

2368

MERCURY EXPLORATIONS LIMITED (N.P.L.),
700 - 1281 West Georgia Street,
Vancouver 5, B.C.

GEOPHYSICAL ASSESSMENT REPORT

COUNT MINERAL CLAIMS

OMINECA MINING DIVISION

BRITISH COLUMBIA

N.T.S. 93-F

Longitude 124° 50'W. Latitude 53° 55'N.

Dates of Work: May 14th to June 5th, 1969.

by



ROBERT E. CHAPLIN, P.ENG.,

September 8th, 1969

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Department of
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ASSESSMENT REPORT
NO. 2368 MAP.....

GEOPHYSICAL ASSESSMENT REPORT
COUNT MINERAL CLAIMS
OMINECA M.D., BRITISH COLUMBIA

INTRODUCTION

The Count mineral claims were staked in 1969 to further examine data collected from regional geologic, geochemical and airborne geophysical surveys.

SUMMARY

The claims were staked due to a favourable geologic setting close to molybdenite prospects on Nithi Mountain.

Twenty-four miles of induced polarization survey located a 7,000 feet by 1,000 feet anomalous zone that trends in an east-northeast direction. Moderate to deep overburden covers the local bedrock. Mineralized boulders of altered intrusives have been found on the claims. More detailed I.P. and drilling are recommended in a \$41,500.00 follow-up program.

LOCATION

One hundred and two claims located along an eastwest valley, $2\frac{3}{4}$ miles south of the peak of Nithi Mountain, 100 miles west of Prince George and several miles east of the east end of Francois Lake.

OWNERSHIP

<u>Claim Name & No.</u>	<u>Record No.</u>	<u>Recording Date</u>	<u>Recorded Owner</u>
COUNT 1-102	67619-67720	March 13, 1969	Mercury Explorations

Applications for 73 Certificates of Work to maintain 73 count claims in good standing for one year, as well as Notices to Group for 3 groups:

Group A	COUNT 81-102 incl.	=	22 claims
Group B	COUNT 52-78 "	=	27 claims
Group C	COUNT 13, 37, 39 and 15-35 incl.	=	24 claims

Total 73 claims.

Count Claims (continued)....

ACCESS

Access is by automobile from the east end of Francois Lake.

HISTORY

The Nithi Mountain area has been prospected for uranium and molybdenum in the 1950's and 1960's. Most recent activity was during the Endako Mines' discovery in 1962-1963. Extensive trenching and 10,000 feet of diamond drilling on Mount Nithi indicates the presence of very low-grade, but large tonnages of sub-marginal molybdenite. Nothing of present commercial value, except possibly a small, high-grade zone, is known to occur on Mount Nithi.

Several companies, notably Canex Aerial Explorations, Julian Mining (now Anaconda), Phelps Dodge Corporation, and Amax Explorations have worked in the area at regional mapping and silt sampling and soil sampling programs.

GENERAL GEOLOGY OF AREA

Molybdenite in quartz stringers occurs in northeasterly-trending zones at several localities on Nithi Mountain. The mineral occurrences are sub-parallel to the contacts between the various phases of Topley quartz-monzonite. The quartz-monzonites are moderately fractured and slightly hydrothermally altered on the Nithi Mountain and on part of the mountain south of Mount Nithi. The area between the two mountains is a 1 $\frac{1}{2}$ to 2 mile wide forested and, in part, swampy, area forming Counts Lake and the lower part of the Nithi River. Overburden is of variable depth, increasing westward toward Francois Lake.

Mercury Explorations acquired the Count claims due to their favourable geologic setting in close proximity to the molybdenite prospects on Nithi Mountain. The claims cannot be prospected effectively by conventional means and require a specific sequence of geophysical surveys and test drilling to locate large tonnages of Endako-type sulphide mineralization.

PROCEDURE FOR INDUCED POLARIZATION RECONNAISSANCE SURVEY

A Geoscience Inc., frequency-domain, Induced Polarization Unit performed 100 line miles of pole-dipole, 400 foot traverses at widely spaced reconnaissance intervals. Dipole-dipole surveys checked central portions of the pole-dipole features.

Stainless steel current electrodes were used and field voltages were measured through supersaturated copper sulphate solutions in porous pots. All self potentials were easily bucked. Applied currents commonly ranged between 0.2 and 0.75 amperes.

The percent frequency effect (P.F.E.) was calculated by subtracting both transmitter deviations and a daily receiver-transmitter calibration constant, from the obtained receiver deviation ($PFE = Rx - Tx - Rcal$). Transmitter deviations commonly ranged between 0.1 and 0.6 percent. Ground currents were adjusted to maintain transmitter deviations at one percent, or less.

Bedrock and overburden resistivities permitted the use of a 10.0 ± 0.1 cycles per second frequency spread in a pole-dipole array, with no inductive coupling effects.

Apparent resistivities were calculated and plotted in ohm-meters,

$$\text{---} = 2\pi(K) \frac{V}{I}$$

Generally, Topley rock resistivities range upward from 400 ohm-meters. Overburden resistivities are variable, but mostly of 100 ohm-meters, or less. Dry gravel eskers, etc., have higher resistivities. Generally, expanding arrays indicate that apparent resistivities of 100, or less, are commonly due to overburden effects. The spread of the I.P. survey was varied to maintain resistivities above 100 ohm-meters. Similarly, resistivities higher than 300 - 400 were indicative of bedrock under a very thin overburden (from zero to 20 feet).

Procedure for Induced Polarization Reconnaissance Survey (continued) . . .

The survey was carried out maintaining an optimum spread to adequately explore for bedrock percent frequency effects (P.F.E.), using, where practical, a resistivity range between 100 and 300 ohm-meters. The pole-dipole array was commonly used with a 400-foot spread on a 10.0 - 0.1 cycles per second frequency range between 100 and 300 ohm-meters apparent resistivity range.

Studies were made to attempt a correlation between high bedrock percent frequency effects, caused by outcropping pyritic rocks and similar buried rocks. No exact relationship was determined, but the 'bedrock' P.F.E.'s commonly attenuate (where measured through non-conductive overburden) in proportion to the change in resistivity within the 200 to 100 ohm-meter range only !

The above resistivity range probably represents a critical overburden to bedrock proportion of volumes between 'typical' Topley intrusive rocks and 'typical non-conducting overburden. A metal conduction factor (M.C.F.) calculation may provide significant information for P.F.E. analysis in the critical resistivity range(?) .

COUNT CLAIMS (124° 50'W; 53° 55'N.)I.P. Survey Results

The induced polarization prospecting discovered an anomalous zone of 7,000 x 1,000 feet size, centrally located within the Count claims. The anomaly was located in approximately 24 line miles of reconnaissance survey on N-S lines at an average E-W interval of 3,500 feet apart. The anomaly appears on four consecutive reconnaissance lines and trends in an east-northeast direction underlain by moderate depths of overburden, possibly up to 100 feet deep (indicated by apparent resistivity data). The anomaly consists of P.F.E. up to 7, on slightly greater than twice background, and trends at a 30 degree angle across the valley-trend. The apparent resistivity range within the anomalous P.F.E. area is between 150 and 400 ohm-meters, which indicates that the P.F.E. could be due to causes in bedrock which lie at shallow to moderate depths below the overburden surface.

Recommendations

1. More detailed I.P. work.
2. Test drill the anomaly for evidence of a suitable host rock source for the anomaly. Five, 300-foot holes should be drilled to depths of 300 feet each at the following sites:

Dipole-dipole line 39S and 45S (Line 3.75 E.)

Line 3.25 E. 50 S.

Line 4.75 E. 16 S.

Line 5.25 E. 28 S.

Cost Estimate of Further Work

Induced Polarization	\$5,000.00
Drilling	30,000.00
Supervision	1,500.00
Contingencies	<u>5,000.00</u>
Total	\$41,500.00

Count Claims (continued)...COSTS OF I.P. SURVEY

Payroll

Quettier, Olson, Alexander, Pulfer, Berretta \$3,000.00

Consulting

Chaplin, Adamson, P.Eng. 500.00

Camp Support

1,080.00

Equipment Rental

840.00

Transportation

120.00

Field Supplies

I.P. Wire \$720.00

Radios 100.00

Electronic

Access. 330.00

1,150.00

Sub-Total

\$6,690.00

Expediting, Communications & Admin, @ 10%

669.00

GRAND TOTAL

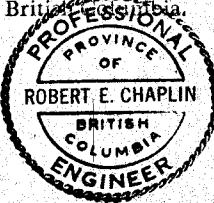
\$7,359.00

Declared before me at the City
of Vancouver, in the Province of British Columbia, this 12 day of September 1969, A.D.

Robert E. Chaplin, P.Eng.,
September 8th, 1969,
Vancouver, B.C.

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

Sub-mining Recorder



QUALIFICATIONS OF SUPERVISORY PERSONNEL

M.G. BERRETTA, M.Sc., *R.G.* Ph.D.:

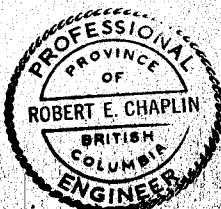
- 1965 - M.Sc., University of Windsor.
1967 - Ph.D. Candidate at University of British Columbia,
Department of Geophysics.
1968 - 2 months with Seigel & Associates (I.P.)
1968-9 Taught Geophysics Exploration, Lab. U.B.C.,
1969 3 months of I.P. with Mercury Explorations in Endako Area,
1969-70 Lecturer in Elementary Exploration Geophysics at U.B.C.
-

ROBERT E. CHAPLIN, P.Eng.:

Registered Professional Engineer of the Province of British Columbia,
Graduate in Geological Engineering from the University of
British Columbia, 1959.
Seventeen years' experience in mineral exploration.
Five years' experience owning and operating I.P. Unit,(used in Survey),

