936

C O M I N C O   L T D.
TRAIL, B.C.

ADDENDUM TO GEOPHYSICAL REPORT ON INDUCED POLARIZATION SURVEY ON THE NO. 1 GRID, C.P.O.G. PROPERTY, DUNCAN AREA B.C. THAT IS THE TOT-RUM CLAIM GROUP, VICTORIA M.D.

GENERAL

The accompanying I.P. Survey Report by George D. Tikkanen, P. Eng. of Cominco Limited, covers the technical aspects of an I.P. Survey carried out on the Tot-Rum group of claims by McPhar Geophysics Ltd.

The purpose of this addendum is the application of this survey for assessment credit - a matter not covered in the a/m report. A statement of the total expenditures incurred on the survey and a Statutory Declaration relating to these expenditures are included here.

Expenditures incurred in the survey and in the preparation of the report include:

(1) Charges of the geophysical contractor. These amounted to a total of $12,242 for a total of 33 line-miles surveyed or $370 per mile. Of these 33 miles, 16 miles were completed on the Tot-Rum claim group.

(2) Expenses incurred by Cominco in the preparation of a grid for the I.P. Survey. This work was done on a contract basis by two men at a rate of $110 per mile. Cominco also provided the men with a vehicle, the cost of which was $260 per month rental and approximately $60 per month in gas. The work was done by K.P. LaPointe and T. Johnson.

(3) Expenses incurred by Cominco in interpreting the data and preparing the report. This required the services of a geophysicist for four days and in addition the services of a draughtsman for twenty-two days. The work was done by G.D. Tikkanen, P. Eng. geophysicist and F. Horvath, draughtsman.

(4) Expenses incurred by Cominco in the supervision of the Grid-preparation. This work occupied Cominco geologist B.K. McKnight for five days.

Assessment credits are requested on 14 claims of the Tot-Rum group and also on Lot L 78G, the Tinto View. The distribution of credits requested is shown in the table below.

Tot-Rum Group

Claim	Distribution		Credit
Lot L 78G, Tinto View	2 years		2 yrs.
Tot 16-29 inclusive	3 years each claim		42 yrs.
		Total:	44 yrs.

The total requested assessment credit for the I.P. Survey and related work on the above claim group is $4,616. Total expenditures were $9,357.

A Statement of Expenditures and a Statutory Declaration relating to the same is appended. Affidavits on Application for Certificate of Work have been filed with the Mining Recorder at Victoria, B.C.

A.C.N. deVoogd,
Professional Engineer

ACNdeV:sa
Trail Exploration Office, Western District
March 28, 1967

CANADA PROVINCE OF BRITISH COLUMBIA TO WIT:	STATUTORY DECLARATION RELATING TO EXPENDITURES ON A GEOPHYSICAL SURVEY OF CERTAIN MINERAL CLAIMS THE PROPERTY OF COMINCO LIMITED

I, ABRAHAM C.N. deVOOGD, a Professional Engineer, of the City of Trail, in the Province of British Columbia, DO SOLEMNLY DECLARE:

1. That I am employed as a geological engineer by Cominco Limited.

2. That to my knowledge Cominco Limited engaged McPhar Limited, a firm who perform geophysical surveys, to conduct an induced polarization survey on the Tot-Rum group of claims owned by Cominco Limited.

3. That the cost of the a/m induced polarization survey was paid by Cominco Limited.

4. That in support of said induced polarization survey Cominco hired men and incurred expenses in addition to those incurred by McPhar Limited.

5. That a report on the result of said survey was prepared by G.D. Tikkanen, P. Eng. Cominco geophysicist, and that copies of this report are being filed with the Mining Recorder at Victoria, B.C.

6. That attached hereto and marked with the letter "A", upon which I have signed my name at the time of declaring thereof, is a statement of expenditures incurred by Cominco Limited in connection with said geophysical survey, and showing in addition the dates during which those engaged in said survey performed their work.

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 Municipality of Tadanac, in the Province of British Columbia this 30th day of March, March, A.D. 1967. [signature] A Commissioner for taking Affidavits for British Columbia	Abraham C.N. deVoogd, P.Eng.

STATEMENT OF EXPENDITURES

INDUCED POLARIZATION SURVEY,
TOT-RUM GROUP OF CLAIMS, VICTORIA M.D.

LINECUTTING AND SURVEYING - (May 16 - June 21, 1966)

21.5 line-miles @ $110/mile	=	$ 2,365
Vehicle rental @ $260/month	=	302
Vehicle gas @ $60/month	=	70

SUPERVISION, LINE SURVEYING (May 16 - June 21, 1966)

B.K. McKnight 5 days @ $30/day	=	150

MCPHAR LIMITED CHARGES (June 9 - July 9, 1966)

16 miles @ $370/mile	=	5,920

INTERPRETATION OF DATA AND REPORT PREPARATION
(August 25 - September 30, 1966)

G.D. Tikkanen, P.Eng. 4 days @ $40/day	=	160
F. Horvath, draughtsman 22 days @ $15/day		330
Printing plus supplies		60
TOTAL		$ 9,357

A.C.N. deVoogd
Professional Engineer

Endorsed by:

D. Hanson
Branch Accountant

This is Exhibit "A" to the Statutory Declaration of A.C.N. deVoogd declared before me the 2nd day of March, A.D. 1967.

A Commissioner for taking Affidavits for British Columbia

STATEMENT OF QUALIFICATIONS

I, George D. Tikkanen, residing at 58 Grenoble Drive, Apt. 31, Don Mills, Ontario, do certify that:

I attended the University of Saskatchewan, and received the degree of Bachelor of Science in Geological Engineering in 1956;

I attended the University of Western Ontario and undertook post-graduate studies in geophysics from September 1960 to September 1961;

I have practised my profession in mining exploration for ten years;

I am a member of the following technical societies and associations:

1. The Association of Professional Engineers of the Province of Ontario;
2. The Society of Exploration Geophysicists;
3. The European Association of Exploration Geophysicists;
4. The Canadian Exploration Geophysical Society;
5. The Canadian Institute of Mining and Metallurgy.

George D. Tikkanen

George D. Tikkanen,
Senior Exploration Geophysicist,
Cominco Ltd.

Toronto, Ontario
March 30, 1967.

Endorsed by: Allen de Voogd

A.C.N. deVoogd, P. Eng.

TABLE OF CONTENTS

COMINCO LTD.

Exploration Division

Western District

N.T.S. 92-B

INDUCED POLARIZATION AND RESISTIVITY SURVEY

CPOG PROPERTY

GRID NO. 1

DUNCAN AREA, B.C.

October 25, 1966

George D. Tikkanen

SUMMARY

An induced polarization and resistivity survey was performed on the No. 1 survey grid of the CPOG property located northwest of Duncan, B.C. A total of about 16 line miles of survey was performed.

A number of anomalies, weak to moderate in strength, have been located. Most of them are located in the schistose sections of the Tyee quartz feldspar porphyry and Sicker sediments. Some correlate with mapped occurrences of minor pyrite.

Geochemical soil sampling is recommended to evaluate the more interesting anomalies which are as yet unexplained.

INTRODUCTION

The CPOG property is being explored by Cominco under an agreement with Canadian Pacific Oil and Gas Ltd.

The most probable type of ore occurrence that might be located is a base metal sulphide body, possibly with relatively restricted dimensions.

The property is located about fifteen miles northwest of Duncan, B.C., and is accessible by four-wheel drive vehicle.

GEOLOGY

The survey area is underlain by a series of sediments, volcanics, gabbro-diorite intrusives and quartz feldspar porphyry. The basic intrusives and quartz feldspar porphyry predominate. The Sicker sediments, consisting of tuff, cherty tuff and slate, occur in more restricted bands. The Sicker volcanics and Nanaimo sediments are less common.

The structural trend is northwesterly, more or less normal to grid lines. Both the schistosity and bedding dip steeply, mainly to the north, but southerly dips have been noted. Belts of schistose quartz porphyry, sediments and volcanics flank a main, centrally located body of basic intrusive rocks.

The geology will be covered more fully in other reports.

SURVEY

Method:

The survey was performed by McPhar Geophysics Ltd. The crew chief was R. Van Blaircom. The instrument employed was the McPhar frequency domain type IP system, employing frequencies of 0.3 and 5 cycles per second.

Standard survey practice employed 200-foot electrode spreads with n values of 1, 2 and 3. Some anomalous areas were also covered with 100-foot electrode spreads. The line spacing is usually 800 feet, but some lines are less than 800 feet apart.

Data Presentation:

The following data is presented with this report:

1. Plan of Second Separation Metal Factor Values, with the Surface Projection of Anomalies, Plate 92B-CPO-P-1.

2. Plan of Second Separation Resistivity Values, Plate 92B-CPO-P-2.

3. The following data plots:

Line No.	Dipole Length	Plate No.
36+00W	200'	IP - 4 - 1
30+00W	200'	IP - 4 - 2
22+00W	200'	IP - 4 - 4
22+00W	100'	IP - 4 - 3
16+00W	200'	IP - 4 - 5
16+00W	100'	IP - 4 - 6
8+00W	200'	IP - 4 - 7
0+00W	200'	IP - 4 - 8
8+00E	200'	IP - 4 - 10
8+00E	100'	IP - 4 - 9
16+00E	200'	IP - 4 - 12
16+00E	100'	IP - 4 - 11
22+00E	200'	IP - 4 - 13
30+00E	200'	IP - 4 - 14
36+00E	200'	IP - 4 - 15
36+00E	100'	IP - 4 - 16
40+00E	200'	IP - 4 - 17
42+00E	200'	IP - 4 - 19
42+00E	100'	IP - 4 - 18
46+00E	200'	IP - 4 - 21
46+00E	100'	IP - 4 - 20
50+00E	200'	IP - 4 - 22
54+00E	200'	IP - 4 - 23
56+00E	200'	IP - 4 - 25
56+00E	100'	IP - 4 - 24
62+00E	200'	IP - 4 - 26
70+00E	200'	IP - 4 - 27

Discussion:

The metal factor plan (Plate No. 92B-CPO-P-1) shows the surface projection of the IP anomalies which were selected from a study of the data plots, and the plan also shows the second separation (n=2) values for the metal factor, in contoured forms. The second separation has been contoured to show line to line correlation of the results. The anomaly locations will not necessarily coincide with contoured peaks on the second separation, since the first and third separations, if anomalous, will also have been considered as well in the location of the anomaly. The best use of the contours is as a trend indication.

The anomalies have been classified into three groups: Definite, probable and possible. The grouping was based on the strength of the metal factor, the percent frequency effect, and the pattern of the anomaly. In general, the true metal factor should be related to the volume of chargeable material, however the survey measures the apparent metal factor, and a large volume with a small percentage of sulphides could show the same metal factor value as a smaller body with a higher percentage of sulphides.

Survey Results:

Comments on individual anomalies follow:

1. Line 36+00W at 3N to 4N:
   Weak; pattern incomplete.

2. Line 36+00W at 10N to 12N:
   Weak.

3. Line 36+00W at 13N to 16N:
   Weak to moderate strength, improving with depth. Minor pyrite mapped 600 feet to the east, along strike, and is a possible cause.

4. Line 30+00W at 10N to 12N:
   Fair pattern; weak IP effect with a marked resistivity low.

5. Line 30+00W at 16N to 19N:
   Relatively weak, at depth.

6. Line 30+00W at 23N to 25N:
   Weak and poor; single reading only.

7. Line 30+00W at 41N to 43N:
   Weak and poor, with a single reading only.

8. Line 22+00W at 9N to 10+50N:
   At depth, weak IP effect, pronounced resistivity low.

9. Line 22+00W at 13N to 15N:
   Moderate IP effect with a fair pattern, rather broad, so percentage of sulphides may be small. At moderate depth.

10. Line 22+00W at 35N to 37N:
    Weak; single reading only.

11. Line 16+00W at 12+50N to 13+50N:
    Weak except for a single reading on the second separation which is stronger. IP effect is only fair, but the resistivity low is pronounced.

