

010

1977

# 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

FULOP & ASSOCIATES, TORONTO

MAY-JUNE 1975



411055W0099 0014 SHAKESPEARE

Ø10C

ge

# TABLE OF CONTENTS

	- Pa
INTRODUCTION	1
THE PROPERTY	1
GEOLOGY	1
MAGNETIC SURVEY SPECIFICATIONS	2
RESULTS AND INTERPRETATION	2
CONCLUSIONS	3
RADIOMETRIC SURVEY SPECIFICATIONS	•••• 4
RESULTS AND INTERPRETATION	5
CONCLUSIONS	5
SEISMIC SURVEY SPECIFICATIONS	6
RESULTS AND INTERPRETATION	6
CONCLUSIONS	8

# INTRODUCTION

This report contains the results of a combined (<u>magnetic,seismic and radiometric</u>) 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.

-1-\*

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 RiverElbow as shown on sketch. Those in Twp.108 are bounded by Latitude 46° 27' 38''on the south and by Longitude 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, guartzdiorite, 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 about 50-250 ft. thickness.

#### MAGNETIC SURVEY SPECIFICATIONS

# Equipment; The <u>GM-122</u> proton type of <u>magnetometer</u> manufactured by <u>Barringer Research</u> of

Toronto was used for the survey. It measures the total earth magnetic field with a  $\pm$  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 <u>diurnal varia</u>tions at <u>1-14 hours intervals</u> 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 function of 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.

1. Section Cale Call States Section

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 occurence can be outlined the results of the above geophysical survey in the central portion are encouraging.

\* Qualification - New on This file

Respectfully submitted; J.Fulop,M.A.Sc.,P.Eng., Geophysical consultant

-3-

### 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, .... 1.30 Mev

T<sub>2</sub>.... 1.63 Mev

T3.... 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 ap-

proximately 50 counts per minute on an in-

situ measurement (2TT geome.ry) over homogeneous material containing l 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:  $T_1 = 130$  counts/minute

	T <sub>2</sub> = 90	N	<b>` 1</b>
	T <sub>3</sub> = 50	H	*
Highest values recorded	$:T_1 = 230$	W	N
	$T_2 = 120$	M	Ħ
	T3 + 60	M	*

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.

bmitted: Resi Pilng., Geod cal 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 lst arrivals may be measured precisely at each geophone position.

The RS-4 12 channel seismograph manufactured by <u>SIE</u> <u>Dresser</u> 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 5 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

ないに、大学を

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 reexplored 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 Nay, 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).

-2-

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).

-3-

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 holo 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: IMC 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.

•	المراجع المراجع المراجع المراجع
	Ontario

1. May all particular of the second states of the s

まっ した 一般的なな

「日本の

ي د يو د الح د

# 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 LECHNICAL REPORT MUST CONTAIN INTERPRETATION. CONCEPSIONS ETC.

Type of Survey(s) MALNETE, BARCI	•		
Township or Area _ T - 157 4 10			CLAIMS TRAVERSED
Chim Holder(s) INTERPATIONAL	List numerically		
(CAN) UT		Ś	377231
Survey Company Fuel Allor Author of Report J. Fuel		S (pirtu	· · · · · · · · · · · · · · · · · · ·
Address of Author 1614 BAYVI	FUL AND SELENTARNEVAL 227	••••••	3782 12
Address of Author MAY 8 -1	76-JUNE 17-24/25	S	378892
Covering Dates of Survey MAY 8 -1	informing to office)	S	378894
Total Miles of Line Cut 11 MIL	<u> </u>		359400
SPECIAL PROVISIONS	PAYS		359399
A THE PARTY AND AND A STREET	Geophysical	•••••	
	Licetromagnetic		
ENTER 40 days (includes	Magnetometer 6		
survey.	- Radiometra2		
ENTER 20 days for each	Other Seisme 8	*****	
	Geological		
• sume grid	Geochemical		
AIRBORNE CREDITS (Special provision )	credits do not apply to airborne surveys)		
Magnetometer Electromagnetic			
-	A.I.		
DATE: Juan 25 115 SIGNATU	RE:		
Res. GeolQualificat	was		
Previous Surveys File No. – Evpe – Date	Claim Holder	• • • • • • • • • • • • • • • • • • • •	
File No. 1 ypc Date		•••••••••••••••••	
		· · · · · · · · · · · · · · · · · · ·	
······································			
· · · · · · · · · · · · · · · · · · ·		• • • • • • • • • • • • • • • • • • • •	
		· · · · · · · · · · · · · · · · · · ·	•••••••••••••••••
••••••	·····		,
•••••••••••••••••••••••••••••••••••••••	······································	TOLM, CL	AIMS
i i i	. 🖌	يصياني عالمي الأرجي براد	

.

