

MICA HILL MINING CO.

This property is located in the Laramie Range about 20 miles west of Wheatland and it will require a truck haul of about 15 miles all of which is down hill to reach the railroad.

This is a brief report of my examination last summer of the mica prospect west of Wheatland, owned by John McCallum and associates. I visited this property with Mr. McCallum and found it to consist of a mica prospect being developed on a pegmatite dike with a shaft approximately 20 feet deep into which was run an opening cut possibly 30 or 40 feet long.

This development work is located towards the north end of the dike and along its contact with the mica schist on the east. The pegmatite consists of a wide feldspar with a small amount of quartz and considerable mica. The percentage of mica is the greatest along the eastern side of the dike and from what development work has been done appears to digress towards the west side, the dike being probably 50 feet wide at that point. No tests were made to determine the percentage of mica in the rock, but it appeared evident that the dike for 15 or 20 feet from the contact, would average from 15% to 20% mica.

As far as I was able to observe from surface indications, the dike has a length of something like 1,000 feet and the outcrop shows considerable mica along part of this length. The ends of the dike are covered by soil and it was impossible to determine the exact length. The mica schist shown in the shaft appears to carry a very high percentage of mica, possibly 50% or more and it might be worth while to investigate the commercial possibilities of this schist as it is very easily mined and if the mica is of the same grade as that occurring in the feldspar, it might possibly be more profitably extracted. It is doubtful, however, if this mica would be of as good a grade but it should be investigated.

Most of the mica in the feldspar appears to be considerably warped and jointed, and consequently, could be used for nothing but ground mica. In mining operations, however, it is very probably that some sheet mica will be obtained. Sheets of two to three inches of this product should be sorted out and marked separately. In estimating returns from the property, however, it is doubtful whether you could depend upon much revenue from this source.

Geologically, it is to be expected that this pegmatite dike will persist with depth and there is no reason to expect any particular change in the percentage or character of mica in the dike. There appears to be an increasing demand for mica, - quotations at the North Carolina mines being \$17.00 to \$20.00 per ton for scrap mica, sheet mica from \$.07 to \$4.50 per pound, depending upon the size of the sheet and ground mica from \$30.00 to \$135.00 per ton, depending upon the grinding. I have no figures on the cost of grinders mica but it might be possible to obtain estimates.

The Wyoming constituent of the rock is mainly feldspar which will undoubtedly, be marketable as a bi-product after the separation of the mica. Anyone interested in this prospect should have some of the mica analysed for the purpose of determining its potassium and sodium content and its value in the pottery trade.

SUNRISE MICA.

In the hay stack hills in the Hartville Mining district, occur a number of pegmatite dikes in which a very high grade sheet mica of fair size has been developed. This mica occurs in books and a great deal of it can be cut into sheets ranging in size from two inches square to three by four inches, and in some cases, larger. It is estimated that about 10% of the dike mass consists of mica, considerable of which, of course, would be less than two inch size. The mica is a clear white, is free from joints and rulings and appears to be a very high grade sheet mica. The principal development work consists of a cut about 50 feet long and about 20 feet deep in one of the dikes, having a width of 5 to 10 feet. The property is about 5 miles distant from the railroad at Sunrise.

The feldspar in these dikes could be marketed as a bi-product for use in the pottery trade.

ENCAMPMENT MICA.

The mica about one mile south of Encampment is not a true mica but is a chlorite. I have no information as to its electrical properties but see no reason why it should not be used for roofing and a number of other purposes just as well as other properties and in fact, probably would be termed mica by the trade. At the time of my visit in June, an opening had been made on a vein of this material about three feet wide and was apparently absolutely pure. At the time of my visit this mica

was being hauled to Encampment for shipment to Chicago. It was apparently favorably received there and if so, there is no reason why future shipments should not continue.

In the case of this deposit, development work showed a commercial amount of pure material and there is no doubt that future developments should disclose a great deal larger tonnage although it is impossible to give an estimate of this tonnage in the absence of development work.

A few miles south of this point the deposits held by Frank Houston and associates consist of an immense quantity of high grade chlorite mica grading into talc. The amount of development work done on these deposits has been very small but I am under the impression that the quantity of minerals available would justify mining by steam shovel methods wherever the market is sufficiently developed. This property is about four miles from the railroad at Encampment.

There are two very promising phlogopite mica deposits in the Baggott hills about 7 miles north of Encampment, one of them adjacent to the railroad, the other one across the river about one half mile distant. A tunnel about 200 feet long has been driven into the deposit near the railroad showing mica through its entire length, the last 100 feet showing a mica content of probably 50%. From surface workings along this deposit, it is evident that it covers considerable territory and from the nature of the formations, there is no reason to doubt that it continues with depth. On the surface above this tunnel a pit has been sunk about 10 feet in talc of a very high grade.

The milling and shipping of mica from this deposit should, in my opinion, offer very good returns on the capital invested, provided a proper market is developed.

The deposit a half mile east of the railroad consists of a surface pit showing a ledge about 50 feet wide for a distance of some 200 feet. Some development work would be justified in determining more about the tonnage of mica available although there is little question that sufficient tonnage would be found to present a commercially attractive proposition as the rock could be easily milled and loaded on freight cars.