12. Line 16+00W at 14N to 15N:
    Moderate strength; pattern only fair; pyrite noted nearby.

13. Line 16+00W at 40N to 43N:
    Broad and weak; best response from the nearer surface material.

14. Line 16+00W at 52N to 54N:
    Weak; mainly a resistivity low.

15. Line 8+00W at 12N to 17N:
    Broad and weak, perhaps a double zone; could be caused by minor pyrite.

16. Line 8+00W at 42N to 45N:
    Weak, but has a good pattern. Correlates with No. 13.

17. Line 0+00W at 14N to 18N:
    A broad, weak zone.

18. Line 8+00E at 16N to 20N:
    A broad, weak zone, possibly caused by a small percentage of chargeable material.

19. Line 16+00E at 8N to 10+60N:
    A weak zone, either at depth or off the end of the line.

20. Line 16+00E at 16+30N to 18N:
    Broad and weak, somewhat better at depth. Probable cause is 3% to 5% pyrite, mapped at 17N.

21. Line 16+00E at 46N to 48N:
    A resistivity low; very weak.

22. Line 22+00E at 5N to 8N:
    Weak IP effect with a pronounced resistivity low.

23. Line 22+00E at 20N to 22N:
    Fair pattern, but weak.

24. Line 30+00E at 17N to 19N:
    Weak, single reading only.

25. Line 30+00E at 37N to 39N:
    Very weak; single reading only.

26. Line 36+00E at 1N to 4N:
    Weak; poor pattern.

27. Line 36+00E at 5N to 7N:
    Weak; poor pattern.

28. Line 36+00E at 14N to 18+40N:
Broad and weak, but part of a zone which correlates from line to line.

29. Line 36+00E at 43N to 45N:
Very weak.

30. Line 36+00E at 47N to 49N:
Very weak (See 100' spreads).

31. Line 40+00E at 36N to 39N:
Weak, poor pattern.

32. Line 40+00E at 45N to 48N:
Weak, poor pattern.

33. Line 40+00E at 51N to 53N:
Weak, poor pattern.

34. Line 42+00E at 4N to 5+60N:
Weak, incomplete pattern.

35. Line 42+00E at 8+50N to 10N:
Very weak.

36. Line 42+00E at 15N to 17N:
Single reading, but strong; could be an end effect. Weaker on 100-foot spreads.

37. Line 46+00E at 43+60N to 46N:
Fair pattern, but weak, apparently at depth.

38. Line 50+00E at 4+50N to 8N:
Weak, poor broad pattern.

39. Line 56+00E at 11N to 15+50N:
Moderate strength; two zones are a possibility. Pronounced resistivity lows occur as well as definite frequency effect anomalies.

40. Line 56+00E at 17+50N to 19+50N:
Weak and broad.

41. Line 62+00E at 9N to 13N:
Moderate response.

42. Line 62+00E at 17N to 19N:
Weak, at depth.

43. Line 62+00E at 30N to 40N:
Broad and weak, with stronger sections at about 33N and 37N.

44. Line 70+00E at 40N to 44N:
Fair pattern, but broad and weak.

CONCLUSIONS

1. A combined induced polarization and resistivity survey was carried out on the No. 1 grid, and covered about 16 line miles.

2. A number of anomalous indications were located. However, most are very weak and some can be directly related to minor amounts of pyrite. A few indications show fair or moderate strength and their cause is not apparent. They are:

   1) Line 56+00E at 11N to 15+50N
   2) Line 62+00E at 9N to 13N
   3) Line 22+00E at 5N to 8N
   4) Line 36+00E at 14N to 18+40N

RECOMMENDATIONS

The four zones listed above, in part 2 of "Conclusions", should be checked with a geochemical soil sampling survey.

Submitted by: George D. Tikkanen
George D. Tikkanen,
Senior Exploration Geophysicist.

GDT:hc.
Oct.25,1966.
Toronto

Distribution
Exploration, Mtl.
Chief Geologist, Expl.
Western District (3)
Toronto
GDT

NOTES ON THE INDUCED POLARIZATION METHOD

Theory:

Polarization is the separation of charge, or blocking action of metallic or electronic conductors within a medium of ionic solution conduction. Induced polarization refers to this blocking action when caused by an applied electric field.

In its geological context induced polarization, or I.P., refers to the electro-chemical blocking phenomenon exhibited by metallic minerals such as most sulphides and graphite, under the influence of an applied current. When a current is passed through the ground the conduction is ionic and is dependent upon ions in the water content of the ground, because most minerals have a much higher specific resistivity than ground water. The "metallic" minerals have specific resistivities which are much lower than ground water. The I.P. effect occurs at the interfaces between ionic conductive conditions in the ground waters and the electronic conductive conditions in the metallic minerals.

The blocking action, or I.P. effect, increases with the time during which the current is flowing, hence if the current is periodically reversed, a higher frequency current will show less blocking, or I.P. effect, than will a low frequency, since less time is available for the blocking to occur at the higher frequency. It is therefore possible to measure the I.P. effect by measuring the resistivities at two frequencies. Essentially, this is the basis of the frequency domain I.P. system.

The <u>percent frequency effect</u> is defined as $\frac{\rho_L - \rho_H}{\rho_L}$ x 100, where ρ_L and ρ_H are the resistivities at the low and high frequencies, respectively. The percent frequency effect is the parameter measured to show the I.P. effect, and is the frequency domain equivalent of the chargeability m used in time domain I.P. work.

The <u>resistivity</u> is actually the apparent resistivity, which is an averaged value. It is obtained from the current, potential, and geometry of the electrode system. The resistivity plotted is the low frequency resistivity value and the units are ohm feet/2π. To convert these units to ohm meters, commonly used in some other I.P. systems, the ohm feet/2π values should be multiplied by 1.9.

The <u>metal factor</u> values are obtained by dividing the percent frequency effect by the resistivity and multiplying by a factor of 1000. The metal factor is proportional to the change in conductivity as the frequency of the applied current is varied, and can be shown to be equal to $(\sigma_H - \sigma_L) \times 2\pi \times 10^5$, where σ_H and σ_L are the conductivities at the high and low frequencies, respectively. The metal factor is generally more diagnostic than the frequency effect alone.

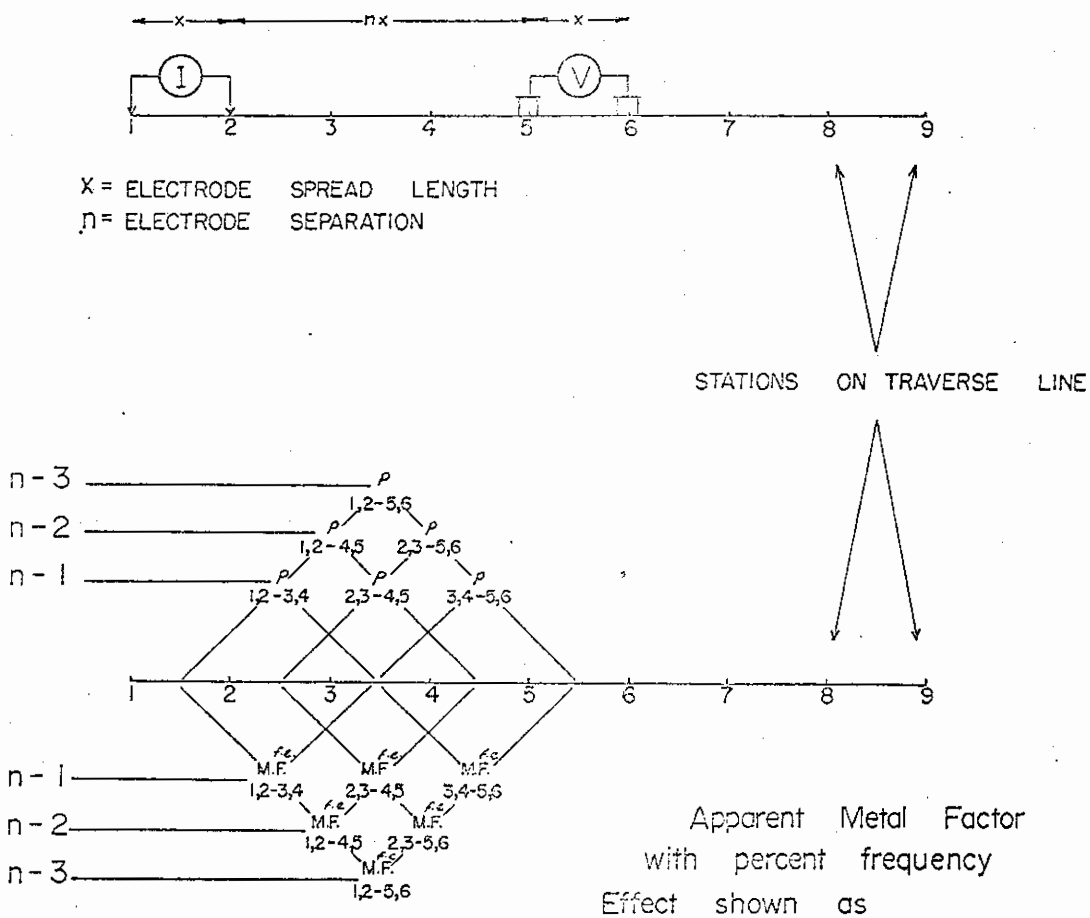
Procedure:

Current is applied to the ground at two current electrodes (C_1 and C_2) spaced a distance x apart. The potential is measured at two potential electrodes (P_1 and P_2) also spaced a distance x apart and in line with the current electrodes. For any given locations of C_1 and C_2, readings are taken when the distance between the nearest current and potential electrodes is equal to nx, and n has values of 1, 2, 3, etc. The electrode spacing x is determined by the requirements of the survey. Larger values of x would be used when the object is greater depth penetration and faster progress, whereas smaller values of x are employed in more detailed surveys and provide more accurate anomaly location, but for the smaller values of x the penetration is less and the survey slower. The penetration is greater for the larger n values.

The values of the resistivity, metal factor and percent frequency effect are plotted on "psuedo-sections", where the plotting point is determined by the intersection of lines drawn at 45° from the horizontal, and originating at the mid-points of the current electrode spread and the potential electrode spread, as shown in the diagram. The resistivities are plotted and contoured above the line and the metal factors plotted and contoured below the line. The percent frequency effect is shown on a superscript at the metal factor value. Depths to causative bodies cannot be scaled from the "psuedo-section", however.

The most favourable type of anomaly would show a frequency effect high with a resistivity low, to provide a marked metal factor high. A frequency effect high, with little or no change in resistivity, to provide a metal factor high, mirroring the frequency effect high, is also favourable. Of lesser interest, but of possible importance, are those anomalies showing no frequency effect change, but a distinct resistivity low, to produce a metal factor anomaly. The type of anomaly, its strength, size and shape should be considered in relation to the geological setting and the target sought.

DIAGRAM SHOWING ELECTRODE ARRAY AND PLOTTING METHOD



Apparent Metal Factor with percent frequency Effect shown as a superscript.

