

2-976

RECEIVED

AUG 8 1972

PROJECTS
SECTION

R E P O R T



52J02SW7427 52J02SW0064 FOURBAY LAKE

010

HORIZONTAL LOOP ELECTROMAGNETIC SURVEY

on

SPOONER MINES AND OILS LIMITED PROPERTY

STURGEON LAKE AREA, ONTARIO

To Accompany Map No. 8

(WEST GRID)

INTRODUCTION:

An electromagnetic horizontal loop survey was carried out between August 7, 1971 and February 12, 1972 by Searchor Ltd., P.O. Box 69, Flin Flon, Manitoba; Contractor Antoni Wasyliuk, Box 641, Flin Flon, Manitoba; and by Geosearch Consultants Limited, St. 1114, 100 University Avenue, Toronto 116, Ontario; on behalf of Granges Exploration Aktiebolag, Vancouver, B.C.

The Searchor Ltd. linecutting was supervised by Mr. Gordon Percival of Flin Flon, Manitoba; Geosearch Consultants portion of the survey was supervised by Mr. R. Lee; and Antoni Wasyliuk's survey was supervised by George Lawson of Flin Flon, Manitoba. The overall program was supervised by George Zbitnoff, Geologist, on behalf of Granges Exploration Aktiebolag.

LOCATION AND ACCESS:

These mineral claims are located approximately 45 miles north of Ignace in northwestern Ontario as shown on the attached map.

Access is by road from the town of Ignace, approximately 40 miles north on Highway 599, then by skidoo via bush trail west about one mile to the claims.

GEOLOGY OF THE AREA:

The survey work was carried out on the property during the winter months, thus no geological observations were made on the property. The geology of the area is described as being mafic meta volcanics on Map 2169 as published by the Ontario Department of Mines.

SUMMARY OF EXPLORATION WORK
DONE TO DATE ON THE PROPERTY:

To the knowledge of the writer, no previous ground surveys were performed on the property prior to these surveys carried out on behalf of Granges Exploration Aktiebolag. There was, however, an airborne electromagnetic and magnetic survey performed by Scintrex Ltd. for Spooner Mines & Oils Limited which was submitted as assessment work.

NAME AND ADDRESS OF OWNER
OF THE CLAIMS:

Spooⁿer Mines and Oils Limited,
Suite 607 - 30 Richmond Street West,
Toronto 110, Ontario.

Optioned to:

Granges Exploration Aktiebolag,
1060 - 1055 West Hastings Street,
Vancouver 1, B.C.

NAME AND ADDRESS OF PARTY
SUBMITTING WORK:

The name and address of the party submitting the work for assessment purposes is: Granges Exploration Aktiebolag,
1060 - 1055 West Hastings Street,
Vancouver 1, B.C.

NUMBER OF CLAIMS COVERED
BY THE SURVEY:

The numbers of the claims actually covered by the surveys on which the work is shown on attached map No. 8 and are specified in the Report of Work form. A total of 13 claims were covered by this survey.

INSTRUMENTS USED TO
PERFORM THE SURVEY:

The surveys were completed using an ABEM Electromagnetic Gun horizontal loop survey unit; manufactured by A.B. Electrisk Malmletning, Stockholm, Sweden, operating at 3520 cycles per second, and using a transmitter-receiver coil spacing of 300 feet.

Readings were recorded along the section lines of a 400-foot grid and isolated locations of 200-foot grid at 100-foot intervals and in anomalous zones at 50-foot intervals.

The ABEM Gun operates on the same principle as all other horizontal loop instruments, with typical results for all being as in the following description. When the survey crew are transversing a section line and approaching a conductor, positive results are obtained. These are followed by negative readings when the conductor lies between the coils, and a second positive section when both coils have passed beyond the conductor.

Both In-Phase and Quadrature components show the same general response; however, the ratio of In-Phase to Quadrature is directly proportional to the conductivity of the zone. A

ratio of In-Phase to Quadrature greater than two indicates a high conductivity. Ratios of one to two indicate medium conductivity, while a ratio of less than one indicates poor conductivity. Generally, ratios of less than 0.5 indicates a response due to ionic conduction in muskeg or lake bottom material.

The accompanying map shows the grid system, plotted readings and electromagnetic conductors. The locations of readings are indicated by dots along the section lines. Each location is the position of the mid-point between the transmitter and receiver coils when the reading was taken. The In-Phase readings are plotted to the left of the dots and the Quadrature readings are plotted to the right.

TOTAL STATIONS AND READINGS
TAKEN ON THE GRID:

The initial number of stations established on the claims being submitted was 874 stations with 1,748 readings taken.

Total number of line miles cut on the grids on the claims submitted is 18.1 including base lines and section lines. Total number of miles of electromagnetic surveying carried out was 16.97 miles.

