

KOULOMZINE, GEOFFROY, ~~BROSSARD~~ & CO.
SUCCESSORS TO TECHNI-COUNSEL LIMITED
GEOPHYSICAL AND GEOLOGICAL PROSPECTING

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QUEBEC LAKE SURVEYOR



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VAL D'OR, Que.
Report on the Magnetometer Survey and
Spontaneous Polarization Measurements
on the property of
MOWATT LAKE PROSPECTING SYNDICATE
Parkin Twp.- District of Sudbury, Ontario.

by
T. Koulomzine, L.Sc., Ing. ENSP.,
P. R. Geoffroy, M.E. &
J. V. Fox, B.Sc.

June-December 1948.

INTRODUCTION

The property of Mowatt Lake Prospecting Syndicate consists of 29 mining claims numbered:

- S-49,121 to S-49,129 incl.
- S-49,148 to S-49,156 incl.
- S-49,288 to S-49,298 incl.

and located in concessions III, IV & V of Parkin township along the course of the Mowatt Creek. According to the official survey plates of the township, these claims total some 1,161.82 acres. Part of this area, approximately 109.71 acres, is covered by the waters of the Mowatt Lake and Creek so that our magnetometer survey extended over 1,052.11 acres.

The property is located about 20 miles north of the town of Sudbury and about 2 miles northwest of the Milnet station on the Canadian National Railway. It can be reached either direct from Sudbury, by plane landing on the Mowatt Lake, or by walking along an old tote road from Milnet. This latter road is quite rough and can hardly be used by horses except in winter.

The topography is rather rugged, with low but steep hills and swampy valleys. The claims are located within the limits of the Wanapitei Provincial Forest, and although most of the ground is presently covered by second growth trees there is still a considerable amount of tall, white pine, timber. Beavers are so plentiful as to constitute a minor nuisance. In fact, they somewhat hampered our work by insisting on flooding areas that we were about to survey.

The Mowatt Lake claims are situated in the Sudbury area which is the world's greatest center of nickel and platinum metals mining and an important producer of copper. Although the ground is outside of the limits of what is known as the "Sudbury Basin", the fact that base metal discoveries have been recently made in the immediate neighbourhood of the Mowatt Lake claims as well as the presence of favourable rock formations led to the decision to perform the survey. The study was done with 2 objectives: first, the outlining of the geological structure, a considerable part of which is concealed by overburden, and, second, the location of any concentrations of magnetic mineralization.

GENERAL GEOLOGY

The general geology of the area is shown on map No. 41e, "Moose Mountain Wanapitei Area", prepared by L.F. Kindle and accompanying Part 4, Vol. XLI, Annual Report of the Ontario Department of Mines for 1932. This map drawn at a scale of 3/4 mile to the inch is of a very sketchy nature and is, furthermore, plotted on a rather unaccurate topographical base.

A topographical map has been issued in 1940 by the Department of Mines and Resources, Ottawa, at a scale of 2 miles to the inch, under the name of "Capreol" Map 589-A. Although this map does not show any geology it is at least fairly accurate topographically. Our own work was based on the network of picket lines that were carefully tied in to the survey lines separating the concessions and on information scaled off aerial photographs.

The problems of general geology of the Sudbury District have been very ably summarized in the following four recent articles:

- 1- "Regional Structure of the Lake Huron-Sudbury Area", by H.C. Cooke,
- 2- "Properties of International Nickel Company of Canada", by A.B. Yates,

appearing in the 1948 Jubilee Volume "Structural Geology of Canadian Ore Deposits" published by the Geology Division, Canadian

Institute of Mining and Metallurgy, Montreal.

- 3- "Problems of Sudbury Geology, Ontario", by H.C. Cooke. Geological Survey Bulletin No.3, Department of Mines & Resources, Ottawa, 1946. This publication contains a bibliography of 75 books and articles describing the geology of the Sudbury district.
- 4- "Geology of the International Nickel Company of Canada", page 322, Canadian Mining Journal, May 1946.

The government geological maps most important to determine the relationship between the intrusive rocks of the Sudbury basin and of Parkin township are the Chelmsford Sheet Map 871-A, Copper Cliff Sheet Map 292-A, Falconbridge Sheet Map 872-A and Publication No.1948 Wanapitei Lake Area (issued in 1921). All these maps were published by the Geological Survey, Department of Mines & Resources, Ottawa.

