 3 inches in width, which was reported averaging \$300 to the ton in gold. They report they have the lower extension of the Gold Bullion vein. What they expect to run in the new mill is not known. The area is, however, interesting at the intersection of two large faults.

Stanley Herning has leased the New Bullion property, located northeast of Ready Bullion, to Justus Johnson and associates. They bought a 10-ton Crescent mill, jig and other small machinery and moved it on the property. They leased the property on a report by Herning of 18 inches of high grade ore. After moving the mill and machinery on the property they were unable to locate the reported 18 inches of ore.

Joe Barze is prospecting at the head of Craigie Creek.

The Marion Twin property is leased to Fred Johnson and associates, present lessees and operators of the Gold Mint, but no work is being done. ^{KX 85-27}

Rapp & Till have their cyanide plant installed and in operation on the tailing ponds of the Gold Bullion. They are treating 25 tons daily and have a total tonnage of 6,000 tons. ^{KX 85-107}

August 8. Visited the Thorpe property on Grubstake Creek. Ross Sheely recently had an option on the property. Mr. Thorpe is operating his Prospector's Straub mill on ore reported to be running \$100 a ton. Work has been done on two narrow veins ranging from 6 to 12 inches in mica schist. ^{KX 85-53454}

August 9. Visited the Mammoth group of four claims, located on the mountain ridge between upper Willow and Fishhook creeks. This property is owned by R. Bragaw, W. Cuddy, P. Reed and Messrs. J. & C. Cook. Three men are engaged in assessment work attempting to open up an old tunnel. A little ore was reported found near two large fault intersections near the top of the ridge since visiting the property. ^{KX 85-93}

The showings of the Milo Kelly property on upper Willow Creek were visited. He has three men employed and they are engaged in building a compressor house and installing a compressor at the tunnel site, elevation 4100 feet. His proposed tunnel to crosscut two veins is in 12 feet. He has four or five tons of ore broken up from large float boulders which he expects to mill. The newly installed mill has not operated. ^{KX 85-94408}

August 10. The Jap property, located at the head of upper Willow, and owned by Swetman and associates, was visited, and the underground workings were mapped. This property is under a 5-year lease to Morris J. Anderson, of which three years has expired. Three veins are exposed in three tunnels. These veins contain less than 12 inches of quartz in an altered diorite gouge of variable widths up to three feet. Considerable free gold can be found in the quartz in spots along the veins. In the center tunnel near the Gold Dust fault a winze has been sunk 75 feet on the vein. It was reported that 12 inches of quartz in the bottom that averages \$100 per ton was found. The winze was full of water at the time of visit. The winze has been sunk on a low angle along the ^{KX 85-95}

strike of the vein and the bottom apparently is near the fault intersection. This property, due to its location between the Gold Bullion and Independence properties, is of special interest and several Anchorage parties have been trying to purchase it. Anderson is holding out for a large cash payment for his lease over and above the purchase price of the property. While it is apparent that one or two of the Independence veins strike across this property, the orebodies, if they continue in depth, do not plunge onto it. The ore on the Independence plunges north on the dip onto the George Zigg group of two claims, which the Pacific Alaska Consolidated Company has purchased for \$25,000. However, there are chances of finding minable ore bodies on the Jap property.

Henry Snyder has a 5-year lease and option on the High Grade property, located north of the Gold Cord. He was reported as having found some high grade ore near the top of the mountain. KX
\$5-61

~~The Ray~~ Wallace, located two miles east of the Independence mine, is under option to H. E. Wilson, who has formed the Alaska Enterprise, Inc. Company under State of Washington laws. He has two men employed and engaged in trying to open up the old tunnels. KS
\$5-161

Charles Bartholf has four claims adjoining the Gold Bullion on the north, which were visited. A vein varying from 12 to 18 inches can be traced over three claim lengths, and was reported as the lower extension on the dip of the Gold Bullion. Two short tunnels on the vein were filled with ice. Float from the vein shows considerable free gold.