EXPENDITURES INCURRED
ON THE SURVEY:

Line cutting	\$ 1,267.00
Electromagnetic surveying	1,041.05

(continued)

Drafting, layouts, maps etc	198.82
Office overhead (management, secretarial, rent, etc)	<u>201.37</u>
TOTAL EXPENDITURES	\$2,708.24

RESULTS:

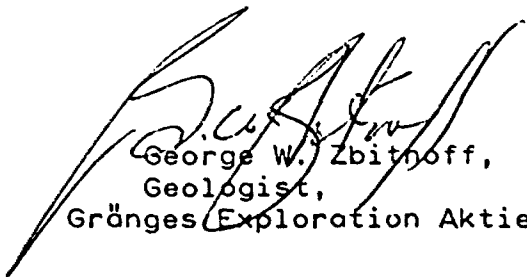
The results of the surveys performed are shown on enclosed map No. 8.

Seven separate conductors with fair, to high conductivity and In-Phase amplitude were located, all indicating the presence of definite conductive mineralization. Three other very weak anomalies were also noted, these being attributed to conductive overburden and a fault zone. All are shown as solid or broken lines on the map.

CONCLUSIONS AND RECOMMENDATIONS:

The conclusion reached is that the anomalies showing the highest and best ratios are caused by conductors which may or may not be economic material.

It is recommended that these conductors be further tested by diamond drilling to establish if they are of any economic importance.


George W. Zbitzoff,
Geologist,
Gränges Exploration Aktiebolag

SCHEDULE "A"

PA-230260
230261
230262
230263
230264
230265
230266

PA-222692
222693
222694
222695
222696
222697

PA-245986
245987

PA-245965
245966
245967
245968
245969
245970
245971
245972
245973
245974
245975
245976
245977
245978
245979
245980
245981
245982

TOTAL = 33 Claims

R E P O R T



52J02SW7427 52J02SW0064 FOURBAY LAKE

020

HORIZONTAL LOOP ELECTROMAGNETIC SURVEY

on

SPOONER MINES AND OILS LIMITED PROPERTY

FOURBAY LAKE AREA, ONTARIO

To Accompany Map No. 9

(THUNDER GRID)

INTRODUCTION:

An electromagnetic horizontal loop survey was carried out between November 15, 1971 and January 23, 1972 by Contractor Antoni Wasyliuk, Box 641, Flin Flon, Manitoba on behalf of Gränges Exploration Aktiebolag, Vancouver, B.C.

The linecutting and E.M. survey was supervised by Mr. George Lawson of Flin Flon, Manitoba. The overall program was supervised by George Zbitnoff, Geologist, on behalf of Gränges Exploration Aktiebolag.

LOCATION AND ACCESS:

The mineral claims as listed in Schedule "A" are located approximately 45 miles north of Ignace in northwestern Ontario. The area covered by these claims is half water and half land.

Access is by: a) ski or float equipped aircraft from Ignace, or b) by motoring approximately 50 miles north on Highway 599 to Jessie Lake, then by canoe or skidoo southeast via bush trail for about 2 miles to the claims.

GEOLOGY OF THE AREA:

The survey work was carried out on the property during the winter months, thus no geological observations were made on the property. The geology of the area is described as being mafic meta volcanics on Map 2169, published by the Ontario Department of Mines.

SUMMARY OF EXPLORATION WORK
DONE TO DATE ON THE PROPERTY:

To the knowledge of the writer, no previous ground surveys were performed on the property prior to these surveys carried out on behalf of Gränges Exploration Aktiebolag. There was, however, an airborne electromagnetic and magnetic survey performed by Scintrex Ltd. for Spooner Mines & Oils Limited which was submitted as assessment work.

NAME AND ADDRESS OF OWNER
OF THE CLAIMS:

Spooener Mines and Oils Limited,
Suite 607 - 80 Richmond Street West,
Toronto 110, Ontario.

Optioned to:

Gränges Exploration Aktiebolag,
1060 - 1055 West Hastings Street,
Vancouver 1, B.C.

NAME AND ADDRESS OF PARTY
SUBMITTING WORK:

The name and address of the party submitting the work for assessment purposes is: Gränges Exploration Aktiebolag,
1060 - 1055 West Hastings Street,
Vancouver 1, B.C.

NUMBER OF CLAIMS COVERED
BY THE SURVEY:

The numbers of the claims actually covered by the surveys on which the work is shown on attached map No. 9 and are specified on Schedule "A". A total of 33 claims were covered by this survey.

INSTRUMENTS USED TO
PERFORM THE SURVEY:

The survey was completed using an ABEM electromagnetic Gun horizontal loop survey unit; manufactured by A.B. Electrisk Malmletning, Stockholm, Sweden, operating at 880 cycles per second, and using a transmitter-receiver coil spacing of 300 feet.

Readings were recorded along the section lines of a 400-foot grid and isolated locations of 200-foot grid at 100-foot intervals and in anomalous zones at 50-foot intervals.

The ABEM gun operates on the same principle as all other horizontal loop instruments, with typical results being as in the following description. When the survey crew are traversing a section line and approaching a conductor, positive results are obtained. These are followed by negative readings when the conductor lies between the coils, and a second positive section when both coils have passed beyond the conductor.

