

Microwave Hill 93L/7
673748

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA
TELEPHONE: 985-0648

CHEMEX LABS LTD.

• CHEMISTS

• GEOCHEMISTS

• ANALYSTS

• ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 11765

INVOICE NO. 3983

DATE RECEIVED Sept. 3, 1970

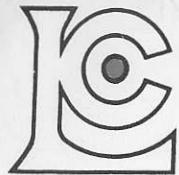
DATE ANALYSED Sept. 11, 1970

TO: Bacon & Crowhurst,
#1720 1055 W. Hastings St.,
Vancouver, B.C.

ATTN: TOSERO MINES LTD.

SAMPLE NO.:	% Copper	% Zinc	% Lead	oz./ton Silver	oz./ton Gold
36501	0.32	5.2	8.5	7.63	<0.003
36502	0.18	1.80	0.50	0.73	<0.003
36503	0.16			0.27	<0.003
36504	0.22			0.03	<0.003
36505	1.30			0.99	<0.003
36506	26 ppm Cu - Soil Sample From Above Road Showing, Microwave Hill				
36501	QUILA CREEK FRACTURE ZONE, 0'-5' CHIP SAMPLE				
36502	"	"	"	5'-10'	"
36503	MICROWAVE HILL, ROAD SHOWING, 15' CHIP SAMPLE				
36504	"	"	"	Upper Zone, 20' GRAB SAMPLE	
36505	"	"	"	Road Showing, 3' GRAB SAMPLE From "High Grade" pocket in CHALCOCITE-CARBOONATE ZONE	

Certified by



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TO: Bacon & Crowhurst,
Ste. 1720 - 1055 W. Hastings St.,
Vancouver. 1. B. C.

INVOICE NO.

ATTN: Mr. R. Phendler

DATE ANALYSED Sept. 14/70

INVOICE NO. 4008

DATE RECEIVED Sept. 3/70

DATE ANALYSED Sept. 14/70

Certified by

Microwave Hill
Houston, B.C.

- 19 -

D.D.H.#4 Collar: 214+50E/212N
Bearing: grid west
Dip: -45°
Est.Length: 500'

DIAMOND DRILLING PROGRAMME

General Statement

Two thousand feet of diamond drilling was contracted to D.W.Coates Enterprises Ltd. at a basic rate of \$7.50/foot.

During the period October 20th to November 22nd, five drill holes, totalling 1706 feet, were completed. A short-hole drilling programme was decided upon to test both known surface mineralization and also geophysical anomalies. The drilling programme was abandoned 296 feet short of the footage contracted, due to extremely poor results.

Drill Hole Locations

D.D.H.#	Lat.	Long.	Brg.	Dip	Depth
✓ #1	200+00N	202+50E	270°	-45°	450'
✓ #2	200+00N	200+00E	090°	-60°	287'
✓ #3	223+90N	200+35E	270°	-45°	300'
✓ #4	198+00N	203+30E	090°	-45°	227'
✓ #5	202+00N	200+10E	135°	-60°	350'
					1,614'
				plus 2 abandoned holes	92'
					1,706'

Appendix C contains the drill hole logs and locations are shown on map #2.

Discussion of Results

D.D.H.#1 was drilled to a depth of 450 feet. The purpose of this hole was to test a geophysical response as recommended by J.B.Boniwell, consulting geophysicist. Rock encountered consists of a variety of typical Hazelton andesite lithic and crystal tuffs, most of which are purplish coloured. Ten foot samples were selected for assay by a visual estimation of mineral content. Assay results are extremely poor. Copper assays range from trace to .03% and silver assays range from trace to .08 ounces per ton.

D.D.H.#2 was drilled to a depth of 287 feet. Due to the negative results obtained in D.D.H.#1, the second hole was located 250 feet west of D.D.H.#1 and drilled east. This decision was made to ensure that the target sought in D.D.H.#1 was not missed due to possible unknown structural complexities. Assay results are again extremely low. Copper assays do not exceed trace values and silver assays range from trace to .02 ounces per ton. Holes #1 and #2 intersect at depth and form a plane in which mineralization beneath the discovery showing was not encountered.

*proposed
#2 to intersect major phonopy*
D.D.H.#3 was drilled to a depth of 300 feet to test another geophysical response as recommended in the geophysical report. Here again, results are very disappointing. Copper assays range from trace to .02% and silver assays range from trace to .10 ounces per ton. As in the case of the first two holes no explanation other than a possible increase in shearing,

can be offered to account for the geophysical response.

The purpose of D.D.H.#4 was to test beneath a surface showing of malachite and minor sulphide mineralization. This hole was drilled to a depth of 227 feet. Grades encountered are only slightly higher than in previous drill holes. Copper assays range from trace to .12% and silver assays range from trace to .10 ounces per ton.

D.D.H.#5 was drilled to test for mineralization beneath the discovery showing, but separated from the section explored by Holes #1 and #2 by a suspected fault. Such a fault might explain the lack of continuity of the surface showing to shallow depth on the first section. Only weak mineralization was intersected and the hole was abandoned at a depth of 350 feet. Copper assays range from trace to 0.13% and silver assays range from trace to .02 ounces per ton.

Diamond drilling was terminated upon completion of the fifth hole due to the extremely low grades encountered.

J.R. Forsythe
J.R. Forsythe

Microwave Hill,
Houston, B.C.

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LIST OF DRAWINGS

<u>Drawing No.</u>	<u>Title</u>	<u>Scale</u>
5-232-1	IP and Resistivity Profiles	1" = 400'
5-232-2	Normalized I.P. Contours	1" = 400'
5-232-3	Resistivity Contours	1" = 400'
5-232-4	IP & Resistivity Sections	1" = 400'

INTRODUCTION

Aesozoic volcanics (Hazelton Group) just outside the town of Houston on the Prince George to Prince Rupert highway provide evidence of copper mineralization in a number of incidences of malachite staining and the odd showing of chalcopyrite in small veins. Most notably, recent road-building operations in the area had exposed a more substantial occurrence of copper minerals, largely chalcopyrite, in a road cut. This showing became the central point of interest to the present property which together with a geology indicating favourable environmental conditions, albeit on very little outcrop evidence, impelled the investigation by induced polarization described herein.

