

1976 GEOPHYSICAL ASSESSMENT REPORT

5994

# 5994

TITLE Luno Creek Property  
CLAIMS Wolf 1, 2, 3, 4  
COMMODITY Mo  
  
LOCATED 35 miles north of Smithers, B.C.  
Latitude 55°11'N Longitude 127°13'W  
Omineca Mining Division 93 M 3  
  
BY J.L. LeBel  
FOR AMAX Potash Limited  
WORK PERIOD August 13 - 28, 1976

WOLF  
93M/3E

AMAX VANCOUVER OFFICE

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT

NO. 5994, MAP

TABLE OF CONTENTS

SUMMARY-----	1
CONCLUSIONS-----	1
INTRODUCTION-----	3
EQUIPMENT AND PROCEDURE-----	4
PRESENTATION OF RESULTS-----	5
RESULTS OF THE SURVEY-----	5
DISCUSSION OF RESULTS-----	7

APPENDICES

APPENDIX I	- Statement of Costs
II	- Statement of Qualifications
III	- Contractor's Invoices and Contracts

ILLUSTRATIONS

Figure 1	- Location Map-----	1:250,000--	After Page 3
2	- Claim Map-----	1"=1/2 mile--	After Page 3
#1 3	- Magnetometer Survey-----	1"=400'----	In Pocket
#2 4a-	IP - Resistivity - Apparent Resistivity-----	1"=400'----	In Pocket
#3 4b-	IP - Resistivity - Apparent Chargeability-----	1"=400'----	In Pocket

## SUMMARY

Eighteen miles of magnetometer survey and 12.5 miles of induced polarization/resistivity survey were conducted between August 13 - 28, 1976 on the Luno Creek Property by AMAX Potash Limited personnel.

The property (Wolf 1-4 claims - 17 units) is located 35 miles north of Smithers, B.C. It is underlain by the Blunt Mountain stock.

The induced polarization/resistivity survey outlined two weak chargeability anomalies neither of which clearly correlates with any patterns in the resistivity results.

Both chargeability anomalies occur in drift filled cirques. The eastern anomaly terminates against barren outcrop whereas the western anomaly may be open to extension for up to 2400 feet to the northeast.

The magnetometer survey partially confirmed the presence of an aeromagnetic low and peripheral annular magnetic high. The western induced polarization anomaly coincides with the central magnetic low whereas the eastern anomaly is located on the peripheral magnetic high.

## CONCLUSIONS

Two chargeability anomalies detected by the induced polarization survey in largely drift covered areas offer only limited economic potential.

Although the western chargeability anomaly associated with an aeromagnetic and ground magnetic low centered on the Blunt Mountain stock may be considerably larger than shown its amplitude suggests that it contains less than  $\frac{1}{2}\%$  sulphides

by volume and is consistent with nearby uneconomic pyrite, chalcopyrite, and molybdenite occurrences.

The eastern IP anomaly contains an indicated 1% sulphides by volume but is too small to be a valid target.

The nature of the survey equipment precludes the possibility of defining the anomalies at depth.

One disadvantage of the induced polarization coverage is that none of the known mineralization was covered. Therefore it is not possible to predict the grade of the unexposed mineralization which causes the induced polarization anomalies by comparison with the grade of known exposures.

by volume and is consistent with nearby uneconomic pyrite, chalcopyrite, and molybdenite occurrences.

The eastern IP anomaly contains an indicated 1% sulphides by volume but is too small to be a valid target.

The nature of the survey equipment precludes the possibility of defining the anomalies at depth.

One disadvantage of the induced polarization coverage is that none of the known mineralization was covered. Therefore it is not possible to predict the grade of the unexposed mineralization which causes the induced polarization anomalies by comparison with the grade of known exposures.

## INTRODUCTION

This report presents results of an induced polarization (IP)/resistivity survey and a ground magnetometer survey carried out on the Luno Creek Property between August 19 and 28, 1976.

The Luno Creek Property is owned by AMAX Potash Limited and consists of the Wolf 1 - 4 claims which comprise a total of 17 units (Figure 2). Expiry dates for the claims are listed below.

<u>Claim</u>	Wolf 1	<u>Units</u> 4	<u>Expiry Date</u>	September 2, 1976
	2	6		September 2, 1976
	3	6		September 29, 1976
	4	1		September 29, 1976

The property is located in the Omineca Mining Division 35 miles north of Smithers and 15 miles southeast of Hazelton NTS 93 M 3 (Figure 1). Access is by means of helicopter from Smithers.

The surveys were conducted by AMAX personnel on an 18 mile picket grid prepared by Martinson Linecutting & Staking between August 13 - 20, 1976

The grid consisted of a 6,000 feet (30+00W to 30+00E) east-west oriented base line with 6,000 feet (30+00N to 30+00S) cross lines located at 400 foot intervals.

The surveys were conducted to define the source of Mo soil anomalies which occur in cirques at the headwaters of Luno Creek and Blunt Creek.

The known mineralization in the area consists of chalcopyrite, pyrite, and molybdenite in veins and fracture fillings and as disseminations in granodiorite of the Blunt Mountain stock.

## EQUIPMENT AND PROCEDURE

The IP/resistivity survey was conducted in the time domain with an IPR-7 receiver from Scintrex Ltd., 222 Snidercroft Road, Concord, Ontario in conjunction with a 250 watt transmitter from Crone Geophysics, 3607 Wolfedale Road, Mississauga, Ontario.

The equipment provided the IP parameter apparent chargeability ( $M_a$ ) in units milliseconds (msec.) for a pre-set two second current pulse. Apparent resistivity ( $\rho_a$ ) in units ohm-meters (ohm-m) was calculated from the measured parameters; receiver voltage and transmitter current and an electrode array geometric factor.

The dipole-dipole electrode array with  $a = 400'$  and  $n = 1$  was used for the IP/resistivity measurements. The array was advanced at 200 foot increments along the lines but because of rock and/or talus only 12.5 miles of coverage was possible.

The magnetometer survey was conducted with a G-816 proton precession magnetometer manufactured by Geometrics, 436 Limestone Crescent, Downsview, Ontario.

The magnetometer recorded the total magnetic field with  $\pm 5$  gamma resolution. Measurements were taken at 100 foot intervals along the lines.

Diurnal and base level changes in the earth's magnetic field were monitored by reoccupying accurate base stations which were established at the base line/cross line intercepts. The survey was levelled according to the initial reading recorded at BL 0+00 and diurnal variations were removed by time base linear interpolation.