The literature describing the nickel-copper deposits of the Sudbury district is very voluminous, and the theories concerning the origin and the structural and genetical relationship between the intrusives and the ore have varied considerably since the first discoveries. It would be futile to try to outline in the present report even the most salient features of the geological theories that have been advanced to explain the origin of the ore and the structural and genetic relationship between the ore and the various intrusives. Nevertheless, some data, though quite uncomplete, are given herewith because this is necessary for the understanding of the geological conditions existing at the Mowatt Lake Syndicate property.

At the end of the last century it was found that the rock formations in the Sudbury district form an oval-shaped basin, the outer rim of which has been injected by a peculiar basic intrusive rock called norite. The fact that most Sudbury deposits are found either on the contact or close to the norite led to the conclusion that the ore was formed by magmatic segregation within the norite, while this rock was in the process of cooling.

By 1920 sufficient evidence has been gathered to suggest that the old theory was uncorrect, but it is only by the end of the 30's that the presently admitted theories have been formulated and by now generally accepted.

It is believed that the ore came in the form of the usual mineralizing solutions that for certain reasons were precipitated mostly within, or in the immediate vicinity of, quartz diorite dykes. The Sudbury quartz diorite dykes were

first thought to be apophyses or "offsets" of the main norite intrusive, but now there is sufficient evidence to show that these dykes, though probably originating from the same magma, have been intruded not only later than the norite but even later than certain granites that are themselves younger than the norite.

The entire series of intrusions including the norite and the quartz diorite and the mineralization itself are considered to be of Keweenawan age or late Pre-cambrian, definitely post Cobalt.

The close relationship between the Keweenawan quartz diorite and the Sudbury ore deposits suggests that the ore probably came along the same channels as this quartz diorite which is still often referred to at Sudbury as the "offset intrusive". Nevertheless, it is pointed out that the concentration of the ore within the quartz diorite is essentially due to the physical and chemical characteristics of the rock rather than to its age; therefore, it can be assumed that ore-bearing solutions, should they ascend along older quartz diorite rocks identical to the Sudbury Keweenawan "offset type" quartz diorite, would also probably deposit ore.

The more recent geological maps, in particular the Falconbridge Sheet Map 872-A, show a large number of intrusive bodies classified as Nipissing diabase, chiefly quartz gabbro. This Nipissing diabase is definitely older than the offset quartz diorite but is practically of the same composition, texture and aspect. The Nipissing diabase, according to the presently accepted classification, should not be classed as Keweenawan but rather as Upper Huronian and is therefore older than the norite. The Nipissing diabase, though not generally ore-bearing, can become host-rock to the ore when ore solutions pass through it.

The Mowatt Lake Syndicate ground, as shown on the Moose Mountain-Wanapitei area map No.41-e, lies on the contact between the sedimentary rocks, mostly quartzite and conglomerates, and some limestone belonging to the Bruce series of the Lower Huronian and the slaty quartzites and conglomerates of the Cobalt series belonging to the Middle Huronian. A rather large mass of quartz diabase or quartz diorite intrudes the contact zone and extends into the Cobalt series.

On Map No.41-e, the only geological map covering the area, the quartz diabase is classified as Keweenawan, which would suggest that, if the presently used classification is applied, this quartz diabase should be classified as being identical to the Sudbury Keweenawan quartz diorite, commonly known as the offset intrusive, which is the most prolific host-rock of the Sudbury ore deposits. On the other hand, if correlation is made through

the neighbouring Wanapitei Lake area sheet by T.F. Quirka, issued in 1921 as publication No. 1948 of the Geological Survey of Canada, and the Falconbridge sheet Map 872-A published in 1946 by the same Geological Survey, it appears that the Mowatt Lake quartz diabase mass should be considered as being of Nipissing age which would make it of much lesser value as a possible host-rock.

In the present stage of our knowledge we are in no position to definitely determine the age of the Mowatt Lake quartz diabase. By its shape and location this intrusive mass seems to suggest that it is a Nipissing diabase; on the other hand, it is extremely similar to the Sudbury "offset" quartz diorite. This is, furthermore, confirmed by the fact that on a property adjoining Mowatt Lake claims nickel and platinum-bearing sulphides have been discovered mineralizing an outcrop of the quartz diabase. We suggest that the age classification of the Mowatt Lake quartz diabase be further studied both in the field and under the microscope, in thin sections, by comparing it to known and well-determined samples of the Nipissing quartz diabase and the Sudbury, "offset type", quartz diorite.

