

A SURVEY OF THE GOLD QUARTZ VEINS ON THE
NORTH FLANK OF PEDRO DOME

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placer gold on these creeks was reached in 1908 and 1909, with production falling off rapidly after 1910. With the decline in placer production the attention of mining men was turned to possibilities for lode mining in this area. From 1909 to 1912, lode mining was prosecuted vigorously and considerable money was spent in prospecting and development of promising quartz veins.

The following chronology of the quartz development of this area was extracted from the Quartz Edition of the Tanana Magazine, published by the Fairbanks Daily Times, in 1912:

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| June 25, 1909 | Newsboy Quartz Claim located by Herchberger. |
| August 19, 1909 | W. L. Spaulding makes first discovery on the right limit of Dome Creek. |
| September 6, 1909 | Herchberger has assay made of Newsboy ore, runs \$206.00 per ton. |
| February 18, 1910 | First carload of ore to test mill reaches town from Dome Creek. |
| April 30, 1910 | Ore from Wild Rose Claim on Dome Creek assays \$540.92 to the ton. |
| May 12, 1911 | Six and one-half ton run of Newsboy ore yields \$5,008.00 gold brick. |
| May 26, 1911 | 100,000 shares of Newsboy Mining Company stock subscribed in twenty-four hours. |
| October 14, 1912 | Newsboy mill starts to crush ore in new location at head of upper Cleary. |

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Concerning the early development made on the Spaulding Group, this paper relates the following interesting information:

"The claims of the Spaulding group are owned by the Reliance Mining Company, a closed corporation owned by business men of Fairbanks, and Captain W. L. Spaulding. The claims of this group are the Soo, Waterbury, Carnation, and La Rose. An adjoining claim called the Wild Rose, is located between the Soo claim, and the La Rose claim, and was staked by Captain Spaulding, in behalf of four women, Mrs. Raymond Brumbaugh, Mrs. R. R. Myers, Mrs. W. L. Spaulding, Mrs. David Fairburn.

"In 1910 a shaft was put down on the Wild Rose vein on the Soo claim to a depth of sixty feet. A level was started at fifty feet and about 100 feet of tunnel driven on the vein. Ore taken from the slope above this drift averaged \$81.00 to the ton. In the fall of 1911 a small stamp mill was built, this paid for development and purchase of a large two stamp Hendy mill. A shaft put down on the Soo claim to a depth of seventy feet, and thirty feet of drift run off of this, opened a new block of ore. Fourteen tons taken out in 1910 gave a mill average of \$42.00 to the ton. On December 3, 1912, J. Lettermain, who held a half interest in a lease on this property, and an interest in the mill, disposed of his interest to Messrs. John Rowan and John Cunningham, for \$30,000.00. Two days later a fire started in the shaft and the mill building and shaft superstructure were burned."

The early history of lode mining in this district was marked by a period of over optimism. Considerable sums of money were spent in attempting to develop properties into production which did not warrant development. Much of this money might have been saved had the men engaged in mining operations been more familiar with hard rock mining, or had they sought the advice of engineers experienced in lode mining.

Soo Mine

The Soo mine is situated on the Soo claim which lies between the Wild Rose and Waterbury claims on the west and east sides. (Plate IX) This claim is owned by Mrs. Morton E. Stevens, her son Edwin Stevens, and Dr. Charles E. Bunnell.

There are three nearly parallel veins outcropping on this claim; the most northerly vein is the Soo vein, and south of the Soo in line are the Spaulding or Wild Rose vein and the H. & K. vein. Almost all of the work done on this property has been done by lessees. Messrs. Heath and Kearns held the lease on this property during 1929 - 1930. They sold out to C. M. Hawkins in 1931, he continued to work the mine for a little over a year's time, and since then no work has been done upon it.

The only accessible working on the claim is the H. & K. tunnel which cuts all three veins. (Plate IV) This tunnel was driven by the lessees in 1929 and 1930, and besides cutting the three main veins of the claim, also cuts three smaller veins⁽¹⁾ a short distance in from the portal of the tunnel. They could not be seen because of timbering, but according to Mr. Heath, they are about two feet apart and each have a width of one inch. Assays reported from these veins show values of \$3.00 to \$4.00 per ton. The Little Joe

(1) J. M. Hill, U. S. Geol. Survey Bull. 849-B, pp. 76-77, 1933.

vein cuts through at about 125 feet from the portal, it has a width of four inches and assays 0.02 ozs. of gold per ton. The vein material of the Little Joe is composed of exceptionally hard, massive white quartz containing only a small amount of sulphides. At 250 feet from the portal the tunnel cuts the H. & K. vein. A drift was run along this vein for a distance of seventy-five feet toward the east, in the last twenty-five feet from the face the vein can be seen on the hanging wall. The vein here is composed of sixteen inches of very hard quartz with a small amount of sulphides. Samples were taken along this portion of the vein, but the assays from these gave only a trace of gold. The vein strikes nearly east-west, and dips 60° to the north. In view of the fact that the vein is strong in the face of the drift, it would be worth while to extend this drift along the vein for some distance, to further prospect the vein on the chance that an ore shoot might be encountered.

Toward the west the vein has been stoped out as far as the old H. & K. shaft, a distance of about 400 feet from the tunnel. Stoping along the vein was carried to an average depth of 110 feet.

