2. 15355



42A14NW0001 2.15355 MAHAFFY

010

REPORT ON

GEOPHYSICAL WORK

NESBITT MAHAFFY PROJECT

NESBITT & MAHAFFY TOWNSHIPS

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SUMMARY AND RECOMMENDATIONS

HLEM, VLF and magnetic surveys were carried out over the Nesbitt Mahaffy property in December 1992 and January 1993.

The HLEM survey outlined three bedrock conductors. Two holes on the property, drilled in 1975, did not intersect any of the conductors and all three conductors remain good drill targets.

Conductor 'A' is located along the flank of an east-west trending magnetic high anomaly which likely reflects komatilitic volcanics. This conductor should be tested by diamond drilling, both east and west of Line 200 East where a break in the magnetic anomaly occurs.

Conductor 'B' was only detected on one line at the edge of the property and more HLEM work is required to better define the zone. It is recommended that Lines 500 and 600 East be extended to 100 South and Lines 550 and 650 East be cut from 100 South to 800 North.

Conductor 'C' strikes west northwest within an area of low magnetic susceptibility which may reflect rhyolites in the south half of the property. Because of the depth of this conductor it is recommended that the south half of the property be resurveyed with HLEM using a coil separation of at least 200 metres.



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INTRODUCTION

Magnetic, very low frequency (VLF) and horizontal loop electromagnetic (HLEM) surveys were carried out on the Nesbitt Mahaffy property during December of 1992 and January 1993.

The property is located approximately 45 kilometres north of the city of Timmins (Figure 1(a)) in the Porcupine Mining Division. It is accessed from bush roads off the old Abitibi Camp 40 Road; a detailed description of the access is given in Appendix A.

The property consists of three contiguous claims comprising eight 40 acre claim units, 4 units in Nesbitt Township and 4 units in Mahaffy Township (Figure 1(b). The claims are numbered as follows:

CLAIM #	# OF UNITS	DESCRIPTION
P1189177	3	Mahaffy Twp.
P1189178	1	Mahaffy Twp.
P1189179	4	S1/2, Lot 12, Con I, Nesbitt Twp.

The author of this report carried out the magnetic and VLF surveys and was assisted by B. Pigeon in the HLEM survey.

PREVIOUS WORK

Other than regional geological compilation maps of the general Timmins area, the only geological maps available for the area are preliminary maps for Mahaffy

