GM 38903

GEOLOGICAL REPORT

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Énergie et Ressources naturelles
Québec

GEOLOGICAL REPORT

on

NORYN MINES LIMITED

ROUYN TOWNSHIP, QUEBEC

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AUGUST 19th, 1969

H. J. Hodge,
Noranda, P. Q.

Ministère de l'Énergie et des Ressources
Gouvernement du Québec
Service du Potentiel minéral
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INTRODUCTION

The Rouyn Township property of Noryn Mines Limited consists of 2 groups of claims totalling 147 acres and lying south of, and contiguous to, the west section of Noranda Mines Limited, Horne Mine property.

The company has an authorized capitalization of 4,000,000 shares, 2,999,997 of which have been issued. 1,000,000 escrowed shares are held by Magma Mines, an associate company. Noryn has been inactive for a number of years. Mr. Redmond Quain, Sr., Q.C., is president. Head office is at 77 Metcalfe Street, Ottawa.

Previous reports from this office, including recommendations for further exploration, resulted in an attempt by Noranda Mines to arrange an option agreement with Mr. Quain. We were unsuccessful in this regard. In order that we may be brought fully up to date in this matter, a brief resumé of events regarding negotiations with Mr. Quain is presented below. See also attached copies of correspondence.

- Following conversation between Mr. Porritt and Mr. Quain, Dr. Miller requested and received in April, 1968, reports, including diamond drill logs, of previous exploration carried out on the Noryn property.
- In June 1968, a preliminary report from this office, recommending further exploration served as a basis for Noranda's proposal.
- In July 1968 Mr. Quain countered with two proposals of his own which Noranda turned down. This marked the termination of negotiations to the present time.

PROPERTY, LOCATION, ACCESS

The property of Noryn Mines Limited is located in Rouyn Township, contiguous to, and south of, the west section of the Horne property of Noranda Mines Limited. The property consists of two groups of two claims each containing 97 and 50 acres, which are separated by a wedge shaped section of the New Senator property averaging 250 feet in width.

The easternmost boundary lies approximately 8000 feet west of the main Horne orebodies and 2600 feet west of the Chadbourne deposit. The New Senator shaft and Don Rouyn pit lie 3000 feet south, and ½ mile north, of the property, respectively.

The main Rouyn to Kirkland Lake line of the Ontario Northland Railway crosses the west block roughly diagonally, south east to north west. The Rouyn to Kirkland highway, Route 59, cuts across the north east corner of the east block and marks the western boundary of the Noranda Townsite. A lumber mill straddles the west boundary of the west block.

PREVIOUS EXPLORATION

A report by J. P. Nowlan describes results of previous exploration on the Noryn property, and includes diamond drill logs. A summary report by L. S. Trenholme dated September, 1962 discusses exploration to date.

In 1937, 9 diamond drill holes, totalling 4430 feet, were drilled by Questor Gold Mines to a maximum vertical depth of 765 feet. This drilling was carried out primarily in search of economic gold mineralization and the bulk of the work was in diorite in the east block, since gold was known to occur in shear zones in diorite on the New Senator property to the south. These drill holes, being so designed as to intersect these shear zones,

yielded a minimal amount of information with respect to the attitude and possible potential of the favourable volcanic rocks, particularly rhyolites. In addition to these nine holes, three holes were drilled with an X-ray drill and although the logs are available the locations are not known.

All of the diamond drill logs note the presence of considerable pyrite mineralization in both rhyolitic and andesitic rocks, with scattered mention of chalcopyrite and pyrrhotite, but no sulphides of economic tenor were encountered.

A number of trenches were observed, and in one case at least, surface blasting has revealed the presence of considerable pyritic sulphides in rhyolitic tuff and breccia.

The writer has spent the equivalent of approximately two days in a number of cursory examinations of the rocks. No systematic mapping program has been undertaken in this regard.

