1691

GEOPHYSICAL REPORT

ON THE

SJO 3 - 6, 8, 10, 1, 2, 11, 12,
FRAC 7,9, 16053-16056, 16058, 16060, 16051,
16052, 16061 - 16063, 16057, 16059
S.S. 5, 8, 7, 9, 10, 1 - 4, 6, 16073, 16076,
16075, 16077, 16078, 16069 - 16072, 16074
GEM 7, 8, 13792, 13793
J.B. 1, 2, 21536, 21537

49° 45' NORTH LATITUDE, 125° 15' WEST LONGITUDE

NANAIMO MINING DIVISION

MT. WASHINGTON COPPER CO. LTD.

W. G. STEVENSON, P. Eng.

VANCOUVER, B.C.
NOVEMBER 30, 1968.

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APPENDIX

INTRODUCTION

During the 1968 field season I was in charge of an exploration program over the Mt. Washington Copper Company property which is located on Vancouver Island, 13 mile northwest of Courtenay and which is held under Lease Agreement by Marietta Resources Company Ltd.

This report is being submitted in lieu of physical work to accompany an affidavit on application for certificate of work, to satisfy the assessment requirements on 27 mineral claims for a period of one year.

I have attached a Statutory Declaration detailing the costs of this survey, which is marked Appendix "C". The affidavit on Application for Certificate of Work was submitted under date of November 27, 1968.

PROPERTY AND TITLE:

A block of approximately 200 mineral claims are located within land held by the Esquimalt and Nanaimo Railroad, a subsidiary of Canadian Pacific Oil and Gas. Canadian Pacific Oil and Gas have granted a lease on the base metal rights within the area of these claims, subject to Royalty payments on production and annual rental payments.

I have attached, marked Appendix "B" and "E", maps to show the position and outline of the claim block.

LOCATION AND ACCESS:

These mineral claims are located 2 miles east of Mt. Washington 105 miles northwest of Vancouver, at 49° 45' North latitude and 125° 15' West longitude. They are situated 13 miles northwest of Courtenay, a station on the E & N Railway at tidewater. Access is gained over improved roads from Courtenay through a Crown Zellerbach timber license.

HISTORY

During 1940, gold, silver, copper bearing quartz veins were discovered at Mt. Washington. Mt. Washington Copper Co. Ltd., acquired title to the base metal mineral rights from Canadian Pacific Railway, and title to the precious mineral rights from the B.C. Department of Mines & Petroleum Resources.

Noranda Mines Ltd. initiated an exploration program during 1957, 1958 and 1959, and Consolidated Mining and Smelting Company conducted an exploration program during 1963 and 1964. Production was initiated in 1965, and suspended in November, 1966 after 400,000 tons of ore had been milled.

Mt. Washington Copper Company initiated a program of geological mapping, prospecting, and geochemical sampling in 1966. This exploration program was continued and was augmented during 1967, with a geophysical survey. In 1968 Marietta Resources Co. Ltd. acquired a Lease on this property and initiated an exploration program. This program consisted of geological mapping, soil sampling and geophysical surveying.

GEOLOGY

The oldest rocks exposed in this vicinity are thick layered, basalts, tuffs and breccias of triassic aged. This volcanic series extends over a large part of Vancouver Island and over the Lower Mainland of British Columbia. It is overlain uncomformably by gently dipping sandstone, quartzite and shale beds of cretaceous age.

The core of the Mt. Washington Land Mass is an igneous stock that intruded the volcanic and sedimentary formations in tertiary time. This intrusive is a complex assemblage of quartz diorite with associated porphyry bodies and two intrusive breccias.

A large part of the surface is glacial debree and overburden which masks bed rock. Bed rock, where it can be observed, is brown to grey, gently dipping volcanic rock cut by numerous irregular intrusive bodies.

The mapping by J.R. Muller, published by the G.S.C. as Map 2-1965 shows the Regional geology. A more detailed geological map of the Mt. Washington Copper property was published in the November 1967 issue of the Western Miner.

MINERALIZATION

On the Mt. Washington property mineralization is wide-spread and can be found in all rock types. This mineralization is essentially pyrite, pyrrhotite, arsenopyrite and chalcopyrite, with variable amounts of gold, silver and molybdenite.

A gently dipping shear zone that contains quartz veins and lenses mineralized with copper has been the source of all production to date. This vein varies between a few inches up to twenty feet thick though averages possibly five feet thick. It occurs near the contact between sedimentary beds and porphyry sills. The quartz veins have been developed in two open pits. The presence of a limited tonnage of ore grade material extending out from those open pits has been indicated by the past work, however, the waste to ore stripping ratio prohibits profitable extraction.

Small isolated high grade occurrences of chalcopyrite have been noted in many localities. This mineralization is randomly exposed in all rock types and widely distributed over the property. These occurrences are irregular, discontinuous, of unknown length and they are frequently associated with steeply dipping shear zones.

Disiminated chalcopyrite has been found along with other sulphides in quartz diorite, porphyry and all of the intrusive breccias.

GEOPHYSICAL PROGRAM:

During 1968 a program of induced polarization-resistivity surveying and an airborne magnetic survey was conducted over the Mt. Washington claim block.

This program was under the direct supervision of Mr. Charles L. Elliot, consulting geophysicist. His report covering the geophysical program is attached as Appendix "G".

