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REPORT ON

AN INDUCED POLARIZATION SURVEY

LOWER ROVER PROPERTY

NICOLA MINING DIVISION, BRITISH COLUMBIA

(50°, 121°, SE)

for

GENERAL RESOURCES LIMITED

92I/7W

by

HUNTING SURVEY CORPORATION LIMITED

Toronto, Ontario

August, 1962.

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INTRODUCTION

On June 25th. and 26th., 1962, an Induced Polarization (I.P.) survey was carried out by Hunting Survey Corporation Limited over part of the Lower Rover property owned and operated by General Resources Limited.

The Lower Rover group of claims is located near Merritt, in the Nicola Mining Division, British Columbia, (50°, 121°, SE). The survey extended over the claims Rover No. 6 FR and 7.

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. General 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 three pre-cut and chained picket lines labelled 100N, 108N and 116N. These lines run S70°E to cover a weak magnetic and geochemical anomaly and to cross a copper showing discovered in Tyner Creek. Footages on these lines are called East. The westernmost station on each line, Stations 30+00E, line up in a N40°E direction. The basic coverage of the survey consists of readings at 100-foot intervals. In this way, 5,700 feet or approximately 1.06 miles of lines were surveyed.

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 100N was surveyed with the 800-foot electrode spacing only. Lines 108N and 116N were surveyed with electrode spacings of 400 and 800 feet. Additional data were obtained over part of Line 108N with an electrode spacing of 200 feet.

The results of the survey are shown on the individual profiles in the Appendix of this report, and on the interpretation map in the pocket at the end of the report. The I.P. profiles have a horizontal scale of 1 inch to 100 feet. The "apparent chargeability" is plotted at a vertical scale of 1 millisecond per inch. The "apparent resistivity" is plotted on a vertical logarithmic scale of 2 inches per logarithmic cycle. The interpretation map, at a scale of 1 inch to 200 feet, also shows the relative position of the lines and stations which were surveyed by the I.P. method.

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.

KNOWN GEOLOGY

The major part of the property which was surveyed is covered by overburden of unknown thickness. The bedrock is assumed to be granodiorite. A small showing of chalcopyrite and malachite is reported at approximately 41+00E on Line 108N.

INTERPRETATION

In carrying out the I.P. survey, Line 108N was surveyed first, then Line 116N and finally Line 100N. In this order, the following paragraphs discuss the I.P. profiles.

Line 108N:

Line 108N is surveyed from 30+00E to 50+00E with electrode spacings of 400 and 800 feet, and from 30+00E to 43+00E with an electrode spacing of 200 feet. All readings were obtained at station intervals of 100 feet.

The chargeability profile shows mainly normal variations in electrical properties of the overburden and bedrock producing an approximate background value of 1.5 to slightly over 2.0 milliseconds. Two sharper peaks reaching approximately a total intensity of 3 milliseconds are observed on the 400 and 800 foot electrode spacings at 41+00E and 39+00E, respectively. The narrowness of these peaks as compared with the relatively large electrode spacings and their relative position indicate that they are due to surface effects at the common current electrode location at 43+00E.

The resistivity data in general show little variation in resistivity values except for two areas of shallow and narrow, low resistivities. The westernmost of the two areas, located at 34+00E to 36+00E, is believed to be due to the coinciding Tyner Creek bed. The eastern area of low resistivity appears to be displaced some 200 feet westward of the same creek as indicated by the field maps. Thus, it is wondered whether

the creek may not be actually located at approximately 43+00E instead of 45+00E as shown. If this is the case, then the surface disturbances on the chargeability profiles previously mentioned, and the resistivity lows, are explained by the creek bed. If this is not the case, the chargeability disturbances and the resistivity lows are believed to be of no significance economically, the first because it is definitely at ground surface and therefore in overburden, and the second, because they do not show any significant response on the chargeability profiles. Thus, on the basis of the I.P. data, it is concluded that the small copper showing at approximately 41+00E is too small or contains too little mineralization to be detected by the I.P. method and, therefore, does not appear to be of any economic significance.