GEOLOGY

The property is underlain entirely by PreCambrian volcanic and intrusive rocks, rhyolitic to andesitic in composition. The west block is underlain principally by rhyolite pyroclastics, and lava flows and breccia, striking slightly east of south, dipping approximately 65° easterly, and facing east. A band of andesite occurs in the north east corner of this block. The east block is underlain by rocks which have been mapped chiefly as metadiabase with subordinate andesite flows and breccias. Cursory examination of these rocks by the writer would suggest that much of the metadiabase may in fact be andesite. These andesites have similiar attitudes to the rhyolitic rocks in the west block.

Interpretation of regional stratigraphy and structure indicate that these volcanic rocks form the north limb of a fairly open synclinal-fold whose axis strikes and plunges north east, probably slightly south of the south property boundary. The south limb of this syncline strikes roughly east-west so that the rhyolitic series which crosses the west block bends easterly around the synclinal axis, crosses Noranda Lake, and extends on into the southernmost section of Lake Osisko, straddling the south shore line. This interpretation is critically important since this series would then in all likelihood represent the up dip extension of the rhyolite series in which a significant sulphide deposit has recently been discovered and which is presently under investigation on the 33rd level (4000 feet below surface) of the Horne mine.

Faulting is not particularly prominent on the property with one fault postulated as crossing the property in a south westerly direction, possibly a subsidiary of the major Horne Creek fault which crosses, approximately in an east-west direction, 1000 feet north of the property. The south-westerly fault could conceivably represent the general direction of the fold axis and it is possible that the volcanic rocks have been displaced along this fault.

Moderate to heavy shearing was noted in a great number of outcrops, particularly in the rhyolitic series in the west block. The direction of shearing is approximately east-west, is most probably regional in nature, and complicates the determination of primary bedding structures.

Alteration of the type normally associated with regional shearing is very prominent and consists of sericitization and silicification in the rhyolites and, to a lesser degree, epidotization and chloritization in the

andesitic rocks. Chlorite, of the type which is normally associated with copper rich sulphide deposits in the Noranda area, was not particularly prominent in field examination, however it was noted in several drill logs. "Dalmationite", a term used locally to describe intense, spotted, chlorite-cordierite - anthophyllite alteration normally associated with sulphide deposits, was noted in an X-ray hole log, the location of which is not known.

Sulphide mineralization is ubiquituous in exposed bedrock, particularly in rhyolitic rocks, as indicated by widely scattered areas of iron oxidation (gossan). Sulphides consist of pyrite with scattered traces of pyrrhotite and chalcopyrite and occurs as disseminations, lenses, and fracture fillings. In field examination a mineralized zone, roughly 1000 feet east from the highway in the east block, was turned up. Considerable trenching had been carried out on this showing exposing a considerable area of heavy to massive sulphides, consisting of pyrite with minor pyrrhotite and scattered traces of chalcopyrite in siliceous rhyolite tuff and breccias, enclosed in andesite. Assays of sulphide material collected at this showing were as follows:

.01 oz/ton gold
2.00 oz/ton silver
.04% copper
.03% zinc

The rhyolite tuff and breccia appeared to be of limited extent being enclosed by andesitic and dacitic rocks. The rocks bear a strong lithological resemblance to the rhyolitic rocks which host the sulphide deposit recently discovered on the 33rd level, and as mentioned previously could be the up dip extension of that series, assuming a continuous north dip and easterly plunge. No mention of this zone was noted in reports of past exploration.

In addition to the above, pyrite was noted in all diamond drill logs, in amounts varying from light, disseminated to well mineralized and in several cases near massive over narrow sections, with minor pyrrhotite and carrying visual traces of chalcopyrite. No assays are available for this core if in fact these sulphide sections were sampled.

CONCLUSIONS

The property of Noryn Mines Limited is favourably located with respect to proximity of several known ore deposits. The Horne sulphide deposits, Chadbourne gold zone, Don Rouyn pit and New Senator gold deposits lie within $\frac{1}{2}$ to $1\frac{1}{2}$ miles of the property boundaries.

In addition the west block and parts of the east block are underlain by rhyolitic fragmentals which are host to nearly all of the Noranda area sulphide deposits.

