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REPORT ON MAGNETIC, SEISMIC AND RADIOMETRIC SURVEYS OVER SIX CLAIMS IN THE TOWNSHIPS OF VENTURI AND TOFFLEMIRE (TWPS 107 & 108) SUDBURY MINING DIVISION, ONTARIO

FOR

INTERNATIONAL MINERALS AND CHEMICAL CORPORATION

BY

FULOP & ASSOCIATES, TORONTO

MAY-JUNE 1975

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INTRODUCTION

This report contains the results of a combined (magnetic,seismic and radiometric) geophysical survey carried out by Fulop & Associates for International Minerals and Chemical Corporation in the Townships of Venturi and Tofflemire (Twp's 107 & 108) in the district of Sudbury,Ontario.

The purpose of the survey was to prospect for carbonatite type of rocks and alcalic complexes which may be associated with industrial type of minerals.

Previous prospecting efforts constituted some testing by trenches and test pits.Diamond drilling was also tried in the immediate vicinity of the claims but holes were abandoned for reasons unknown.

The field work was carried out between May 6-14 and June 14-24,1975 under the direction and with direct participation of J.Fulop P.Eng.,geophysical consultant.

THE PROPERTY

The survey area is located approximately 20 miles west of Cartier north of Sudbury and is accessible through highway # 144 and through the gravel road to Fox Lake Lodge and the elbow of Spanish River.

The 6 claims include those

#378893	
378894	Twp.108
359400	.....
359399	Twp.107
378212	
377231	

The claims are located on the south side of Spanish River Elbow as shown on sketch.Those in Twp.108 are bounded by Latitude 46° 27' 38''on the south and by Lomgitude 81° 43'30''

GEOLOGY

Outcrops within the area are scarce and due to the thick overburden the detailed geology is not known.there are only a few locations where rock outcrops may be established with certainty.

The general area is underlain by early felsic, igneous and metamorphic rocks of granodiorite,quartzdiorite,monzonite-granite of early Precambrian ages.

There is some evidence that within these rocks there is a somewhat isolated anomalously situated carbonatite-alcalic complex of middle to late-Precambrian ages.

Physiographically the area is at the boundary of Abitibi Upland and Cobalt Plain physiographic regions.The glacial and glacio-fluvial drift on the property is between about50-250 ft. thickness.

MAGNETIC SURVEY SPECIFICATIONS

Equipment;The GM-122 proton type of magnetometer manufactured by Barringer Research of Toronto was used for the survey.It measures the total earth magnetic field with a ± 1 gamma accuracy and sensitivity within the range of 20,000-99,999 gammas in 12 sub-ranges. Its gradient tolerance is 600 gammas/foot and is powered by 12 "D" cells and the output is shown on a 5 digit incandescent filament readout.It is equipped with an omnidirectional noise cancelling toroidal sensing head of 12 cm. diameter and 11 cm. height.The sensor head was on a 6 foot pole and during the survey all stations read at this height above the ground elevations.

Base-Stations;In order to check the diurnal variations at 1-1½ hours intervals the instrument was returned for check readings to base stations located at BL-20+00 W and to BL-8+00 W lines intersections as base stations.

Station and line intervals;Normally readings were taken 100 ft.intervals but where an anomalous change was recorded observations were made at 50 foot intervals.Line intervals were at 400 foot throughout the survey grid.

Data reduction;Data has been reduced according to standard procedure.Diurnal variations were plotted at return to base-station times and the differences prorated as functionof time.

RESULTS AND INTERPRETATION

Presentation;The results of survey are presented as contours of the total earth magnetic field on a map of scale 1"=200 ft..For convenience 59,000 gammas have been subtracted from all readings,so the posted and contoured values represent only the remainder of the total magnetic field values.

Some depth determinations were made along lines of favorable gradients with the range of 100 to 350 foot depths.

Interpretation;Contour intervals are drawn at 100 gamma interval.An anomalously higher magnetic field exists in the central portion of the grid.Within this general high there are 3 smaller closures with higher magnetic values than those of the background(600-1,000 gammas).This is 4 to7 times over the average background field values and their locations are between Lines 12+00 W & 4+00 E - 25+00 N & 18+00 S.

The fairly consistent change of the magnetic field is interpreted as a possible contact of the two major rock types. Overburden in the central portion (under the anomalous zone) appears deeper (100-250 ft.) than where the magnetic values are of average background values.

CONCLUSIONS

Although no economic value of possible mineral occurrence can be outlined the results of the above geophysical survey in the central portion are encouraging.

Respectfully submitted;

J.Fulop,M.A.Sc.,P.Eng.,
Geophysical consultant

* Qualification - New on this file

RADIOMETRIC SURVEY SPECIFICATIONS

Equipment;The Model TV-5 Scintillometer,manufactured by McPhar Instrument Corporation of Toronto,was used for the survey.It is a 4-threshold meter and the measurements are based on the spectral characteristics or energy levels of gamma radiation.The selector sets the operating threshold.Two types of readouts are available 1/ Rate meter 2/ Scaler.The scaler type of readout circuit were used within this survey which counted the incoming pulses for a period of time.The 5 minute time constant was used for each reading.

The instrument has 7 full-scale meter ranges from 100 to 100,000 in 1-3 and 10 sequence.Using the scaler readings values represent the total count.

The detecting element in the instrument is a 1-3/4 by 2 inches diameter thick sodium-iodide crystal coupled to a photomultiplier tube.These are hermetically sealed and magnetically shielded and mounted in a rugged protective housing.

SCALER:T_1.... 1.30 Mev

T_2.... 1.63 Mev

T_3.... 2.50 Mev

Counts are accumulated simultaneously in 3 threshold channels and read by switching the meter to each threshold output.

SENSITIVITY:The instrument on threshold 2 registers approximately 50 counts per minute on an in-situ measurement(2TT geometry) over homogeneous material containing 1 ppm. uranium.The unit was calibrated several times during the survey using a thorium oxide calibrating source.

