



42A04NW8556 2.8587 KENOGAMING

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Induced Polarization - Resistivity Report  
of the  
Kenogaming Township Property

for

GLEN AUDEN RESOURCES LIMITED

**RECEIVED**

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**MINING LANDS SECTION**

by

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December 2, 1985



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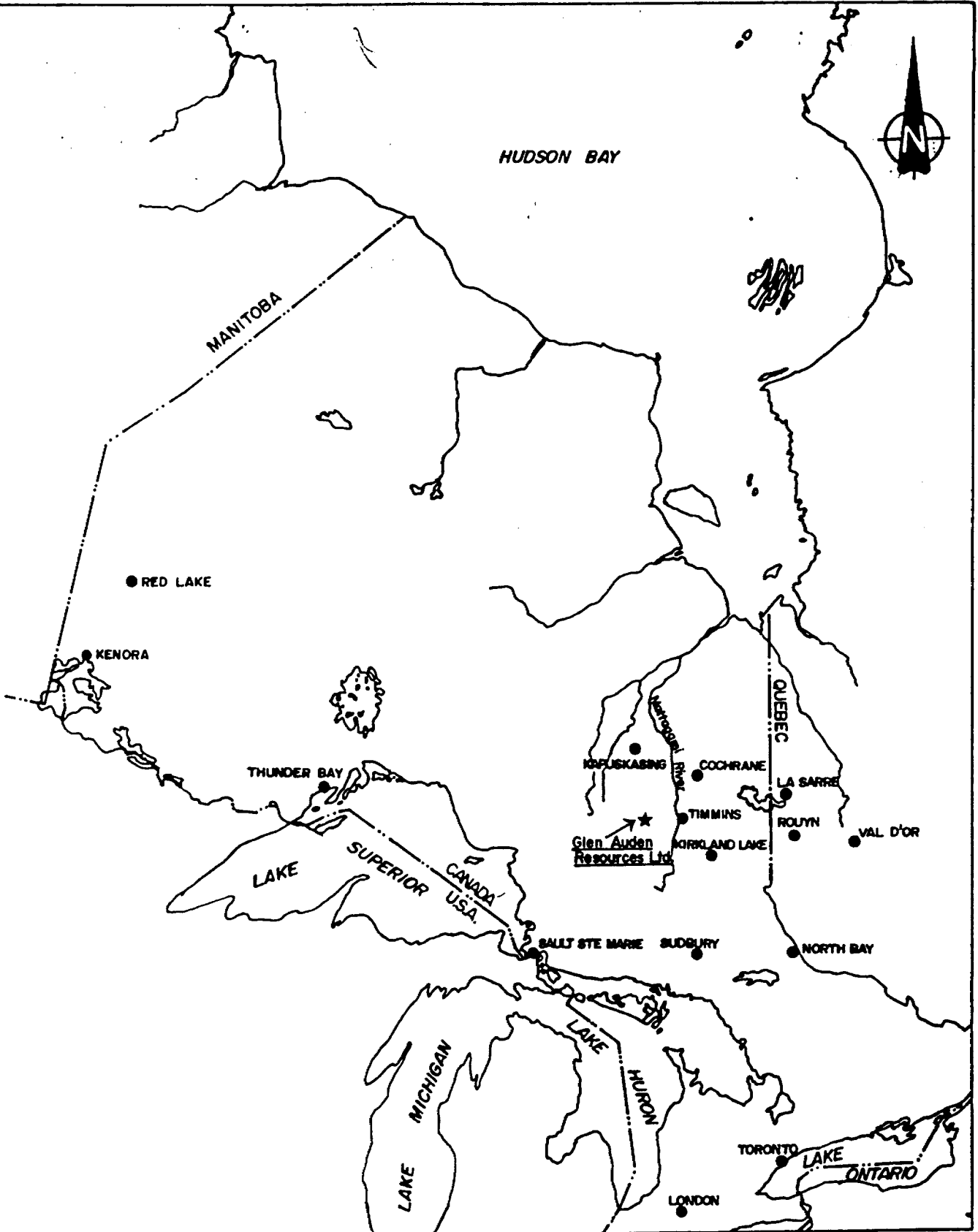
## INTRODUCTION

An induced polarization-resistivity survey was conducted between August 7 to August 17, 1985 on the Kenogaming Township property, for Glen Auden Resources Limited. The property consists of forty-three contiguous unpatented mining claims, located in the north central part of Kenogaming Township, District of Sudbury (figures 1 and 2). The property consists of claims S 683103 to S 683145, inclusive.