On the basis of interpretation of regional structure, which equates the above mentioned rhyolitic series to the rhyolitic series presently being investigated on the 33rd level of the Horne mine, in which has been discovered a sulphide zone carrying minor gold, zinc, silver and copper values, the Noryn property has assumed considerably more importance from a point of view of exploration potential now than it appeared to have when previous negotiations with Mr. Quain were being carried out.

Although no economic sulphides have been discovered on the Noryn property to date, there is evidence of considerable widespread pyrite throughout the surface rocks as well as that intersected in underground drilling. One zone in particular, of heavy sulphides carrying significant values in silver has apparently not been investigated below surface by drilling at least not to the writer's knowledge.

In the writer's considered opinion the presence of pyrite is in itself an indication of the amenable character of these rocks with respect to sulphide mineralization. There is thus the likelihood that gold and silver bearing copper and zinc sulphides can be expected to occur in some quantity in this geological environment.

Further detailed exploration including careful geological remapping of these rocks, together with geophysical and geochemical surveying, is necessary to determine if concentrations of copper-zinc sulphides do exist in sufficient quantity to be considered economic.

RECOMMENDATIONS

It is strongly recommended that negotiations be re-opened with Mr. Quain of Noryn Mines in an effort to obtain a reasonable option on this property.

An agreement similiar to that proposed by Dr. Miller dated June, 1968 (copy attached) would appear to be most reasonable although it might be necessary to increase the financial commitments involved to some extent.

An exploration program involving methods recommended in the previous section and as outlined in an earlier report from this office would appear to be adequate to investigate the potential of this property from surface. Such a program would entail initial expenditure of less than $4,000.00, and would include the following:

Geological Mapping - 1 week	-	$300.00
Grid Lines - 7 miles @ $80.00 per line mile	-	$560.00
Geophysics - EM - 7 miles @ $140.00 per line mile	-	$980.00
- Magnetometer - 7 miles @ $50.00 per line mile	-	$350.00
Geochemistry - 350 soil samples and/or rock determinations for copper, zinc, mercury $2.25 per	-	$790.00
TOTAL	-	$2,980.00
Add 15% contingency	-	$450.00
GRAND TOTAL	-	$3,430.00

Any encouraging results from the above program would require more detailed geophysics and geochemistry and conceivably diamond drilling. It is anticipated that the $10,000 as proposed for the 2nd years committed expenditure of any agreement would adequately cover the cost of any initial drilling. Subsequent diamond drilling as required would constitute costs involved in proposed expenditure commitments for the 3rd and 4th years of $20,000 and $40,000 respectively.

It is strongly recommended by the writer that if there is general agreement that this property is worthy of further exploration, negotiations should be opened as early as possible with Mr. Quain since any discovery of significant tonnages of economic sulphides on the 33rd level of the Horne would greatly enhance the potential of the Noryn property and undoubtedly result in an escalation of costs in any option agreement.

Respectfully submitted,

H. J. Hodge,
Chief Mine Geologist.

Noryn Mines has a property in Rouyn Township, Quebec, consisting of 150 acres located, as shown in the attached sketch, i.e. tying onto Noranda's south boundary.

About 30 years ago, 9 holes totalling 4,000 feet (approximately) of drilling was done. The present owners bought it in 1940 for $20,000.00 after the original owners ran out of money.

There were no economic values found, but there was copper mineralization and there was brecciated rhyolite with enough diorite around to act as an impermeable cover if, by any chance, the ore came in the right places. It would be a copper prospect.

A diorite dyke runs through it onto Noranda. The Horne fault is a few hundred feet north of it. Within a mile and a half is the Noranda main ore body and the Quemont.

