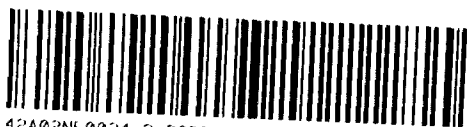


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PROJECTS UNIT

REPORT ON GEOPHYSICAL SURVEYS
THESAURUS GROUP OF CLAIMS
BADEN TOWNSHIP
LARDER LAKE MINING DIVISION
PROVINCE OF ONTARIO

by

F.J. Eveleigh

Exploration Department
Canadian Johns-Manville Co. Limited

March 4th, 1976
Asbestos, Quebec



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List of Maps Accompanying this Report:

- Property Plan - Part of Baden Township - Scale: 1" = 1,320'.
- Geo-Magnetic Profile Plan - Sheets 1 and 2 - Scale: 1" = 200'.
- Electromagnetic Profile Plan - Sheets 1 and 2 - Scale: 1" = 200'.
- Legend Sheet.

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REPORT ON GEOPHYSICAL SURVEYS
THE SAURUS GROUP OF CLAIMS
BADEN TOWNSHIP
LARDER LAKE MINING DIVISION
PROVINCE OF ONTARIO

Introduction:

The following report describe the magnetic and electromagnetic surveys completed during the fall of 1975 on a group of thirteen (13) claims recorded in the name of Canadian Johns-Manville Co. Limited and located in Baden Township, Larder Lake Mining Division.

Cutting and chaining of picket lines were carried out under contract by personnel from Ingamar Explorations Limited of Connaught, Ontario.

Magnetometer surveying was conducted by R. Haley, geophysical operator with Canadian Johns-Manville Co. Limited, using a Scintrex Fluxgate instrument. Electromagnetic surveying was also carried out by R. Haley, in this instance using a McPhar R.E.M. vertical loop unit.

Supervision and interpretation of these exploration programs were the responsibility of the writer, Exploration Manager with Canadian Johns-Manville Co. Limited and based at Asbestos, Quebec.

Property:

The claims surveyed are situated in Baden Township, Ontario and are described as follows:

Group No. 1 - 3 claims numbered 409988-93-94, staked during early 1975 and recorded on January 23rd, 1975.

Group No. 2 - 10 claims numbered 419872-73, 422603 to 422606 inclusive and 422611 to 422614 inclusive, staked during February and recorded on March 3rd, 1975.

These thirteen (13) claims have been transferred to Canadian Johns-Manville Co. Limited and comprise approximately 520 acres.

Location and Accessibility:

The Thesaurus Group of claims is located in the northwest part of Baden Township, Larder Lake Mining Division, Province of Ontario.

Access is provided by a gravel road leading to Indian Reserve No. 72, which branches from Highway #66 (Kenogami-Matachewan) one mile east of the junction of Highways #65 and #66 in Cairo Township. This road has been constructed to the north and west through the Reserve and may be travelled, using 4-wheeled drive vehicle, to the property, and on to its termination at the north end of Lake Matachewan.

Lakes provide ready access by float plane.

Topography:

Lake Matachewan and a smaller unnamed lake cover the southwest and northeast sections of the claims group respectively.

Rock outcrops of granite, granodiorite and in places diabase occur in the shaft area and along the northeast shore of Lake Matachewan. Relief between the lake and ridge top is in the order of one hundred and fifty (150) feet.

Extensive sand plains and low ridges characterize a large part of the area. These sections are park-like with grassy meadows and scattered spruce and pine. Narrow areas of low relief have thick alder and in places "moose" maple growth.

Previous Work:

Previous work on the property is summarized in the following paragraphs:

- 1) Geological mapping by A.G. Burrows with the results published in Ontario Department of Mines Report, Vol. XXIX, 1920, Part 3 and entitled "Matachewan Gold Area".
- 2) Carl Peter's and Company of Toronto filed a report in the early 1920's describing work completed and assay data on the Thesaurus Gold Property.

- 3) Geological mapping by W.S. Dyer with the results published in Ontario Department of Mines Report, Vol. XLIV, 1935, Part 2 and entitled "Matachewan-Kenogami Gold Area".
- 4) Mapping by H.L. Lovell with the results published in Ontario Department of Mines Geological Report No. 51, 1967 entitled "Geology of the Matachewan Area".
- 5) During 1972, Canadian Johns-Manville Co. Limited staked the claims and carried out programs of geological mapping and biogeochemical surveying. Limited line cutting, chaining, magnetic and electromagnetic surveying were completed at that time. The purpose of this work was to check the granite in the vicinity of the Thesaurus shaft for Cu-Mo mineralization. Results were not encouraging and the claims were allowed to lapse.
- 6) Claims were re-staked, as previously described, in early 1975 and the programs discussed in this report, conducted. The sharp rise in the price of Gold, since greatly depressed, and the known assay data in the shaft area were the reasons for the latest exploration work.