It is the purpose of this report to discuss the findings of the detailed induced polarization survey and to correlate these findings with data obtained from an earlier IP survey. Recommendations including drilling targets are included and follow discussion of this material.

## LOCATION AND ACCESS

The Glen Auden Resources claim group is located in the north central portion of Kenogaming Township, District of Sudbury, Ontario. The property is approximately 40 miles southwest of Timmins, Ontario and approximately 20 miles east of the town of Foleyet, Ontario. The property is accessible by the Kenogaming Logging Limited all-weather gravel road which branches off Highway 101 about 10 miles west of Joe's Halfway House on the Opishing River. The property is about 2 miles east of the east fork in the Kenogaming Logging Road which is about 5 miles south



REVISIONS	<b>ROBERT S. MIDDLETON EXPLORATION SERVICES INC.</b>		
	for Glen Auden Resources Ltd.		
	Title PROVINCE OF ONTARIO Location Map		
	FIG. 1		
	Date: Nov. 1985	Scale: 1:10 000 000	N.T.S.:
	Drawn: C.G.	Approved:	File: M-71

SEWELL TWP.  
KENOGAMING TWP.

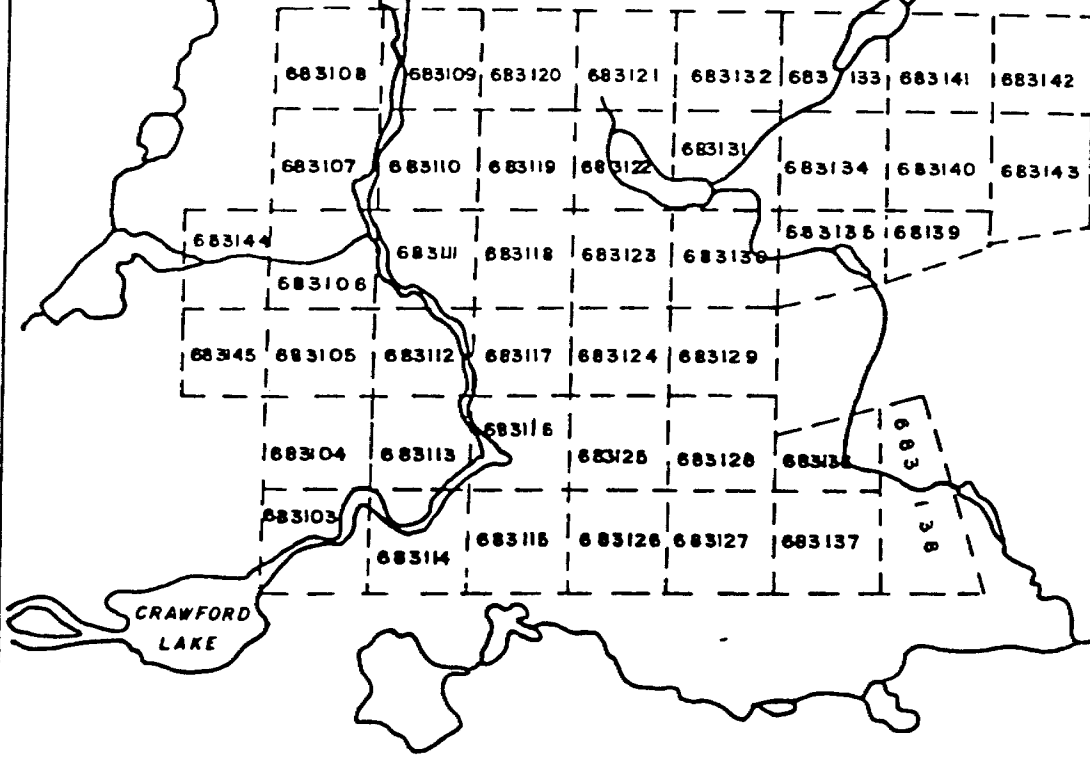
DEER FOOT  
LAKE

RIVER

CRAWFORD



AKWESKWA  
LAKE



REVISIONS	ROBERT S. MIDDLETON EXPLORATION SERVICES INC.		
	Glen Auden Resources Ltd.		
	Title		
	CLAIM INDEX		
	Fig. 2		
	Date: Nov. 1985	Scale: 1" = 2640'	N.T.S.
	Drawn: C.G.	Approved:	File: M-71

of Highway 101.

