

010

DEO Cans MINING LANDS SECTION

MAX MIN II EM SURVEY

of

Grid A, B and C

Murphy and Hoyle Townships

Porcupine Mining Division

District of Cochrane

Ontario

bу

R.S. Middleton

ROSARIO RESOURCES CANADA LTD.

410 - 55 Yonge St.

TORONTO, Ontario

November 23, 1979

RECEIVED

DEC 2 0 1979

MINING LANDS SECTIO



A Max Min II horizontal loop EM survey was carried out over 3 grids in 1978 and 1979 in Murphy and Hoyle Townships for the purpose of mapping graphitic stratigraphic markers.

Location and Access

Grid A as shown on the location map at the back of this report, is mainly confined to Murphy Twp. in parts of Con. I and II, lots 1, 2, 3 and 4 as well as the S^{1}_{2} of lots 11 and 12 in Con. II, Hoyle Twp. Grid B is situated in Hoyle Twp. in parts of Con. II, lots 6, 7 and 8 and Grid C strattles the Murphy-Hoyle boundary in lots 11 and 12 of Hoyle and lots 1 and 2 of Murphy in Con. III.

The property is in the Town of TIMMINS and is roughly 6 miles northeast of the downtown core of TIMMINS. Access is from a gravel road that joins the TGS (655) Highway with the remains of the Broulan Reef mine and Hallnor mine. Muskeg tractor can be used to get to the property from the gravel road via the Whitney-Tisdale Twp. line or by a road 2 miles west of the Whitney-Tisdale line. Central Hoyle can be reached by boat via the Porcupine River and by a muskeg road that joins the above mentioned gravel road 1 mile west of Porcupine River at the NONG pipeline station. The ONR rail line joining the TG mine with the TG smelter-concentrator also passes through Grid B.

Property

The claims on grid A and C are held directly by Rosario Resources Canada Ltd. whereas the claims on Grid B and the S^{1}_{2} of lots 11 and 12, Con. II of Grid A are held by an option by ROSARIO from Ralph Allerston of Timmins.

The claim numbers are given on the following lists:

MURPHY-HOYLE EM SURVEY

Grid A

Claim No.	Days Credit
P. 515775	20 days
776	20 days
777	20 days
778	20 days
779	20 days

780	20	days	
781	20	days	
782	20	days	
P. 515785	20	days	
786	20	days	
787	20	days	
788	20	days	
789	20	days	
790	20	days	
791	20	days	
792	20	days	
793	20	days	Total = 34 claims
794	20	days	
P. 516152	20	days	
153	20	days	
154	20	days `	
155	20	days	
156	20	days	
157	20	days	
158	20	days	
159	20	days	
P. 516309	20	days	
310	20	days	
311	20	days	
312	20	days	
312	20	days	
314	20	days	
315	20	days	,
316	20	days	

Grid B

Claim No.	Days Credit
P. 508687	20 days
688	20 days
689	20 days
690	20 days
691	20 days

692	20	days
P. 515647	20	days
648	20	days
649	20	days
650	20	days
P. 516160	20	days
161	20	days
162	20	days
163	20	days
164	20	days
165	20	days
166	20	days
167	20	days

Total = 18 claims

Grid C

Claim No.	Days Credit	-
P. 516562	40 days	
563	40 days	
564	40 days	
565	40 days	
P. 516572	40 days	
573	40 days	
574	40 days	
575	40 days	
P. 525270	40 days	
271	40 days	
272	40 days	Total = 20 claims
273	40 days	
274	40 days	
275	40 days	
276	40 days	
277	40 days	
P. 525303	40 days	
304	40 days	
305	40 days	

40 days

306

SURVEY PROCEDURES AND INSTRUMENTATION

The survey was completed using a Max Min II horizontal loop EM unit. A 400 foot coil separation was maintained for the whole survey and readings were taken at 100 foot intervals on lines spaced 200' and 400' apart. One exception to this is a detailed grid on part of Grid B where the lines were spaced 100 feet apart in order to trace a flexture in a conductive horizon.