The showing mineralization itself is scattered and irregular locally controlled apparently by a series of NW trending fractures and shears interacting with a bedding sequence that generally strikes N-S. Dips to the volcanic host rocks appear very steep. Andesites, tuffs, dacites and rhyolites have all been noted in the area, but due to the paucity of outcrop these units can not be mapped definitively.

The geophysical field operations were conducted in the period 27th Sept - 17th Oct. 1969 under the on-site supervision and direction of Barringer geophysicist, Roger Caven. High powered 7.5 kva (Huntec) pulse-transient IP equipment was employed providing a $1\frac{1}{2}$ secs. current-on time and a 400 msec. reading interval. Primary coverage on E-W lines 400' apart was effected with a three pole electrode array with an 'a' spacing of 200'. Multi-spacing sections with a pole-dipole array for $n=1$ to 4 inclusive at the same 'a' spacing were subsequently undertaken at three selected sites.

DISCUSSION OF RESULTS

... very evident characteristic to the grid area is a considerable resistivity relief ranging from as low as 70 ohm-metres to peaks in excess of 2500 ohm-metres. (Dwg. No. 5-232-3). Moreover the features described by this relief tend to be irregularly outlined and distributed. The very low resistivities however are confined to the south-east corner of the grid area where they most manifestly represent a thickening overburden towards the foot of the hill slope that otherwise dominates the region topographically. The high features by contrast, including the individual peaks that exceed 2000 ohm-metres, are scattered in their occurrence and show little apparent relationship one to the other. If these higher resistivities (greater than 1000 ohm-metres, say) represent the more siliceous elements of the volcanic suite, that is presumably, the dacites and rhyolites, then it must be concluded that the sequence is very much broken up and discontinuous either under the influence of heavy fracturing or through numerous fault displacements. The likelihood is of course that both agencies are present.

Geology tends to confirm this

Nevertheless to the extent they allow in local detail, the resistivity results do suggest a north-south orientation heavily overlain by a NW-SE strike pattern as prescribed by geologic concepts. In addition they also supply a subtle hint that there could be across the centre part of the area a zone of structural disturbance along an axis bearing NE-SW, e.g. from approximately 230E on line 208N to 180E on line 184N as one side, and from approximately 230E on line 216N to 180E on line 196N on the other. If valid, then it is of passing note that the road showing would fall within it.

Not concerned by Geology

The chargeability data by way of comparison to the resistivity relief are more subdued in their profile variations. (Dwg. No. 5-232-1). However there is a widespread tendency for chargeability values to increase with resistivity, particularly in the sections of known mineralization. For this reason, recourse is made to a normalized IP parameter which corrects for the increase in observed chargeability response due to resistivity. The problem with this parameter (the equivalent of so-called metal factor) is that it is a manufactured one and not a rock property,

* | and that in areas of unchanging background chargeability apparent anomalies can be simulated that are solely caused by local resistivity lows. Thus in the presentation (Dwg. No. 5-232-2) normalized values derived from measured chargeabilities of 3.5 msec. or less are underlined as being within the normal IP background for the area. It follows that contours based on these values need to be treated with a good deal of circumspection. However it can be seen that largely speaking there is no dependence between the distribution of underlined values and the contours, and that for the most part the main features emerging from the normalized IP data are specifically unaffected. This means the major trends in anomaly distribution depicted by this parameter are valid and significant to bedrock change.

What is most notable about this set of corrected data is that it supplies a complete shift in emphasis away from the strongest recorded chargeabilities to a zone that runs NW-SE across the centre of the area. In so doing it relegates the road showing to the very fringe of the anomalous region, suggesting thereby that the mineralization exposed there does not represent the main mineral belt, nor indeed the main chance. Excluding the extreme south-east, the zone as it crosses the area on its dominant NW bearing provides repeated evidence of local N-S fingerings. There are also obvious indications of NE-SW bearing elements. Since geology is considered to run N-S, there seems little doubt that the zone reflects the major trend of a fracture-controlled mineralization cutting across the environment in a fairly wide swath, a mineralization nevertheless that is locally influenced in its emplacement by bedding and other fracture systems that may be present. The road showing appears to occur in just one of these outflung extensions, in this case one running with the bedding.

The main anomaly zone itself is not singular axis but a complex of several. At least three can be recognized at times, running roughly parallel to each other. Centres of increased anomaly exist on two of them, and these stand out as features worthy of further investigation. The most commanding is the anomaly centre peaking at 199E on line 224N. With a strike potential of about 1000' locally running N-S, this well-defined section of consistent IP response constitutes a very real target in terms of ore-body dimensions and possibilities. Each of two separate peakings

Geology
TENOS
Conway
THIS

on the second axis, viz. at 211E/220N and at 213E/212N also deserve close attention as local mineral concentrations that in being less than 800' apart and strike-related could combine into something substantial, possibly directly in depth. It is perhaps of more than incidental significance that all three of these individual peakings are in a general flanking relationship with high resistivity features, as is also the road showing on line 200N. Although the association is not always close, there could be indicated here a spatial requirement that a local setting should contain an acid volcanic in relative proximity for it to be considered favourable to potential ore-mineralization. Be that as it may, it is noted that an IP anomaly resolved at 225E on line 200N is without such a resistivity association, and the anomaly appears the worse for it. In fact, given the background readings that constitute its southern extension as of dubious significance, its validity as an anomaly is wholly embodied in this one reading on line 200N. Even if real to bedrock, this peak without support from the environment possesses a very fragile potential.

