INDUCED POLARIZATION AND RESISTIVITY GEOPHYSICAL REPORT on Lil Group of Mineral Claims in the Nicola Mining Division of B.C. Claims are situated about five miles north of Canford, B.C. at 50°, 120°. Work done between Aug. 26, 1960, and October 3, 1960.

Signed L. B. Gatenby
L. B. Gatenby, P. Eng.

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Enclosed Maps

CLAIMS

The Lil group of mineral claims comprising 15 claims and 3 fractions is situated in the Nicola Mining Division about 2 miles west of the Craigmont Mine and bounding the Hec group of Craigmont's on the east. The individual claims of the Lil group are as follows:

Lil #1	Tag No.	205776	Record No.	11528
Lil #2	" "	205777	" "	11529
Lil #3	" "	205778	" "	11530
Lil #4	" "	205779	" "	11531
Lil #5	" "	205780	" "	11532
Lil #6	" "	205781	" "	11533
Lil #7	" "	205782	" "	11534
Rod #1	" "	205742	" "	11565
Rod #2	" "	269458	" "	11564
KL #6	" "	BL2909	" "	5075
KL #20	" "	BL2917	" "	5089
KL #22	" "	BL2919	" "	5091
KL #31	" "	BL2993	" "	5189
KL #36	" "	BL2903	" "	5192
KL #37	" "	B8L129	" "	5193
LK #1 Fr.	" "	323553	" "	8501
LK #2 Fr.	" "	323546	" "	8502
Rod #3 Fr.	" "	266253	" "	12137

See Map A

Expenditures:

The following direct costs for an Induced Polarization Geophysical survey covering the Lil group of claims have been incurred between August 26th and October 3rd, 1960:

Line Cutting and picketing 100 stations

H. Lang 20 days @ $12.00/day	$240.00
D. Duncan 20 days @ $12.00/day	$240.00

I.P. Geophysical Crew

N. G. Mattocks Graduate Geophysicist in charge of survey 12 days @ $35.00/day	$420.00
W. Rorison 12 days @ $15.00/day	$180.00
J. Ellefsen 12 days @ $15.00/day	$180.00
G. Halbert 12 days @ $14.00/day	$168.00
A. McDougall 12 days @ $14.00/day	$168.00

Supervision

L. B. Gatenby P. Eng. 5 days @ $35.00/day	$175.00
Unemployment Insurance and Workmen's Compensation	$ 74.00
Instrument Maintenance 218 stations @ $1.00/station	$218.00
Vehicle charges	$ 75.00
Total	$2,138.00

Signed L. B. Gatenby

L. B. Gatenby, P. Eng.

Report on the Induced Polarization Geophysical Survey carried out on the Lil group of claims in the Nicola Mining Division between August 26th and October 3rd, 1960.

General Description of the Method

This method of geophysical surveying is designed to measure the overvoltage or decay voltage phenomenon when an intermittent or pulse voltage and resultant current are applied to the earth. The direct current into the earth sets up secondary voltages which decay at variable ~~voltages~~ rates, dependent on the specific ground conditions, when the current is interrupted.. Overvoltage in the ground is considered to be caused by conducting particles having thin dielectric film coatings which poses a blocking action to the current flow. They thus act as tiny condensers which discharge when the applied current is interrupted giving the over or decay voltage phenomenon. As a prospecting tool it has been shown metallic particles especially sulphides give a high decay voltage response whereas barren rock, with certain exceptions, gives a low response. The method is therefore particularly designed for the location and outlining of deseminated sulphide deposits.

Survey Method

The general field technique is to apply a D.C. voltage to the ground by means of two current electrodes and read the decay voltages, when the applied current is interrupted, on two return potential electrodes. In Practice a current pulse of one second on, one second off, is used allowing about 10 milliseconds for

induction and capacitive coupling effects before reading overvoltage. The next current pulse is reversed in polarity to help balance out these errors. The overvoltage is integrated on a meter over the interval of current cessation and over as many pulses as desired for accuracy. The self potential ground effects on the electrodes are balanced out by manually operated rheostats in the instrument before overvoltage readings are taken.

