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# <u>CUMBERLAND RESOURCES LTD.</u> RECONNAISSANCE GEOLOGICAL SURVEY

# SLATE LAKE PROPERTY

NTS: 52K/15 NORTHWESTERN ONTARIO

# 2.16100

# RECEIVED

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THUNDER BAY, ONTARIO JULY 11, 1994 SUBMITTED BY:

M. P. LEWIS GEOLOGICAL SERVICES



52K15NE0004 2 16109 SLATE LAKE

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### SUMMARY

The Slate Lake property is located 60 km northeast of the community of Ear Falls and 90 km east of the mining town of Red Lake in The property is comprised of Northwestern Ontario. nine(9) contiguous unpatented mining claims totalling 44 units covering 4.5 km of prospective base and precious metal stratigraphy. The property, which is owned 100% by Cumberland Resources Ltd. of Thunder Bay , Ontario, covers the eastern and western strike extension of a Cu-Zn rich massive sulphide horizon as well as untested HLEM anomalies. The massive sulphide horizon, which was intersected by 4 closely spaced drill holes in 1979-80 (published intersection of 1.54 % Cu, 5.84% Zn and 0.36 opt Ag/ 0.50 m -Resident Geologist Office, Red Lake), is defined by a 900 meter long HLEM anomaly. This anomaly is covered by six(6) leased mining claims that are currently held by Breakwater Resources Ltd. of Toronto.

A reconnaissance geological mapping and litho sampling program was carried out over Cumberland's Slate Lake property during the period June 16-22, 1994. The purpose of the survey was to confirm the presence of favourable VMS hosting stratigraphy and to define possible hydrothermal alteration associated with an area of known base metal mineralization and areas of untested HLEM anomalies.

A known base metal rich horizon, favourable felsic stratigraphy, and fairly widespread sulphidization warrants a DEEPEM survey over a portion of the Slate Lake property.

#### **1.0 INTRODUCTION**

During the period June 16-22, 1994 a reconnaissance geological survey was carried out over most of the southern half of Cumberland's Slate Lake property. This survey, which was carried out from a camp-site on Papaonga River (PHOTO 1), utilized old grid lines which were established by St. Joe Exploration in 1979. To the north of baseline 0+00 the fairly open jackpine-covered muskeg allows for grid lines to be followed easily. In the south toward Slate Lake a softwood (poplar) ridge (PHOTO 2) with impressive broad-leaf undergrowth have all but eliminated the 15 year old grid lines.

The purpose of the survey was to assess the base metal potential of the Slate Lake property by confirming the presence of favourable VMS hosting stratigraphy and to outline possible hydrothermal alteration probably associated with a known area of mineralization and untested HLEM conductors. During the course of the survey a total of 32 selected rock samples were collected for whole-rock analysis.

## 2.0 LOCATION, SIZE AND ACCESS

The Slate Lake property is located 60 km northeast of the town of Ear Falls and 90 km east of the mining community of Red Lake in Northwestern Ontario (Figure 1).

The property is comprised of nine(9) contiguous unpatented mining claims, totalling 44 units, covering 4.5 km of prospective VMS and precious metal hosting stratigraphy.

Access to the property area is provided by an all-weather logging road to within 0.5 km to Slate Lake and then by motorized boat or snowmobile to the southern portion of the property.

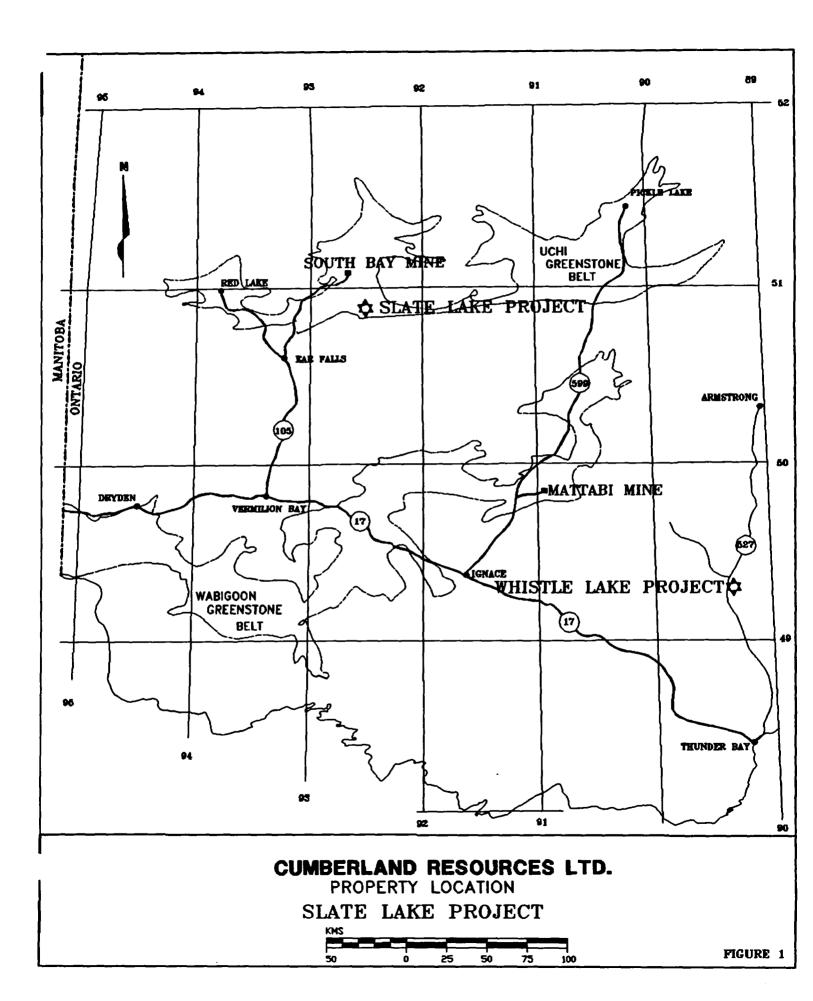
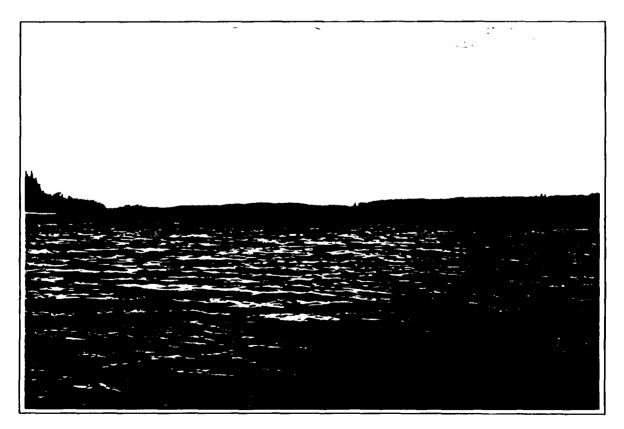