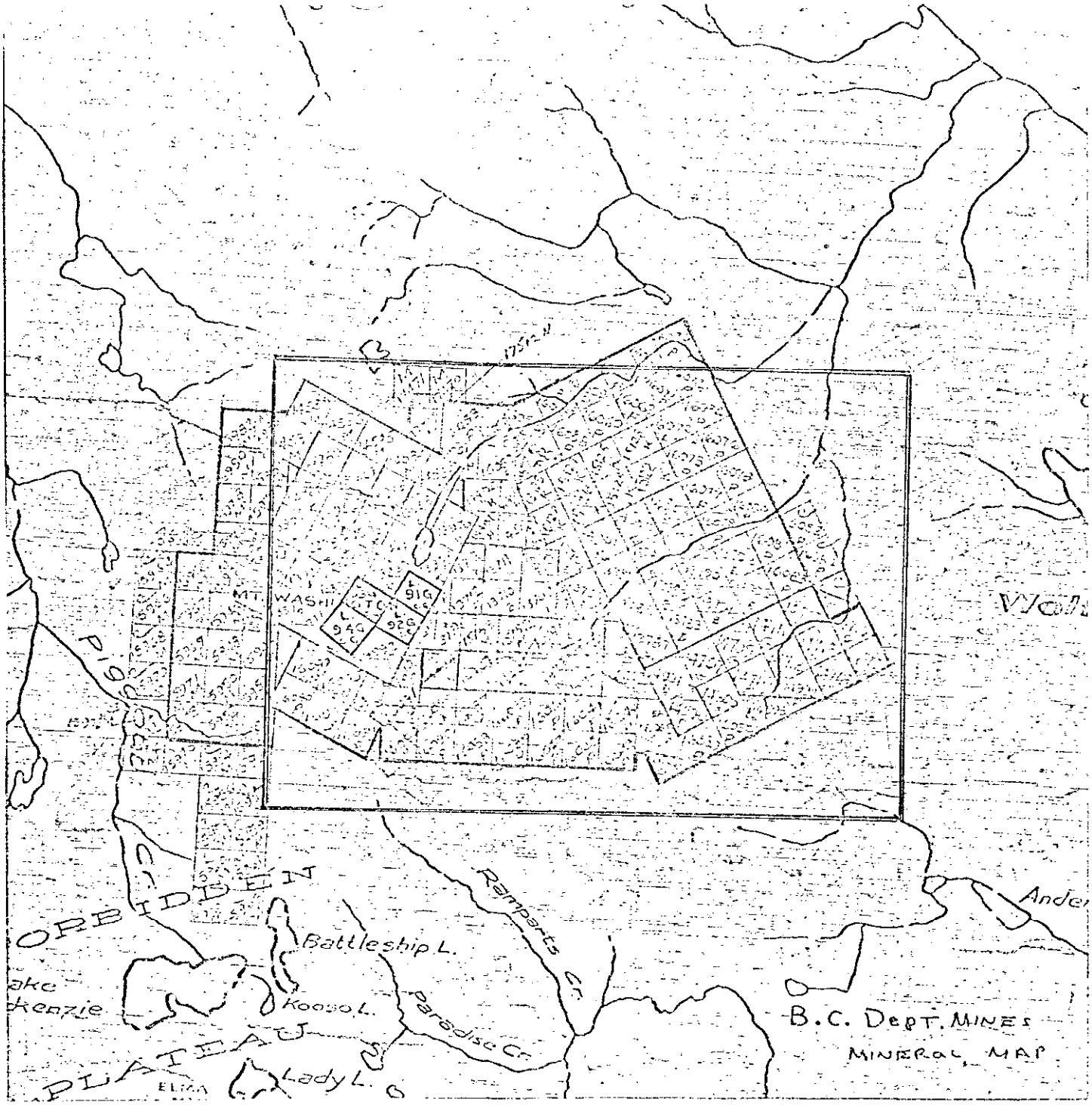
Respectfully submitted,

W.G. Stevenson & Associates Ltd.
Consulting Geologists.

W.G. STEVENSON, P. Eng.

Vancouver 1, B.C.
November 31, 1968.

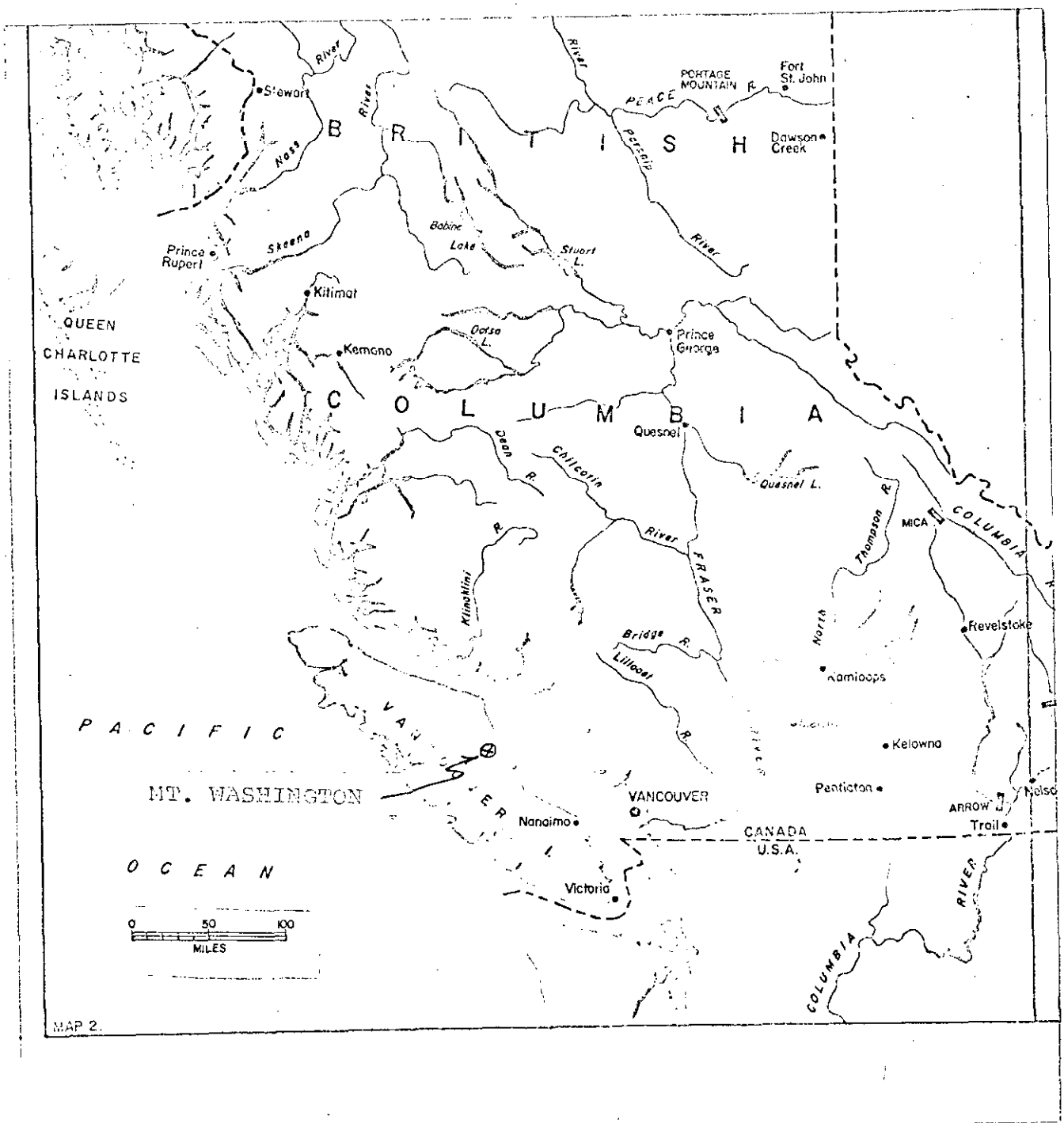
WILLIAM G. STEVENSON, P. Eng.
Consulting Geologist



M A P
showing location of
Mineral Claims
Mount Washington Copper Co. Ltd.