Robert E. Chaplin

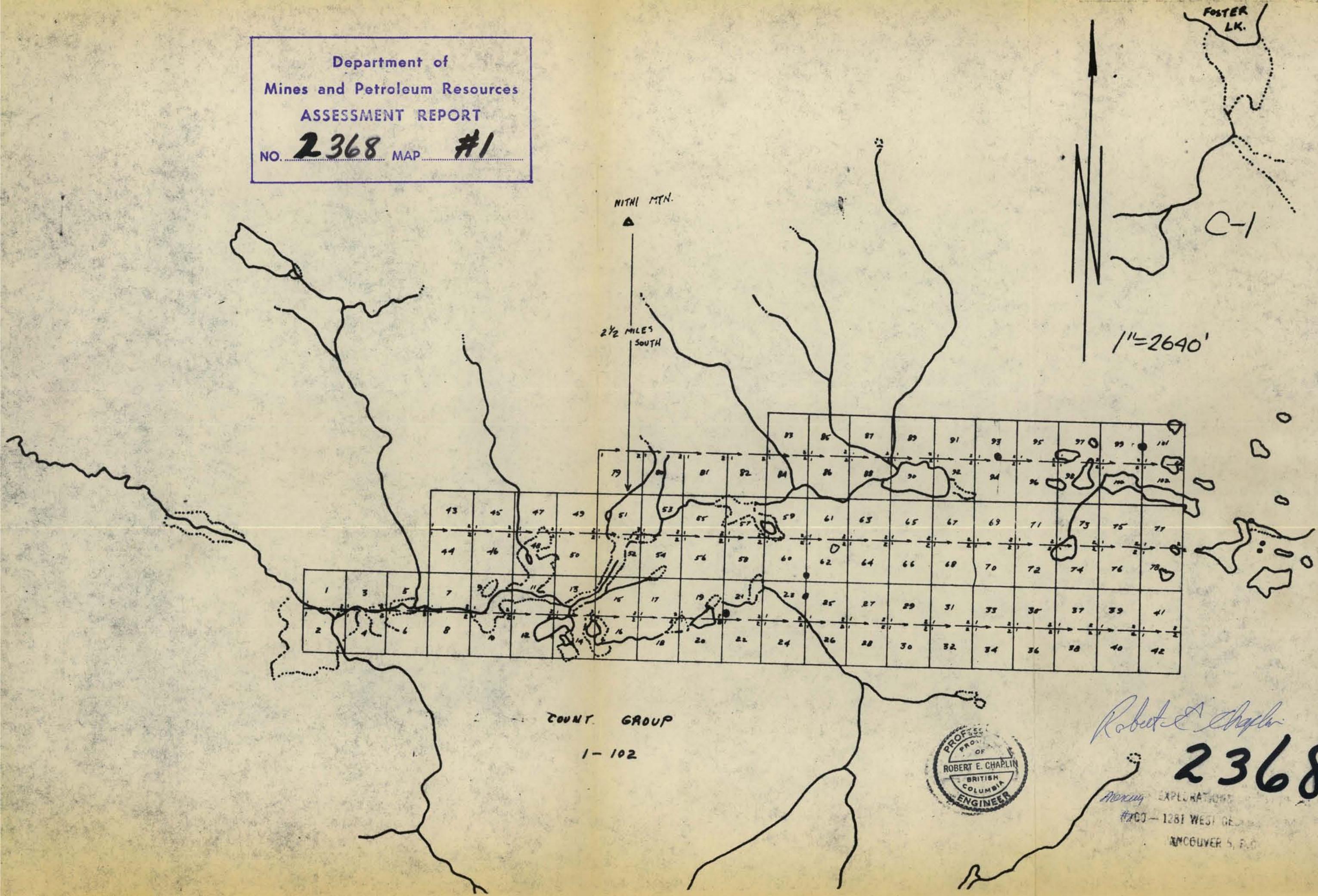
Robert E. Chaplin, P.Eng.,
September 8th, 1969,
Vancouver, B.C.



REFERENCES

- Lode Metals in British Columbia, 1965, p. 114, Dr. J.M. Carr.
Lode Metals in British Columbia, 1967, p. 114, Dr. J.M. Carr.
Minister of Mines & Petroleum Resources, 1966, p. 117.
Minister of Mines & Petroleum Resources, 1964, p. 58.
Bache & Co. - Placer Development Ltd, January, 1969, pp. 7-14,
(an Institutional Report).
Dept. of Energy, Mines & Resources, Geophysical Airborne Magnetic
Series, Sheet 93-F & 93-K.
Geology of the Endako Molybdenum Deposit, by E. Kimura & A.D. Drummond,
72nd Annual Northwest Mining Association, Spokane, Washington, 1966,

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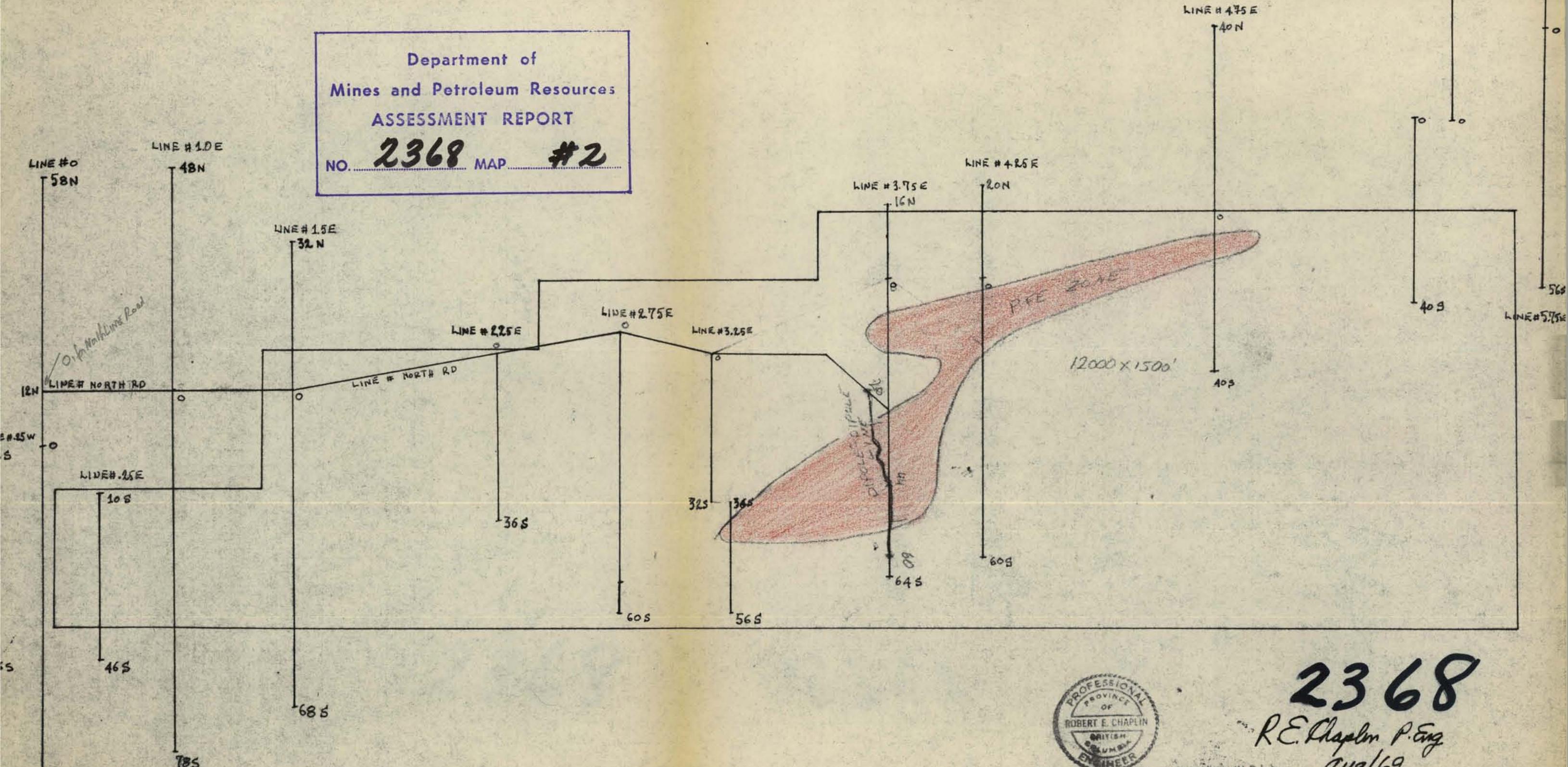


M-2 CLAIM 'COUNT' GRID

SCALE: 1" = 2000'

C-2

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Aug/69

M2 CLAIM 'COUNT'