PHOTO 1: CAMPSITE NEAR PAPAONGA RIVER



**PHOTO 2:** TYPICAL TOPOGRAPHY ALONG THE NORTH SHORE OF SLATE LAKE. CUMBERLAND'S SLATE LAKE PROPERTY IN THE BACKGROUND.

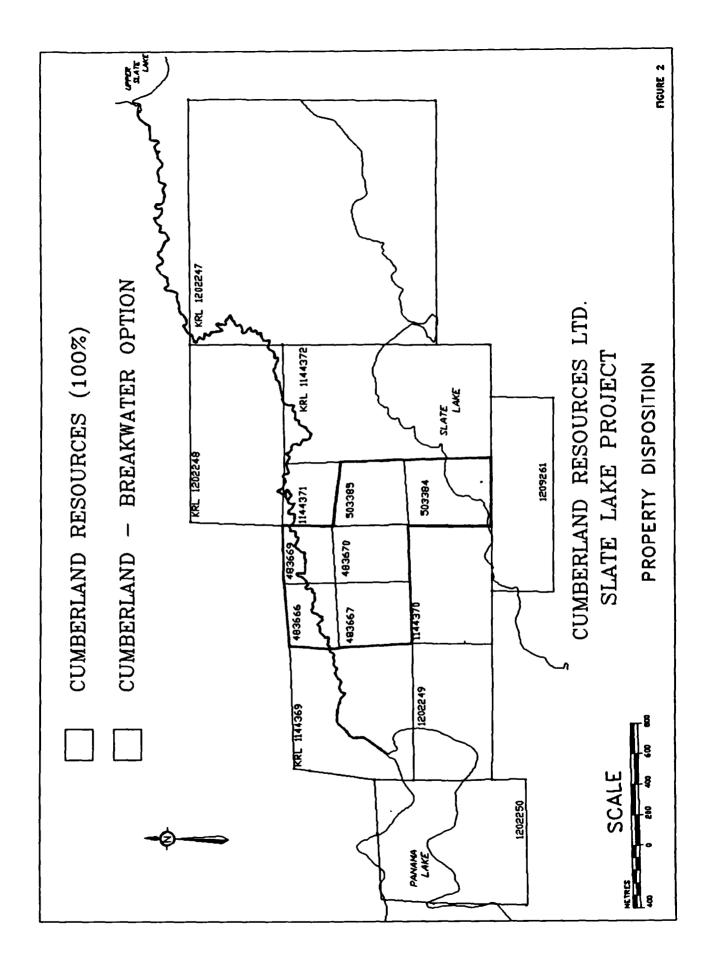
## 3.0 PROPERTY SUMMARY AND CLAIM DISPOSITION

The Slate Lake property is 100% wholly owned by Cumberland Resources Ltd. of Thunder Bay, Ontario. The claims are located in the Slate Lake Area, Map Sheet G-1884 and consists of 9 contiguous mining claims (Figure 2).

CLAIM BLOCK	NO. OF UNIT	S RECORDING DATE
1144369	4	March 16, 1994
1144370	2	March 16, 1994
1144371	1	March 16, 1994
1144372	6	March 16, 1994
1202247	16	March 18, 1994
1202248	6	March 18, 1994
1202249	2	March 18, 1994
1202250	4	March 18,1994
1209261	3	June 22,1994
	TOTAL 44	

TABLE I: SCHEDULE OF CLAIMS

The claims were initially acquired to cover the eastern and western strike extension of a known massive sulphide horizon currently held by Breakwater Resources. Also obtained during the course of the staking was a number of untested HLEM anomalies which are located some 2.5 km to the east of the main area of interest.



