13. Around Lake Nipissing, Ontario, as an occasional constituent in quartz veins.

14. A specimen is reported from upper Cowitchen river, British Columbia.

15. In association with copper ore at a locality between Jarvis, Inlett and Howe Sound, British Columbia.

16. In the Atlin district it may be found as an accessory constituents of gneiss and in quartz veins especially at the head of Volcanic creek.

17. Float carrying considerable has been found in the vicinity of Great Slave lake.

According to the Inspector of Mines for Nova Scotia specimens of molybdenite may be found in that province of Gabarus, Hammonds, Plain Bedford, Lower Musquodoboit, New Germany and New Ross.

The Inspector of Mines for Quebec reports molybdenite in workable quantity in quartz veins at Quetcho-Manicougan: at lot 17, 15th concession of Leeds Township, Megantic county: at the northern part of 13th range in Calumet Island.

According to the reports of the Bureau of Mines for Ontario molybdenite may be found more or less abundant at the following localities:—

1. Lot 3, 8th concession of Miller Township, Frontenac County.

2. At Black river, Lake Superior region where a considerable quantity is reported.

3. At lot 14, 5th concession of North Crosby, Leeds Township.

4. At lots 26 and 27 in 6th concession, Monteagle Township, Hastings County.

5. Near Farquhar lake in lot 3, 1st concession of Harcourt Township, Haliburton County, where a considerable deposit has been opened up by the Haliburton Land and Immigration Co. of Toronto. Five veins traversing pyroxenite as country rock have been exposed carrying molybdenite with pyrrhotite, tremolite, pyrite, mica and sphene. The total exposure is 300 yards long and 80 yards wide on which test pits have been sunk. Average samples from this property carry about 2 p.c. molybdenum.

6. Several localities are reported where the molybdenite appears to be only an accessory mineral in country rock or pegmatites.

The writer also knows of the following important deposits not mentioned as they are but recently discovered:—

1. At the centre part of lot 5, 11th concession of Laxton Township, Victoria County, Ontario, near Mud Turtle lake. Development work done by the owner, Mr. J. Webber, Toronto, shows a vein about 15 feet wide cutting crystalline limestone. The vein has been stripped for 40 feet by an open cut and shows molybdenite in large and small flake associated with pyroxene, calcite, quartz, black mica, pyrites, a few specks of pyrrhotite and hornblende. A 50 lb. sample submitted to concentration tests as further described carried 3.28 p.c. molybdenum.

2. At the south part of lot 5 in the same locality as (1) where a narrow vein carrying molybdenite may be traced 5. Three pits sunk about 30 feet apart show molybdenite in considerable quantity and fairly rich. The associated minerals are quartz, calcite, pyrite, molybdenum ochre due to weathering action and pyroxene.

3. On the farm of T. Dwyer, Sheffield Township, Addington County, there is a mineralized zone carrying pyrrhotite, pyrite, hornblende, calcite, quartz, pyroxene, black mica, etc., in which foliated masses of molybdenite occur some of the masses being 6"x6" while it may be as fine flakes.

Development work done by the owner, Mr. A. M. Chisholm of Kingston, has produced a pile of 1,000 tons of ore and the deposit does not seem to be exhausted. Average samples selected by the writer carried 2.8 p.c. Mo and 260 lbs. of selected ore subjected to concentration carried 3.90 p.c. Mo.

4. A deposit is known to occur near Granite crossing, British Columbia, where the C. P. R. crosses Kootnay river. Five claims have been taken up by Mr. T. L. Stamford of Nelson, on a vein mostly quartz traversing altered granite as country rock. The molybdenite occurs as fine flakes in the quartz and there is more or less of reddish felspar present. A 20 lb. sample from this locality submitted to concentration tests by the writer carried 1.5 p.c. Mo.

Molybdenite is reported to have been found in considerable quantity at Rencontre, Fortune Bay, Newfoundland.

A deposit has been found near the White pass Tunnel above Skaguay in the Yukon Territory carrying considerable molybdenite with high gold values.

CONCENTRATION TESTS ON CANADIAN MOLYBDENITE ORES.

Molybdenite has come into industrial use only within the last few years on a large scale so that there is practically no literature regarding the methods of concentration or dressing its ores. As it is a common mineral in Canada and its industrial uses appear to be increasing, some commercial method of extracting the mineral from its ores is needed. Accordingly the writer submitted several samples to concentrating tests at the ore-dressing laboratory of the Kingston School of Mines with the object of finding a simple and efficient method of concentrating molybdenite from the low grade ores.

Sample A comprised 260 lbs of ore from a deposit in Sheffield Township, Addington County, Ontario, already noted. Plate 1 is a characteristic specimen showing the flakes of molybdenite segregated in the matrix. The sample carried about 50 p.c. pyrrhotite, 10 p.c. pyrite intermixed with calcite, black mica, quartz, pyroxene, etc. The sample carried 3.90 p.c. Mo. equivalent to 6.5 p.c. molybdenite. All

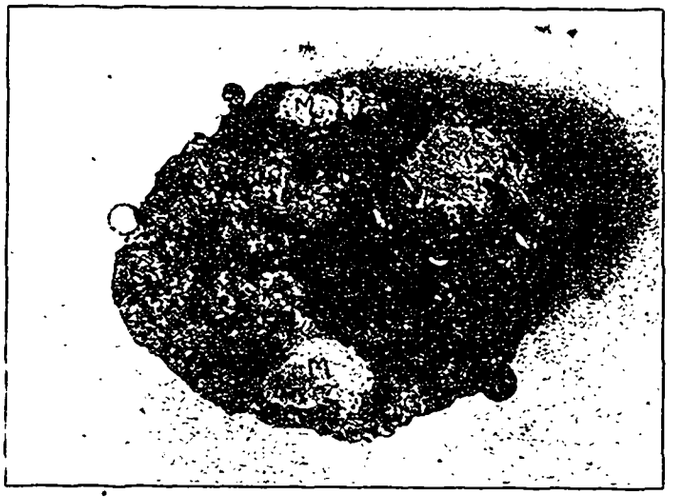

Photo showing Molybdenite in flakes (M) found in Pyrrhotite.

of the molybdenite was in the form of small scales or segregated masses as the ore was selected to see what could be done with the fine flakes. Hand picking of the large flakes is obviously the easiest method of securing a marketable product but the removal of the fine flakes is more difficult.

The sample was crushed in jaw crusher, passed through rolls and screens with slots of 0.20" diameter. Molybdenite as large flexible flakes not reduced in size by rolling was picked from the screen. Such ore weighing 3 lb. carrying 54.3 p.c. Mo equivalent to 90.05 p.c. molybdenite.

The ore was then crushed in the rolls to finest possible size and passed through the screen of 0.20" diameter delivering an oversize weighing 3.5 lb. consisting of mica and molybdenite with a few particles of pyroxene. Neither mica not molybdenite were much affected by passing through the fine rolls owing to the flexible and laminated structure.