



Greater Canada Gold Investments Limited  
West Property  
Mine Centre, Ontario

Introduction

This is an evaluation report on a group of 18 unpatented mining claims located near Mine Centre, Ontario. The claims were staked in June of 1963 for Greater Canada Gold Investments Limited.

This report is based on the following sources of information:

1. Preliminary report on Mine Centre Area, Ontario, T.L. Tanton, 1935, Department of Mines, Ottawa.
2. G.P. Thoday, 1961, report on the properties of Greater Canada Gold Investments Limited
3. Studies of air photographs on scales of 1 to 1320 and 1 to 400 published by the Ontario Department of Lands and Forests.
4. A prospecting and mapping program carried out on these claims between June 15 and July 31, 1963. Prospectors Manfred Johnson and Walter Stanger assisted in this work.

Location and Property

The claims are located approximately one mile south and west of Mine Centre, Ontario, in the Grassy Lake area, Fort Frances Mining Division, Ontario. The claim group contains 18 contiguous unpatented mining claims numbered as follows:

F.F. 14497 - F.F. 14505 inclusive and  
F.F. 14508 - F.F. 14516 inclusive.

Access & Facilities

The simplest access to the claims is by the unimproved road leading south from Mine Centre to Shoal Lake. From this road, tractor roads lead westward to the property's east boundary. The west boundary claims lie on the shore of Bad Vermillion Lake and are reached most easily by boat.

There are no camps or mining facilities on the property.

History & Development

The early history of the claim group is not known to the Company or its servants. Prior to 1935, a small shaft was sunk 500 ft. northeast of #3 post claim F.F. 14513 and some trenching was done just south of the #1 post of claim F.F. 14505. The rest of the claims were undoubtedly prospected but no rock work of consequence was performed.

The work done on behalf of Greater Canada Gold Investments Limited consisted of mapping on a scale of 1" to 400', prospecting and generally evaluating the claims. Also some geochemical surveying, using the Lemaire Mercury Detection Method was done over the vein system on claim F.F. 14505.

General Geology

The general geology of the Mine Centre area was described by T.L. Tanton in 1935 from which the following table of formations is drawn:

FORM NO. 1-40-11-6 REPORT MADE BY GRAND & SON LIMITED

TABLE OF FORMATIONS

post Seine.....	intrusives.....	quartz porphyry
.....	.....	anorthosite, amphibolite
Great Unconformity		
Keewatin.....	.....	greenstones

The rocks underlying the West Group of claims belonging to the Company are chiefly anorthosite, greenstone and quartz porphyry.

The greenstones occur as a relatively narrow belt trending southwesterly through the northeast claims. The greenstones terminate between the anorthosite and quartz porphyry in an overburdened area on claims F.F. 14504 and F.F. 14508. The greenstones tend to be massive with very little evidence of shearing.

The quartz porphyry occurs in the southeast corner of claim F.F. 14516. This body of rock is a small portion of the main quartz porphyry intrusive in the Mine Centre area.

Over 80% of the claim group is underlain by anorthosite and a small amount of amphibolite rock metamorphosed by this intrusive. The anorthosite is a massive uniform intrusive and is very well exposed.

Structural Geology

There are very few interesting geological structures on the claims. The anorthosite intrusive displays many well-developed joints and a few of these contain small quantities of quartz calcite vein matter. The intrusive is also cut by several narrow tight shear zones, some of which carry trace amounts of quartz carbonate and chalcopyrite.

FORM NO. 14 (1950) REPORT PAPER GRAND A TAIL LIMITED

The most interesting structure on the claim group is a large drag found in the greenstones occurring on claims F.F. 14504, F.F. 14508 and the adjoining claim A D 3 which is not a part of the Greater Canada group. The fold is outlined chiefly by outcroppings of anorthosite whereas the greenstone portion is overburden-covered so that little or nothing could be learned about the minor structures which probably exist.

Economic Geology

Gold is the chief metal of value sought at Mine Centre, although to the west several occurrences of copper are being actively explored at the time of writing.

To the writer there seems to be very little hope of locating a mineral deposit of economic value on the West Group. The anorthosite is a massive formation showing very little evidence of structural deformation. A prospector would describe the rock as "dry". ?