Nanaimo Mining Division
British Columbia
Scale 1" = 1 mile

WILLIAM G. STEVENSON, P. Eng.
Consulting Geologist



INDEX MAP
showing location of
Mount Washington Property

Nanaimo Mining Division
British Columbia
Scale 1" = 100 miles

APPENDIX A

DOMINION OF CANADA:

PROVINCE OF BRITISH COLUMBIA.

TO WIT:

In the Matter of by Geophysical ~~Geochemical~~ Survey over certain claims held by Mt. Washington Copper Co. Ltd. near Mt. Washington in the Nanaimo M.D.

I, William G. Stevenson, P.Eng., Consulting Geologist

of 509 - 475 Howe Street, Vancouver, B.C.

in the Province of British Columbia, do solemnly declare that During 1968 a tape and compass survey was accomplished to establish the position of 23 traverse lines. These lines were picketed and soil samples collected. An induced polarization and resistivity geophysical survey was accomplished along these lines, and an airborne magnetometer was completed over the property. I have supervised this exploration program and have prepared maps, and a report which accompanies this declaration and which provides details of this work.

The costs to complete the program has been $24,395 of which $3516.00 has been for claim group number 17.

Induced polarization and resistivity survey under contract with Canadian Aero Mineral Surveys Ltd. $14,930.07 Fourteen percent of this survey was over claim group 17.	$2,086.00
Airborne magnetic survey under contract with Canadian Aero Service Ltd. $5,000. Ten percent of this survey was over claim group 17.	$ 500.00
The following employees were engaged to augment this field work for a period of 1 month. W.D. Tedlie $725.00/mo. Ram Vallabh $700.00/mo. Gordon Emerson $450.00/mo. P. Egan $500.00/mo. $2370 Fourteen percent of this Labour was devoted to claim group Number 17.	$ 331.00
Transportation to augment this survey $1095. Ten percent of this amount is attributed to claim group 17.	$ 109.00
Supervision, interpretation and engineering $3500. of this amount fourteen percent is for claim group 17.	$ 490.00
TOTAL	$3516.00

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 City of Vancouver, in the Province of British Columbia, this 3rd day of December, 1968, A.D.

W G Stevenson

J. Paul SUB-MINING RECORDER

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

APPENDIX C

C E R T I F I C A T E

I, William G. Stevenson, do hereby certify:

1. That I am a Consulting Geological Engineer with offices at Suite 509 Stock Exchange Building, 475 Howe Street, Vancouver, B.C.

2. That I am a graduate of University of Utah, 1946, with a Bachelor of Science degree.

3. That I am a registered Professional Engineer in the Association in British Columbia.

4. That I have practised my profession for twenty years.

5. That this report, dated November 27, 1968 is based on work that has been accomplished under my direction and that I have made periodic trips to this property during the 1968 field season.

Dated at Vancouver, British Columbia, this 30th. day of November 1968.

W.G. STEVENSON, P. ENG.

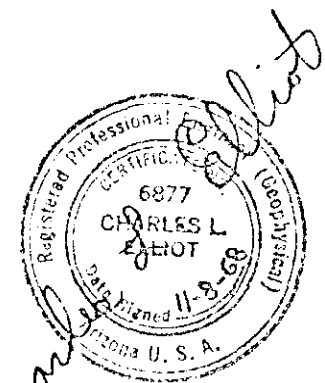
APPENDIX F

REPORT

AIRBORNE MAGNETICS, GROUND INDUCED POLARIZATION AND GROUND RESISTIVITY SURVEYS, MT. WASHINGTON COPPER MINE AREA, C.P.O.G. CONCESSION, NANAIMO MINING DISTRICT, VANCOUVER ISLAND, BRITISH COLUMBIA, CANADA

for

Marietta Resources Company, Limited
New York, New York



by

CHARLES L. ELLIOT
Mining Geophysical Engineer
4653 E. Pima Street
Tucson, Arizona 85716

APPENDIX G.

A broad scale exploration program in the Mt. Washington Copper Mine area, Nanaimo Mining District, Vancouver Island, British Columbia was performed during the field season, 1968. This program consisted of geological, geochemical, and geophysical investigations. The geophysical program that was performed during the summer of 1968 consisted of an airborne magnetic survey, a ground induced polarization survey, and a ground resistivity survey of the original Canadian Pacific Oil & Gas concession grant to Marietta Resources Company, Ltd., New York, New York.

The airborne magnetic survey was contracted to Canadian Aero Service, Ltd., Ottawa, Ontario, Canada, a well known airborne geophysical contracting company. Canadian Aero Service, Ltd. in turn subcontracted the actual survey to Spartan Air Services, Ltd., Ottawa, Ontario, Canada, another well known airborne geophysical contracting company. The airborne magnetic survey was performed during the period August 29, 1968 thru September 5, 1968. The survey consisted of approximately 200 line miles which was flown with a line spacing of approximately 1,000 feet and with a mean terrain clearance of 1,000 feet.

Conventional airborne magnetic instrumentation and techniques were employed in this survey and the output data as presented by Spartan Air Services, Ltd. is attached to this report. The output data consists of two sheets: sheet one and sheet two for the Mt. Washington area, presented at a scale of 1 inch = approximately 1,000 feet with a contour interval of 10 gammas

of absolute total magnetic field.

The induced polarization and resistivity surveys were performed by Canadian Aero Mineral Surveys, Ltd., Ottawa, Ontario, Canada, a division of Canadian Aero Service, Ltd., the contractor for the airborne magnetic survey. This survey was performed by the Tucson, Arizona staff of Canadian Aero Mineral Surveys, Ltd. under the direct supervision of their field engineer, Ken Hendry. The survey was conducted during the period July 17, 1968 to September 30, 1968 and was performed for Marietta Resources Company, Ltd., New York, New York, U.S.A.

The induced polarization-resistivity survey consisted of 26 profile lines which were surveyed using either an inline dipole-dipole electrode configuration or an inline pole-dipole electrode configuration. Thirteen lines each were surveyed with the two arrays; both arrays utilized a dipole length of 500 feet and the dipole-dipole array utilized 7 equally spaced current electrodes. The pole-dipole array utilized 6 inline equally spaced current electrodes. For the dipole-dipole arrays, separations of the current dipole from the potential dipole varied from an (n) value of 1 to 6 times the dipole length. For the pole-dipole array, separations of the current pole from the potential dipole varied from an (n) value of 1 to 6 times the dipole length.

