

451

REPORT ON  
AN INDUCED POLARIZATION SURVEY  
IN THE  
MERRITT AREA, NICOLA MINING DIVISION,  
BRITISH COLUMBIA  
(50°, 121°, SE)  
120, SW

for

EARLCREST RESOURCES LIMITED

by

HUNTING SURVEY CORPORATION LIMITED

Toronto, Ontario

August, 1962.

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Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 451 MAP

## INTRODUCTION

From June 27th. to June 29th. , 1962 , an Induced Polarization (I.P.) survey was carried out by Hunting Survey Corporation Limited over part of the property owned and operated by Earcrest Resources Limited. This property is located a few miles to the west of Merritt in the Highland Valley district (Nicola Mining Division), British Columbia (50° , 121° , SE). The survey extended over the following claims:

Strike 1	Rich 9
Strike 2	Rich 10
Resources 29	Rich 11
Resources 30	Rich 12

The survey was performed by a five-man crew. The Project Geophysicist in charge of the survey and the Technician-Operator were E. L. Gregotski and F. H. Faulkner respectively, of Hunting Survey Corporation Limited. Earcrest Resources Limited provided three helpers for handling the electrodes on the lines. They were R. Mackay, H. Krause and C. Langlois.

The geophysical survey was carried out along pre-cut and chained picket lines. Lines R, S and T, the three lines surveyed, are orientated roughly in a north-south direction to intersect malachite showings in trenches. The location and direction of these lines are shown on the I.P. grid map in the pocket at the end of this report. The arbitrary footages on these lines are called north. The basic coverage of the survey consists of readings at 100 and 200 foot

intervals depending on the electrode spacing used. In this manner, a total of 6,000 feet or slightly over 1 mile of profiles were obtained. The data were obtained using the "three electrode array". This array consists of one current electrode ( $C_1$ ), two potential electrodes ( $P_1$  and  $P_2$ ), the second current electrode ( $C_2$ ) remaining fixed at "infinity".

Line R is surveyed from 44+00N to 56+00N with an electrode spacing of 200 feet, from 30+00N to 63+00N with an electrode spacing of 400 feet and from 32+00N to 62+00N with an electrode spacing of 800 feet. Line S is surveyed from 46+00N to 60+00N with electrode spacings of 100 and 200 feet and from 48+00N to 58+00N with an electrode spacing of 400 feet. Line T is surveyed from 52+00N to 66+00N with an electrode spacing of 400 feet only.

The Hunting pulse-type instrument is similar in design and operation to those described by R. W. Baldwin in "A Decade of Development in Overvoltage Survey", A.I.M.E. Transactions, Vol. 214, 1959. Power is obtained from a Volkswagen motor coupled to an 18 kw., 400 cycle generator which provides a maximum of 10,000 watts d.c. to the ground. The cycling rate is 1.5 seconds current on and 0.5 seconds current off, the pulses reversing continuously in polarity. The data collected in the field consists of careful measurement of the current ( $I$ ) in amperes flowing through electrodes  $C_1$  and  $C_2$ , and of the primary voltage ( $V_p$ ) in volts appearing between  $P_1$  and  $P_2$  during the "current on" part of the cycle. Also, the secondary voltage or overvoltage appearing between electrodes  $P_1$  and  $P_2$  during the "current off" part of the cycle is integrated electronically with respect to time, to provide a measurement of polarization ( $V_s$ ) in

millivolt-seconds. The "apparent chargeability" in milliseconds is calculated by dividing the polarization ( $V_s$ ) by the primary voltage ( $V_p$ ). The "apparent resistivity" in ohm-meters is proportional to the primary voltage ( $V_p$ ) divided by the measured current ( $I$ ), the proportionality factor depending on the geometry of the array used. The resistivity and chargeability obtained are called "apparent" as they are the values which that portion of the earth sampled by the array must have if it were homogeneous. As the earth sampled is usually inhomogeneous, the calculated "apparent resistivity" and "apparent chargeability" are functions of the "true" resistivities and chargeabilities of the various sections of the earth sampled and of the geometry of those sections.