Page 6

### 3.0 RESULTS OF PREVIOUS WORK:

In 1979 St. Joseph Exploration Ltd., the predecessor to Breakwater Resources, carried out a regional airborne survey over the Slate Lake area. Subsequent ground follow-up, which included geological mapping, magnetometer and HLEM survey and diamond drilling, resulted in the discovery of a high-grade massive sulphide horizon immediately east of Panama Lake and north of Slate Lake.

In 1979 two holes were drilled 100 m apart to test a 900 m long HLEM anomaly. The first of two holes drilled in 1979 (3-79) encountered a banded massive sulphide horizon at a vertical depth of 50 m which assayed 1.84% Cu and 5.84% Zn over 0.50 m (Assessment records-Red Lake). Two holes were also drilled in 1980, one of which has been filed for asessment credits. Hole 2-80, which is located 100 m west of hole 3-79, intersected 0.52 % Cu and 1.75 % Zn over 0.60 m. Although Breakwater Resources continue to hold the six(6) leased mining claims that cover most of the 900 meter long conductor, no further work is believed to have been carried out since 1980.

# 5.0 REGIONAL GEOLOGY:

The Slate Lake property is situated in the southern part of the Archean Birch Lake - Uchi Lake Greenstone Belt, an east-trending assemblage of metavolcanics and metasedimentary rocks. The metavolcanics-metasedimentary rocks of the immediate Slate Lake area are correlated with Cycle I and Cycle II volcanics of the Confederation Lake assemblage. The geology map produced by the Ontario Geological Survey in 1980 indicates the Slate Lake property is underlain by northeast - southwest tending, south dipping and south facing, 1000 m thick succession of felsic to intermediate pyroclastic rocks which are overlain to the north by mafic volcanics.

The fissile and carbonatized nature of the mafic volcanics adjacent to Slate Lake strongly suggest that a major structure controls the topography and the emplacement of the large bodies of water in the area.

### 6.0 PROPERTY GEOLOGY AND MINERALIZATION

A variety of major rock types were recognized on the Slate Lake property during the course of the reconnaissance mapping program (Figure 3).

#### DESCRIPTION OF LITHOLOGIES

#### 6.1 LAKESHORE ANDESITE (LA)

This particular unit is at least 500 meters in thickness and is exposed along the entire strike length of the north shore of Slate Lake. The most common characteristic of all exposures of the LA is its strongly developed schistosity which result in the unit being extremely fissile. The rock is typically fine-grained, dark green, with well-developed chlorite and carbonate alteration.

Chemically the Lakeshore andesite averages 45.90% SiO2, 1.33% TiO2 and 2.43% Na2O.

### 6.2 RIDGE ANDESITE (RA)

Stratigraphically below the Lakeshore andesite is a second mafic volcanic unit that is being termed the Ridge andesite. This unit, which extends across the entire strike length of the property, is characteristically massive, fine to medium grained and is a lime green in colour. Personal communications with a ex-employee of St. Joe Exploration pinpointed the location of a rock formation that had previously been named the Pea Rhyolite. This outcrop is located on the shoreline of Slate Lake and consists of well -developed spherules in chloritized Ridge Andesite. These spherules are generally clustered, are a light grey in colour and range up to 1 cm in diameter (PHOTO 3).

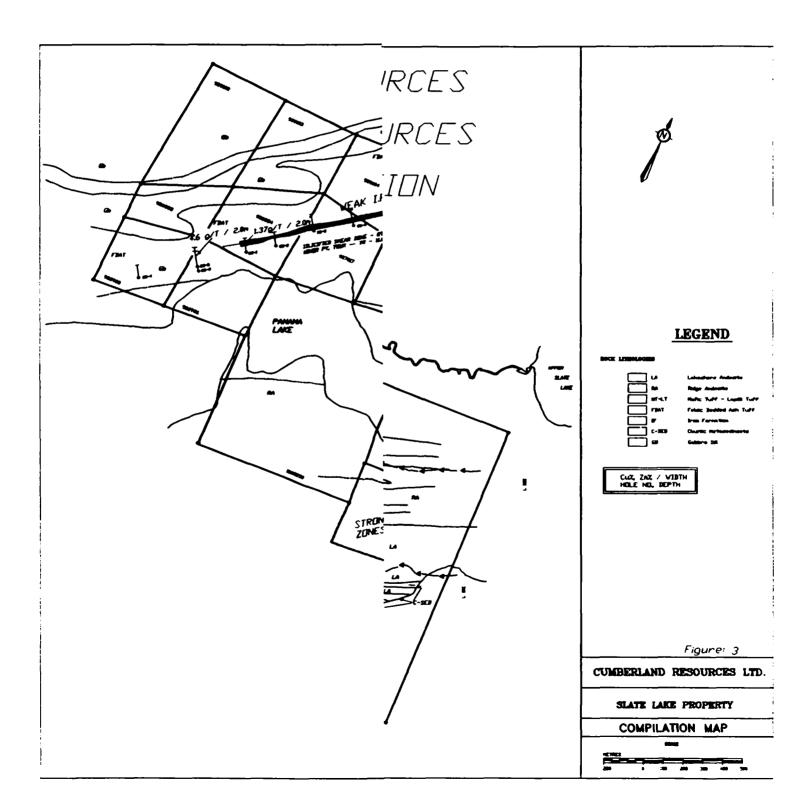
Alteration is minimal with the possible exception of local chloritization and carbonitization.