Line 116N:

Line 116N is surveyed from 30+00E to 60+00E with electrode spacings of 400 and 800 feet. The 800-foot electrode spacing data show little variation from a background averaging approximately 2.0 milliseconds. The 400-foot electrode spacing profile shows some broad and relatively weak highs reaching an intensity of less than 3.5 milliseconds. Due to the lack of response on the 800-foot electrode spacing, it appears probable that the 400-foot electrode spacing response is due to a slight increase in chargeability within a basically flat-lying layer at relatively shallow depth. Thus, it is highly probable that this response is due to a slight increase in chargeability within the overburden. This is supported to some degree by a slight increase in the resistivity data on the 400-foot electrode spacing. Thus, on the basis of the available resistivity and

chargeability data, a flat-lying body of slightly higher chargeability and resistivity is the source of the observed responses. This body is most probably composed of overburden although it may also lie within the bedrock. If the former is correct, it is of no economic significance. If the latter possibility proves correct, it could be indicative of a zone of mineralization within the intrusive which may contain some unknown quantity of mineralization. On the basis of the available data, the interpretation cannot be more specific.

Line 100N:

Line 100N is surveyed from 30+00E to 47+00E with an electrode spacing of 800 feet only. The observed slight variations in the resistivity and chargeability profiles indicate only normal variations of the electrical properties within the bedrock. Thus, no significant indications were obtained on this line.

SUMMARY AND CONCLUSIONS

The I.P. survey of part of the Lower Rover group of claims in the Merritt area indicated very little response to possible mineralization. The two sharp peaks on the 400 and 800 foot electrode spacings on Line 108N, are shown to be due to surface effects at 43+00E, that is, at a common location of the current electrode for both spacings. A weak indication of higher chargeability and resistivity values was obtained on Line 116N, mainly on the 400-foot electrode spacing. These higher responses are believed to be due to high resistivity, high chargeability overburden and therefore of no significance economically. On the other hand, it is possible that these responses could be indicative of a higher chargeability layer within the bedrock. This layer would not be of economic significance on Line 116N but its development northwards may or may not become significant. Additional data at a narrower electrode spacing on Line 116N, and on lines to the north, would be required to permit a definite interpretation.

In conclusion, it can be stated, on the basis of the available survey data, that no significant mineralization has been detected by the survey.

RECOMMENDATIONS

As no significant mineralization has been detected by the present survey, and as this survey extended over only part of the property, the only recommendation possible is to extend the I.P. survey over the rest of the property.

HUNTING SURVEY CORPORATION LIMITED

C. W. Faessler,
Senior Geophysicist.

APPENDIX

I.P. Profiles : Line 108N

Line 116N

Line 100N

DOMINION OF CANADA:

PROVINCE OF BRITISH COLUMBIA.

TO WIT:

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

I, R. B. Stokes

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

in the Province of British Columbia, do solemnly declare that

Line cutting and survey for control of I.P. survey :		
6 man/days @ $16.00		$96.00
Hunting Survey's bill for I.P. survey		770.00
General Resources' crew time :		
June 24 : Laying wire	4 man/days	
June 25 : I.P. survey, laying wire, stakes, telephones, etc.	11 man/days	
June 26 : I.P. survey, laying wire, stakes, telephones, etc.	11 man/days	
June 27 : Picking up wire	4 man/days	
Total 30 man/days @ $16.00		480.00
	Total .	$1,346.00

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 MINING RECORDER'S OFFICE MERRITT, B.C. NOV 26 1962 NICOLA MINING DIVISION in the Province of British Columbia, this day of , A.D.

R B Stokes

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

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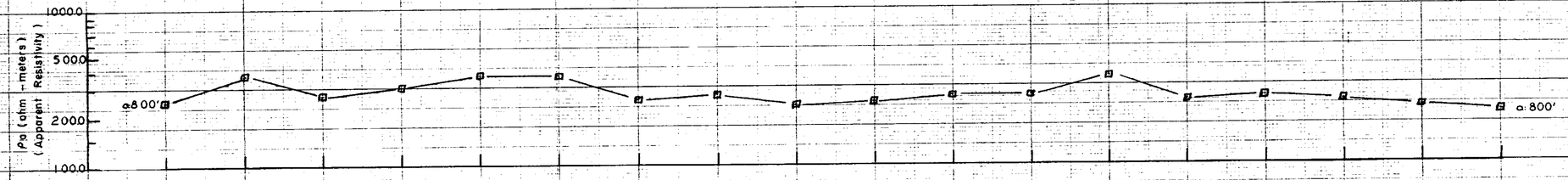
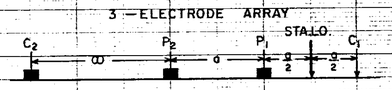
GENERAL RESOURCES LIMITED