PRINCIPLES;The detection principle lies in the sodium iodide crystal interacting with gamma rays entering into the crystal resulting in free electrons and light emission.The photomultiplier converts the emission to electrical pulses which are related to energy levels of gamma rays.

Various radioactive elements have characteristic gamma ray spectrums corresponding to the decay series of the particular element.The enclosed figure shows spectral curves for the 3 main elements in prospecting:potassium,uranium and thorium.The 4 vertical lines are the location of threshold settings of TV-5 meter.

FIELD SURVEY;The probe was held at 4-6 inches above the ground level while readings for the 5 minute durations were taken.

All 3 values T_1 T_2 T_3 are plotted T_1 usually the largest value is posted by the horizontal numbers whereas T_2 and T_3 are at 45° position.

RESULTS AND INTERPRETATION

Data Reduction;The readings taken at 5 minute counting periods were reduced to 1 (one) minute counts by dividing each value by 5.Values obtained at line intersections were averaged.All 3 readings are plotted on the enclosed map.

There is no direct correlationwith the other form of geophysical data,known or postulated geology of the survey area.The few scattered high readings are about double of the background values

Average background values:T_1= 130counts/minute

T_2= 90 " "

T_3= 50 " "

Highest values recorded :T_1= 230 " "

T_2= 120 " "

T3 + 60 " "

Interpretation;Over wet partially water saturated portions due to absorption values below background were recorded.The few higher values may be due to the presence of pegmatitic minerals within the basement rocks.The variations of the overburden should also be taken into account.

The scattered form of few higher readings do not warrant significant results nevertheless some detailed work may be of assistance.

CONCLUSIONS

Should diamond drilling be planned in the area the analysis of samples may establish the possible causes of some higher readings.

The few scattered highs may be related to pegmatitic minerals in the basement rocks.Po-sibly some contributions are made by boulders within the overburden.The thickness of glacial drift and ground-water table also affect readings.

Respectfully submitted;

J.Fulop,M.A.Sc.,P.Eng.,
Geophysical consultant

SEISMIC SURVEY SPECIFICATIONS,EQUIPMENT AND PRINCIPLES

The basic principles of seismic wave propagation in the layered earth are similar to those which govern the propagation of light waves.

By observing the elapsed time for a measured distance between the instant of detonation and wave arrival it is possible to constract a Time-Distance diagram from which the velocities of overburden,the bedrock and their depths,attitude may be determined.

The ground vibrations caused by the explosion of a small charge are detected by the geophones of 10-14 Hz peak or resonance frequency and converted into small voltages.The solid state amplifiers increase the signal level from each geophone and the 12 channel unit records the full waveform on a "dry-write" paper by means of galvanometers.

The timing lines are at 10 millisecond intervals thus the 1st arrivals may be measured precisely at each geophone position.

The RS-4 12 channel seismograph manufactured by SIE Dresser industries of Houston was used in the survey with land cables of 550 foot length that is with 50 foot geophone intervals.Such a spread was shot from various positions,both ends center and one spread length away using small charges,maximum ½ lbs. placed at 2 foot depth.

Depth of seismic horizons were computed by using the ray path and critical distance methods.

In order to obtain first arrivals representing distinct layers it is essential that each successive layer be thicker than the one above it and it must have a minimum thickness related to the frequency range of seismic waves.

A sufficiently large seismic (elastic) contrast must also exist between the layers to obtain refractions at all and each layer must have a progressively higher velocity.

RESULTS AND INTERPRETATION

Presentation;The computed seismic profiles are enclosed in form of cross-sections at the scale of 1"=100 ft.horizontal and vertical,plotted in an easterly and northerly progression.These sections were reduced for presentation purposes from the original more detailed scale.

The sections outline the various seismic velocity boundaries which are also geological horizons,that is the bedrock

designated by the high velocities of 15,000-20,000ft/sec.and boundaries within the unconsolidated drift.Seismic layers within this drift may not necessarily coincide with geologically defined stratifications but the bulf velocity values on the average do represent different type of material such as gravel and sand in contrast to dominantly clayey type of deposits or till.

Seismic velocities	vs. Interpreted subsurface
20,000- 15,000 ft/sec.	Bedrock
10,000- 5,500 ft/sec.	Very dense till,silt or clay or carbonatite
5,500- 3,500 ft/sec.	Sand and gravel
3,500-less	Top shallow layer

In general the seismic survey determined that the bedrock is irregular and confirmed that the central portion of the area approximately where the magnetic high is situated is covered by thicker drift than portions west or east of the magnetic high.

Using both methods,magnetic and seismic data it appears that the lower bedrock elevations and magnetic high coinciding perhaps define the approximate contact of dominant rock types.

Where bedrock drops from shallow to very deep the presence of intermediate velocity layer suggest that a very dense till or possibly weathered rock type overlies the sound crystalline bedrock.

CONCLUSIONS

The refraction survey has met its primary objectives to map out the variable bedrock topography overlain by glacial drift and/or glacio-fluvial deposits

The survey confirmed that the magnetic anomaly is covered by thicker drift therefore it is possible that the underlying softer rock type due to differential erosion is covered by the thicker drift and at the same time this rock type is associated with a higher magnetic field.This interpretation is geologically acceptable.

The shallow bedrock on the west side of the property may also be responsible for the sharp bend in the river therefore ancient,buried river channels may exist under or near the property.

Respectfully submitted;

J.Fulop,M.A.Sc.,P.Eng.,
Geophysical consultant

EXPLORATION WORK ON TOWNSHIP 107 CARBONATITE COMPLEX

George Erdosh

INTRODUCTION

The Township 107 Carbonatite Complex is a relatively small poorly-exposed complex, the existence of which has been known for some time from past exploration work though it has only recently been recognized as a carbonatite complex.