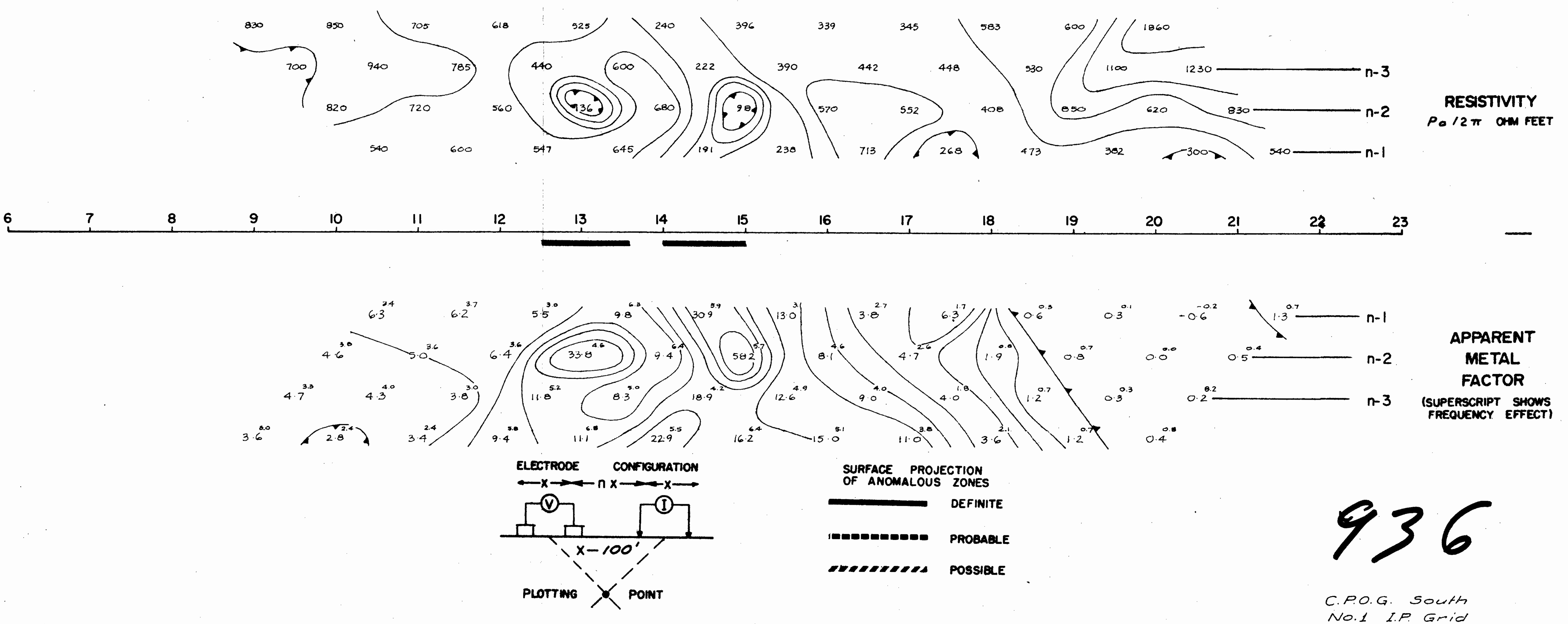
COMINCO LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY

Scale — One Inch = 100 Feet

SURVEYED BY: Mc. Phar Ltd.

I.P.-4-6



NOTE LOGARITHMIC CONTOUR INTERVAL

936

C.P.O.G. South
No.1 I.P. Grid

COMINCO LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY

Scale—One Inch = 200 Feet

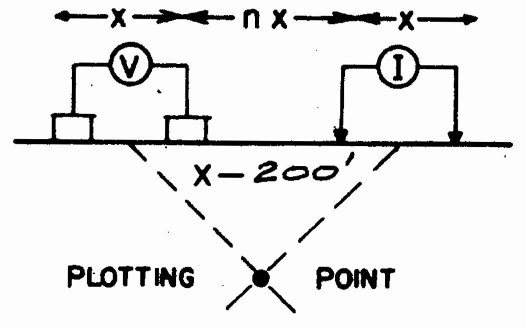
SURVEYED BY: Mc.Phar Ltd.

RESISTIVITY
$\rho a/2\pi$ OHM FEET

LINE NO.- 16+00 W

APPARENT METAL FACTOR
(SUPERSCRIPT SHOWS FREQUENCY EFFECT)

ELECTRODE CONFIGURATION



SURFACE PROJECTION OF ANOMALOUS ZONES

DEFINITE

PROBABLE

POSSIBLE

NOTE LOGARITHMIC CONTOUR INTERVAL

936

C.P.O.G. South
No.1 I.P. Grid

COMINCO LIMITED

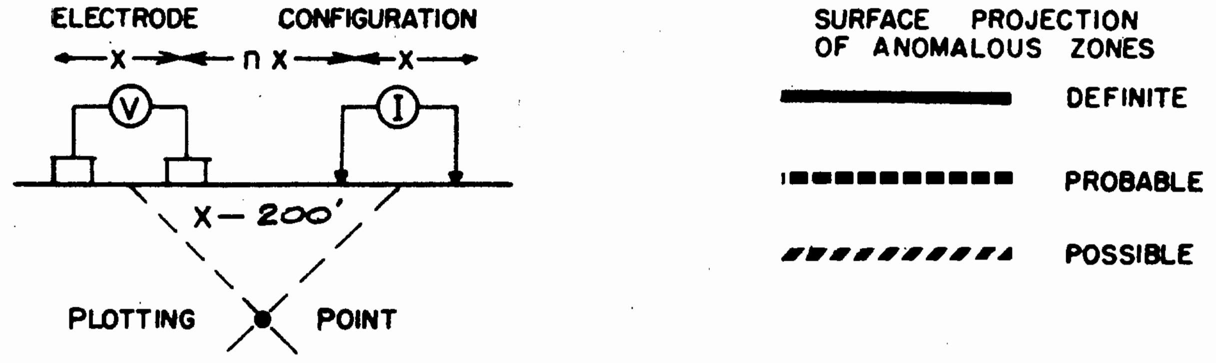
INDUCED POLARIZATION AND RESISTIVITY SURVEY

Scale—One Inch = 200 Feet

SURVEYED BY: Mc. Phar Ltd.

I.P.-4-4

LINE NO.- 22+00 W



NOTE LOGARITHMIC CONTOUR INTERVAL

936

C.P.O.G. South
No. 1 I.P. Grid

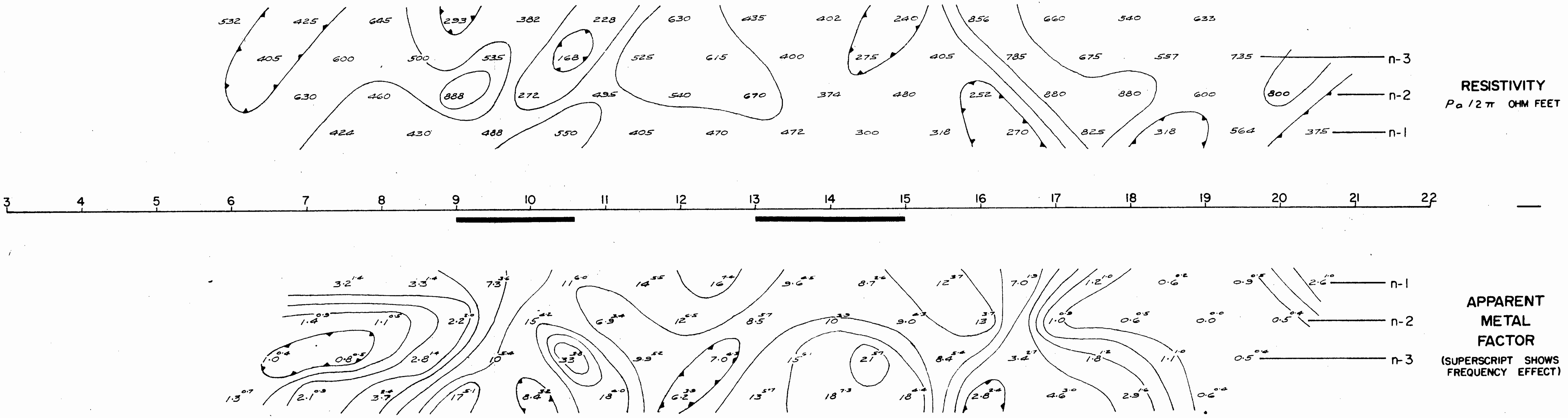
COMINCO LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY

Scale — One Inch = 100 Feet

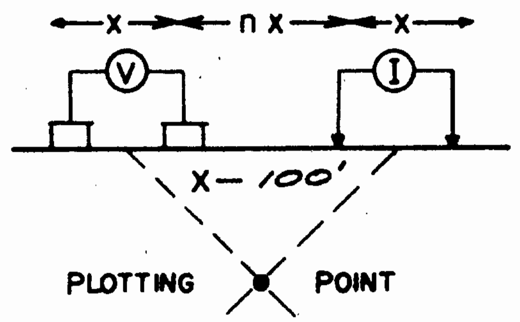
SURVEYED BY: Mc. Phar Ltd.

I.P. - 4 - 3



LINE NO.- 22+00 W

ELECTRODE CONFIGURATION



SURFACE PROJECTION OF ANOMALOUS ZONES

DEFINITE

PROBABLE

POSSIBLE

NOTE LOGARITHMIC CONTOUR INTERVAL

936

C.P.O.G. South
No. 1 I.P. Grid

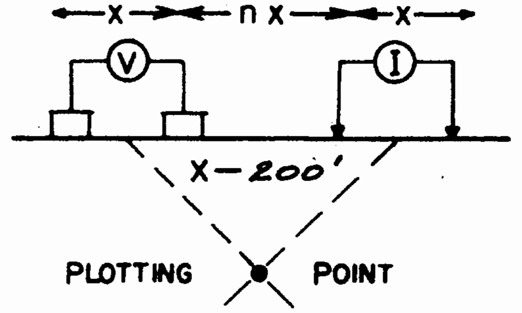
COMINCO LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY

Scale—One Inch = 200 Feet

SURVEYED BY: Mc. Phar Ltd.

I.P.-4-2



SURFACE PROJECTION OF ANOMALOUS ZONES

DEFINITE

PROBABLE

POSSIBLE

936

NOTE LOGARITHMIC CONTOUR INTERVAL

C.P.O.G. South
No.1 I.P. Grid

COMINCO LIMITED

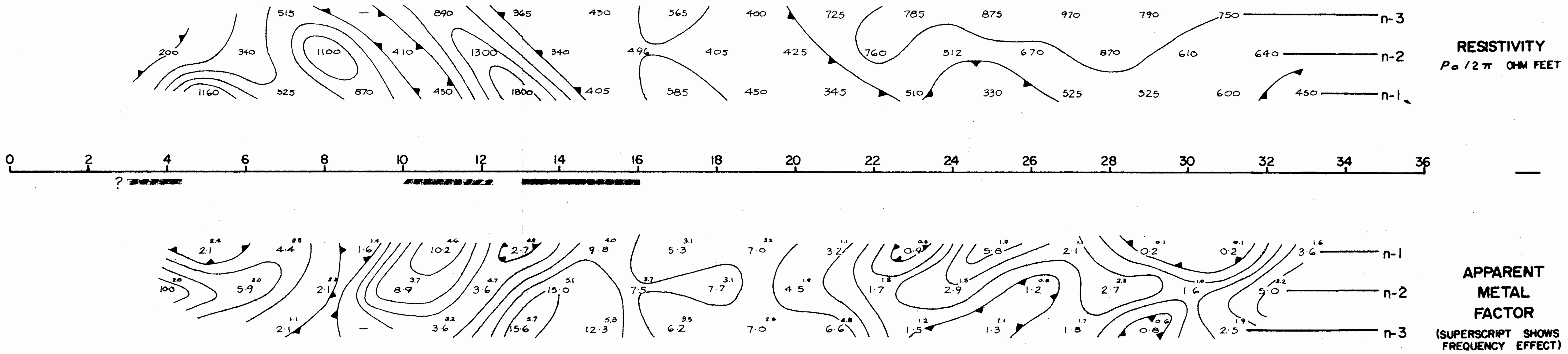
INDUCED POLARIZATION AND RESISTIVITY SURVEY

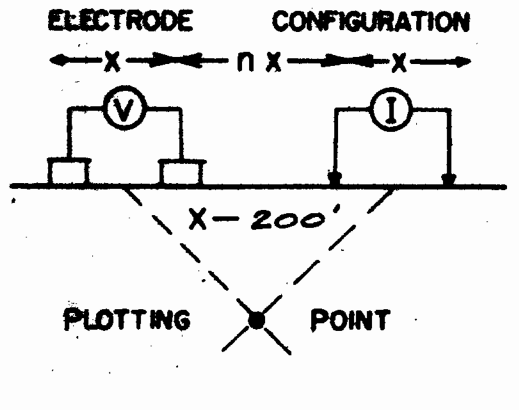
Scale—One Inch = 200 Feet

SURVEYED BY: Mc.Phar Ltd.