Various electrode arrays are used and electrode spacings are chosen according to the type of target and depth penetration desired. In this survey a 3 electrode array with 300' spacing was used to give the desired depth and horizontal penetration. Applied voltages varied from 400 to 1900 volts and passed current from 1.2 to .26 amperes. Return primary voltages varied from .01 to .3 volts and overvoltages from .04 to 1.3 millivolt seconds. From these instrument readings two factors are computed for plotting. They are (1) millivolt secs/volt designated "m" or milliseconds giving the chargeability or overvoltage effect and (2) resistivity of the ground calculated from the primary return voltage divided by amperage times an electrode spacing factor.

Survey Results

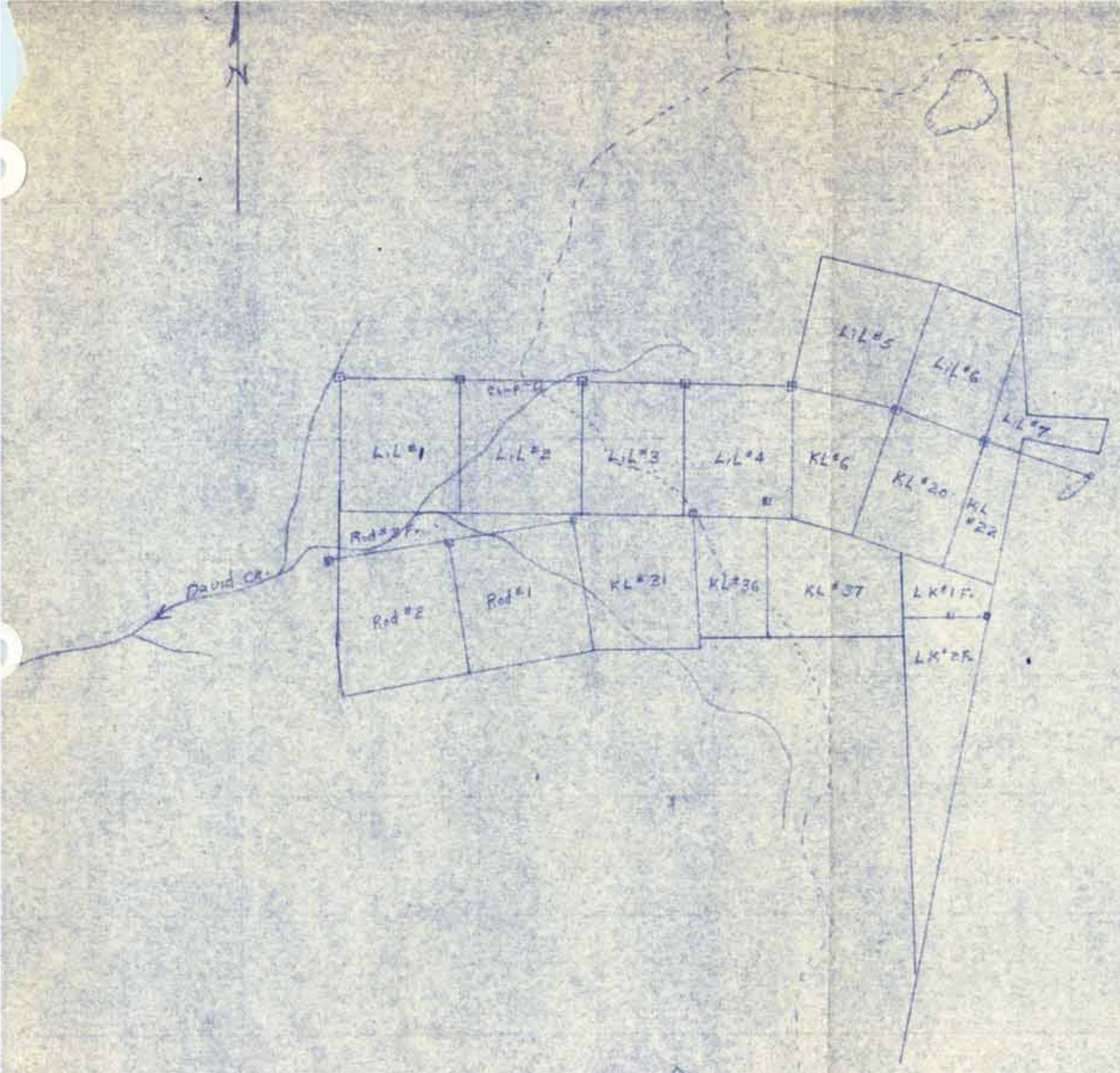
Twelve lines at 400' and 800' spacing covered an area about 1 1/2 miles long by 1/3 mile wide (see map B). Readings were taken at 100' intervals along each line.