General Geology:

The main rock type on the claims, which outcrops extensively in the shaft area, is a grey to white, fine to medium grained granite. This granite has been intruded by northerly trending gabbro-diabase dikes and a northeasterly striking dike of quartz porphyry. An intrusive breccia, containing granite fragments has been mapped in the south part of the property.

Details of the geology of the claims have been compiled in the "Report on the Thesaurus Group of claims, Baden Township" by J.H. Morris and submitted for assessment purposes on September 7th, 1972.

Additional mapping, mainly in the shaft area, was carried out as part of the 1975 field program. Results substantiated the work completed by Morris.

Line Cutting and Chaining:

A base line, striking S60°W, was started from the southwest corner of a small lake on the property and cut and chained for lengths of 3,900 feet to the southwest and 1,900 feet to the northeast. Right-angled offset lines were located every 300 feet along this base line and were cut to the northwest and southeast to cover the property.

Note that lines were spaced at 100 foot intervals in the shaft area, over trenches in the southeast part of the claims and in the vicinity of the adit along the shore of Lake Matachewan. Pickets were established at 100 foot intervals along the offset lines by chainage.

A tie line was established, parallel to and at a distance of 2,000 feet southeast of the base line, and cut and chained for a length of 3,750 feet. This was used as a base line for the two southerly detail grids.

Total miles of base, picket and tie lines cut and chained by Ingamar Explorations Limited on the Thesaurus Group of claims - 16.6 miles.

Electromagnetic Survey:

An electromagnetic survey was conducted over the Baden Township claims by R. Haley, assisted by B. Durham. R. Haley is senior fieldman and geophysical operator with Canadian Johns-Manville Co. Limited. Both men are based at Matheson, Ontario.

Field work was carried out as weather conditions permitted, during the latter part of November and through December 1975. Readings were recorded using a McPhar dual frequency vertical loop reconnaissance electromagnetic unit operating on a frequency of 1,000 cycles per second.

The McPhar unit is suitable for use as both a reconnaissance and relatively detailed instrument. In this survey the transmitter was held vertically at a distance of 200 feet from the receiver; the receiver was then tilted about the axis joining the two coils until a null was observed. Both transmitter and

receiver were moved on the same picket line, 200 feet apart, and readings were recorded at 50 foot intervals. Under these operating conditions a depth penetration of 100 feet was attained.

Null widths, which were extremely low, were recorded at each station but have not been shown on the accompanying plan. Walki-talki units were used by the operators for control and communication throughout this work. A total of 1,330 stations was recorded during the course of the survey.

The results of the survey are shown on the accompanying Electromagnetic Profile Plans (Sheets 1 and 2) on a scale of one inch equals 200 feet. Profiles have been plotted on a scale of one inch equals 20 degrees.

Contacts from geological mapping, as well as diabase dikes and cross structures from the interpretation of the magnetic results have been shown on the plans. Conducting zones have been marked with dashed purple lines and designated W-weak; M-moderate or S-strong.

Only one conductor was recorded during the course of the survey. This occurs on line 15400SW, adjacent to the No. 1 post of claim 422604, and is extremely weak ($+1^{\circ}$; -2°).

No cross-overs were obtained on picket lines to either side. Scattered +ive and/or -ive peaks have been recorded at several locations on the claims but appear of little significance.

No cross-overs indicative of conducting zones warranting additional exploration work have been delineated by this survey.

Magnetometer Survey:

A magnetometer survey, was conducted over the Thesaurus claims by R. Halcy assisted by B. Durham. Readings were recorded using a Scintrex Fluxgate Magnetomer - Model MF-1 (Serial No. 607220) having sensitivities of 20, 50, 200, 500 and 2000 gammas as per division for the corresponding scales. Work was

carried out during the period mid-October to mid-November 1975.

Prior to the survey, the instrument had been checked and adjusted, so that a gamma value of 1220 corresponds closely with an absolute value of 57,599 \pm 15.

Base control stations were established on the property and given fixed values and located as follows:

B.C.S. #1 - on the base line at 0+00 - 1605 gammas.

B.C.S. #2 - on the base line at 15+00W - 1250 gammas.

B.C.S. #3 - on the tie line at 0+00 - 1300 gammas.

During the course of the survey the base control station was observed at regular intervals (four readings per day) as a check on the working condition of the instrument and to record the daily diurnal variation. Stations were spaced at 25 foot intervals along the picket lines and a total of 3,183 readings recorded on the claims group.