I.P.-4-1

LINE NO. - 36+00 W





SURFACE PROJECTION OF ANOMALOUS ZONES

DEFINITE

PROBABLE

POSSIBLE

936

NOTE LOGARITHMIC CONTOUR INTERVAL

C.P.O.G. South
No. 1 I.P. Grid

I.P.-4-10

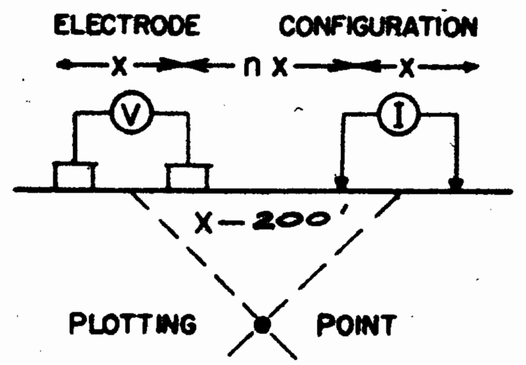
COMINCO LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY

Scale—One Inch = 200 Feet

SURVEYED BY: Mc. Phar Ltd.

LINE NO.- 8+00 E



SURFACE PROJECTION OF ANOMALOUS ZONES

DEFINITE

PROBABLE

POSSIBLE

936

C.P.O.G. South
No. 1 I.P. Grid

NOTE LOGARITHMIC CONTOUR INTERVAL

COMINCO LIMITED

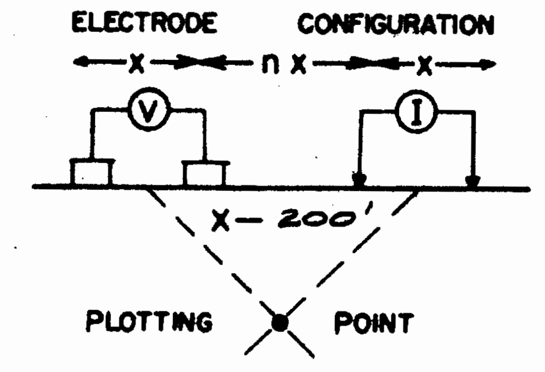
INDUCED POLARIZATION AND RESISTIVITY SURVEY

Scale – One Inch = 200 Feet

SURVEYED BY: Mc. Phar Ltd.

I.P.-4-8

LINE NO.-0+00



SURFACE PROJECTION OF ANOMALOUS ZONES

DEFINITE

PROBABLE

POSSIBLE

NOTE LOGARITHMIC CONTOUR INTERVAL

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C.P.O.G. South
No. 1 I.P. Grid

COMINCO LIMITED

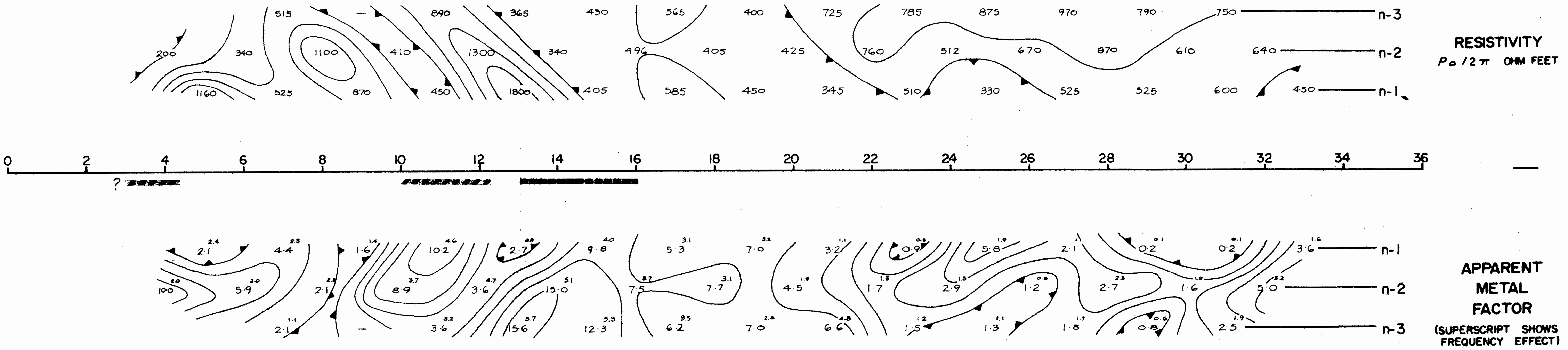
INDUCED POLARIZATION AND RESISTIVITY SURVEY

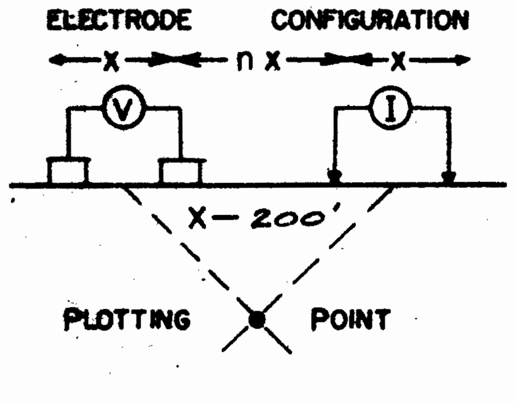
Scale—One Inch = 200 Feet

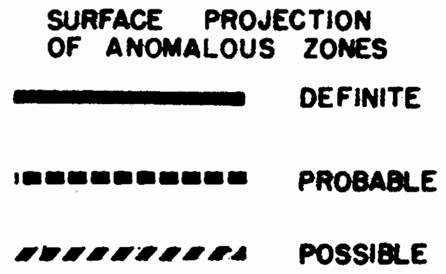
SURVEYED BY: Mc.Phar Ltd.

I.P.-4-1

LINE NO.- 36+00 W







936

C.P.O.G. South
No. 1 I.P. Grid

NOTE LOGARITHMIC CONTOUR INTERVAL

COMINCO LIMITED

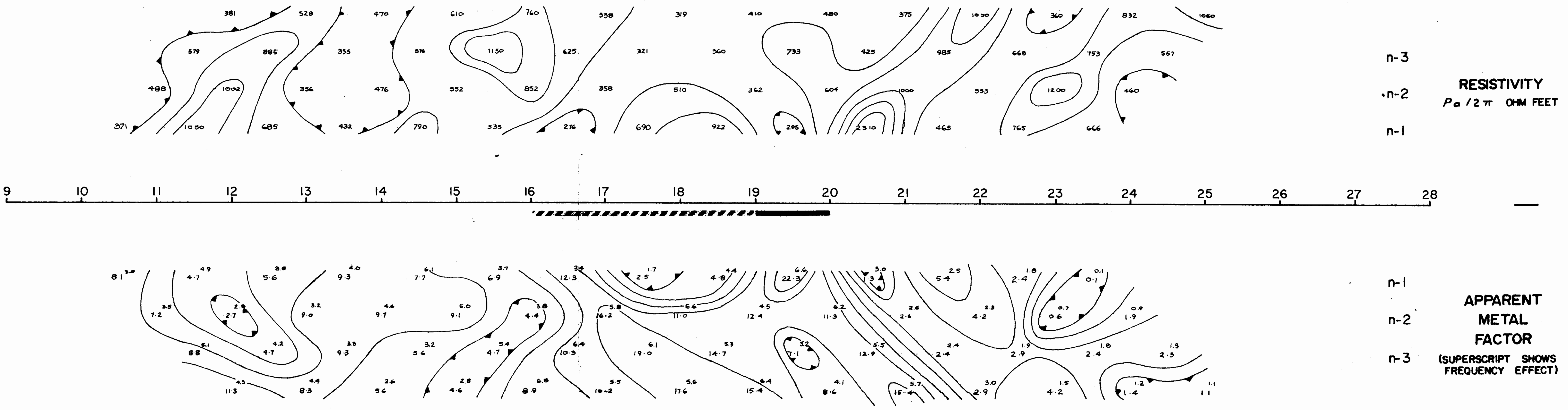
INDUCED POLARIZATION AND RESISTIVITY SURVEY

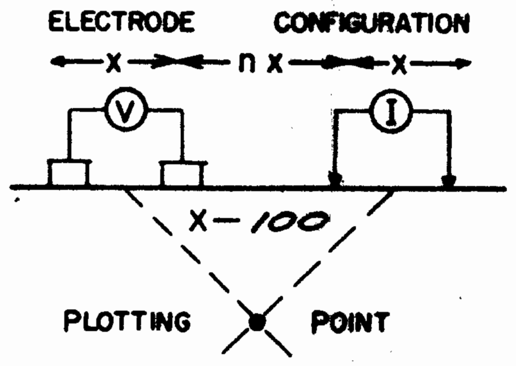
Scale—One Inch = 100 Feet

SURVEYED BY: Mc. Phar Ltd.

I.P.-4-9

LINE NO.- 8+00 E





SURFACE PROJECTION OF ANOMALOUS ZONES

DEFINITE

PROBABLE

POSSIBLE

936

NOTE LOGARITHMIC CONTOUR INTERVAL

C.P.O.G. South
No. 1 I.P. Grid

COMINCO LIMITED

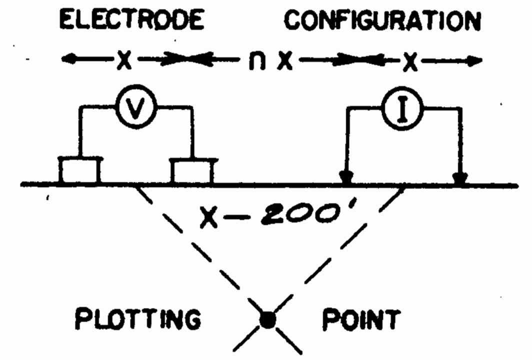
INDUCED POLARIZATION AND RESISTIVITY SURVEY

Scale—One Inch = 200 Feet

SURVEYED BY: Mc. Phar Ltd.

I.P.-4-7

LINE NO.- 8+00 W



SURFACE PROJECTION OF ANOMALOUS ZONES

DEFINITE

PROBABLE

POSSIBLE

936

C.P.O.G. South
No. 1 I.P. Grid

NOTE LOGARITHMIC CONTOUR INTERVAL

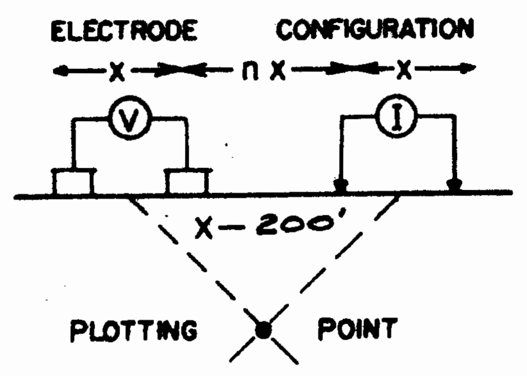
COMINCO LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY

Scale—One Inch = 200 Feet

SURVEYED BY: Mc. Phar Ltd.

I.P.-4-15



SURFACE PROJECTION OF ANOMALOUS ZONES

DEFINITE

PROBABLE

POSSIBLE

NOTE LOGARITHMIC CONTOUR INTERVAL

936

C.P.O.G. South
No.1 I.P. Grid

I.P.-4-14

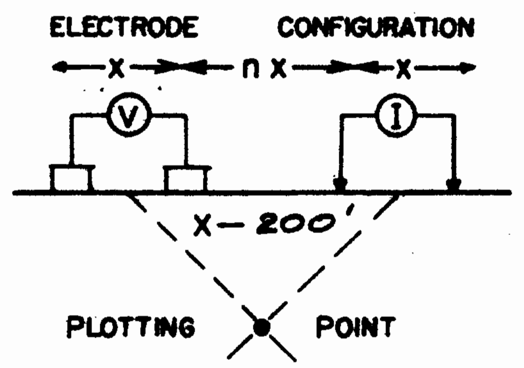
COMINCO LIMITED

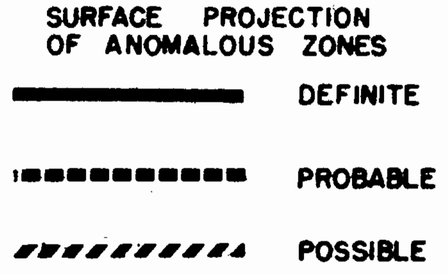
INDUCED POLARIZATION AND RESISTIVITY SURVEY

Scale—One Inch = 200 Feet

SURVEYED BY: Mc. Phar Ltd.