P.F.E CONTOUR MAP

10.0-0.1 cps

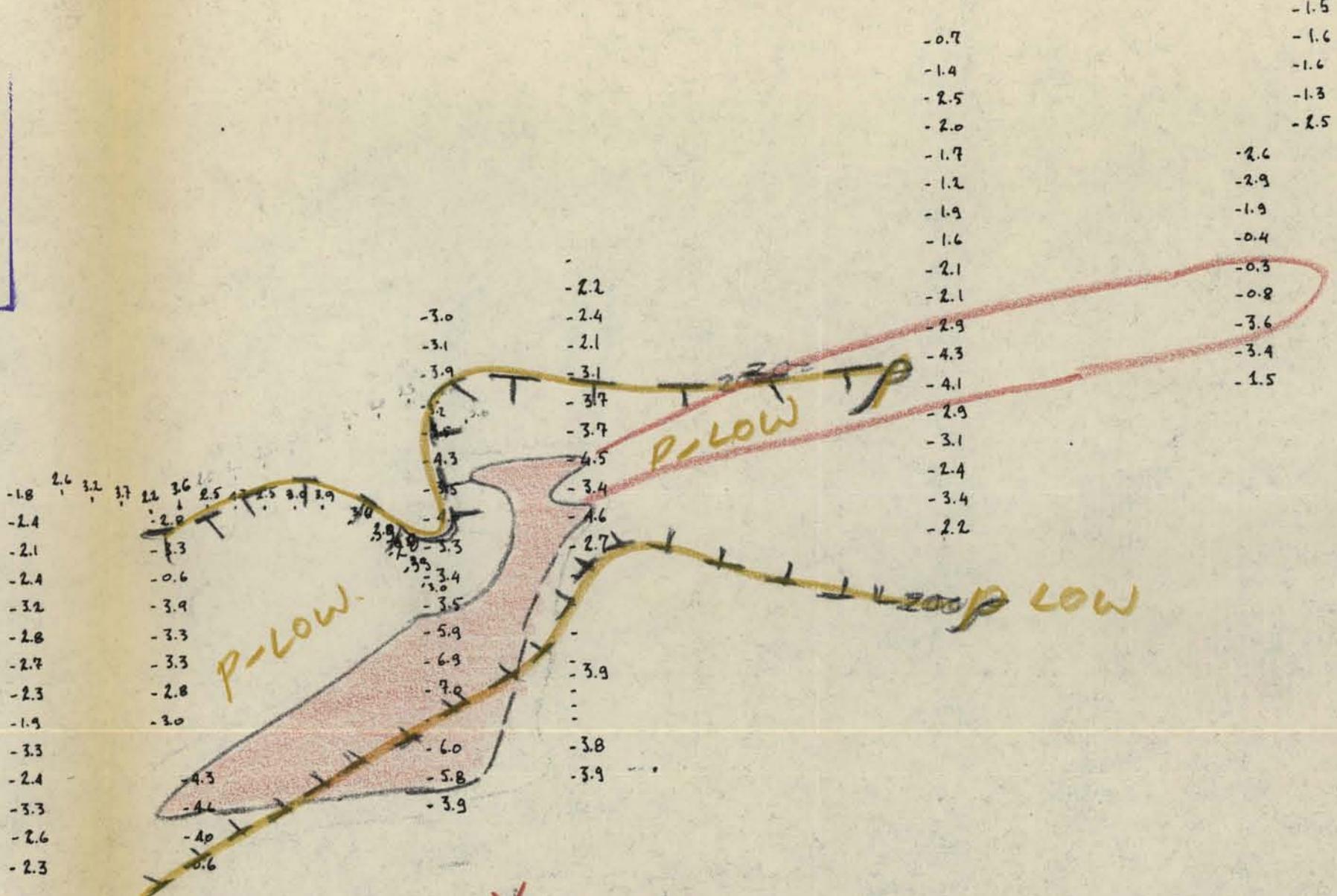
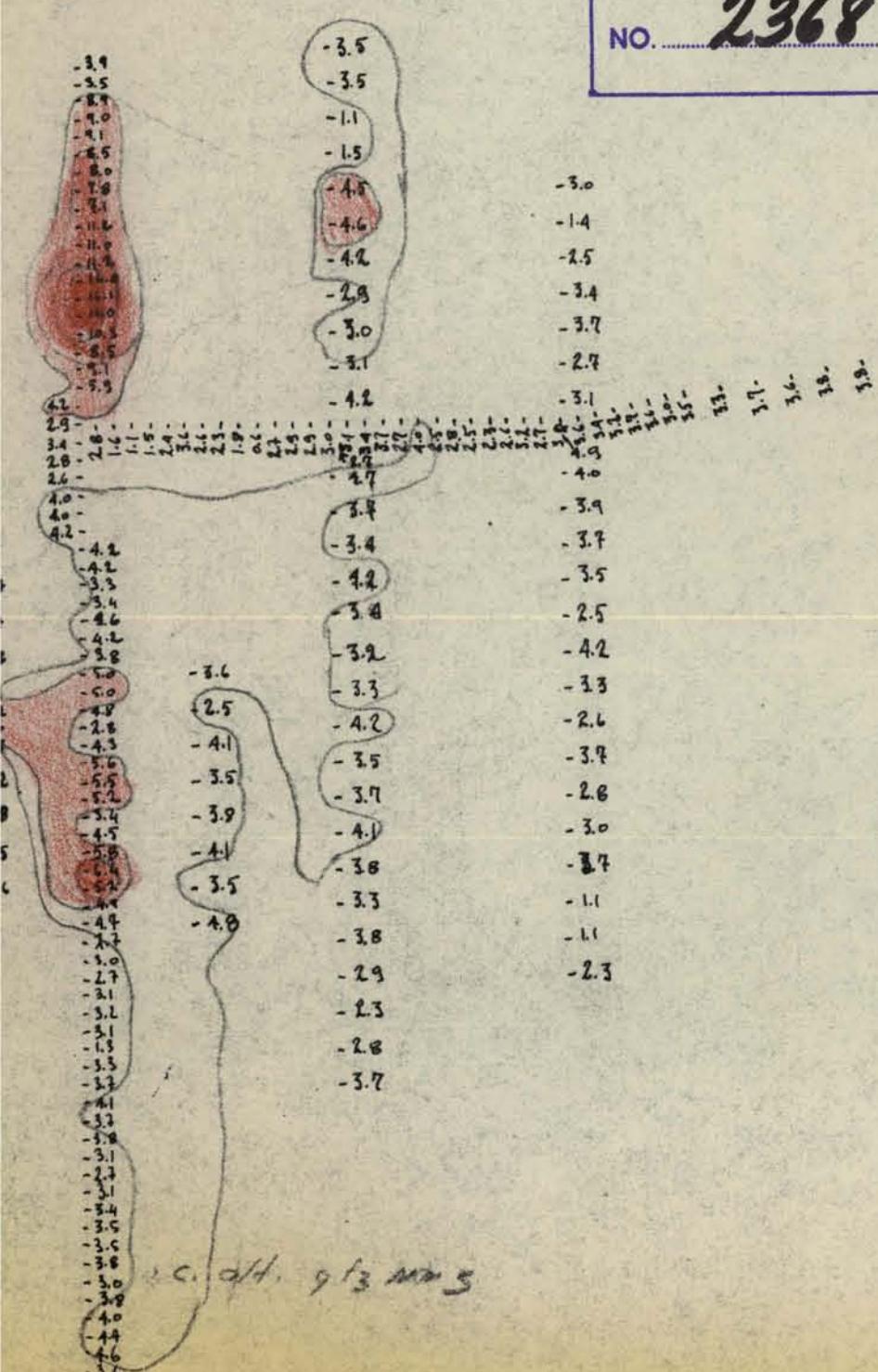
SCALE: 1" = 2000'

C-3

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- PYRITIC
QUARTZ-MONZOANITE
IN CREEK BED



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COUNT CLAIMS

SCALE : 1" = 400'

P.F.E. CONTOUR MAP

RESISTIVITY (Ω m) CONTOUR MAP

DIPOLE-DIPOLE

L = 200'

10--1 cps

C-4

DETAIL ON LINE

3.75 E

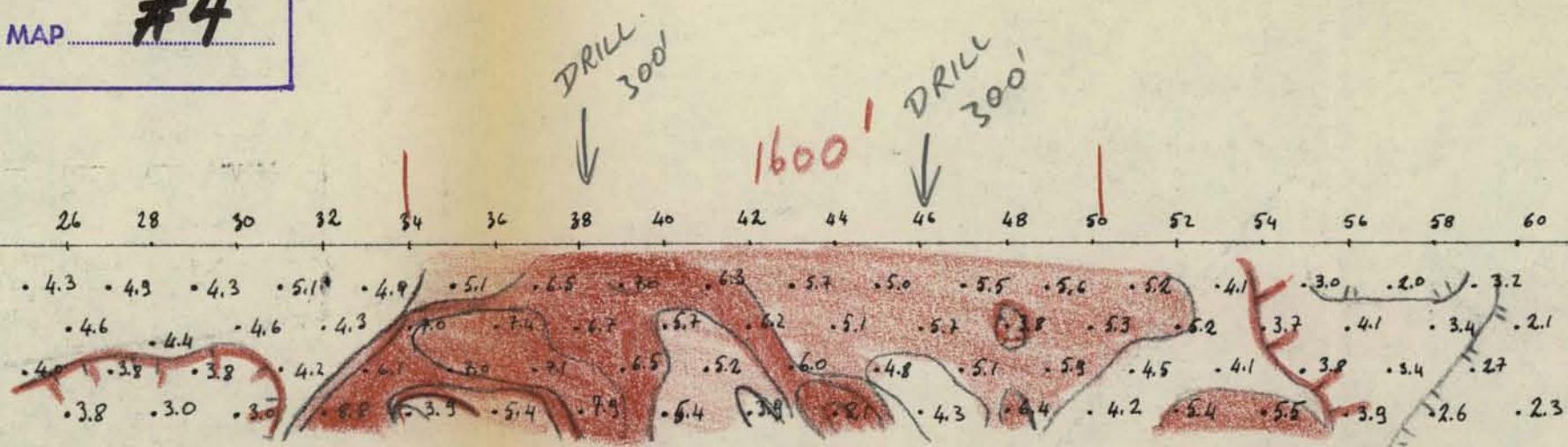
from 255 to 605 - see C-2+C-17

Robert Chaplin

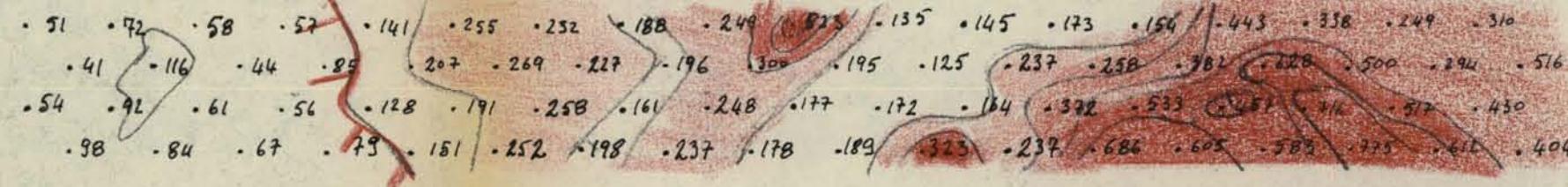
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P.F.E. MAP

10.0-0.1 cps



RESISTIVITY MAP

 (Ωm) 

TOPOG. SURFACE

APPROX
OVER BURDEN

VARIATION FROM RESISTIVITY DATA

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VANCOUVER 5, B.C.



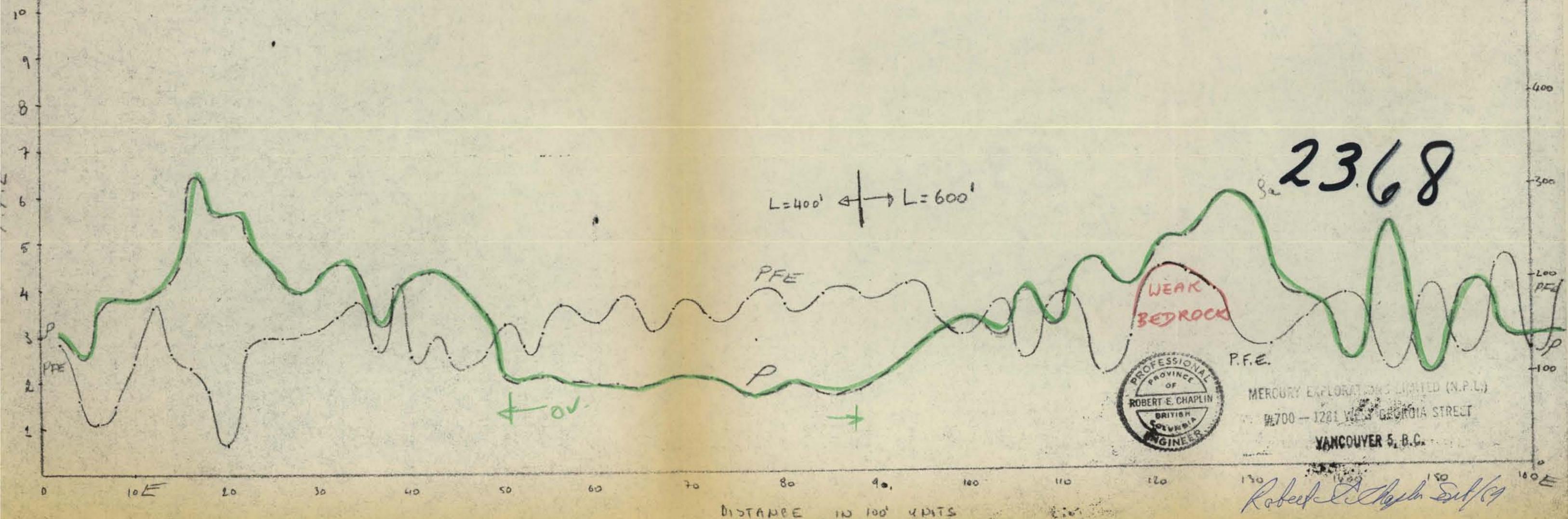
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ENDARO CLAIM COUNT
LINE NORTH RD (BASE LINE)
 $L=400'$ 10-16 ps.
 $L=600'$
 $1''=1000'$