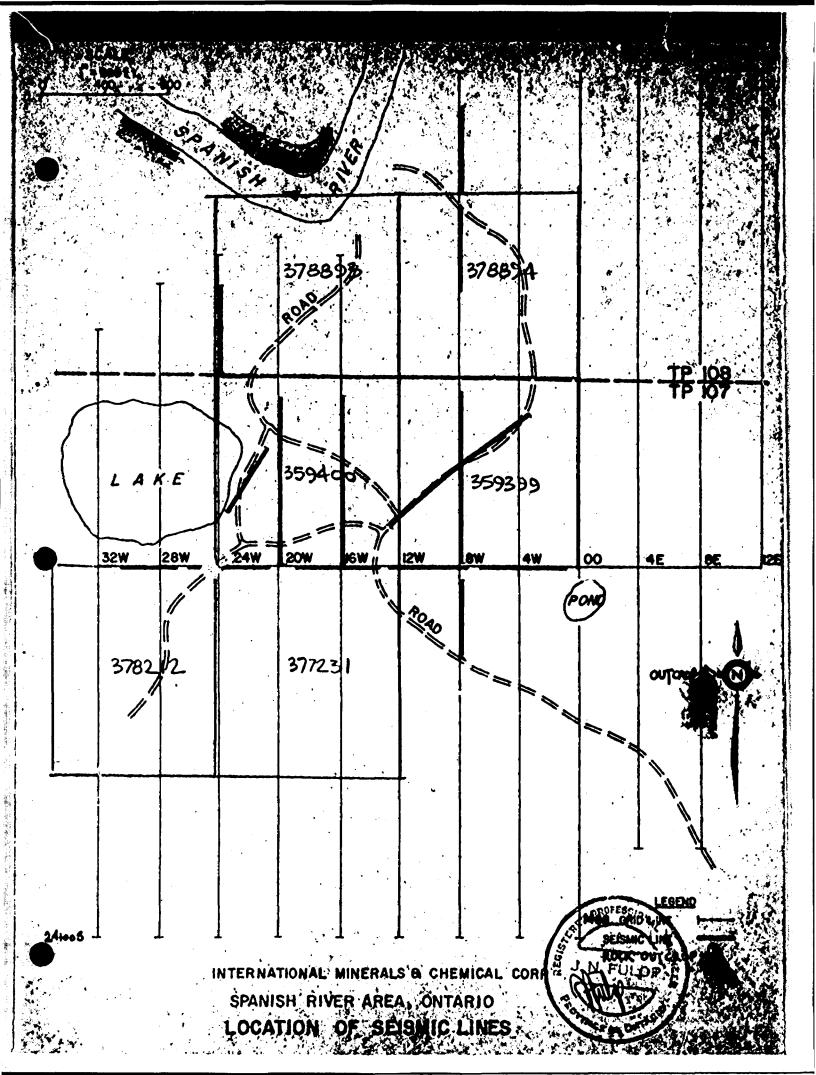
•

	GLOP	HVSICAL LECHNICAL DA		
			-	
			,	
		N a church	a Rentings	
Number of Station	IN and the second s	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1		
Sono manaval.		•• • • • • • •	· · · ·	
Protile scale	• · · ·			
Contour interval.				
	BARRADE	PRUJUN MAR E	5m- 122-	
Instrument	DH NFINICIC TI MUM	min TUtil field	A READONT	
Accuracy Sc	ale constant	BAIE STATIONS	· · ·	فالجريمين المستنيان
Durnal conce				, <b>.</b>
Base Station of Base Station F	head in interval (hours). in attorn and value $\frac{L}{L} = 2x$	12 11K1 2 pm w - BL ( CH) 51an - BL ( U)	59695 7	-
-				
Instrument .			. ••	• · · · •
Conf configura	14-311		- ·	
Coal separation	н.,			
Accuracy		She back	to loss	Par alla I fam
Method.	have transf		•	
Frequency		Espire to A. D. R. Catsoner		
Parameters m	casmed .			-
Instrument				•••
Scale constan	:			
Concellous a				-
· (	•••••		•	
- ·	chicand location			
Dase stars of				•
Education of	111 IV V		•	
f frank and a second				
faistesiane fet				
Method	Lanc Domain		Erequence Domain v	
Parametrics	On Children		The queries of the second	
	OB! IMPC -		Range	·· ·
	Dense (mass)			
	hungentum time			
Power				
			• · · · · · ·	د الحم الم الم الم الم الم الم الم الم الم ال
Electronic at	LAV 4 States and a state of the			
Electroile o Giornale si			فيجعم يعدن يهير	• • • •
Electrode a Sectode s Type of sec	a ee Deta			• • • • • • • • • • • • • •