The shaft on Claim F.F. 14503 was sunk on a contact between anorthosite and a diabase dike. Muck from the shaft was dumped at the collar and as the muck pile grew the shaft was timbered up. The collar is now collapsed and it would be very expensive and hazardous to attempt to de-water. It is likely that a narrow vein occurs at the contact between the diabase and anorthosite although none of this is exposed today. Grab samples of quartz and sulphide vein matter from the shaft dump returned TRACE and NIL values in gold. A system of joints crosses the contact between anorthosite and diabase at right angles and many of these joints contain a small amount of low temperature quartz and carbonate. A grab sample from one of these veins located 100 ft. south of the shaft returned TRACE in gold.

FORM NO. 14 (REV. 1965) REPORT TABLE GRAND A TOX LIMITED

Similarly, a stronger and better mineralized joint lying about 50 ft. north of the shaft returned NIL. In my opinion the veining in the vicinity of the shaft has negligible economic potential.

T.L. Tanton reports a copper occurrence near the shore of Bad Vermillion Lake on claim F.F. 14501. A pit has been sunk on the occurrence but to call it a copper occurrence is a misnomer. The showing consists of a tight shear zone about 4 ft. wide rising out of the lake and across a well exposed outcrop. The shear zone is almost barren. Here and there one can see minor amounts of quartz and in one location traces of copper stain can be found. There is no evidence of wallrock alteration along the shearing. The occurrence is without value.

The best looking showing on the West Group is the quartz vein occurring some 200 ft. south of the #1 post of claim F.F. 14505. Unfortunately the best part of this vein occurs on claim F.F. 571 which adjoins claim F.F. 14505 on the east and does not belong to the Company. The vein length on the Company's property is about 150 ft. but the vein weakens as the greenstones become increasingly massive to the west, and finally dies out altogether. The vein is not well exposed and two grab samples returned TRACE and 0.01 oz. of gold per ton. On the adjoining claim, F.F. 571, the vein continues for about 200 ft. before it is lost under a large swamp. As it continues into the swamp the vein increases in strength reaching a width of about 10 ft. and is richly mineralized with chalcopyrite and pyrite. There is no evidence of this vein having been diamond drilled and if the Company controlled sufficient ground, further work would be warranted. On the Company's property, the general area of the vein, some 175 ft. along strike and 200 ft. wide, was surveyed geochemically using the Lemaire Mercury Detection Method. The results, when plotted and

contoured, are not impressive. There are a few weakly anomalous zones which suggest the vein is weakening to the west and this is confirmed by a visual examination of the outcrop.

Conclusions

1. A thorough surface examination and evaluation of the West Group has failed to establish the presence of any worthwhile exploration target.
2. The greenstones underlying portions of claims F.F. 14497, F.F. 14505, F.F. 14504, F.F. 14508 and F.F. 14512 may contain worthwhile mineral deposits but, for the most part, they are heavily overburdened and thus difficult to explore. The chief value in these claims would be realized if they were grouped with those adjoining them on the east.
3. All of the claims in the West Group are in good standing until June 28, 1964.

Recommendations

1. I do not recommend further exploration on the West Group of claims.

My report is respectfully submitted.

*H. G. Harper*

H. Grant Harper, F.G.A.C., P.Eng.  
Economic Geologist

Willowdale, Ontario,  
September 3, 1963.

FORM NO. 145-1-1-1 REPORT PAPER - GRAND N. TOY LIMITED



52C155E8112 63A.450 BAD VERMILION LAKE

020

**GREATER CANADA GOLD INVESTMENTS LIMITED  
East Property  
Mine Centre, Ontario**

**Introduction**

This is an evaluation report on a group of 9 contiguous unpatented mining claims located near Mine Centre, Ontario. They were staked in June and July of 1963 for Greater Canada Gold Investments Limited.

This report is based on the following sources of information:

1. Preliminary report on Mine Centre Area, Ontario, T.L. Tanton, 1935, Department of Mines, Ottawa.
2. G.P. Thoday, 1961, Report on the property of Greater Canada Gold Investments Limited.
3. Studies of air photographs on scales of 1 to 1320 and 1 to 400 published by the Ontario Department of Lands and Forests.
4. A prospecting and mapping program carried out on these claims between June 15 and July 31, 1963. Prospectors Manfred Johnson and Walter Stanger were actively engaged in this program under the writer's supervision and participation.
5. A geochemical survey of parts of the claims using the Lemaire Mercury Detection Method. The results of this survey were contoured by Dr. H.T.F. Lundberg and his opinions form a corporate part of this report.