NOTE: THIS LINE TRENDS
EASTERLY

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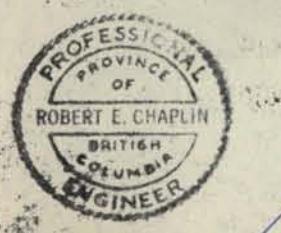
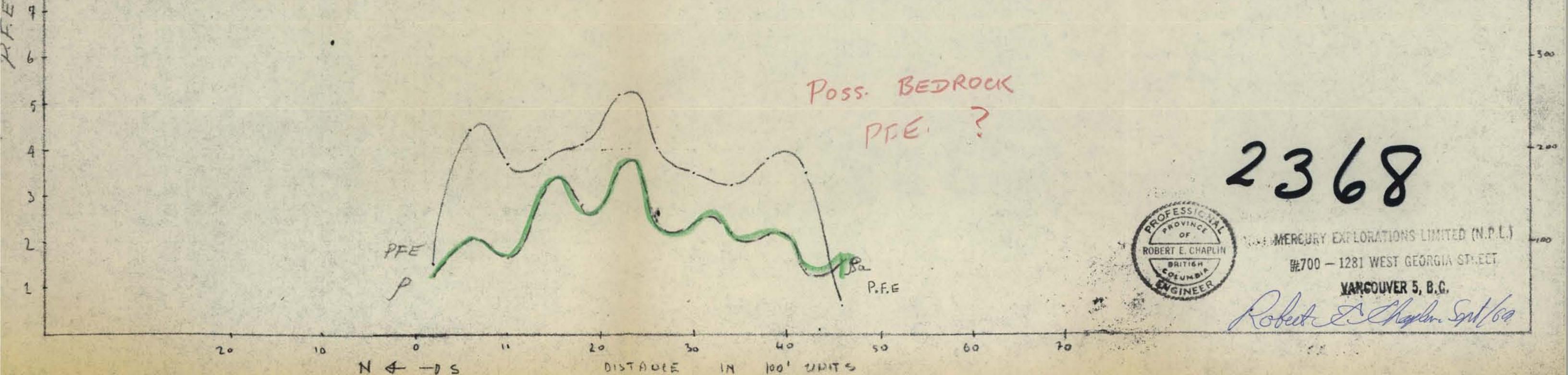


P.F.E. ↑

ENDAKO - CLAIM COUNT GC
 LINE # 25W 10-1 cps
 L = 400' POLE-DIPOLE
 1" = 100'

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P.F.E.



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P.F.E. 4
ENDARO - CLAIM COUNT C-7
LINE 1 LINE 0 AND BETWEEN
.2SE5 - .2SW at 465
1"5/100' L=400'
-900

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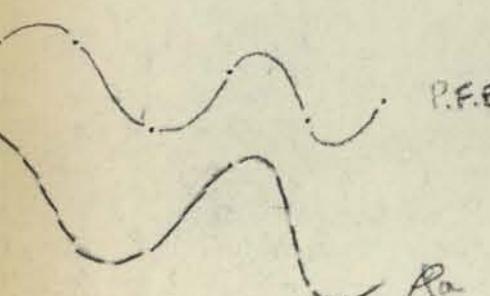
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WEST → EAST
DISTANCE IN. 100' UNITS



P.F.E

ENDAKO - CLAIM COUNT

LINE .25E 10-1 CPS.

L= 400' POLE-DIPOLE

1'=1000'

C-8

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MERAKO - CLAIM COUNT

LINE .25E, WEST GEORGIA STREET

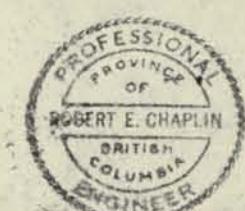
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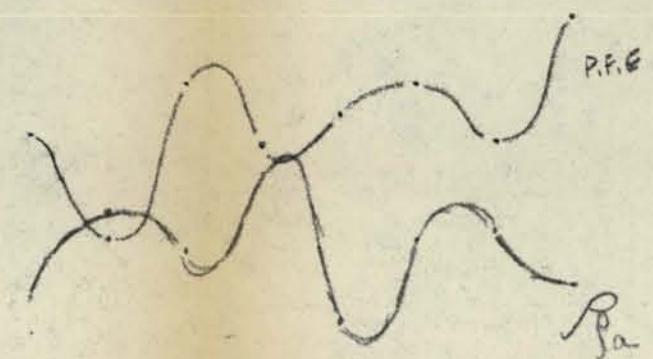
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10 0 10 20 30 40 50 60 70

NW-15

DISTANCE IN UNITS OF 100'



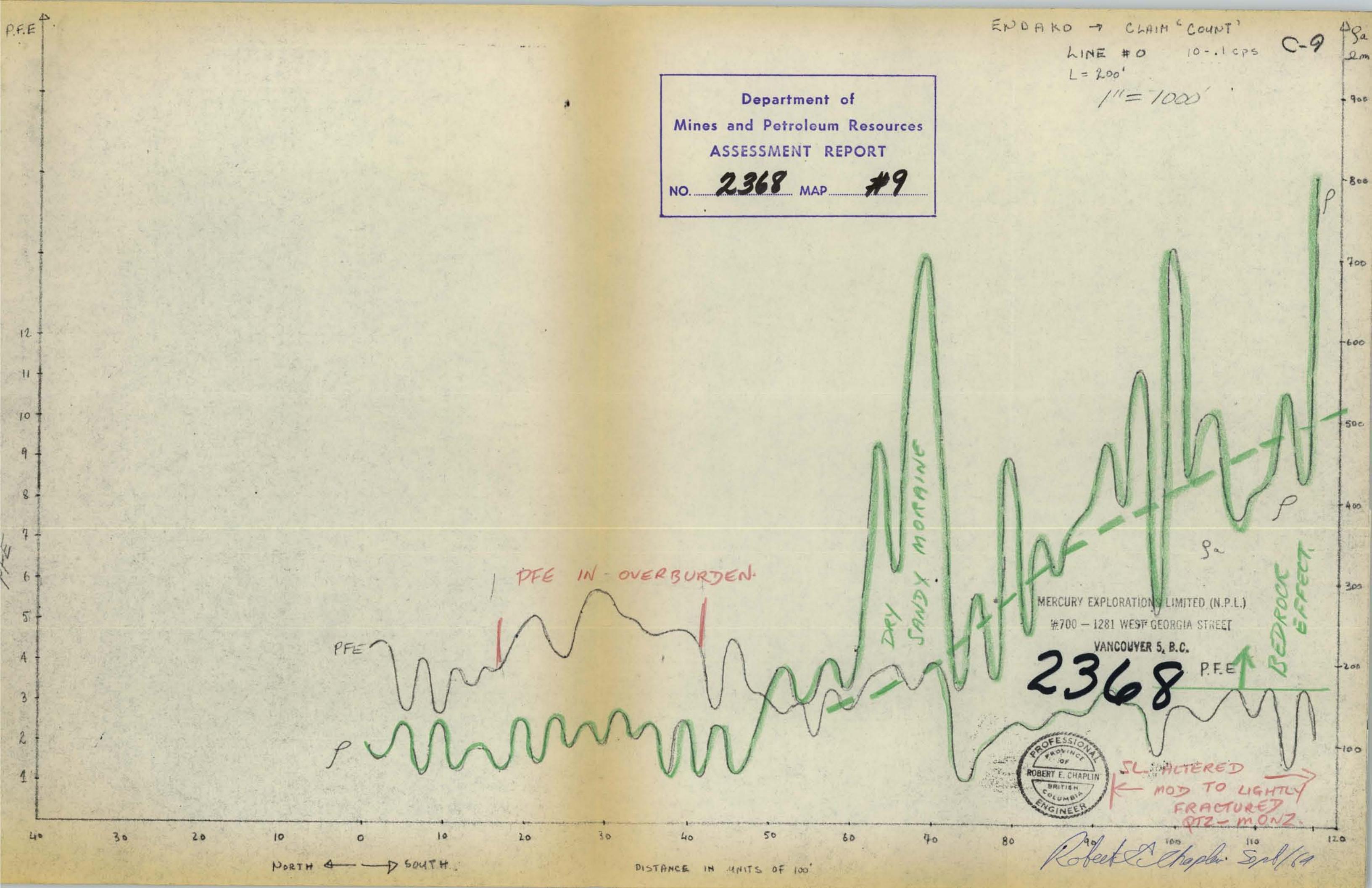
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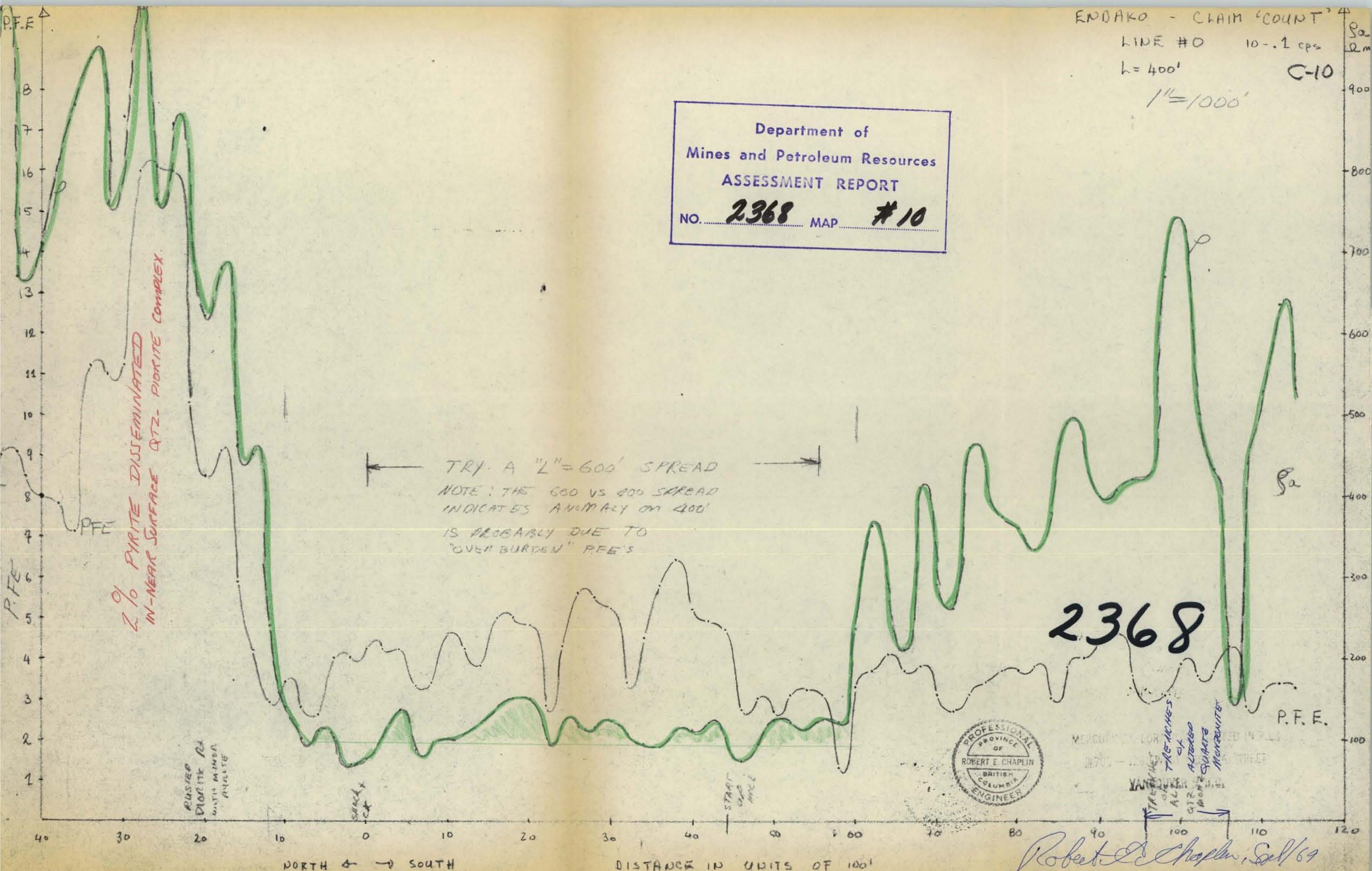
ENDAKO → CLAIM "COUNT"
LINE #0 10-.1 CPS
 $L = 200'$