The results of the survey are shown on the individual I.P. profiles in the Appendix of this report. These profiles have a horizontal scale of 1 inch to 100 feet. The "apparent chargeability" is plotted at a vertical scale of 1.0 milliseconds per inch. The "apparent resistivity" is plotted on a vertical logarithmic scale of 2 inches per logarithmic cycle. The location of these I.P. profiles relative to the topography of the area surveyed is shown on the I.P. grid map at a scale of 1 inch to 100 feet, located in the pocket at the end of this report.

INTERPRETATION

This partial I. P. survey was conducted in the hope of locating copper sulphide mineralization (if any), possibly associated with malachite staining observed in the trenches in this area. A careful examination of all the data obtained on the three lines showed no significant response to the method. The chargeability and resistivity profiles of all three lines show only normal variation in background electrical properties of the country rock.

CONCLUSIONS

On the basis of the available data from this I.P. survey, it must be concluded that no significant amount of copper sulphide mineralization has been detected. However, the survey covered only part of the property leaving very wide gaps between Lines S and T. Thus, it is possible that extending the present I.P. survey may uncover new indications. Whether or not this work is warranted must be determined on the basis of a geological knowledge of the property more intimate than that of the interpreter.

HUNTING SURVEY CORPORATION LIMITED



C.W. Faessler,  
Senior Geophysicist.

APPENDIX

I. P. Profiles : Line R

Line S

Line T





## INVOICE

## HUNTING SURVEY CORPORATION LIMITED

1409 West Pender Street Vancouver 5 B.C. Canada • Mutual 3-6501 Cables: Canhunt

Earlcrest Mines Limited,  
678 Howe Street,  
Vancouver 1, B.C.

Attn: Mr. R. Stokes.

INVOICE No 1077  
DATE 31st August 1962  
YOUR ORDER No  
JOB No 62-122  
TERMS: NET CASH  
SHIPPED VIA

QUANTITY	DESCRIPTION	UNIT PRICE	TOTAL
	TO:  Completion:  Induced Polarization Survey over the Broom Creek claims, Highland Valley, B.C.  Provision of geophysicist, operator, I.P. unit, Interpretation and Living Expenses for 27th and 28th June:  2 days @ \$385.00 per day		<u>\$770.00</u> <u>500.00</u> <u>270.00</u>
	Cash Advance received - \$500.00		
	Outstanding to date - \$270.00		
	INTEREST MAY BE CHARGED ON OVERDUE ACCOUNTS		

10-10-62  
E 890

DOMINION OF CANADA:  
 PROVINCE OF BRITISH COLUMBIA.  
 To Wit:

**In the Matter of** Filing of I.P. Survey as  
 assessment on the Resources  
 Group, Nicola Mining Division

I, R. B. Stokes

of Earlcrest Resources Ltd. (N.P.L.)  
 213 - 678 Howe Street, Vancouver 1, B.C.

in the Province of British Columbia, do solemnly declare that  
 Hunting's survey started 8 a.m. June 27, 1962  
 completed 5:30 p.m. June 28, 1962  
 Company's crew began laying wire latter quarter of June 26, 1962  
 last of wire removed June 29, 1962

June 26 :	4 man/hours	(2 men)	laying infinity wire
June 27 :	73 man/hours	(10 men)	telephones & stakes, laying & picking up wire
June 28 :	73 man/hours	(9 men)	telephones & stakes, laying & picking up wire
June 29 :	32 man/hours	(4 men)	removing last of wire
	<u>182 man/hours</u>		

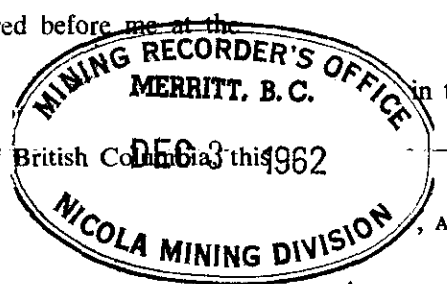
<u>TOTAL</u>	
2 days Huntings @ \$385.00	\$770.00
22½ man/days (182 man/hours) @ \$16.00	360.00
Supervision & assisting (R.B.Stokes) 2 man/days @ \$25.00	<u>50.00</u>
	1,180.00
Line cutting and line survey for control of above survey 8 man/days @ \$16.00 per day	<u>128.00</u>
	<u>\$1,308.00</u>

