

ELECTRO
CHAMPAGNE
DISTRICT

41P12SE0523 2.600 CHAMPAGNE

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Molly River Mines Limited
Suite 203-350 Bay Street
Toronto, Ontario

SUMMARY

This report describes the results obtained in electromagnetic and magnetometer surveys conducted over your company's group of twenty three mining claims located in Champagne Township, District of Sudbury, Ontario. Champagne Township is approximately 75 miles north of Sudbury and 95 miles west of Cobalt, in the general Swayze-Shiningtree gold area. A Greenstone belt extending west from the Matachewan-Gowganda area for approximately 100 miles to the Swayze area has been actively prospected for gold since the early 1900's. Although numerous sulphide occurrences have been reported, very little work has been directed to the exploration for base metals.

The claims group discussed in this report was originally staked as a gold showing, but sulphide mineralization including chalcopyrite is associated with quartz veins in old trenches in the northwest corner of the property. The underlying rock formations are largely intrusive and include granodiorite, in places, grading into more normal diorite.

An electromagnetic survey was recently completed over most of the claims group with a limited amount of magnetometer work to check areas of conductivity and to cover parts of the property where high tension electric transmission lines prevented applying the electromagnetic method.

Two areas of interest were delineated by the electro-magnetic survey. One in the south part of claim 290841 and the other in the north part of claim 290849. In both case conductors were indicated for strike lengths of 600 feet but neither one was corroborated by the magnetometer results. However, pyrite and chalcopyrite are the only sulphide minerals observed on the property and these would not have any affect on a magnetometer.

It is recommended that your company carry out a limited diamond drilling program to further investigate the two anomalous zones as well as to probe below the old trenches and pits in the northwest part of the property. A minimum of 1,000 feet of diamond drilling is suggested at an estimated overall cost of eight thousand dollars.

PROPERTY LOCATION AND ACCESS

The property discussed in this report includes a group of 23 contiguous mining claims located in Champagne Township, Sudbury Mining Division, Ontario. The property comprises approximately 900 acres and the claims included in the group are further described as follows:

S-290839 to S-290861 inclusive

The area is readily accessible as a main line of the Canadian National Railway extends in a northerly direction through the west part of Champagne Township. This line leads north from Capreol, and the distance from Capreol to Champagne Township is seventy miles. Makwa siding is on the west edge

of the group and Gogama Station is eight miles to the north. Highway 560 leading west from Elk Lake to Gogama passes a few miles to the west of the property and a good gravel road leading from this highway traverses the west part of the claims group

TOPOGRAPHY

The topography of the claims group is quite flat and largely sand plain covered with a fairly dense growth of small timber. Rock exposures are very sparse, but in places the soil mantle is sufficiently shallow to permit stripping and trenching to bed rock. There are two small lakes on the property and the Mollie River flows through the west part of the claims group.

GENERAL GEOLOGY

The general geology of Champagne Township is shown on the Makwa-Churchill area sheet, map number 43c, published by the Province of Ontario Department of Mines in 1934 and accompanying Volume XLIII Part III, 1934.

This map sheet shows a narrow band of volcanics and sedimentary rocks extending through Groves Township which adjoins Champagne Township on the north. This narrow band of volcanics and sedimentary rocks varies from two miles to five miles in width and extends in an east-west direction for approximately thirty miles. It joins with a large greenstone mass in the Swayze area to the west and a second large greenstone mass in the Matachewan area to the east.

The rocks to the north and south of this volcanic-sedimentary band are shown on the Makwa-Churchill sheet to

be granitic, but actually include a wide variety of intrusive types varying from normal granite, through granodiorite to diorite with minor amounts of even more basic phases. The volcanic rocks are classified as Keewatin, the sediments as Timiskaming and the granitic intrusives as Algomian. All three series have been cut by numerous dikes and sills of Matachewan diabase.

The claims group discussed in this report is underlain by granodiorite which in places, grades into more normal diorite. Several small dikes of diabase have also been observed on the property.

Most of the claims included in the group, were formerly part of the property of Makwa-Champagne Gold Mines Limited. In May 1933, visible gold was found about 2 miles north of the dam on the Mollie River and this resulted in over one hundred claims being staked across the north part of Champagne Township. Gold was discovered on the ground held by Makwa-Champagne Gold Mines Limited and considerable trenching and stripping was carried out which is reported to have indicated additional small gold occurrences. H. C. Laird examined the property in July 1933, and in Volume XLIII Part III, of the Ontario Department of Mines page 64, mention is made of pyrite and chalcopyrite associated with narrow quartz veins carrying visible gold.