## EQUIPMENT AND PROCEDURE

The IP/resistivity survey was conducted in the time domain with an IPR-7 receiver from Scintrex Ltd., 222 Snidercroft Road, Concord, Ontario in conjunction with a 250 watt transmitter from Crone Geophysics, 3607 Wolfedale Road, Mississauga, Ontario.

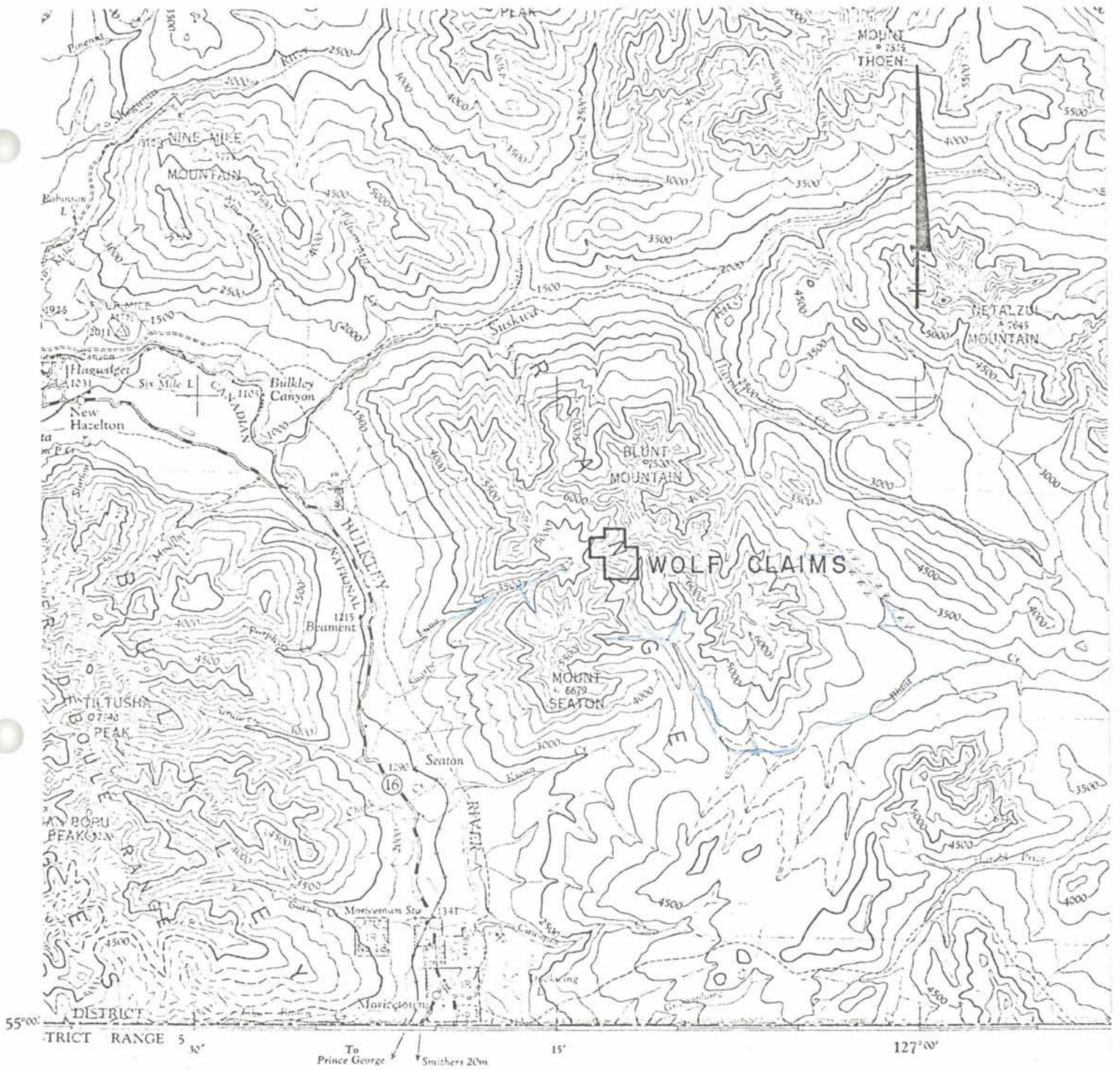
The equipment provided the IP parameter apparent chargeability ( $M_a$ ) in units milliseconds (msec.) for a pre-set two second current pulse. Apparent resistivity ( $\rho_a$ ) in units ohm-meters (ohm-m) was calculated from the measured parameters; receiver voltage and transmitter current and an electrode array geometric factor.

The dipole-dipole electrode array with  $a = 400'$  and  $n = 1$  was used for the IP/resistivity measurements. The array was advanced at 200 foot increments along the lines but because of rock and/or talus only 12.5 miles of coverage was possible.

The magnetometer survey was conducted with a G-816 proton precession magnetometer manufactured by Geometrics, 436 Limestone Crescent, Downsview, Ontario.

The magnetometer recorded the total magnetic field with  $\pm 5$  gamma resolution. Measurements were taken at 100 foot intervals along the lines.

Diurnal and base level changes in the earth's magnetic field were monitored by reoccupying accurate base stations which were established at the base line/cross line intercepts. The survey was levelled according to the initial reading recorded at BL 0+00 and diurnal variations were removed by time base linear interpolation.