The results of the survey are shown on the accompanying Geo-Magnetic Profile Plans (Sheets 1 and 2) on a scale of one inch equals 200 feet. Profiles have been plotted on a scale of one inch equals 4,000 gammas.

Mapping of the outcrops on the Thesaurus claims during the field seasons of 1972 and 1975 has facilitated the interpretation of the magnetic results. Readings over the granite and grano-diorite throughout the property, range in value from 1100 to 1800 gammas, however, the majority occur within the limits of 1300 to 1600 gammas. Regional and local mapping indicate the granite to be the major rock type in the area.

The quartz porphyry intrusives? observed in the shaft section have similar magnetic characteristics to the granite - values range from 1090 to 1560 gammas.

Northerly trending diabase dikes have been sharply delineated by the magnetometer survey. These dikes, which range in width from a few feet to a

maximum of 130 feet, have magnetic values varying from 1800 to over 12,000 gammas. In general, however, values range between 1800 and 2400 gammas.

The intrusive breccia mapped in the south part of the claims is indistinguishable from the granite on the basis of the magnetic results.

A series of cross structures, trending slightly north of west, have been indicated by both, the geological mapping and the magnetometer survey. As shown on the accompanying Map - Sheet No. 1, both the quartz porphyry and diabase dikes have been offset by these fault zones. Maximum displacement noted is in the order of 150 feet.

Note that the extreme magnetic "peaks" in the shaft area are probably caused by buried pipes and scrap steel from the old surface installations.

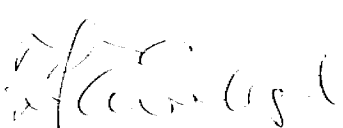
Conclusions and Recommendations:

No conducting zones of significance have been delineated by the electromagnetic survey. This would appear to indicate that sulphide mineralization in the quartz veins, along diabase dike contacts, in the quartz porphyry and along fault zones is minimal.

Magnetometer surveying has sharply outlined numerous northerly trending diabase dikes and off-setting cross structures. No unusual anomalies were recorded on the claims.

The profusion of dikes and faults in the shaft area, complicates the quartz vein pattern and will increase the costs of exploration - development drilling and possible underground mining.

As a result of the 1975 exploration program and the current depressed price for gold, no work is proposed for the 1976 field season.


Submitted: March 4th, 1976
by: F.J. Eveleigh
Exploration Manager

LEGEND FOR DETAILED GEOLOGICAL MAPPING


















Geological Legend

Abbreviations

6	Quartz diabase, diabase
5	Granite 5a; Syenite 5b; Syenite porphyry 5-bl; Feldspar porphyry 5c; Quartz feldspar 5d; Felsite 5e; Lamprophyre 5f; Granodiorite, granitic gneiss 5g; Quartz diorite 5h; Quartz porphyry 5i.
4	Diorite 4a; Gabbro diabase 4b.
4C	Peridotite & Dunite (Serpentinized)
4D	Pyroxenite
3	Rhyolite fragmental lava
2	Andesite basalt pillow lava 2a; Diabasic lava 2b; Spherulitic lava 2c; Fragmental lava 2d; Tuff & Chert 2e; Talc-chlorite schist 2f; Amphibolite 2g.
1	Greywacke 1a; Arkose 1b; Quartzite 1c; Argillite or shale 1d; Conglomerate 1e; Iron formation 1f; Chlorite schist 1g.
CB	Carbonate rock.

Asbestos	Asb	Oxidized	Ox'id
Brecciated	Brec'id	Hyrite	Hy
Carbonated	Carb'id	Pyrrhotite	Py
Chalcopyrite	Cpy	Peridotite	Perid
Disseminated	Diss	Pyroxenite	Pyrox
Dark	Dk	Quartz	Qtz
Feldspar	Fp	Serpentinite	Serp
Foliated	Fol'id	Sheared	Sh'id
Grained - fine	F gr'id	Serpentinized	Serp'id
- medium	M gr'id	Strongly	Str
- coarse	C gr'id	Schistose	Sch'ise
Graphite	Graph	Stringers	Strs
Gneiss	Gn	Schist	Sch
Gneissic	Gn'ic	Sericitized	Ser'id
Hornblende	H'bl	Typical	Typ
Light	Lt	Thread vein	T.V.
Magnetite	Magn	Texture	Text
Moderately	Mod	Trace	Tr
Medium	Med	Volcanics	Volc
Massive	Mass	Weakly	Wk