Two frequencies, 1777 Hz and 444 Hz were used throughout the survey and both the inphase and out-of-phase (quadrature) readings were taken.

Survey Statistics and Dates

A total of 32.93 miles were cut on Grid A, 16.51 miles on Grid B and miles on Grid C for a total of 17.75 miles.

The number stations read were 1614 on Grid A, 755 on Grid B and 748 on Grid C. The survey was done in stages. Grids A and B were surveyed in July and parts of September 1978 by Bruce Durham and flooded areas were covered in January 1979. Grid C was read in January and part of February 1979 by J. Ward.

GEOLOGY

The southern part of Grid A is underlain by a tholeitic basalt sequence with minor ultramafics. The northern part of Grid A has graphitic sediments as indicated by a drill hole by Inco. There is no outcrop on Grid C but the geology is inferred to be argillites, and graphite zones with intermixed mafic volcanics.

Grid B does not have any outcrop but the northern half of the property appears to be argillite as indicated by drilling while the southern part of claims

P. 508688 and P. 508687 are basalt. Two graphite zones also occur on the Grid B property, one within the argillite sequence and one along the argillite - basalt volcanic contact.

PREVIOUS WORK

Part of Grid A has been investigated in 1964 and 1967 by Glencona Mines Ltd. 1

^{1.} Glencona Mines Ltd. Ontario Dept. of Mines Assessment File, 63.1466

A vertical loop (SE 200) survey and magnetic survey was done which outlined the conductor now located on claims P. 516152 and P. 516316. Seven drill holes were put down to test this conductor in 1967 and it was found to be graphite and pyrite-pyrrhotite.

Inco drilled on hole to test a conductor on what is now claim P. 516158. 2 The location of this Inco hole is not certain since it was not located in the field relative to the now outlined conductor. The portion of Grid A in Hoyle Twp. (lots 11 and 12, S_2^1 , Con. II) were surveyed by magnetometer and SE 200 EM for Copper Reef Mines Ltd. 3

Grid B has been previously surveyed with vertical loop and magnetometer for L.P. Industries and 4 diamond drill holes were completed to test the two conductors.

INTERPRETATION

Grid A

A long linear conductor extends from line 12W to 80W at roughly 13S to 17S respectively. Drill holes have shown this conductor to be mainly graphite with part of the western section containing pyrite-pyrrhotite. Another conductor on claim P. 516158 extending from Line 80W - Line 68W at 34N to 28N respectively is also a graphite zone as shown by the Inco hole and the depth to the top of the conductor is 83 - 87'.

In the northeast corner of lot 11, Con. II, Hoyle Twp. on lines 52E - 44E, a conductor has been indicated which was previously outlined by the SE 200 EM survey. This conductor has been tested by one hole and is found to be graphite within basalt-andesite. The depth to the top of the conductor is in the order of 45 - 55 feet.

^{2.} Inco Ltd. Ontario Dept. of Mines Assessment File Diamond Drilling

^{3.} Copper Reef Mines Ltd., File 63.1325

^{4.} L.P. Industries Ltd., Assessment File 2.1853, 2.1702.



Two conductors have been outlined which are sub-parallel to each other and trend northwesterly to westerly. The northern conductor has been tested by drilling and was found to be a graphitic zone hosted in argillite. The depth of the conductor is roughly 90 - 120 feet. The southern conductor is also caused by graphite at the contact of volcanics to the south and argillites to the north.

Grid C

A conductor of unknown depth or width occurs along the 52N base line between line 8W and 20W. This horizon is also interpreted to be caused by graphite and may be related to or parallel to the north conductor described in the paragraphs on Grid A.

CONCLUSIONS

The southern conductor is Murphy Twp. on Grid A should be examined further for gold mineralization since a significant amount of sulphides are occurring with the graphite. An overburden drilling program has been executed to follow-up the other conductors and further overburden drilling and diamond drilling will be required to test for possible gold mineralization associated with these conductive horizons.