C-9

1" = 1000'

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P.F.E.
ENDARO - RHAM POINT
LINE #0 - 10-10PZ
 $h=600'$ POLE-DIPOLE
 $1''=1000'$
C-11

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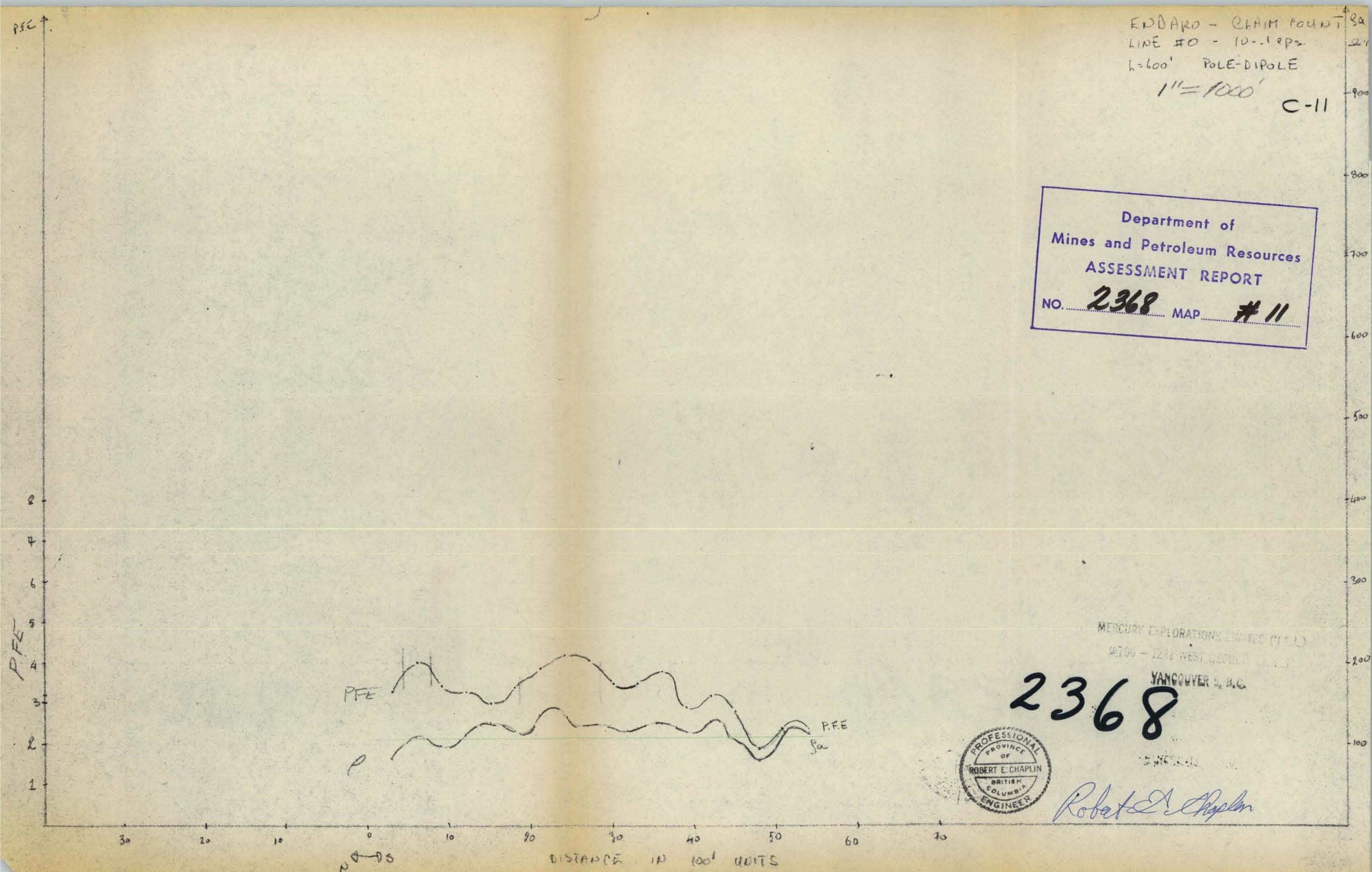
MERCURY EXPLORATIONS LIMITED (1954)
#106 - 1281 WEST GEORGIA

VANCOUVER, B.C.

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Robert E. Chaplin



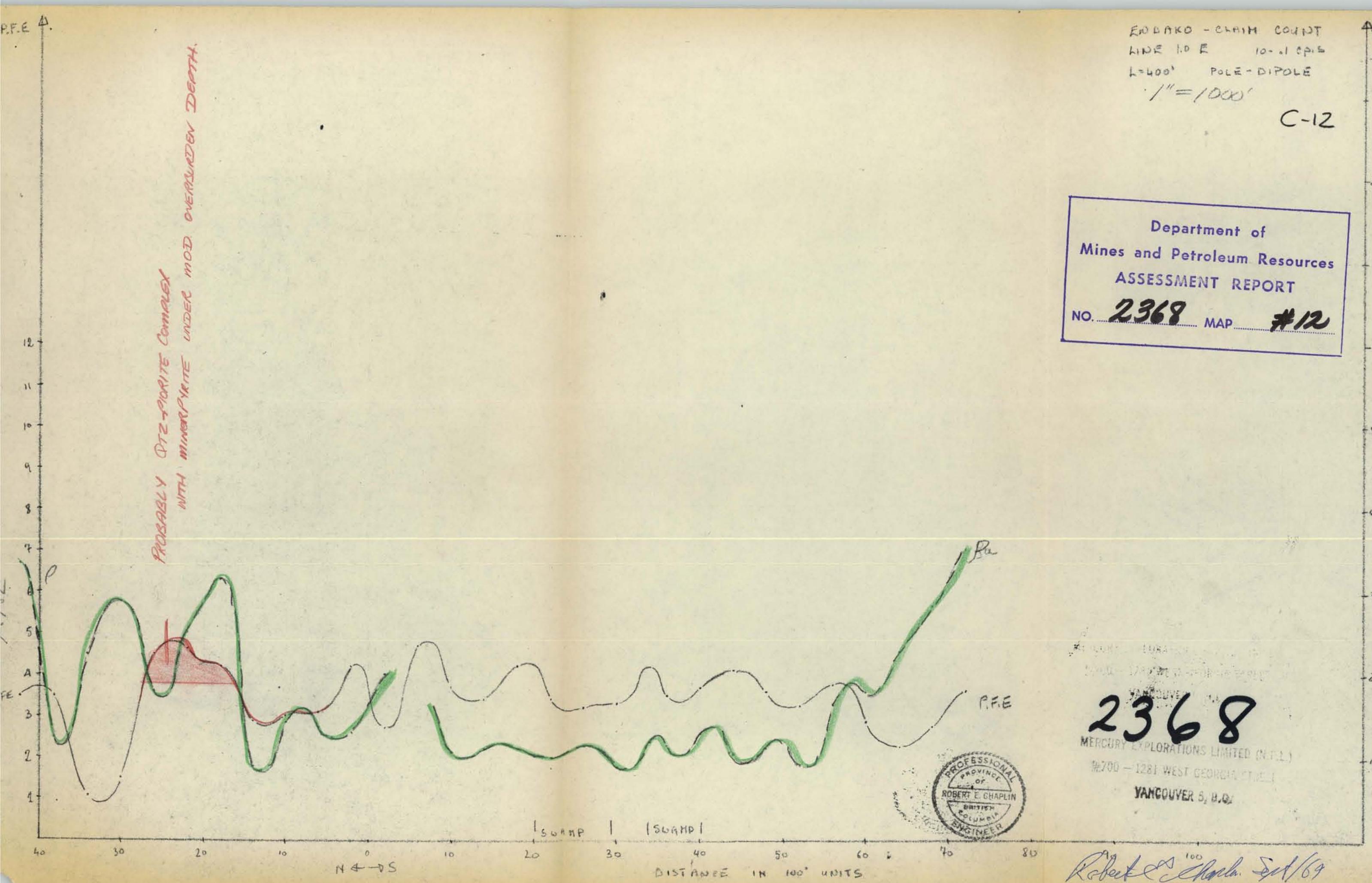
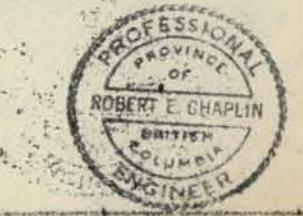
P.F.E.
ENDAKO - CLAIM COUNT
LINE 10 E 10-1 SP. S
 $L=400'$ POLE-DIPOLE
 $1''=1000'$