Both In-Phase and Quadrature components show the same general response; however, the ratio of In-Phase to Quadrature is directly proportional to the conductivity of the zone. A ratio of In-Phase to Quadrature greater than two indicates a high conductivity. Ratios of one to two indicate medium conductivity, while a ratio of less than one indicates poor conductivity. Generally, ratios of less than 0.5 indicates a response due to ionic conduction in muskeg or lake bottom material.

The accompanying map shows the grid system, plotted

readings and electromagnetic conductors. The locations of readings are indicated by dots along the section lines. Each location is the position of the mid-point between the transmitter and receiver coils when the reading was taken. The In-Phase readings are plotted to the left of the dots and the Quadrature readings are plotted to the right.

TOTAL STATIONS AND READINGS
TAKEN ON THE GRID:

The number of stations established on the claims was 1,460 stations with 2,920 readings taken.

Total number of line miles cut on the grid on the claims submitted is 30.2 including base lines and section lines.

Total number of miles of electromagnetic surveying carried out was 27.0 miles.

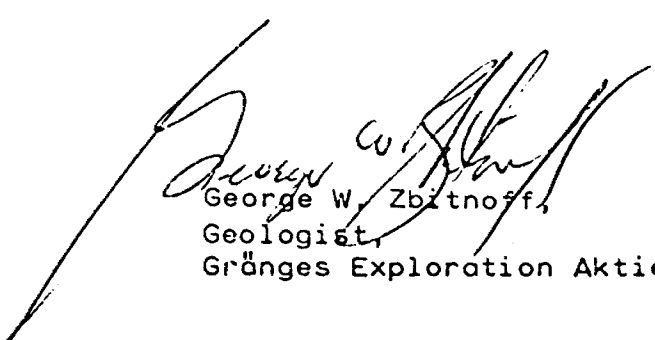
EXPENDITURES INCURRED
ON THE SURVEY:

Line cutting	\$ 2,062.50
Electromagnetic survey	1,080.00
Drafting, layouts, maps, etc	316.34
Office overhead, (manage- ment, secretarial, rent, etc.	320.40
TOTAL EXPENDITURES	<u>\$ 3,779.24</u>

RESULTS:

The results of the survey are shown on enclosed map No. 9, drawn at a scale of 1" = 400 feet. Two bands of conductors were located on the eastern portion of the claims, on each side of and parallel to the 0+00 Baseline. Indicated conductivity and In-Phase response is strong at three locations, which would indicate shallow overburden at these points. All are shown on the map as solid or broken lines.

It is recommended that these conductors be further tested by diamond drilling to establish if they are of any economic importance.



George W. Zbitnoff,
Geologist,
Gränges Exploration Aktiebolag.

CERTIFICATE OF QUALIFICATION

I, George W. Zbitnoff, do hereby certify
the following:

- 1) I am a graduate of the University of Saskatchewan in 1963 with a Bachelor of Arts degree in geology and chemistry.
- 2) I have been continuously employed in mineral exploration since May 1, 1962 in Ontario, Manitoba, Saskatchewan, and British Columbia.
- 3) I am a Professional Engineer in the Province of Manitoba, and have a Professional Engineer application pending in British Columbia.


George W. Zbitnoff.

GZ/lk

STATEMENT

Q

ANTONI WAGYLIK

BOX 601

FLIN FLON, MANITOBA

RSA INS

DATE Dec 26 1971

George Education Fund

Re: George Education Fund Cutting

DATE	DETAILS	DEBIT	CREDIT	BALANCE
	Cobb No. 1 ^{7.8} 2.7 mi			
	Cobb No. 2 ^{7.6} 2.7 mi			
	Cobb No. 3 ^{28.5} 27.7 mi			
	Thunder Gtd ^{20.1} 24.8 mi		1305.00	
	.. ^{at 75} not completed			
	Total mile at 63			
	by 64		1800.00	
	at 75		495.00	
			3495.00	

RECEIVED
 GRANGES EXPLORATION CANADA
 DEC 29 1971
 Account No. E-301-03
 Per: [Signature]

1305.00

Paid Dec. 29/71
Ch. # 760
\$ 1,305.00

STATEMENT

ANTON M. ...
 PER FLOOR, ...

DATE Jan 23rd 1972

Aranges Exploracion Canada

Re: Spence option - Sturgeon Lake Co.

DATE	DETAILS	DEBIT	CREDIT	BALANCE
	Eastern Postage			
	(City) T. ...			
	7.4 mi @ 75			555.00
	27.9 mi @ 40			
	ALLIANCE 27.9 mi @ 40 = 1116.00			
	T. ... Paid			1116.00
	Paid Jan 16/72			
	1838			
	Chq # 1671.00			
	RECEIVED BANK OF MONTREAL FEB 1972 ACCOUNT NO. E 301-03 555.00 1116.00			1571.00

(MAP # 8 - WEST GRID)

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS

Number of Stations 874 Number of Readings 1,748
Station interval 100 feet and 50 feet
Line spacing 400 feet
Profile scale or Contour intervals _____
(specify for each type of survey)

MAGNETIC

Instrument _____
Accuracy - Scale constant _____
Diurnal correction method _____
Base station location _____

ELECTROMAGNETIC

Instrument ABEN EM Gun
Coil configuration Horizontal
Coil separation 300 feet
Accuracy ± 1%
Method: Fixed transmitter Shoot back In line Parallel line
Frequency 3520 Hz
(specify V.L.F. station)
Parameters measured In-Phase and Quadrature

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 _____

File (map # 9 THUNDER GRID)

GEOPHYSICAL - GEOLOGICAL - GEOCHEMICAL
TECHNICAL DATA STATEMENT

TO BE ATTACHED AS AN APPENDIX TO TECHNICAL REPORT
FACTS SHOWN HERE NEED NOT BE REPEATED IN REPORT
TECHNICAL REPORT MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC.