Canadian Johns-Manville explored the complex for vermiculite in 1955 based on a single biotite-rich carbonatite outcrop in which the biotite is altered to vermiculite. The program was unsuccessful and was abandoned. Union Carbide re-explored the complex in 1968, including a single deep drill hole into a magnetic anomaly, mainly testing for columbium potential.

During the current program the complex was again re-explored for its phosphate potential, as well as Cb, vermiculite, Ti, Fe, and rare earths.

The complex is located in Venturi and Tofflemire (previously Townships 107, 108) Townships, 16 miles west of Cartier, Ontario. Access to it is excellent from Cartier through well-maintained gravel road from which a secondary, but good road, crosses the complex.

GEOLOGY

During geologic mapping it was found that drilling will be necessary to obtain detailed geologic information, as very few outcrops are exposed on the complex (see Erdosh, 1974). On the eastern side of the complex there are several good exposures of fenitized granite and farther east a ridge of normal unfenitized granite bounds the complex.

GROUND GEOPHYSICAL SURVEY

In preparation to ground geophysical survey, a grid system was cut and part of the old Union Carbide grid was cleared and rechained during early May, 1975. The system consists of 6400 feet of base line, 2500 feet of tie line and 55,000 feet of picket lines. (See map in pocket.)

A ground magnetic survey was carried out by J. Fulop & Associates, a Toronto-based geophysical consulting firm, on May 10-12, 1975, covering all picket lines. A Barringer GM-122 proton-type magnetometer was used. Moreover, 7100 feet of seismic survey over selected areas and 3,800 feet of radiometric survey was done in late June, 1975. These surveys were recorded as assessment work on July 3, 1975. Details of the surveys and maps are given in Fulop (1975).

The most meaningful part of the geophysical survey is the magnetics, which show a general, oval-shaped high over the presumed carbonatite complex with one smaller area of prominent high over the northwest part; this has 3000-4000 gammas over the surrounding presumed country rocks. Two smaller highs, one to the south and one to the north, have values about 2000 gammas higher than surrounding country rocks (see Fulop's map).

The seismic survey showed generally deep overburden in most areas of the carbonatites, in excess of 150-200 feet. Drilling, however, proved the seismic survey quite unreliable.

As far as the brief radiometric survey is concerned, this was on an experimental basis, but the profiles gave no meaningful variations.

DRILLING RESULTS

Between July 22 and August 2, 1975, four return circulation holes were drilled on the complex with a total depth of 822 feet. The first two holes were located over the two prominent magnetic highs, the third over a broad relative magnetic low shoulder to the west, and the fourth over a broad magnetic shoulder to the northeast, with moderate values (see map in pocket and Fulop's magnetic map).

Overburden varies considerably from 15 to 256 feet, and it consists of glacial sands and gravels with no residual material from the carbonatites. Bedrock was fresh calcite carbonatite in all holes; in one hole biotitite and pyroxenite sections were also encountered. (See drill-logs in Appendix A.) The carbonatite is uniform from hole to hole with apatite content of 3-6%. Higher concentrations are rare. Semiquantitative spectrographic analyses on six samples returned no values of significance. (See Appendix B for analytical results.)

RECOMMENDATION

It is felt that the four holes drilled sufficiently tested the Township 107 complex. No residual concentration was found and the bedrock does not contain economic or even encouraging mineralization. No further work is recommended on this carbonatite complex.

REFERENCES

Erdosh, G., 1974, Canadian Carbonatites - Progress Report, 1974 field season: INC report, Nov. 12, p. 14-19.

Fulop, J., 1975, Report on magnetic, seismic and radiometric surveys over 6 claims in the Townships of Venturi and Tofflemire: Fulop & Assoc. Report to INC, May-June.

Ontario

Ministry of Natural Resources

File 2.1882

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(s) MAGNETIC, RADIOMETRIC, SEISMIC

Township or Area T-107 & 108

Claim Holder(s) INTERNATIONAL MINERAL & CHEMICAL CORP. (CAN) Ltd.

Survey Company FUGRO & ASSOCIATES

Author of Report J. FUGRO

Address of Author 1614 BAYVIEW AVE TORONTO, ONT. M4G 3B7

Covering Dates of Survey MAY 8-17/25 JUNE 17-24/25
(linecutting to office)

Total Miles of Line Cut 11 MILES

SPECIAL PROVISIONS CREDITS REQUESTED

ENTER 40 days (includes line cutting) for first survey.

ENTER 20 days for each additional survey using same grid

	DAYS per claim
Geophysical	
Electromagnetic	
Magnetometer	10
Radiometric	2
Other Seismic	8
Geological	
Geochemical	

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

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

DATE: June 25/25 June 28 SIGNATURE: J Fugro
Author of Report or Agent

Res. Geol. _____ Qualifications _____

Previous Surveys

File No.	Type	Date	Claim Holder

MINING CLAIMS TRAVERSED
List numerically

(prefix)	(number)
S	377231
S	378212
S	378893
S	378894
	359400
	359399

TOTAL CLAIMS _____

If space insufficient, attach list

Number of Stations
Number of Readings
Station interval
Line spacing
Profile scale
Contour interval

Instrument BARRINGER PROTON MAG. GM-122
Accuracy – Scale constant ±1 gamma total field READOUT
Diurnal correction method LOOP TO BASE STATIONS
Base Station check-in interval (hours) 1½ HRS
Base Station location and value L-20+00W - BL (0+00) 59,695 γ
L-8+00W - BL (0+00) 61,095 γ

Instrument
Coil configuration
Coil separation
Accuracy
Method: Fixed transmitter | Shoot back | In line | Parallel line
Frequency (specify V.L.F. station)
Parameters measured

Instrument
Scale constant
Corrections made

Base station value and location

Elevation accuracy

Instrument
Method Time Domain | Frequency Domain
Parameters On time | Frequency
Off time | Range
Delay time
Integration time

Power
Electrode array
Electrode spacing
Type of electrode

Instrument ______ Range ______

Survey Method ______

Corrections made ______

Instrument McPHAR TV-5

Values measured T_1 T_2 T_3

Energy windows (levels) 1.3 MEV, 1.6 MEV, 2.5 MEV.