Makwa-Champagne Gold Mines Limited is reported to have carried out a fair amount of surface work with encouraging results but this work appears to have been confined to stripping and trenching and the writer is not aware of any

diamond drilling having been carried out. The trenches are now largely filled with soil and debris.

GEOPHYSICAL SURVEYS

A program of geophysical surveying was carried out over the group of twenty three mining claims discussed in this report during May 1971. North-south traverse lines were established at 400-foot intervals to provide control for this work with 200-foot line spacing where more detail was required. It was intended to conduct an electromagnetic survey over the entire claims group but an electric power transmission line crossing the south west corner of the property created too much interference in that area so a magnetometer survey was conducted over that portion of the ground. Also magnetometer readings were taken to check zones of conductivity indicated by the electromagnetic work.

Electromagnetic observations were made at 100-foot intervals along the north-south traverse lines using a Ronka EM-16 instrument. Where the magnetic method was applied, readings were also taken at 100-foot intervals using a Scintrex MF-1 instrument. A total of 18.6 miles of lines were surveyed by the electromagnetic method and 9.3 miles by the magnetic method.

The electromagnetic results, indicated two conducting zones, each about 600 feet long. One is located in the south part of claim 290841 and the other in the north part of claim 290849. No conductors were indicated in the north west part or the property where old pits and trenches were located on claim 290843. Also the electromagnetic results over the remainder

of the property covered by this method, showed only low conductivity even over areas of wet topography.

The conductivity of the two zones mentioned above was not particularly high, but as the observed sulphide mineralization on the property is associated with considerable silicification, this would tend to reduce the conductive properties of any associated sulphide mineralization.

The magnetometer survey, which was confined to about one third of the claims group, showed the underlying formations to have fairly low magnetic properties. The results over the two conduction zones were slightly higher but not sufficiently so to be considered anomalous. The sulphide mineralization observed on the property included only pyrite and chalcopyrite and these would have no effect on a magnetometer.

CONCLUSIONS AND RECOMMENDATIONS

The electromagnetic survey conducted on the property of Molly River Mines Limited and located in Champagne Township Ontario, has indicated two 600-foot conducting zones in the west part of the claims group. They are in the general area of the property where trenching has exposed quartz veining carrying some pyrite and chalcopyrite mineralization. Gold is also reported associated with these quartz veins.

It is recommended that your company carry out a minimum of one thousand feet of diamond drilling to further investigate these anomalous zones as well as probe below the old trenches

on claim 290843. This drilling can be carried out for a total estimated cost of eight thousand dollars.

Respectfully submitted,

J. D. McCannell
J. D. McCannell
Consulting Geologist



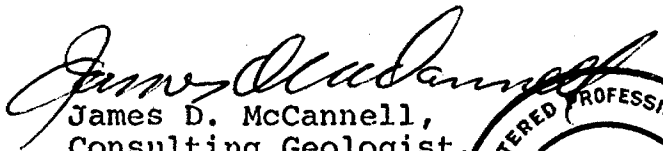
Toronto, Ontario
June 11, 1971

C E R T I F I C A T E

I JAMES D. McCANNELL, of the City of Toronto, Ontario,
do hereby declare:

1. That I am a consulting geologist and reside at
565 Avenue Road, Toronto, Ontario.
2. That I am a graduate geologist, having graduated
from the University of Western Ontario in 1943
and have been practicing my profession as a
geologist since graduation.
3. That I have no interest either directly or
indirectly nor do I expect to receive any interest
either directly or indirectly in the property
discussed in this report.
4. That I have no interest either directly or
indirectly nor do I expect to receive any interest
either directly or indirectly in the securities of
Molly River Mines Limited or any affiliate thereof.
5. That the information contained in the foregoing
report is based on published reports and maps
and my own personal knowledge of the area acquired
from examining several gold occurrences during the
past twenty-five years and examining the property
discussed in this report in July 1969.

Dated at Toronto, Ontario this 11th day of June 1971.


James D. McCannell,
Consulting Geologist.