LINE NO.– 30+00 E





NOTE LOGARITHMIC CONTOUR INTERVAL

936

C.P.O.G. South
No. 1 I.P. Grid

COMINCO LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY

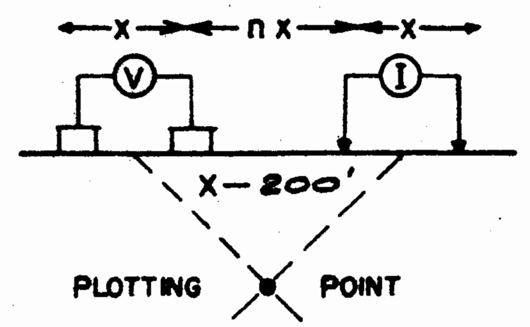
Scale—One Inch = 200 Feet

SURVEYED BY: Mc. Phar Ltd.

I.P.-4-13

LINE NO.- 22+00 E

ELECTRODE CONFIGURATION



PLOTTING POINT

SURFACE PROJECTION OF ANOMALOUS ZONES

DEFINITE

PROBABLE

POSSIBLE

NOTE LOGARITHMIC CONTOUR INTERVAL

936

C.P.O.G. South
No. 1 I.P. Grid

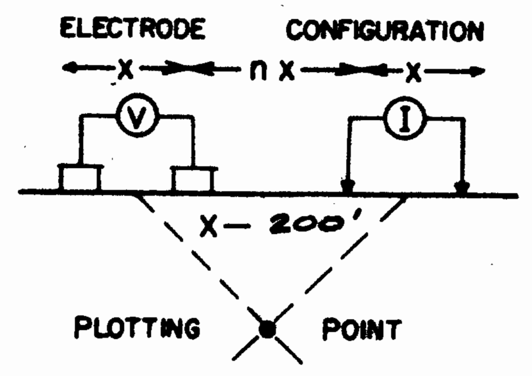
COMINCO LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY

Scale—One Inch = 200 Feet

SURVEYED BY: Mc. Phar Ltd.

I.P.-4-12



SURFACE PROJECTION OF ANOMALOUS ZONES

DEFINITE

PROBABLE

POSSIBLE

NOTE LOGARITHMIC CONTOUR INTERVAL

936

C.P.O.G. South
No.1 I.P. Grid

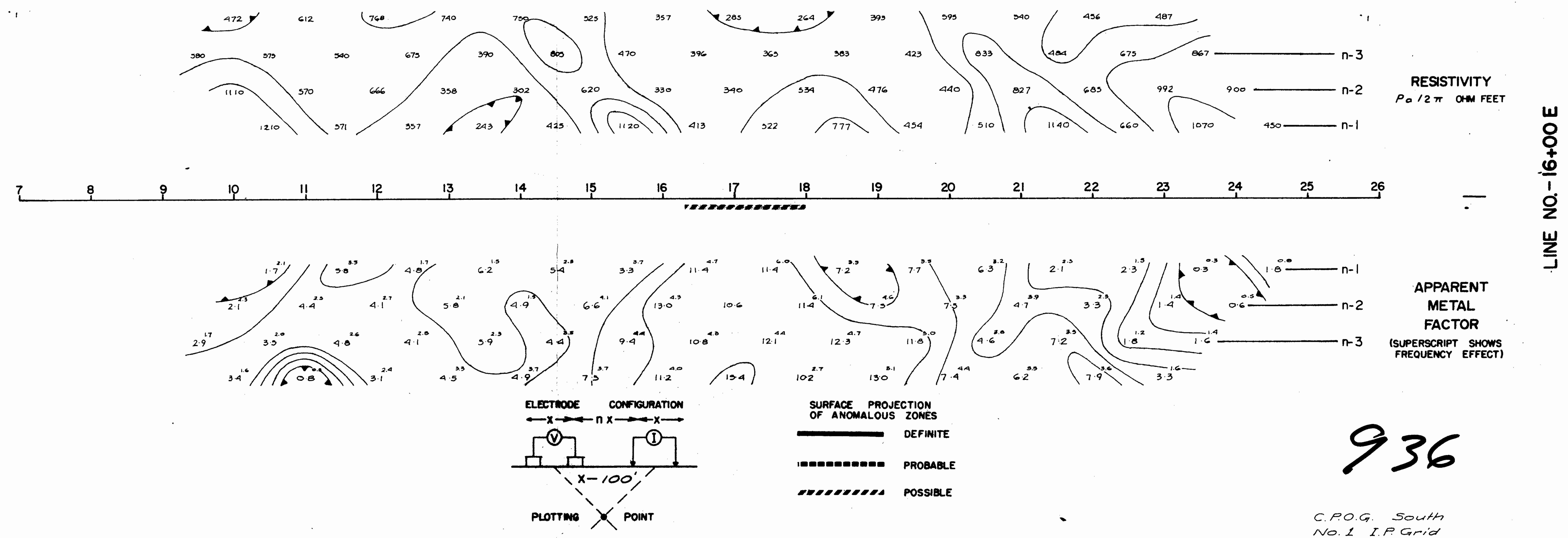
COMINCO LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY

Scale—One Inch = 100 Feet

SURVEYED BY: Mc. Phar Ltd.

I.P.-4-11



NOTE LOGARITHMIC CONTOUR INTERVAL

936

C.P.O.G. South
No. 1 I.P. Grid

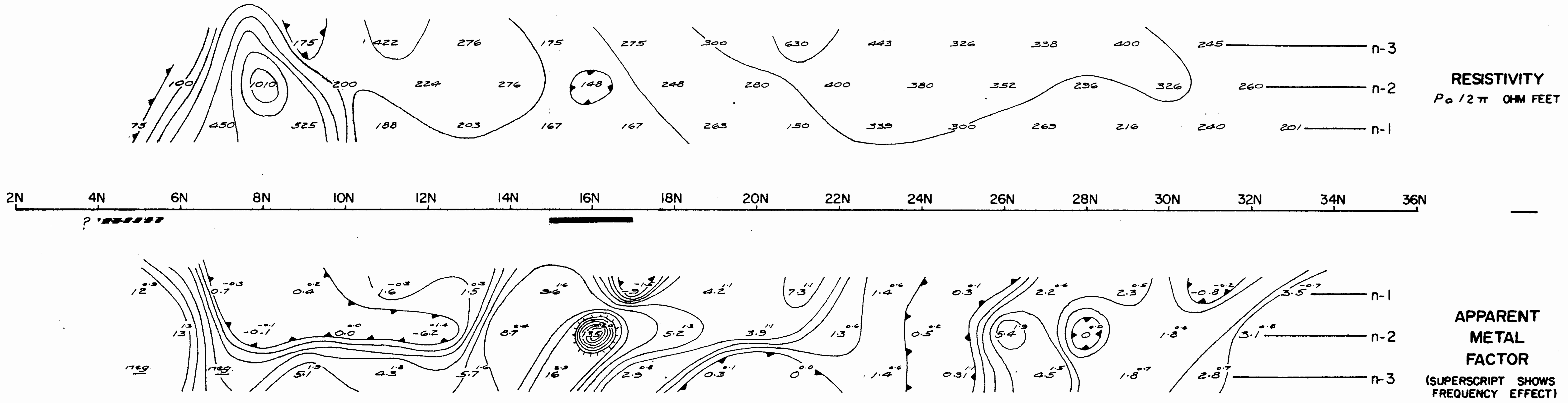
I.P.-5-19

COMINCO LIMITED

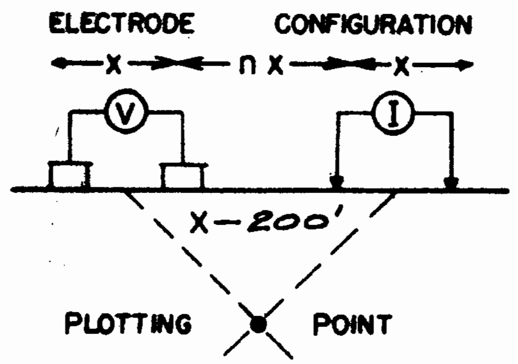
INDUCED POLARIZATION AND RESISTIVITY SURVEY

Scale—One Inch = 200 Feet

SURVEYED BY: Mc. Phar Ltd.



LINE NO.- 42+00E



SURFACE PROJECTION OF ANOMALOUS ZONES

DEFINITE

PROBABLE

POSSIBLE

NOTE LOGARITHMIC CONTOUR INTERVAL

936

C.P.O.G. South
No.1 I.P. Grid

COMINCO LIMITED

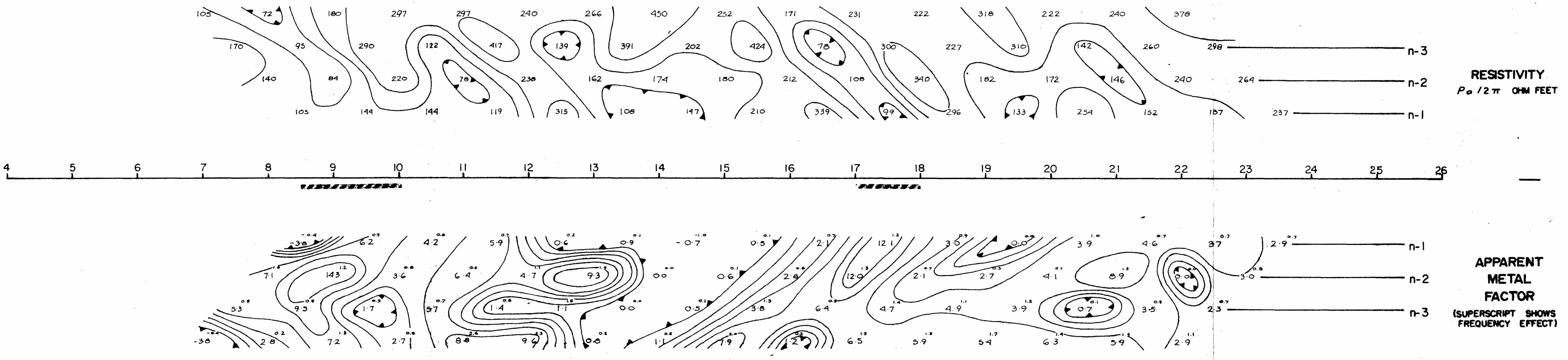
INDUCED POLARIZATION AND RESISTIVITY SURVEY

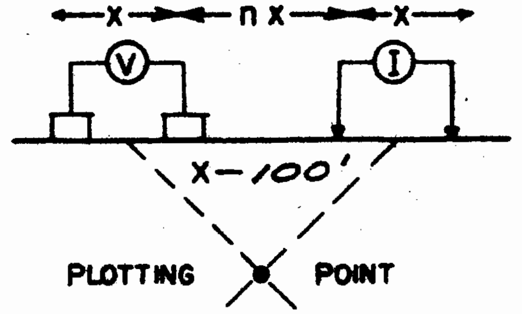
Scale—One Inch = 100 Feet

SURVEYED BY: Mc. Phar Ltd.