Height of instrument 1 ft above ground

Background Count T_1 130 T_2 70 T_3 5

Size of detector 1 3/4 x 2" NaIodide crystal

Overburden Variable 180 ft - 10 ft few exposures of rock (type, depth include outcrop map)

Type of survey SEISMIC (REFRACTION)

Instrument RS-4 - 12 channel Seismograph

Accuracy ±1 milliseconds

Parameters measured TIME (msec) DISTANCE (ft)

Additional information (for understanding results) Max. charges ½ lbs dynamite 40% FORCITE USED TO IMPACT SPREADS OF 275 & 550 ft LONG SPREADS FROM 3 → 5 SHOT POINT LOCATIONS THEN DEPTHS CALCULATED WITH RAY-PATH & CRITICAL DISTANCE METHODS.

Type of survey(s) ______

Instrument(s) ______ (specify for each type of survey)

Accuracy ______ (specify for each type of survey)

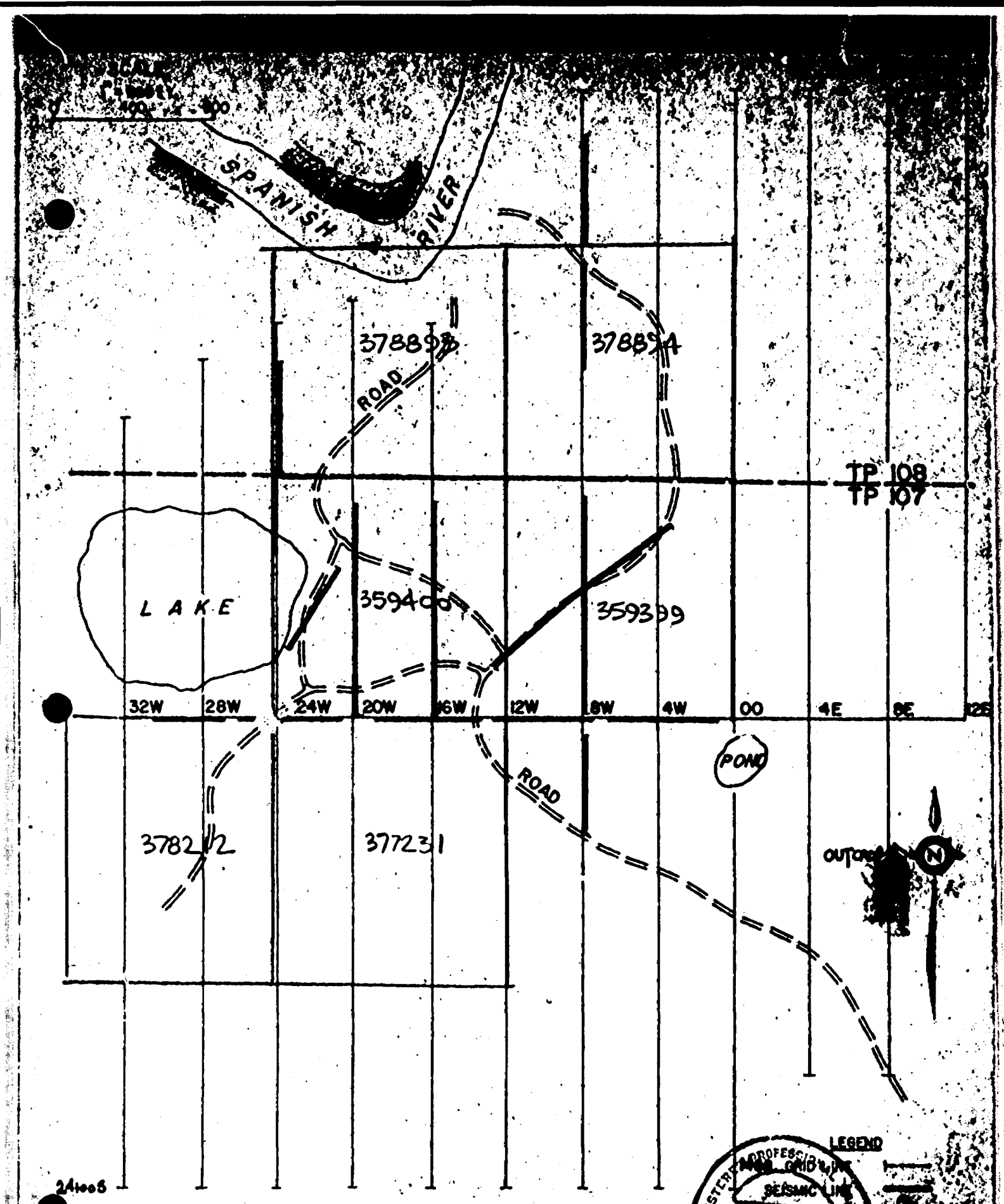
Aircraft used ______

Sensor altitude ______

Navigation and flight path recovery method ______

Aircraft altitude ______ Line Spacing ______

Miles flown over total area ______ Over claims only ______



24100S

INTERNATIONAL MINERALS & CHEMICAL CORP

SPANISH RIVER AREA, ONTARIO

LOCATION OF SEISMIC LINES

JOFFLEMIRE TWP.