TOPOGRAPHIC SYMBOLS

	Direction in which lava flows face, indicated by shape of pillows		Bush road		Geological Contact - assumed - definite
	Outcrop		High ground		Swamp border
	Swamp or muskeg		Cabin		Shear zone
	Scarp		Shaft		Fault - assumed - definite
	Creek		Pit or trench		Attitudes - bedding - shearing - jointing
	Drill hole		Esker		

Show instrument technical data in each space for type of survey submitted or indicate "not applicable"

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS

Number of Stations Mag. 3183; E.M. 1330 Number of Readings Mag. 3208; E.M. 1365
Station interval Mag. 25'; E.M. 50'
Line spacing Mag. 100' & 300'; E.M. 100' & 300'
Profile scale or Contour intervals Mag. 1" = 4,000 g. E.M. 1" = 20°
(specify for each type of survey)

MAGNETIC

Instrument Scintrex Fluxgate Magnetometer Model MF-1
Accuracy - Scale constant see photocopy (attached)
Diurnal correction method Base stations read at regular intervals & readings corrected accordingly.
Base station location No. 1 - on base line at line 0+00
No. 2 - on base line at 15+00SW; No. 3 - on tie line at 0+00

ELECTROMAGNETIC

Instrument McPhar Dual Frequency Reconnaissance Electromagnetic Unit
Coil configuration vertical
Coil separation 200 feet
Accuracy _____
Method: Fixed transmitter Shoot back In line Parallel line
Frequency 1,000 cps
(specify V.L.F. station)
Parameters measured dip angle and width of null

GRAVITY

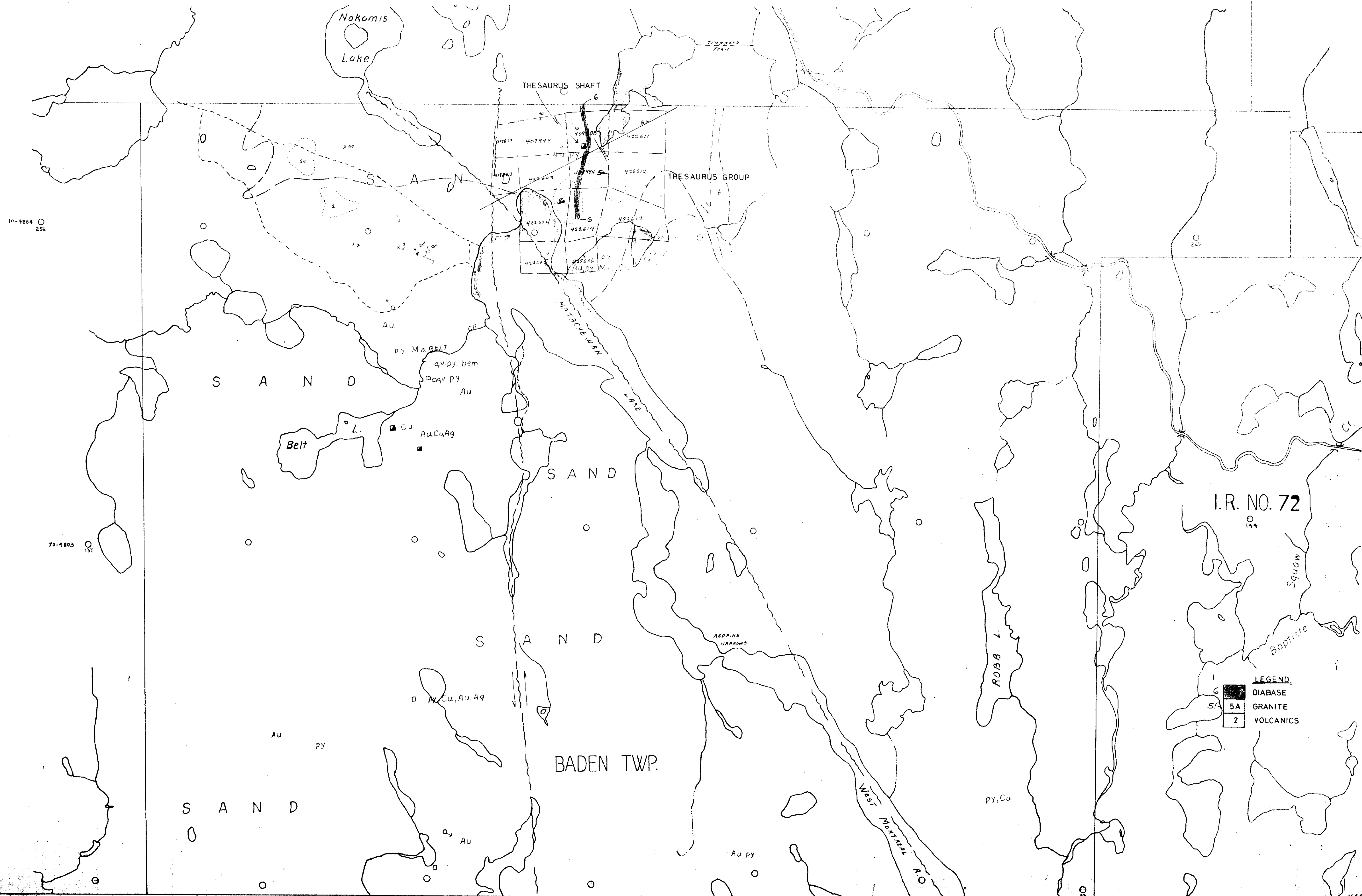
Instrument _____
Scale constant _____
Corrections made _____
Base station value and location _____
Elevation accuracy _____