I.P.-4-18

LINE NO. - 42+00 E





SURFACE PROJECTION OF ANOMALOUS ZONES

DEFINITE

PROBABLE

POSSIBLE

936

C.P.O.G. South
No. 1 I.P. Grid

NOTE LOGARITHMIC CONTOUR INTERVAL

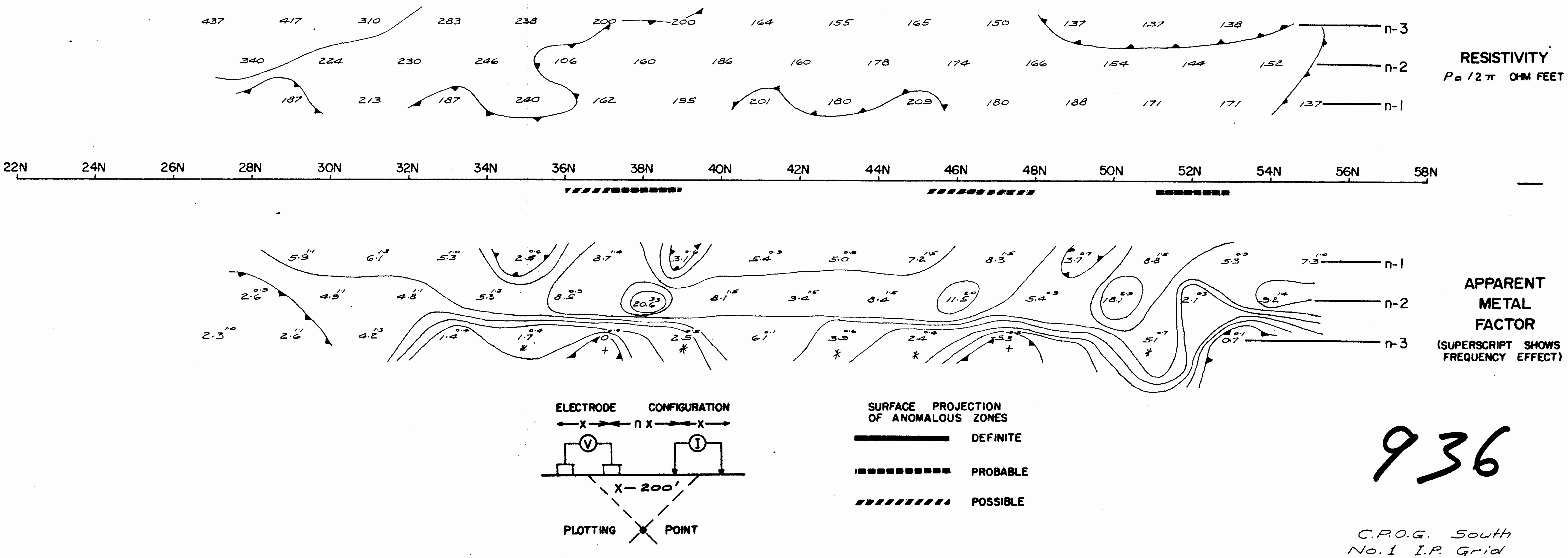
I.P.-4-17

COMINCO LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY

Scale—One Inch = 200 Feet

SURVEYED BY: Mc. Phar Ltd.



LINE NO.- 40+00E

936

NOTE LOGARITHMIC CONTOUR INTERVAL

C.P.O.G. South
No. 1 I.P. Grid

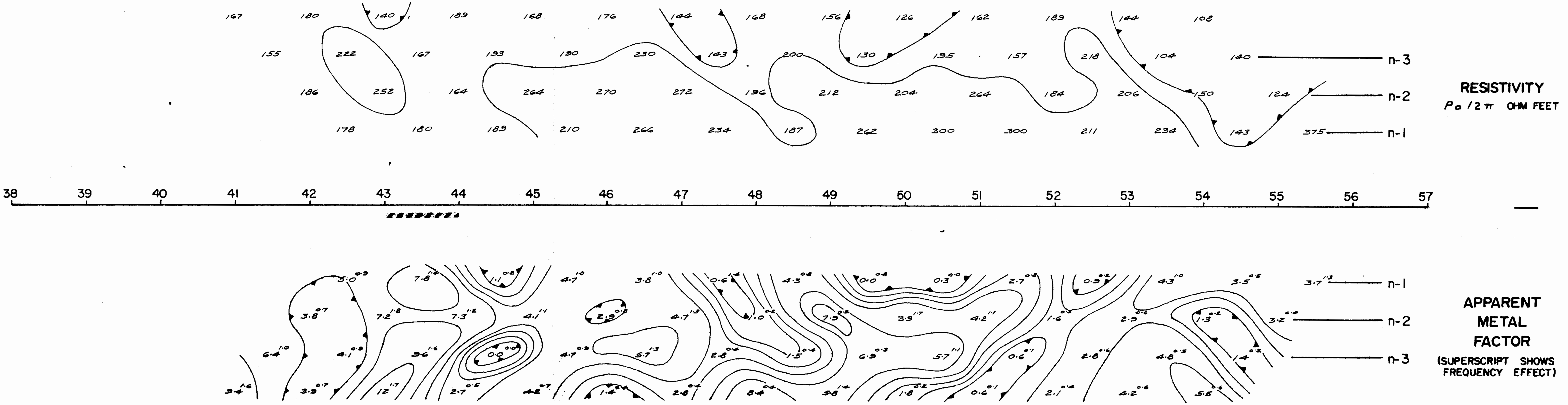
COMINCO LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY

Scale—One Inch = 100 Feet

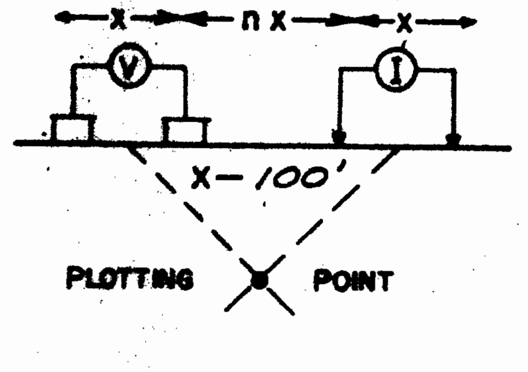
SURVEYED BY: Mc. Phar Ltd.

I.P.-4-16



LINE NO.-36+00 E

ELECTRODE CONFIGURATION



SURFACE PROJECTION OF ANOMALOUS ZONES

DEFINITE

PROBABLE

POSSIBLE

NOTE LOGARITHMIC CONTOUR INTERVAL

936

C.P.O.G. South
No. 1 I.P. Grid

I.P.-4-25

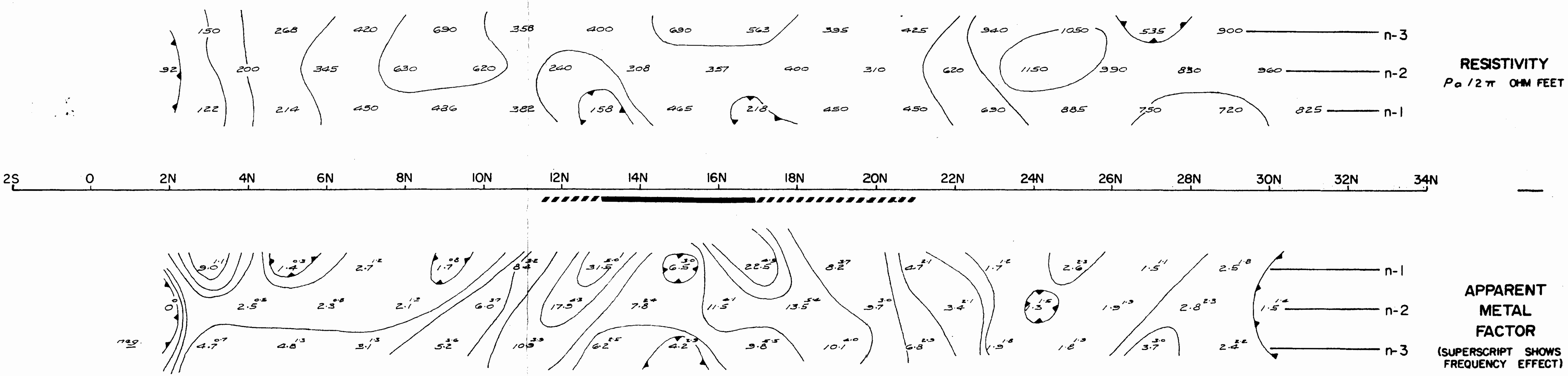
COMINCO LIMITED

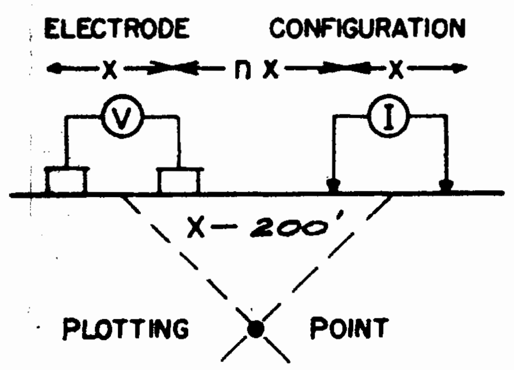
INDUCED POLARIZATION AND RESISTIVITY SURVEY

Scale—One Inch = 200 Feet

SURVEYED BY: Mc.Phar Ltd.

LINE NO.- 56+00 E





SURFACE PROJECTION OF ANOMALOUS ZONES

DEFINITE

PROBABLE

POSSIBLE

NOTE LOGARITHMIC CONTOUR INTERVAL

936

C.P.O.G. South
No. 1 I.P. Grid

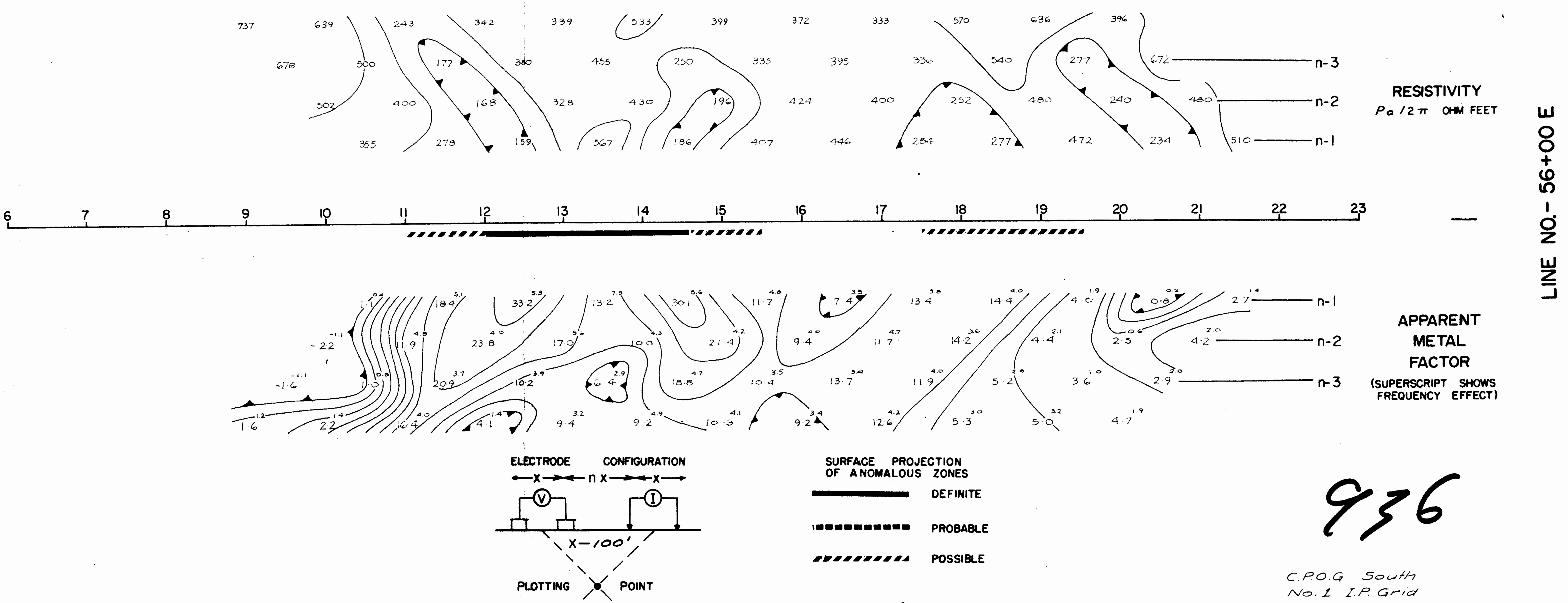
COMINCO LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY

Scale—One Inch = 100 Feet

SURVEYED BY: Mc. Phar Ltd.