	ավահանական հանձան էլ էլ էլ էլ էլ էլ էլ էլ են էլ էլ էլ են հանձան էլ
	•
心に	
Instrument	
Survey Method	
·	
Corrections made	· · · · · · · · · · · · · · · · · · ·
Instrument MePHAR TV-5	
Values measured II In Iz	
Values measured 11 12 12	7 5 65 4 5
Energy windows (levels) 1.3 MEY 1.6 MEY Height of instrument 1 & a Love ground Size of detector 18/2 × 2" Naieder Crystal	
Height of instrument 18 6 200 - Stormer	Background Count 1. 155 12. 15 17 5
Size of detector 129 x 2" Naisaac Lystal	
Overburden Varable 180/1 - 10/4 fisi e	a poruses of xand
Type of survey SEISMIC (REFUNCTION)	· · · · · · · · · · · · · · · · · · ·
Type of survey AEISINIC (NEEDINC (IVA) Instrument <u>RS-4</u> - 42 clicennee Se Accuracy <u>1 millix unde</u> Falameters in asured <u>TIME</u> (Marc) DisTANCE	• •
Milli Kundy	= (J1) mingin 1/2 1bi dynamite 40/ FORIN 5:0 # JONG SPREADS Frint 3-
Additional information (for understanding results) Max. cl Additional information (for understanding results) Max. cl USEN TO IMPACT SPREADI OF 275 4 SHOT RUNT LOCATIONS THEN DEPIHS (RITICAL DISTANCE METDODS.	= (JI) minigin 1/2 161 dynamite 401 FORM 500 H JONG SPREADS Fring 3- (ALCULATED WITH BAR-PHTH+
Accuracy <u>I my Nix under</u> Parameters measured <u>TIME</u> (Marc) <u>DisTANUE</u> Additional information (for understanding results) <u>Max.cl</u> <u>USEV</u> TO IMPACT SYREADI OF 275 4 <u>SHOT</u> RUNT <u>COLATIONJ</u> THEN <u>DEP</u> [H3 (RITICAL DISTANCE METDODS.	= (JI) Mirgin 1/2 161 dynamite 401 Form 5:0 H [ING SPREADS Frint 3- (ALCULATED WITH BAY-PH JIH] (ALCULATED WITH BAY-PH JIH]
Acturacy	= (JI) <u>Inigia 1/2 161 dynamite 401 Form</u> 550 H JONG SPREADS Frint 3- (AICULATED WITH BAY-PHTH+ AICULATED WITH BAY-PHTH+
Accuracy	= (JI) Murgis 1/2 161 dynamite 401 Form 550 H JONG SPREADS Fr - 41 3- (AI CULATED WITH BAR-PH JIH J (AI CULATED WITH BAR-PH JIH J MULLI
Accuracy	= (11) <u>Augis 1/2 161 dynamite 401 Forun</u> 550 H JONG SPREADS Frint 3- (AUGULATED WITH BAY-PHTH+ AUGUNATED WITH BAY-PHTH+ MILLING
Accuracy	= (1) mingis 1/2 161 dynamite 401 Form Siv H JUNG SPREADS Frint 3- (AI CULATED WITH BAY-PHTH I AI CULATED WITH BAY-PHTH I MINING
Accuracy	= (11) Augis 1/2 161 dynamite 401 Form 550 H JONG SPREADS Fr -13- (AI CULATED WITH BAR-PH TIT) (AI CULATED WITH BAR-PH TIT)
Accuracy	= (11) mingin 1/2 1bi dynamite 40/ FORIN 550 H JONG SPREADS Frint 3- (AI CULATED WITH BAL-PHTH)
Accuracy	= (11) <u>Aurisis 1/2 161 dynamite 401 Form</u> 550 Jf JONG SPREADS Fri un 3- (AI CULATED WITH BAL-PHTH+ MALL MALL Lanc Spacing

たちにたちます

一、小学家的一次学家的一次,是是这些教育教育教育的。 化化学学 化化学学系的 医中耳氏管 计计算机



FILE 5. 377 231 TWP. OFFLEMIRE A SAUGENIA FORM IS unted for each type of nork to be THE MINING ACT REPORT OF WORK +Lurded JUDELIN To the Recorder of Manny . 1. INTERNATIONAL MINERAL + (11 MICH. (CAR. J. M. MAMM, 4) C-2301- (-2342's' nome of Recorded Holdor Miller's Licence name of Recorded Holder 55 YONGE ST. TUNINIU ANTAIN 151. 154, Post Other Address SULTE 490. SCISHIC 4.1 duys of type of work not before reported to be applied on the following contiguous claims Claim No Doys Clour No. Days Davis Cluim No 5-3772 :1 8 501 5-378212 ୪ 5 Ý IN PRISONNENT 5-378893 3 5-3788414 359400 8 RECEIVLD 359344 NONTHS 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. S:X ő For Manual Work, Stripping or Opening up of Mines, Sinking Shalts or Other Actual Mining Operations - Names und addresses of the men who performed the work and the dates and hours of their employment. For Diamond and other Core Drilling + Footuge, No. and ungle of holes and diameter of core. Name and uddress of \$500. 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 2 CERTIFICATE Type of drill or equipment. Names and addresses of men engaged in operating equipment and the dates and names 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 reco ding. With each of the above types of work sketches are required to show the lucation and extent of the work in relation to the nearest claim post. In the case of diamond or other cure drilling the sketch must be committed in suprimute For Geophysical, Geolog Jul, Geochemical Surveys and Expenditure Cresity of the name of author of report. Con-dutes of survey. Inecoting B office of Type of instrument used. Total about of expenditure. Technologies in mpps, expenditure breakdown incleripts nost be fired in duplicate with the Minister within 60 pages of reő For Land Survey - the name and address of Ontaria Land surveyor. IN THIS REPORT The Required Information is us follows (Anoch a list of this space is insufficient) OF CHIMI OWNER SHIP IN PRULAEN, RESERVEY UNDER TRANSFER NAMES UF MI. HARVEY & LARJER 17.5 Manipure DR. Audronky Mr ISHE PLANS 123 STATIOND TO DODLURY 1 11 INJ. Hun + (Lin, (up) (the) ilC 175 Hales Small. Jun 28 NAKING The Mining Act Certificate Verifying Report of Work Elver yeaphysican Campullant 104 AVE SMY VIEW PENALTY FOR N46 3157 1 or sar 1 a thick MAL, 3B (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 here to, having performed the work or writicssed same during and/or ofter its completion THE 2. That the annexed report is true 19 )5 Aulij Fig June 1; Dated ... 11 - 3 M/S