INDUCED POLARIZATION - RESISTIVITY

Instrument _____
Time domain _____ Frequency domain _____
Frequency _____ Range _____
Power _____
Electrode array _____
Electrode spacing _____
Type of electrode _____

MC NEIL TWP.

ROBERTSON TWP.



I.R. NO. 72

LEGEND

6	DIABASE
5A	GRANITE
2	VOLCANICS

ARGYLE TWP.

BADEN TWP.

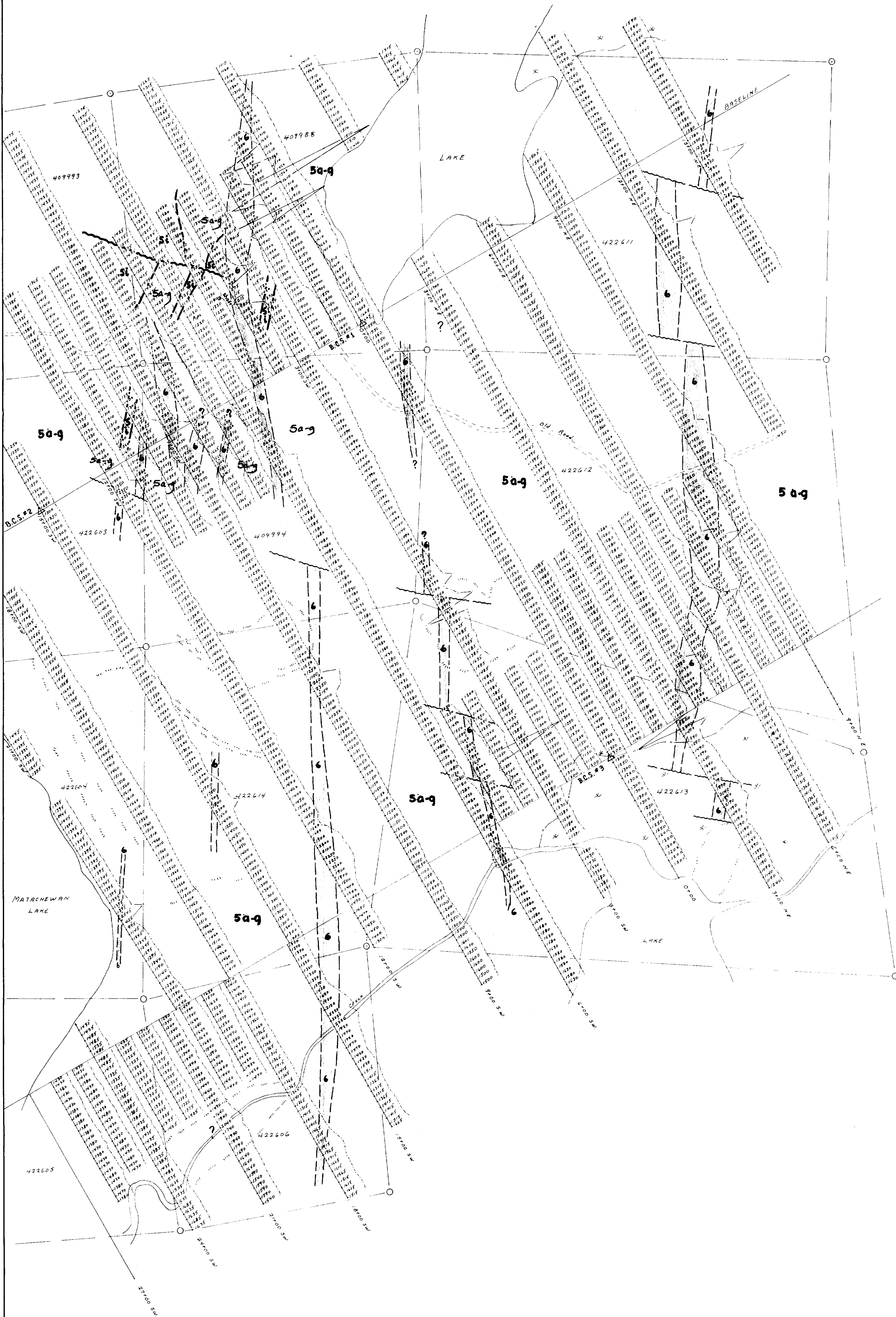




ADJOINS SHEET No. 2.