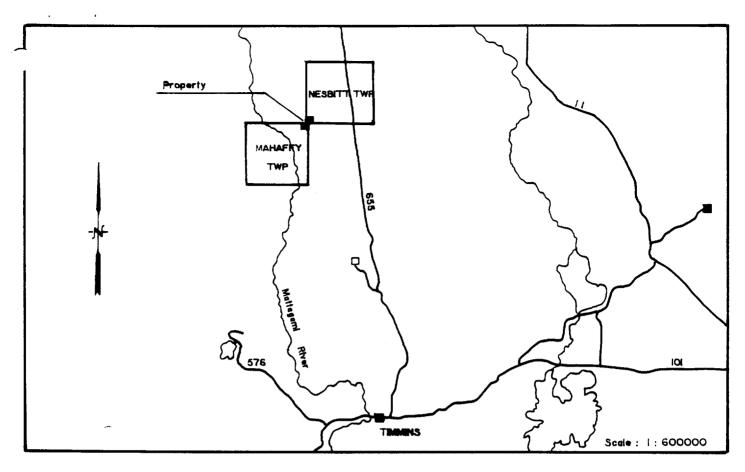


Figure I(a): Location Map

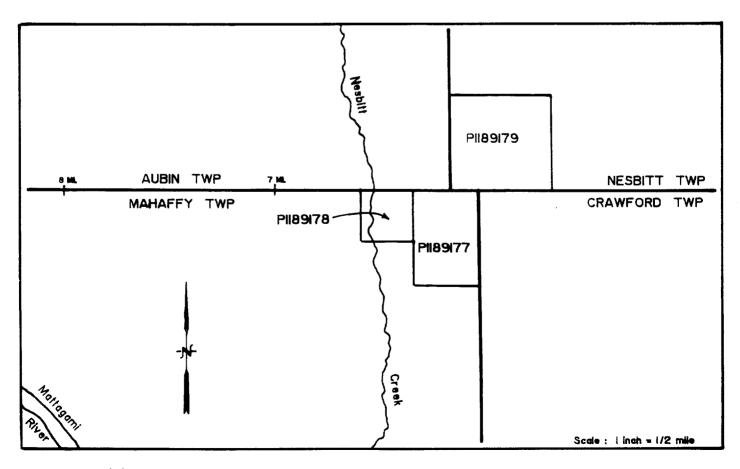


Figure I(b): Claim Map

Township (Bright and Hunt, 1972; Hunt and Maharaj, 1980). In 1988, the Ontario Geological Survey (OGS, 1988) conducted a combined airborne magnetic and electromagnetic survey for the Timmins area, which provides a sound geophysical base the general Timmins area; the survey included the Nesbitt-Mahaffy claim group.

Previous exploration work on the property (Table 1) has been confined to the 4 claim units in Nesbitt Township and consists of the following:

In 1964, Ghislau Mining Corporation Ltd. carried out magnetic and vertical loop electromagnetic (VLEM) surveys along north-south lines spaced every 300 feet. The magnetic survey was run with an Askania vertical field magnetometer and the VLEM survey was run with a Sharpe SE-200 unit. The EM survey detected a number of conductors on the flanks of an east west trending magnetic high anomaly. A horizontal loop EM survey was recommended, however none was undertaken.

In 1965, Canadian Aero Mineral Surveys Limited flew a combined EM and magnetic survey for Cincinnati-Porcupine Mines Ltd. in the northern part of

YEAR	COMPANY	GEOPHYSICS	DRILL HOLES	ASSESSMENT FILE	
1974	TEMCO MINES LIMITED	VLF	75-1,75-2	1681	
1965	CINCINNATI PORC, MINES LTD.	AMAG,AEM			
1964	GHISLAU MINING CORP. LTD.	MAG,VLF		829	

Table 1. Summary of previous assessment work.

Mahaffy and southern part of Aubin Townships. Part of the survey extended into the southern part of the claims in Mahaffy Township.

In 1975, Temco Mines Limited conducted a VLF survey and drilled two 500 foot diamond drill holes in the southeast part of claim Pl189179, intersecting mainly basalt and gabbro with minor porphyry. One 5 foot section of gabbro, containing disseminated pyrrhotite with minor chalcopyrite, assayed 0.4 percent Cu. Bleaching (silicification?) is reported throughout a 60 foot section of basalt. No conductors were intersected in either of the holes to explain airborne EM anomalies on the property.

GENERAL GEOLOGY

Little is known of the stratigraphic setting of the property due to a general lack of exploration work on the claim group and surrounding area. Two holes, drilled by Temco Mines Limited in 1974, indicate that the claim in Nesbitt Township is mainly underlain by basaltic volcanics and gabbro. Regional interpretation suggests that the rhyolites extending into the south part of the property in Mahaffy Township (Bright and Hunt, 1972) are possibly correlative with the Kidd Creek rhyolites.

SURVEY DESCRIPTIONS

An east-west base line, designated O North, was established along the north edge of Mahaffy Township and the south edge of Nesbitt Township. North-south

grid lines were cut every 100 metres and picketed every 20 metres. The base line at 0 North and tie lines at 800 North and 800 South were picketed every 25 metres. A total of 12 kilometres of line were covered in each of the surveys.

The horizontal loop EM survey was carried out with the Apex Parametrics MaxMin II. This instrument measures the in-phase and quadrature components of the secondary field as a percentage of the primary field; the depth of penetration is approximately half of the coil separation. Readings were taken every 20 metres along all of the north-south lines using a coil separation of 160 metres and frequencies of 444 and 1777 Hertz.

The magnetic readings were taken every 10 metres with a Scintrex IGS-2/MP-4. This instrument is a proton precession magnetometer which measures the earth's total magnetic field to an accuracy of 0.1 gammas. Diurnal variations were monitored every 12 seconds with a Scintrex MP-3 base station magnetometer. The base station was located at 40 West on Tie Line 800 South; the base value at this point, to which all other readings were corrected, is 58500 nT.