Type of Survey Horizontal Loop Electromagnetic
Township or Area Fourbay Lake Area (Map # M-2879)
Claim holder(s) Spooner Mines and Oils Limited
Author of Report George Zbitnoff
Address 1060 - 1055 West Hastings Street, Vanc, B.C.
Covering Dates of Survey Nov. 15/71 to Jan. 23/72
(linecutting to office)
Total Miles of Line cut 30.2

MINING CLAIMS TRAVERSED
List numerically

See Attached List

(prefix) (number)

SPECIAL PROVISIONS
CREDITS REQUESTED

ENTER 40 days (includes
line cutting) for first
survey.
ENTER 20 days for each
additional survey using
same grid.

Geophysical
-Electromagnetic 40
-Magnetometer
-Radiometric
-Other
Geological
Geochemical

DAYS
per claim

[Handwritten initials]

AIRBORNE CREDITS (Special provision credits do not apply to airborne surveys)

Magnetometer _____ Electromagnetic _____ Radiometric _____
(enter days per claim)

DATE: August 2, 1978 SIGNATURE [Signature]
Author of Report

PROJECTS SECTION

Res. Geol. _____ Qualifications _____

Previous Surveys _____

Checked by _____ date _____

GEOLOGICAL BRANCH _____

Approved by _____ date _____

GEOLOGICAL BRANCH _____

Approved by _____ date _____

TOTAL CLAIMS 33

If space insufficient, attach list

U.I.C. 030.000.1

(MAP #9 THUNDER GRID)

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS

Number of Stations 1,460 Number of Readings 2,920
Station interval 100 feet and 50 feet
Line spacing 400 feet
Profile scale or Contour intervals _____
(specify for each type of survey)

MAGNETIC

Instrument _____
Accuracy - Scale constant _____
Diurnal correction method _____
Base station location _____

ELECTROMAGNETIC

Instrument ABEM EM Gun
Coil configuration Horizontal
Coil separation 300 feet
Accuracy ± 1%
Method: Fixed transmitter Shoot back In line Parallel line
Frequency 880 Hz
(specify V.L.F. station)
Parameters measured In-Phase and Quadrature