CANADIAN JOHNS MANVILLE CO. LTD. — MATHESON, ONT.

ADJOINS SHEET No.



MARCH 4, 1976.

MAP SHEET No. 1.

MF1 FLUXGATE MAGNETOMETER SERIAL NO. 607220
GEO MAGNETIC PROFILE PLAN (1"=4000 GAMMAS)

ONT. 1"-200' THESAURUS GROUP *Stewart* BADEN TWP.

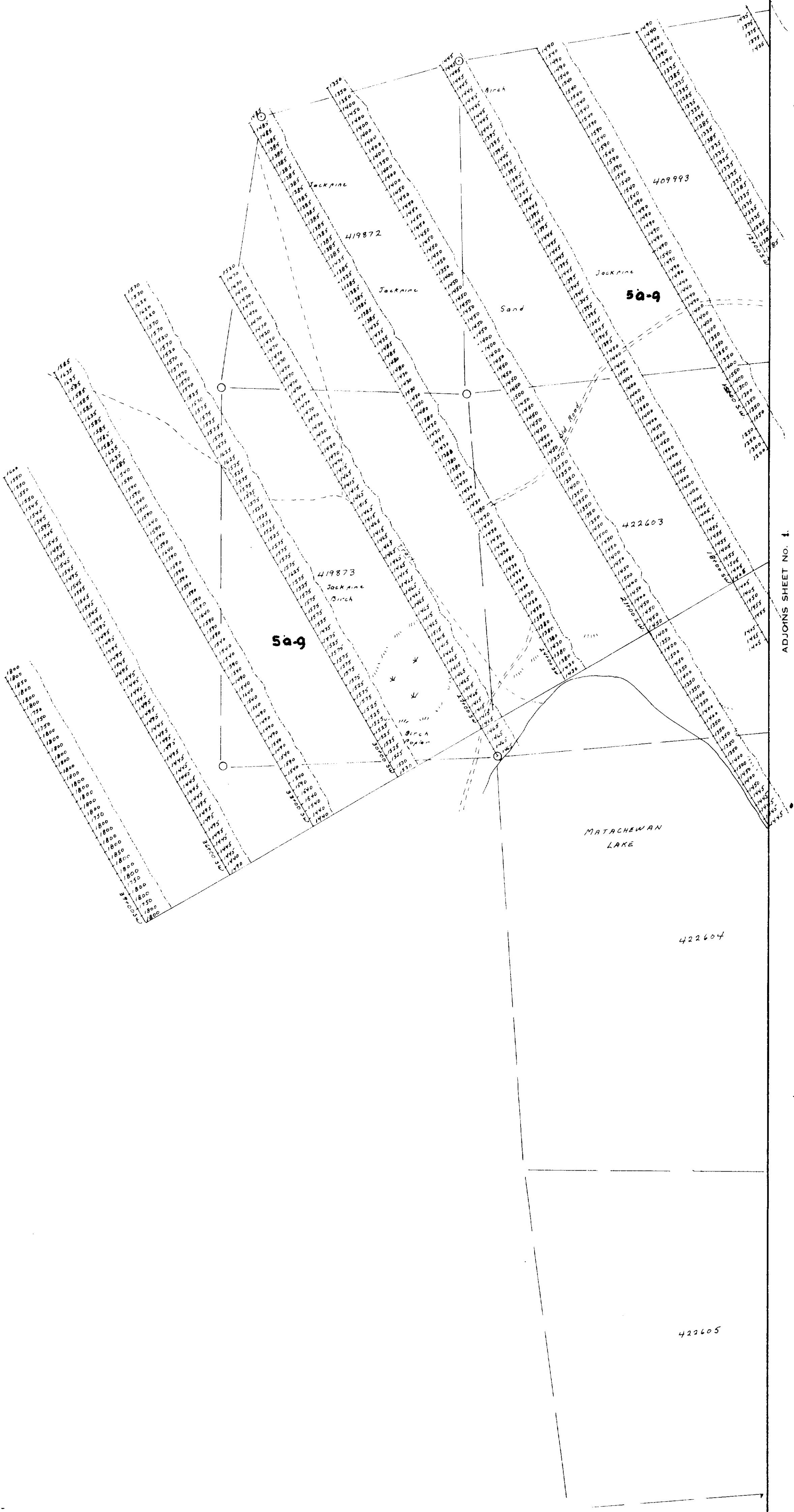


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ADJOINS SHEET No.