Respectfully submitted,

R.S. Middleton Exploration Manager

RSM/1yd



OFFICE USE ONLY

Ministry of I

GEOPHYSICAL - GEOI TECHNICAL I



2A11SE0083 2.3170 HOYLE

900

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) MAX MINIEM	
Township or Area Murphy and Hoyle	MINING CLAIMS TRAVERSED
Claim Holder(s) ROSARIO RESOURCES CAM	<u>APA</u> List numerically
410 - 55 Youge St. TORONT	
Survey Company ROSARIO RESOURCES CA	ANADA See attached List
Author of Report R.S. Middleton	(prefix) (number)
Address of Author 410 - 55 Yong St. ToRow	70
Covering Dates of Survey July 1978 - Feb 1979 (linecutting to office)	7
Total Miles of Line Cut 32,93	
SPECIAL PROVISIONS CREDITS REQUESTED Combusical DAYS	
Geophysical	
ENTER 40 days (includes —Electromagnetic 20	•
line cutting) for first —Magnetometer	
surveyRadiometric	—
ENTER 20 days for each —Other	
additional survey using Geological	
same grid. Geochemical	
AIRBORNE CREDITS (Special provision credits do not apply to airborne sur	veys)
MagnetometerElectromagneticRadiometric	
(enter days per claim)	•••••••••••••••••••••••••••••••••••••••
DATE: No venter 13/79 SIGNATURE: Author of Report or Ag	K.
179 Author 6f Report or Ag	ent
2.206	
Res. Geol. Qualifications 2 > 06	
Previous Surveys File No. Type Date Claim Holder	
The No. Type Bate Claim Holder	
	
	TOTAL CLAIMS 3 ⊀

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS - If more than one survey, specify data for each type of survey Number of Stations 16/4 Number of Readings 16/4 x 2 Station interval /00 Line spacing 400, 200 /
Profile scale /"= 20% Contour interval Instrument _____ Accuracy - Scale constant _____ Diurnal correction method Base Station check-in interval (hours) Base Station location and value Instrument MAX MIN II EM Coil configuration HORIZONTAL LOOP Coil separation 400 feet Accuracy _____ ☐ Shoot back ☐ In line ☐ Parallel line Fixed transmitter Method: Frequency 1777 H2 - 444 H2.

(specify V.L.F. station) Parameters measured _____ Fughase _ Out of Phase Instrument _____ Corrections made _____ Base station value and location _____ Elevation accuracy_____ Instrument _____ ☐ Frequency Domain Parameters - On time ______ Frequency _____ - Off time _____ Range ____ RESISTIVIT - Delay time _____ - Integration time _____ Power _____ Electrode array Electrode spacing _____ Type of electrode _____

INDUCED POLARIZATION

Ministry of Natural Resources



OFFICE USE ONLY

GEOPHYSICAL – GEOLOGICAL – GEOCHEMICAL TECHNICAL DATA STATEMENT

RECEIVED

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. 2 0 1979

Type of Survey(s)	MA	X MIN II #	EM	MINING LANDS SECTION
Township or Area		•		TOWNS OF A TIOMP AND ONE
Claim Holder(s) ROSA	RIO RES	COURCES CANAD	A	MINING CLAIMS TRAVERSED List numerically
· •		onge St. TORON		
Survey Company Ro	SARIO R	ESOURCES CANA	DA	See attached List
Author of Report	<u> </u>			(prefix) (number) $GRIPB$
Address of Author 41	0 - 55	Yange St. TORON	UTO .	
Covering Dates of Surve	y Sept	+ 1978 - Jan	1979	
Total Miles of Line Cut.			1,	
Total wiles of Line Cut.		10.51		
SPECIAL PROVISIO	VIC.			•••••••••••••••••••••••••••••••••••••••
CREDITS REQUEST			DAYS er claim	•••••
		-Electromagnetic	20	***************************************
ENTER 40 days (inch	ıdes	-Magnetometer		
line cutting) for first survey.		-Radiometric		
ENTER 20 days for ea	ach	-Other		
additional survey using		Geological	1 1	
same grid.	4	Geochemical		· · · · · · · · · · · · · · · · · · ·
AIRBORNE CREDITS	(Special provision		ne surveys)	
MagnetometerE				
•	(enter day	s per claim)	.	
DATE: November 2	225SIGNAT	URE:		
		Author of Report	or Agent	
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Res. Geol.	Qualific	ations 2.706		••••••
Previous Surveys	Quanno	ations		
File No. Type	Date	Claim Holder		
			•	
		4	······	
			- 	
				TOTAL CLAIMS