**Location and Property**

The claim group consists of 9 contiguous unpatented mining claims located in the Grassy Lake and Little Turtle Lake areas, Fort Frances Mining Division, Ontario.

The claim numbers are as follows:

FF 14506 & FF 14507 and  
FF 14517 to FF 14522 inclusive and  
FF 14670.

Access & Facilities

The simplest access to the claims is via the unimproved road leading south from Mine Centre and which passes within 100 ft. of the east boundary of the claims. There are no camps or mining equipment on the property.

History & Development

A considerable amount of surface trenching has been done on claims FF 14506 and FF 14507, two of the claims in this group. These two claims were held until July of this year by a man now resident in the United States who did most of the trenching and pit sinking. When the claims came open early in July, they were immediately staked on behalf of the Company.

The work done on the claim group this summer was preliminary in character, designed to evaluate their economic potential. The work done included prospecting, mapping, sampling, and a partial geo-chemical survey, using the Lemaire Mercury Detection Method.

General Geology

The general geology of the area has been described by T.L. Tanton. The formational sequence is as follows:

FORM NO. LEAD 11 REPORT DATES : GRAND & FOX LIMITED



TABLE OF FORMATIONS

post Seine.....intrusives.....quartz porphyry

Intrusive Contact

Seine Series.....conglomerate

Great Unconformity

Keewatin.....greenstones,  
lava flows,  
agglomerates

The Seine conglomerates appear to underly most of the claim area. They outcrop along a northeast trending contact with greenstones and near this contact the pebbles and cobbles are frequently elongated into ellipsoids. Away from the contact the pebbles and cobbles are naturally rounded. The three southeastern claims are entirely covered by the overburden but the regional map suggests that conglomerate is the underlying formation.

Keewatin greenstones underly about 25% of the claim area and occur in the north and northwest sections of the group. The greenstones are typical metamorphosed lava flows and contain a few coarse fragmental beds. It is quite impossible to trace individual lava flows or fragmental beds for any distance on surface.

The quartz porphyry is a relatively fine grained pinkish feldspathic rock containing the odd quartz phenocryst. It occurs as dike like structures, sinuous in outline, near the contact between the greenstones and sediments.

It is quite apparent that this contact has controlled the end emplacement of the quartz porphyry dikes which, on these claims, are offshoots from the main quartz porphyry mass lying to the southwest. The quartz porphyry is regarded as the source rock for gold bearing veins which occur in the area.

FORM NO. 12 - 10 - 1950 (REVISED) PAPER

Structural Geology

The most important structure on the claim group is the contact between the seine conglomerate and the much older Keewatin greenstones. The contact, which is also an unconformity, dips northwesterly at 80°. Along the contact and adjacent to it dikes and irregular masses of quartz porphyry have intruded. In this same environment and near #1 post of FF 14507 a strong shearing has developed. The shearing seems to bevel the contact at a slight angle but it is not well exposed and its extensions to the southwest and northeast are drift covered.

Economic Geology

Several gold bearing veins occur on the East Group. The strongest and richest looking vein occurs near the #1 post of claim FF 14507 and this general area is referred to as "Block C." The vein is exposed only in two trenches from which grab samples assayed TRACE and 0.28 oz. of gold per ton. The two pits expose the vein for a length of about 50 ft. and the vein extensions beyond are covered with overburden and there has been no attempt at trenching. The vein varies between 2.5' and 6' in width. It consists predominantly of quartz and is erratic and richly mineralized with chalcopyrite, pyrite and a small amount of bornite. The vein lies from 20 to 30 ft. south of the shear zone and these two structures should intersect from 75 ft. to the northeast. A Mercury Halo Anomaly of respectable size occurs over the vein. But the anomaly has a rather peculiar shape. The long axis of the anomaly is northeast, parallel to the vein, but there is also a pronounced axis trending at right

angles across the anomaly and this axis is located in the general area of confluence of the vein and shear zone. Two diamond drill holes are recommended in this area---one to explore the vein and the contact while the other would explore the vein, the cross anomaly and the contact.