Claims surveyed - Strike #1, #2  
 Rich #9, #10, #11, #12  
 Resources # 29, #30

Crew members working on survey :  
 C. Langlois; V. Ellingson; R. Mackay; H. Krause; E. Shea;  
 D. Foreman; A. Hutchison; E. Lee; H. Shear; R.B.Stokes; J. Barber

And I make this solemn declaration conscientiously believing it to be true, and knowing that it is of  
 the same force and effect as if made under oath and by virtue of the "Canada Evidence Act."

Declared before me at the  
 of \_\_\_\_\_ in the  
 Province of British Columbia this 3<sup>rd</sup> day of  
 day of \_\_\_\_\_, A.D.



*R B Stokes*

*[Signature]*

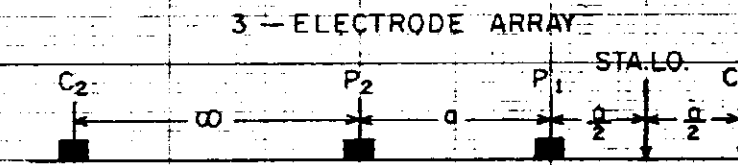
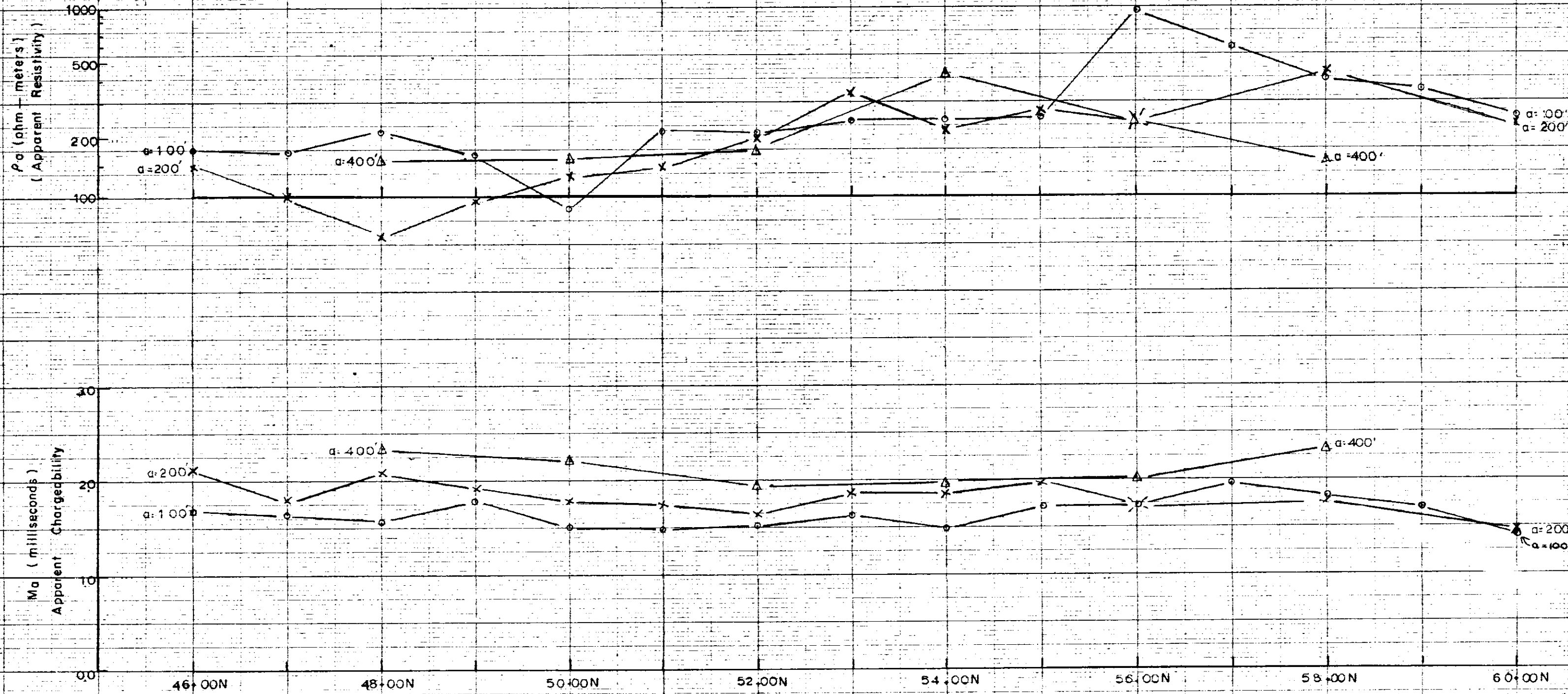
A Commissioner for taking Affidavits within British Columbia or  
 A Notary Public in and for the Province of British Columbia.