し、「しん FILE 5.377231 LEMIRE A separate form is required for each type of work to be THE MINING ACT REPORT OF WORK recorded. ....Mining Division C • 23070 To the Recorder of SUDBU (1) 1. INTERNATIONAL MINERALI & CHEMICAL CCCPURATION (ANNOH) 40 C-23070 nome of Recorded Holder 55 YOULGE STORE T TERMON CATALON LIE - MINER'S Licence nome of Recorded Holder 55 YONGE STREET - TCKUNTU \*400 UNTAILO ME ITA SHIE do hereby report the performance of 121 the Post Office Address days of RADIU ME FRIC CIE JUNT JICHL type of work not before reported to be applied on the following contiguous claims Days Claim No. Claim No. Days Claim No. Days BOTH 5-37231 1 . Geological Branch ODM 5-378212 ğ . ASSESSMENT FILES 5-318893 MONTHS IMPRISONMENT ...2 RESEARCH OFFICE 5-318894 JUL .7.1975 35 9400 2 RECEIVED 359399 1 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. \$500. OR \$IX 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. Date: when drilling was done. Signed core log and sketch in duplicate. For Compressed Air or Other Power Driven or Mechanical Equipment **CERTIFICATE IS** 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 at 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 ubove types of work skotches are required to show the location and estent 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 outhor of report. Covering dates of survey (lineculting & office). Type of instrument used. Total amount of experiditure. Technic - coorts ő maps, expenditure breakdown, receipts must be filled in duplicate with the Minister within 60 days of recording AND 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) OWNER THIP IN PROCKED , PRETENTLY CLAIMS ON . TRANSFER OF SUU [AVIEW UR. SUBVILY 1725 H. HARVEY Э. CHRJON H. ISAAL BUNS 1073 STAFFORD ST. JUPURY uni 25/75 MAKING The Mining Act Certificate Verifying Report of Work 1. J. FULP Geephysical Connectional 1614 BAYVIEW MUE THE PENALTY FOR TEKWTY, ONTAKIO, 146 387 (Post Office Address) hereby certily: 1. That I have a personal and intimate knowledge of the facts set forth in the report of work annexed liereto, having performed the work or witnessed same during and/or after its completion. 2 That the annexed separt is true. June 25 19 75 Dated JUL - 3 1975 Inc 23