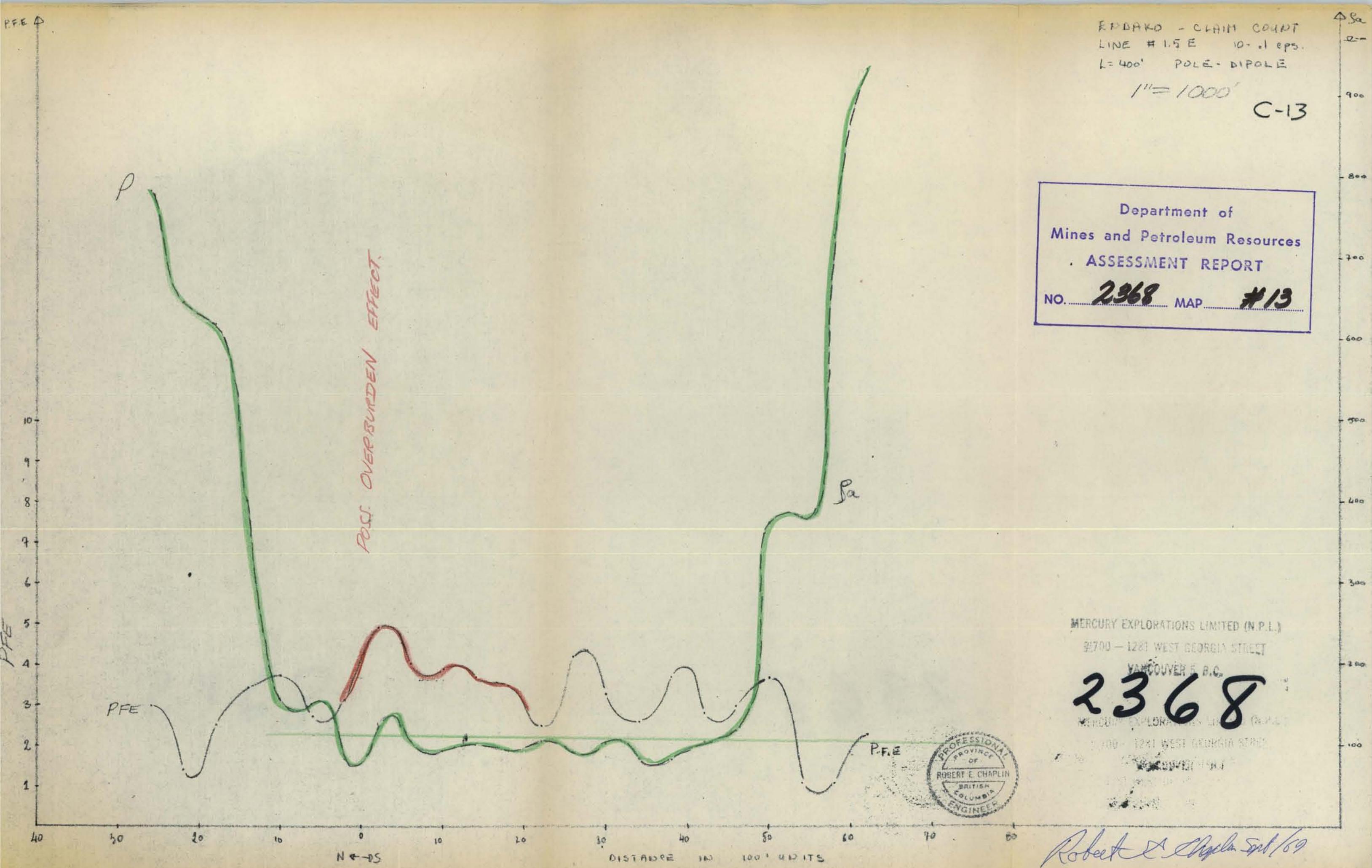
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MERCURY EXPLORATIONS LIMITED (N.L.)
#200 - 1281 WEST GEORGIA ST.
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VANCOUVER, B.C., H.Q.

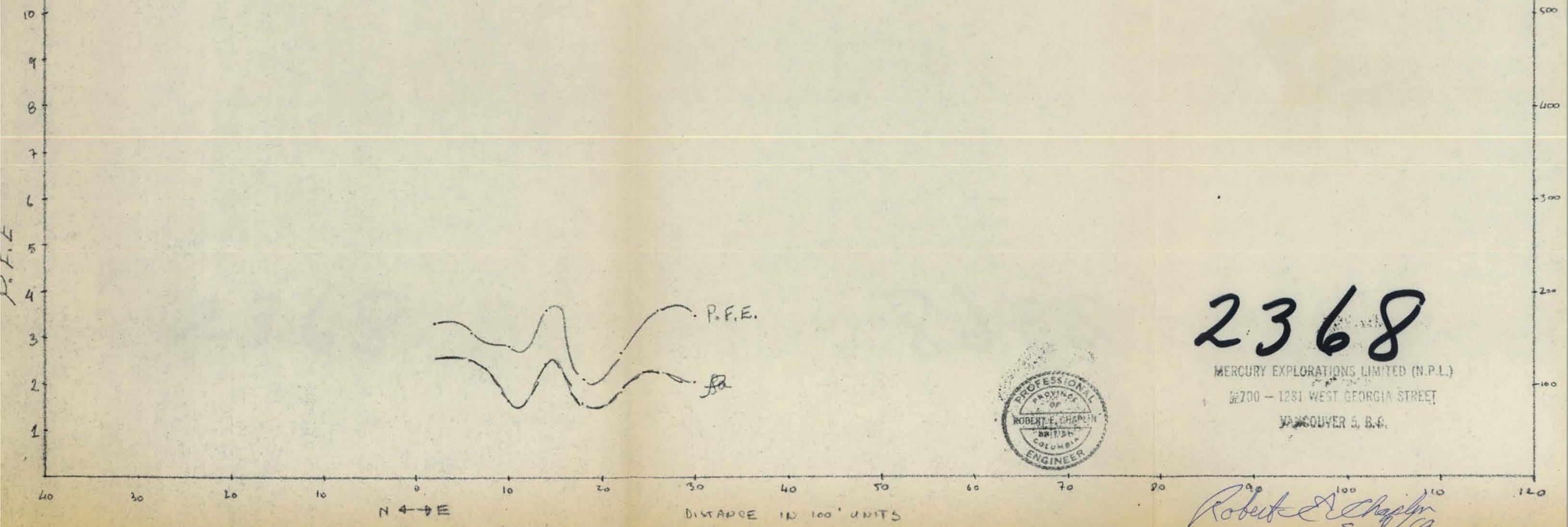




P.F.E.

ENDAKO - CLAIM COUNT
LINE # 2, 25E 10 - legs
L = 400' POLE - DIPOLE
1" = 1000'
C-14

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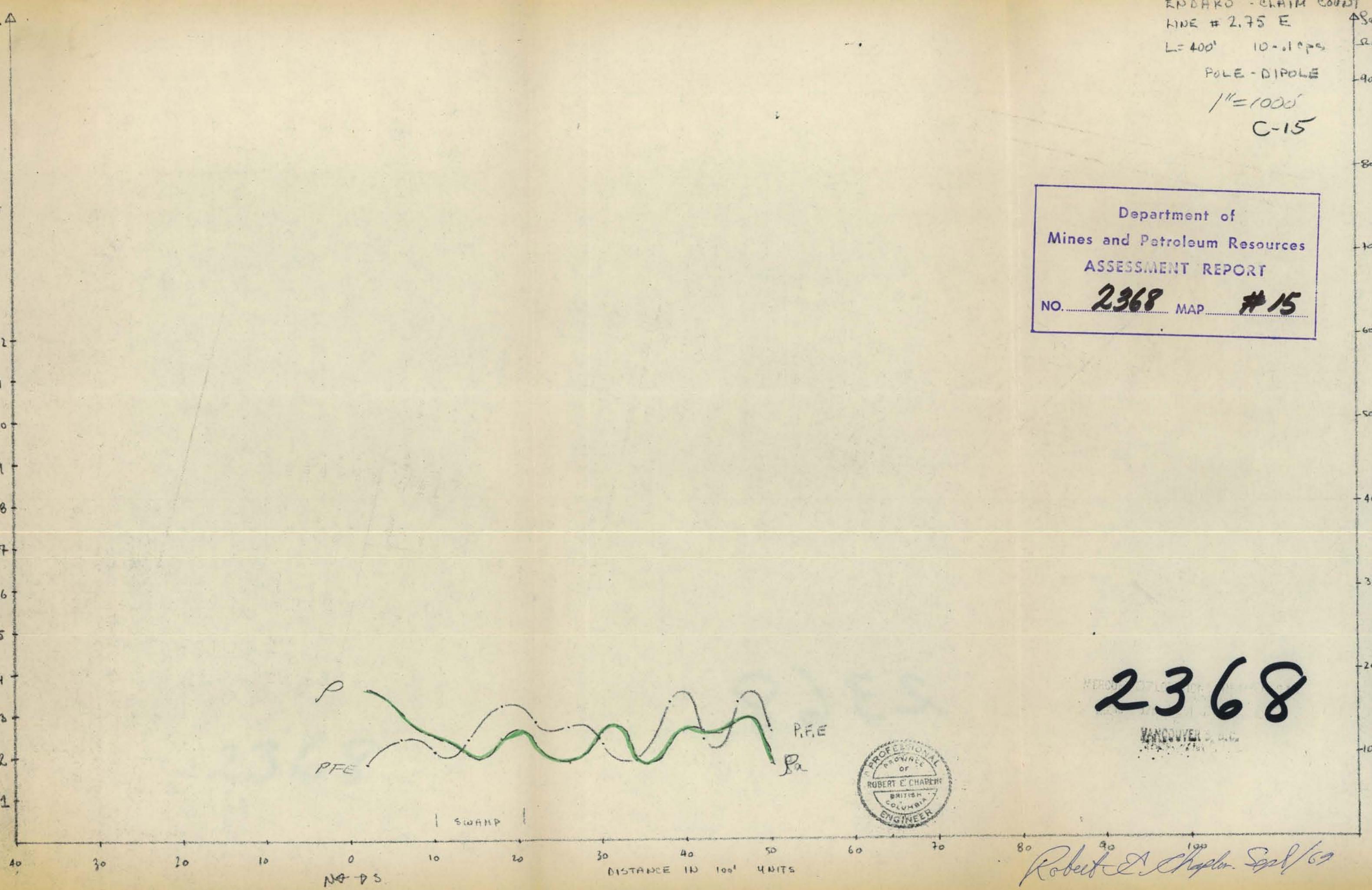
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Robert E. Chaplin
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P.F.E. A
ENDAKO - CLAIM COAST
LINE # 2.75 E
 $L = 400'$ $10 \text{ m} \cdot \text{sec}$
POLE-DIPOLE
 $1'' = 1000'$
C-15

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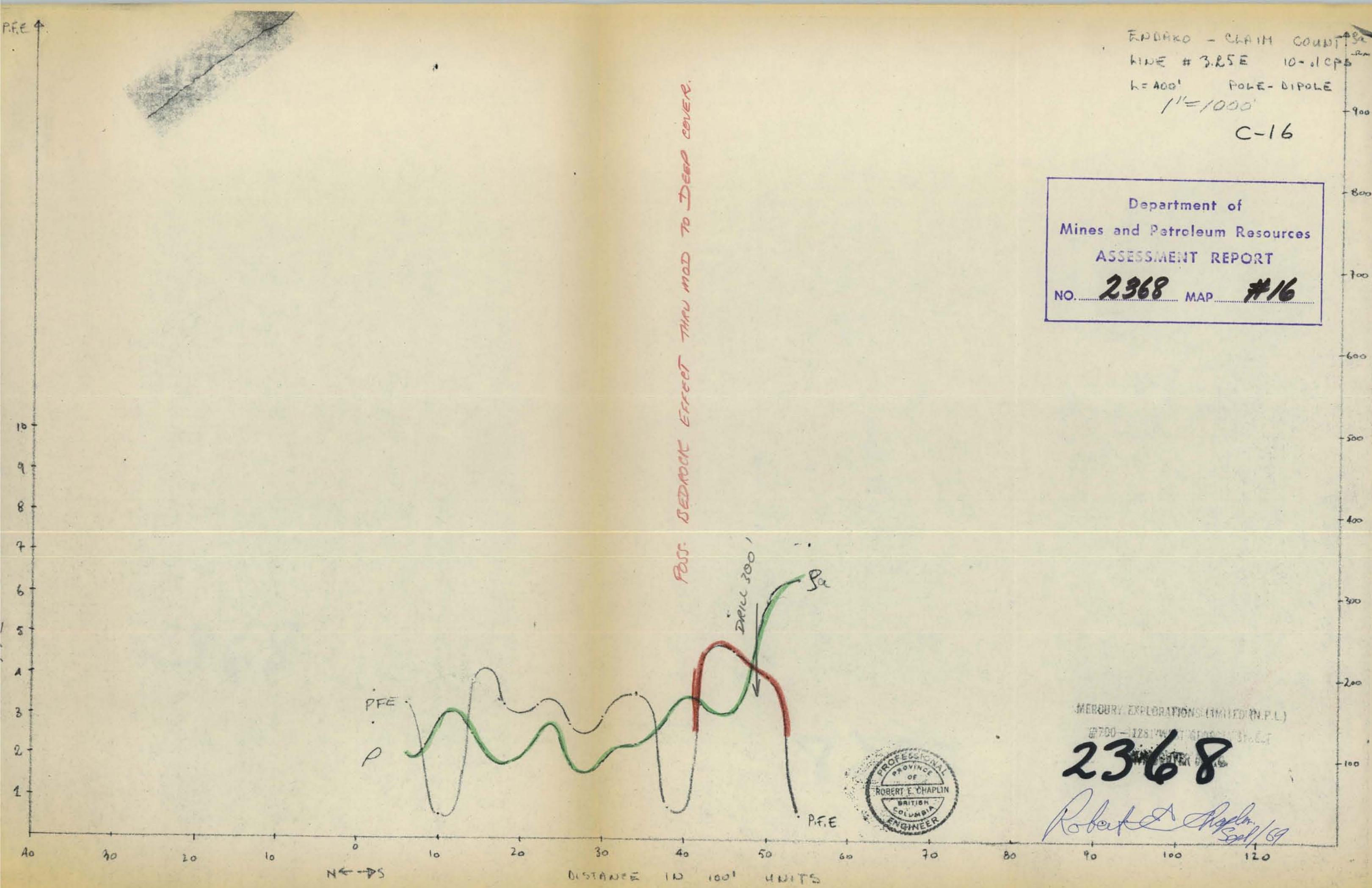