*GEOLOGY TENDS
TO CONCERN
IN PART
ROAD SHOWING
(ROD SHOWING
NOT DIRECTLY
ASSOCIATED WITH
BEDROCK)*

In the extreme south-east a strong but odd chargeability peaking has been observed at the edge of the inferred area of heavy overburden. Completely confined to its line of recording, this anomaly involves two consecutive stations, (217E, 219E/line 180N) and would thus appear a very unusual erratic if indeed it is one. Multispacing traversing here to the extent it was undertaken, seemingly provides confirmation that the original readings are spurious, presumably caused by low voltages. However, this multispacing section is not complete enough to be exhaustive, and the anomaly is extremely well located with respect to the implied mineral belt. It also is flanked by a high resistivity feature in a repetition of the empirical association noted above. Thus this anomaly can not be too readily discounted and would need further attention if later findings elsewhere in the area prove encouraging.

CONCLUSIONS AND RECOMMENDATIONS

It is concluded that in a volcanic setting typified by a highly variable and rapidly changing resistivity expression, a credible and diagnostic representation of the indigenous IP effects has been extracted by the use of a normalized IP parameter. Based on these data, a major NW trending belt of anomalous response emerges as a fracture-controlled mineralization crossing the area to provide increased concentrations of metallics in local circumstances of bedding, lithology and cross-fracturing that manifestly favour such incidences. By this manner of interpretation the road showing is inferred to die at the western fringe of the main zone of mineralization and to be related to it by a subsidiary finger thrusting south from it on a heading that, presumably indicates a local bedding control. On this evidence, the showing mineralization does not continue in any great strength south from line 196N.

To test the implications of this interpretation it is recommended that approximately 2000' of drilling be undertaken on four selected separate targets. Initially it is desirable that a frame of reference be established by relating the showing mineralization to its IP response. To this end, the following hole is sited:

DDH #1	Collar:	202 + 50E/ 200N ✓
	Bearing:	grid west
	Dip:	-45°
	Est. Length:	450'

Since the showing response is not by any means the strongest in terms of normalized IP, and in any event does not occur within the main mineral belt as defined, the remaining three holes are directed to the three salient features within the belt. They thus represent the main change as presently conceived and are crucial to the projection of the mineral potential of the property.

*Only two
of which
was drilled*

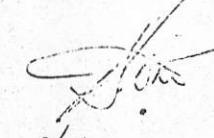
These holes are, in order of priority:

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Bearing: grid west
Dip: -45° }
Est.Length: 400'

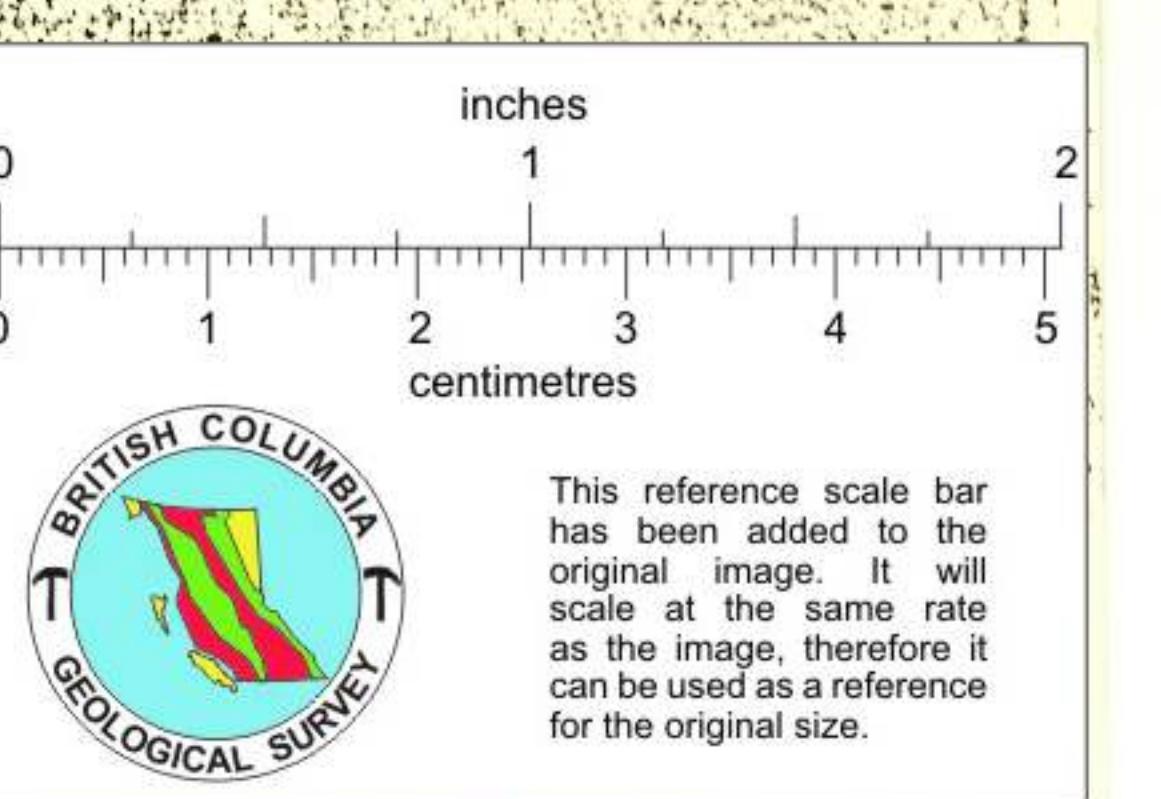

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Est.Length: 600'

✓ DDH #4 Collar: 214 + 50E/212N
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Dip: -45°
Est. Length: 500'