A strong mercury halo occurs 150' southwest of the gold vein where outcrops are few and small. It trends northwesterly conformably to the enclosing rocks. A drill hole is recommended at this location and it would explore the southwest extension of the gold vein, the greenstone conglomerate contact, and the mercury halo anomaly.

A second area of exploration interest is referred to as "Block B", and lies along the south boundary of claim FF 14506. The host rock is greenstone and the greenstone conglomerate contact lies about 500 ft. to the south. A chalcopyrite bearing quartz vein strikes across the greenstone area for a length of 300 ft. The vein is well exposed by outcrops and trenches and is usually under one foot in width. Grab samples assayed from TRACE to 0.26 oz. of gold per ton. In the immediate area, other veins are partly exposed in old pits and trenches. A mercury halo survey of the area shows a number of interesting anomalies, four of which are recommended for drill testing. One of these holes would be a depth test adjacent to a drag folded quartz vein. The other three occur in areas of overburden where the geology cannot be seen.

The third interesting area, "Block D", lies near the southeast corner of claim FF 14506. Here a strong north-south trending quartz vein, carrying some chalcopyrite, is exposed by pits over a length of 200 feet. Vein widths attain three feet. The vein weakens

LOWE, S. J. & J. H. HUBERT, JR. - 1964 - P. 10 - 11

perceptibly to the south and strengthens considerably to the north where it passes into muskeg. A mercury halo survey of this area failed to locate an anomaly. For this reason no drill hole is recommended at the present time, although the vein is certainly of exploration interest, particularly its northern extremity where it enters the muskeg.

Conclusions

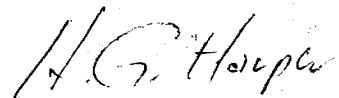
1. The East Group of claims offer a number of interesting exploration targets including some sizeable, well-mineralized gold-bearing quartz veins.
2. About 70% of the area of the East Group is masked by an unbroken mantle of overburden. To explore this area requires systematic geophysical work and this was beyond the scope of the present program.
3. The strip of ground paralleling the greenstone conglomerate contact is sparingly exposed by outcrops and several of these were cut by quartz veins. If rock exposures were better, no doubt more veins would have been found.
4. The East Group of claims will remain in good standing until the end of June, 1964.

Recommendations

A preliminary testing of some of the gold-bearing quartz veins and the mercury halo anomalies is recommended.

Altogether, seven drill holes totalling approximately 1,500 ft. of AXT size core would be adequate for an initial testing. The cost should not exceed \$7,000. This amount of drilling would hold the claims in good standing until the end of June, 1967. A land survey of the claims would then allow the application of a lease from the Ontario Department of Mines.

My report is respectfully submitted.



H. Grant Harper, F.G.A.C., P.Eng.  
Economic Geologist

Willowdale, Ontario  
September 3, 1963



52C155E8112 63A.450 BAD VERMILION LAKE

900

**GREATER CANADA GOLD INVESTMENTS  
LIMITED**

CABLE: "GOLDMARKET" TORONTO  
CODE: PETERSON - 4TH EDITION

TELEPHONE:  
EMPIRE 4-4386

ROYAL BANK BUILDING  
TORONTO 1, CANADA

2nd July, 1965.

Mr. Fred W. Matthews,  
Mining Recorder,  
Province of Ontario,  
Parliament Buildings,  
Toronto, Ontario.

Dear Sir:

Re Report of Work on Mineral Claims  
Nos. FF-14497 to FF-14522 inclusive  
and No. FF-14670 - Grassy Lake Area,  
Fort Frances Mining District, Ontario

Enclosed, herewith, please find Report of Work in duplicate performed on the above-described mining claims, together with duplicate copies of Report by Grant Harper, Engineer, including Maps entitled West Group Block "A", General Geology, East Group, East Group Block "B", "C", "D" and "E", duplicate copies of Claims Maps Nos. M-2433 and M-2474, and statement of work signed by H. Grant Harper.

This work was not filed with you previously as we had expected to continue on with diamond drilling and the Engineers had advised that it would then all be filed at the same time. However, as we have not been able to get the drilling done or started before the expiry date of the claims, it is necessary for us to ask for an extension of time for performing further work, and therefore we felt the Department should have a record of past performance.