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS - If more than one survey, specify data for each type of survey Number of Stations 755 Number of Readings 755 ≥ Instrument _____ Accuracy - Scale constant _____ Diurnal correction method _____ Base Station check-in interval (hours) Base Station location and value Coil configuration HORIZ-DNTAL LOOP Coil separation _______ Accuracy _____ [2] In line ☐ Parallel line ☐ Fixed transmitter ☐ Shoot back Method: Frequency /77 /2 #44 //z

(specify V.L.F. station)

Parameters measured To phase Out of Phase Instrument Scale constant _____ Corrections made _____ Base station value and location _____ Elevation accuracy_____ Instrument _____ ☐ Frequency Domain Parameters - On time ______ Frequency _____ - Off time _____ Range ____ - Delay time _____ - Integration time _____ Power ____ Electrode array Electrode spacing _____ Type of electrode _____

INDUCED POLARIZATION



Ministry of Natural Resources

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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.

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ddress of Author 4 - 5	5 Yang St TOROUTE	
overing Dates of Survey	(linecutting to office)	
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otal Miles of Line Cut	<u> </u>	
SPECIAL PROVISIONS CREDITS REQUESTED	DAYS per claim	
OKEDITS REQUESTED	Geophysical	
ENTER 40 days (includes	–Electromagnetic <u>40</u>	••••••
line cutting) for first	Magnetometer	
survey.	-Radiometric	
ENTER 20 days for each	_Other	
additional survey using	Geological	
same grid.	Geochemical	
PROPNE CREDITS (Special p	rovision credits do not apply to airborne surveys)	
	agnetic Radiometric	
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••••••		
		TOTAL CLAIMS 20
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GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS - If more than one survey, specify data for each type of survey Number of Stations 748 Number of Readings 748X2 Profile scale / = 20°7 Contour interval Instrument _____ Accuracy - Scale constant _____ Diurnal correction method _____ Base Station check-in interval (hours)_____ Base Station location and value _____ Instrument 1 A V MILL TO FRE Coil configuration ______ FIGRIBUNIAL IND Coil separation ______ < 40 feet ☐ Fixed transmitter ☐ Shoot back ☐ In line ☐ Parallel line Method: Frequency (specify V.L.F. station) Parameters measured Furtime Contagnation Instrument _____ Scale constant _____ Corrections made _____ Base station value and location _____ Elevation accuracy_____ Instrument _____ ☐ Frequency Domain Parameters - On time ______ Frequency _____ - Off time _____ Range ____ RESISTIVITY - Delay time _____ - Integration time _____ Power ____ Electrode array Electrode spacing