The selection of the pole-dipole array configuration instead of the dipole-dipole array configuration depended upon surface resistivities such that when resistivity values decreased markedly, the pole-dipole array was utilized in order to enhance the

operating signal levels and thereby effect reasonable depths of penetration.

With both arrays, conventional techniques of induced polarization measurements were employed in the time domain mode of operation for the induced polarization survey. The time cycle of the transmitted current used consisted of alternate periods of two seconds on and two seconds off with consecutive on periods being of reversed polarity. The secondary potential voltage was made from 0.45 seconds to 1.10 seconds after cessation of the transmitter current on period. The resulting induced polarization data by this measuring technique is automatically converted to equivalent data with an apparent three second on - three second off time period with intergration of the transit decay voltage for the first second of the off period. Measurement of the secondary transient voltage is delayed the 450 milliseconds after cessation of the transmitter on period to avoid electromagnetic coupling effects.

The induced polarization survey performed in this manner was designed to investigate to a depth the order of 750 feet. The induced polarization method of geophysical prospecting is a well known art and it is best suited for the detection and delineation of large scale disseminated metallic sulfides. Standard induced polarization equipment was utilized for this survey. The induced polarization transmitter was a type 7.5 KW time domain induced polarization transmitter manufactured by Huntec, Ltd., 1450 O'Connor Drive, Toronto 16, Ontario. The induced polarization

receiver was a type IPR-2 IP receiver of the Newmont Mining Corporation design that was manufactured by Data-Control Systems, Inc., East Liberty Street, Danbury, Connecticut.

The prime and ultimate purpose of the geophysical program performed during the field season of 1968 at the Mt. Washington area was to investigate the C.P.O.G. concession area for the existence of any large scale disseminated sulfide deposits of a commercial nature. Commercial copper sulfides were known to exist in the western part of the concession area that were previously mined by various groups and organizations. It was anticipated that a large scale disseminated copper sulfide material of economic interest might conceivably be located elsewhere within the concession area. The induced polarization-resistivity techniques were employed as a geophysical means of direct detection of such large scale deposits.

The electrode arrays employed in the induced polarization-resistivity surveys were designed to investigate for such deposits in the upper 750 feet. At the same time, these arrays would reject any small submarginal deposits of sulfides in that from the economic point of view, it was desired only to explore for large scale commercial bodies.

Sulfide mineralization was known to exist extensively in the volcanics that cover much of the concession area. However, these sulfides were not of an economic nature in extensive deposits as known from previous geological, geochemical, and geophysical work. Within the volcanics or beneath the

volcanics it was anticipated that a large body of commercially interesting sulfide material could be located. And it was such a body that was the prime purpose of the induced polarization-resistivity survey.

In addition, the airborne magnetic survey of the concession area was designed to supply additional geologic reconnaissance information, in particular, insight to the geologic structure of the concession area. Also intrusive rocks were exposed in many locations at surface within the concession area and it was anticipated that there was a possibility of an intrusive association with the exposures of mineralization within the outcropping volcanics. Thereby, it was anticipated that the airborne magnetic survey might be a convenient and rapid tool for mapping any intrusive bodies within the immediate area of Mt. Washington. The airborne magnetic technique that was employed was an indirect technique in broadening the overall exploration knowledge of this potentially interesting area.

Please find attached as an integral part of this report the following sheets and maps:

1. Aeromagnetic Survey, Mt. Washington Area, Sheet 1, Vancouver Island, British Columbia, Scale 1 inch = approximately 1,000 feet

2. Aeromagnetic Survey, Mt. Washington Area, Sheet 2, Vancouver Island, British Columbia, Scale 1 inch = approximately 1,000 feet

3. Interpretation Overlay, Airborne Magnetic Data, Mt. Washington Copper Mine Area, Vancouver Island, British Columbia, Scale 1 inch = 1,000 feet

4. Interpretation Overlay, Induced Polarization Data, Mt. Washington Area, Vancouver Island, British Columbia, Scale 1 inch = 1,000 feet

5. Interpretation Overlay, Resistivity Data, Mt. Washington Area, Nanaimo Mining District, Vancouver Island, British Columbia, Canada for Marietta Resources Company, Ltd., Project 8528, Report of Canadian Aero Mineral Surveys, Ltd., Ken Hendry, November 4, 1968.

The airborne magnetic data is presented in contour form on two sheets which are attached to this report. A perusal of these two sheets indicates several interesting magnetic features. The sedimentary rocks predominately located in the southern part of the area flown indicate a small magnetic relief of less than one hundred gammas, quite typical of sedimentary rocks. On the other hand, the volcanic cover mapped in the generally northern part of the area flown shows a little higher magnetic relief in the order of 100 to 200 gammas, again typical values for normal volcanic rocks. In between these two major rocks units are located several outstanding magnetic features. The principal feature is the large magnetic high located in the eastern one-half of the C.P.O.G. concession area. This is an extreme magnetic feature and quite typical of a response from various basic intrusive rocks.

The pertinent magnetic features are indicated on the attached Interpretation Overlay, Airborne Magnetic Data. Seven significant magnetic bodies are indicated and are designated as Body A thru Body G. Body A is by far the principal magnetic feature and the quantitative interpretation of the airborne magnetic data yields a typical buried intrusive body at a depth the order of 600 feet below ground surface with a steep dip 70° to the southeast. The body has an indicated magnetic susceptibility

of 6100 x 10^{-6} cgs units which is reflective of the order of two or more percent magnetite by volume. Likely, this is reflecting a body of the intermediate to basic type of intrusive.

At surface, above this body, some intrusive rocks have been mapped by the geological personnel. However, for the most part, these intrusive rocks at surface are well on the acidic end of intrusives with little or no indicated magnetic susceptibility. In my letter to Mr. John E. D. Grunow, November 8, 1968, measurements on surface samples in this area were reported and three samples of breccia, quartz diorite, and syenite located in the vicinity of the indicated Body A had apparent magnetic susceptibilities with an average value of 1700 x 10^{-6} cgs units. Significantly, the surface exposures of intrusive rocks are not reflecting the intrusive material at depth that gives rise to the strong magnetic feature designated as Body A. The term intrusive has been applied to the causitive body for this strong magnetic feature however, there is no means of conclusively interpreting the magnetic feature to be due solely to intrusive rocks. A breccia pipe, for example, could be the significant body in this case. It is certain, however, that the body does exist at depth with likely no surface expression and that the body contains two or more percent magnetite by volume. Its true geological description will await a drill test of this very interesting feature.