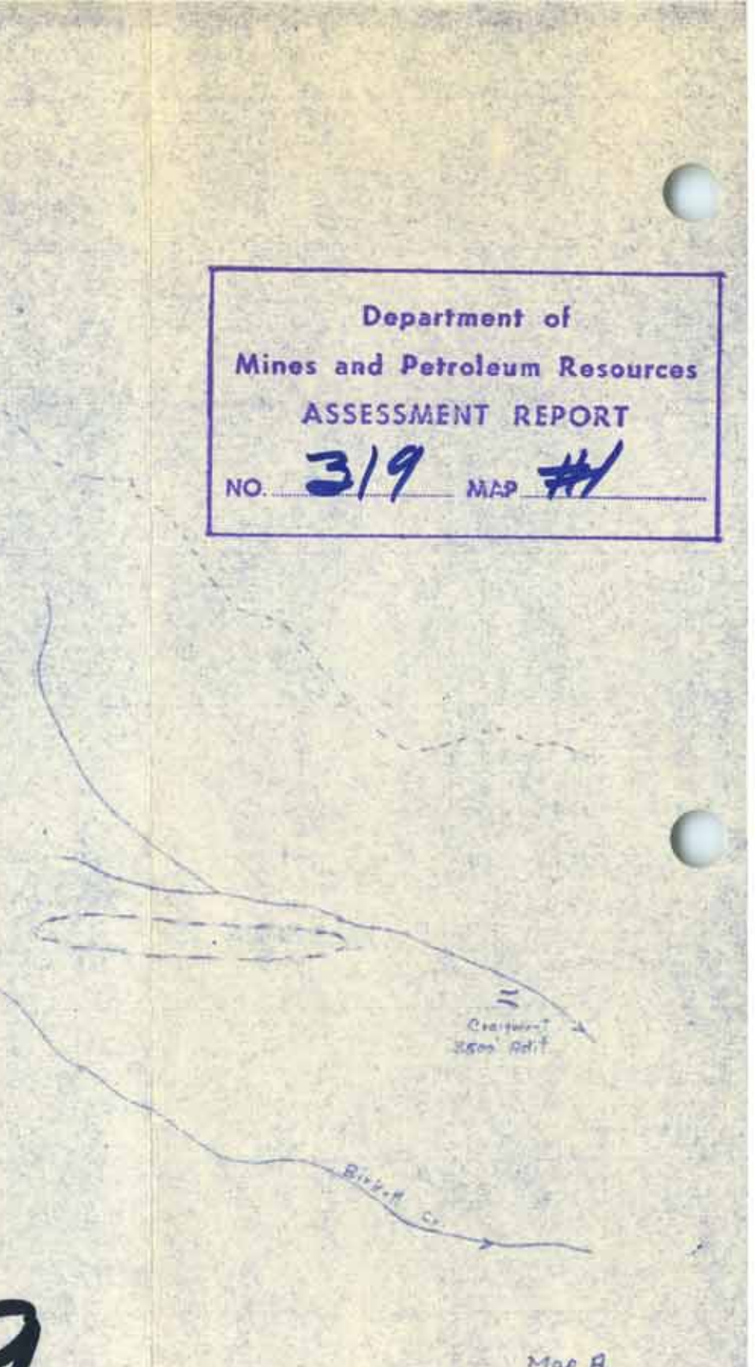
Resistivity profiles show very low readings in the Kingsvale volcanics, moderate readings in the Nicola volcanics and the highest readings (up to 900 ohm meters) in the intrusive rocks. The charge-

ability readings are all low except one region on line 18 W which shows an anomaly of about 4 times background over a length of about 300 feet. Ground examination indicates the anomaly may be caused by disseminated and fine fracture filling pyrite in the Nicola volcanic rocks. (See map C)