## DISCUSSION OF INDUCED POLARIZATION - RESISTIVITY SURVEY

### Survey Dates and Statistics

An induced polarization-resistivity survey was carried out from August 7 to August 17, 1985, over selected areas of the property to further delineate the known mineralized zone and to trace out other possible mineralized zones. The crew consisted of Chris Jones, Cliff Kubishski, Ron McNeil and Francois Bonhomme. A total of 5.5 miles of surveying was done on the property, giving a total of 1,655 readings. The IP survey was done using a Scintrex IPR II receiver and a TSQ 3 transmitter (3.0 Kwatt). An "a" spacing of 100 feet was used with "n" = 1, 2, 3, 4, 5 and 6 in a pole-dipole array configuration. This gave theoretical survey depths of up to 300 feet which should be sufficient to explore to bedrock in all areas of the property. The data is presented as contoured pseudosections for chargeabilities (mv/v) and resistivity (ohm/m).

### Interpretation of Induced Polarization - Resistivity Survey

Detailed IP profiles were run in order to better outline an anomalous chargeability zone that reflects the presence of a pyritic sericite schist found during the geological mapping by Middleton Exploration (1984).

The survey outlined the mineralized schist zone in the following areas following area:

- (a) L6E, 16 + 50S to 24 + 75S
- (b) L10E, 20 + 00S to 25 + 00S
- (c) L18E, 29 + 00S to 30 + 50S
- (d) L22E, 28 + 50S to 31 + 50S
- (e) L24E, 28 + 00S to 31 + 50S
- (f) L26E, 28 + 00S to 32 + 75S
- (g) L30E, 29 + 00S to 34 + 25S
- (h) L34E, 33 + 00S to 35 + 00S
- (i) L36E, 34 + 00S to 35 + 00S
- (j) L16W, 14 + 00S to 16 + 75S
- (k) L24W, 15 + 75S to 16 + 75S

Several other chargeability anomalies appear to be caused by ultramafic rocks containing disseminated magnetite crystals and gabbroic intrusions containing magnetite.

TABLE 1 INDUCED POLARIZATION SURVEY, LOCATION AND DESCRIPTION  
OF IP CHARGEABILITY ANOMALIES, GEOLOGY

Line	Distance Surveyed	Width of Anomaly	Location of Anomaly and N1 Peak	Chargeability Peak (m volts/volt)	Extrapolated Geology
L6E (Fig.5)	9+00S -29+00S	825 ft.	16+50S to 24+75S Peak = 17+00S	N1 = 8.7 N4 = 16.1 N2 = 12.5 N5 = 15.5 N3 = 14.3 N6 = 16.9	Felsic metavolcanics- sericite schist?
L10E (Fig.6)	14+00S - 29+00S	a) 500 ft. b) 25 ft.	20+00S to 25+00S Peak = 9.2 28+25S	N1 = 9.2 N4 = 16.4 N2 = 12.2 N5 = 17.1 N3 = 14.5 N6 = 17.5	a) Felsic metavolcanics- sericite schist? b) ultramafics
L18E (Fig.7)	29+00S -39+00S	a) 150 ft. b) 150 ft.	a) 30+50S to 29+00S b) 37+75S to 39+00S Peak a = 5.8 weak Peak b = 4.3 weak	N1 = 5.8 N1 = 4.3 N2 = 7.0 N2 = 3.0 N3 = 9.2 N3 = 10.0 N4 = 8.9 N4 = 15.1 N5 = 9.3 N5 = 5.2 N6 = 9.5 N6 = 7.6	a) felsic metavolcanics - sericite schist b) ultramafics
L22E (Fig.8)	28+00S - 44+00S	a) 300 ft. + b) 175 ft.	a) 28+50S to 31+50S Peak = 15.8 b) 42+25S to 44+00S Peak = 18.8	a)N1 = 15.8 b)N1 = 18.8 N2 = 15.5 N2 = 26.4 N3 = 12.0 N3 = 31.2 N4 = 12.4 N4 = 33.3 N5 = 11.7 N5 = 34.0 N6 = 10.6 N6 = 34.7	a) sericite schist -pyrite b) ultramafic
L24E (Fig.9)	28+00S - 34+00S	350 ft.	28+00S to 31+50S Peak = 17.9	N1 = 17.9 N4 = 18.3 N2 = 18.1 N5 = 16.3 N3 = 18.3 N6 = 13.9	sericite schist pyrite
L26E (Fig.10)	28+00S - 44+00S	475 ft. +	32+75S to 28+00S Peak = 17.5	N1 = 17.5 N4 = 19.0 N2 = 19.7 N5 = 16.9 N3 = 19.5	sericite schist -pyrite