Bodies B, C, & D all would appear to be of the same fundamental type of material which is likely intrusive as supported by the

mapping in these areas at surface. All three of these bodies have indicated surface expression with magnetic susceptibilities in the same order of magnitude ranging from 2000 x 10^{-6} cgs units for Body B to 2400 x 10^{-6} cgs units for Body D. It is therefore a reasonable conclusion that these three bodies are due to the same type of material. Breccia and intrusive rocks are known to exist in the area of Body B and Body C and therefore can be concluded that Body D is likely due to the same source.

Bodies E, F, & G likewise form a suite of magnetic features which are probably due to the same type of material. All three have indicated surface expressions with the same order of magnitude of magnetic susceptibility: 1,000 x 10^{-6} cgs units. These three features are quite weak magnetically however, they are probably reflecting an acidic to intermediate swarm of intrusive bodies. This would concur with the known exposures off to the southeast of the C.P.O.G. concession area as revealed in the government mapping of this area. For more information on these intrusives southeast of the main concession area, the reader is referred to: Geological Survey of Canada, Map 2-1965, Geology, Comox Lake Area, British Columbia, scale 1 inch = 2 miles, 92F/NW.

Several interesting conclusions can be drawn from this airborne magnetic data. In general, there appears to be three distinct

types of magnetic causitive bodies that perhaps are intrusives. Body A is a significant and very strong feature with burial below surface and with no apparent surface expression. Bodies B, C, & D seem to be of the same magnetic caliber in that they have a surface expression and the same general level of magnetic susceptibility. The third grouping formed by Bodies E, F, & G which have very low magnetic susceptibilities but also with a surface expression. All of the magnetic features are likely of the same age and somehow related geologically and genetically.

Of significance is the former workings of the Mt. Washington Copper Mine Co., Ltd. were located in close proximity to Body C. This immediately raises the question of whether the causitive body of this magnetic anomaly is the source of the economic mineralization exposed in the volcanics at surface. Further, as will be shown later, significant induced polarization and resistivity anomalies are in direct association with Body A again giving rise to the interesting possibility that the causitive body of this outstanding magnetic feature is the source of the mineralization reflected in the induced polarization-resistivity surveys.

The interpretation of the ground resistivity data is indicated on the attached Interpretation Overlay, Resistivity Data. The original resistivity data is contained in the final Canadian Aero Mineral Surveys, Ltd. report by Ken Hendry dated November 4, 1968. A perusal of the original resistivity data indicates that the rock resistivities in the Mt. Washington area vary more

than four orders of magnitude from true rock resistivities less than 0.3 ohm-meters to greater than 5,000 ohm-meters. This is an extreme range of variation of resistivity not normally encountered in North America. This extreme range made the survey procedures difficult and at times required a shift from the dipole-dipole array to a pole-dipole array in order to obtain sufficient signal for accurately making the induced polarization and resistivity measurements.

The Interpretation Overlay, Resistivity Data reflects the main resistivity breaks or electrical contacts which in turn are likely reflecting geological contacts. Only the principal ones are indicated here and their significance from an economic point of view are at best only of a general nature. The sedimentary rocks of the Comox Formation in general have indicated resistivities of less than 200 ohm-meters. The syenite rocks mapped near McKay Lake as well as other intrusive rocks have fairly high indicated rock resistivities, greater than 1,000 ohm-meters. Also, in a very general way, the intrusives as mapped in the eastern one-half of the concession area have indicated higher rock resistivities approaching one thousand ohm-meters.

From the economic point of view, in reflection of sulfide mineralization, low resistivity zones are of significant interest. The low resistivities of the sedimentary rocks of the Comox Formation are not considered of significance in the economic sense but merely are reflecting the naturally low resistivity

of these sedimentary rocks. However, one outstanding and possibly significant resistivity zone is noted in the northeast quadrant of the concession area and this zone is indicated on the attached Interpretation Overlay, Resistivity Data by appropriate shading. As noted, this zone has a strike length of at least 16,000 feet and is still open to the northeast outside of the concession area. The zone strikes approximately N 75° E and is firmly cut off in its western extremity by an apparent zone of intrusive rocks with indicated very high resistivities, greater than 1,000 ohm-meters. This zone appears to lie within the volcanics as mapped at surface in the northeast quadrant of the concession area. However, the very low resistivity of less than 50 ohm-meters is not indicative of volcanic rocks per se.

This significant low resistivity anomalous zone is indicated to lie on the northern flank of the magnetic intrusive bodies described above as Body A and Body B. This in itself would make this zone significant and worthy of some further investigations. However, as will be shown later, this low resistivity zone lies congruent with an outstanding induced polarization anomalous zone. Thereby, the importance of this zone is clearly indicated in that high polarization and low resistivity are normally indicative of extensive sulfide mineralization.

The interpretation of the induced polarization data is presented on the attached Interpretation Overlay, Induced Polarization Data. The original induced polarization data was presented as

part of the Canadian Aero Mineral Surveys, Ltd. final report by Ken Hendry dated November 4, 1968. The induced polarization data as presented are in units of millivolt-seconds per volt, and range from the order of 15 units to almost 200 units. This is an extreme range not often found in induced polarization data from North America. Also, the extensive amount of data in excess of 100 units are some of the highest induced polarization measurements known to this writer from anywhere in the world. In general, this high level of polarization throughout the Mt. Washington Copper Mine Area are reflective of the extensive distribution of sulfide mineralization predominately in the volcanic rocks of the Karmutsen Formation, the intrusive rocks, and the breccias.

The extensive areas of high-normal induced polarization results reflecting the extent of sulfide mineralization, much of which is known from surface geological mapping, means that a commercial and economic sulfide ore body could be located anywhere within the Mt. Washington area. That is one to four or five percent sulfides by volume as indicated by the high polarization response is ample sulfide material to contain economic deposits of copper and/or molybdenum sulfide mineralization. Thereby, the induced polarization method leads one readily to the conclusion that any part of the C.P.O.G. concession area covered by extensive thickness of volcanics such as approximately the northern one-half of the concession area could contain a sulfide body of economic interest.

Consequently, interpretation of the data has been mainly on the basis that the higher polarization zones are reflecting higher concentrations of sulfide mineralization which would be the zones with the better chance of containing an economic sulfide body. Thereby, the induced polarization interpretation contained on the attached interpretation overlay are reflecting these higher zones which are prime targets for further exploration and follow-up drilling. Of the higher induced polarization responses indicated in the data, two arbitrary levels of response are indicated on the attached interpretation overlay. The shaded area is indicative of a moderately high response zone whereas the stippled areas indicate the stronger portions of the high responsive zones.

From the data of the main C.P.O.G. concession area, four distinct and significant induced polarization zones have been noted and these are indicated on the attached interpretation overlay as Zone A through Zone D. Zone A is a very significant and distinct induced polarization zone with a general strike length the order of 13,000 feet long with an average width the order of 2500 feet. The zone strikes an average about N 75° E and is congruent with the low resistivity anomalous zone previously described. The zone appears to have a decided cut-off towards the northeast however, to the west there appears to be a narrow neck extending N 30° W and outside of the main concession area.