EARLCREST RESOURCES LIMITED

MERRITT, BC

IP PROFILE - LINE-S

JUNE 1962



(MI)

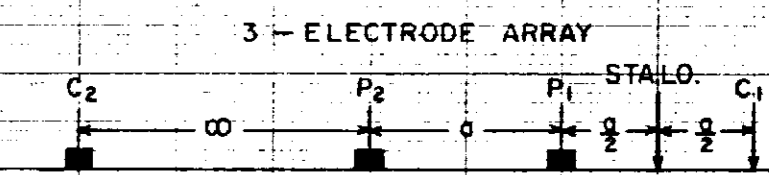
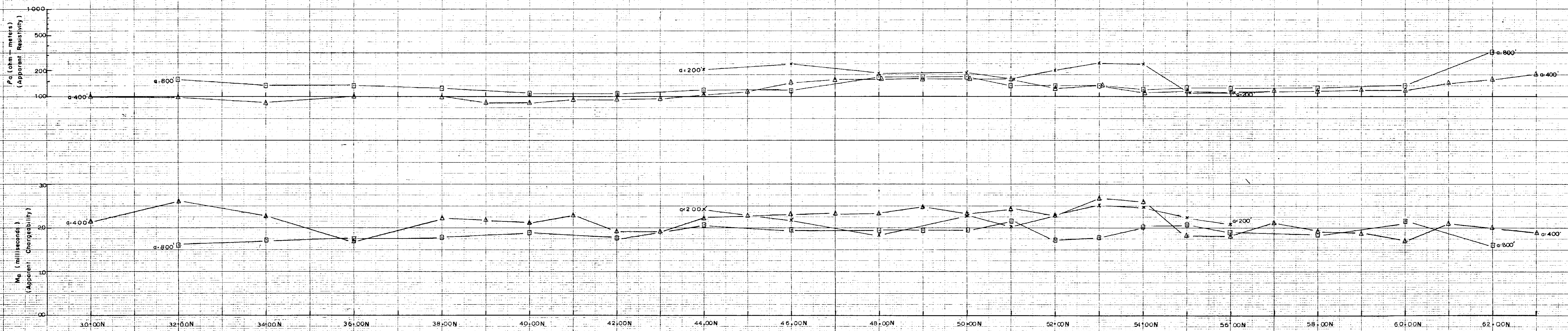
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EARLCREST RESOURCES LIMITED

MERRITT, B.C.