P.F.E. ↑

ENDAKO - CLAIM COUNT
LINE # 3.R5E 10-10CPB
 $h = 400'$ POLE-DIPOLE
 $1' = 1000'$

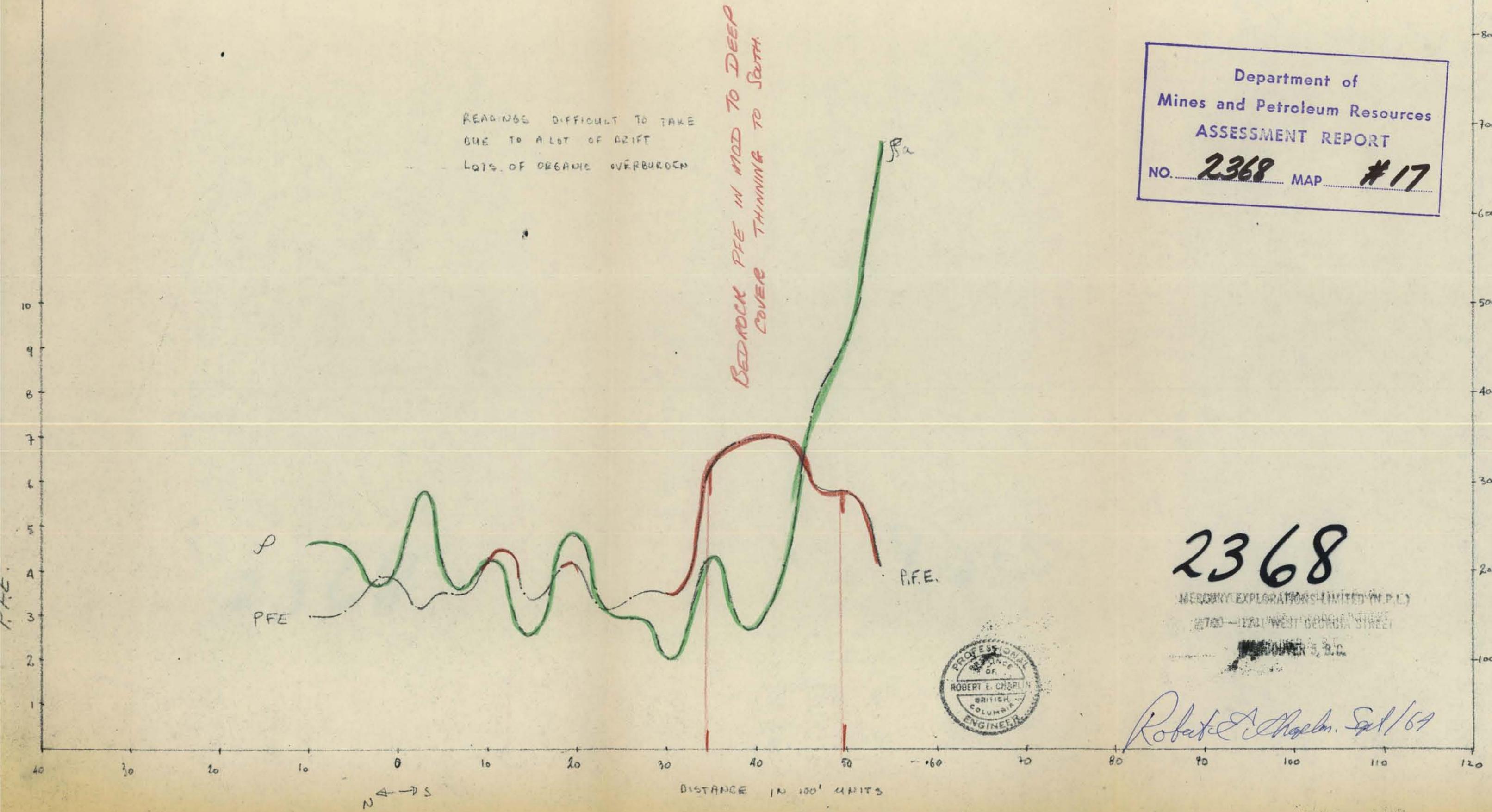
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P.F.E. ↑
ENDAKO - CLAIM COUNT
LINE # 3.75E 10-10p
L=400' POLE-BIPOLE
1"=1000'
C-17

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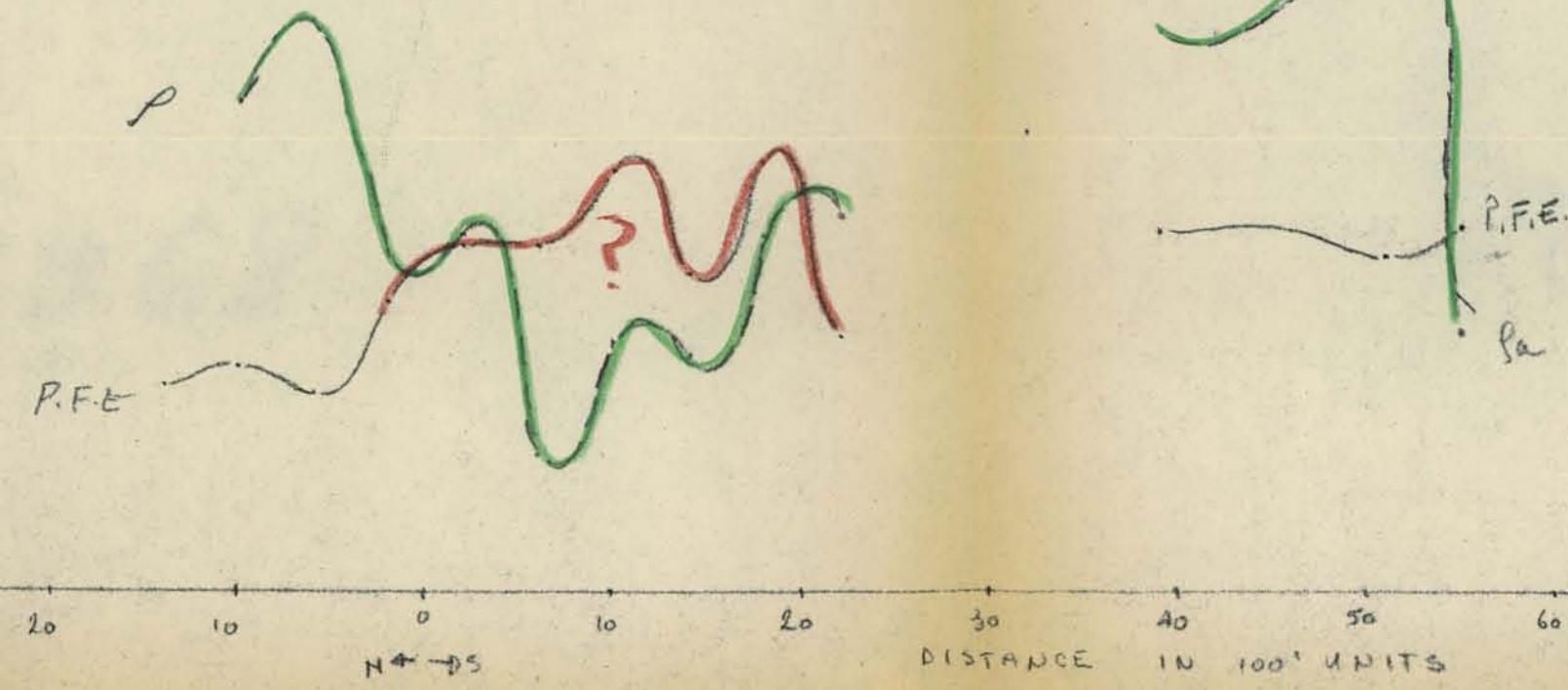
P.F.E. ↑
ENDARO - CLAIM COUNT
LINE # 4, 25E 10-tips
L = 400' POLE-DIPOLE
1" = 1000'
C-18

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READINGS IMPOSSIBLE TO TAKE DUE TO DRIFT & LOTS OF ORGANIC OVERBURDEN



NOTE: USE STAINLESS STEEL ANGLES
FOR RECEIVER ELECTRODES
FOR THIS CONDITION !!