Type of electrode

GOWAN TWP. (M. 285) Ð P **(P)** P .621 515622 Ø/ Ð P Ð **P** Ð P **(**) 363521 36**3**518 96919 96920 P P 363520 363519 96918 96921 O P O 96697 | 96698 ©! © (M. 303) 214258 214231 96700 96699 96702 96701 214255 | 214228 96705 96706 Little P Ð Ð TWP. MURPHY TWP. 96678 | 96707 214256 214229 --40402 | 540405 Q P. 92232 7 92233 MATHESON Ð Ð (O P / Q) (P) Ð 92235 92234 Oig S Ø 92236 🗧 🗸 92237 53963 54318 Ð P 53962 Œ Θ 0 92238 69462 69461 88668 88666 P **(P)** 0 0, 516163 69460 69459 92242 92243 515780 515781 65 OI9 65016 65017 0868 413958 92244 / 92245 71656 71655 (01383 P 508687 1 0 397631 397629 71657 75823 \$.R.O. L.O.14873 P Ð ® P 98731 | 88730 89859 1 89858 MRO (L) MRO (L) 1 Ontario North (P) ø 90074 SRO 94325
R P P
SRO
MRO | MRO
90075 | 94326 93413 SRO 93412 95292 | 95291 25894 | 25895 93116 SRO 93412 93116 SRO 93412 25891 Ð **®** Q P. Q **®** Ð P ø (P) 95290 95293 25896 25897 25890 | 2)5892 3 2 5 4 ΙÓ 9 8 12 81° 04' 28" WHITNEY TWP. (M. 319) 200

31 THE TOWNSHIP

HOYLE

DISTRICT OF COCHRANE

PORCUPINE MINING DIVISION

SCALE: 1-INCH - 40 CHAINS

LEGEND

PATENTED LAND C.S. CROWN LAND SALE **(** LEASES Loc. LOCATED LAND L.0. LICENSE OF OCCUPATION M.R.O. MINING RIGHTS ONLY S.R.O. SURFACE RIGHTS ONLY RUADS IMPROVED ROADS KING'S HIGHWAYS RAILWAYS **POWER LINES** * MARSH OR MUSKEG MINES CANCELLED

NOTES

400 Surface Rights Reservation along the shores of all lakes and rivers.

This township lies within the Municipality of CITY of TIMMINS.

Ont Northland Rwy spur line R/W patented for S.R.O. File: 177607

DATE OF ISSUE

DEC 2 0 1979

SURVEYS AND MAPPING

PLAN NO.