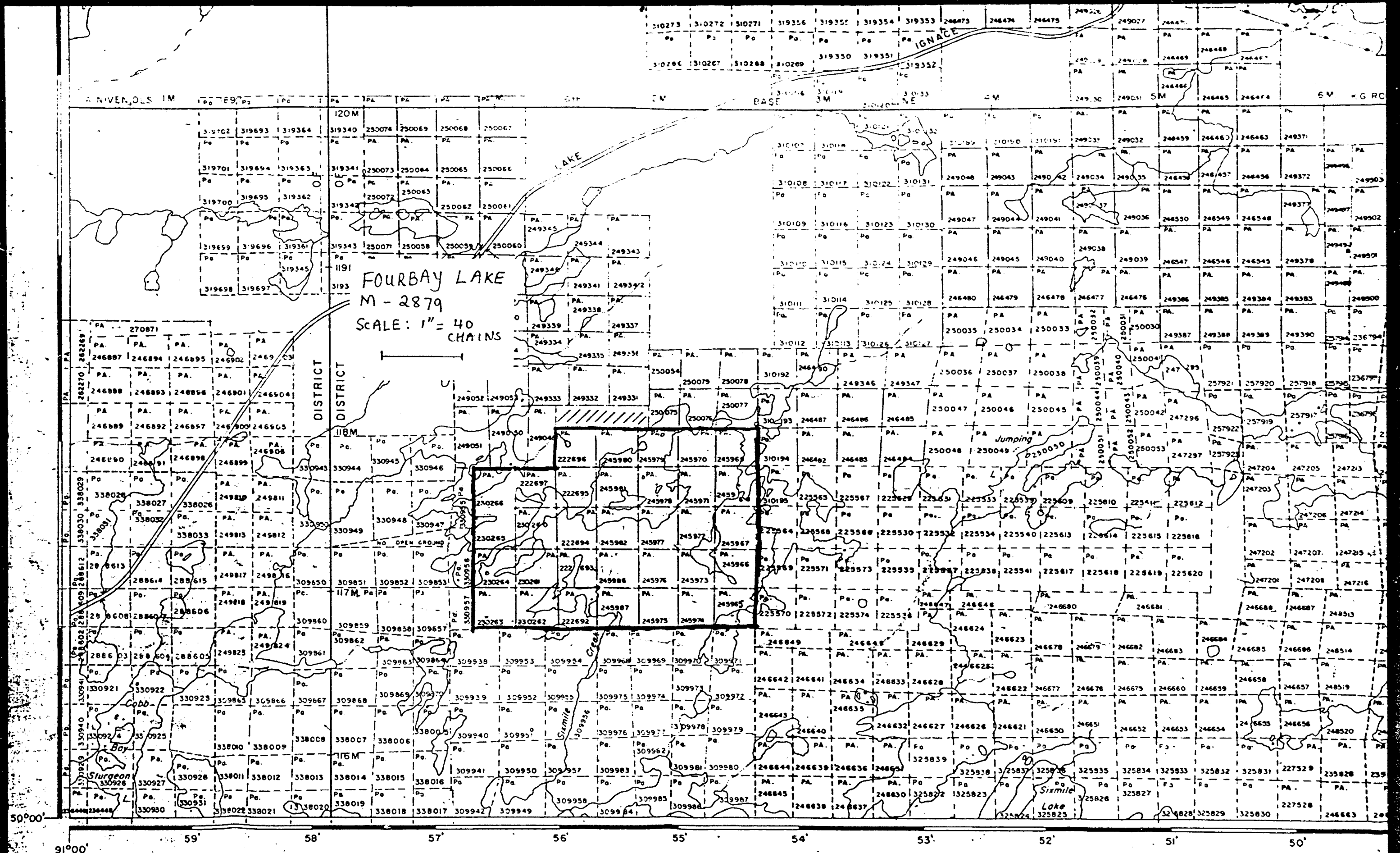
GRAVITY

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 _____



FOURBAY LAKE
 M - 2879
 SCALE: 1" = 40 CHAINS

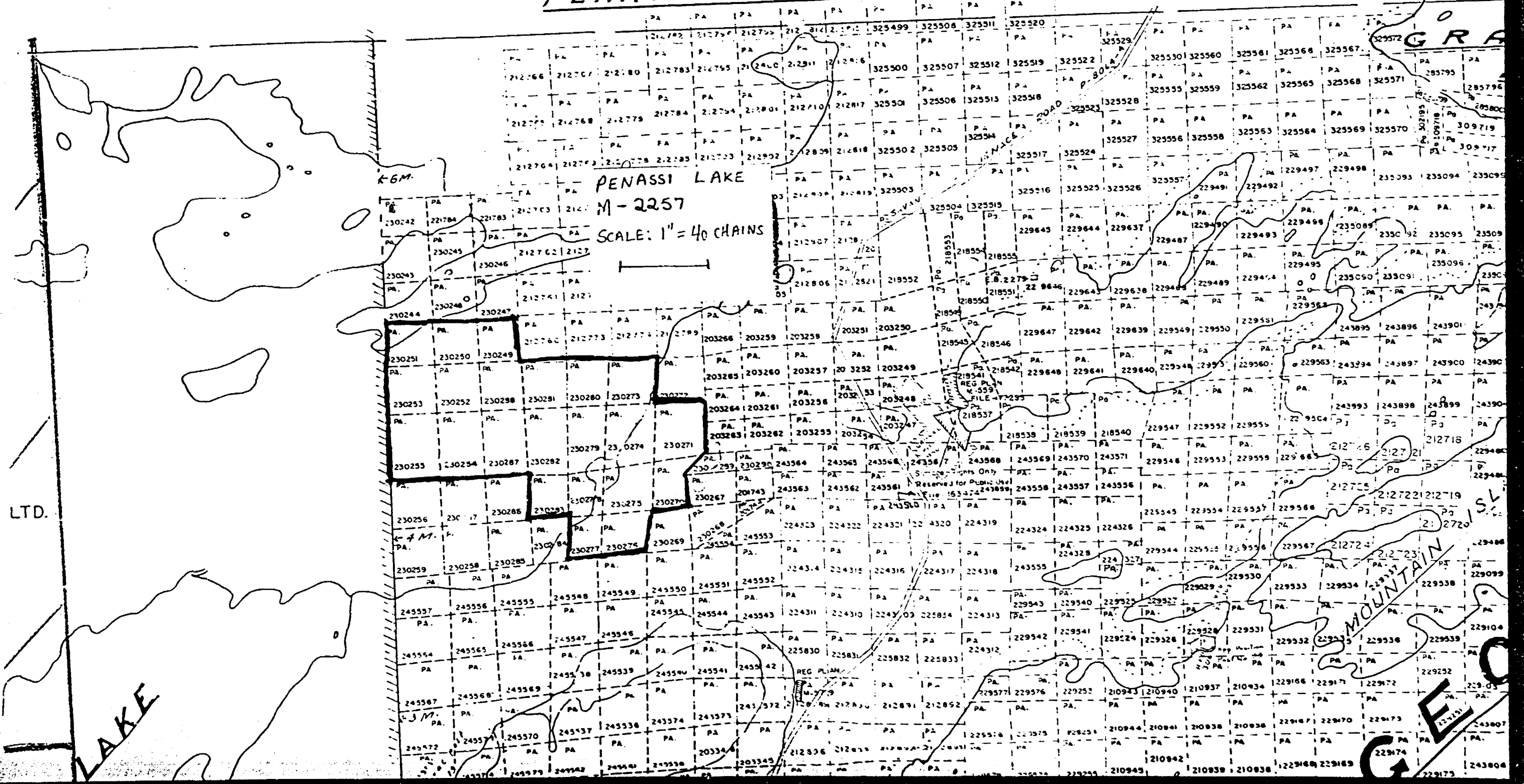
Sixmile Lake Area - M.2877

PLAN OF STURGEON LAKE AREA

RICIA MINING DIVISION — DISTRICT OF K

Scale 40 chains to an inch.