The VLF-EM survey was carried out with a Crone Radem which measures the dip angle of the vertical field. The transmitter station used was Cutler, Maine which operates at a frequency of 24.0 kHz. The sample interval in the VLF survey was 20 metres.

HLEM RESULTS

The results of the HLEM survey are given in maps 1 and 2 at a scale of 1:5000. The profile scale on both maps is 1 cm=20%. Three bedrock conductors were detected in the survey.

Anomaly 'A' strikes east west through the middle of claim 1189179 in Nesbitt Township. The source of the anomaly, between Lines 400 and 800 East, is a narrow conductor at a depth of approximately 40 to 50 metres. The conductivity of the source is fair to good (Table 2) and the dip is to the south. The very high conductivity and greater depth calculated on Lines 0 to 300 East are due to an inversion of the quadrature component and do not accurately describe the bedrock conductor. This inversion is more pronounced in the high frequency results and is due to a very conductive overburden layer west of 300 East.

Anomaly 'A' is located along the north flank of a magnetic high on Lines 300 to 800 East. To the west of a break in the magnetic anomalies at 200 East the conductor changes strike slightly to west southwest and is located along the south flank of a magnetic high.

Anomaly 'B' is located at 90 North on Line 600 East. The source of the anomaly is a very good conductor at a depth of 58 metres (Table 3). The width

LINE	ANOMALY Centre	ANOMALY Width (M)	(\$) Ib	Q (%)	DEPTH (M)	CONDUCTIVITY THICKNESS (MHOS)	COMMENTS
0 E 100 E 200 E 300 E 400 E 500 E 500 E 700 E 800 E	315 N 335 N 375 N 370 N 380 N 390 N 395 N 380 N 365 N	narrow 10 10 10 15 narrow narrow narrow narrow	-13 -12 -16 -20 -7 -9 -13 -17 -12	-5 -4 -4 -6 -10 -12 -17	61 69 59 51 48 40 38 38	62 30 110 124 9 11 14 21 23	S dip S dip Vertical Vertical S dip S dip S dip S dip

Table 2: Anomaly 'A' Interpretation, 444 Hz, 160 metre coil separation.

and dip of the conductor can not be determined since the south half of the anomaly is incomplete. The fact that hole 75-2, drilled by Temco Mines Limited, did not intersect the conductor suggests that it dips to the south, similar to conductor 'A'.

LINE	ANONALY CENTRE	ANOMALY Width (M)	IP (%)	(\$)	DEPTH (N)	CONDUCTIVITY THICKNESS (MHOS)	COMMENTS
600 E	90 N	?	-14	-6	58	53	

Table 3: Anomaly 'B' Interpretation, 444 Hz, 160 metre coil separation.

Anomaly 'C' strikes west northwest through the middle of claim 1189177 in Mahaffy Township. The source of the anomaly between Lines 0 and 200 East is a very good conductor at a depth of approximately 60 to 80 metres (Table 4). The

LINE	ANOMALY Centre	ANOMALY Width (m)	[\$)	(\$)	DEPTH (M)	CONDUCTIVITY Thickness (MHOS)	COMMENTS
300 W	320 S	narrow	-3	-1	96	27	
200 W	370 S	narrow	?	?	?	?	
100 W	350 S	narrow	?	?	?	?	
0 W	390 S	20	-7	-4	80	30	
100 E	430 S	20	-9	-6	64	23	
200 E	470 S	20	-10	-6	64	27	

Table 4: Anomaly 'C' Interpretation, 444 Hz, 160 metre coil separation.

width of the conductor is at least 20 metres and the dip is close to vertical. The anomaly is difficult to interpret on Lines 100 to 300 West because of the low amplitude of the anomaly and these lines should be resurveyed with a larger coil separation.

VLF-EM RESULTS

The results of the VLF-EM survey are given in map 3, at a scale of 1:5000; the data are profiled at a scale of 1cm=20.

The readings over most of the property are uniformly low, due to the thick overburden cover. A weak VLF anomaly coincides with HLEM anomaly 'B', however the source of most of the weak anomalies on Lines 400 to 800 East were not detected in the HLEM survey and are likely surficial. The VLF anomalies in this area were the targets of holes 75-1 and 75-2, drilled by Temco Mines Limited in 1975; no conductors were intersected.