UDF	FLEMI	2E		ſ	FILE S.	377231
	TWPS	• .	ONTAHIO		required for each type of work to be	
	SUDRARY	THE MINING	ACT REPORT	L.	recorded. Minung D	MI \$100
To the Recorder	ATIONAL MIN	JEKALI \$ 1	CHEMICAL	URMANIAN (4	NAUS) LID (	- 230/0 1 (- 234
55 Va	name of Recorded I NEE STREET	Holder [DK IN TO	, ON FAILIS	HSE IJ	4 Stille "	ου
do hereby report	the performance of	60	Post Office	ddress MA		
					type of work	
Claim No.	Days	Claim No.	Doys	Claim No.	Days	E
		• • • • • • • • • • • • • • •		I AUBEE	SMENT FUER	BOTH
			•••••	RESEA	RCH OFFICE	T OR
		••••••••••••		JUL	- 7 1975	N E
		•••••		REC	EIVED	NOS1
35 93 99	10 "r"	•••••				AM
$\chi^3$	• • • • • • • • •	g Claim (s)	· · · · · · · · · · · · · · · · · · ·		••••••	TN3MNOSIX4WI SHTNOW
(In the case of g	eological and/or geo	ophysical surv	ey (s) where mo	re than 18 claims are :	involved allach a sa	
						nes and D
oddresses of the For Diamond and owner or operato For Compressed Type of drill or their employment For Power Stripp work was done. I With each of the to the nearest cl For Geophysical dates of survey maps, expenditure For Land Survey The Required In TRANJ FE OF: HA	i men who performed d other Core Drilling r of drill. Dates whe Air or Other Power I equipment. Nomes an 1. bing - Type of equipm Proof of actual cost above types of work lain post. In the cast , Geological, Geoche (linecutting & office e breakdown, receipt - the name and addr formation is as Fall LVEY O. L AAC BUC	the work and t - Footage, N in drilling was Driven or Mech id addresses of int. Name and must be submit is sketches are is of diamond emical Surveys e). Type of in s must be filed ess of Ontorio ows: (Att ASHIP IN ASUN AS	he dates and ha b. and angle of done. Signed co manical Equipme if men engaged i address of own sted within 30 d required to sho crother cors dr and Expenditur istrument used. d in duplicate w Land surveyor. Nach a list if this PRUGREC, 1725 1073	in operating equipment in operating equipment in operating equipment in operating equipment in operating equipment in operation and ex- int in operator. Amount lays of recording. ow the location and ex- illing the sketch must recredits - the name of Total amount of exper- ith the Minister within it space is insufficien if VRESENTLY SCUTHVIEW STAFFORD	nt. core. Name and add duplicate. a and the dates and it t expended. Dates of stent of the work in be s. Smitted in du of author of report. I enditure. Technical h 60 days of record. DL. SUJBUR ST. SJDBUR	Statement in THIS REPORT AND OR CERTIFICATE IS \$500
hereby certify: : That to, having perform 2. That	P	Certificate N Conflicate N H. 4 G (Post d intimate kno iessed some di true.	Verifying Report 	BAYVIEW (V ) hots set forth in the rej or its completion.		there-
	To the Recorder 1. INTERIM 5.5. You do hereby report not before report Claim No. 5-37.7231 S-37.8212 S-37.8893 S-37.8893 S-37.8894 35.9400 35.93940 35.93940 35.93940 35.93940 READ CAREFU For Monual Mork was (In the case of g READ CAREFU For Monual Mork addresses of the For Diamond and owner or operator For Compressed Type of drill or their employmen For Power Stripp work was done. With each of the to the nearest of For Compressed Type of drill or their of the to the to the nearest of For Compressed Type of drill or their employmen For Dower Stripp work was done. With each of the to the nearest of For Land Survey maps, expenditor For Land Survey The Required In TRANS FE OF: HA IS. Date JUN hereby certify: : That to, having perfor 2. That	Twps To the Recorder of SUDBURY I. INTERITATIONAL MIN rome of Recorded 5.5. YONGE. STREET do hereby report the performance of not before reported to be applied on Claim No. Days S-377231 10 S-3782.12 10 S-3782.12 10 S-3782.12 10 S-378943 10 S-378943 10 S-378949 10 S-3789494 10 S-378949 10 S-3789494 10 S-3789494	THE MINING To the Recorder of SUDBURY 1. INTERIATIONAL MINERALL : 1. INTERIATIONAL : 1. INTERIATIONAL : 1. INTERIATIONAL : 1. INTERIATIONAL : 1. INTERIATIONAL : 1. INTERIATION : 1. INTERIATIONAL : 1. INTERIATIONAL : 1. INTERIATIONAL : 1. INTERIATIONAL	TWPS. DEVICE Contraction of the set of the set of the seconder of SUDBURY. The MINING ACT REPORT To the Recorder of SUDBURY. 1. INTERNATIONAL MINING ACT REPORT To the Recorder of SUDBURY. 1. INTERNATIONAL MINING ACT REPORT 5.5 Yould E STREET, Parine To Jon JAKIN 5.5 Yould E STREET, Parine To Jon JAKIN 5.5 Yould E STREET, Parine To Jon JAKIN to hereby report the performance of SS not before reported to be applied on the following contrauous claim Claim No. Days Claim No. Days 5.37,7231 LU 5.37,8893 IU 5.37,8893 IU 5.37,8894 IU 5.37,8894 IU 5.37,8893 IU 5.37,8894 IU 5.37,8994 IU 5.37,994 IU 5.37,994 IU 5.37,994 IU 5.37,994 IU 5.37,994 IU 5.37,994 IU 5.37,994 IU 5.37,99	TWPS   ONTAKEN     The MINING ACT REPORT OF WORK     To the Recorder of SUDBURY     INTERNATIONAL MINERALL   CHEMISAL GREEKASION(R)     55 You's of Recorder Inder     56 You's of Recorder Inder     57 You's of Recorder Inder     58 You's of Recorder Inder     59 You's of Recorder Inder     50 You's of Recorder Inder     51 You's of the performance of GO.     52 You's of the performance of GO.     53 YOU'S OF The performance of GO.     53 YOU'S OF THE Performance of GO.     53 YOU'S OF THE PERFORMANCE OF THE PERFORMANCE Claims     Claim No.     53 YOU'S OF THE PERFORMANCE OF THE PERFORMANCE Claims     Claim No.     53 YOU SONTAIN THE PERFORMANCE OF THE PERF	TWPS:   THE MINING ACT REPORT OF WORK   Assertion to be invested on the invested on invested invested in the invested on the invested on the invested

Ministr	y ol Nat	ural R	lesources
---------	----------	--------	-----------

File\_

S (388

# GEOPHYSICAL - GEOLOGICAL GEOCHEMICAL TECHNICAL DATA STATEMENT

Ontario

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

Township of Area . T - 107 4 108	MINING CLAIMS TRAVERSED
Claim Holder(s) INTERMATIONAL MINERMI + (HEALING CANY. (CAN) MA	List numerically
Survey Company Fuel ! Allo LIA JEL	s <u>377231</u>
Author of Report J. FUWP	S (protection 3782 (12)
Address of Author 1614 BAYVIEW AVE ISLONTOWING 367	······································
Covering Dates of Survey MAY 8-17/35-3010 = 17-24/25	S 3788933
	5 378894
Fotal Miles of Line Cut 11 MILES	
	359400
SPECIAL PROVISIONS DAYS CREDITS REQUESTED Consults such	359399
ar cropnysicai	
ENTER 40 days (includes Le	•
line cutting) for first Magnetometer	
survey. Radiometric 2 ENTER 20 days for each Other Disonce 8	
Same or id	
ës Geochemical	
AIRBORNE CREDITS (Special provision credits do not apply to airborne surveys)	
Magnetometer Electromagnetic Radiometric (enter days pre claim)	
DATE: June 25 Mr_ SIGNATURE DFull	
The is Signate Report of Agent	
Res. GeolQualitications	
Previous Surveys	
· · · · · · · · · · · · · · · · · · ·	
Previous Surveys	101AL CLAINS
Previous Surveys	101ALCLAINS
Previous Surveys	101AL CLAINS
Previous Surveys	101AL CLAINS
Previous Surveys	101AI (LAINS
Previous Surveys	101ALCIAINIS
Previous Surveys	101AL CLAINS
Previous Surveys	101AI CLAINS
Previous Surveys	101AI CLAINS
Previous Surveys	

# GEOPHYSICAL LECHNICAL DATA

Number of Stations .
Station maters de
Produke scale
Contour interval

Reality .