From the H. & K. vein in the tunnel, the adit turns north for a distance of 175 feet, at which point it cuts the Spaulding or Wild Rose vein. This vein was drifted on for a distance of 100 feet, the direction of the drift varying from N. 45° E. to N. 75° E. and some stoping appears to have

been done. At the end of this drift a fault was encountered which strikes S. 70° E. and dips 53° to the northeast. From the fault a drift was turned east but is now inaccessible as a cave blocks it on the north side of the fault. At the fault a few sacks of ore were piled in the drift. These were probably taken from the old stope which is now caved. A grab sample from these sacks assayed 0.26 ozs. of gold per ton. Beyond the Spaulding vein the tunnel is caved, but we are informed by Mr. Heath that it was driven 100 feet north, at which point another vein was cut. This vein was parallel to the Soo vein but is not believed to be the projection of the Soo vein on the surface. The information that has been plotted on the accompanying map with regard to this portion of the H. & K. workings was secured from a map made some years ago by E. N. Patty, and from personal interviews with Robert Heath. From the drift on the Spaulding vein there is an extension of the main tunnel running north for 100 feet parallel to the old workings. This drift evidently cuts the Soo vein, but the back end is caved and it was impossible to ascertain this fact. Two crosscuts have been driven out on either side of this portion of the tunnel and the east side has some stoping done above it. At the face of the one on the west side a two inch vein of hard white quartz was exposed. The extension of this vein is apparently the portion that has been stoped on the east crosscut.

In 1931, Heath and Kearns sold out to Cliff M. Hawkins, who continued work on the property from a shaft on the H. & K. vein to the west of the tunnel. At the same time S. A. Martin worked in the H. & K. tunnel, driving that portion of the drift which parallels the old workings.

All of the shafts on the Soo claim are filled with ice, or are caved and entrance to the drifts off them is impossible. Hence, all of the information on these older workings has been gained from the former operators⁽¹⁾, U. S. G. S. publication by J. M. Hill⁽²⁾, and maps by E. N. Patty⁽³⁾. In 1929 the lessees worked from the H. & K. shaft (Plate IV), which is 136 feet deep on the H. & K. Vein. Work was also started on the H. & K. tunnel. Two drifts extend east from this shaft, one at the fifty foot level and one at the 100 foot level. The drift on the 100 level extends for 400 feet east of the shaft and nearly connects with the H. & K. tunnel. One ore shoot from this tunnel yielded 400 tons of \$36.00 ore. After Heath and Kearns sold out to C. M. Hawkins, he sank another shaft 150 feet east of the H. & K. shaft, a sample

- (1) Robert Heath and Guy Kearns. Personal communication.
- (2) Hill, J. M., Gold Lode Deposits of the Fairbanks Dist., op. cit., pp. 2.
- (3) E. N. Patty. Personal communication.

taken from the bottom of this shaft is reported to have assayed 5.15 ozs. of gold.

The Spaulding shaft (Plate V) was the first shaft put down on the Soo claim. Work was started in 1909 by Capt. Spaulding. This shaft is on the Wild Rose vein, near the end line between the Soo and the Wild Rose Claims. (Plate IX) L. M. Prindle⁽¹⁾ of the U. S. G. S. visited this mine at the time operations were being started, he reported that the vein material was a shattered quartz containing a small amount of sulphides of iron, copper, silver, and antimony; and that the gold and sulphide deposition was contemporaneous. Assays taken by him gave returns of from 2.25 ozs. to 3.00 ozs. of gold per ton.

Very little information could be obtained concerning the Soo vein. The following extract is taken from the U. S. G. S. publication by Prindle⁽²⁾:

"The main openings on the northern vein, the Soo are on the end line between the Waterbury and Soo claim near the center of the Soo. At the end line a shaft 100 feet deep has been sunk and a short drift extends off west. The vein dips 68° N. In the center of the Soo claim a tunnel now caved crosscuts the northern veins."

There are a few old buildings on the Soo claim between the H. & K. and the Spaulding veins. The mill building and head frame used by Heath and Kearns still stands

(1) Prindle, L. M., A Geologic reconnaissance of the Fairbanks Quadrangle. U. S. Geol. Survey Bull. 525, pp. 191, 1913.

(2) Prindle, L. M., U. S. Geol. Survey Bull. 525, 1913.

although all of the machinery has been removed. There is also a small bunk house, and an older mill building close to the Spaulding shaft which was used by Capt. Spaulding in his operation on the property.

Other Claims

The other claims which make up the group on the right limit of Dome Creek are the La Rose, Wild Rose, Waterbury, Carnation, Waverly, Inspiration and Big Chief (Plate IX). All of these claims, with the exception of the Wild Rose, belong to the Reliance Mining Company. Little more than surface work has been done on them with the exception of a shaft sunk on the Big Chief vein (Plate I). This vein strikes N. 45° E., and dips NW. Only forty feet of the shaft from the surface down remains open. From the size of the dump surrounding the shaft very little work could have been done except the sinking of the shaft. A grab sample of quartz was taken from the dump and assayed a trace of gold.

The Wild Rose claim, situated to the north of the Alpha claim and between the Soo claim on the east and the La Rose claim on the west, is owned jointly by four people. It was originally staked by Capt. Spaulding for four women, but since then there has been a change of ownership. At the present time the owners are Mrs. W. L. Spaulding, David Fairburn, Raymond Brumbaugh, and Mrs. R. R. Myers. On this claim there are some caved shafts, but judging from the size of the dumps