FILE S. 377231

A separate form is required for each type of work to be recorded

THE MINING ACT REPORT OF WORK

To the Recorder of Sudbury Mining Division

I, INTERNATIONAL MINERALS & CHEMICAL CORPORATION (CANADA) LTD C-2301, C-25423
name of Recorded Holder — Miner's Licence

55 YONGE ST. TORONTO ONTARIO M5E 1J4, SUITE 400.
Post Office Address

do hereby report the performance of 48 days of SEISMIC
type of work

not before reported to be applied on the following contiguous claims

Claim No	Days	Claim No	Days	Claim No	Days
S-377231	8				
S-378212	8				
S-378893	8				
S-378894	8				
359400	8				
359399	8				

RECEIVED

All the work was performed on Mining Claim (s)
(In the case of geological and or geophysical survey (s) where more than 18 claims are involved attach a schedule)

READ CAREFULLY: THE FOLLOWING INFORMATION IS REQUIRED BY THE MINING RECORDER.

For Manual Work, Stripping or Opening up of Mines, Sinking Shafts or Other Actual Mining Operations — Names and addresses of the men who performed the work and the dates and hours of their employment.
For Diamond and other Core Drilling - Footage, No. and angle of holes and diameter of core. Name and address of owner or operator of drill. Dates when drilling was done. Signed core log and sketch in duplicate.
For Compressed Air or Other Power Driven or Mechanical Equipment
Type of drill or equipment. Names and addresses of men engaged in operating equipment and the dates and hours of their employment.
For Power Stripping - Type of equipment. Name and address of owner or operator. Amount expended. Dates on which work was done. Proof of actual cost must be submitted within 30 days of recording.
With each of the above types of work sketches are required to show the location and extent of the work in relation to the nearest claim post. In the case of diamond or other core drilling the sketch must be submitted in duplicate.
For Geophysical, Geological, Geochemical Surveys and Expenditure Credits - the name of author of report. Contractor, dates of survey, linecutting & office. Type of instrument used. Total amount of expenditure. Technical data, maps, expenditure breakdown, receipts must be filed in duplicate with the Minister within 60 days of recording.
For Land Survey - the name and address of Ontario Land surveyor.

The Required Information is as Follows (Attach a list if this space is insufficient)

TRANSFER OF CLAIM OWNERSHIP IN PROCESS, PRESENTLY UNDER NAMES OF

MR. HARVEY G LARSEN 1715 [illegible] DR SUDBURY
MR [illegible] [illegible] 1023 STAFFORD ST SUDBURY

Date June 13 1975
June 28

[signature] International Minerals & Chemical Corp (Canada) Ltd
Signature of Recorded Holder or Agent

The Mining Act
Certificate Verifying Report of Work

I, J. [illegible] Geophysical Consultant 104 BAYVIEW AVE
TORONTO ONTARIO M4G 3B7
(Post Office Address)

hereby certify:

1. That I have a personal and intimate knowledge of the facts set forth in the report of work annexed hereto, having performed the work or witnessed same during and/or after its completion.

2. That the annexed report is true.

Dated June 13 1975 [signature]
June 28
Signature

THE PENALTY FOR MAKING A FALSE STATEMENT IN THIS REPORT AND OR CERTIFICATE IS $500. OR SIX MONTHS IMPRISONMENT OR BOTH

J LEMIRE TWP.

FILE S.377231

ONTARIO

THE MINING ACT REPORT OF WORK

A separate form is required for each type of work to be recorded.

To the Recorder of SUDBURY Mining Division

I, INTERNATIONAL MINERAL & CHEMICAL CORPORATION (CANADA) LTD C-23070 C-23428
name of Recorded Holder Miner's Licence

55 YONGE STREET, TORONTO, ONTARIO, M5E 1J4, SUITE #400
Post Office Address

do hereby report the performance of 12 days of RADIOMETRIC GEOPHYSICAL
type of work

not before reported to be applied on the following contiguous claims

Claim No.	Days	Claim No.	Days	Claim No.	Days
S-377231	2				
S-378212	2				
S-378893	2				
S-378894	2				
359400	2				
359399	2				

Geological Branch ODM
ASSESSMENT FILES
RESEARCH OFFICE
JUL 7 1975
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All the work was performed on Mining Claim (s)
(In the case of geological and/or geophysical survey (s) where more than 18 claims are involved attach a schedule)

READ CAREFULLY: THE FOLLOWING INFORMATION IS REQUIRED BY THE MINING RECORDER.

For Manual Work, Stripping or Opening up of Mines, Sinking Shafts or Other Actual Mining Operations - Names and addresses of the men who performed the work and the dates and hours of their employment.
For Diamond and other Core Drilling - Footage, No. and angle of holes and diameter of core. Name and address of owner or operator of drill. Dates when drilling was done. Signed core log and sketch in duplicate.
For Compressed Air or Other Power Driven or Mechanical Equipment
Type of drill or equipment. Names and addresses of men engaged in operating equipment and the dates and hours of their employment.
For Power Stripping - Type of equipment. Name and address of owner or operator. Amount expended. Dates on which work was done. Proof of actual cost must be submitted within 30 days of recording.
With each of the above types of work sketches are required to show the location and extent of the work in relation to the nearest claim post. In the case of diamond or other core drilling the sketch must be submitted in duplicate.
For Geophysical, Geological, Geochemical Surveys and Expenditure Credits - the name of author of report. Covering dates of survey (linecutting & office). Type of instrument used. Total amount of expenditure. Technical reports, maps, expenditure breakdown, receipts must be filed in duplicate with the Minister within 60 days of record.
For Land Survey - the name and address of Ontario Land surveyor.