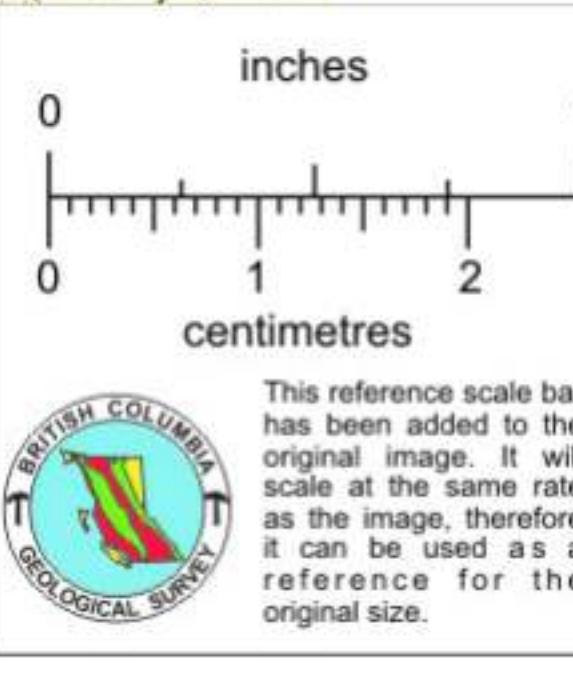

BARRINGER RESEARCH LIMITED

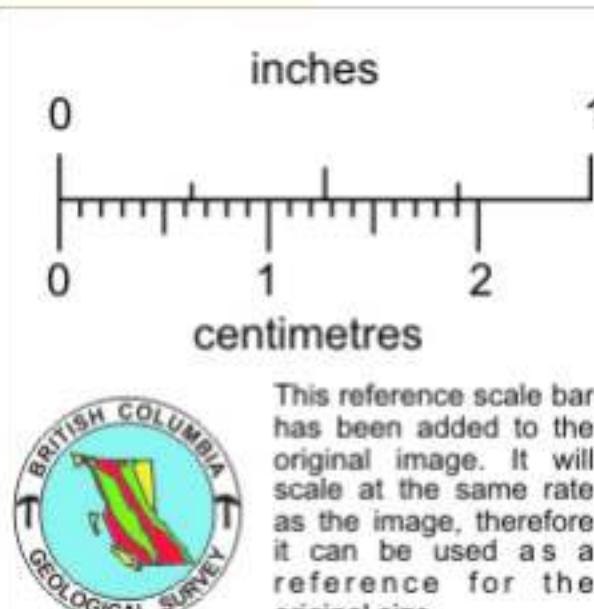


John B. Boniwell

Consulting Geophysicist

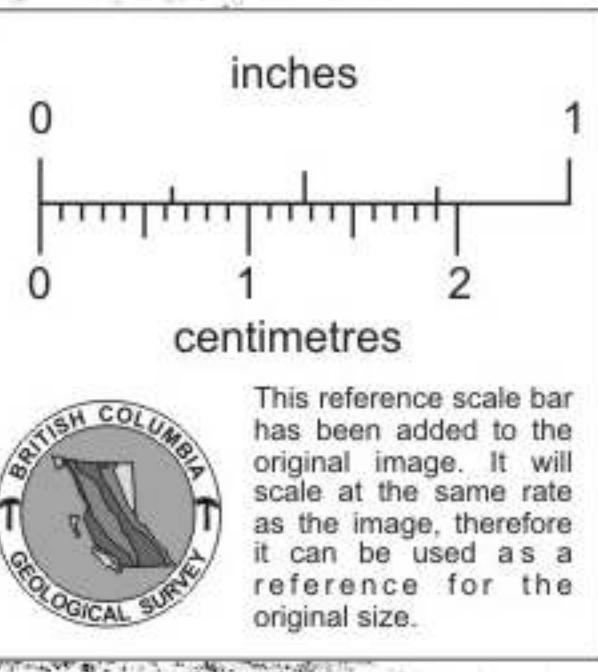
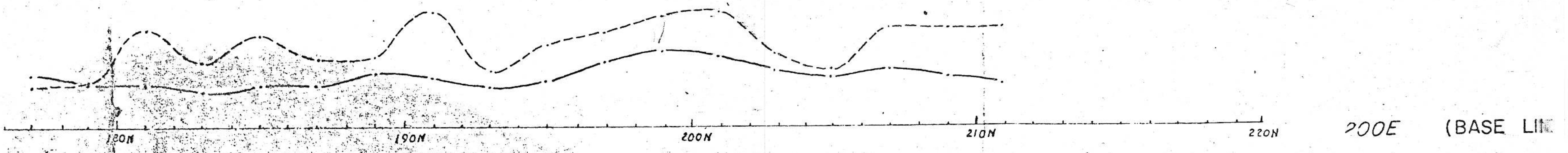