PENASSI LAKE AREA.





TECHNICAL ASSESSMENT WORK CREDITS

Recorder Holder Spooner Mines & Oils Ltd.
 Township or Area S. W. part of Sturgeon Lake

Type of Survey and number of
Assessment Days Credits per claim

GEOPHYSICAL

Electromagnetic40.....days
 Magnetometerdays
 Radiometricdays
 Induced Polarizationdays

GEOLOGICAL.....days

GEOCHEMICAL.....days

Man days Airborne

Special Provision Ground

NOTICE OF INTENT TO BE ISSUED

- Credits have been reduced because of partial coverage of claims.
- Credits have been reduced because of corrections to work dates and figures of applicant.
- NO CREDITS have been allowed for the following mining claims as they were not sufficiently covered by the survey:

Mining Claims
Pa. 230250
230252 to 54 inclusive
230270
230274 - 75
230277 to 79 inclusive
230281 - 82
230288

NOTE - The Mining Recorder may reduce the above credits if necessary in order that the total number of approved assessment days recorded on each claim does not exceed the maximum allowed as follows: Geophysical - 80; Geological - 40; Geochemical - 40;



TECHNICAL ASSESSMENT WORK CREDITS

Recorder Holder Spooner Mines & Oils Ltd.
 Township or Area Fourbay Lake

Type of Survey and number of
 Assessment Days Credits per claim

Mining Claims	
Pa.	222692 to 97 inclusive
	230260 to 66 "
	245965 to 82 "
	245986 - 87

GEOPHYSICAL

Electromagnetic40.....days
 Magnetometerdays
 Radiometricdays
 Induced Polarizationdays

GEOLOGICAL.....days

GEOCHEMICAL.....days

Man days Airborne

Special Provision Ground

NOTICE OF INTENT TO BE ISSUED

- Credits have been reduced because of partial coverage of claims.
- Credits have been reduced because of corrections to work dates and figures of applicant.
- NO CREDITS have been allowed for the following mining claims as they were not sufficiently covered by the survey:

NOTE - The Mining Recorder may reduce the above credits if necessary in order that the total number of approved assessment days recorded on each claim does not exceed the maximum allowed as follows: Geophysical - 80; Geological - 40; Geochemical - 40;

SCHEDULE "A"

PA-230260	PA-245965
230261	245966
230262	245967
230263	245968
230264	245969
230265	245970
230266	245971
	245972
PA-222692	245973
222693	245974
222694	245975
222695	245976
222696	245977
222697	245978
	245979
PA-245986	245980
245987	245981
	245982

TOTAL = 33 Claims

(map # 9 Thunder Grid)

SCHEDULE "A"

PA-230260
230261
230262
230263
230264
230265
230266

PA-222692
222693
222694
222695
222696
222697

PA-245986
245987

PA-245965
245966
245967
245968
245969
245970
245971
245972
245973
245974
245975
245976
245977
245978
245979
245980
245981
245982

TOTAL = ~~33~~ Claims

52 J/07 SW (15)



ONTARIO
Ministry
of Natural
Resources

Telephone 416:965-6918

File: 2.976
W1617, Whitney Block,
Parliament Buildings,
Queens Park, Toronto.

September 26, 1972.

Mr. W. A. Buchan,
Mining Recorder,
Court House,
Sioux Lookout, Ontario.

Dear Sir:

Re: Mining claims no. Pa. 222692 et al,
Fourbay Lake Area. File 2.976

The Geophysical (Electromagnetic) assessment work credits as shown on the attached list have been approved as of the date above. Please inform the recorded holder and so indicate on your records.

Yours very truly,

Fred W. Matthews,
Supervisor,
Projects Section.

/dg.

✓ c.c. Resident Geologist,
Kenora, Ont.

c.c. Spooner Mines & Oils Ltd.
607 - 80 Richmond St., W.,
Toronto 1, Ont.