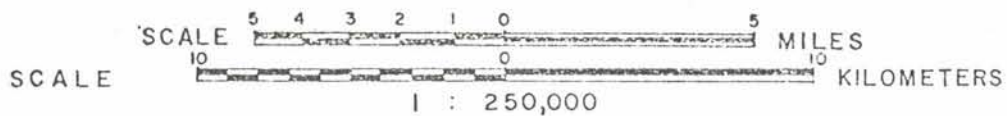


AMAX POTASH LIMITED

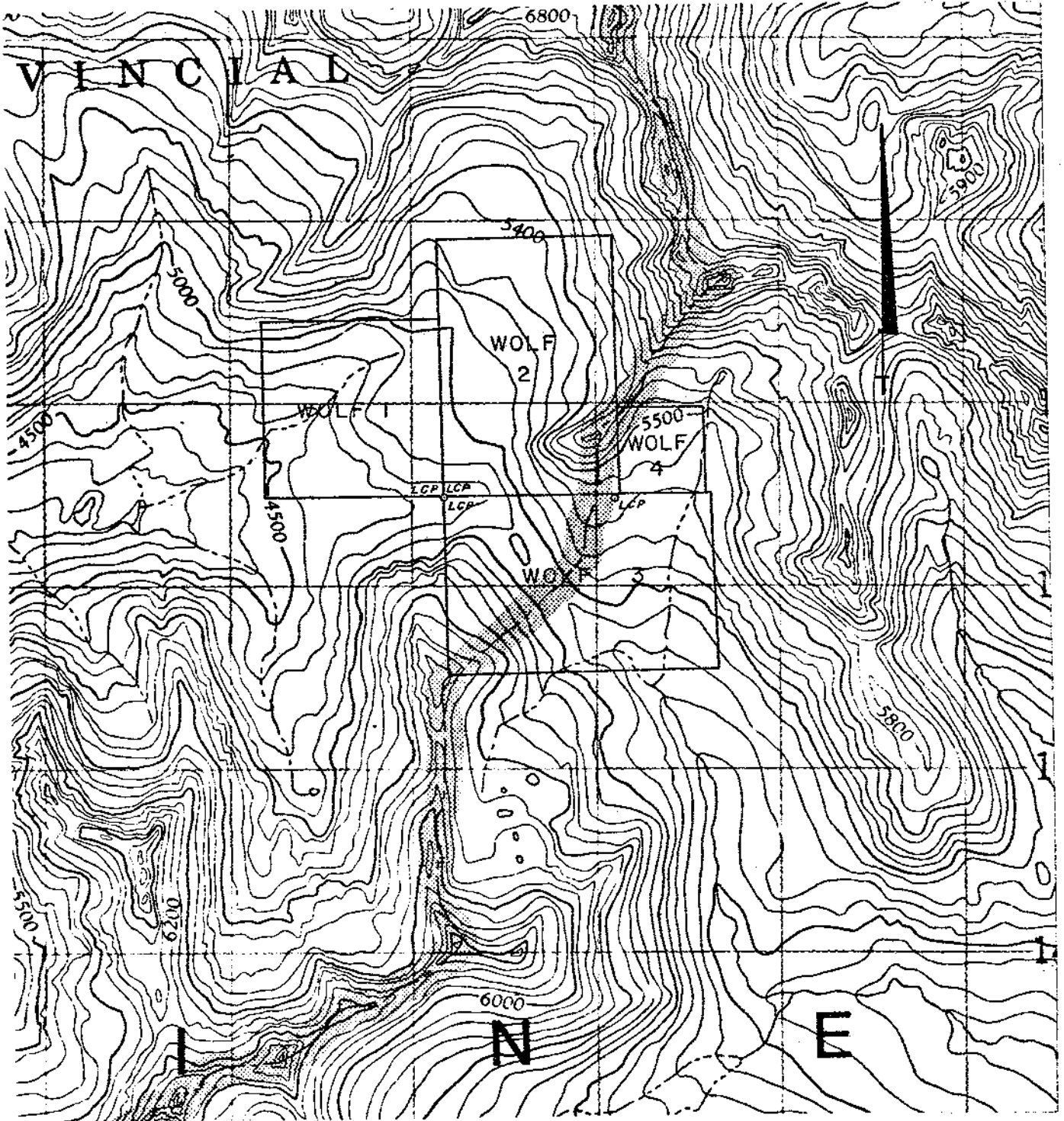
LUNO CREEK PROPERTY  
WOLF CLAIMS

OMINECA M. D. — B. C.

LOCATION MAP



#5994



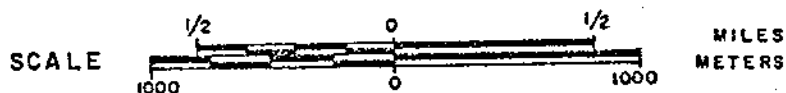
AMAX POTASH LIMITED

#5994

LUNO CREEK PROPERTY  
WOLF CLAIMS

OMINECA M. D. — B. C.

CLAIM MAP



Overall survey accuracy is considered to be  $\pm 10$  gammas.

### PRESENTATION OF RESULTS

Figure 4a exhibits the apparent chargeability in plan form contoured at two msec intervals. The extent of the coverage on each line is indicated. Noisy readings are marked by brackets and the notation NR indicates that no reading was possible.

In Figure 4b the apparent resistivity results are presented in plan format contoured at 250 ohm-m intervals. Because of space limitations some of the contours around the reading 12,101 ohm-m at 28E, 6S are omitted.

The results of the magnetometer survey are presented in contoured plan format in Figure 3. For ease of presentation a value of 57,000 gammas was subtracted from each reading.

### RESULTS OF THE SURVEY

The apparent chargeability exceeds the background level of 6 - 10 msec in two areas.

One area which consists of weakly anomalous apparent chargeabilities to 22 msec protrudes into the northwest part of the grid from the broad cirque which forms the headwaters of Luno Creek. The anomaly is open to the north and east.

A moderate near circular anomaly occupies a small cirque which forms the headwaters of Blunt Creek on the east side of the grid. The anomaly has an apparent chargeability high of 43 msec and is not delimited to the north or east. Outcrops occur near the anomaly along a ridge to the north and in the headwall of the cirque to the east.

6  
A single weakly anomalous reading of 14 msec which has no support on adjacent lines was obtained at the end of line 4W.

The apparent resistivity map shows 1000-2000 ohm-m background response punctuated by numerous resistivity lows and highs.

Areas of apparent resistivity less than 1000 ohm-m occur in the northwest part of the grid, perhaps continuously to the central grid area, and along the south edge of the grid where the lowest apparent resistivities of the survey were recorded.

Apparent resistivities greater than 2000 ohm-m occur in a band on the west side of the grid and as 5 or 6 closures on the east part of the grid. The highest apparent resistivity measured (12,101 ohm-m) occurs at 28E,6S and forms part of a resistivity high along the west side of the grid.

Both chargeability and resistivity patterns demonstrate a strong preference to align in northeast and/or northwest directions.

The magnetometer survey detected a maximum relief of 1797 gammas. The results are clearly influenced by anomalies which correlate with topographic highs for example, the high readings obtained on a series of ridges in the southwest corner of the grid, the linear anomaly associated with a cliff just south of the base line in the west half of the grid, and the high values recorded along a northeast trending spur and ridge in the northeast part of the grid.