In the course of our survey we have carefully noted the location of observed rock outcrops. We did not attempt to actually outline the limits of all these outcrops, but by marking the presence of rock along our picket lines we have certainly greatly facilitated any future accurate geological mapping of the property. The number of rock outcrops observed and plotted on our map is close to five hundred. Most of these outcrops are small and partly covered by overburden and rock debris. With the exception of a small number of outcrops near the shores of Mowatt Lake none of them seem to have ever been prospected. The careful examination of all these outcrops, the stripping and trenching of their immediate vicinity with the object of finding signs of mineralization would represent a major task in itself. Although during the second part of our survey, when we were doing detail work and electrical measurements, we did do some prospecting, we were far from extending this work over all the sections of the property that could and should be investigated.

While examining the outcrops at the southeast end of the small Mowatt Lake we found some old trenches that have opened up a small vein on the contact of diorite and limestone, immediately west of Station 17 S Line 27 W. Three grab samples taken on this showing have been assayed by us in the Quebec Department of Mines Laboratories and gave the following values:

	Au. (Oz/ton)	Ag.	Cu.	Ni. (per cent)	Zn.
ML-1	0.010	0.198	3.12%	Tr.	0.06%
ML-2	--	--	Tr.	Tr.	--
ML-3	0.012	0.074	0.53%	0.03%	--

These samples were also assayed for lead and platinum but gave no values in these metals.

The old showing, although definitely not commercial, indicates the presence of some valuable mineralization on the contact of the quartz diorite and suggests that further prospecting along the contacts should be done.

A rather strong shear containing some disseminated fine-grained cubic pyrite was located in the quartzite about 500 feet north of the old showing. One sample taken in this shearing and numbered ML-7 failed to show anything but traces of valuable metals.

A quartz vein was located on the limestone hill between stations 9 S of lines 9 W and 12 W. The vein is formed mostly of rusted quartz. Three grab samples, ML-4, ML-5 & ML-6, showed only traces of precious and base metals.

RESULTS OF THE SURVEY

All the results of our work are presented on a 200-foot-to-the-inch map attached to this report. Geological interpretation of the results is given hereafter while technical details concerning the establishment of the network of picket lines, the performance of the magnetometer and spontaneous polarization measurements are to be found in the appendix.

MAGNETOMETER SURVEY

Generally speaking, it must be noted that, with the exception of the extreme northwest corner of the property, magnetic readings taken over the Mowatt Lake ground are relatively weak and uniform. The high magnetic readings obtained over the northern part of claim S-49,122 must be attributed to magnetite which was observed to be uniformly disseminated in greywacke outcropping in that part of the property. Consequently, the high magnetic readings in zone M have probably no economic significance whatsoever.

The results of the magnetometer survey are twofold.

First of all, they helped to outline the contact of the various rocks underlying the property and, second, they showed the presence of a certain number of irregularities of the natural magnetic field which can be termed anomalies and do not correspond to geological structures but represent, in all probability, areas of concentration of magnetic minerals.

Geological Structure Outlined by the Survey.

A careful study of the magnetic profiles and of the distribution of rock outcrops led us to outline on the map the assumed position of the geological contacts, in particular the contacts of the large mass of quartz diabase. The magnetic readings obtained over the quartz diabase were slightly higher and more irregular than those observed over the other sections of the property.

The shape of the quartz diabase intrusive, as revealed by the survey, is somewhat different and much more complicated than the outline of the same intrusive mass shown on the Moose Mountain-Wanapitei area map No. 41-e by L.F. Kindle issued by the Ontario Department of Mines. The intrusive mass has variable width and shows numerous apophyses; furthermore, its contacts affect a straight line pattern suggesting that the quartz diabase intruded a pre-existing fracture pattern. We have marked on our map as F_1F_1 , F_2F_2 F_4F_4 four alignments that suggest large fractures.

It may be of interest to note that all these assumed fractures have an E-W strike and that at least two of them can be aligned with faults which have been shown by L.F. Kindle on his map 41-e. Furthermore, the strike of these faults is identical with a series of faults that have been described in the main Sudbury Basin (see figure 1, article "Properties of International Nickel Company of Canada", by A.B. Yates in the C.I.M.M. Volume, referred to above).