IP PROFILE - LINE-R

JUNE, 1962



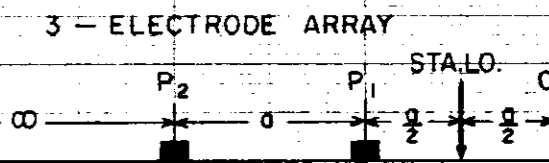
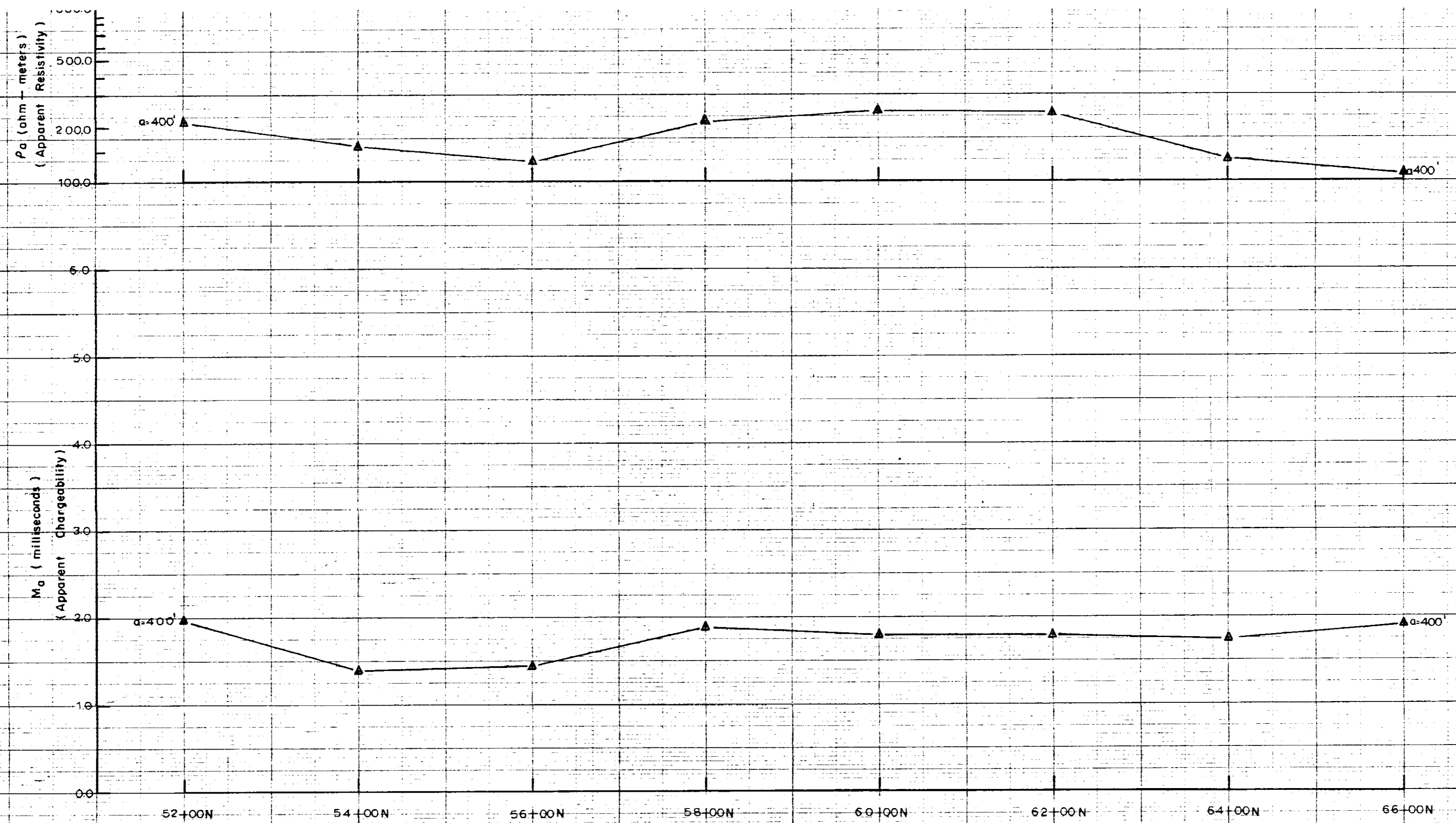
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EARLCREST RESOURCES LIMITED