Apart from the geometric anomalies a series of higher readings (1000 - 2000 gammas) forms a crude arc from northeast to southwest across the grid. Low to moderate magnetic

6

A single weakly anomalous reading of 14 msec which has no support on adjacent lines was obtained at the end of line 4W.

The apparent resistivity map shows 1000-2000 ohm-m background response punctuated by numerous resistivity lows and highs.

Areas of apparent resistivity less than 1000 ohm-m occur in the northwest part of the grid, perhaps continuously to the central grid area, and along the south edge of the grid where the lowest apparent resistivities of the survey were recorded.

Apparent resistivities greater than 2000 ohm-m occur in a band on the west side of the grid and as 5 or 6 closures on the east part of the grid. The highest apparent resistivity measured (12,101 ohm-m) occurs at 28E,6S and forms part of a resistivity high along the west side of the grid.

Both chargeability and resistivity patterns demonstrate a strong preference to align in northeast and/or northwest directions.

The magnetometer survey detected a maximum relief of 1797 gammas. The results are clearly influenced by anomalies which correlate with topographic highs for example, the high readings obtained on a series of ridges in the southwest corner of the grid, the linear anomaly associated with a cliff just south of the base line in the west half of the grid, and the high values recorded along a northeast trending spur and ridge in the northeast part of the grid.

Apart from the geometric anomalies a series of higher readings (1000 - 2000 gammas) forms a crude arc from northeast to southwest across the grid. Low to moderate magnetic

field strengths (800 - 1400 gammas) occur in the northwest to form a distinct contrast with the rest of the grid. The contact between areas of magnetic high and low maintains a northeast trend and is offset in the vicinity of Line 0.

An intense linear magnetic low crosses the south part of the grid. The anomaly appears to become more broad than linear at the south edge of the grid.

#### DISCUSSION OF RESULTS

The trend of the contours indicate little chance for enlargement of the eastern chargeability anomaly. Extrapolation of the contours suggests sulphides in amounts less than  $\frac{1}{2}\%$  may extend over an area of 1200 x 1200 feet with a core of 1% sulphides by volume occupying an area 800 x 400 feet. An examination of nearby outcrops at the cirque head-wall should establish tenor and style of mineralization present.

Although the amplitude of the chargeability response in the western anomaly indicates less than  $\frac{1}{2}\%$  sulphides by volume, the anomaly has considerable space for enlargement and/or improvement. The nearest outcrops to the present coverage are 800 feet and 1600 feet to the north and east respectively and the first good outcrop (mapped as barren) along the trend of the anomaly to the northeast is 2400 feet distant.

There appears to be little correlation between apparent chargeability and apparent resistivity. The apparent resistivity low in the west part of the grid is larger than the partially corresponding chargeability anomaly which in part coincides with a resistivity high of 2000 ohm-m. A relative resistivity low of 1500 ohm-m coincides with the eastern chargeability anomaly. However, the size of the resistivity low is smaller than the chargeability

anomaly. Other resistivity lows on the property have no associated chargeability expression.

The annular aeromagnetic anomaly associated with the Blunt Mountain stock is partially confirmed by the ground magnetometer survey. Although some of the aeromagnetic relief is caused by topography, the ground magnetic low in the north-west part of the grid coincides with the aeromagnetic depression which outlines the cirque at the headwaters of Luno Creek. The western IP anomaly, therefore, flanks or occupies the central magnetic low whereas the eastern anomaly is situated on the peripheral magnetic high.

The complexity of the ground magnetometer results suggests that the underlying geology is not uniform as indicated by previous preliminary mapping which shows the area to be underlain by a homogeneous body of granodiorite.

The complexity of the apparent resistivity results also suggest bedrock complexities which are not recognized in the mapping carried out to date. The resistivity high on the east side of the grid may be the result of a poorly conductive loose mix of large boulders and immature overburden which underlies the area.

The Bowser rocks in contact with the stock exhibit low magnetics and/or low resistivities. The disparity in the location of the magnetic low and resistivity low on the south edge of the grid may arise because the intrusive/sediment contact was not crossed by the entire electrode array. This suggests that the resistivity response of the sediments has not been ultimately defined. The weak chargeability anomaly at the end of Line 4W probably indicates local minor pyrite concentrations in the sediments.

anomaly. Other resistivity lows on the property have no associated chargeability expression.

The annular aeromagnetic anomaly associated with the Blunt Mountain stock is partially confirmed by the ground magnetometer survey. Although some of the aeromagnetic relief is caused by topography, the ground magnetic low in the northwest part of the grid coincides with the aeromagnetic depression which outlines the cirque at the headwaters of Luno Creek. The western IP anomaly, therefore, flanks or occupies the central magnetic low whereas the eastern anomaly is situated on the peripheral magnetic high.

The complexity of the ground magnetometer results suggests that the underlying geology is not uniform as indicated by previous preliminary mapping which shows the area to be underlain by a homogeneous body of granodiorite.

The complexity of the apparent resistivity results also suggest bedrock complexities which are not recognized in the mapping carried out to date. The resistivity high on the east side of the grid may be the result of a poorly conductive loose mix of large boulders and immature overburden which underlies the area.

The Bowser rocks in contact with the stock exhibit low magnetics and/or low resistivities. The disparity in the location of the magnetic low and resistivity low on the south edge of the grid may arise because the intrusive/sediment contact was not crossed by the entire electrode array. This suggests that the resistivity response of the sediments has not been ultimately defined. The weak chargeability anomaly at the end of Line 4W probably indicates local minor pyrite concentrations in the sediments.

Comparison of the apparent resistivity and magnetometer results where coverage overlapped shows a persistent coincidence of high resistivity and high magnetic field strength.