The Required Information is as follows: (Attach a list if this space is insufficient)

TRANSFER OF OWNERSHIP IN PROGRESS. PRESENTLY CLAIMS ON:
Mr. HARVEY O. CARLSON 1725 SOUTHVIEW DR. SUDBURY ONT.
Mr ISAAC BURNS 1073 STAFFORD ST. SUDBURY ONT

Date June 25/75 June 28

Signature of Recorded Holder or Agent

THE PENALTY FOR MAKING A FALSE STATEMENT IN THIS REPORT AND OR CERTIFICATE IS $500. OR SIX MONTHS IMPRISONMENT OR BOTH

The Mining Act
Certificate Verifying Report of Work

I, J. FOUP Geophysical Consultant 1614 BAYVIEW AVE
TORONTO, ONTARIO, M4G 3B7
(Post Office Address)

hereby certify:

1. That I have a personal and intimate knowledge of the facts set forth in the report of work annexed hereto, having performed the work or witnessed same during and/or after its completion.

2 That the annexed report is true.

Dated June 25 June 28 1975 JUL - 3 1975

Signature

LOFFLEMIRE TWPS.

ONTARIO

THE MINING ACT REPORT OF WORK

FILE S. 377231

"A separate form is required for each type of work to be recorded.

To the Recorder of SUDBURY ..... Mining Division

I, INTERNATIONAL MINERAL & CHEMICAL CORPORATION (CANADA) LTD. C-23010, C-234
name of Recorded Holder — Miner's Licence

55 YONGE STREET, TORONTO, ONTARIO M5E 1J4 SUITE #400
Post Office Address

do hereby report the performance of 60 days of MAGNETICS MAGNETOMETER
type of work

not before reported to be applied on the following contiguous claims

Claim No.	Days	Claim No.	Days	Claim No.	Days
S-377231	10				
S-378212	10				
S-378893	10				
S-378894	10				
359400	10				
359399	10				

Geological Branch ODM
ASSESSMENT FILES
RESEARCH OFFICE
JUL 7 1975
RECEIVED

All the work was performed on Mining Claim (s) .....
(In the case of geological and/or geophysical survey (s) where more than 18 claims are involved attach a schedule)

READ CAREFULLY: THE FOLLOWING INFORMATION IS REQUIRED BY THE MINING RECORDER.

For Manual Work, Stripping or Opening up of Mines, Sinking Shafts or Other Actual Mining Operations - Names and addresses of the men who performed the work and the dates and hours of their employment.
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For Land Survey - the name and address of Ontario Land surveyor.

The Required Information is as Follows: (Attach a list if this space is insufficient)

TRANSFER OF OWNERSHIP IN PROGRESS, PRESENTLY CLAIMS ON NAMES OF: HARVEY O. LARSON 1725 SOUTHVIEW DR. SUDBURY
ISAAC BURNS 1073 STAFFORD ST. SUDBURY

Date June 25, 1975 June 28

Signature of Recorded Holder or Agent

THE PENALTY FOR MAKING A FALSE STATEMENT IN THIS REPORT AND OR CERTIFICATE IS $500. OR SIX MONTHS IMPRISONMENT OR BOTH

The Mining Act
Certificate Verifying Report of Work

I, J. Filep Geophysical Consultant 1614 BAYVIEW AVE.
TORONTO, ONTARIO M4G 3B7
(Post Office Address)

hereby certify:

1. That I have a personal and intimate knowledge of the facts set forth in the report of work annexed hereto, having performed the work or witnessed same during and/or after its completion.

2. That the annexed report is true.

Dated June 25 1975 June 28 JUL 3 1975

Signature

Ontario

Ministry of Natural Resources

File _____

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(s) MAGNETIC, RADIOMETRIC, SEISMIC

Township or Area T-107 & 108

Claim Holder(s) INTERNATIONAL MINERAL & CHEMICAL CORP. (CANADA) Ltd

Survey Company FUGRO & ASSOCIATES

Author of Report J. FUGRO

Address of Author 1614 BAYVIEW AVE TORONTO ONT M4G 3B7

Covering Dates of Survey MAY 8-17/25 JUNE 17-24/25
(line cutting to office)

Total Miles of Line Cut 11 MILES

SPECIAL PROVISIONS CREDITS REQUESTED

ENTER 40 days (includes line cutting) for first survey.

ENTER 20 days for each additional survey using same grid.

	DAYS per claim
Geophysical	
Electromagnetic	
Magnetometer	10
Radiometric	2
Other Seismic	8
Geological	
Geochemical	

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

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

DATE: June 25/25 June 25 SIGNATURE: J Fugro
Author of Report or Agent

Res. Geol. _____ Qualifications _____

Previous Surveys

File No.	Type	Date	Claim Holder

MINING CLAIMS TRAVERSED
List numerically

	(prefix)	(number)
S		377231
S		378212
S		378893
S		378894
		359400
		359399

TOTAL CLAIMS _____

If space insufficient, attach list

GEOPHYSICAL TECHNICAL DATA

Number of Stations

Station interval

Profile scale

Contour interval

Instrument BARRINGER PROTON MAK. 6M. 122.

Accuracy Scale constant ±1 gamma TOTAL FIELD PRODUCT

Diurnal correction method LOOP TO BASE STATIONS.

Base Station check in interval (hours) 1½ HRS

Base Station location and value L-20mW - BL (0+00) 59,695 γ

L-8+00W - BL (0+00) 61,095 γ

Instrument

Coil configuration

Coil separation

Accuracy

Method Fixed transmitter Station Loop Parallel Line

Frequency (specify V.L.F. station)

Parameters measured

Instrument

Scale constant

Corrections made

Base station value and location

Elevation accuracy

Instrument

Method Time Domain Frequency Domain

Parameters On time Frequency

Off time Range

Delay time

Integration time

Power

Electrode array

Electrode spacing

Type of electrode

41105SW0099 0014 SHAKESPEARE

Instrument _____ Range _____

Survey Method _____

_____

Corrections made _____

_____

Instrument McPHAR TV-5

Values measured T_1 T_2 T_3

Energy windows (levels) 1.3 MEV, 1.6 MEV, 2.5 MEV.