The mineralization indicated by the induced polarization data appears to extend from near surface to a depth of at least 500 feet.

Zone A is a very significant induced polarization zone and appears to lie on the northern flank of the airborne magnetic Bodies A and B as previously described. The association of induced polarization zone A with a congruent low resistivity zone and lying on the flank of an airborne magnetic body reflecting a probable buried intrusive makes this a very significant feature in the economic sense. This feature should be adequately tested by subsequent drilling and suggested drill sites are indicated on the attached interpretation overlay. Six drill holes are recommended to adequately test this zone and their order of priority are indicated by numerical sequence.

Zone B as indicated on the attached interpretation overlay is the second most important induced polarization zone indicated in the data. This zone has a strike length in excess of 8,000 feet with an average width the order of 1700 feet and is thereby restricted in area and consequently its economic potential is somewhat questionable.

This zone also appears to extend from near surface to a depth in excess of 500 feet. The zone, however, lies in the southern flank of the buried intrusive noted as magnetic Body A and if the association of IP Zone A to the intrusive is borne out by the initial drill test, then this zone should also be tested by subsequent drilling. Two drill holes as indicated are recommended for testing this feature.

Third order in importance of the IP anomalous zones is Zone C which is indicated to have a strike length of about 8,000 feet

with a average width the order of 1,000 feet and with apparent depth extent from surface. This zone lies along the indicated contact between the sedimentary rocks of the Comox Formation and the volcanic rocks of the Karmutsen Formation. This zone has some surface expression of sulfide mineralization and should be further tested by the subsequent drilling program. Two drill holes are recommended for adequately testing this zone. The economic potential of this zone is somewhat restricted in that the area of the indicated zone is in itself restricted.

The fourth indicated induced polarization anomalous zone is shown on the attached interpretation overlay as Zone D. This is a very small anomalous zone with a strike length the order of one-half mile with an average width of slightly less than 1,000 feet and with depth extent. This zone in itself would not be of much economic significance or interest however, it is in association on the northern flank of airborne magnetic interpretated Body C. This body is in association with previous mined copper mineralization and therefore this zone may have some future potential. Thereby one drill hole to test this zone is recommended.

In general, the ground induced polarization and resistivity data reflects the better grade zones of probable sulfide mineralization. Of all of the zones, zone A is the most significant by far and should without question be tested by drilling. The remaining three induced polarization zones do not have any congruent resistivity response of significance. However, the

zones are reflecting an increase in sulfide mineralization and thereby there is a further potentiality to these zones. A subsequent drilling program should be planned to test all of these induced polarization zones with the recommended eleven holes being of paramount importance. Further drilling may be necessary depending on the outcome of the results of the initial eleven recommended drill holes.

In summary, the geophysical phase of the exploration program of the Mt. Washington Copper Mine area during the summer of 1968 has yielded a relatively clear picture of the distribution of mineralization and an apparent association of sulfide mineralization with intrusive rocks and/or breccia pipes. The data from the three geophysical methods that were employed adequately support each other in clearly outlining the mineralization distribution. The airborne magnetic data used as an indirect tool has readily yielded an outline of the intrusive rocks and/or breccia pipes. Following this, the ground induced polarization and resistivity surveys outlined the major zones of sulfide mineralization.

On the basis of the geophysical results, 11 drill holes have been recommended for testing the major sulfide zones of mineralization. These 11 recommended drill holes are indicated on the attached Interpretation Overlay, Induced Polarization Data. The order of priority of drilling is shown by numerical sequence. All of the drill holes should be drilled to a minimum of 1,000 feet to adequately test the induced polarization responsive zones.

In a previous letter to Mr. John E. D. Grunow, President, Marietta Resources Company, Ltd., New York, New York, dated November 1, 1968, a preliminary drilling program was recommended for the Mt. Washington Copper Mine area. The recommended drill holes in this program are not necessarily in agreement with the drilling program recommended as a part of this report. The preliminary drilling program that was proposed was for the special needs of making a preliminary test within the restrictions of time and weather during the fall of 1968. It should not be construed that the drilling of the five holes recommended in the preliminary test program are a complete testing of all the anomalous geophysical data in this area. Complete tests of all the geophysical anomalies by drilling is in accordance with the recommendations in this report.

The Mt. Washington Copper Mine Area is an interesting area with possible economic potential. The geophysical program that was outlined and performed during 1968 has been a successful program and has outlined distinct targets that warrant further work and drill testing. The data presented here should be taken in conjunction with the other exploration information of a geological and geochemical nature in the ultimate planning of further work and drill testing. No attempt has been made herein to integrate any of the geological or geochemical data however this information should be adequately incorporated in the further exploration of this potentially interesting area.

Respectfully submitted,

Charles L. Elliot

Charles L. Elliot

Tucson, Arizona
November 8, 1968

Attachments: Aeromagnetic Survey Data Sheet 1
Aeromagnetic Survey Data Sheet 2
Interpretation Overlay, Airborne Magnetic Data
Interpretation Overlay, Induced Polarization Data
Interpretation Overlay, Resistivity Data
Certificate of Charles L. Elliot

Distribution: Mr. John E. D. Grunow
Mr. R. M. Belliveau
Mr. W. G. Stevenson (4)

CERTIFICATE

I, Charles L. Elliot, of Tucson, Arizona, U.S.A., do hereby certify that:

1. I am a mining geophysical engineer with offices at 4653 East Pima Street, Tucson, Pima County, Arizona 85716, U.S.A., and residing at 8822 East Shiloh Place, Tucson, Pima County, Arizona, 85710, U.S.A.

2. I am a registered professional engineer (geophysical) in the state of Arizona and I hold certificate number 6877.

3. I am a graduate of the Michigan Technological University with a degree of Bachelor of Science with honor in Mining Engineering, 1954 and with a degree of Master of Science in Geophysics, 1955.

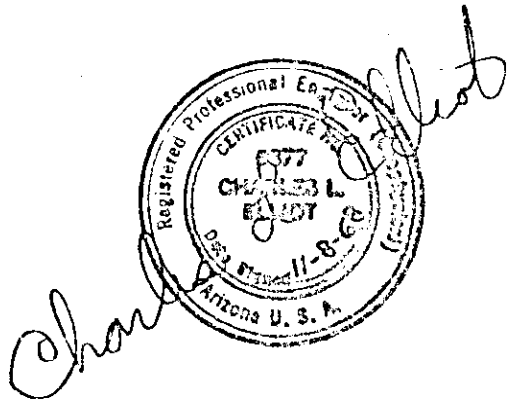
4. I have been practicing my profession for over thirteen years.

