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92E/35-27

LAST CHANCE TUNGSTEN PROPERTY.

010420 No. 10

L 50-120

SWAKUM MOUNTAIN, NEAR NICOLA.

by MS Hedley June 11/43

+ 1 drawing  
in envelope

This property of 13 recorded claims is on the high northern slope of Swakum Mountain, ten miles north of the village of Nicola. Six claims, comprising the Last Chance Group, were recorded on Sept. 28th, 1942, in the name of R. McD. Reid, of Penticton, and were optioned to W. B. Milner of Toronto. Seven claims, comprising the Tungsten King Group, were recorded, 5 on December 30th, 1942 and one on March 2nd, 1943, in the name of W. B. Milner.

Work on the property, consisting of <sup>tr</sup>shipping and open-cutting, was carried out under the direction of D. F. Kidd of Vancouver, who acted for Karl Springer. Work was suspended in March, but the option between Reid and Milner was recently extended until August 15th, 1943.

Swakum Mountain, part of the dissected Interior Plateau surface, rises to a broad, relatively flat-topped summit, elevation about 5600 feet. The showings are at an elevation of 5250 feet on the high north-eastern slope about  $1\frac{1}{2}$  miles from the summit. An inferior road, 13 miles long, leads to the property from Nicola; the last 3 miles are relatively level, and the road drops 200 feet in the last  $\frac{3}{4}$  mile. The last  $\frac{1}{2}$  mile is impassable. The ground about the showings is hummocky and slopes are not steep. The timber cover is heavy. Water is obtained from a spring, and there is little flow in any nearby streams at this elevation. A new log cabin, frame, unfitted, is 200 feet from the showings.

The rocks are greenstones of the Nicola series, here breccias, in which there is a band of limestone of unknown thickness. The strike is northerly and the dip nearly vertical. Several fine-grained granitic dykes are reported to occur 1,000 feet or more to the west.

Overburden is heavy, and no further details are known.

The showings are on a low knoll which provides the only outcrop for hundreds of feet in every direction. Copper mineralization was discovered on it in 1916 and was staked as the Lucky Mike.

The summit of the knoll has been largely stripped to expose greenstone on the west and limestone on the east; the contact is irregular and in one place is known to be faulted. Between the two rocks there is a strong development of garnetite, a rock characteristically consisting of 60 to 90 per cent garnet, containing in addition calcite, some epidote, chlorite and other minerals characteristic of skarn in general, specular hematite, pyrite and chalcopyrite. The sulphide minerals are not abundant. In only one or two places is the garnet subordinate, in which case the rock is a mottled and patchy green and brown, with a greater than average percentage of calcite. Where the garnet is subordinate there is abundant silicification which, in two open cuts includes irregular, crystalline vein quartz.

The copper showing is in a north-south skarn zone in greenstone, but is apparently discontinuous. Some copper occurs in more than minute amounts in the garnetite in a few other sections.

Scheelite occurs in the garnetite as small disseminated grains whose fluorescent colour varies from nearly white to distinctly yellow. Scheelite is most abundant and tends also to be coarsest when the garnet is least abundant and there is most quartz. It is irregularly distributed. It is a general rule that the most compact and massive garnetite contains the least scheelite, and the more patchy the rock

the more scheelite.

The accompanying map, taken from one prepared by D. F. Kidd, shows the ground stripped by heavy bulldozers and the existing open-cuts. In addition, an attempt to find bed-rock by stripping further to the north and east failed. At the time of examination, May 29th and 30th, snow had only recently left the ground, and most of the open-cuts were partly obscured. The long open-cut, No. 5, in particular was largely blocked by spoil from the stripping.

Although the open-cuts could not be examined to best advantage and completely reliable sampling was out of the question in most sections, study of the rock exposed and of the abundant, clean and freshly blasted material on the dumps is believed to have furnished an accurate basis for sight estimation, the writer having had more than a little experience with the same character of rock and of mineralization. The writer had the advantage of the results of Kidd's sampling, and found them to be a valuable guide, even though the actual channels in the bottoms of the open-cuts were all obscured.

The long open-cut (No.5) was the site of the original discovery and it is reported that scheelite extended in it for a length of 90 feet and was best at the east end. The actual contact with unmineralized greenstone on the west was not seen, but the approximate position was located; the mineralized length of the open-cut is only 71 feet. The best apparent mineralization on the property is in the eastern 23 feet of this open-cut. Two samples were channeled in

quartz-bearing skarn (not garnetite) and two samples were taken in completely decomposed rock, that being the only recourse. The average assay for the 23 feet was,  $W_3O_5$ ; 0.45 per cent, which would be a maximum in view of the possibility of enrichment in the 13-foot section of completely decomposed rock.

Open-cut No. 4 contains a better than average amount of scheelite in the west end. A sample across 6 feet assayed;  $W_3O_5$ , 0.18 per cent.

Open-cut No. 2 also contains a better than average amount of scheelite in one section. A sample across 7 feet assayed;  $W_3O_5$ , 0.65 per cent on the south wall, but it is a significant fact that on the north wall only an insignificant amount of scheelite was to be seen; the ends of this open-cut contain very little scheelite, There is evidently a local concentration.

Open-cut No. 6, actually a blasted face on the side of the knoll, shows two bands of garnetite and skarn, as well as some silicification and vein quartz. The quartz is irregular and some cuts across the strike of the formation. The western band, containing some green skarn low in garnet, seems to be an altered limestone rather than a garnetized greenstone. The eastern band, about 8 feet thick, contains much quartz. Local patches in these bands contain abundant scheelite, of the order of 1 to 5 per cent, but this is apparent from the dump and not from the faces, many areas of which are almost barren. Bulk-sampling would be the only recourse to obtain a true assay of these bands, but it is estimated that the scheelite content is definitely less than in open-cut No. 5 and of the same order as in open-cut No. 4 (namely, 0.2 or less)

It is concluded that the best scheelite mineralization is to be found in open-cut No. 5, where there is silicification and vein quartz and the rock alteration is to the general type of skarn rather than to garnetite. It is impossible to obtain an average assay even if all open-cuts were fully sampled, because correlation between them is impossible, but the garnetite proper is estimated to contain, where seen, an average quantity of scheelite in the neighborhood of 0.10 per cent,  $WO_3$ . The irregular nature of the best mineralization makes it impossible to foretell either its extension or its possible repetition.

There may well be a large body of garnetite in this locality but the work to date has failed to indicate a tonnage capable of being mined, even presupposing an undoubtedly low direct cost of extraction. Further prospecting in the immediate vicinity of the knoll is out of the question, owing to heavy overburden, and the writer is of the opinion that the only step would be to strip by hand adjacent to open-cut No. 5 and between open-cuts 5 and 6. This at best is a small area, the mineralization in which is known to be irregular, and unless scheelite of far better grade than is now apparent were found additional work would not be warranted.

*M. S. Ashley*

June 11th, 1943.