The Ridge andesite is chemically different from the Lakeshore andesite in that its TiO2 content is consistently less than 1.00% with SiO2 averaging 46.90%.

### 6.4 MAFIC BEDDED ASH TUFF (MT-LT)

The only exposures of this unit are located in the most eastern claim immediately north of baseline 0+00. These rocks are being correlated with banded tuffs that are described in the ST. Joe 1979-80 drill holes. The MT-LT unit is finely bedded, generally fine grained and medium to dark green in colour. The weathered surface of outcrops display local stretched and elongated light and dark lapilli-sized fragments. These fragments are likely boudinaged portions of more silica rich beds.

The Mt-LT unit averages 47.65% SiO2, 1.93% TiO2 and 2.57% Na2O.



#### 6.5 FELSIC BEDDED ASH TUFF (FBAT)

Felsic Bedded Ash Tuff occupy the footwall and possibly the host to the base metal-rich massive sulphide horizon discovered by St.Joe Exploration in 1979. These exposures are located south of Panama Creek and are the only rock exposures in the immediate vicinity of the St.Joe Horizon.

The FBAT consists of predominantly fine grained, finely laminated, waterlain ash tuff with local interbeds of fine chert laminae. The laminae range from mm's to cm's in size and are light grey to a very pale green in colour (PHOTOS 4 & 5).

The most easterly exposure contain a coarse fragmental texture comprised of block-size, chert-like fragments in a seemingly sericitic matrix (PHOTO 6). This in-situ type fragmentation is characteristic of the bedded ash tuffs which host Metall's Winston Lake deposit. Rare sulphide burns caused by patchy fine grained pyrite can be observed in most of the FBAT outcrop exposures (PHOTO 7).

Detailed mapping will undoubtedly define a number of internal stratigraphic units within the FBAT. Of the five samples collected for whole-rock analysis SiO2 ranged from 68.10 to 78.90 (av. 72.86%), average TiO2 is 0.27% ranging from 0.18 to 0.36%, with average Na2O in the order of 3.90%

### 6.6 INTRUSIVE ROCKS: GABBRO

A number of gabbro sills intrude the eastern portion of the Ridge andesite. These discrete sills are massive, medium green and display a spotted texture caused by evenly disseminated sub 2mm porphyroblasts of dark green amphibole. Chemically these gabbro sills average 47.62% SiO2, and 1.08% TiO2.

Known mineralization on the Slate Lake property is confined to the St. Joe Horizon and adjacent patchy sulphide mineralization (finegrained pyrite) in felsic bedded ash tuffs. Mineralization contained in the St.Joe horizon is described under section 3.0 **RESULTS OF PREVIOUS WORK.** A number of HLEM anomalies in the eastern half of the property have yet to be drilled tested but most likely define zones of sulphide mineralization.

## 7.0 WHOLE-ROCK GEOCHEMISTRY - ALTERATION

During the course of the June, 1994 reconnaissance mapping survey, a total of 32 rock samples were collected for the purpose of wholerock analysis. These samples were analyzed for various major, minor and trace elements by Chemex Labs of Vancouver, B.C. Analytical results are appended as Appendix 1.

No visual hydrothermal alteration was observed during the course of the mapping program. Whole-rock geochemistry confirmed the lack of such alteration on the Slate Lake property. A standard exercise of determining alteration scores or alteration indices failed to define any anomalous values (Table 2).

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**PHOTO 3:** SPHERULITIC RIDGE ANDESITE. OUTCROP LOCATED AT L7+20-E, 3+80-S. SAMPLE # MSD-12931 SiO2= 43.60%, TiO2= 0.59%



PHOTO 4: FELSIC BEDDED ASH TUFF. FOOT WALL AND POSSIBLE HOST TO THE ST. JOE HORIZON. SAMPLE # MSD-12926. SiO2=75.60, TiO2= 0.25%



**PHOTO 5:** FELSIC ASH TUFF WITH LOCAL BEDS OF FINE CHERT LAMINAE. SAMPLE # MSD-12928 SiO2= 71.70%, TiO2= 0.35%



**PHOTO 6:** CHERTY FRAGMENTS IN A FINE GRAINED SERICITIC MATRIX. SAMPLE # MSD-12929 SIO2= 78.90%, TiO2= 0.18%



**PHOTO 7:** FAINT SULPHIDE BURNS IN A FELSIC ASH TUFF. SAMPLE SITE # MSD-12928

# 8.0 CONCLUSIONS and RECOMMENDATIONS:

Favourable geology in the form of felsic bedded ash tuffs and cherty lapilli tuff, iron metasomatism (sulphide burns) and significant base metal values associated with a 900 meter long massive sulphide horizon combine to make the Slate Lake area a very exciting base metal play.

The presence of above noted VMS forming criteria justify carrying out a DEEPEM geophysical survey over a portion of the Slate Lake property.