MAGNETIC RESULTS

The magnetic results are posted and contoured every 100 nT on Map 4 at a scale of 1:5000. A colour image of the total magnetic field is given in Figure 2 at a scale of 1:12,500.

A linear anomaly, up to 5800 nT above background strikes east-west between 300 and 800 East at approximately 300 North. The steeper gradient and related magnetic low on the north side indicate that the source of the anomaly dips to

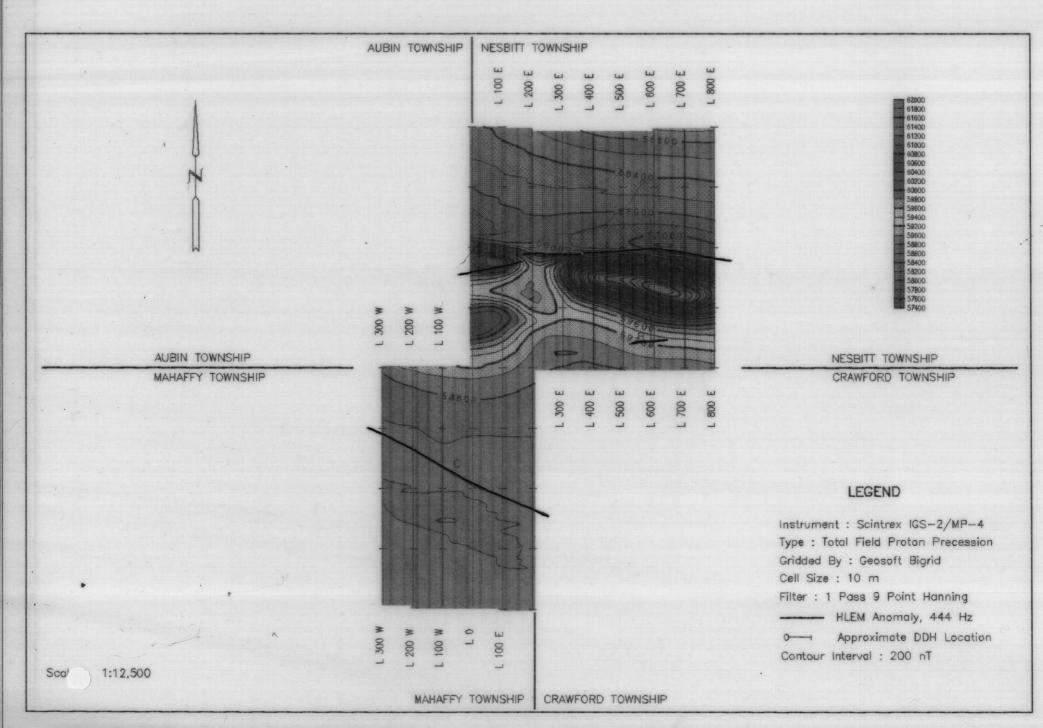


Figure 2: Colour Image of Total Magnetic Field

the south. This agrees with dips interpreted from EM anomaly 'A' which is located along the north flank of the magnetic high. An area of low magnetic field along Line 200 East separates this anomaly from two other linear high anomalies at approximately 150 and 350 North on Lines 0 and 100 East; the source of all three anomalies is likely komatilitic volcanics. To the north of these anomalies the magnetic field increases in response to a source north of the property.

The magnetic field in the south half of the property, in Mahaffy Township, is more uniform. Conductor 'C' is located within an area of low magnetic field which may reflect rhyolites. A broad linear area of slightly higher susceptibility, to the south and parallel to conductor 'C' is likely more basic volcanics.

MARCH 21/94

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REFERENCES

- BRIGHT, E.G. and HUNT, D.S., 1972

 Mahaffy Township; Ontario Department of Mines and Northern
 Affairs, Prelim Map P.740, scale 1 inch to 1/4 mile.
- HUNT, D.S. and MAHARAJ, D., 1980
 Mahaffy Township; Ontario Geological Survey, Prelim Map P.740
 (rev), scale 1 inch to 1/4 mile.
- ONTARIO GEOLOGICAL SURVEY, 1988

 Airborne electromagnetic and total intensity magnetic survey,

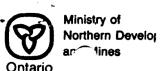
 Timmins Area; by Geoterrex Limited, for Ontario Geological survey, Map 81079, scale 1:20000.