L. F. Kindle, on his map Moose Mountain-Wanapitei area, presents a section showing that Keweenaw greenstones are overthrusting the Timiskaming sediments on lot 6, concession IV, Hutton township. It is probable that a similar thrust exists along most of the greenstone-sedimentary contact and that the southwestern greenstone area has been thrust against the sedimentary complex. The east-west faults which we have discovered would appear to be tear faults more or less at right angles to the general direction of the contact. Such faults are usually deep-seated and form quite often channels for the ore-bearing solutions. Faults F_1F_1 and F_2F_2 seem to be the most

interesting because there is evidence of movements along these faults at various geological times: quartz diabase has been intruded as an apophysis along F_2F_2 and in the form of separate small masses along F_1F_1 . After that, these two faults have been affected by further movements resulting in shears and veins. We cannot emphasize too strongly the necessity of carefully investigating all the ground in the immediate vicinity of these two faults.

Magnetic Anomalies

Our survey failed to locate on the Mowatt claims any large magnetic anomalies as are usually found over the large ore deposits of the Sudbury region. This would suggest that there are no major nickel-bearing ore deposits on the property. Nevertheless, it must be emphasized that copper sulphides are not magnetic in themselves and that some varieties of nickel-sulphides are very weakly magnetic; furthermore, it is known that valuable mineral concentrations in the vicinity of Mowatt Lake Syndicate ground have given but rather weak magnetic anomalies.

We have outlined on our map a number of small magnetic anomalies that are worthy of interest. The first group of anomalies marked MD-1, MD-2.....MD-7 occur within the mass of quartz diabase. These small magnetic anomalies within the quartz diabase should be interpreted either as concentrations of magnetite in the intrusive rock or as possible concentrations of valuable magnetic sulphides.

The rest of the magnetic anomalies shown on our map have been classified into three groups: anomalies MC-1 & MC-2 occur on the contact of the quartz diabase, ML-1 & ML-2 are related to the limestone and, finally, MS is the only one of the small anomalies found within the sediments that seem to be worthy of investigation. All these anomalies are interpreted as attributable to concentrations of magnetite or other magnetic minerals.

We would recommend that particular attention be paid to the investigation of the ground around anomalies MD-3, MD-4 and ML-1 which seem to be structurally related to the major tear faults F_1F_1 & F_2F_2 .

ELECTRICAL MEASUREMENT RESULTS

During the latter part of the survey, while we were doing detail magnetic measurements to better outline some of the magnetic anomalies, we also performed a number of spon-

taneous polarization measurements. These were done with the view of detecting the presence of sulphide mineralization.

Eleven small areas were covered by spontaneous polarization measurements and three rather weak, but nevertheless fairly well-defined, electrical anomalies were outlined. They are shown on the map as anomalies E_1 , E_2 and E_3 .

Anomaly E_1 follows a shear zone that contains some pyrite mineralization and is definitely related to fault F_2F_2 .

Anomaly E_2 is located between E_1 and an apophysis of quartz diabase which, we presume, marks fault F_2F_2 .

Anomaly E_3 almost coincides with the magnetic anomaly ML-1. It suggests that some sulphide mineralization is to be found in this area.

The electrical measurements we performed are too widely spread and did not even cover all the magnetic indications. It is, therefore, apparent that some further electrical work would be advisable in the most promising areas outlined by the magnetometer survey.

RECOMMENDATIONS

First of all, we wish to emphasize that the great number of small rock outcrops which were found in the course of our survey would suggest that a systematic campaign of surface prospecting is well warranted. The surface prospecting should consist of stripping off the moss and other vegetation from the outcrops. It seems that the area in the neighbourhood and between faults F_1F_1 and F_2F_2 would represent the most valuable prospecting ground.

It is quite probable that some diamond drilling would be necessary to investigate the ore-making possibilities of the major fault zones and of the areas of the magnetic and electrical anomalies that we found. Nevertheless, surface trenching is so much cheaper that we think it wise to refrain from any diamond drilling until all possible surface work has been done in the interesting sections of the property.

We recommend that a systematic spontaneous polarization survey be made over the claims located in the north half of concession IV and in the south part of concession V. It is in this area that the three weak electrical anomalies have been found and that mineralization is more likely to occur because of the presence of faults F_1F_1 and F_2F_2 .

We wish to recommend also the staking of four claims to cover the balance of the north half of lot 12, concession IV and the south half of lot 12, concession V. These stakings would protect the Syndicate ground in the areas which seem to be the most likely to contain valuable mineralization.

The south-east end of the property appears to be of much lesser value. Magnetic anomalies are few and faults F_3F_3 and F_4F_4 seem to have moved less than the faults located in the north-west part of the property. There are no apophyses of quartz diabase along the faults.

