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October 17th, 1929.

REPORT

ON

SHARP MERCURY DEPOSITS

Savona, B. C.

The Sharp mercury deposits are covered by fourteen claims known as the Sharp Group situated about fourteen miles north of Savona, a station on the main line of the C.P.R. twenty-five miles west of Kamloops.

The deposits are easily reached by a good motor road leading from Savona up Deadman creek for fourteen miles to Criss creek which enters Deadman from the east, and by an old wagon road which follows up Criss creek for three miles. This old road is somewhat out of repair but could be very easily converted into a good truck road at small cost. The cabin is at an elevation of only 2420 and the deposits extend up to about 3000 feet which is only 1800 feet higher than Savona. There are no steep grades on either the motor road or wagon road and the nature of the soil and topographic relief are such that permanent roads may be easily and cheaply built. The climate is dry and, though the winters are cold, the snowfall is light and does not interfere with motor transportation. There is no underbrush and the timber is small and sparse but quite sufficient for mining requirements.

Altogether the mining and transportation conditions are exceedingly favorable.

The deposits occur in the volcanic members of the Nicola series of rocks which are of Triassic age but are situated close to several centres of late Tertiary vulcanism which are with some certainly regarded as the source of the mercury of not only these deposits but also other similar deposits lying farther south. The rocks in which the mercury is found are green or purple porphyritic andesite breccias. These have been fractured in three main directions which correspond to the strike of the veins. Along the veins and for a considerable distance away from them the andesite breccias are highly altered and their original color, texture and composition more or less completely obliterated. Along the wagon road many large areas not in close proximity to the present known mercury veins were observed in which the andesite breccia is altered in a similar way. These altered areas are worthy of careful prospecting for mercury veins.

The veins consist of a gangue of calcite, quarts and chalcedony with small amounts of specularite, cinnabar, orpiment, realgar, stibnite, pyrite, azurite and malachite. The stibnite is present in minute amounts only and the antimony content therefore far below commercial grade. The adjoining andesite breccia is altered to white or cream color and densely fine texture and heavily impregnated with minute crystals of pyrite. The composition of the altered rock is not known but it probably contains much secondary quartz, calcite, sericite

and kaolin. The aggregation of minerals present is one which is characteristic of many of the large mercury deposits of the world. The association of the deposit with late Tertiary vulcanism is also a characteristic of most of the large deposits of mercury.

The situation and geological setting of the deposit are indicated on the accompany map taken from the Kamloops sheet by George M Dawson.

DESCRIPTION OF SHOWING.

The first showing above the cabin is at elevation 2680 and consists of a cut and small shaft which together expose a face about twelve feet high. The south side of the cut and shaft shows a well defined vein and two parallel sparcely mineralized shears.

The vein strikes N. 12 degrees E. and dips 64 degrees E. and varies from four inches wide at the top to eight at the bottom of the shaft. It consists of quartz and calcite with minute quantities of realgar and cinnabar. It is in highly altered andesite breccia. West of this forty inches is a shear three inches wide along which the sheared rock is partly replaced by quartz and contains a few specks of cinnabar. Between the vein and this shear the andesite is highly altered and cut by small veinlets of quartz. Twenty inches west of this shear is a second one similar to the first but less distinctly marked, and between them the andesite is bleached and pyritized. A few specks of cinnabar and realgar were observed in the vein and each of the shears. It is doubtful, however, if a sample across the vein, shears and intervening rock would carry commercial values in mercury.

The next showings are about 1,000 feet in a northerly direction from the above showing and at an elevation of 2925. Here a small pit about four feet deep exposes a small calcite vein striking north 20 degrees east and dipping southeast 85 degrees. This vein contains practically no cinnabar but has considerable specularite. The wall rocks are bleached and pyritized.

The next showing is 130 feet north 49 degrees west of the last pit at elevation 2995. Here an open cut extends for eight feet in a north 42 degrees west direction from which

a tunnel extends in the same direction for nine feet farther. The tunnel follows a sharply defined vein of quartz and hematite which averages five inches in width and strikes north 42 degrees west and dips 85 degrees to the northeast. This vein carries no visible cinnabar. Just outside the portal of the tunnel, however, is a quartz calcite vein striking north 68 degrees east and dipping 54 degrees to the northwest which contains small qunatities of cinnabar, realgar and stibnite. It is six to nine inches wide but has not been traced beyond the width of the open cut. The rock alteration is more intense adjoining the calcite-cinnabar vein than the specularite. Two pits situated north 48 degrees west and ay eighty and ninety-five feet distant respectively from the above tunnel failed to expose the continuation of the hematite vein.

The next group of showings are about 1000 feet in a south west direction from the above pits and at an elevation of 3225 feet. There are three open cuts, the central one being the principal showing on the whole property. It is 12 feet long 4 feet wide 3 feet deep and extends north 32 degrees west. It is in pure white altered andesite breccia and in the centre is an irregular finely banded quartz-calcite vein about two feet wide. In the centre of this vein is a streak of high grade cinnabar ore about ten inches wide and small amounts of cinnabar are sprinkled throughout the vein. A sample taken across two feet of the vein contained 1.15% of mercury. No

realgar or stibnite occur in this vein but small amounts of azurite and malachite are present. The pay streak is not continuous but is broken by two or three short intervals of barren quartz and calcite.

Above this cut about ten feet distant a small cut three feet square exposes the same vein but here it is split into several small branches, one of which six inches wide contains much cinnabar. The rock alteration is less intense and not so widespread but characterized by much pyrite. A pit 30 feet below the main showing exposes a vein only about two inches wide carrying only small amounts of cinnabar and realgar. This vein strikes north 60 degrees west and dips 70 degrees southeast and it is therefore unlikely that it is a continuation of the main vein.

Two more pits one hundred feet in a south 63 degree west direction expose a quartz vein two to four feet wide, striking north 70 degrees west and dipping 90 degrees. This vein is exposed over a lengh of about twelve feet and contains a considerable amount of realgar but little or no cinnabar. The wall rocks are the same as at the other showings.

CONCLUSIONS

From the above description it is evident that, while cinnabar is fairly widespread in this region, only one body of commercial ore has yet been found on the property and this is a small one. However, very little work has yet been done and

it is possible that further work will reveal other more important occurrences and continuation at depth of the one body of ore already discovered.

The geological surroundings such as the close proximity of centres of vulcanism of late Tertiary age and the presence of mineral springs are typical of many of the important mercury mining districts of the world. The character of the veins and alteration of the wall rocks are also typical of the more important mercury deposits. The presence of considerable cinnabar occurring under similar conditions in neighboring districts encourages the hope that a body of commercial importance may be found here. These considerations coupled with the highly favorable mining and transportation conditions, the present high price of the metal, the cheapness with which the ore can be treated and lastly the extreme difficulty in finding new deposits of mercury anywhere in the world from a basis on which to recommend that further work be done on this property.

I would suggest that a drift adit be run under the main showing beginning at the open cut started about forty feet below it. I would also recommend the close prospecting of the several areas of altered andesite breccia lying between the present workings and the cabin. This work could be done for a few thousand dollars and if encouraging results were obtained, further work would be justified.

(Signed) V. DOLMAGE