*J. L. LeBel* 23/9/76  

---

J.L. LeBel

APPENDIX I - STATEMENT OF COSTS

Summary of Work - Luno Creek

Induced Polarization Survey	12.5 line miles
Magnetometer Survey	18.18 line miles

Period of Work August 13 - August 28, 1976

Personnel

J.L. LeBel - Geophysicist - 601-535 Thurlow Street, Vancouver, B.C.	
9 days @ \$105.24/day	\$ 947.16
J.A. Nicholson - Jr. Assistant - 820 Eberts Street, Nanaimo, B.C.	
9 days @ \$32.85/day	295.65
K.J. Bateman - Labourer - P.O. Box 2777, Smithers, B.C.	
7 days @ \$30.00/day	210.00
Darcy Bruce - Labourer - P.O. Box 8, Houston, B.C.	
7 days @ \$30.00/day	210.00

Linecutting

Martinson Linecutting and Staking, Powell River, B.C.	
18.18 line miles @ \$170.00/mile and transportation	3,522.64

Helicopter

Okanagan Helicopters Ltd.	1,166.45
---------------------------	----------

Equipment Rental

Scintrex IPR-7 Receiver	9 days @ \$30.00/day	270.00
Crone 250W IP Transmitter	9 days @ \$8.00/day	72.00
Geometrics G-816 Magnetometer	9 days @ \$15.00/day	135.00

<u>Room and Board</u>	32 man days @ \$15.00/day	480.00
-----------------------	---------------------------	--------

<u>Report Writing and Preparation</u>		300.00
---------------------------------------	--	--------

TOTAL	\$7,608.90
-------	------------

=====

We wish this work applied as 3 years each Wolf 1 and Wolf 4  
4 years each Wolf 2 and Wolf 3

APPENDIX II - STATEMENT OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

NAME: J. LAURENCE LABEL

ADDRESS: 1607-1155 HARWOOD STREET  
VANCOUVER, BC V6E 1S1

EDUCATION: B.Sc. (1971) Queen's University - Geological Engineering -  
Geophysics Option

M.Sc (1973) University of Manitoba - Geophysics

EXPERIENCE:

- 5/70-9/70 - Amax Exploration, Inc. Vancouver, B.C.
  - conducting and compiling magnetometer surveys
- 5/71-9/71 - Amax Exploration, Inc. Toronto, Ont.
  - conducting and reporting on IP/resistivity surveys
- 5/72-12/72- Gulf Minerals, Toronto, Ont.
  - senior geophysical operator
  - conducting and reporting on magnetometer  
electromagnetic and scintillometer surveys
- 3/73-12/73- Scintrex Surveys, Concord, Ont.
  - Junior Geophysicist
  - conducting, supervising of and reporting on  
airborne magnetometer and electromagnetic surveys,  
ground electromagnetic and IP/resistivity surveys
- 4/74 - - Amax Exploration, Inc. Toronto & Vancouver
  - Staff Geophysicist

STATEMENT OF QUALIFICATIONS

NAME John A. Nicholson  
ADDRESS 820 Eberts Street, Nanaimo, B.C.  
EDUCATION B.C.I.T. Burnaby; 1976 Certificate in Geology  
EXPERIENCE MacMillan Bloedel - Harmac Division 1975 - Maintenance Crew

APPENDIX III

CONTRACTOR'S INVOICES AND CONTRACTS

INVOICE

MARTINSON  
LINECUTTING AND STAKING LTD.

6860 Fairmont Street :: POWELL RIVER, B.C.

Telephone 485-2198

AMAX  
RECEIVED  
AUG 24 1976  
VANCOUVER OFFICE

Date AUG. 23<sup>rd</sup> 1976

IN ACCOUNT WITH

AMAX EXPLORATION INC.  
535 THURLOW ST.  
VANCOUVER, B.C. V6E 3L6

Picket Line Miles 18.18 @ 170.00 per mile \$ 3,090.60  
Base Line Miles @ per mile \_\_\_\_\_  
Transit Base Line Miles @ per mile \_\_\_\_\_  
Mining Claims @ per claim \_\_\_\_\_  
Claim Blocks @ per block \_\_\_\_\_

Geophysics \_\_\_\_\_  
Expenses HELICOPTER, FO PROPERTY \$ 432.04  
Rentals \_\_\_\_\_  
Other: \_\_\_\_\_

*Approved for payment J. & L. Bel*

No. 138

ADD & EXT. CORRECT		<i>Lana B. Morand</i>			
APPROVED		DATE <u>8/25/76</u>			
Project Number	Group Code	Activity Code	Account Class	Sub Class	Amount
761	-	-	8683	-	3,522.64

TOTAL \$ 3,522.64  
Less \_\_\_\_\_  
AMOUNT OWING \$ 3,522.64

LINECUTTING:  
LUND CREEK PROP

T 4978 AUG 30 '76

*Don Martson*

# AMAX POTASH LIMITED

A SUBSIDIARY OF AMERICAN METAL CLIMAX, INC.

PHONE (AREA CODE 604) 683-0474

TELEX 0454387

#601 - 535 THURLOW STREET

VANCOUVER, BRITISH COLUMBIA

V6E 3L6

Agreement between: AMAX Potash Limited,  
601-535 Thurlow Street,  
Vancouver, B.C. V6E 3L6

and Martinson Linecutting and Staking Ltd.,  
6860 Fairmont Street,  
Powell River, B.C. V8A 1T2

Re: LINE CUTTING ON LUNO CREEK PROPERTY

The job will be executed under the following terms:

1. AMAX guarantees Martinson eight (8) line miles of line cutting work to begin approximately June 15, 1976.
2. Martinson agrees to carry out line cutting on the Luno Creek property to consist of cutting, chaining and picketing a 4,500 foot East - West base line and at least ten north-south lines spaced 400 feet apart. Marked stations identified by writing on pickets shall be established every 100 feet horizontal distance on the base line and cross lines. All growth shall be cleared from the lines to a minimum width of three (3) feet. Deadfall shall be cut so it lies on the ground or removed. All slash shall be kept clear of the lines. Line cutting and slash disposal shall be carried out in accordance with Forest Service Regulations governing the area.
3. The all-inclusive fee for the line cutting will be \$170.00 per line mile. There will be no charge for time-off taken by the crew for any reason.
4. Martinson will bear all transportation costs from Powell River to Smithers and return. Martinson will also provide his own tent camp and subsistence while under contract to AMAX at no extra charge. AMAX will provide transportation from Smithers to and from the property and weekly food transportation.
5. Martinson shall be deemed a contractor, not an agent for AMAX, and in addition, shall maintain in full force and effect at his expense during the performance of the contract the following insurance.
  - a) Workman's Compensation in accordance with the laws of the Province of British Columbia,
  - b) Comprehensive General Liability Insurance with not less than bodily injury limits of \$100,000 per person and \$300,000 per occurrence and property damage limits of \$25,000 per accident, and

- c) Comprehensive Automobile Liability Insurance with not less than bodily injury limits of \$100,000 per person and \$300,000 per occurrence and property damage limits of \$25,000 per accident.