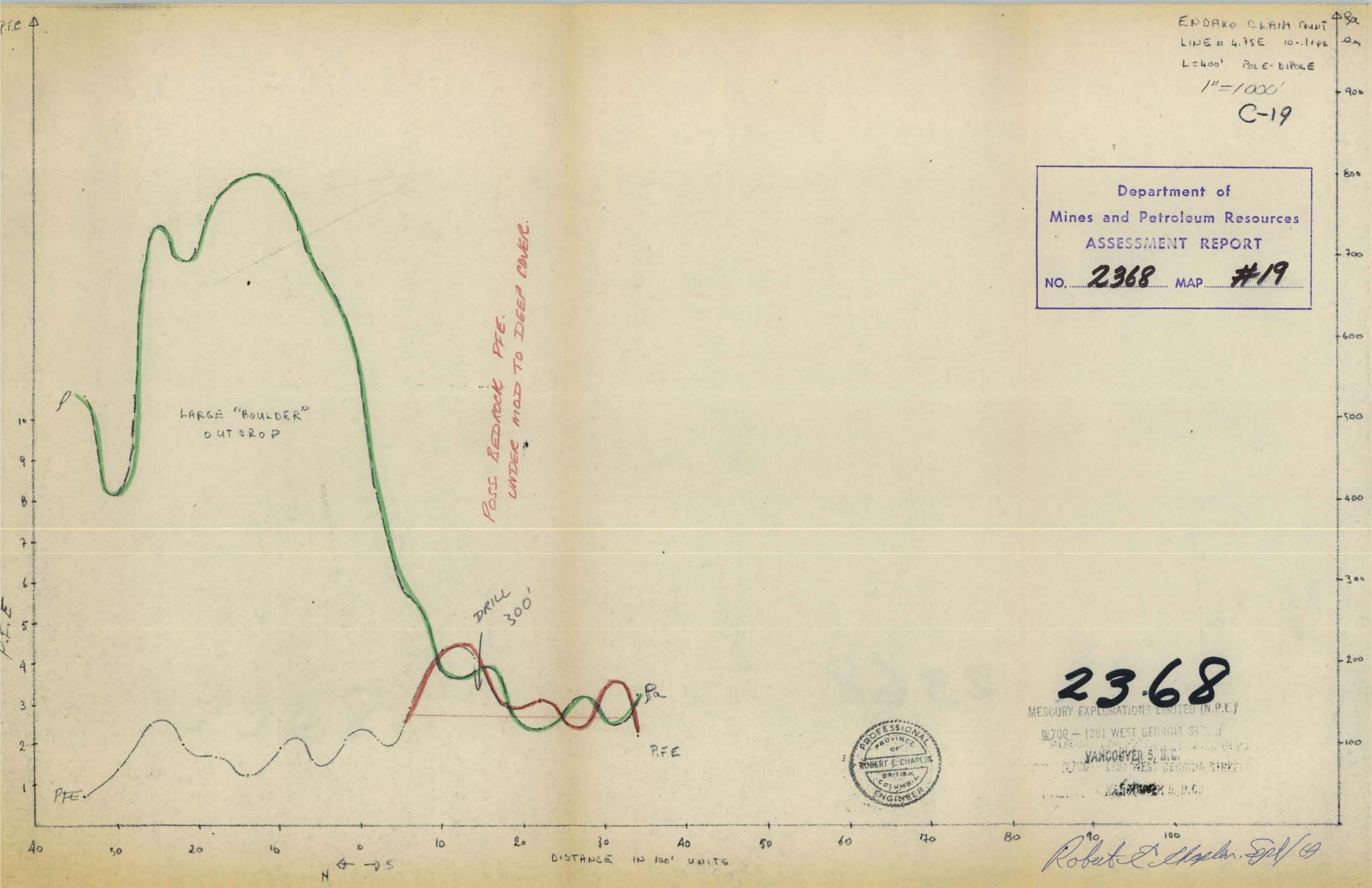


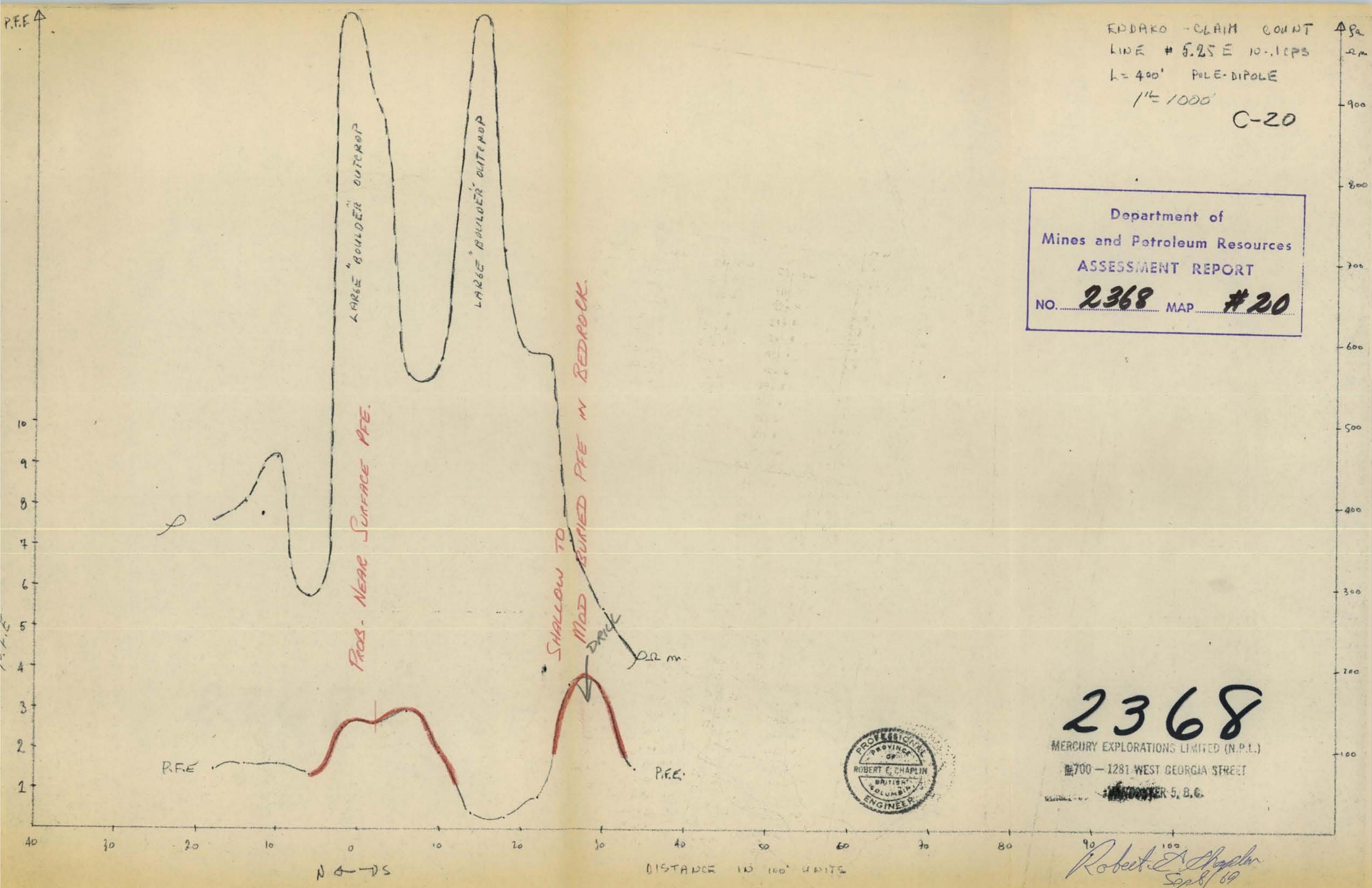
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ENDAKO CLAIM GROUP
 LINE # 47SE 10-119a
 L=400' POLE-DIPOLE
 1"=1000'
 C-19

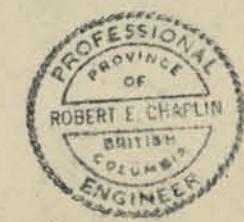
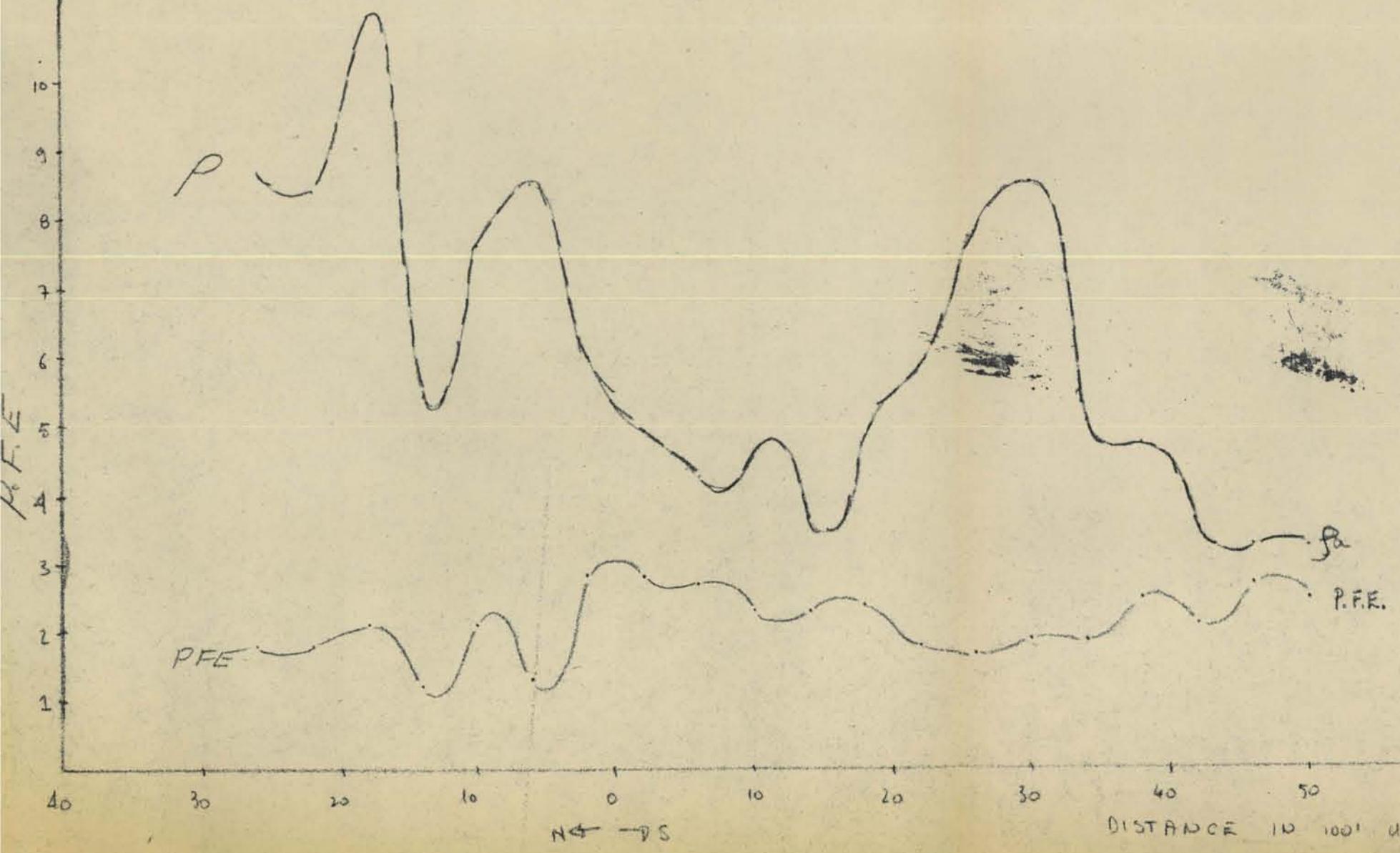
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P.F.E.
ENDAKO - CLAIM COUNT
LINE # 5.75E 10-tips
L = 400' POLE-DIPOLE
 $1' = 100'$
C-21

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NO. 2368 MAP #21



2368
MERCURY EXPLORATION, LTD. (IN PL.)
#700 - 1281 WEST GEORGIA STREET
VANCOUVER 5, B.C.

Robert E. Chaplin
Sept 1969