CANADIAN JOHNS MANVILLE CO. LTD. — MATHESON, ONT.



ADJOINS SHEET No. 1.

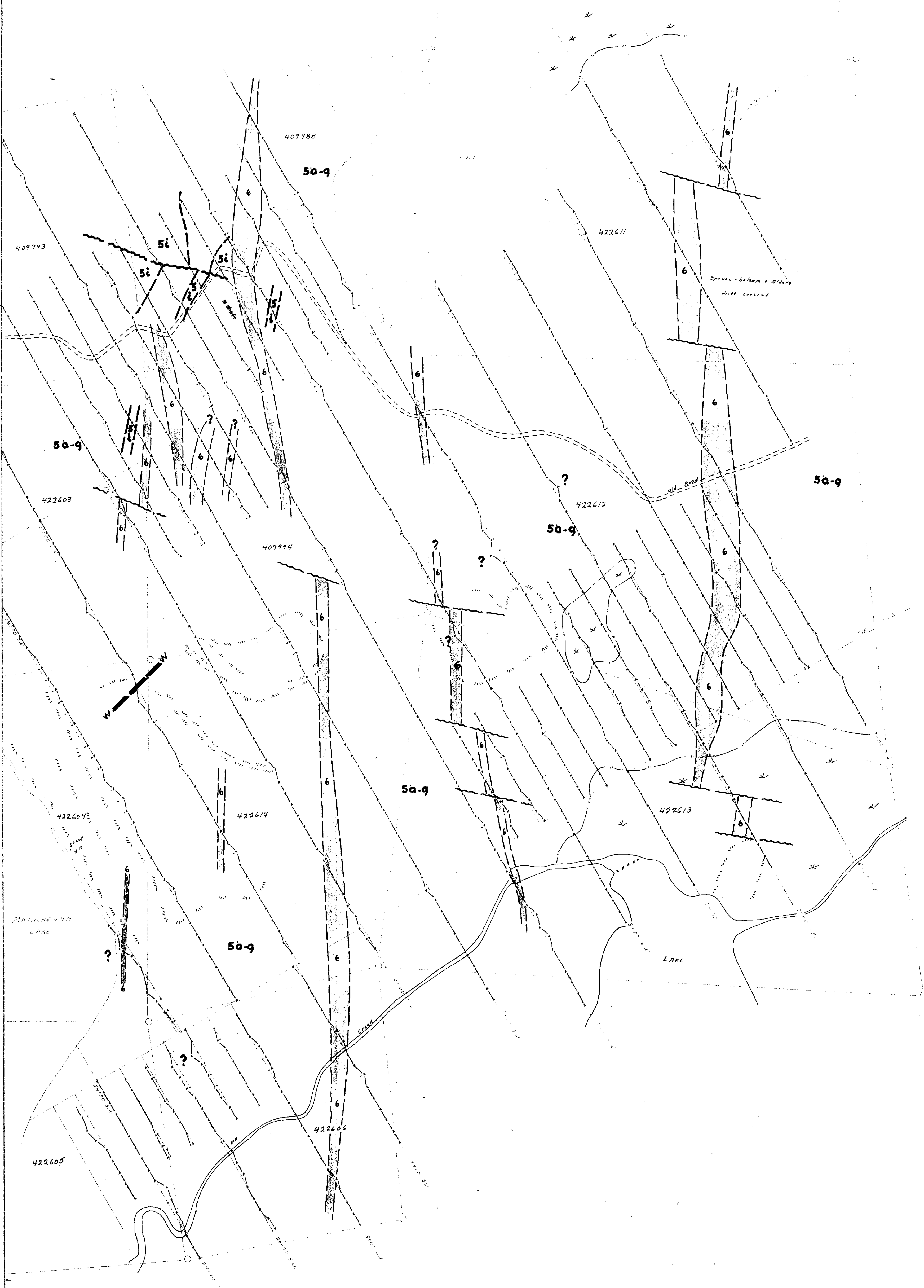
MARCH 4, 1976.

MAP SHEET No. 2.

MFI FLUXGATE MAGNETOMETER SERIAL NO. 607220
 GEO MAGNETIC PROFILE PLAN (1" = 4000 GAMMAS)
 ONT. 1" = 200' THESAURUS GROUP BADEN TWP.



