

004201

82K/  
8W

82K/SE-57

REPORT

ON

KEY GROUP

Situated on Delphine Creek  
Windermere Mining Division.

---

Operated by

William A. Drayton.

-c00-

Report by : John D. Galloway.

Provincial Mineralogist.

-----

July 5th, 1926.

PROPERTY FILE

82K/SE-57

INTRODUCTORY.

The Key group is a relocation of the old Beulah group, on which I reported in the Annual Report of the Minister of Mines for 1915. In the summer of 1925 an option on the property was obtained by Mr. William Astor Drayton. Work was commenced, 3 1/2 miles of trail was built, a light tax tram erected and development of the property commenced.

Owing to the location of the property work had to be discontinued in the fall, but was resumed again in May, 1926. Accompanied by A. C. Langley and Mr. Drayton, I examined the property on June 17th, 1926.

All work on the property has been carried out under the direction of Mr. James White, foreman for Mr. Drayton, with a crew of 6 to 8 men. White is an energetic and capable foreman and did a good piece of work in putting up the upper tram under difficult conditions.

Under the terms of Mr. Drayton's option, approximately \$4,500 has been paid on the purchase price of the property, and a further \$15,000 is payable on November 1st, 1926.

LOCATION and TRANSPORTATION.

The Key group of seven claims is situated on a high mountain on the north side of Delphine creek, Windermere Mining Division; this creek is locally known as the North fork of Toby creek, and a small creek entering the North Fork is called Delphine creek. The showings are at an

elevation of 9,300 to 9,450 feet above sea-level and about 2,000 feet above timber line.

The property is reached by motor-road from Wilmer a distance of 23 miles and a trail  $3\frac{1}{2}$  miles long to the camp, at an elevation of 7,700 feet. From the camp to a point near the showings, a 3,750 foot tram was erected last summer. This is a single span  $3/8$  inch moving cable on sheaves which will be used to bring down sacks of ore and take up supplies. Another short tram 250 feet long connects the upper tram terminal to the workings. A third tram is to be constructed from the camp to a point on the trail, approximately 2 miles from the road. This lower tram will be of similar construction to the upper one and will have a single span of 3,000 feet. The three trams will transport sacked ore to a point on the trail from which it can be easily packed to the road and then hauled to the railway by motor truck or sleigh.

The transportation system as built and planned is adequate for taking out several carloads a year, of high-grade, hand-sorted ore.

#### GEOLOGIC FEATURES.

The rocks formations occurring on this property belong to the Mount Nelson formation, of late Pre-Cambrian age and consist of magnesian limestone, slate and quartzite. In the vicinity of the showings and forming both walls of the ore-

body, the rock is magnesian limestone. No igneous rocks were noted although a granitic or dioritic dyke is reported to outcrop on the property.

The vein is well-defined and varies in a width from a few inches up to 2 feet. It has been traced at intervals on the surface for about 500 feet and maintains a fairly regular strike and dip. The strike of N.20° W. is approximately parallel with the strike of the formation, but the dip of 70 degrees to the north-east is nearly at right angles to the dip of the formation. The vein outcrops on a steep hogback in such position that considerable depth can be obtained by a drift tunnel.

The important minerals in the vein are galena and grey-copper; some zinc blende is also present. The gangue filling is quartz with some altered wall-rock. As a rule there is very little disseminated ore in the vein, there being either a paystreak of nearly solid sulphides or else practically waste gangue-filling. At and near the surface the sulphide content of the vein is considerably oxidised and leached, in some places the ore being entirely leached out. Oxidised ore consisting of iron oxide, lead carbonate and a little copper carbonate occurs in places, but it is unlikely that this type of ore will be found much below the surface. It is noticeable in most of the open cuts that the ore-content of the vein improves after getting a few feet

below the surface.

So far as can be determined from the present development the ore will probably be found to occur in the vein in and short definite ore-shoots, separated by barren stretches. There seems no reason to suppose that the vein and ore-shoots will not persist for a reasonable length and depth. The vein shows the usual swelling and narrowing in width. In places it was an open fissure and in others the ore has been deposited by replacement action. The sulphide minerals would seem to be undoubtedly of primary origin.

#### WORKINGS.

The development of the property has been by a number of open cuts at intervals along the strike of the vein. The highest open cut is at an elevation of 9,450 feet; it is 15 feet long by 10 feet deep. This working shows a small but clean-cut vein varying from 2 to 6" wide and carrying nearly solid galena and grey copper.

Going southerly (or downhill) from the first cut 55 feet, is the second open-cut which is 10 feet in length; this working shows 4 to 6 inches of ore. From No.2 cut to No.3 or Main Open cut is a distance of 112 feet. This main cut is 55 feet in length and 30 feet deep. It was entirely filled with snow and so could not be examined. About 250 sacks of ore were taken out of this working last summer.