The above certificates shall stipulate that the policy shall not be reduced or cancelled during the period work is being done for AMAX unless ten (10) days prior written notice is furnished to AMAX at its Vancouver Office.

6. Indemnification: Martinson and his employees agree to indemnify and save harmless personnel of AMAX against any and all loss and expense including attorney's fees and other legal expenses, by reason of liability imposed or claimed to be imposed by law upon AMAX for damages because of bodily injuries, including death, at any time resulting from, or on account of damage to property sustained by any person or persons arising out of or in consequence of the performance of work called for by this Agreement.
7. Invoices for fees will be submitted, in duplicate, to the AMAX Vancouver Office for payment immediately following completion of the work on the property. An additional two copies of the invoice will be forwarded to the AMAX representative in charge of the project for his field approval. AMAX will pay all such invoices promptly on receipt of field approval.

Signatures

AMAX POTASH LIMITED

MARTINSON LINECUTTING AND  
STAKING LTD.

H. W. Sellmer  
H.W. Sellmer

Don Martinson

Dated

May 28, 1976



**OKANAGAN HELICOPTERS LTD.**  
 HEAD OFFICE:  
 439 AGAR DRIVE, INTERNATIONAL AIRPORT SOUTH  
 VANCOUVER, B.C. V7B 1A5  
 TEL. (604) 278-5502 TELEX: 04-508883

ACCOUNT NUMBER				172435			
FLIGHT DATE	2	0	8	7	6		
	DAY	MONTH	YEAR	INV. DATE		TYPE OF FLYING	
BASE NO.	170	BASE	Smithers	AIRCRAFT TYPE		206B1	
TYPE OF CONTRACT - X				Smithers		54	
IND. CLASS	03	AIRCRAFT REG. NO.		Bloomfield		364	
HOURLY	X	DAILY MINIMUM 1 TO 29 DAYS	30 DAYS OR MORE	PILOT 1		PILOT 2	
STATE OF AIRCRAFT - X				UNSERVICABLE		STORED	
ENG. NAME - 1				Base			
ENG. NAME - 2							
PURCHASE ORDER NO.		NO. OF PASSENGERS		FREIGHT LBS.			
		4					

OPERATION: Three Trips Smithers - Blunt MT  
 Move in TP crew base out line

APPROVED	DATE	1.8
Project Number	Group Code	Activity Code
761	-	-
Account Class	Sub Class	Amount
8684	-	599.19

PRINT NAME OF PERSON AUTHORIZED TO SIGN		ZONE A		DATE		AMOUNT	
		1.8		SEP 13 1976		1.8	
7 G.L. 10	Div. 12 Sub. 14	EXTRA CHARGES OR ADJUSTMENTS		AMOUNT			
CUST. SUP. (FUEL MRS.)		OUR FUEL		OUR FUEL		OUR OIL	
		41 GALS. @ 0.75		315.00		1.8 HRS. @ 0.80	
		GALS. @		30.75		1.44	
		GALS. @		567.00		EXTRA CHARGES OR ADJUSTMENTS	
						599.19	
						TOTAL \$	

THE CARRIAGE OF PASSENGERS, BAGGAGE AND GOODS BY OKANAGAN HELICOPTERS LTD. IS SUBJECT TO THE TERMS, CONDITIONS AND LIMITATIONS OF LIABILITY SET FORTH IN ITS TARIFFS. LIABILITY FOR LOSS OR DAMAGE TO GOODS IS LIMITED TO 50 CENTS PER POUND PERISHED WITH THE ORIGINAL CONTRACTOR WHICH IS AVAILABLE FOR EXAMINATION AT THE OFFICE OF OKANAGAN HELICOPTERS LTD.

SIGNED FOR CHARTERER BY: J.L. Lebel #761  
 SIGNED FOR CARRIER BY: [Signature]

CHARTERER'S BILLING ADDRESS

FLIGHT FIELD





**OKANAGAN HELICOPTERS LTD.**  
 HEAD OFFICE:  
 439 AGAR DRIVE, INTERNATIONAL AIRPORT SOUTH  
 VANCOUVER, B.C. V7B 1A5  
 TEL. (604) 278-5502 TELEX: 04-508883

ACCOUNT NUMBER					175720				
FLIGHT DATE	28	08	76	INV. DATE					
	DAY	MONTH	YEAR						

BASE NO.	180	BASE	SMITHORS	AIRCRAFT TYPE	206B	TYPE OF CONTRACT - X		SMITHORS		057	
AMAX						IND. CLASS	03	AIRCRAFT REG. NO.	W.J.L. JOHNSON 3749		
601 535 <sup>th</sup> THURLOW ST						STATE OF AIRCRAFT - X					
VANCOUVER B.C.						UNSERVICEABLE	STORED				
PURCHASE ORDER NO.		NO. OF PASSENGERS		FREIGHT LBS.		ENG. NAME - 1					
						ENG. NAME - 2					

OPERATION	TAKE-OFF	LAND	FLYING TIME
SMITHORS - BLUND CK	08:00	08:20	0.3
BLUND CK (LOCAL) - SMITHORS (BLUND CK PROJECT 761)	08:50	09:45	0.7

ADD & EXT. CORRECT *Laura B. McMillan*  
 APPROVED *[Signature]* DATE 9/19/76

Project	Group	Activity	Account	Sub	Amount
761					334.20

7 G.L. 10	CHARTER SUB.	EXTRA CHARGES OR ADJUSTMENTS	AMOUNT	ZONE A	NON REV. HRS.	REV. HRS.	TARIFF	AMOUNT
		761 - - 8684 -	334.20			1.0	315.00	315.00
						OUR FUEL 2.3 GALS. @	80	18.40
						OUR FUEL GALS. @		
						OUR FUEL GALS. @		
						OUR OIL 1.0 HRS. @	80	80
EXTRA CHARGES OR ADJUSTMENTS								
TOTAL								\$ 334.20

THE CARRIAGE OF PASSENGERS, BAGGAGE AND GOODS BY OKANAGAN HELICOPTERS LTD. IS SUBJECT TO THE TERMS, CONDITIONS AND LIMITATIONS OF LIABILITY SET FORTH IN ITS TARIFF (E.G. LIABILITY FOR LOSS OR DAMAGE TO GOODS IS LIMITED TO 50 CENTS PER POUND) FILED WITH THE ATC. AN EXTRACT OF WHICH IS AVAILABLE FOR EXAMINATION AT THE OFFICE OF OKANAGAN HELICOPTERS LTD.