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CANADIAN JOHNS MANVILLE CO. LTD. - MATHESON, ONT.

ADJOINS SHEET NO. 2

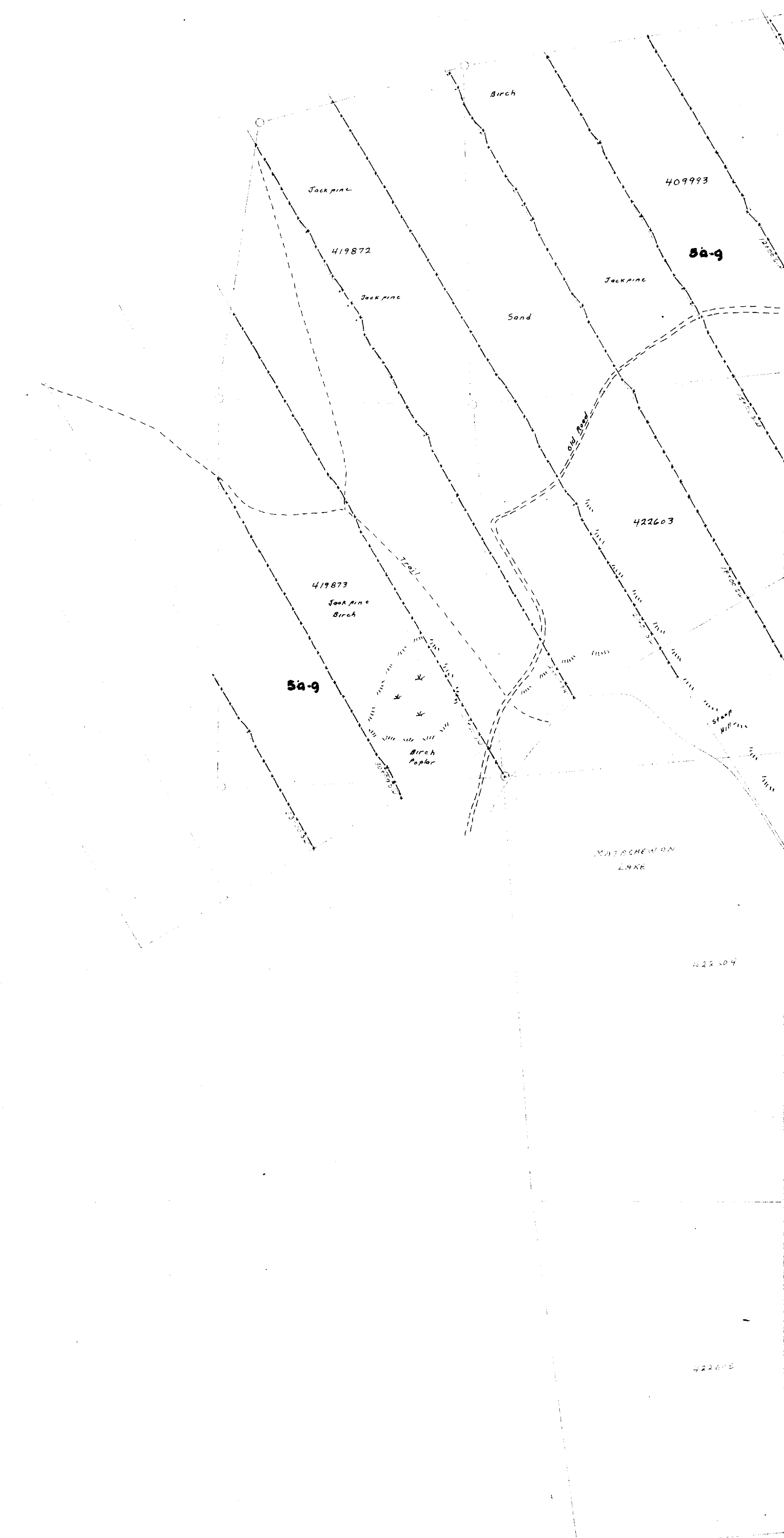
MARCH 4, 1976.

MAP SHEET No. 1.

REM PROFILE PLAN - TRANSMITTER TO NORTH
 EM PROFILE 20'-1" - INLINE METHOD - SPACING 200'
 ONT. 1'-200' THESAURUS GROUP BADEN TWP.



1
 240



MARCH 4, 1976.

MAP SHEET No. 2.

REM PROFILE PLAN TRANSMITTER TO NORTH
 EM. PROFILE 20" x 1" — INLINE METHOD — SPACING 200'
 ONT. 1" x 200' THESAURUS GROUP *[Signature]* BADEN TWP.



250