Thompson

APPENDIX

TECHNICAL DETAILS OF THE MAGNETOMETER SURVEY

Property Boundaries.

The original survey of the Parkin township was done about 40 years ago and the area was subsequently swept by violent bush fires. It can be easily understood that the location of the property boundaries presented quite a problem in itself. First, we were lucky to locate old survey blazes along part of the survey line between concessions III & IV. This line was then entirely cut out and lot corner posts 8/9 & 10/11 were discovered. After that we were able to follow and re-establish the surveyed lot line between lots 10 and 11 and locate the corner post corresponding to the concession line IV/V. This latter was re-established part way to the west but close to the Mowatt Lake all traces of the old survey disappeared and a new line had to be cut out in the continuation of the re-established part of the concession line. West of Mowatt Lake we were unable to locate any signs of the old survey line nor could we find the boundary between Hutton and Parkin townships.

Basing ourselves on the old survey lines that we were able to locate and re-establish, we cut out a set of picket lines that were intended to follow, at least approximately, the outline of the property boundaries. When the entire network of picket lines was properly tied in by chainages it was found that the intended boundaries did not always coincide with the outline of the property boundaries as calculated in co-ordinates according to official surveys.

We have plotted on our map the official survey boundaries that correspond to definite fractions of the survey lots. These claim boundaries are shown in a broken pattern. The lines that were actually out in the bush are marked in solid, and chainages between various points and line intersections that were established on the ground are all plotted on our map.

The mileage cut and chained during the work of locating the old survey lines and outlining the approximate boundaries of the property is as follows:

Old survey lines re-established	4.881 miles
Approximate outside claim boundaries established	6.935 miles
	<hr/>
TOTAL	11.816 miles

Network of Picket Lines

The main base line was turned off at a point 3,300 feet north of the intersection between the surveyed lines of concessions III & IV and lots 10 & 11. The exact location of this main base line has been determined by chainages along the concession lines III & IV and IV & V. It has a bearing of approximately N 44° 30' W. In the eastern part of the property, in concession III, the main base line was turned to the east and was found to have a bearing of S 77° E. The turning of the base line was done in order to keep the network of picket lines approximately at right angles to the line of strike of the geological formations.

Some 1,700 feet southwest of the main base line another cross line was out paralleling the main base. This south base line helped to properly tie in the network and claim boundary picket lines, it was also indispensable for the extension of the network to the area west of Mowatt Lake.

Ordinary picket lines were started 300 ft. apart at right angles to the main base line and their ends were tied in by chainages along the southern base and along the lines that were cut to delimit the property.

Numbered pickets were placed at 100-ft. intervals along the ordinary picket lines.

All chainages, except the regular 100- and 300-foot intervals, made in the process of establishing the network of picket lines are plotted on the map accompanying this report.

The mileage of lines cut and chained during the establishment of the network of measurement stations is as follows:

Main base line	2.948 miles
South base line	2.795 miles
Ordinary picket lines	32.446 miles
Additional cross lines	<u>0.736 miles</u>
TOTAL	38.925 miles

The work pertaining to the outline of the property boundaries and the establishment of the entire network of picket lines was done between June 8th and August 13th. Some of the detail picket lines were cut between October 18th and 31st.

Topographic Information.

The shore lines of the lake and of the creek were established primarily by the chainages of the intersections of the shore with various picket lines of our network. The detail shape of the shore line and of the swamp areas between the lines was determined by photographic enlargement of data scaled off aerial photographs taken by the R.C.A.F.

In addition to the water-covered areas and the true swamps we have marked on our map by a different symbol areas of low ground that are covered by bush and can not be termed as real swamps. Any areas of the map where there are no topographic symbols correspond to high ground most of which is covered by rock debris but also contains a large number of small and a few large outcrops. A few small outcrops have been encountered in the swamp areas.

Magnetometer Survey

The magnetometer field work was accomplished between July 14th and August 13th with additional detail work done from October 18th to 31st.

The magnetometer stations established and the measurements performed on the Mowatt Lake property can be classified as follows:

Base stations	12
Ordinary stations	1,760
Detail stations	<u>112</u>
Total number of stations	1,884
Check measurements on bases	132
Check measurements on ordinary stations	21
Check measurements on detail stations	<u>15</u>
Total number of measurements performed	2,052

The survey was done with Ruska magnetometers measuring the variations of the vertical component of the earth's magnetic field. The instruments were set for precision work with their scale and temperature coefficients reduced by internal adjustments. The scale constant of the Ruska magnetometer used during the main survey was 21.2 gammas. That of the instrument used for the detail work in October was 15.6 gammas. The sensitivities of the instruments are about 3 gammas and their temperature coefficients negligible.