APPENDIX A

Access to Mahaffy/Nesbitt Property

mileage

- 0. Country Style Donut Shop at junction of Highways 655 & 101 head north along Highway 655.
- 22.0 Km Junction of Kidd Creek Minesite road and Highway 655-turn right and continue north along 655.
- 40.4 Km Hydro Dam road turn left heading west.
- 43.3 Km Old Abitibi Camp 40 Road stay to right heading north.
- 44.3 Km Site of the old Camp 40.
- 45.4 Km Turnoff to Hydro Dam keep going north on Camp 40 Road. In the winter a snowmobile must be used beyond this point.
- 45.7 Km 'Y' in the Camp 40 road keep to the left heading west. In summer a 4-wheel drive vehicle is recommended beyond this point.
- 51.0 Km Junction with smaller logging road turn right onto this road heading north.
- As far as you can drive in the summer, at 200 South, 200 West on established grid. East west bush roads at approximately 200 and 400 North allow access to the east side of the property in the winter by snowmobile.





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Personal information collected on this form is obtained under the authority of the Mining Act. This information will be used for correspondence. Questions about this collection should be directed to the Provincial Manager, Mining Lands, Ministry of Northern Development and Mines, Fourth Floor, 159 Cedar Street, Sudbury, Ontario, P3E 6A5, telephone (705) 670-7264.

0241 (03/91)

- Instructions: Please type or print and submit in duplicate.
 - Refer to the Mining Act and Regulations for requirements of filing assessment work or consult the Mining Recorder.
 - A separate copy of this form must be completed for each Work Group.

		•	ims the work is assign	ed to, must accompany	this form.
Re	corded Holder(s)	D.R.P	YKF		Client No. 184975
Ad	dress				Telephone No.
Mir	31 DELA ning Division	HR CRES.	, THORNHILL	ONTARIO 13T	2N3(416) 881-2825 M or G Plan No.
14111	PORCUI	PINE	MAHAFFY	NESBITY TW	PS M or G Plan No.
W	ates fork From: erformed		/92		ARY 30/93
No	ork Performed (Chec	k One Work Group	Only)		
	Work Group			Туре	
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	Physical Work, Including Drilling	211-2011	1100, 11760 E	THECORDE	DATE
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	pone No. (705) 523-50	479 MARC	H 21/94	Certified By (Signature)	127
or	Office Use Only			143	
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	100 OB	Deemled Approval Date	Date Approve	UNIT	11 25 (2)
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Date

Note 2: If work has been performed on patented or leased land, plea

I certify that the recorded holder had a beneficial interest in the patented



Ministry of No n Development and lines

stère du Développement du Nord et des mines

Statement of Costs for Assessment Credit

État des coûts aux fins du crédit d'évaluation

Mining Act/Loi sur les mines

Transaction No./N° de transaction W9460. 00039

 $2 \cdot 15355$

Personal information collected on this form is obtained under the authority of the **Mining Act**. This information will be used to maintain a record and ongoing status of the mining claim(s). Questions about this collection should be directed to the Provincial Manager, Minings Lands, Ministry of Northern Development and Mines, 4th Floor, 159 Cedar Street, Sudbury, Ontario P3E 6A5, telephone (705) 670-7264.

Les renseignements personnels contenus dans la présente formule sont recueillis en vertu de la **Loi sur les mines** et serviront à tenir à jour un registre des concessions minières. Adresser toute quesiton sur la collece de ces renseignements au chef provincial des terrains miniers, ministère du Développement du Nord et des Mines, 159, rue Cedar, 4^e étage, Sudbury (Ontario) P3E 6A5, téléphone (705) 670-7264.