SIGNED FOR CHARTERER BY *J. Label 761*      SIGNED FOR CARRIER BY *[Signature]*

CHARTERER'S BILLING ADDRESS

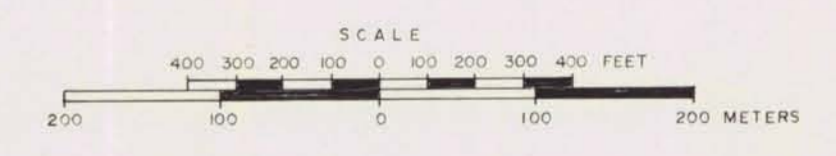


**L E G E N D**

- Total field magnetometric readings in gammas (base value 0 equals 57000 gammas)
- Isomagnetic contour (contour interval 100 gammas)
- Magnetic low
- Legal corner post, claim boundary
- Location of old diamond drill hole
- Stream

Department of  
 Mines and Petroleum Resources  
**ASSESSMENT REPORT**  
 NO. 5994 MAP #1

INSTRUMENT Geometrics G-816  
 OPERATOR J.L. LeBel and J. Nicholson  
 Date Aug 1976

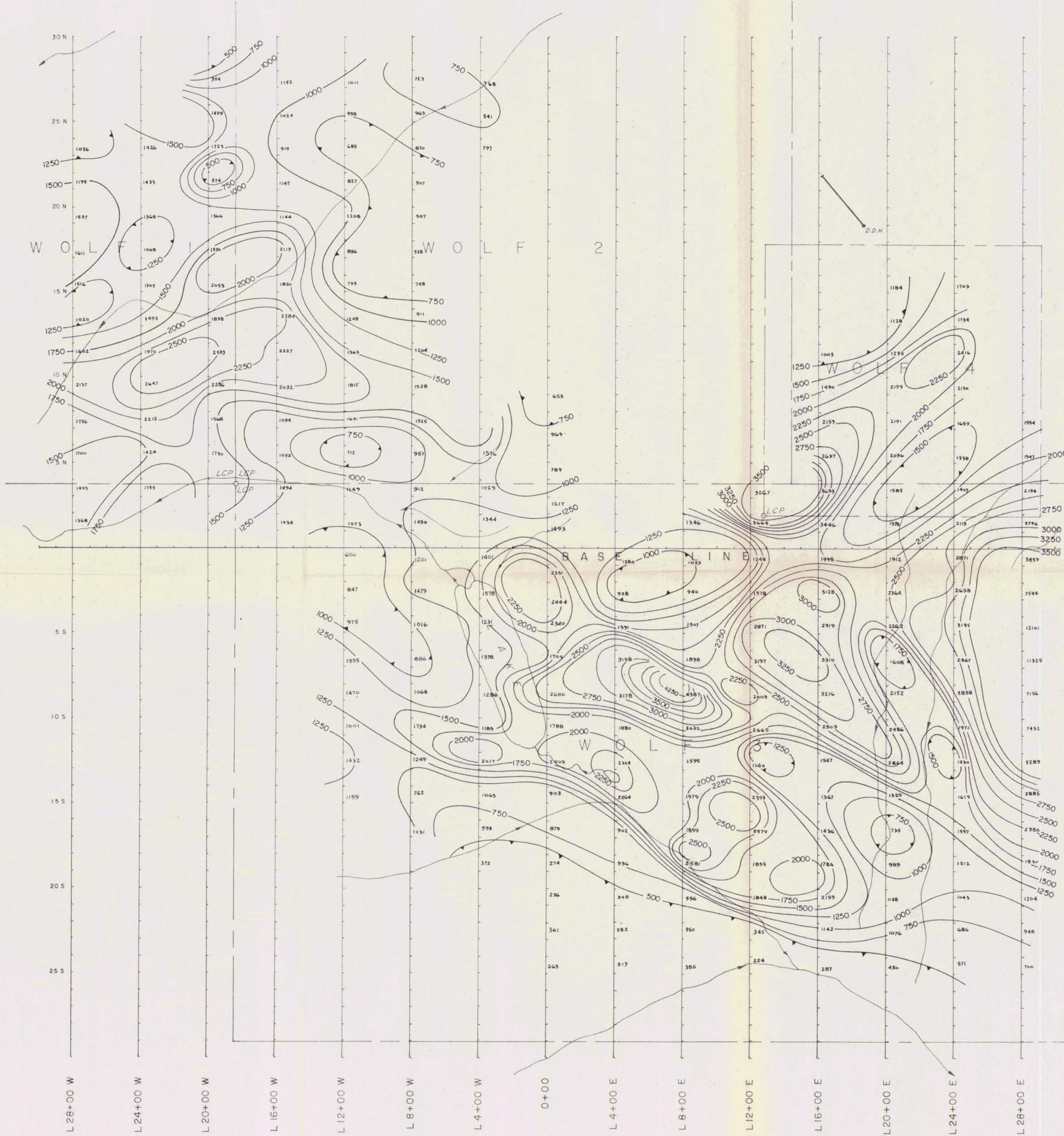


**AMAX POTASH LIMITED**  
**LUNO CREEK PROPERTY**  
**WOLF CLAIMS**  
 OMECEA MINING DIVISION — BRITISH COLUMBIA  
**MAGNETOMETER SURVEY**

DATE	DATE	Drawn by:	FIG. 3
REVISION	PRINTED	Date 17/9/76	
To accompany "1976 geophysical assessment report" by J.L. LeBel			
J.L. LeBel 23/9/76			

5994 M-1

MINERAL INDUSTRY  
 CLAIMS LIST  
 FOR THE DISTRICT OF  
 BRITISH COLUMBIA



- LEGEND**
- Apparent resistivity readings in ohm-meters
  - Resistivity contour (contour interval 250 ohm-meters)
  - Resistivity low
  - Legal corner post, claim boundary
  - Location of old diamond drill hole
  - Stream

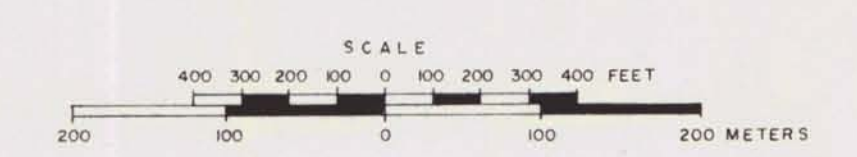
Department of  
 Mines and Petroleum Resources  
**ASSESSMENT REPORT**  
 NO. 5994 MAP #2