The vein is said to have widened considerably in this cut, having reached a maximum of 27 inches; at the bottom there is said to be 8 inches of clean ore.

From the main cut, 157 feet southerly, a tunnel has been commenced which is in 10 feet, as a drift on the vein. This tunnel is at an elevation of 9,500 feet and is about 100 feet below the main cut. At the face of the tunnel the vein consists of 6 to 8 inches of leached oxidized material, showing a small amount of sulphides.

VALUES and COSTS.

In order to determine the values in the ore, the following samples were taken:-

<u>Description.</u>	<u>Gold.</u> <u>oz.</u>	<u>Silver.</u> <u>oz.</u>	<u>Lead.</u> <u>%</u>	<u>Copper.</u> <u>%</u>
No.1. Across 5" clean galena ) at centre No.1 Open cut)	0.10	27	60	0.3
No.2. Across 1 1/2" solid ore. ) south end No.1 Open cut)	0.10	97	70	0.8
No.3. Across 4" galena in ) No.2 Open cut. )	0.10	69	62	0.5
No.4. Samples of carbonates 4 1/2" ) wide from No.2 Open cut. )	0.10	31	38	1.5
No.5. Average sample of 50 ) sacks carbonate ore at ) Main cut. )	0.10	63	44	1.0
No.6. Average sample of 200 sacks ) shipping ore (mostly sul- ) phide) at Main cut. )	0.10	54	56	0.6
No.7. Average of 6" face of ) 10 - foot tunnel. )	trace	21.6	6.0	0.2

The first four samples represent the exposed clean ore

which would be classed as shipping ore. They show an average of 4 inches of ore assaying: Gold, 0.1 oz; silver, 58½ oz; lead 57½%; copper 0.8%. The copper content is unimportant and would not be paid for at a lead smelter.

Assuming silver at 65 cents an ounce and lead at 7 cents a pound ( a fair average of the London price on which the Trail smelter settles) the gross value of this ore would be approximately \$120 a ton.

Samples 5 and 6 are believed to be fair average samples of the sacked ore which will be shipped. They show an average assay of: Gold, 0.1 oz; silver, 58½ oz; lead, 50%; copper 0.8%. Sack ore at the present time has a gross value of approximately \$110 a ton.

From the Trail schedule for treatment of lead ores the smelting charge on this ore would be \$10 a ton and the indirect charges (consisting of deductions and marketing and refining charges) \$20 a ton, leaving a net value at the smelter of \$80 a ton.

Mining costs on the ore will vary directly with the size of the vein and the length of barren stretches between ore sheets. From the exposed widths of ore I would estimate about \$30 a ton for mining, hand-sorting, sacking and tramming. The total costs therefore be:

Mining, etc.....	\$ 30
Packing.....	7
Motor truck freight.....	10
Railway .....	3
Smelting.....	30
Total.....	\$ 80 a ton.

This leaves a possible gross profit on the ore of \$50 a ton, or \$900 from a thirty-ton car. Other expenses consist of purchase price and equipment of property.

SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS.

The vein on the Key group is a small well defined fissure carrying in places nice ore-shoots of clean galena and a little grey-copper. The silver values in samples taken were found to be considerably lower than had been expected. The question of values is vitally important and if there is any doubt as to the accuracy of my samples, then a careful check sampling should be immediately made.

Considering the widths of ore as exposed and average values obtained, the possible profit from operating the property is small, probably too small to warrant further development and ultimate purchase. There is however some evidence (from the information obtained about the ore in the Main cut) to show that development may disclose wider ore shoots.

Up to the present time somewhat over \$13,000 has been expended on the property, including part of the purchase price. On November 1st a further payment of \$15,000 has to be made. Under these conditions my recommendations are:

Assuming that the lower tram is constructed by this time, the ore now mined should be immediately shipped. This will give a clear indication of the gross profit possible

from the ore.

Development work should consist only of driving ahead the drift tunnel and all other expenditures should be cut to a minimum. When the returns are received from the ore shipped, a decision can be made as to whether ~~the~~ to continue the option. If work is continued an attempt should be made to get the owners to extend the time of payment of the \$15,000 at least six months, in order to get time to develop the property. It is unlikely that sufficient work can be done before November 1st to intelligently determine whether the property is worth buying.

As it is quite possible that the option will be relinquished, all unnecessary expenditures should be eliminated. If the returns from the ore shipment indicate that the option should not be exercised, then all easily available profitable ore should be extracted and shipped, so as to get what return is possible before November 1st.

.....  
 Provincial Mineralogist.

JDO/R