1. Direct Costs/Coûts directs

Туре	Description	Amount Montant	Totals Total global
Wages Salaires	Labour Main-d'oeuvre		
	Field Supervision Supervision sur le terrain		
Contractor's and Consultant's	Type LINECUTTING	3240	
Fees Droits de l'entrepreneur	MAG VLF	1320	
et de l'expert- conseil	HLEM	2100	7980.
Supplies Used Fournitures utilisées	Туре		
Equipment Rental	Туре		
Location de matériel			
	7980		

2. Indirect Costs/Coûts indirects

** Note: When claiming Rehabilitation work Indirect costs are not allowable as assessment work.

Pour le remboursement des travaux de réhabilitation, les coûts indirects ne sont pas admissibles en tant que travaux d'évaluation.

Type	Description Amount Montant	Totals Total global			
Transportation Transport	IMPECEIVED.				
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	RECORDED				
Food and	MAR 2 1 1994				
Lodging Nourriture et hébergement	Receipt	·			
Mobilization and Demobilization Mobilisation et démobilisation					
Sub Total of Indirect Costs Total partiel des coûts indirects					
Amount Allowable Montant admissibl					
Total Value of Ass (Total of Direct and indirect costs)		<i>198</i> 0.			

Note: The recorded holder will be required to verify expenditures claimed in this statement of costs within 30 days of a request for verification. If verification is not made, the Minister may reject for assessment work all or part of the assessment work submitted.

Note: Le titulaire enregistré sera tenu de vérifier les dépenses demandées dans le présent état des coûts dans les 30 jours suivant une demande à cet effet. Si la vérification n'est pas et cours partieus peut piater ser

Filing Discounts

- Work filed within two years of completion is claimed at 100% of the above Total Value of Assessment Credit.
- Work filed three, four or five years after completion is claimed at 50% of the above Total Value of Assessment Credit. See calculations below:

Total Value of Assessment Credit	Total Assessment Claimed
× 0.50 =	

Remises pour dépôt

Les travaux déposés dans les deux ans suivant leur achèvement sont remboursés à 100 % de la valeur totale susmentionnée du crédit d'évaluation PORCUPINE MINING DIVISION

 Les travaux déposés trois, quatre ou cinq ans après leur achèvement sont remboursés à 50 % de la valeur totale du crédit d'évaluation susmentionné. Voir les calculs ci-dessous.

Valeur totale du crédit d'évaluation	Évaluation totale demandée
Talogi totalo da ordan a ordana.	
× 0,50 =	

Certification Verifying Statement of Costs

I hereby certify:

that the amounts shown are as accurate as possible and these costs were incurred while conducting assessment work on the lands shown on the accompanying Report of Work form.

that as	AGENT	l ar	m author	ized
	(Recorded Holder, Agent, Position in Company)			

to make this certification

Attestation de l'état des coûts

J'atteste par la présente :

que les montants indiqués sont le plus exact possible et que ces dépenses ont été engagées pour effectuer les travaux d'évaluation sur les terrains indiqués dans la formule de rapport de travail ci-joint.

Et qu'à titre de	je suis	autorisé
(titulaire enregistré, représentant, poste occupé dans la c	ompagn	ie)

à faire cette attestation.

s	gnature			Date
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Ministry of

and Mines

Ministère du

Northern Development Développement du Nord

et des Mines

Geoscience Approvals Section

933 Ramsey Lake Road

6th Floor

Sudbury, Ontario

P3E 6B5

June 1, 1994

Our File: 2.15355

Transaction #: W9460.00039

Mining Recorder Ministry of Northern Development & Mines 60 Wilson Avenue, 1st Floor Timmins, Ontario P4N 2S7

Dear Sir/Madam:

Subject: APPROVAL OF ASSESSMENT WORK CREDITS ON MINING CLAIMS P.1189177 ET AL IN MAHAFFY & NESBITT TOWNSHIPS

The assessment work credits for Geophysics, Section 14 of the Mining Act Regulations have been approved as outlined on the original submission.

The approval date is June 1, 1994.

If you have any questions regarding this correspondence, please contact Lucille Jerome at (705) 670-5855.

Yours sincerely,

Ron C. Gashinski

Senior Manager, Mining Lands Section Mining and Land Management Branch

Mines and Minerals Division

Resident Geologist

Timmins, Ontario

Assessment Files Library

Sudbury, Ontario