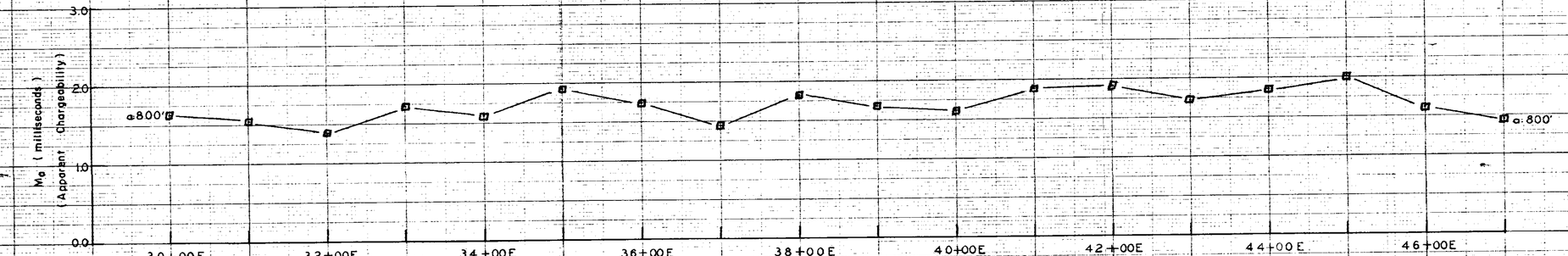
MERRITT, B.C.

I.P. PROFILE - LINE 100+00N

JUNE, 1962







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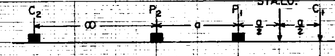
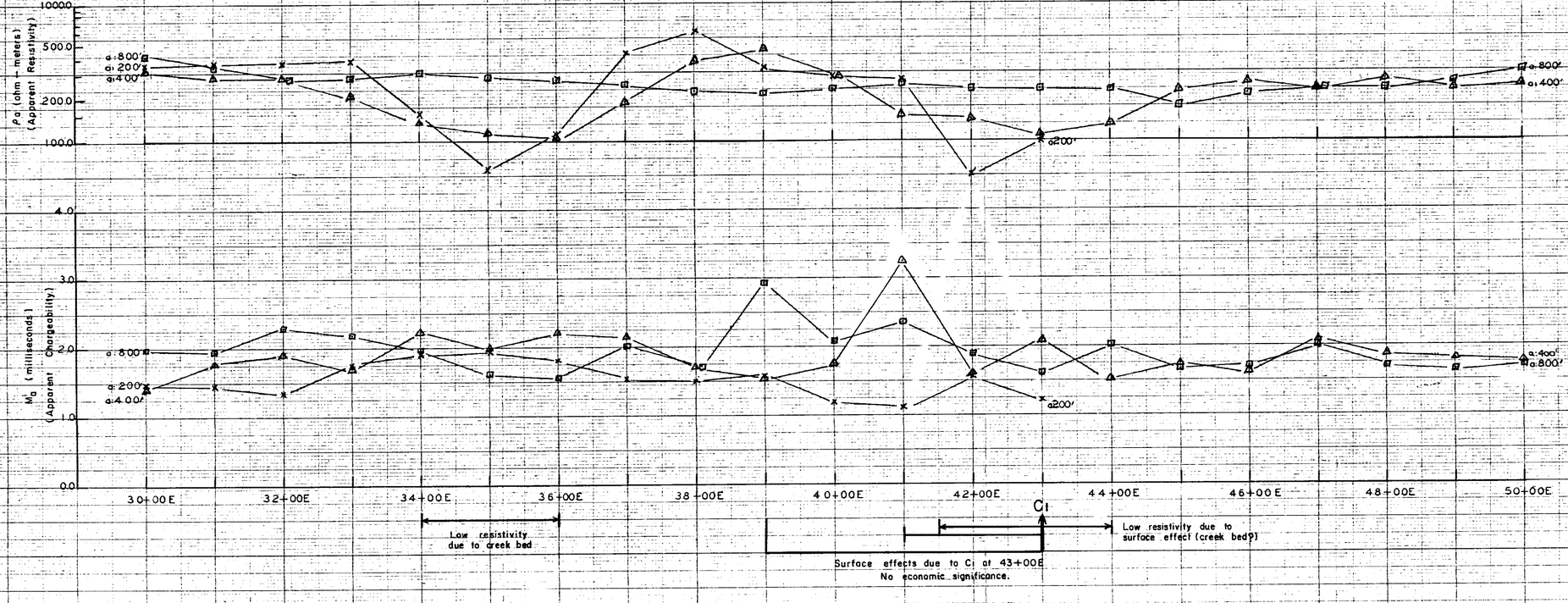
MERRITT, B.C.