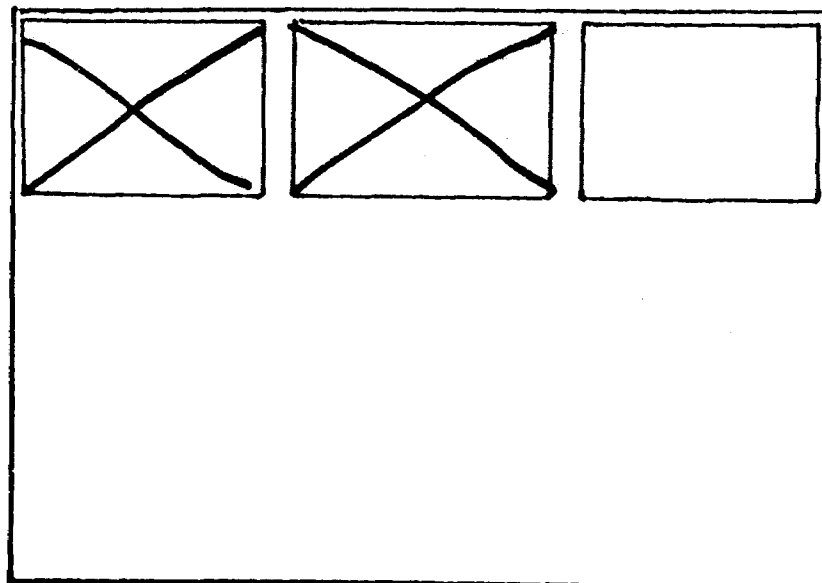
c.c. Granges Exploration AB,
Canadian Division,
1060 Guinness Tower,
1055 West Hastings St.,
Vancouver 1, B. C.