J. D. McCANNELL

SUBMISSION OF GEOLOGICAL, GEOPHYSICAL AND GEOCHEMICAL SURVEYS
AS ASSESSMENT WORK

In order to simplify the filing of geological, geochemical and ground geophysical surveys for assessment work, the Minister has approved the following procedure under Section 84 (8a) of the Ontario Mining Act. This special provision does not apply to airborne geophysical surveys.

If, in the opinion of the Minister, a ground geophysical survey meets the requirements prescribed for such a survey, including:

- (a) substantial and systematic coverage of each claim
- (b) line spacing not exceeding 400 foot intervals
- (c) stations not exceeding 100 foot intervals or
- (d) the average number of readings per claim not less than 40 readings

it will qualify for a credit of 40 assessment work days for each claim so covered. It will not be necessary for the applicant to furnish any data or breakdown concerning the persons employed in the survey except for the names and addresses of those in charge of the various phases (linecutting contractor, etc.). It will be assumed that the required number of man days were spent in producing the survey to qualify for the specified credit.

Each additional ground geophysical survey using the same grid system and otherwise meeting these requirements will qualify for an assessment work credit of 20 days.

A geological survey using the same grid system, and meeting the requirements for submission of geological surveys for maximum credits will qualify for an assessment work credit of 20 days. If line cutting has not previously been reported with any other survey and is reported in conjunction with the geological survey a credit of 40 days per claim will be allowed for the survey.

Similarly, a geochemical survey using the same grid system with the average number of collected samples per claim being not less than 40 samples, and meeting the requirements for the submission of geochemical surveys for maximum credits, will qualify for an assessment work credit of 20 days. If line cutting has not previously been reported with any other survey and is reported in conjunction with the geochemical survey a credit of 40 days per claim will be allowed for the survey.

Credits for partial coverage or for surveys not meeting requirements for full credit will be granted on a pro-rata basis.

If the credits are reduced for any reason, a fifteen day Notice of Intent will be issued. During this period, the applicant may apply to the Mining Commissioner for relief if his claims are jeopardized for lack of work or, if he wishes, may file with the Department, normal assessment work breakdowns listing the names of the employees and the dates of work. The survey would then be re-assessed to determine if higher credits may be allowed under the provisions of subsections 8 and 9 of section 84 of the Mining Act.

If new breakdowns are not submitted, the Performance and Coverage credits are confirmed to the Mining Recorder at the end of the fifteen days.

ASSESSMENT WORK DETAILS

Type of Survey Electromagnetic
A separate form is required for each type of survey

Township or Area Champagne

Chief Line Cutter Paul Martin
Name
 or Contractor 135 Fenelon Dr., Don Mills, Ont
Address

Party Chief C.T. Bischoff
Name
Noranda, Que.
Address

Consultant James D. McCannell
Name
350 Bay St., Toronto, Ont.
Address

Geological field mapping by _____
Name

Address

COVERING DATES

Line Cutting April 17 - May 7, 1971

Field M June 1 - 8, 1971
Instrument work, geological mapping, sampling etc.

Office June 9 - 11, 1971

INSTRUMENT DATA

Make, Model and Type Ronka EM-16

Scale Constant or Sensitivity + or - 1%
Or provide copy of instrument data from Manufacturer's brochure.

Radiometric Background Count _____

Number of Stations Within Claim Group 985

Number of Readings Within Claim Group 985

Number of Miles of Line cut Within Claim Group 18.6

Number of Samples Collected Within Claim Group _____

CREDITS REQUESTED

	<u>20 DAYS</u> per claim	<u>40 DAYS</u> per claim	----- Includes (Line cutting)
Geological Survey	<input type="checkbox"/>	<input type="checkbox"/>	
Geophysical Survey	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Show Check <input checked="" type="checkbox"/>
Geochemical Survey	<input type="checkbox"/>	<input type="checkbox"/>	

DATE Sept. 14 / 71 SIGNED James D. McCannell

SPECIAL PROVISION CREDITS for PERFORMANCE & COVERAGE	
MINING CLAIMS TRAVERSED List numerically	
290840	RECEIVED
290841	
290842	SEP 15 1971
290843	MINING LANDS BRANCH
290844	
290845	
290848	
290849	
290850	
290851	
290852	
290853	RECEIVED
290854	SEP 15 1971
290855	PROJECTS SECTION
290856	
290857	
290858	
290859	
290860	
290861	
TOTAL CLAIMS <u>20</u>	

If space insufficient, attach list

Send in Duplicate to:
 FRED W. MATTHEWS
 SUPERVISOR-PROJECTS SECTION
 DEPARTMENT OF MINES &
 NORTHERN AFFAIRS
 WHITNEY BLOCK
 QUEEN'S PARK
 TORONTO, ONTARIO

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Claim PLAN OF Map

M.712

CHAMPAGNE TWP.