In the course of the field work, certain errors are introduced due to diurnal magnetic variations. In calculating the final magnetic results of the field work, these disturbances were minimized by taking into consideration the readings obtained in checking established base stations at regular intervals and by using photostatic copies of the diurnal variations recorded by the Agincourt Magnetic Observatory near Toronto.

Calculations of the mean quadratic error of the double measurements taken on ordinary and detail stations show that the survey can be considered accurate within ± 15.5 gammas.

All the magnetic values plotted on the accompanying map are expressed in gammas (1 gamma = 1/100,000 Gauss, C.G.S. unit) and are referred to an arbitrarily chosen base station located at L 45 W-0, which has been considered to have a value of +150.6 gammas.

At the end of the survey we tied in the main base to the network of government base stations established in the mining districts. In order to do so a measurement was taken at the government base station located on the boundary between Beauchastel & Rouyn townships in North-Western Quebec. The tie-in performed indicates that the absolute value of the vertical component of the earth's magnetic field at the base station O Line 45 W on the Mowatt Lake is of $57,870 \pm 50$ gammas.

The interpretation of the magnetic results was done by the use of magnetic profiles drawn at a scale of 500 gammas to the inch.

Spontaneous Polarization Work

In addition to the magnetic work, 354 spontaneous polarization measurements were taken in various places over the property. No attempt was made to tie in the various areas that were covered by electrical measurements.

The original Schlumberger method was used. Copper sulphide non-polarizing electrodes were placed in series with a sensitive potentiometer and the natural differences of potential were measured by the opposition of the ground circuit to a drop of potential taking place in a constantly flowing closed electrical circuit formed by resistances and a direct current source. The drop of potential within the closed circuit was measured by a sensitive millivoltmeter.

The spontaneous polarization, or as it is often called the self-potential, method of electrical prospecting can be used

only for the search of fairly massive concentrations of sulphide mineralization covered by thin and relatively dry overburden. ✓

Thompson

PROVINCE DE QUEBEC
MINISTÈRE DES MINES

PROVINCE OF QUEBEC
DEPARTMENT OF MINES

LABORATOIRES

LABORATORIES

Quebec, November 10, 1948.

CERTIFICAT No. (Qh-4448/4450)
CERTIFICATE

Echantillon soumis par
3 Samples submitted by Mr. Th. Koulomzine, Box 870, Val D'Or,
(ABITIBI), Que.

	Ounce/ton	Value/ton	
ML-1(Qh-4448) 1 $\frac{1}{4}$ -lb. Au.....	0.010	\$0.35	
Ag.....	0.198	\$0.08	
Pt.....	0.000	--	
Cu.....			3.12%
Ni.....			traces
Zn.....			0.06%
Pb.....			traces

	Ounce/ton	Value/ton	
ML-2(Qh-4449) 3/4-lb. Au.....	0.000	-	
Ag.....	0.000	-	
Pt.....	0.000	-	
Cu.....			Traces
Ni.....			traces
Zn.....			0.00%
Pb.....			0.00%

	Ounce/ton	Value/ton	
ML-3(Qh-4450) 1-lb. Au.....	0.012	\$0.42	
Ag.....	0.074	\$0.03	
Pt.....	0.000	-	
Cu.....			0.51%
Ni.....			0.03%
Zn.....			0.00%
Pb.....			0.00%

Gold value was computed at \$35.00 an ounce.
Silver " " " " \$0.40 " "

The Analysts:- P. Hébert, M.Sc.

C. Tousignant

The Director of Laboratories:- M. Archambault

The Deputy Minister:- A.O. Dufresne.

PROVINCE DE QUEBEC
MINISTÈRE DES MINES

PROVINCE OF QUEBEC
DEPARTMENT OF MINES

LABORATOIRES

LABORATORIES

Quebec, November 10, 1948.

CERTIFICAT No. Qh-4451/4453
CERTIFICATE

Echantillon soumis par
3 Samples submitted by Mr. Th. Koulomzine, Box 870, Val D'Or, Que.