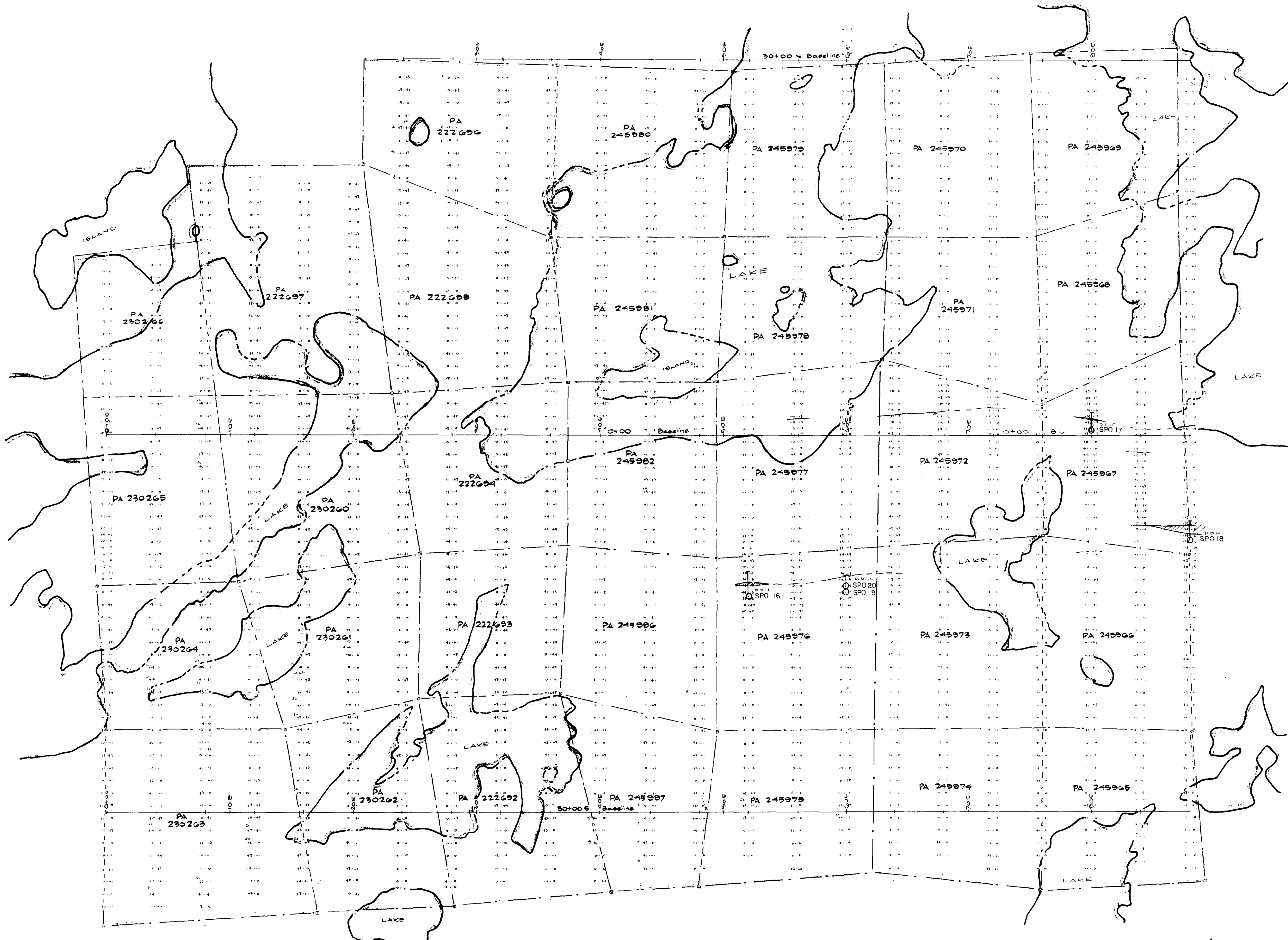
SEE ACCOMPANYING
MAP(S) IDENTIFIED AS

52J/02 SW-0064# 1-2

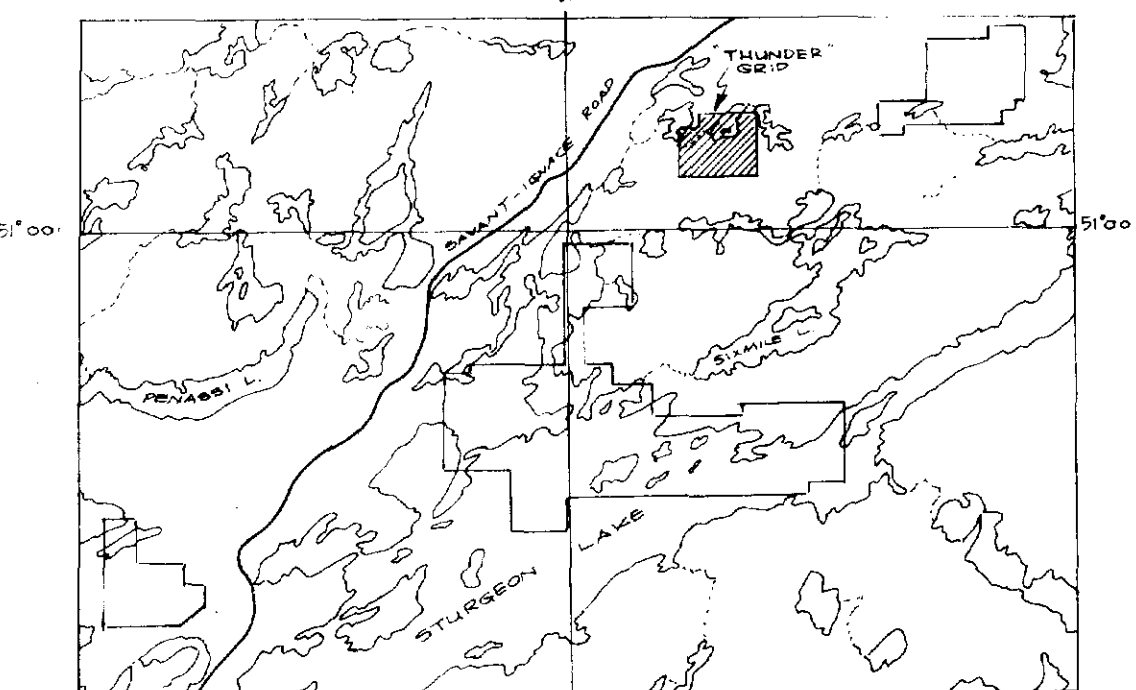
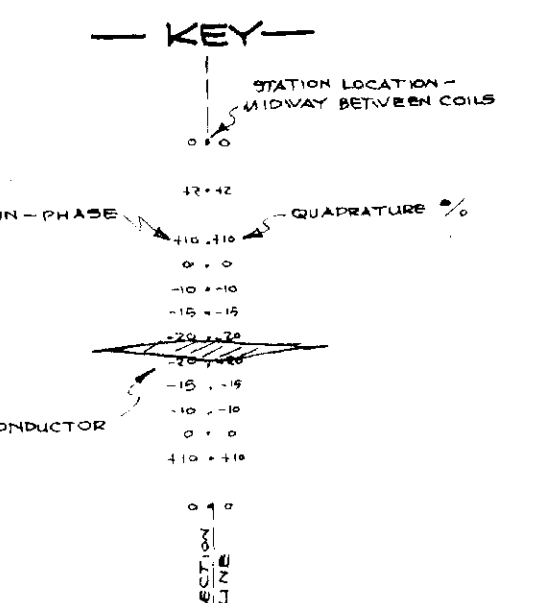
LOCATED IN THE MAP
CHANNEL IN THE
FOLLOWING SEQUENCE

(X)





ASTEROIDAL



DETAILS OF WORK BEING SUBMITTED IN AREA OUTLINED:

LINECUTTING: SEC LINE = 27.0 MILES
 BASE LINE = 3.2 MILES
 TOTAL = 30.2 MILES

E.M. SURVEY: 27.0 MILES
 NO. OF STATIONS: 1460
 NO. OF READINGS: 2810

SUPERVISED BY:

[Signature]
 (E. J. HOFF)

525/02 SW - 0064 #2 ★



SURVEYED BY: Geo. LAWSON & J. BEAR DEC 13, 1971 TO JAN 23, 1972	DRAWN BY: M.P.
OPERATING FREQUENCY: 980 Hz COIL SPACING: 300 FEET	DATE: JAN - 1972
DEFINITE CONDUCTOR WEAK CONDUCTIVE TREND	MILES SURVEYED: 27.0

GRANGES EXPLORATION AB
 CANADIAN DIVISION
 VANCOUVER OFFICE

HORIZONTAL LOOP E.M. SURVEY
SPOONER MINES AND OILS LIMITED OPTION
 THUNDER BAY (CLAIM MAP No. M.2879)
 FOURBAY LAKE AREA, ONT.

SCALE: 1" = 400'
 PROJECT No.: E-301
 N.T.S. No.: 52-J-2

2.976