**INSTRUMENT** Scintrex IPR-7 Receiver  
 Crone 250 Watt Transmitter

**ARRAY** Dipole-Dipole A = 400' N = 1

**OPERATOR** J.L. LeBel and J. Nicholson

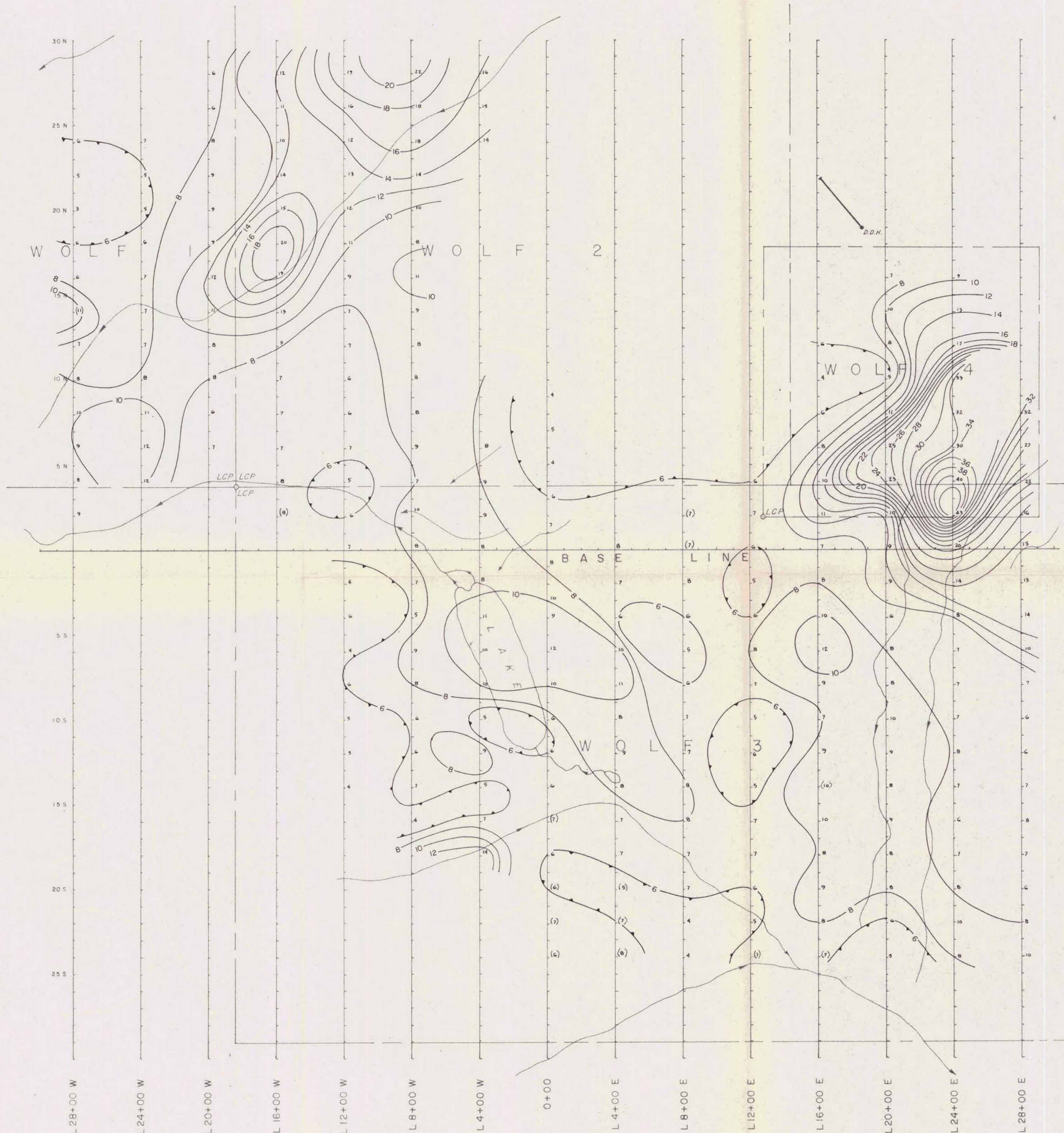
**Date** Aug 1976



**AMAX POTASH LIMITED**  
**LUNO CREEK PROPERTY**  
**WOLF CLAIMS**  
 OMECEA MINING DIVISION — BRITISH COLUMBIA  
**I.P.-RESISTIVITY SURVEY**  
**APPARENT RESISTIVITY**

DATE REVISED	DATE PRINTED	Drawn by Date 17/9/76	FIG. 4a

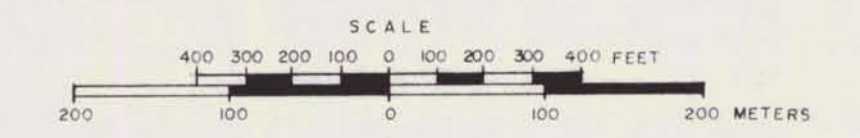
To accompany "1976 geophysical assessment report" by J.L. LeBel  
*J. & LeBel 23/9/76*



- LEGEND**
- Chargeability readings in milliseconds (2 second pulse)
  - Noisy reading
  - Chargeability contour (contour interval 2 milliseconds)
  - Chargeability low
  - Legal corner post, claim boundary
  - Location of old diamond drill hole
  - Stream

Department of  
 Mines and Petroleum Resources  
**ASSESSMENT REPORT**  
 NO. 5994 MAP # 3

INSTRUMENT      Scintrex IPR-7 Receiver  
                      Crane 250 Watt Transmitter  
 ARRAY             Dipole-Dipole A=400' N=1  
 OPERATOR        J.L. LeBel and J. Nicholson  
 Date                Aug 1976



**AMAX POTASH LIMITED**  
**LUNO CREEK PROPERTY**  
**WOLF CREEK CLAIMS**  
 OMINECA MINING DIVISION — BRITISH COLUMBIA  
**I.P.-RESISTIVITY SURVEY**  
**APPARENT CHARGEABILITY**

DATE REVISION	DATE PRINTED	Drawn by: Date 17/9/76 N. T. S.	FIG. 4b
---------------	--------------	---------------------------------------	---------

To accompany "1976 geophysical assessment report" by J.L. LeBel  
 J.L. LeBel 23/9/76