I.P.-4-24



NOTE LOGARITHMIC CONTOUR INTERVAL

936

C.P.O.G. South
No. 1 I.P. Grid

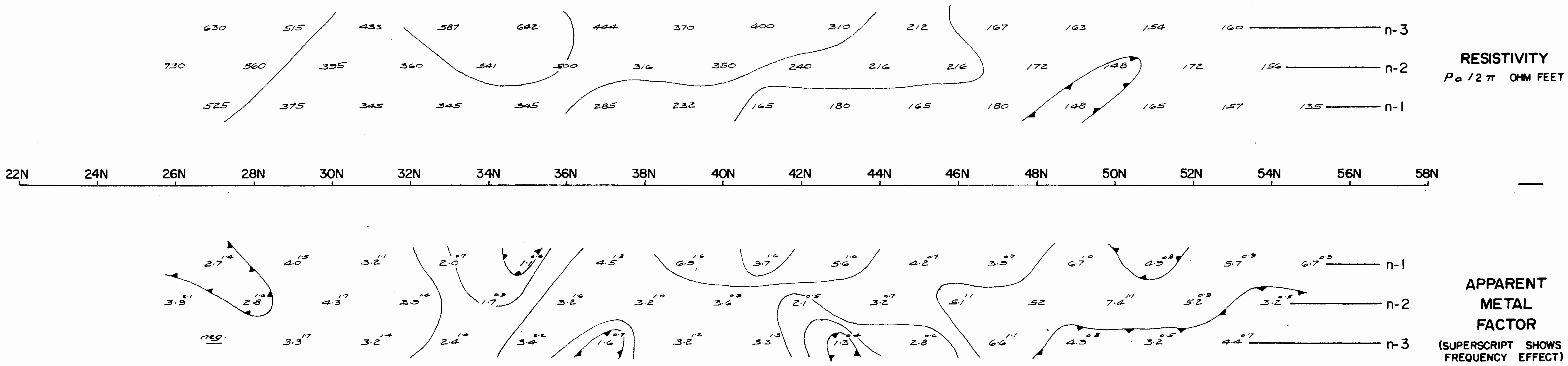
I.P.-4-23

COMINCO LIMITED

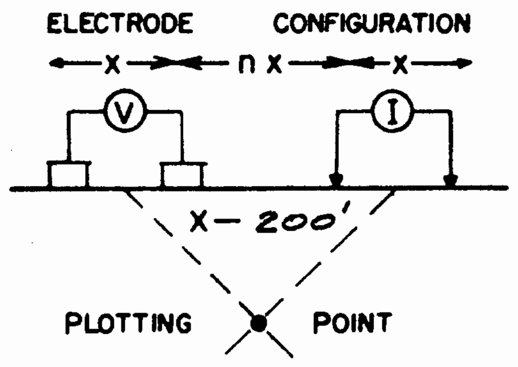
INDUCED POLARIZATION AND RESISTIVITY SURVEY

Scale — One Inch = 200 Feet

SURVEYED BY: Mc. Phar Ltd.



LINE NO.-54+00 E



SURFACE PROJECTION OF ANOMALOUS ZONES

DEFINITE

PROBABLE

POSSIBLE

936

C.P.O.G. South
No. 1 I.P. Grid

NOTE LOGARITHMIC CONTOUR INTERVAL

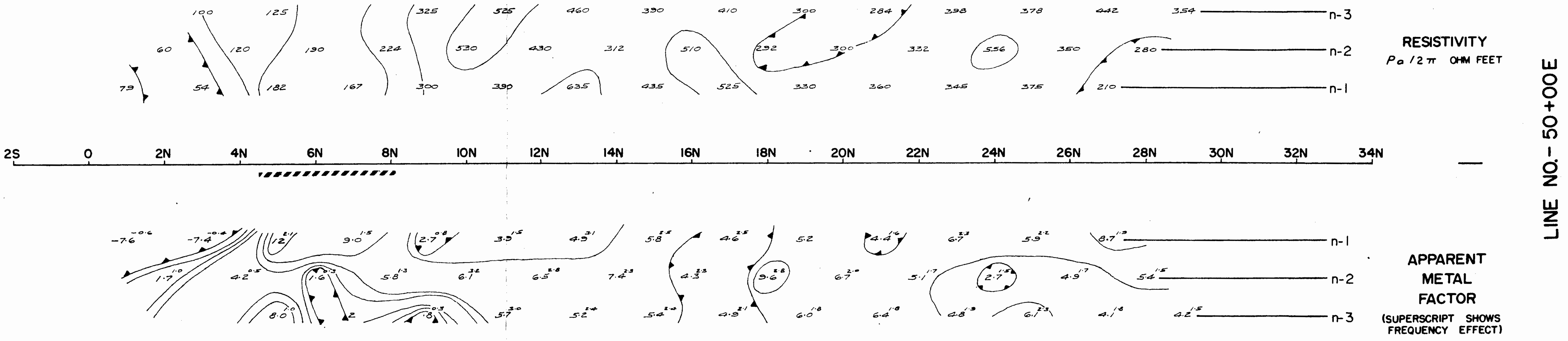
I.P. - 4-22

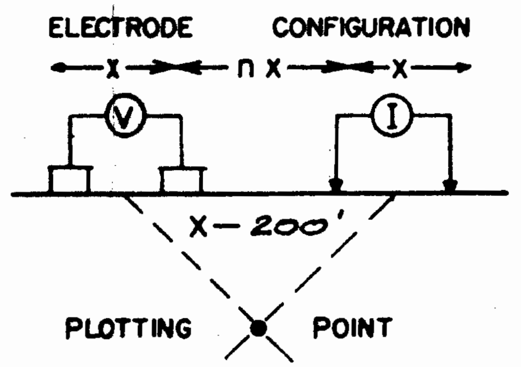
COMINCO LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY

Scale — One Inch = 200 Feet

SURVEYED BY: Mc. Phar Ltd.





SURFACE PROJECTION OF ANOMALOUS ZONES

DEFINITE

PROBABLE

POSSIBLE

NOTE LOGARITHMIC CONTOUR INTERVAL

936

C.P.O.G. South
No. 1 I.P. Grid

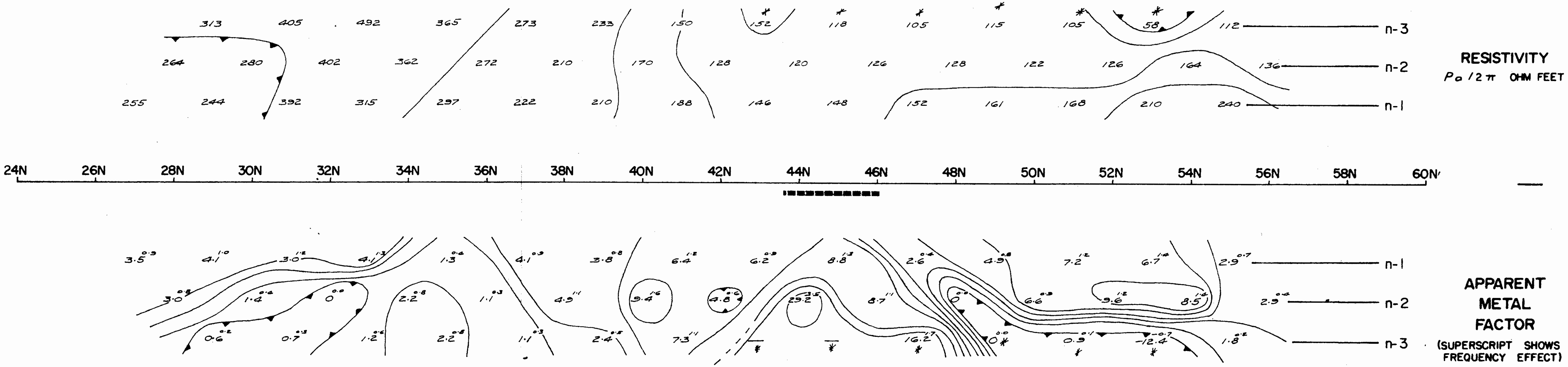
I.P.-4-21

COMINCO LIMITED

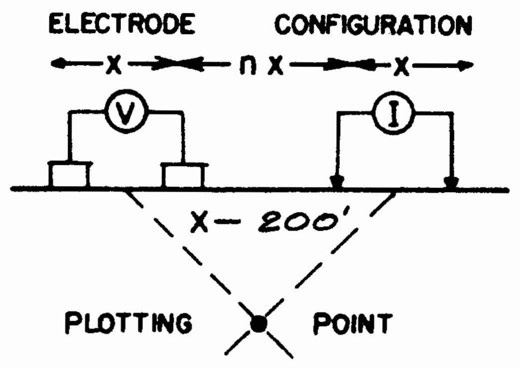
INDUCED POLARIZATION AND RESISTIVITY SURVEY

Scale—One Inch = 200 Feet

SURVEYED BY: Mc. Phar Ltd.



LINE NO.- 46+00



SURFACE PROJECTION OF ANOMALOUS ZONES

DEFINITE

PROBABLE

POSSIBLE

936

NOTE LOGARITHMIC CONTOUR INTERVAL

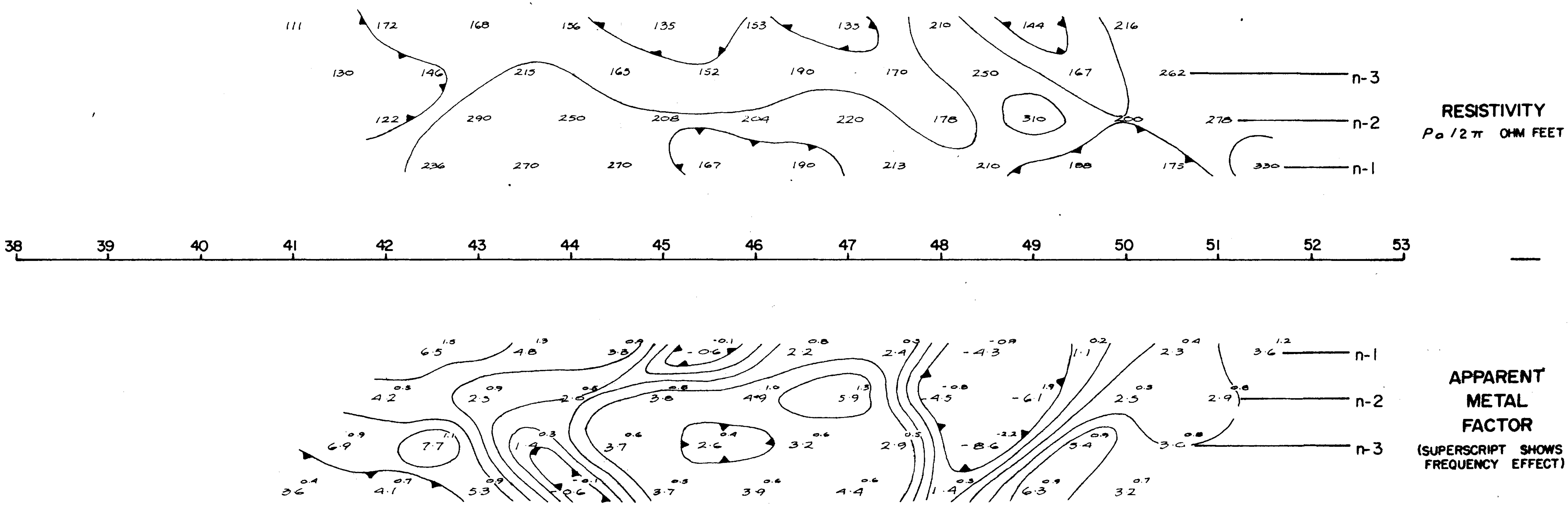
I.P.-4-20

COMINCO LIMITED

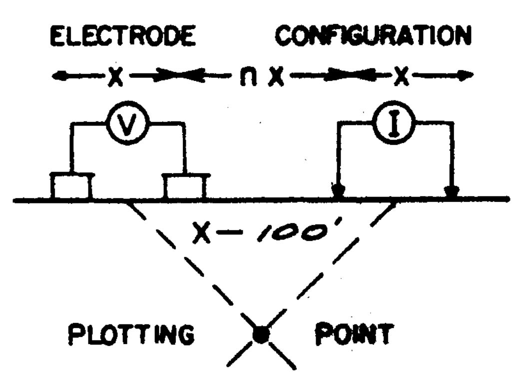
INDUCED POLARIZATION AND RESISTIVITY SURVEY

Scale—One Inch = 100 Feet

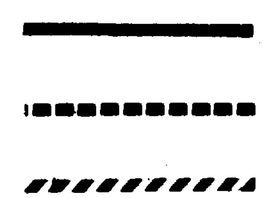
SURVEYED BY: Mc. Phar Ltd.