SUDBURY

MINING DIVISION

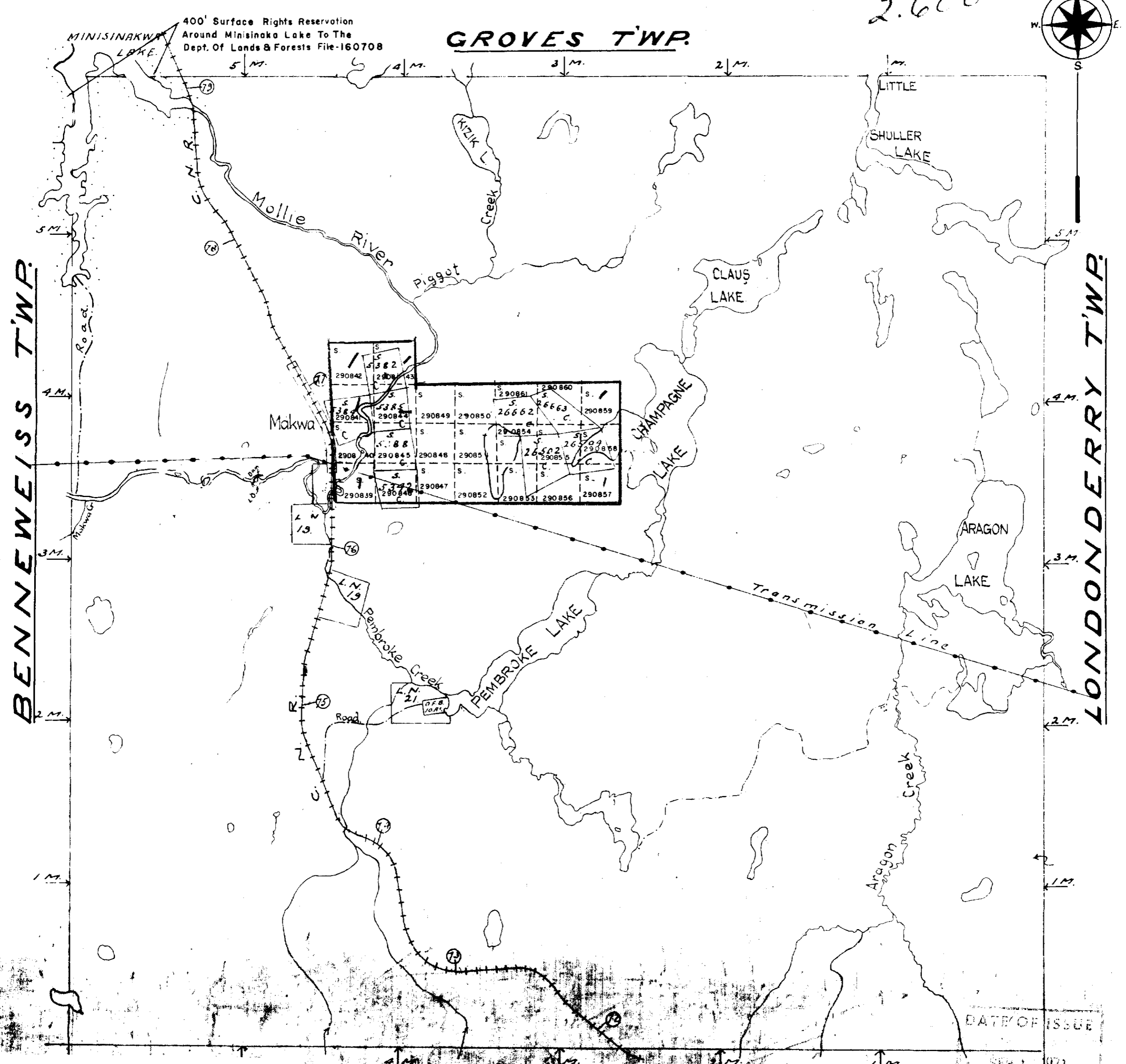
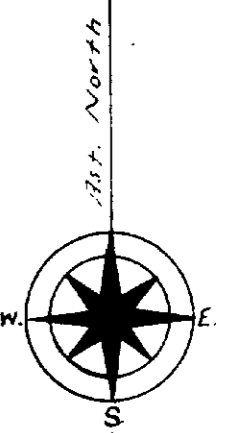
DISTRICT OF SUDBURY.