It has been difficult for us to get the necessary data together, which required having copies made of the original reports, maps, etc., and getting them to Mr. H. Grant Harper, who is out of town on other jobs, for his perusal and signature. We have been in communication with Mr. Harry Bell, Mining Recorder, Fort Frances, and sent him a copy of the Report of Work but he advised us to file same direct with you in order to save time. He also told us to advise you that he was present when the work was being done, and that it was performed in a conscientious and thorough manner, and that he would consider sufficient work had been performed to give credit for one year, that the men had been on the property for a considerable time and had worked hard.

In speaking to Mr. Grant Harper, he did not feel that enough man-days had been spent on the West group of claims to

Continued . . .

GREATER CANADA GOLD INVESTMENTS LIMITED

Mr. F. W. Matthews.

- 2 -

meet the number of days required by the Department though they had spent time on all the claims but that more than enough had been done on the East Group.

The program of work for which the men were sent to the property and for which our Company advanced the sum of approximately \$8,000.00 was to consist of a geochemical survey followed by surface work and diamond drilling. Had this been completed as planned, there would have been enough work done to give credit for at least three years assessment work or more. After the men got started, however, they found that the claims had not been properly tagged and in consultation with the Mining Recorder it was decided by them to restake the claims. This, of course, used up both time and money, and we were not able to carry on with the drilling as planned. The men were in the field altogether the best part of two months.

We have applied to the Commissioner for an extension of time for which to carry on with the development program originally planned for these claims which has been delayed due to reasons given in our application to him, and we sincerely hope that you will consider sufficient work has been performed to give us credit for one year's assessment work.

