

NOTE ON FLUORITE.

By ROBERT L. MOND.

Our Chairman, Sir Robert Hadfield, has asked me to ascertain whether crystals of fluorite suitable for optical purposes, of which there is a great shortage, are obtainable in the Dominion of Canada.

I at once got into communication with my friend, Mr. C. V. Corless, the General Manager of our nickel mines in Canada, who succeeded in ascertaining for me the following facts.

Crystallised fluorite is exceedingly scarce in Canadian deposits, and there only appears to be one property of any promise in Canada. Mr. Gavin M. Wallbridge, owner of the Wallbridge Mine, Madoc, Ontario, has sent me one crystal, which I herewith submit. In this mine there are two veins, which contain some beautiful, pure white crystals; he has supplied some of these crystals to Messrs. Bausch and Lomb, of New York. The crystal he has sent me he states to be from the second vein. This property is flooded at the present moment, and he cannot work it until next Spring. If material slightly off colour would be suitable, he would be in a position to supply straight away, but the clear white he could not supply before next Spring.

The vein is a closely packed one, tight from wall to wall, and in using dynamite to loosen the ore, all the crystals within a few feet of the shot hole are shattered. He is sometimes able, however, to locate a rough hole after mucking operations, and with great care and a lot of time he is able to save some beautiful specimens. He continues to state that the price which he obtained last year was so much less than the value stated by the Bulletin issued in Washington that he became disgusted, and did not bother to make any attempt to save the crystals.

He further states that he has not an expert there to place a value on the crystals, and, in consequence, must trust to the business honesty of the consignee. He has no doubt that a British firm would "play the game." He is much interested in the crystals end of the business, and would be very pleased to hear if the slightly off-coloured crystals would be of any use, and what would be the smallest size worth submitting.

I am also in receipt of a letter from Mr. Thos. Gibson, Deputy Minister of Mines, who has interviewed the brother of Mr. Wallbridge. He informs us that the deposit is very limited, and that the deposit not now being worked was much more promising. Mr. Gibson's impression is that we cannot count upon the Madoc Mine furnishing any commercial supply of the special type of fluorite, unless the demand is extremely small.

The material is undoubtedly fluorite, and I have submitted the sample to Messrs. Swift and Sons, who propose cutting a lens or prism from it to ascertain its optical properties.

Although the actual specimen is a large crystal, there are only relatively small portions of it which appear to me suitable for optical use. As this crystal was sent to me from Canada in a canvas bag, it may have suffered crushing in transit.

I regret I have not been more successful in obtaining information as regards the occurrence of this mineral.