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TABLE 1 INDUCED POLARIZATION SURVEY, LOCATION AND DESCRIPTION  
OF IP CHARGEABILITY ANOMALIES, GEOLOGY

Line	Distance Surveyed	Width of Anomaly	Location of Anomaly and N1 Peak	Chargeability Peak (m volts/volt)	Extrapolated Geology
L30E (Fig.11)	26+00S - 40+00S	425 ft.	29+00S to 34+25S Peak = 16.5	N1 = 16.5 N4 = 16.2 N2 = 16.8 N5 = 15.0 N3 = 17.2 N6 = 15.3	sericite schist - pyrite
L34E (Fig.12)	31+00S - 40+00S	200 ft. +	33+00S to 35+00S Peak = 14.3	N1 = 14.3 N4 = 12.7 N2 = 12.4 N5 = 11.8 N3 = 13.1 N6 = 11.0	sericite schist-pyrite
L36E (Fig.13)	31+00S - 40+00S	100 ft.	34+00S to 35+00S Peak = 11.2	N1 = 11.2 N4 = 14.7 N2 = 14.6 N5 = 14.8 N3 = 13.1 N6 = 12.6	sericite schist
L40E (Fig.14)	17+00N - 5+00S	50 ft.	13+50N to 14+00N Peak = 11.1	N1 = 11.1 N4 = 11.2 N2 = 11.2 N5 = 7.7 N3 = 11.3	intermediate + mafic tuff
L44E (Fig.15)	17+00N - 4+00S	75 ft.	12+75N to 13+50N Peak = 4.0	N1 = 4.0 N4 = 5.4 N2 = 4.5 N5 = 5.5 N3 = 5.4	intermediate tuff, lapilli tuff, mafic tuff
L48E (Fig.16)	17+00N - 6+00S		No anomaly		
LAW (Fig.17a)	3+00N - 26+00S	a) 800 ft.	a) 12+50 to 20+50S Peak = 35.1	N1 = 35.1 N1 = 20.0 N2 = 36.5 N2 = 19.0 N3 = 36.1 N3 = 18.9	a) sericite schist felsic tuff
(Fig.17b)		b) 75 ft.	b) 4+75S to 5+50S Peak = 20.0	N4 = 36.6 N4 = 19.6 N5 = 37.8 N5 = 19.1	b) ultramafic
		c) 150 ft.	c) 23+00S to 24+50S Peak = 8.9	N6 = 35.0 N6 = 18.9	c) felsic tuff

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TABLE 1 INDUCED POLARIZATION SURVEY, LOCATION AND DESCRIPTION  
OF IP CHARGEABILITY ANOMALIES, GEOLOGY

Line	Distance Surveyed	Width of Anomaly	Location of Anomaly and N1 Peak	Chargeability Peak (m volts/volt)	Extrapolated Geology
L8W (Fig.18a) (Fig.18b)	8+00N -29+00S	a) 225 ft.	a) 5+50S to 17+75S Peak = 14.5	a) N1 = 14.5 N4 = 21.4 N2 = 18.2 N5 = 22.3 N3 = 20.0 N6 = 23.3	a) Intermediate - felsic
		b) 100 ft.	b) 26+75S to 27+75S Peak = 6.7	b) N1 = 5.5 N4 = 8.9 N2 = 6.6 N5 = 9.7 N3 = 7.8 N6 = 10.3	b) ultramafic
		c) 75 ft.	c) 8+00N to 8+75N Peak = 11.0	c) N1 = 11.0 N4 = 8.9 N2 = 9.1 N5 = 8.0 N3 = 8.6 N6 = 6.2	
L16W (Fig.19)	7+00S 25+00S	275 ft.	14+00S to 16+75S Peak = 38.8	N1 = 38.8 N4 = 31.8 N2 = 30.1 N5 = 24.5 N3 = 29.5 N6 = 24.9	sericite schist pyrite
L24W (Fig.20)	4+00S -22+00S	a) 100 ft.	a) 15+75S to 16+75S Peak 12.1	a) N1 = 12.1 N4 = 13.7 N2 = 12.7 N5 = 12.8 N3 = 13.5 N6 = 13.5	a) felsic tuffs - sericite schist
		b) 125 ft	b) 18+75S to 20+00S Peak = 6.7	b) N1 = 6.7 N4 = 13.7 N2 = 7.8 N5 = 14.2 N3 = 11.6 N6 = 13.3	b) ultramafic
L28W (Fig.21)	7+00S -14+00S	.	No anomaly		