5. I am a member of the following professional societies: Society of Exploration Geophysicists, European Association of Exploration Geophysicists, American Geophysical Union, and the American Institute of Mining Metallurgical and Petroleum Engineers.

6. I have no direct or indirect interest nor do I expect to receive any direct or indirect interest in the property or securities of the Mt. Washington Copper Mines, Ltd. and/or the company now holding the option on said property.

7. The statements made in this report are solely my own and are based on a study of the enclosed geophysical data.

8. Permission is granted to use in whole or in part for assessment work the contents and attachments of this report.



Charles L. Elliot

Charles L. Elliot, B.S., M.S., P.E.

Tucson, Arizona
November 8, 1968

INDUCED POLARIZATION AND RESISTIVITY SURVEY
MOUNT WASHINGTON AREA
NANAIMO MINING DISTRICT
VANCOUVER ISLAND
BRITISH COLUMBIA, CANADA
FOR
MARIETTA RESOURCES COMPANY LIMITED
PROJECT 8528

CANADIAN AERO *Mineral Surveys* LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY

MOUNT WASHINGTON AREA

NANAIMO MINING DISTRICT

VANCOUVER ISLAND

BRITISH COLUMBIA CANADA

FOR

MARIETTA RESOURCES COMPANY LIMITED

PROJECT 8528

CANADIAN AERO *Mineral Surveys* LIMITED

TABLE OF CONTENTS

Accompanying This Report

1 (one) Plan Map

INDUCED POLARIZATION AND
RESISTIVITY SURVEY
MOUNT WASHINGTON AREA
NANAIMO MINING DISTRICT
VANCOUVER ISLAND
BRITISH COLUMBIA, CANADA
FOR
MARIETTA RESOURCES COMPANY LIMITED
PROJECT 8528

INTRODUCTION

Upon the request of Marietta Resources Company Limited, Canadian Aero Mineral Surveys Limited carried out an induced polarization and resistivity survey in the Mount Washington Area of Vancouver Island, British Columbia, Canada.

The field project, under the direction of CAMS engineer, K. N. Hendry, took place during the period July 17 through September 30, 1968. Mr. C. L. Elliot, Consulting Geophysicist for Marietta Resources Company Limited, was in charge of the geophysical program.

The survey originally consisted of 16 profiles to be surveyed using a standard dipole-dipole array with an 'a' spacing of 500'. 10 lines were added to further outline areas of lesser interest.

The low resistivity surface material encountered in certain areas of the project caused difficulty in obtaining sufficient data. This condition required a change in the electrode configu-

ration to a pole-dipole array. Lines A, B, 1.0S were repeated using the pole-dipole array with an 'a' spacing of 500'. Also, Lines C, D, E, F, G, H, I, J, A-1N, A-1S were surveyed using the pole-dipole array.

Logging roads in the area provided access, in most cases, directly to the line centers. Maps and line locations were obtained from W. G. Stevenson and his geochemical and geological crew.

PRESENTATION OF DATA

Included in this report are copies of 26 induced polarization and resistivity profiles, covering the Mount Washington Area. Two profiles for the Litchie Claim Group were submitted to C. L. Elliot separately at an earlier date.

A plan map showing the approximate line location is attached to this report.

The geophysical interpretation of these data is by C. L. Elliot and is submitted under separate cover.

PART II

SURVEY PROCEDURES

The induced polarization and resistivity measurements were made in the time domain mode of operation. A conventional system of measurements, which used a time cycle of 2.0 seconds "on" and 2.0 seconds "off" - 2.0 seconds "on" and 2.0 seconds "off" (current reversed), was employed.

The commencement of the measurement of the secondary voltage is delayed by 0.45 seconds to avoid coupling and transient effects. The integration is performed during the period from 0.45 seconds to 1.10 seconds after cessation of the current "off" period.

To conform to a standard presentation, the integrator time constant is adjusted to give induced polarization readings equivalent to those obtained with transmitter cycles of 3.0 seconds "on" and 3.0 seconds "off" with the integration of the secondary voltage decay during the first second of the "off" period.

Apparent polarization response is in units of millivolt seconds/volt or milliseconds and the apparent resistivity in units of ohm-meters.

APPLICATION OF INDUCED POLARIZATION METHOD

The induced polarization method is basically a volume detecting technique. Effective penetration is governed by the

size of target where normally a large volume of polarizable material at depth is required to give measureable response from surface measurements. The method is relatively sensitive and is capable of detecting as little as 1% by volume of metallic sulfides.

Because polarization is essentially a "particle surface" phenomenon, the induced polarization effects from a given percentage of metallic sulfides generally increases as particle size is decreased. This characteristic makes the technique especially suitable to exploration for disseminated sulfide occurrences such as porphyry copper deposits.

Sulfide minerals of metallic lustre produce anomalous IP effects; chalcopyrite, bornite, chalcocite, pyrite, pyrrhotite, arsenopyrite, molybdenite to name a few, but not sphalerite.

Apart from sulfides and oxides certain minerals with high unsatisfied charged basal lattice surfaces, when current is applied to the ground, develop a charged double layer which acts as a leaky condenser and give rise to IP effects. Certain of the clay-mica minerals are active in this sense with montmorillonite and vermiculite exhibiting by far the greatest response. Bentonitic tuff is also exceptionally responsive to IP. The kaolines, chlorites, muscovites and biotites are not generally active.