Height of instrument 1 ft above ground Background Count T_1 130 T_2 70 T_3 5

Size of detector 1 3/4 x 2" NaI(Tl) Crystal

Overburden Variable 10 ft - 100 ft fair exposures of rock.
(type, depth include outcrop map)

Type of survey SEISMIC (REFRACTION)

Instrument RS-4 - 12 channel Seismograph

Accuracy ±1 millisecond

Parameters measured TIME (msec) DISTANCE (ft)

_____

Additional information (for understanding results) Max. charges ½ lbs dynamite 40% FORCITE USED TO IMPACT SPREADS OF 275 & 550 ft LONG SPREADS FROM 3 → 5 SHOT POINT LOCATIONS THEN DEPTHS CALCULATED WITH RAY-PATH & CRITICAL DISTANCE METHODS.

Type of survey(s) _____

Instrument(s) _____
(specify for each type of survey)

Accuracy _____
(specify for each type of survey)

Aircraft used _____

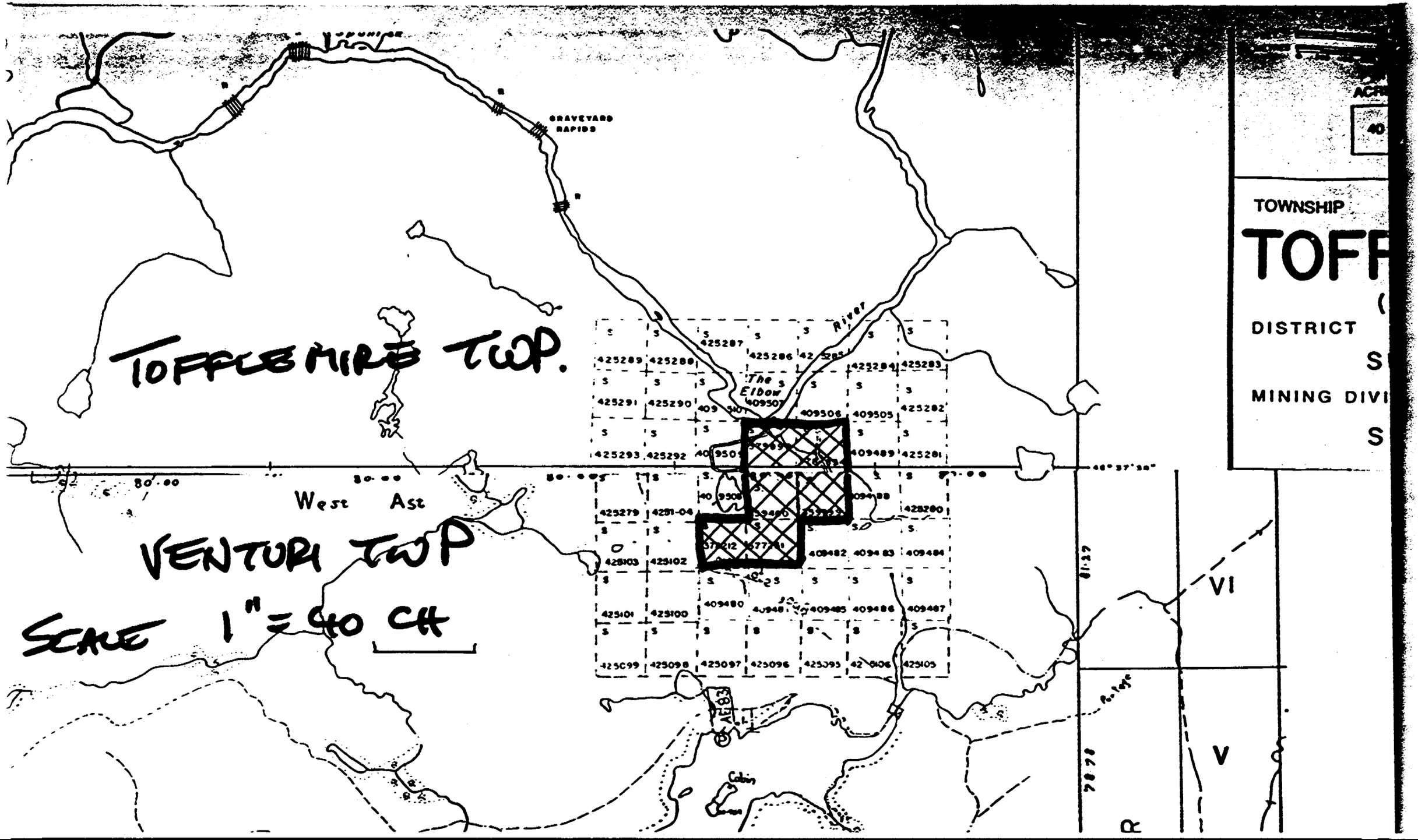
Sensor altitude _____

Navigation and flight path recovery method _____

_____

Aircraft altitude _____ Line Spacing _____

Miles flown over total area _____ Over claims only _____


GRAVEYARD RAPIDS
TOFFLEMIRE TWP.
River
The Elbow
West Ast
VENTURI TWP
SCALE 1" = 40 CH
Cabin
VI
V
TOWNSHIP
DISTRICT
MINING DIVI