Signed L. B. Gatenby

L. B. Gatenby, P. Eng.





Department of
Mines and Petroleum Resources
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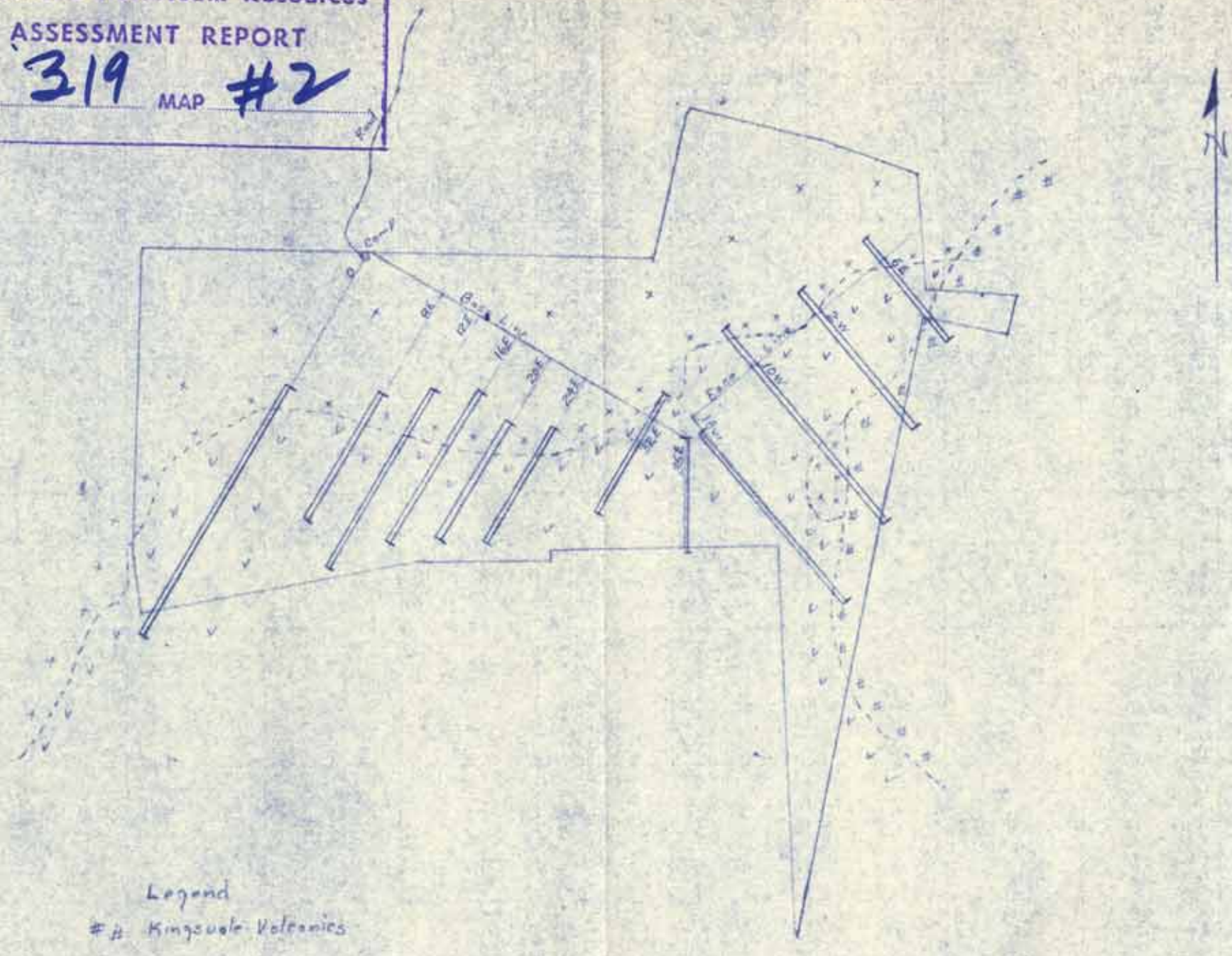
Map A

RIO TINTO CANADIAN EXPLORATION LTD.
WEST CREIGHMONT CLAIMS
Scale 1" = 1320' Sept 1960
R.B. Gateway Eng.