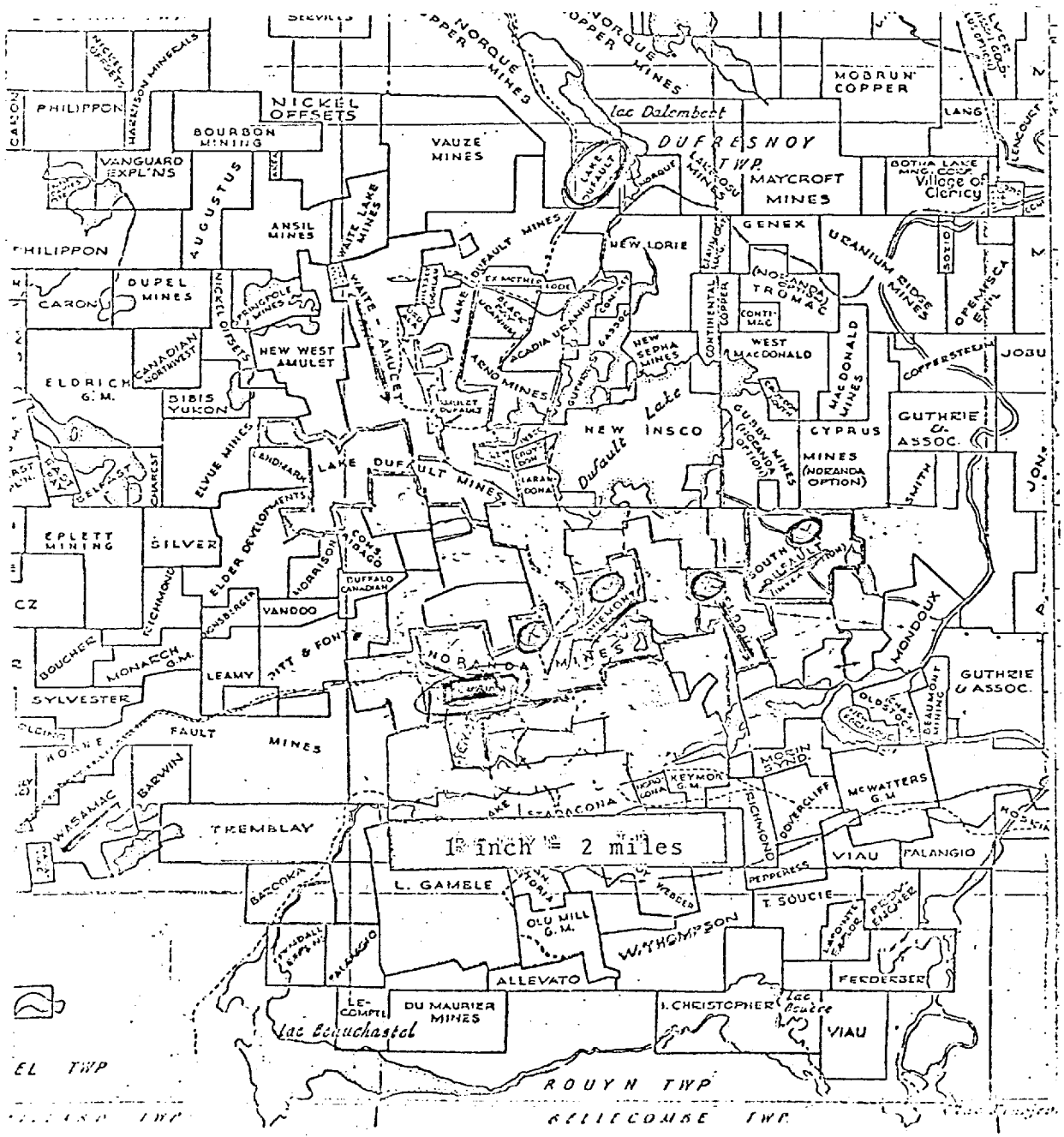
Within a few hundred yards is Noranda's low grade Chadbourne ore body, (1,000,000 tons of $5.00 gold) and Noranda's Don Rouyn low grade copper body, 3,000,000 tons of .22% copper. Deldona is a few claims away.

As the drilling in the thirties on this property moved westerly from the diorite to the rhyolite there was continuous heavy mineralization including a good deal of chalcopyrite.

There should be a minimum of 10,000 feet of drilling done.

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