		Ounce/ton	Value/ton	
ML-4(Qh-4451)	1-lb.	Au..... 0.000	-	
		Ag..... traces	-	
		Pt..... 0.000	-	
		Cu.....		0.01%
		Ni.....		traces
		Zn.....		0.00%
		Pb.....		traces

		Ounce/ton	Value/ton	
ML-5(Qh-4452)	1-lb.	Au..... 0.000	-	
		Ag..... 0.000	-	
		Pt..... 0.000	-	
		Cu.....		traces
		Ni.....		traces
		Zn.....		0.00%
		Pb.....		traces

		Ounce/ton	Value/ton	
ML-6(Qh-4453)	1½-lb.	Au..... 0.000	-	
		Ag..... 0.000	-	
		Pt..... 0.000	-	
		Cu.....		Traces
		Ni.....		traces
		Zn.....		0.00%
		Pb.....		0.00%

The Analysts: C. Tousignant

Paul Hébert, M.Sc.

The Director of Laboratories:-

The Deputy Minister:-

A. O. Dufresne.

PROVINCE DE QUEBEC
MINISTERE DES MINES
LABORATOIRES

PROVINCE OF QUEBEC
DEPARTMENT OF MINES
LABORATORIES

Quebec, November 10, 1948.

CERTIFICAT No. Qh-4454
CARTIFICATE

Echantillon soumis par
Sample submitted by

Mr. Th. Koulomzine, Box 870, VAL D'OR, Que

	Ounce/ton	Value/ton
ML-7(Qh-4454) $\frac{1}{2}$ lb.		
Au.....	0.000	-
Ag.....	traces	-
Pt.....	0.000	-
Zn.....		
Cu.....		0.00%
Ni.....		traces
Pb.....		traces

The Analysts:- ..C..Tousignant.....

..Paul Hébert, M.Sc.:

The Director of Laboratories:-

The Deputy Minister:- ..A.O. Dufresne.....

Th. Koulomzine

63-160

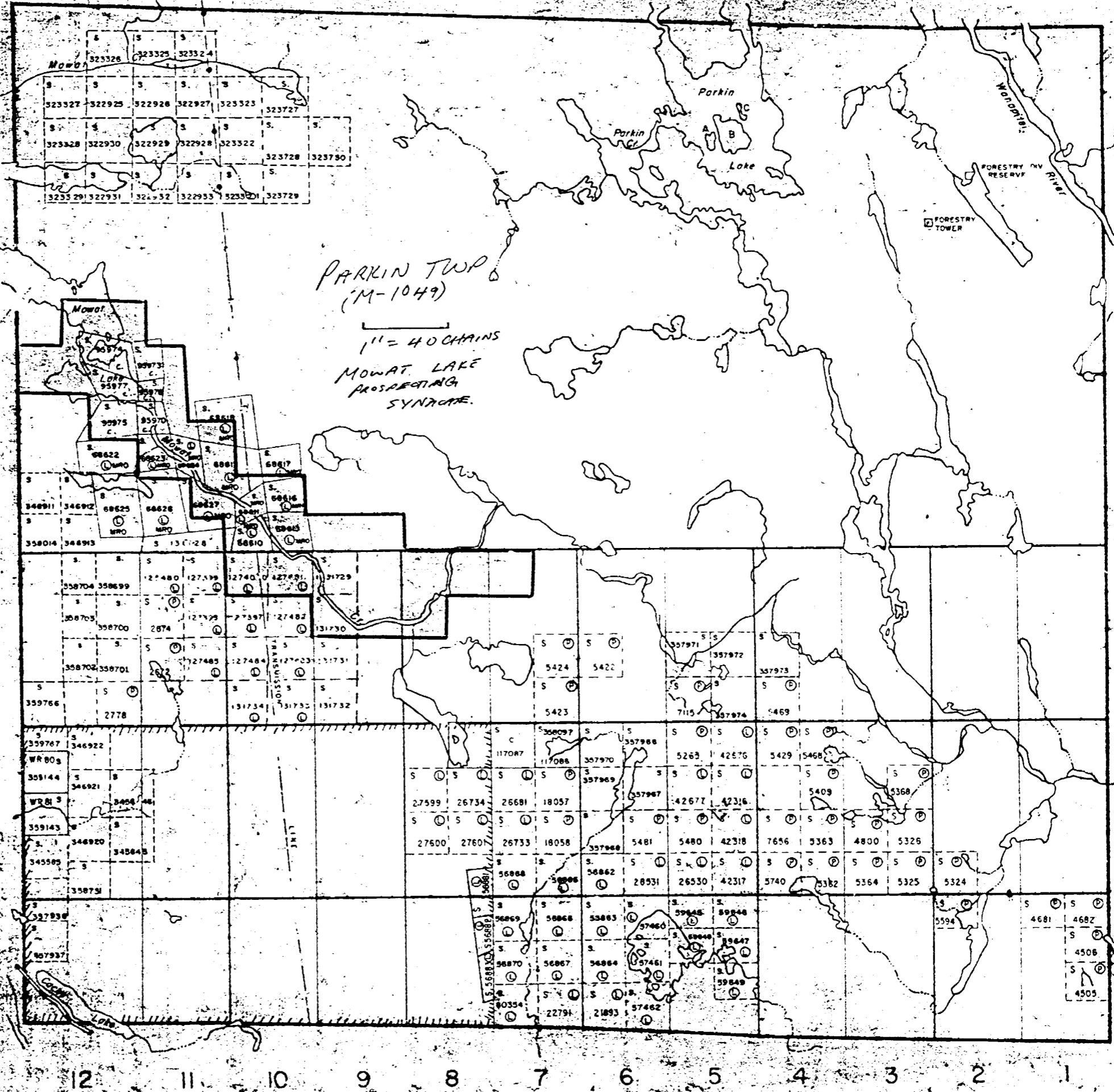
Copy of Combined Geophysical-Geological
Map on scale of 20' = 1" covering claims of
Monatt Lake Prospecting Syndicate by bounded
T. Koulozyne, dated June - Dec. 1948 ~~then~~
by J. S. Thomson. Perm 1404 on
March 31, 1958.