BARKINGER PROJEN HIR 6m. 122. Neural Scale constant II permin TOTA field PEADOF Durnal correction method Loupio BASE STATIONS Base Station check in interval thomas, 172 HK1 Base Station check in interval chourse. 12 mm/ Base Station indication and value L-20 mww - BL (U.L.) 59,695 P L-81aw - BL (U.L.) 61, 695 P

Instrament Conference on a second second

Cod separation

Paralle a have Accuracy In here Sp. A Beach Excertionsmitter Method. especies V L.F. Scationer frequency Parameters measured ....

Instrument . Scale constant Concetions made

Base state of value and location

Hexation accuracy

Instrument Line Domain Mahud On third as Parameters OIL OINC . DOLLS THREE Jan gration time Power

LIGHTOR MAN Electrode sporties Type of electrode and Luquency Domain

Trapanas Range

411055W0099 0014 SHAKESPEARE	
------------------------------	--

í.

LINE A

;

900

215

and the second

Instrument		* .	
$\begin{array}{c} \text{Automation} & \underline{Me} P A A \underline{A} & \underline{TV} = \underline{S} \\ \text{Automation} & \underline{Me} P A A \underline{C} & \underline{TV} = \underline{S} \\ \text{Automation} & \underline{A} & \underline{T} & \underline{T} & \underline{T} & \underline{T} & \underline{T} \\ \text{Automation} & \underline{A} & \underline{C} & \underline{Me} & \underline{L} & \underline{Me} & \underline{C} & \underline{Ne} & \underline{C} & \underline{Ne} & \underline{C} & \underline{Ne} & \underline{C} \\ \text{Automation} & \underline{A} & \underline{C} & \underline{C} & \underline{Ne} & \underline{C} & \underline{Ne} & \underline{C} & \underline{Ne} & \underline{C} & \underline{Ne} & \underline{C} \\ \text{Automation} & \underline{A} & \underline{C} & \underline{C} & \underline{Ne} & \underline{C} & \underline{Ne} & \underline{C} & \underline{Ne} & \underline{C} & \underline{Ne} & \underline{C} \\ \text{Automation} & \underline{Me} & \underline{C} & \underline{C} & \underline{Ne} & \underline{C} & \underline{Ne} & \underline{Ne} & \underline{Ne} \\ \underline{Ne} & \underline{C} & \underline{Ne} \\ \underline{Ne} & \underline{C} & \underline{Ne} & \underline{Ne} & \underline{Ne} & \underline{Ne} & \underline{Ne} & \underline{Ne} \\ \underline{Ne} & \underline{Ne} \\ \underline{Ne} & \underline{Ne} & \underline{Ne} & \underline{Ne} & \underline{Ne} & \underline{Ne} & \underline{Ne} \\ \underline{Ne} & \underline{Ne} \\ \underline{Ne} & \underline{Ne} \\ \underline{Ne} & \underline{Ne} & \underline{Ne} & \underline{Ne} & \underline{Ne} & \underline{Ne} & \underline{Ne} \\ \underline{Ne} & \underline{Ne} & \underline{Ne} & \underline{Ne} & \underline{Ne} & \underline{Ne} \\ \underline{Ne} & \underline{Ne} & \underline{Ne} & \underline{Ne} & \underline{Ne} & \underline{Ne} \\ \underline{Ne} & \underline{Ne} & \underline{Ne} & \underline{Ne} & \underline{Ne} & \underline{Ne} \\ \underline{Ne} & \underline{Ne} & \underline{Ne} & \underline{Ne} & \underline{Ne} & \underline{Ne} & \underline{Ne} \\ \underline{Ne} & \underline{Ne} & \underline{Ne} & \underline{Ne} & \underline{Ne} & \underline{Ne} & \underline{Ne} \\ \underline{Ne} & \underline{Ne} & \underline{Ne} & \underline{Ne} & \underline{Ne} & \underline{Ne} & \underline{Ne} \\ \underline{Ne} & \underline{Ne} & \underline{Ne} & \underline{Ne} & \underline{Ne} & \underline{Ne} & \underline{Ne} \\ \underline{Ne} & \underline{Ne}$	Instrument	· · · •	. Ron C.,
$\begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} $	Survey Method	a an an an a	an a
Instrument $M_{c}^{P}HAR$ $TV - 5$ Values measured $T_{c}$ $T_{2}$ $T_{3}$ $T_{2}$ $T_{4}$ $T_{2}$ $T_{5}$ $T_{2}$ $T_{4}$ $T_{2}$ $T_{5}$ $T_{2}$ $T_{4}$ $T_{4}$ $T_{2}$ $T_{4}$			a a second and a