Respectively submitted,

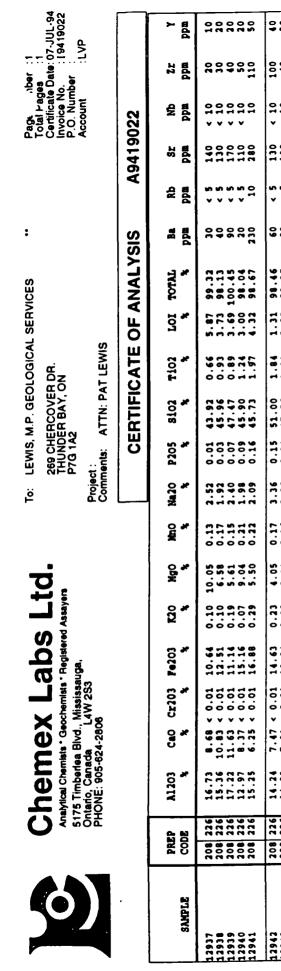
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Patrick Lewis

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# APPENDIX 1

ANALYTICAL RESULTS - CHEMEX LABS



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SAMPLE	PREP CODE	A1203	CaO \$	Cr203	r•203 %	<b>R2</b> 0 <b>*</b>	MgO \$	N OHN	Na 20 P.	P205 8	sio2 1 *	rio2 *	1 IOI 1	TOTAL	Ba Ppm	Rb Pp <b>n</b>	Sr ppm	qN Mqq	Zr Ppm	Y ppm
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**Chemex Labs Ltd.** Analytical Chemists \* Geochemists \* Registered Assayen 5175 Timberdea Blvd., Mississauga, Ontario, Canada L4W 283 PHONE: 905-624-2808

LEWIS, M.P. GEOLOGICAL SERVICES <u>т</u>о:

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STATEMENT OF QUALIFICATIONS

APPENDIX 2

# STATEMENT OF QUALIFICATIONS

I, M.P. Lewis, hereby certify that:

- 1. I am a practicing Geologist and sole proprietor of M.P. (Pat) Lewis Geological Services, with an office at 269 Chercover Drive, Thunder Bay, Ontario.
- 2. I am a graduate of Memorial University of Newfoundland (1976) with a Bachelor of Science Degree Major in Geology.
- 3. I have practiced my profession as an Exploration Geologist continuously for the past 17 years.
- 4. I have an indirect interest in the Properties described in this report.

at Lewis Signature: M.P. Lewis

Date:

### REFERENCES

Degagne, Paul 1987: Report of Work. Panama Lake Property -Noranda Exploration Company Ltd.

Rayner, Wally, 1979: Geology Map. St.Joe Exploration

	Ministry of	F
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# **Report of Work Conducted** After Recording Claim **Mining Act**

Transaction Number N9520 · 000 44

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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. **2.** 16109

Instructions: -	Please	type or	print	and	submit	in	duplicate.
-----------------	--------	---------	-------	-----	--------	----	------------

- Refer to the Mining Act and Regulations fr Recorder.
- A separate copy of this form must be corr
- Technical reports and maps must accomp - A sketch, showing the claims the work is

-	52K15NE0004 2 16109 SLATE LAKE	900
Recorded Holder(s)	1	Client No.
CUMBERLAND RESOURCES	D	Telephone No.
74 WINNIPEG AVE, THUNDE	ER BAY ONT 3P9	807-344-6598
Mining Division Township/Area SL	ATE L.	M or G Plan No. G-/884
Detes Work From: JUNE 16 /94	TO: JUNE	22,1994

Work Performed (Check One Work Group Only)

Work Group	Туре
L Geotechnical Survey	GROLOGICAL - WHOLE ROCK.
Physical Work, Including Drilling	
Rehabilitation	RECEIVED
Other Authorized Work	JUL 17 (395
Assay <del>s</del>	MINING LANDS BRANCH
Assignment from Reserve	8
Total Assessment Work	Claimed on the Attached Statement of Costs \$ 72,492

Note: The Minister may reject for assessment work credit all or part of the assessment work submitted if the recorded holder cannot verify expenditures claimed in the statement of costs within 30 days of a request for verification.

# Persons and Survey Company Who Performed the Work (Give Name and Address of Author of Report)

Name	Address	
M.P. LEWIS GEOLOGICAL	269 CHERCOJER DR.	
	THUNDER BAY, ONT	
	P76 1A2	

# attach a schedule if necessary)

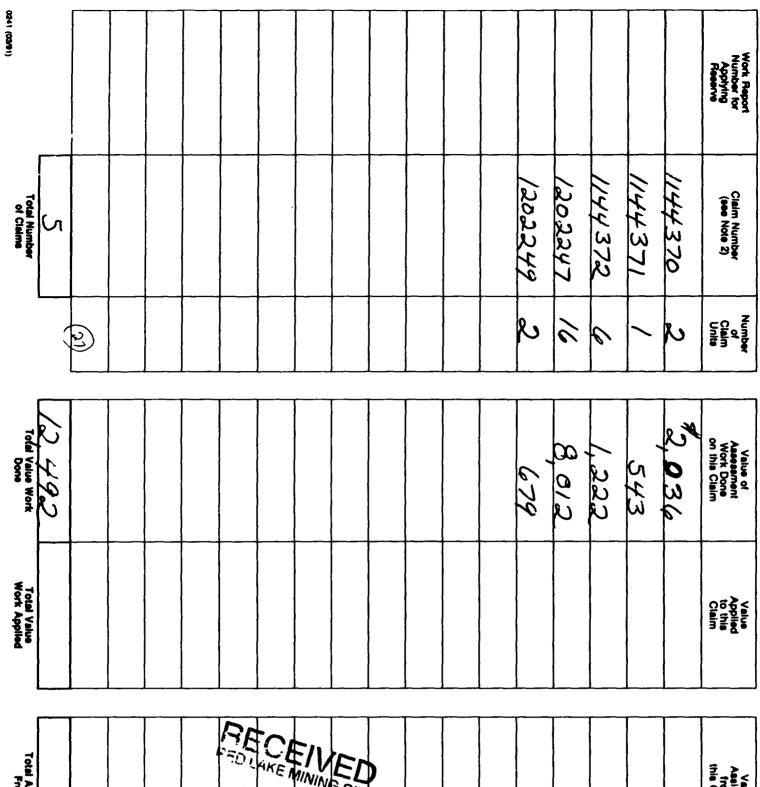
# Certification of Beneficial Interest \* See Note No. 1999 Werse side