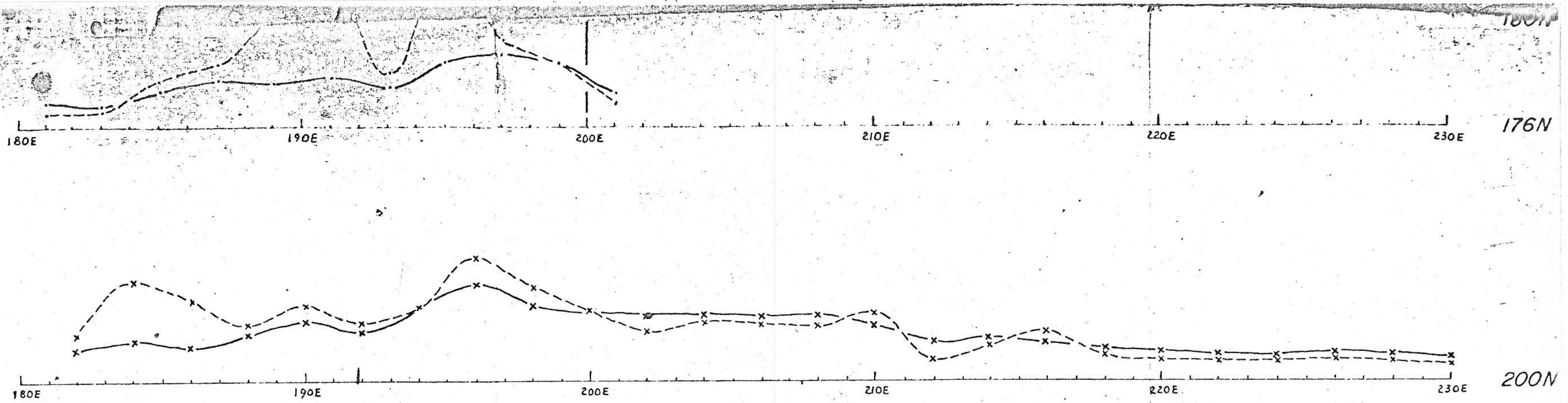
MICROWAVE HILL, THIERRY, BC





BRITISH COLUMBIA
GEOLOGICAL SURVEY

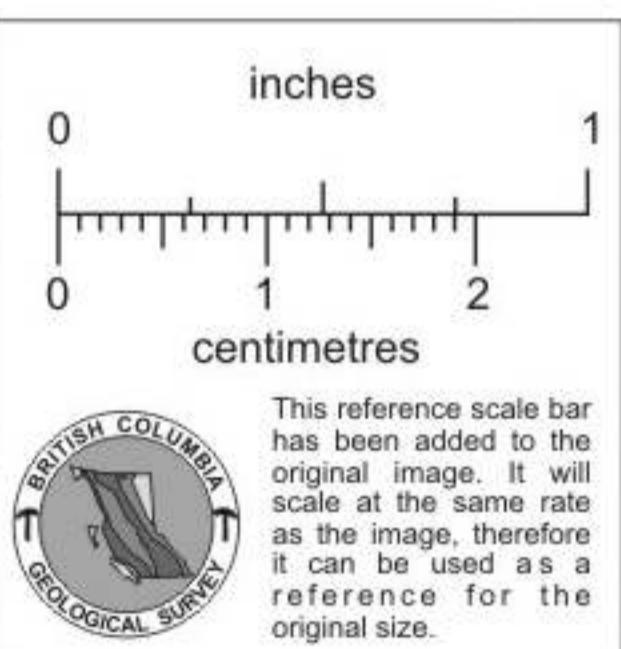




LEGEND

Chargeability profile - Scale 1" = 10 millisecs

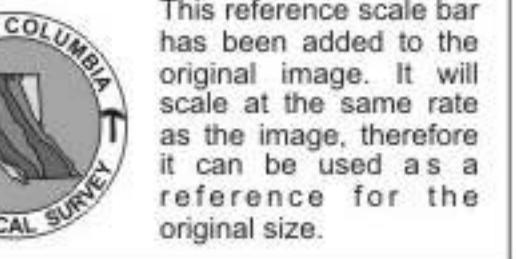
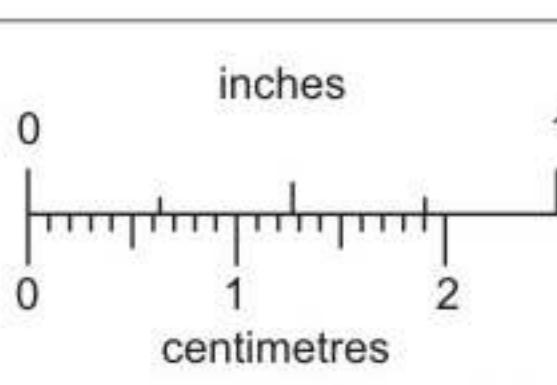
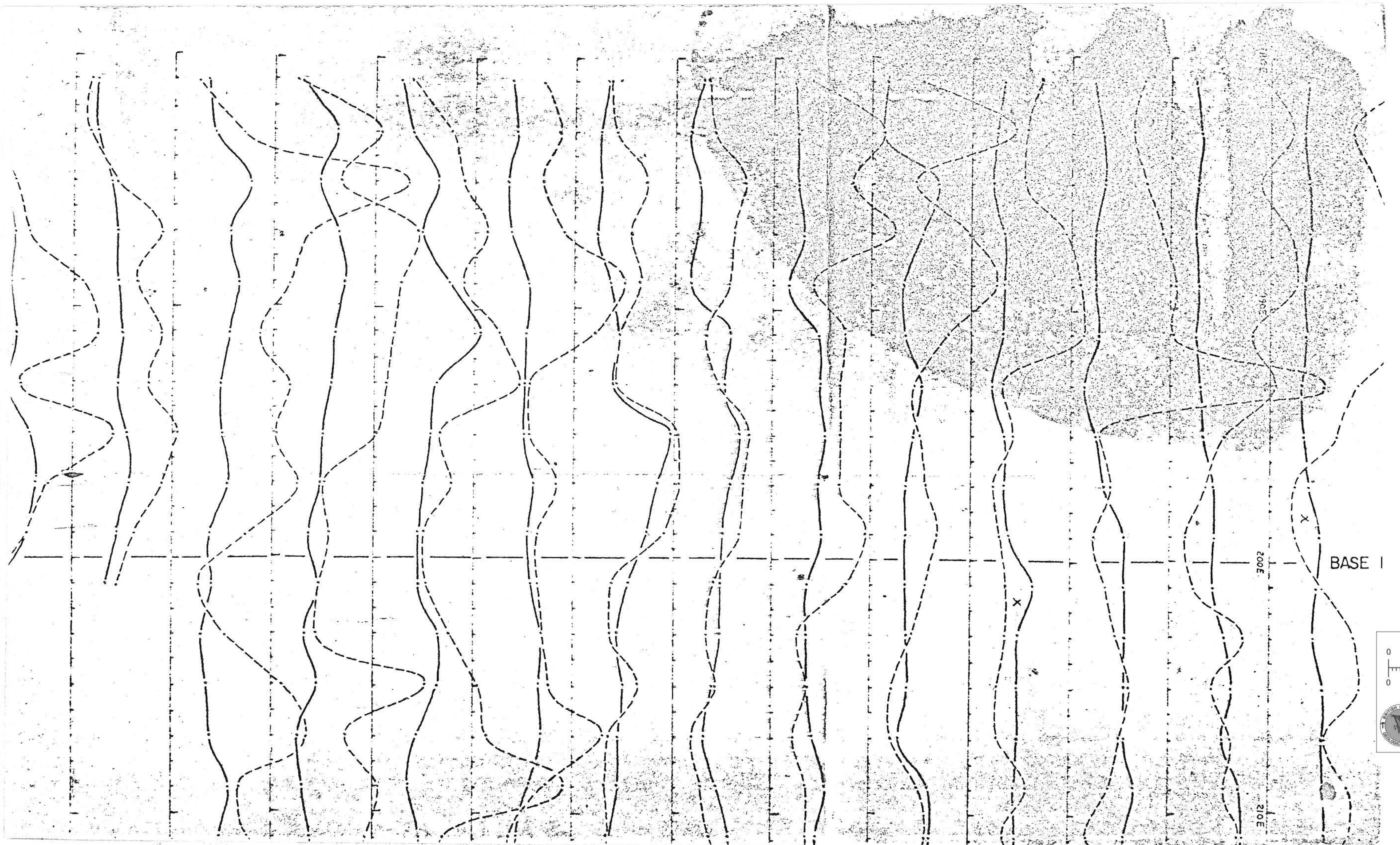
Resistivity profile - Scale 1" = 1000 ohm metres