$ \frac{T_{1}}{T_{2}} T_{3} T_{3} = \frac{T_{3}}{T_{2}} = \frac{T_{3}}{T_{2}}$	offertions to als	• • • • • • •	, and a second
$ \frac{T_{1}}{T_{2}} T_{3} T_{3} = \frac{T_{3}}{T_{2}} = \frac{T_{3}}{T_{2}}$		e e to maxima de la construcción de	······································
Volues an assured <u>T, T, T, Tz</u> are go windows devels) <u>1.2</u> MEV <u>1.6</u> MEV <u>2.5</u> Previ- teight of instrument <u>1.130 Tz.72 Jz.</u> in coldeter to <u>1/4 × 2.</u> Naiodee Crystel werburden <u>Vonalle</u> 18 cyl <u>1.5</u> we prove $\gamma_{12}$ <u>1.6</u> we prove $\gamma_{12}$ <u>1.6</u> we prove $\gamma_{12}$ <u>1.6</u> we			
Volues an assured <u>T, T, T, Tz</u> are go windows devels) <u>1.2</u> MEV <u>1.6</u> MEV <u>2.5</u> Previ- teight of instrument <u>1.130 Tz.72 Jz.</u> in coldeter to <u>1/4 × 2.</u> Naiodee Crystel werburden <u>Vonalle</u> 18 cyl <u>1.5</u> we prove $\gamma_{12}$ <u>1.6</u> we prove $\gamma_{12}$ <u>1.6</u> we prove $\gamma_{12}$ <u>1.6</u> we	Mc PHAR	TV-5	
$\frac{1}{2} = \frac{1}{2} = \frac{1}$			
$\frac{1}{2} = \frac{1}{2} = \frac{1}$	iner and a dealer 1.2	hed 1.6 Med 2.	AVE.
$\frac{124 \times 2^{\circ}}{100} = \frac{124 \times 2^{\circ}}{100} $	tainty windows (levers) A	a Love commend	1. J. m. 1. 13. To 7. To 5
by contraction $V$ and $V$ an	$\frac{14}{4} \times 2$	" Noiedde 1- utt	D3Ckground Count
According to the second			
ype of survey		aspe, depth anclude out of	(states i file with a second sec
ype of survey	and a new second and the second second		
curracy	SEISMIC SEISMIC	(REFUNCTION)	
curracy	25.H	42 channel Siin	neerand
atameters measured TIME (Mac) DisTANCE (J1) dditional information (for understanding results) Max. churg's 5 /2 1 /2 dynamite 402 Forcing USEP 76 IMPACT SPREADI OF 275 / 550 /4 /026 SPREADS Fr4 3 - SHOT ASINT COLATION J THEN DEPICAS (ALCULATED WITH BAL-PA J) /4 (RITICAL DISTANCE MIRE TBODS. 1000 for each type of subces) cubat subces(s) type of subces) type of subces)			
dditional information (for understanding results) Max. churry's ½ 153 dynamite 402 Foreing USED 76 (MPALT SPREAD) OF 275 550 ft 1026 SPREADS Fr 51 3- SHOT BUNT COLATIONJ THEN DEPIHS (ALCULATED WITH BAL-PH JH 2 (RITICAL DISTANCE METBODS. PLAN (RITICAL DISTANCE METBODS. PLAN (Decidy for each type of subsect strument(s)	TIME	Auto N N. TANKE	///
USEP 76 IMPACT   SPREADI   OF 275 1, 550 H [ING SPREADI   FF 41 3 -     SHOT ASINT   USATION J THEN DEPIHS   (ALCULATED WITH BH-PHTH)     (RITICAL DISTANCE MIP: TBODS.     Prot Survey(s)	numeters inclosured <u>1. (1. (1. )</u>	(	(1)
strument(s)	SHOT ADINT LOCATION	NJ THEN DEPTHS (AL	UH HING SPREADS FRUIS-
type of survey a surv	SHOT AVINT LOCATION (RITICAL DIJTANCE	NJ THEN DEPTHS (AL	UH HING SPREADS FRUIS-
ispecify for rachispe of surves incraft used	SHOT ASINT LOCATION (RITICAL DIJTANCE	NEADI OF 275 1, 55 NJ THEN DEPTHS (A) MYE TBODS.	UH HING SPREADS FRUIS-
ispecify for each type of survey increases and the survey increases and	USED TO IMPACT ST SHOT POINT COLATION (RITICAL DISTANCE	NEADI OF 275 1, 55 NJ THEN DEPTHS (AU MIE TBODS.	UH ING SPREADS From 3-
usor altitude	USED TO IMPACT ST SHOT BOINT LOCATION (RITICAL DISTANCE STUDIENTIS)	NEADI OF 275 1, 55 NJ THEN DEPTHS (AU MIKE TBODS.	UH ING SPREADS From 3-
wigation and (light path recovery method	SHOT BOINT COLATION (RITICAL DISTANCE (RITICAL DISTANCE (Distance)	NEADI OF 275 4 55 NJ THEN DEPTHS (AU MIE TBODS.	UH HONG SPREADS FROM 3- CULATED WITH BAY-PHTH
icratt altitude	USED TO IMPACT ST SHOT POINT COLATION (RITICAL DIJTANCE Special survey (s) strument(s)	ALEADI OF 275 4 55 NJ THEN DEPTHS (AU MIE TBODS. Ispecify for each type of subsey	UH HUNG SPREADS FRUI 3- CULATED WITH BAY-PHTH
ierati altitudeLine Spacing	USED TO IMPACT ST SHOT ADIANT COLATION (RITICAL DIJTANCE peritany Strument(s) cubicy	ALEADI OF 275 4 55 NJ THEN DEPTHS (AU MIE TBODS. Ispecify for each type of subsey	UH HUNG SPREADS FRUI 3- CULATED WITH BAY-PHTH