I certify that at the time the work was performed, the claims covered in this next	Date	Recorded Holder or Agent (Signature)
report were recorded in the current holder's name or held under a beneficial into:/.st by the current recorded holder.	APON 2500	Hat Linus
	TITKIL ~775	ALLEN ALLEN

# **Certification of Work Report**

I certify that I have a personal knowledge of the facts set forth in this Work report, having performed the work or witnessed same during and/or after its completion and annexed report is true. Name and Address of Person Certifying

PAT LEW	15 269 CHERCON	IRR DRIVE T.B. Certified By (Signature)	ONT.
Felepone No.	Date	Certified By (Signature)	2
807-767-0	259 APRIL 25/	195 Nat.	Leuns PMG-1A2
or Office Use Only		la	RECEIVED
Total Value Cr. Recorded	Date Recorded	Mining Recorder	Received Stamp
0 <sup>0</sup>	11.1. 11 1995	Carbara homos	RED LAKE MINING DIV.
1 in	Defend Approval Date	Date Approved	JUL 1 1 1995
R 192.			
11,7	(October 9, 1795		<b>7.9.0.10.11.19.1.0.9.4</b> E.0
しかり	Date Notice for Amendments Sent		718191111211213141516



Total Assigned From			AM 7,8,	ישר: שנושיים פונושיים	1995 1314,		•							Value Assigned from this Claim
Total Reserve						275			\$674	$\hat{\theta}, c/2$	1, 222 PZ	543	2036	Reserve: Work to be Claimed at a Future Date

Credits you are claiming in this report may be cut back. In order to minimize the adverse effects of such deletions, please indicate from which claims you wish to priorize the deletion of credits. Please mark ( $\sim$ ) one of the following:

1. Credits are to be cut back starting with the claim listed last, working backwards.

2. Credits are to be cut back equally over all claims contained in this report of work.

3. Credits are to be cut back as priorized on the attached appendix.

In the event that you have not specified your choice of priority, option one will be implemented.

Note 1: Examples of beneficial interest are unrecorded transfers, option agreements, memorandum of agreements, etc., with respect to the mining claims.

Note 2: If work has been performed on patented or leased land, please complete the following:

I certify that the recorded holder had a beneficial interest in the patented	Signature	Date
or leased land at the time the work was performed.	Pat Leun	JULY 7/95



Ministry of Northern Development and Mines

Ministère du Développement du Nord et des mines

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# Statement of Costs for Assessment Credit

# État des coûts aux fins du crédit d'évaluation

Mining Act/Loi sur les mines

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<sup>e</sup> étage, Sudbury (Ontario) P3E 6A5, téléphone (705) 670-7264.

Transaction No./Nº de transaction

000 44

W9520.

## 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.

Туре	Descrip	tion	Amount Montant	Totais Total globai			
Transportation Transport	Туре		501				
			·				
Food and Lodging Nourriture et hébergement	GROC		\$ 521				
Mobilization and Demobilization Mobilisation et démobilisation							
	Sub Tot Total partiel	tal of Indir des coûts		1,223			
	Amount Allowable (not greater than 20% of Direct Costs) Montant admissible (n'excédant pas 20 % des coûts directs)						
Total Value of Asse (Total of Direct and I Indirect costs)	12,492						

Note : Le titulaire enregistré sera tenu de vérifier les dépenses demandées dans le présent état des couts dans les 30 jours suivant une demande à cet effet. Si la vérification n'est pas effectuée, le ministre peut rejeter tout ou une partie des travaux d'évaluation présentés.

# Remises pour dépôt

- 1. Les travaux déposés dans les deux ans suivant leur achèvement sont remboursés à 100 % de la valeur totale susmentionnée du crédit d'évaluation.
- 2. 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	Evaluation totale demandée	
× 0,50 =		

# 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 compagnie)

à faire cette attestation.

t. Lun July 7/95

# 1. Direct Costs/Coûts directs

Туре	Description	Amount Montant	Totals Total global
Wages Salaires	Labour Main-d'oeuvre		
1	Field Supervision Supervision sur le terrain	1289	1289
Contractor's	Туре	, ,	
and Consultant's	GEOLOGICAL	7,668	
Droits de l'entrepreneur	CHEMEX LABS	7,648 1,404	
et de l'expert- conseil	ANALY SI S		9,072
Supplies Used Fournitures utilisées	Туре	<b>*</b> 659	
			659
Equipment Rental Location de matériei	type BOAT & MOTOR	249	
			249
	Total Die Total des coù	rect Costs	11 269

Note: The recorded holder will be required to verify expenditures claimed in this statement of costs within 30 days of a percent for work date of the verification is not made, the Minister mapping for assessment work submitted.