BRITISH COLUMBIA
GEOLOGICAL SURVEY

This reference scale bar
has been added to the
original image. It will
scale at the same rate
as the image, therefore
it can be used as a
reference for the
original size.

Work under contract
BARRINGER RESEARCH



This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.

BASE

210E

220E

230E

18

19

19.

19.

20.

20.

21.

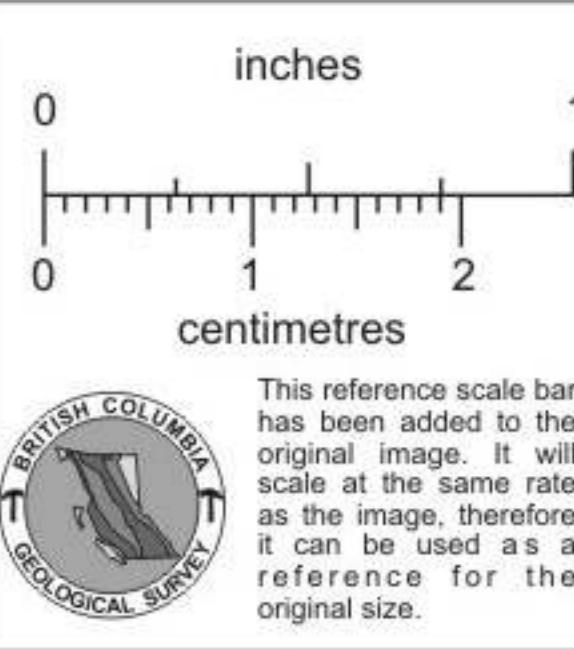
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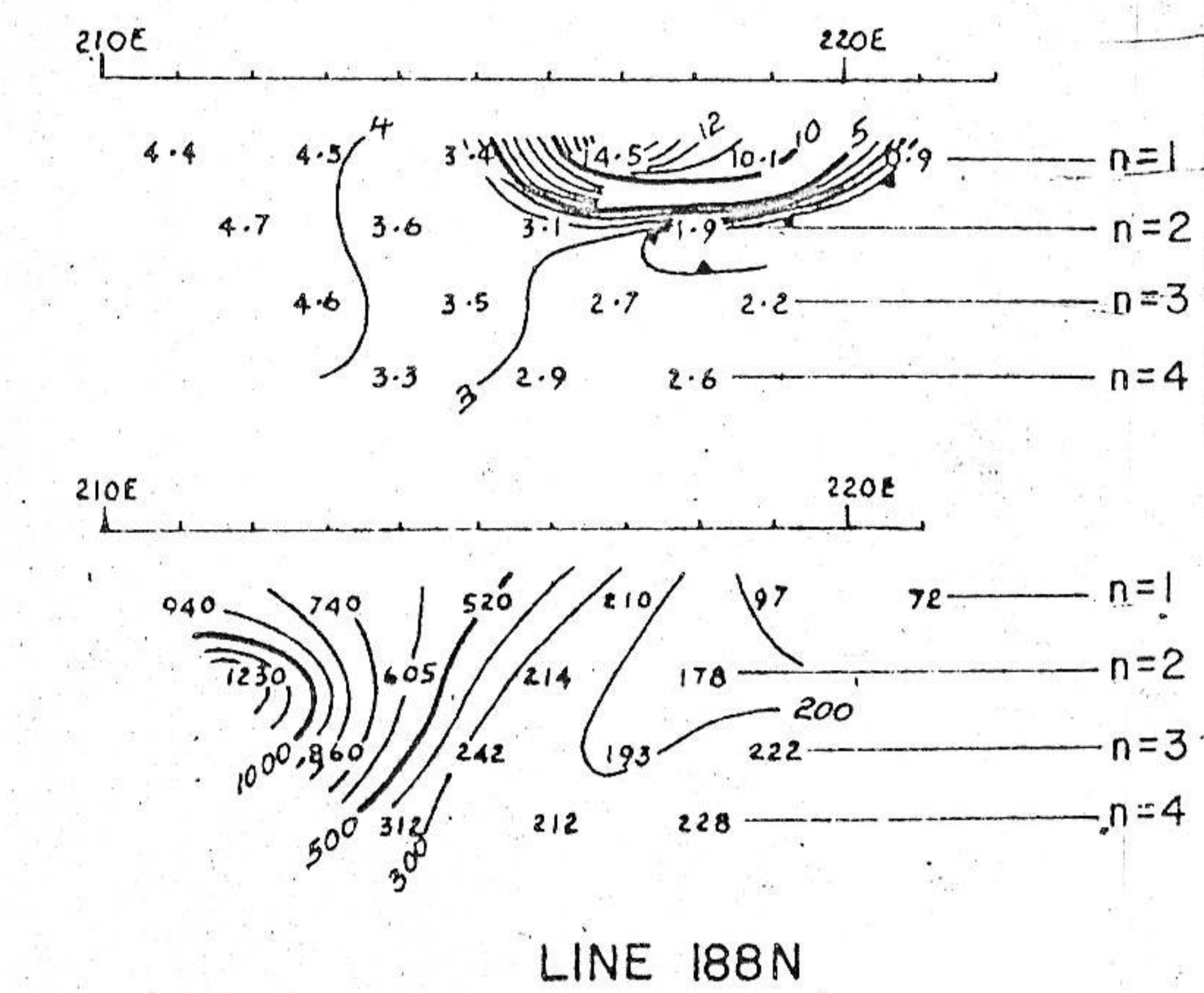
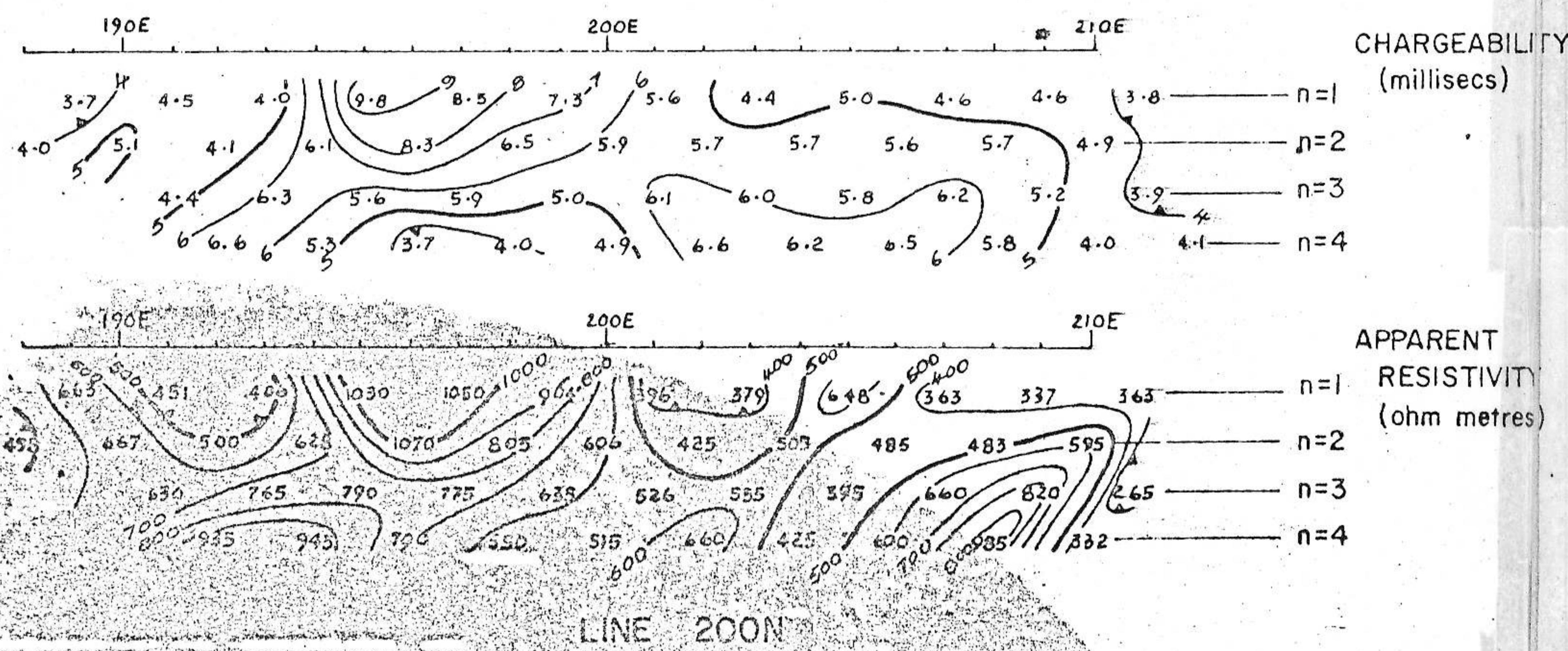
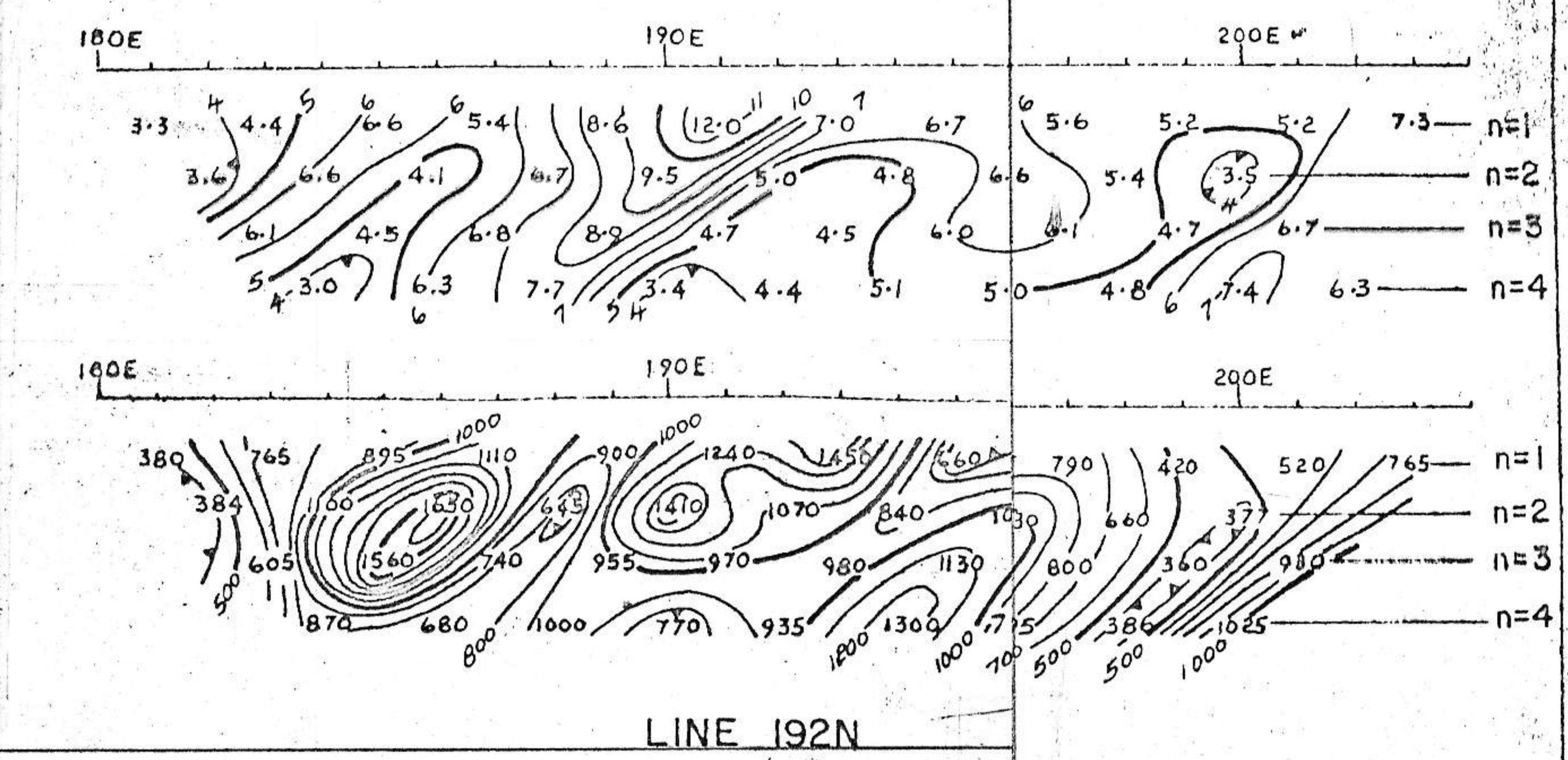
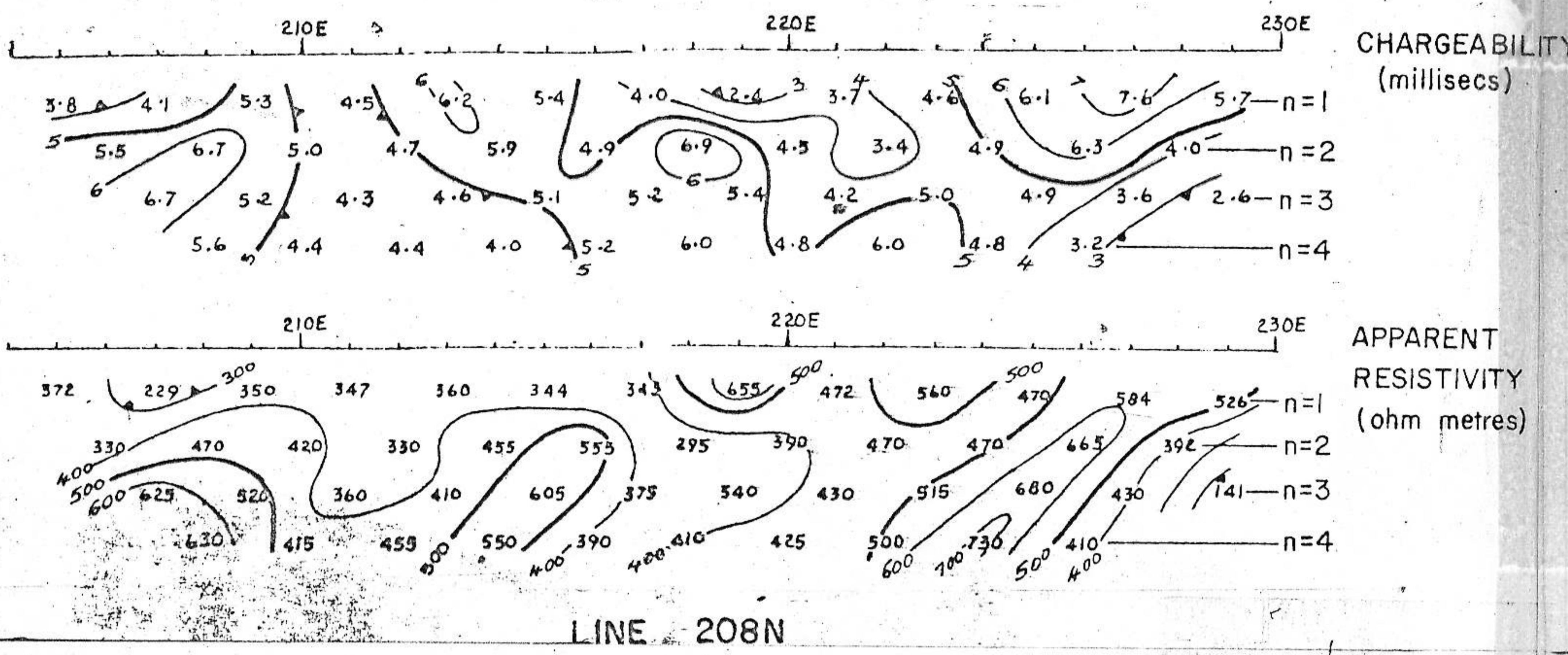
21.

21.

21.

21.





Pole-Dipole Plotting Point
C₁ C₂ P₁ P₂

Chargeability Contour Interval 1 millisecond
Resistivity Contour Interval 100 ohm metres

Plotting Point

Work undertaken by
DARRINGER RESEARCH LTD, Toronto, Canada.

TEXAS	GULF SULPHUR CO.
MICROWAVE HILL PROPERTY - D.C.	
INDUCED POLARIZATION	8
RESISTIVITY SECTIONS	
POLE-DIPOLE	10 = 200'
OCT. 1969	Scale 1" = 400' UTM 5-232-A