LINE NO.- 46+00 E



SURFACE PROJECTION OF ANOMALOUS ZONES



DEFINITE

PROBABLE

POSSIBLE

936

C.P.O.G. South
No. 1 I.P. Grid

NOTE LOGARITHMIC CONTOUR INTERVAL

I.P.-4-26

COMINCO LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY

Scale—One Inch = 200 Feet

SURVEYED BY: Mc. Phar Ltd.

RESISTIVITY

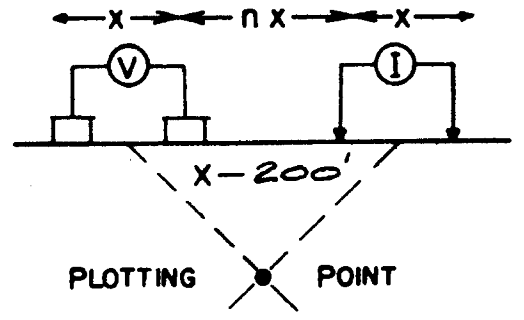
$P_a/2\pi$ OHM FEET

APPARENT METAL FACTOR

(SUPERSCRIPT SHOWS FREQUENCY EFFECT)

LINE NO. - 62+00 E

ELECTRODE CONFIGURATION



PLOTTING POINT

SURFACE PROJECTION OF ANOMALOUS ZONES

DEFINITE

PROBABLE

POSSIBLE

NOTE LOGARITHMIC CONTOUR INTERVAL

936

C.P.O.G. South
No.1 I.P. Grid

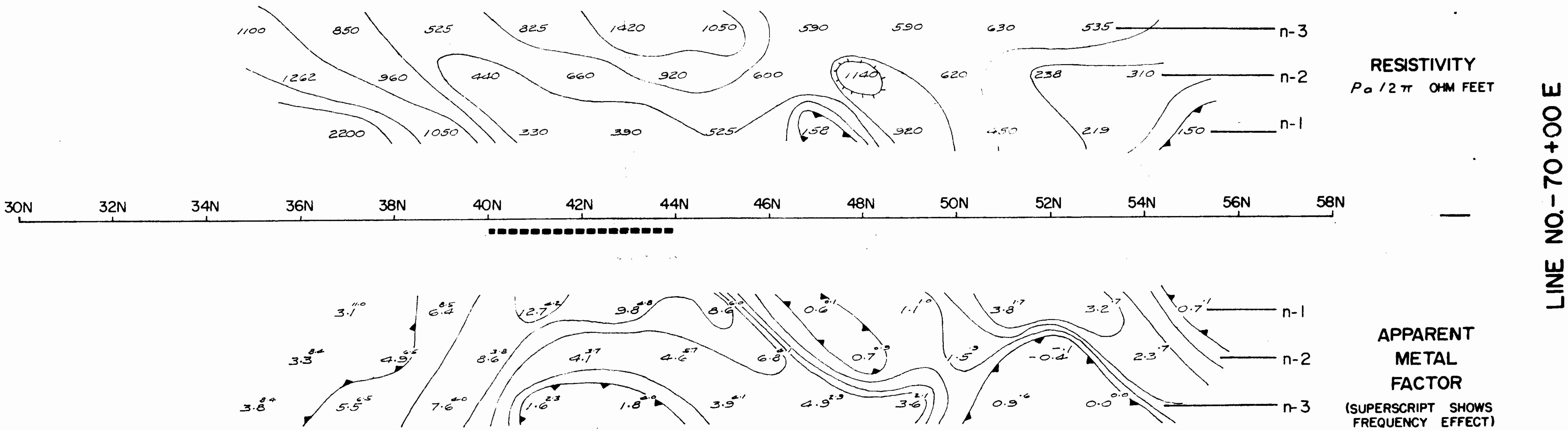
COMINCO LIMITED

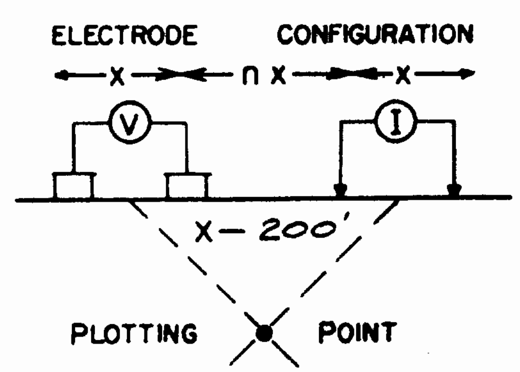
INDUCED POLARIZATION AND RESISTIVITY SURVEY

Scale — One Inch = 200 Feet

SURVEYED BY: Mc. Phar Ltd.

I.P.-4-27





SURFACE PROJECTION OF ANOMALOUS ZONES

DEFINITE

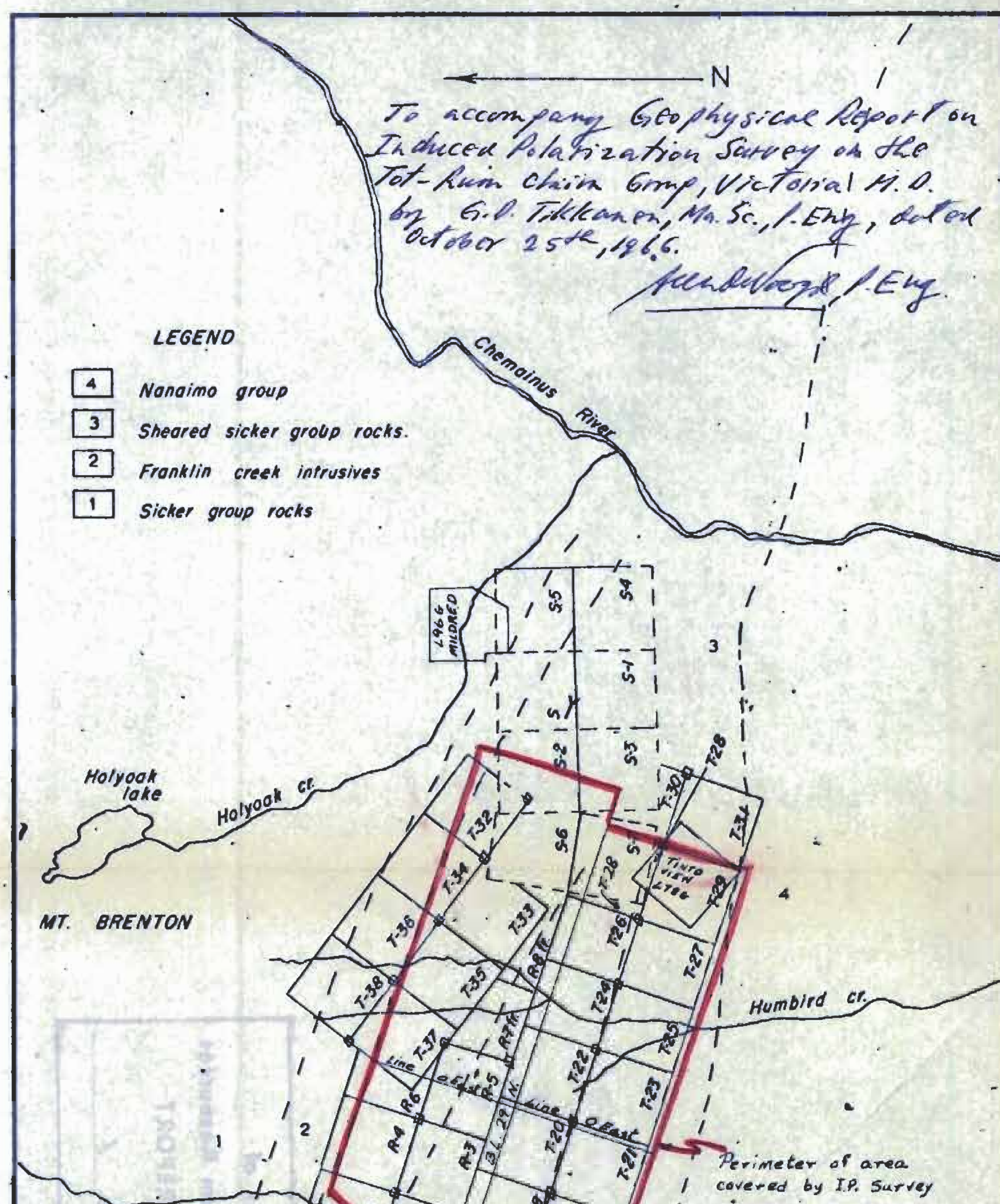
PROBABLE

POSSIBLE

936

C.P.O.G. South
No.1 I.P. Grid

NOTE LOGARITHMIC CONTOUR INTERVAL



The Consolidated Mining and Smelting Company of Canada Limited

DRAWN BY:	TRACED BY:
REVISED BY / DATE	REVISED BY / DATE

GENERAL GEOLOGY

TOT, SHARRON AND RUM CLAIM GROUP

SCALE: 1" = 1/2 mi. DATE: JAN. 12, 1967 PLATE:

COMINCO 210-0610


N
VANCOUVER
VANCOUVER ISLAND
PORT ALBERNI
NANAIMO
C.P.O.G. PROPERTY
DUNCAN
VICTORIA
LOCATION MAP
SCALE: 1" = 20 MILES
58N BASE LINE
29N BASE LINE
0+00 BASE LINE
L-36+00W
L-30+00W
L-22+00W
L-16+00W
L-8+00W
L-0+00
L-8+00E
L-16+00E
L-22+00E
L-30+00E
L-36+00E
L-42+00E
L-50+00E
L-56+00E
L-62+00E
L-40+00E
L-46+00E
L-54+00E
L-70+00E
ELECTRODE CONFIGURATION
200'
PLOTTING POINT
SURFACE PROJECTION OF ANOMALOUS ZONES
DEFINITE
PROBABLE
POSSIBLE
936
I.P. Survey Grid No. 1,
To accompany Geophysical Report on Induced Polarization Survey on the Fet River Claim Group, Victoria M.D. by G.D. Tikkanen M.Sc., P.Eng., dated October 25th, 1966.
P.Eng.
P.Eng.
The Consolidated Mining and Smelting Company of Canada Limited
DRAWN BY: F.A. Horvath
TRACED BY:
REVISED BY
DATE
REVISED BY
DATE
INDUCED POLARIZATION SURVEY
C.P.O.G. PROPERTY
Plan of
SECOND SEPARATION RESISTIVITIES
SCALE: 1 INCH = 400 FEET
DATE: Oct. 24, 1966
PLATE: 92-B CPO-P-2
COMINCO 210-0670

LOCATION MAP

SCALE: 1" = 20 MILES

936

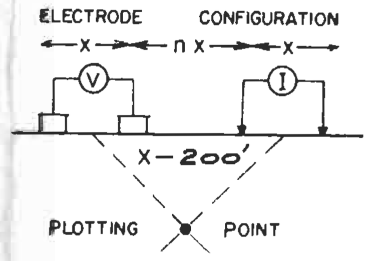
I.P. Survey Grid No. 1,

To accompany Geophysical Report on Induced Polarization Survey on the Tot-Rum group of claims, Victoria M.D., by G.D. Tikkanen, M.Sc., P.Eng. dated October 25th, 1966.

Alex. deVorzy, P.Eng.

George Tikkanen P.Eng.

ELECTRODE CONFIGURATION



PLOTTING POINT

SURFACE PROJECTION OF ANOMALOUS ZONES

DEFINITE

PROBABLE

POSSIBLE

NOTE LOGARITHMIC CONTOUR INTERVAL

The Consolidated Mining and Smelting Company of Canada Limited

DRAWN BY: F.A. Horvath		TRACED BY:	
REVISED BY	DATE	REVISED BY	DATE

INDUCED POLARIZATION SURVEY

C.P.O.G. PROPERTY

Plan of

SECOND SEPARATION METAL FACTORS

SCALE: 1 INCH = 400 FEET | DATE: Oct. 24, 1966 | PLATE: 92-8 CPO-P-1

COMINCO 210-0670