M. 287

ONTARIO

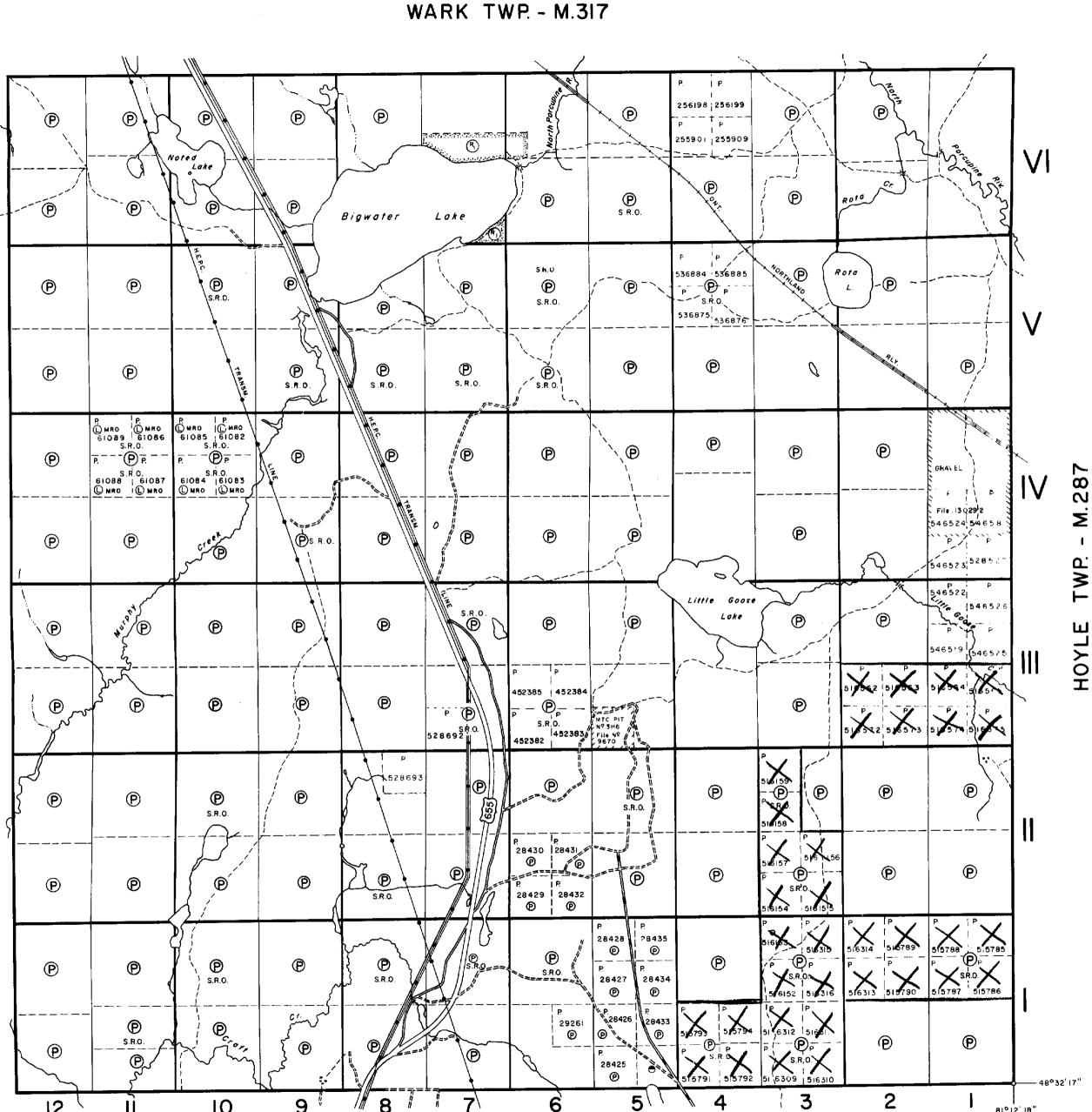
MINISTRY OF NATURAL RESOURCES

SURVEYS AND MAPPING BRANCH

M.289

TWP.

JESSOP



TISDALE TWP. - M.315

2.3170 THE TOWNSHIP OF

MURPHY

DISTRICT OF COCHRANE

PORCUPINE MINING DIVISION

SCALE: 1-INCH 40 CHAINS

LEGEND

PATENTED LAND C.S. CROWN LAND SALE LEASES LOCATED LAND Loc. L.0. LICENSE OF OCCUPATION M.R.O. MINING RIGHTS ONLY S.R.O. SURFACE RIGHTS ONLY ROADS IMPROVED ROADS KING'S HIGHWAYS RAILWAYS **POWER LINES** [***] MARSH OR MUSKEG MINES CANCELLED PATENTED S.R.O.

NOTES

400' surface rights reservation along the shores of all lakes and rivers.

This township lies within the Municipality of CITY of TIMMINS.

Ont. Northland Rwy. spur line R/W for S.R.O. see file 1776 07

RESERVATIONS:

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R) - Reserved for recreational purposes under Sec. 3 P.L.A. File 188543.

DATE OF ISSUE **DEC** 2 0 1979 SURVEYS AND MAPPING BRANCH

M.303PLAN NO.

ONTARIO

MINISTRY OF NATURAL RESOURCES

SURVEYS AND MAPPING BRANCH

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289

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TWP.

JESSOP

220

MUKPHY

DISTRICT OF COCHRANE

PORCUPINE MINING DIVISION

SCALE: 1-INCH 40 CHAINS

LEGEND

PATENTED LAND CROWN LAND SALE **(L)** LEASES Loc. LOCATED LAND LICENSE OF OCCUPATION M.R.O. MINING RIGHTS ONLY SURFACE RIGHTS ONLY ROADS IMPROVED ROADS KING'S HIGHWAYS RAILWAYS **POWER LINES** MARSH OR MUSKEG MINES CANCELLED PATENTED S.R.O.

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RESERVATIONS:

(4)— Reserved for recreational purposes under Sec. 3 R.L.A. File 198543

INDEX MAP

Sheet 2

M.303PLAN NO.

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