AM

JUL 1 1 1995

**Filing Discounts** 

- 7,8,9,10,11,12, 2,9,7 1. Work filed within two years of completion is claimed at **1004,0**,6 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 =			

# **Certification Verifying Statement of Costs**

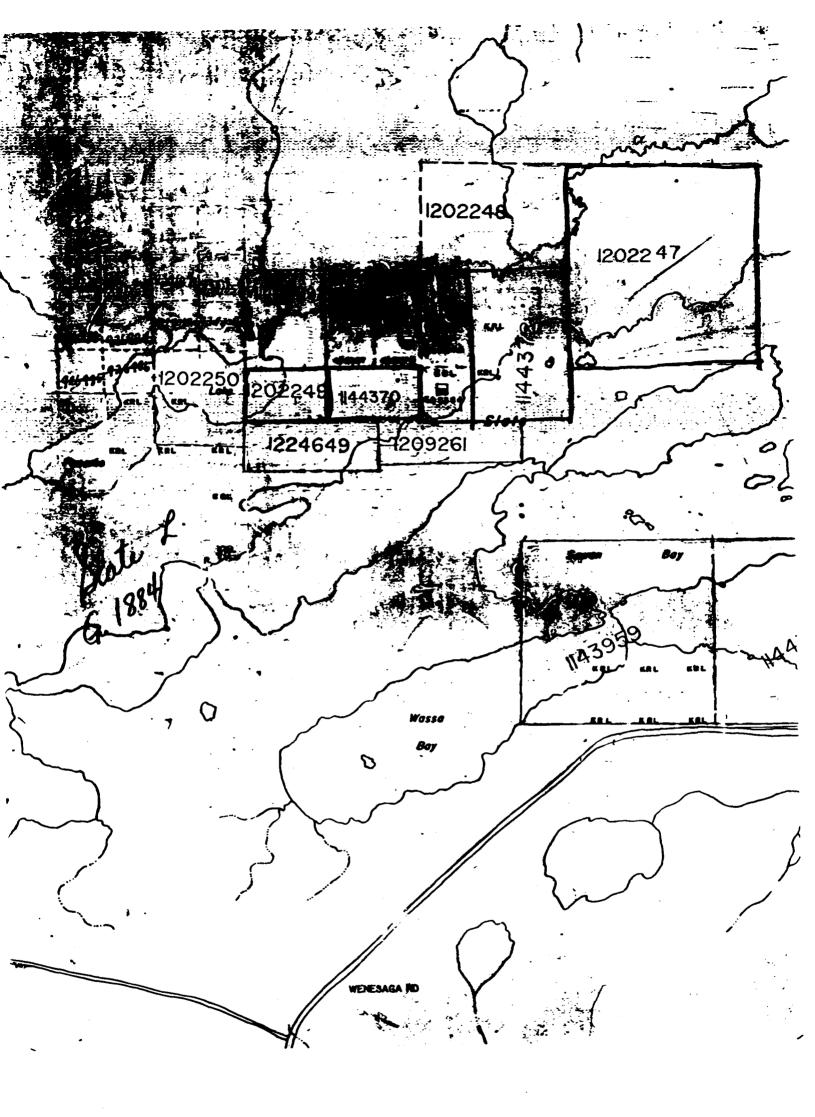
I hereby certify:

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.

AGENT - GEOLOGIST I am authorized that as

to make this certification

Nota : Dans cette formule, lorsqu'il désigne des personnes, le masculin est utilise au sens





Ministry of Northern Development and Mines Ministère du Développement du Nord et des Mines

Geoscience Approvals Office 933 Ramsey Lake Road 6th Floor Sudbury, Ontario P3E 6B5

Telephone: (705) 670-5853 Fax: (705) 670-5863

November 22, 1995

Our File: 2.16109 Transaction **#**: W9520.00044

Mining Recorder Ministry of Northern Development & Mines Ontario Government Building 227 Howey Street Box 324 Red Lake, Ontario POV 2M0

Dear Mr. Rivett:

# RE: APPROVAL OF NOTICE OF REDUCTION ISSUED FOR ASSESSMENT WORK REPORTED ON MINING CLAIMS 1144370 ET AL. IN SLATE LAKE AREA

The assessment work credits, as outlined on the attached report of work form, have been approved as of November 20, 1995. The credits have been approved under Section 12 (Geology) of the Mining Act Regulations.

If you have any questions regarding this correspondence please contact Steven Beneteau at (705) 670-5855.

ORIGINAL SIGNED BY:

loncoalin .

Ron C. Gashinski Senior Manager, Mining Lands Section Mining and Land Management Branch Mines and Minerals Division

SBB/

SBB/jl Enclosure:

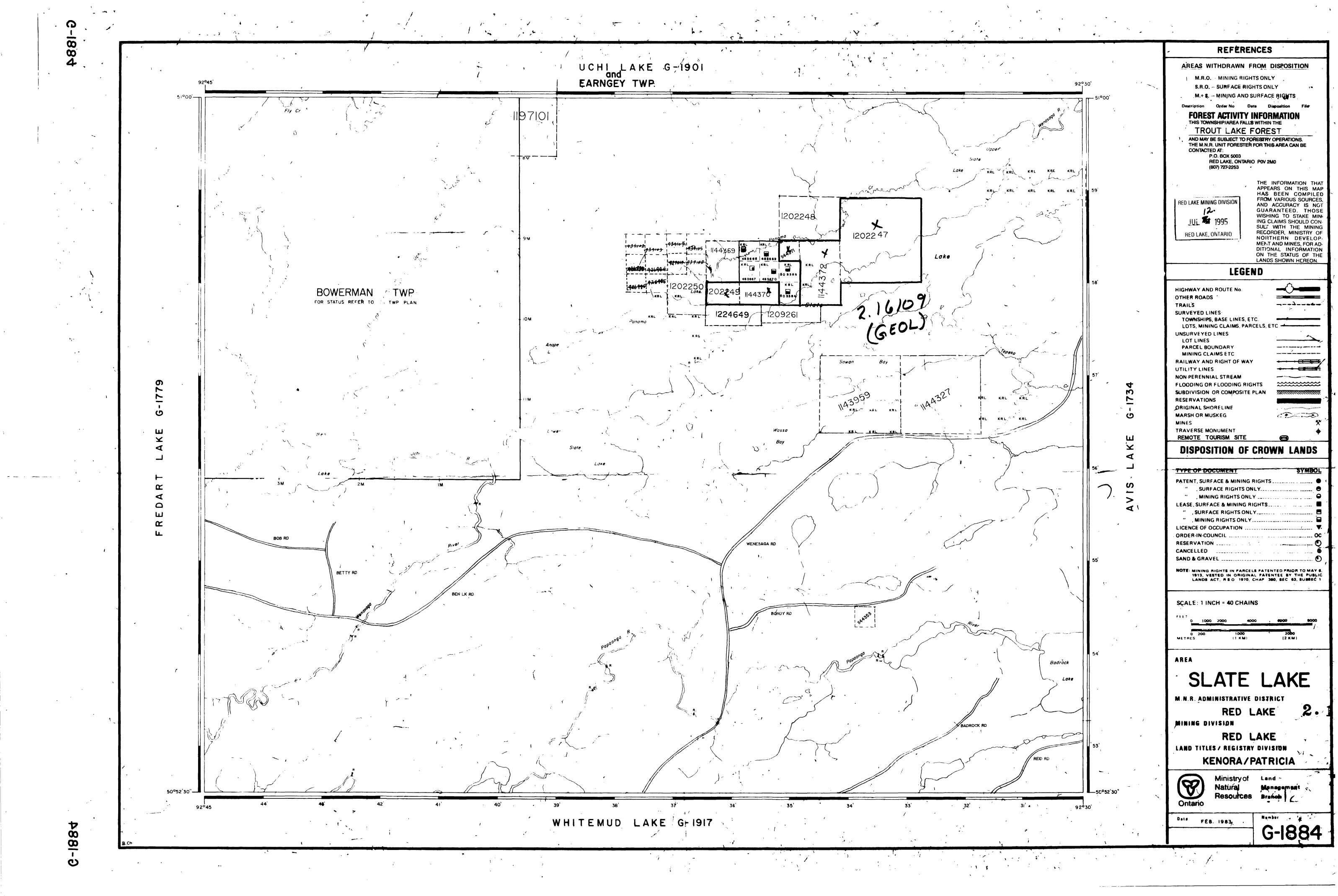
cc:/Assessment Files Office Sudbury, Ontario

Resident Geologist Red Lake, Ontario

# VALUE OF ASSESSMENT WORK PERFORMED ON MINING CLAIMS

NOVEMBER 20, 1995 FILE NUMBER 2.16109 TRANSACTION NO. W9520.00044

CLAIN NUMBER	VALUE OF ASSESSMENT WORK DONE ON THIS CLAIN
1144370	\$1,433.00
1144371	\$ 358.00
1144372	\$ 896.00
1202247	\$5,733.00
1202249	\$ 538.00
	TOTAL \$8,958.00





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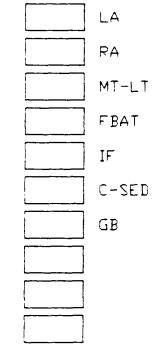
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# **ROCK LITHOLOGIES**



Lakeshore Andesite Ridge Andesite Mafic Tuff - Lapilli Tuff Felsic Bedded Ash Tuff Iron Formation Clastic Metasediments Gabbro Sill

# MINERALOGY

ser	sericite	sil	siliceous	сру	chalcopyrite
mus	muscovite	cai	calcite	sph	sphalerite
sillim	sillimanite	act	actinoli <b>te</b>	РУ	pyrite
andal	andalusite	cord	condienite	po	pyrrhotite
bio	biotite	anth	anthophyllite	gal	galena
gnt	garnet	chi	chlorite	gahn	gahnite
diop	diopside	phiog	phlogopite	calsil	calcsilicates

# SYMBOLS Geology

Geological Cont
Lineament
Property Bound
Fault
Outcrops
Sulphide Boulde
Diamond Drill Ho
HLEM Conductor

$\checkmark$	Foliation
~	S <sub>1</sub> Foliation
LAN	S <sub>2</sub> Foliation
$\checkmark$	Bedding
~~	Lineation
>	L <sub>1</sub> Lineation
×	L <sub>e</sub> Lineation
20	Pillows (tops known, unkno
A	Kink Fold, axial trace
K	'S' Fold, axial trace
*	

 $\checkmark$  Fold, trend & plunge of hinge lir

# CUMBERLAND RESOURCES LTD.