Cannot be located as of
March 1, 1964

K. D. Card

Typical Geological
map claims of
date by bounded
- Dec. 1948
1404 on

Hutton Twp. M-944



PARKIN TWP
(M-1049)
1" = 40 CHAINS
MOWAT LAKE
PROSPECTING
SYNCHONE.

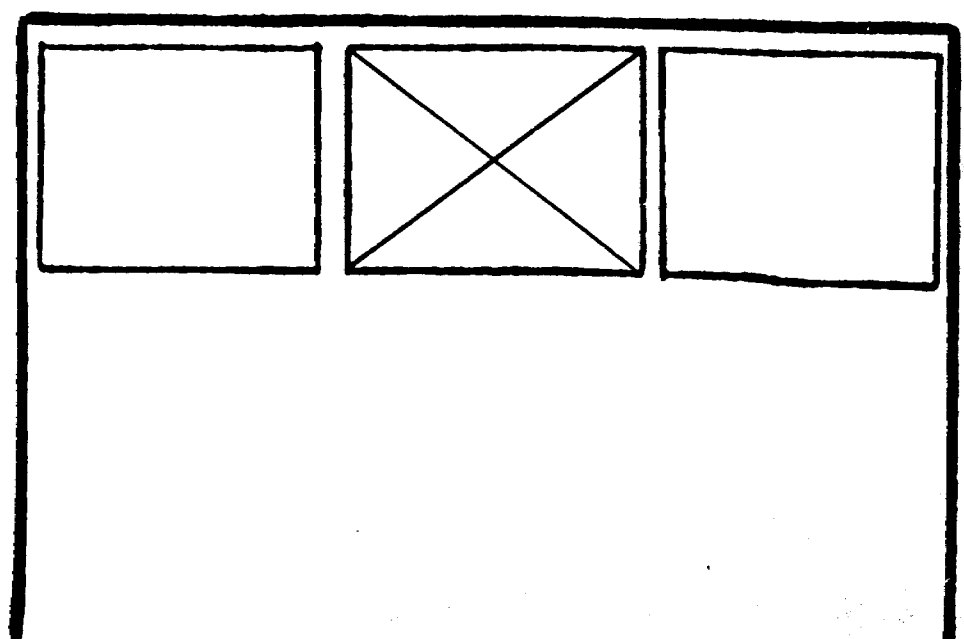
Aylmer Twp. M-641

Norman Twp. M-1027

SEE ACCOMPANYING
MAP(S) IDENTIFIED AS

PARKIN-0024-B1, #1

LOCATED IN THE MAP
CHANNEL IN THE FOLLOWING
SEQUENCE (X)



MAGNETOMETER SURVEY
OF THE PROPERTY OF
MOWATT LAKE PROSPECTING SYNDICATE
DISTRICT OF SUBURRY
PARKIN TWP.
ONTARIO
BY

160

Vertical
magnetic
declination
at this
place
about 3.0

CONV. PLAN