Yours very truly,

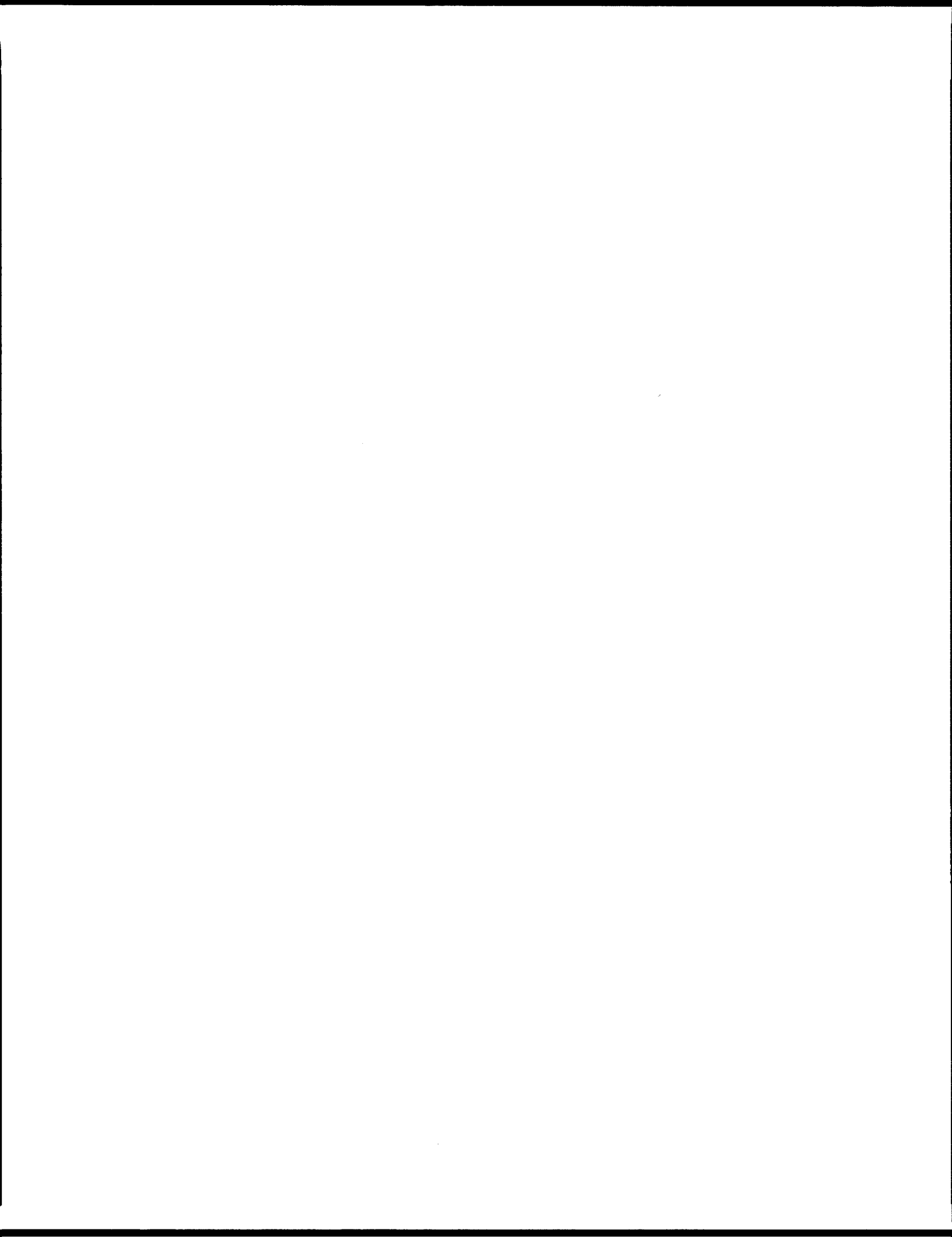
GREATER CANADA GOLD INVESTMENTS LIMITED

  
M. K. Crowley,  
Secretary-Treasurer.

MKC/MCG  
Encls.

P.S.--As Mr. Harper is presently out of town on a job, we were unable to have him sign the copies of maps accompanying the Reports and get the material to you in time. We have only one copy of the original Report with signed maps and do not like to let it out of our possession. We will, however, bring it to your office for perusal on Monday, July 5th.

M.K.C.





AREA OF  
**LITTLE TURTLE LAKE**

DISTRICT OF  
RAINY RIVER

FORT FRANCES  
MINING DIVISION

SCALE: 1-INCH = 40 CHAINS

**LEGEND**

PATENTED LAND	Ⓟ
CROWN LAND SALE	C.S.
LEASES	Ⓛ
LOCATED LAND	Loc.
LICENSE OF OCCUPATION	L.O.
MINING RIGHTS ONLY	M.R.O.
SURFACE RIGHTS ONLY	S.R.O.
ROADS	—
IMPROVED ROADS	—
KING'S HIGHWAYS	—
RAILWAYS	—
POWER LINES	—
MARSH OR MUSKEG	—
MINES	—

**NOTES**

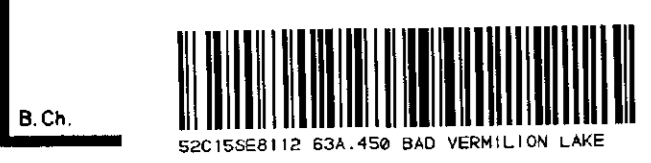
400' Surface Rights Reservation around  
all lakes and rivers.  
1/2 ch allowance for Mg Cl. 1770 along the shores  
of Bad Vermilion Lake - M.R.O.

DATE OF ISSUE  
JUN 30 1965  
ONTARIO DEPT. OF MINES

PLAN NO. **M-2433**

DEPARTMENT OF MINES  
— ONTARIO —

PROPERTY OF  
GREATER CANADA GOLD INVESTMENTS  
LIMITED





PROPERTY OF  
GREATER CANADA GOLD INVESTMENTS  
LIMITED

AREA OF  
**GRASSY LAKE**

DISTRICT OF  
RAINY RIVER

FORT FRANCES  
MINING DIVISION

SCALE: 1-INCH = 40 CHAINS

**LEGEND**

- PATENTED LAND Ⓟ
- CROWN LAND SALE C.S.
- LEASES Ⓛ
- LOCATED LAND Loc.
- LICENSE OF OCCUPATION L.O.
- MINING RIGHTS ONLY M.R.O.
- SURFACE RIGHTS ONLY S.R.O.
- ROADS —
- IMPROVED ROADS —
- KING'S HIGHWAYS —
- RAILWAYS —
- POWER LINES —
- MARSH OR MUSKEG —
- MINES —
- CANCELLED —

**NOTES**

400' Reserve around all Lakes & Rivers to Dept of Lands & Forests.

DATE OF ISSUE  
JUN 29 1965  
ONTARIO DEPT. OF MINES

PLAN NO **M.2474**

DEPARTMENT OF MINES  
— ONTARIO —