I.P. PROFILE - LINE 108+00N

JUNE, 1962





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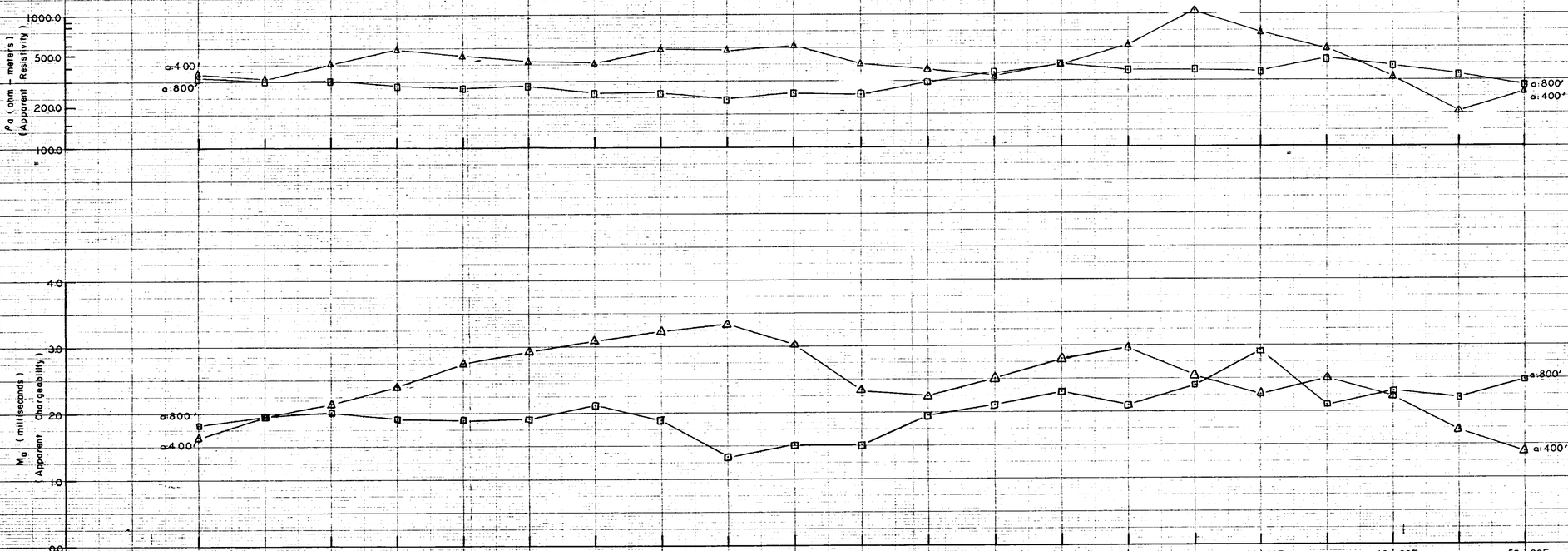
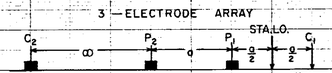
MERRITT B.C.

I.P. PROFILE - LINE 116+00N

JUNE, 1962



3 — ELECTRODE ARRAY



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Rover #3

L-116 N

N40°E

Indications of higher chargeability and resistivity layer, probably in overburden, possibly in bedrock. Probably no significance but require more data for definite interpretation.

Rover #2

L-108 N

Rover 7

Low Resistivity due to creek bed

Low Resistivity due to surface effect (creek bed?)

Rover 6 Fract

TYNER CREEK

Rover #7

S 70°E

L-100 N

30+00E

40+00E

50+00E

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Claim boundaries drawn by H. H. Shear
W. N. Shear
Field Engineer
General Resources

MH

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LOWER ROVER GROUP, MERRITT B.C.

I.P. INTERPRETATION MAP

Scale: 1 inch = 200 feet

HUNTING SURVEY CORPORATION LIMITED, TORONTO, CANADA. AUGUST, 1962

C.W. Faessler

C.W. Faessler, Senior Geophysicist