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 319 MAP #2



Legend

- #B Kingsvale Volcanics
- *K Granodiorite to Diorite
- VV Nicola Series volcanics and sedis.
- I.P. Geophysical Survey

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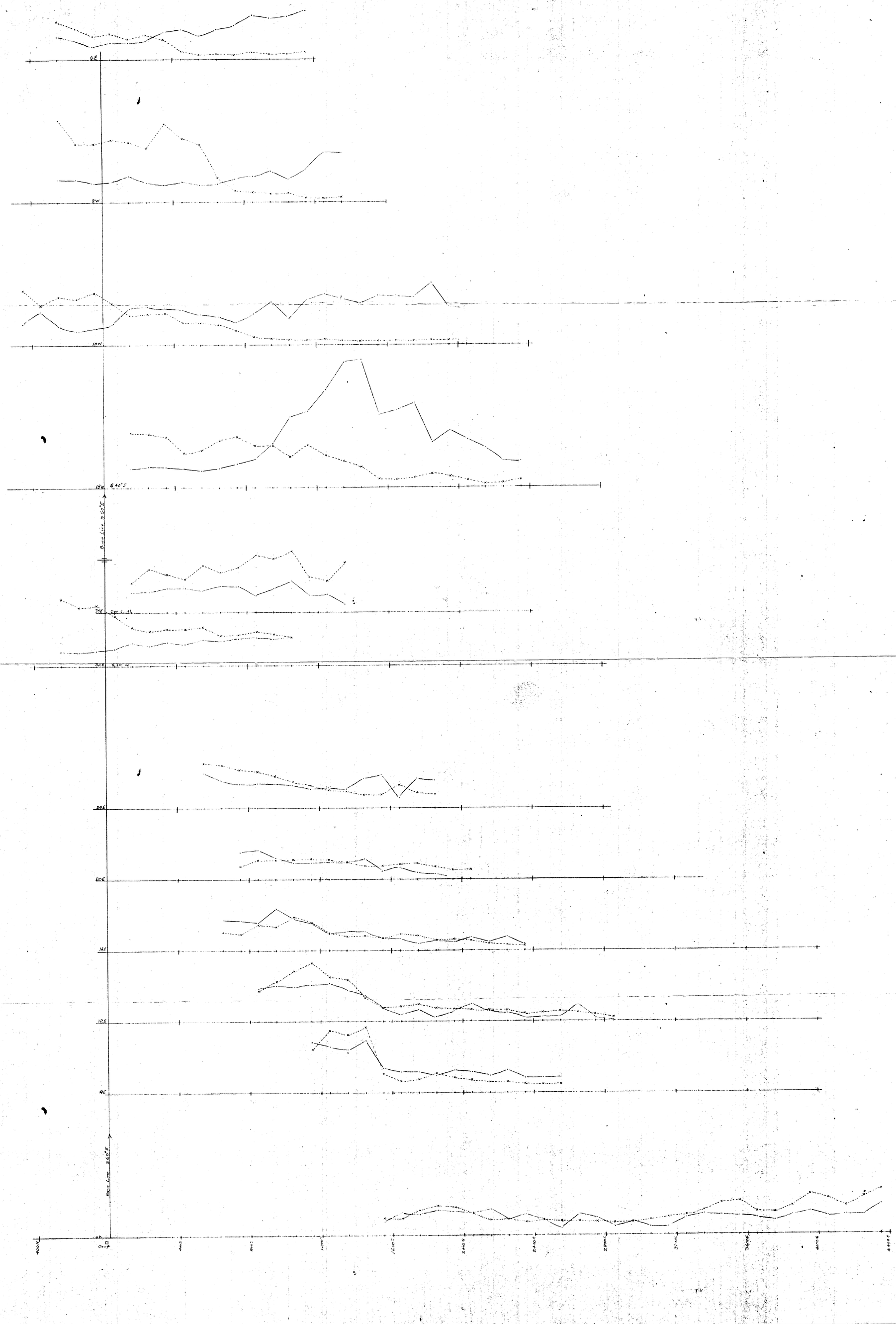
Map B

RIO TINTO CANADIAN EXPLORATION Ltd.
WEST CRAIGMONT CLAIMS
LOCATION
OF
I.P. GEOPHYSICAL GRID
and
GENERAL GEOLOGY
scale 1"= 1320' Sept. 1960
K. B. [illegible] M.E.



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Rio Tinto Canadian Exploration Ltd.

INDUCED POLARIZATION & RESISTIVITY PROFILES
WEST CRAIGMONT CLAIMS
Nicola Mining Division B.C.

Scales: Plan 1" = 200 Ft.
Chargeability 1" = 2 milliseconds
Resistivity 1" = 500 ohm-metres

Electrode configuration: 3 Array ~~S = 200'~~

September 1960