The resistivity profiles are best interpreted as being indicators of overburden thickness. The resistivities were moderate over the majority of the property. The most prominent set of anomalies occurs on the east sheet from lines 4 + 00E from 1400S to 1800S to line 3200E from 3000S to 3700S. The maximum strike length of this chargeability anomaly is 3200 feet. The zone is striking southeast and represents the pyritic, sericitic schist previously found during the geological mapping program in 1984.

A second roughly east-west trending anomaly occurs on line 22 + 00E from 43 + 00S to 44 + 00S to line 36 + 00E at 43 + 50S. This set of anomalies is thought to mark the northern most contact of an ultramafic body that occurs along the southern part of the property.

A third, poorly defined anomaly was detected on line 40 + 00E at 1300N and 1200N respectively. The area corresponds with an intermediate to mafic tuff.

#### SURVEY PROCEDURE AND INSTRUMENTATION

The IP survey was done using a Scintrex IPR 11 receiver and a TSQ-3 square wave transmitter (3.0 kwatt). An "a" spacing of 100 feet was used with  $n=1, 2, 3, 4, 5$  and 6 in a pole dipole array configuration. This gave theoretical survey depths of up to 300 feet which should have been sufficient to explore to

bedrock in most of the areas of the property, as overburden is shallow.

A second "on" 2 second "off" square wave pulse was transmitted into the ground via a stainless steel stake electrode and the voltage readings were taken using porous pots filled with copper sulphate solution. A series of 10 time windows were recorded after the shut off of the pulse and the 7th time window was plotted on the pseudosections which are attached to the back of this report.

Specifications for the IPR-11 system are given at the back of this report in the appendix.

#### CONCLUSIONS AND RECOMMENDATIONS

1. A wide zone of mineralization hosted in sheared felsic metavolcanics exists on the Golden Range - Kenogaming property.
2. The detailed Induced Polarization Resistivity survey outlined the mineralized sericite schist zone in detail. The main zone is now at least 4000 feet in length and varies from 200 to 400 feet in width (see Geology Map (east sheet)).
3. The present fill-in anomalies should be ground checked, stripped and sampled in an attempt to duplicate the anomalous values previously obtained in the recent geological mapping program.

4. A diamond drill programme is recommended to test the mineralized sericite schist zone.

Hole #	Location	Azimuth	Dip	Length
1	L32+00E, 29+00S	210 Az	-50°	approx. 900'
2	L 8+00E, 16+00S	220 Az	-50°	" 800'
3	L0, 11+00S	220 Az	-50°	" 1200'
4	L28+00E, 26+00S	220 Az	-50°	" 800'

Respectfully Submitted,



Bruce Durham, B.Sc.



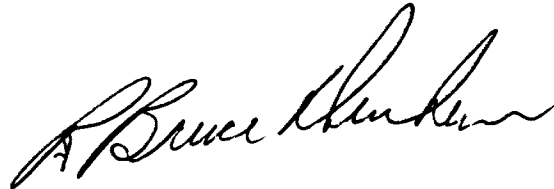
Ian Coster, B.Sc.

CERTIFICATION

I, R. Bruce Durham of Timmins, Ontario certify regarding the Glen Auden Limited, Kenogaming Township property that:

1. I am a graduate of the University of Western Ontario having obtained a Bachelor of Science degree in Geology in 1976.
2. I am a Fellow of the Geological Association of Canada.
3. I have been practising my profession primarily in Canada since 1976.

Dated this December 2, 1985, at Timmins, Ontario.

A handwritten signature in cursive script, appearing to read "R. Bruce Durham".

R. Bruce Durham, B. Sc.

CERTIFICATION

I, IAN P.D.A. COSTER, B.Sc., of Timmins, Ontario, certify  
that:

- 1) I am a graduate of the University of British Columbia,  
Vancouver, B.C., with a B.Sc. degree in Geology  
obtained in 1981.
- 2) I have been practising my profession in Canada since  
1981.

Dated this December 2, 1985, Timmins, Ontario.



IAN P.D.A. COSTER, B.Sc.