	USED TO IMPACT ST SHOT ADIANT COLATION (RITICAL DIJTANCE protourvey(s) strument(s) retail used	ALEADI OF 275 4 55 NJ THEN DEPTHS (AU MIE TOODS. Ispecify for each type of survey Ispecify for each type of survey	UH HUNG SPREADS From 3- CULATED WITH BAY-PHTH
les flown over total area	USED TO IMPACT ST SHOT BOINT COLATION (RITICAL DIJTANCE Spe of survey(s) strument(s) cubacy rerations and tught path recovery	NEADI OF 275 4 55 NJ THEN DEPTHS (AU MIE TBODS. Ispecify for each type of subsey ispecify for each type of subsey	UH ING SPREADS From 3- CULATED WITH BAY-PHTH
	USED TO IMPACT ST SHOT BOINT COLATION (RITICAL DIJTANCE Specification operation and tught path recovery	NEADI OF 275 4 55 NJ THEN DEPTHS (AU MIE TBODS. Ispecify for each type of subsey ispecify for each type of subsey	UH ING SPREADS From 3- CULATED WITH BAY-PHTH
	USED TO IMPACT ST SHOT BOINT COLATION (RITICAL DIJTANCE protaury(s) strument(s) cutacy recatt used usor altitude migation and tught path recovery peratt altitude	NEADI OF 275 4 55 NJ THEN DEPTHS (AU MIE TBODS. Ispecify for each type of survey ispecify for each type of survey inclined	UH ING SPREADS FRUI3- CULATED WITH BAY-PHTH
	USED TO IMPACT ST SHOT BOINT COLATION (RITICAL DISTANCE PE OF SURVEY(S) Strument(S) recraft used isor additude signifient and fright path recovery craft altitude	NEADI OF 275 4 55 NJ THEN DEPTHS (AU MIE TBODS. Ispecify for each type of survey ispecify for each type of survey inclined	UH JUNG SPREADS FROM 3- CULATED WITH BAY-PH JIH
	USED 76 IMPACT ST SHOT BOINT COLATION (RITICAL DISTANCE PE OF SURVEY(S) Strument(S) strument(S) strument(S) strument(S) cutacy retain used isor additude sugation and fught path recovery craft altitude	NEADI OF 275 4 55 NJ THEN DEPTHS (AU MIE TBODS. Ispecify for each type of survey ispecify for each type of survey inclined	UH JUNG SPREADS FRUI3- CULATED WITH BAY-PHTH
	USED 76 IMPACT ST SHOT BOINT COLATION (RITICAL DISTANCE PE OF SURVEY(S) Strument(S) reration and fight path recovery morati altitude	NEADI OF 275 4 55 NJ THEN DEPTHS (AU MIE TBODS. Ispecify for each type of survey ispecify for each type of survey inclined	UH JUNG SPREADS FRUI3- CULATED WITH BAY-PHTH
	USED TO IMPACT ST SHOT BOINT COLATION (RITICAL DIJTANCE TOTAL DIJTANCE TOTAL SURVEY(S) Strument(S) relate sed nor altitude migation and hight path recovery mirate altitude	NEADI OF 275 4 55 NJ THEN DEPTHS (AU MIE TBODS. Ispecify for each type of survey ispecify for each type of survey inclined	UH JUNG SPREADS FRUI 3- CULATED WITH BAY-PHTH+
	USED TO IMPACT ST SHOT BOINT COLATION (RITICAL DIJTANCE protaurycy(s) strument(s) cutacy relation and tright path recovery noral altitude	NEADI OF 275 4 55 NJ THEN DEPTHS (AU MIE TBODS. Ispecify for each type of survey ispecify for each type of survey inclined	UH JUNG SPREADS FRUI 3- CULATED WITH BAY-PHTH+
	USED TO IMPACT ST SHOT BOINT COLATION (RITICAL DIJTANCE production and the path recovery instantial truthe	NEADI OF 275 4 55 NJ THEN DEPTHS (AU MIE TBODS. Ispecify for each type of survey ispecify for each type of survey inclined	UH ING SPREADS FRUI3- CULATED WITH BAY-PHTH
	USED TO IMPACT ST SHOT BOINT COLATION (RITICAL DIJTANCE production and the path recovery instantial truthe	NEADI OF 275 4 55 NJ THEN DEPTHS (AU MIE TBODS. Ispecify for each type of survey ispecify for each type of survey inclined	UH ING SPREADS FRUI3- CULATED WITH BAY-PHTH
	USED TO IMPACT ST SHOT BOINT COLATION (RITICAL DIJTANCE production and the path recovery instantial truthe	NEADI OF 275 4 55 NJ THEN DEPTHS (AU MIE TBODS. Ispecify for each type of survey ispecify for each type of survey inclined	UH JUNG SPREADS FRUI 3- CULATED WITH BAY-PHTH+