NOTE

400' Surface Rights Reservation
around all Lakes and Rivers.

Scale, 40 chains to an inch.

2.600



400' Surface Rights Reservation
Around Minisinoka Lake To The
Dept. Of Lands & Forests File-160708

BENNEWEISS TWP.

LONDON DERRY TWP.

WESTBROOK TWP.

DATE OF ISSUE

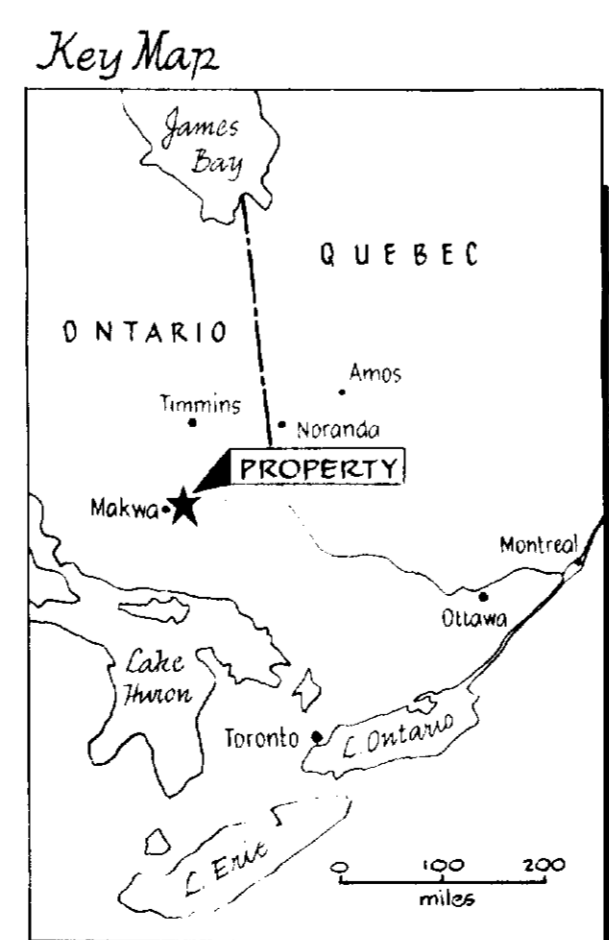
SEP 1971

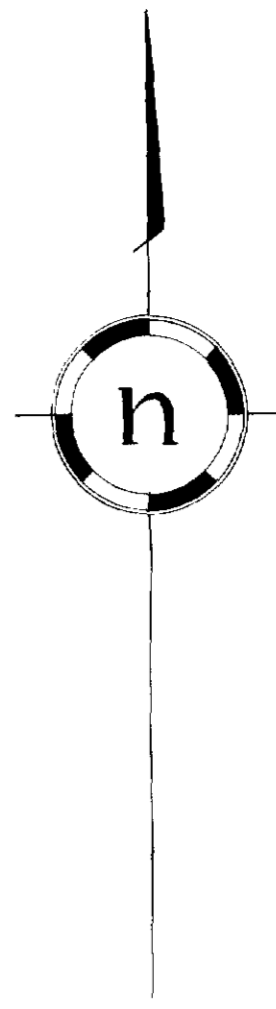


41P125E0523 2.600 CHAMPAGNE



EM - IG LEGEND
 - - - - - Out of Phase
 - - - - - In Phase
 Scale of Profiles: 1" = 40'
 Direction of Readings North





Note
Power line interference prevented
E.M. Survey over claims 290839,
290846 and 290847.
Jackman

MOLLY RIVER MINES LTD.
CHAMPAGNE TOWNSHIP ~ SUDBURY MINING DIVISION ~ ONTARIO

MAGNETOMETER SURVEY
(SCINTREX M.F. - 1)
ELECTROMAGNETIC SURVEY
(E.M. - 16)



Bill Dames
June 11, 1971

2600