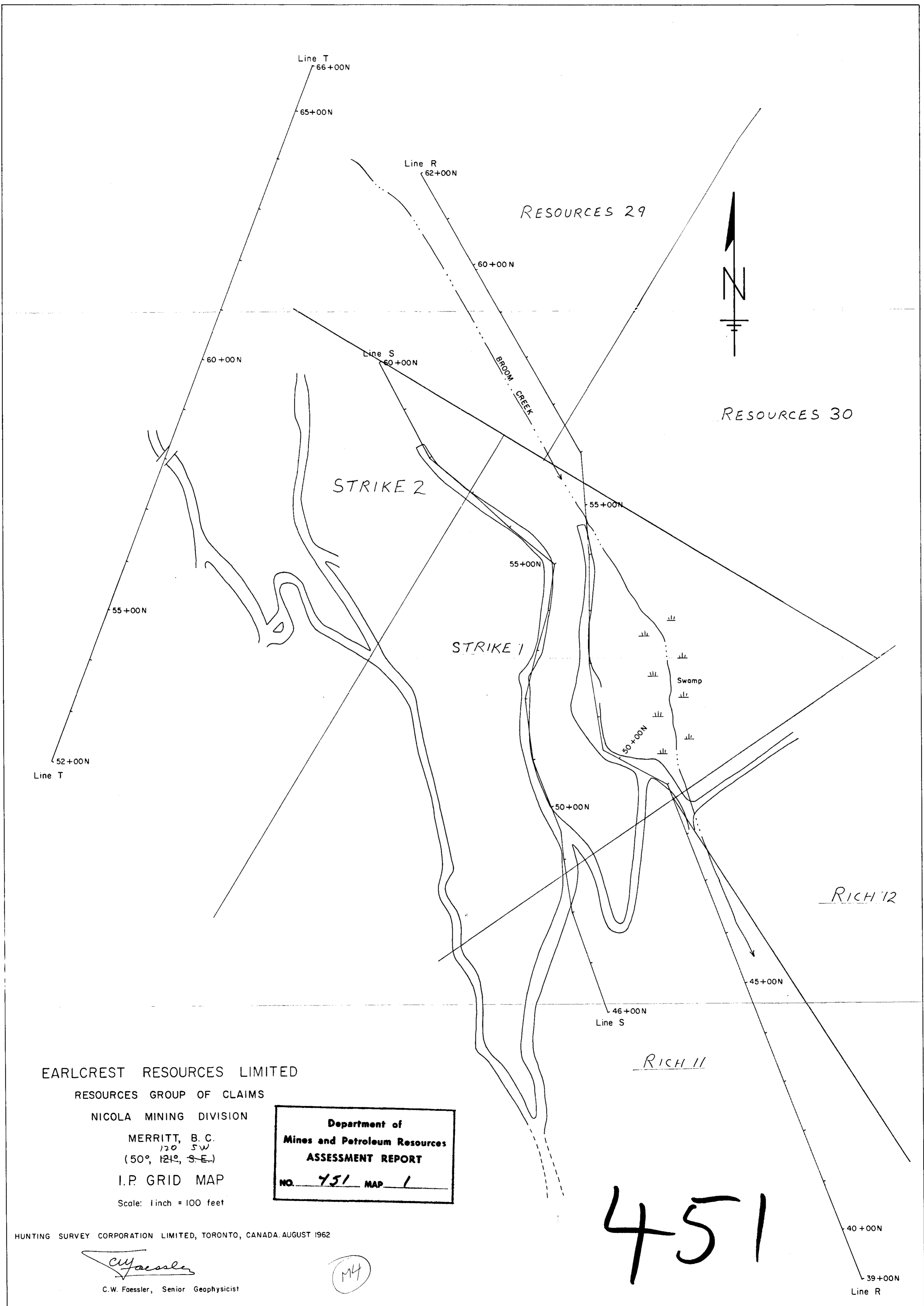
MERRITT, BC

IP PROFILE - LINE-T

JUNE, 1962



MB  
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EARLCREST RESOURCES LIMITED  
 RESOURCES GROUP OF CLAIMS  
 NICOLA MINING DIVISION  
 MERRITT, B. C.  
 (50° 12' 5" N, 121° 5' W, S.E.)  
 I.P. GRID MAP  
 Scale: 1 inch = 100 feet

Department of  
 Mines and Petroleum Resources  
 ASSESSMENT REPORT  
 NO. 451 MAP 1

HUNTING SURVEY CORPORATION LIMITED, TORONTO, CANADA. AUGUST 1962

*C.W. Faessler*  
 C.W. Faessler, Senior Geophysicist

(M4)

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40+00N  
 39+00N  
 Line R