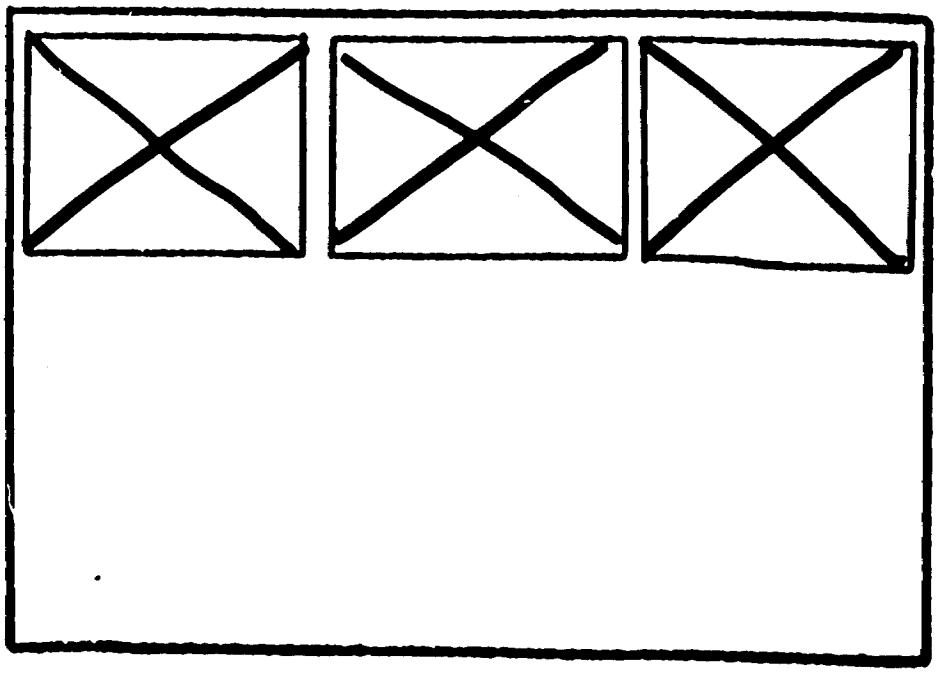
SEE ACCOMPANYING MAP(S) IDENTIFIED AS

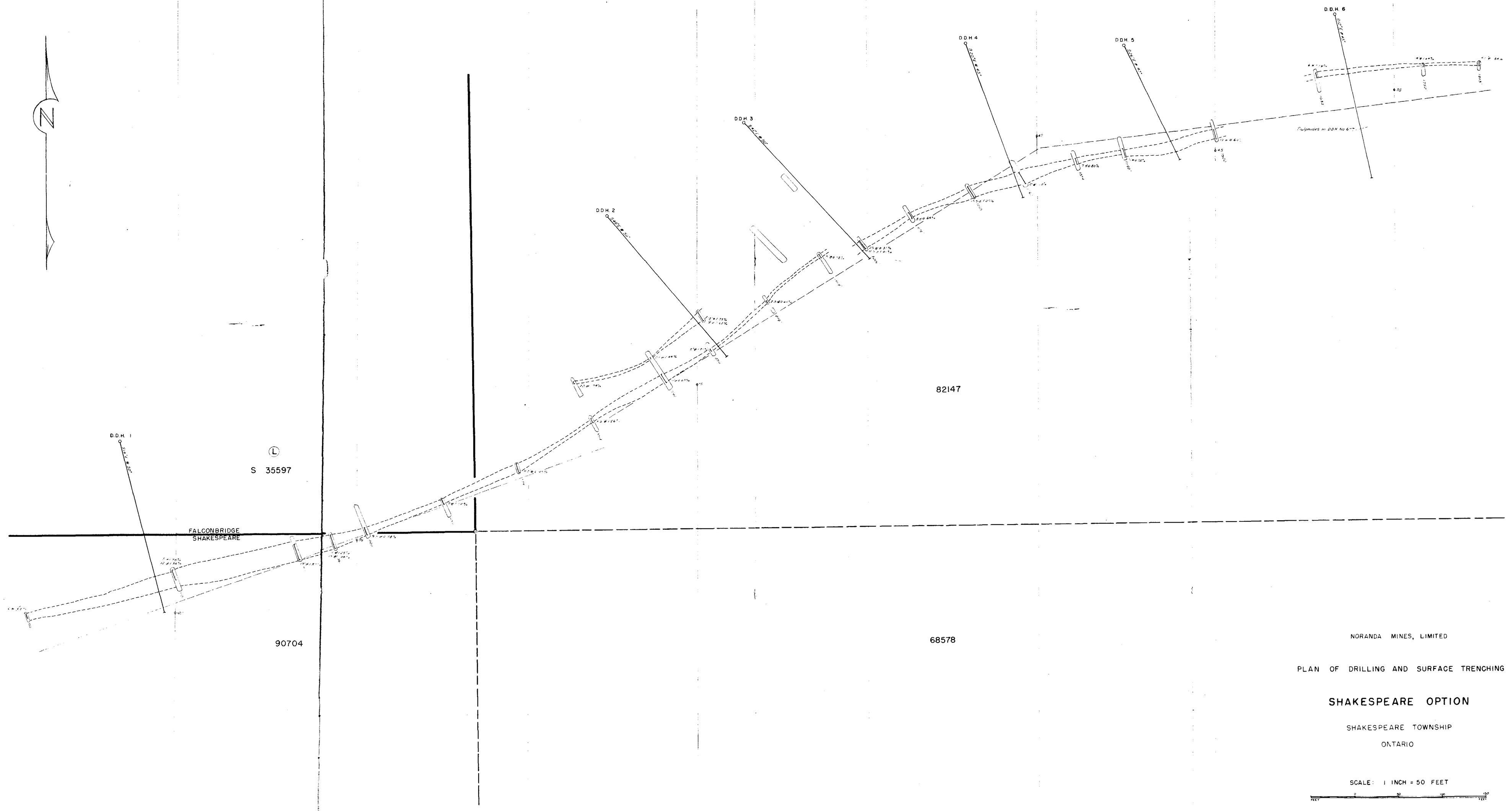
TOFFLEMIRE-0011-#1

#2

#3

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





NORANDA MINES, LIMITED

PLAN OF DRILLING AND SURFACE TRENCHING

SHAKESPEARE OPTION

SHAKESPEARE TOWNSHIP

ONTARIO

SCALE: 1 INCH = 50 FEET

JUNE - OCTOBER 1956 RMD/BE

SHAKESPEARE-0014,#1

41MSW8695 0014 SHAKESPEARE

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