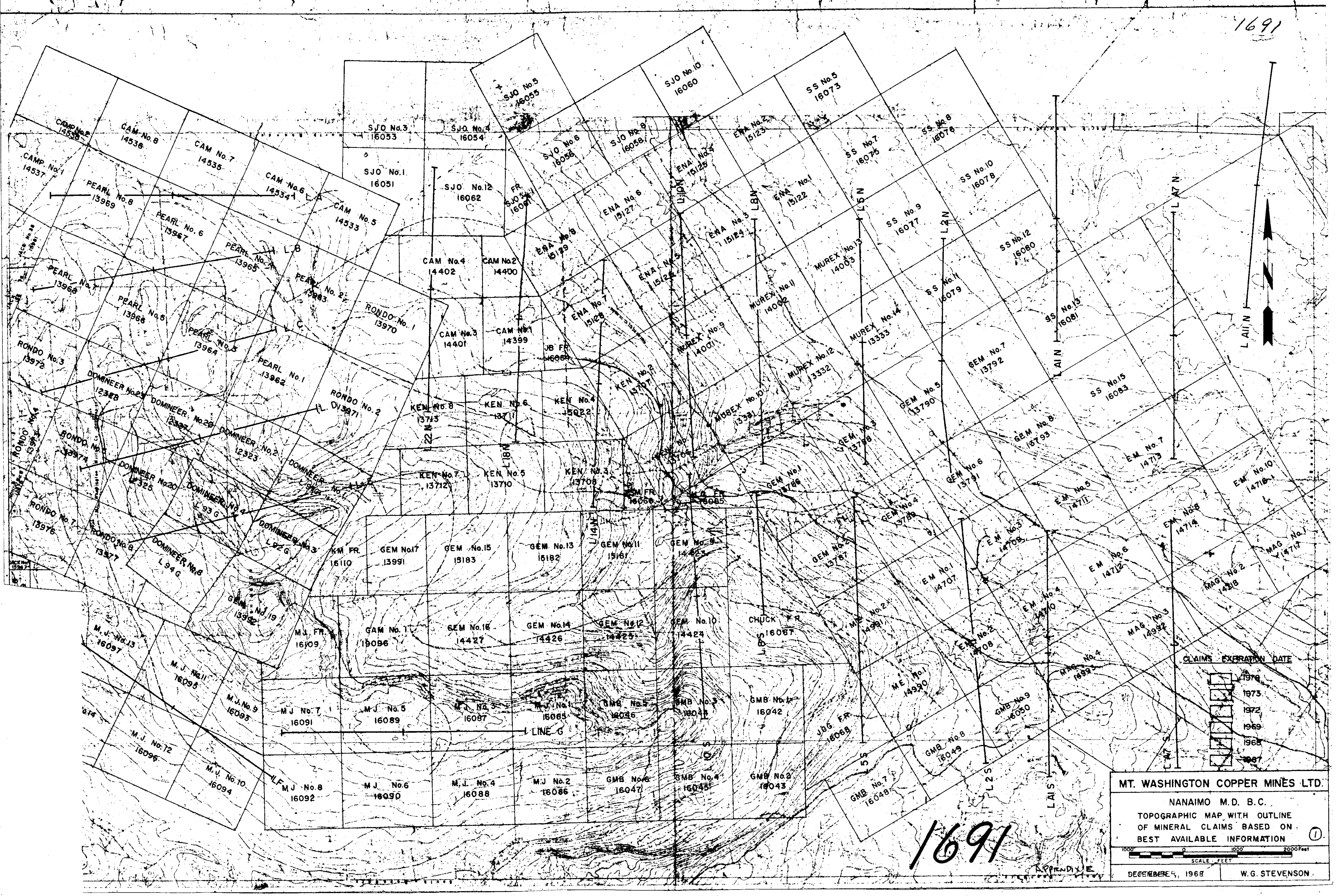
Although considerable study has taken place, this method

has not yet been improved to differentiate the IP effects arising from metallic sulfides, oxides, graphite, or clay occurrences.

Respectfully submitted,

Ken Hendry, B.S.

November 4, 1968
Tucson


1691
MT. WASHINGTON COPPER MINES LTD.
NANAIMO M.D. B.C.
TOPOGRAPHIC MAP WITH OUTLINE
OF MINERAL CLAIMS BASED ON
BEST AVAILABLE INFORMATION
SCALE : FEET
1000
0
1000
2000 Feet
1968
W.G. STEVENSON
CLAIMS EXPIRATION DATE
1978
1973
1972
1969
1968
1967
APPENDIX E
SJO No.5 16055
SJO No.10 16060
SS No.5 16073
SJO No.3 16053
SJO No.4 16054
SJO No.1 16051
SJO No.12 16062
CAM No.8 14536
CAM No.7 14535
CAM No.6 14534
CAM No.5 14533
CAMP No.1 14537
PEARL No.8 13969
PEARL No.6 13967
PEARL No.7 13968
PEARL No.1 13962
RONDO No.1 13970
RONDO No.2 13971
RONDO No.3 13972
CAM No.4 14402
CAM No.2 14400
CAM No.3 14401
CAM No.1 14399
ENA No.6 15127
ENA No.7 15128
ENA No.1 15122
ENA No.2 15123
SS No.7 16075
SS No.10 16078
SS No.9 16077
SS No.12 16080
SS No.11 16079
SS No.13 16081
SS No.15 16083
MUREX No.13 14003
MUREX No.11 14002
MUREX No.14 13333
MUREX No.12 13332
GEM No.7 13792
GEM No.5 13790
GEM No.8 13793
GEM No.6 13791
EM No.7 14713
EM No.10 14716
KEN No.8 13713
KEN No.6 13711
KEN No.4 15022
KEN No.7 13712
KEN No.5 13710
KEN No.3 13708
KM FR. 16110
GEM No.17 13991
GEM No.15 15183
GEM No.13 15182
GEM No.11 15181
EM No.1 14707
EM No.6 14712
MAG No.2 14718
MAG No.3 14992
MAG No.4 14993
M.J. No.13 16097
M.J. FR. 16109
GAM No.1 19096
GEM No.16 14427
GEM No.14 14426
GEM No.12 14425
GEM No.10 14424
CHUCK FR. 16067
ME No.1 14990
M.J. No.11 16095
M.J. No.9 16093
MJ No.7 16091
MJ No.5 16089
MJ No.1 16085
GMB No.5 16046
GMB No.3 16044
GMB No.1 16042
JBG FR. 16068
GMB No.9 16050
GMB No.8 16049
LINE G
M.J. No.12 16096
M.J. No.10 16094
MJ No.8 16092
MJ No.6 16090
M.J. No.4 16088
MJ No.2 16086
GMB No.6 16047
GMB No.4 16045
GMB No.2 16043
GMB No.7 16048
L2N
L5N
L8N
L11N
L14N
L18N
L22N
L A1N
L A4N
L A7N
L A11N
L2S
L5S
L10S
L A1S
L A7S

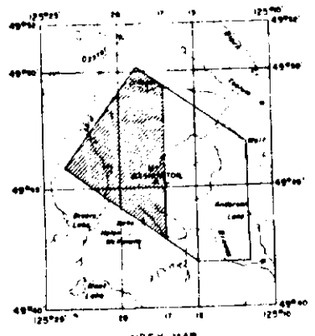
MOUNT WASHINGTON (5215)

AEROMAGNETIC SURVEY

MOUNT WASHINGTON AREA(1)

VANCOUVER ISLAND

BRITISH COLUMBIA



INDEX MAP

Scale: One Inch = Approximately 1000 Feet

FEET

1000 500 0 1000 2000 3000 4000

ISOMAGNETIC LINES (absolute total field)

500 gammas

100 gammas

20 gammas

10 gammas

Magnetic depression

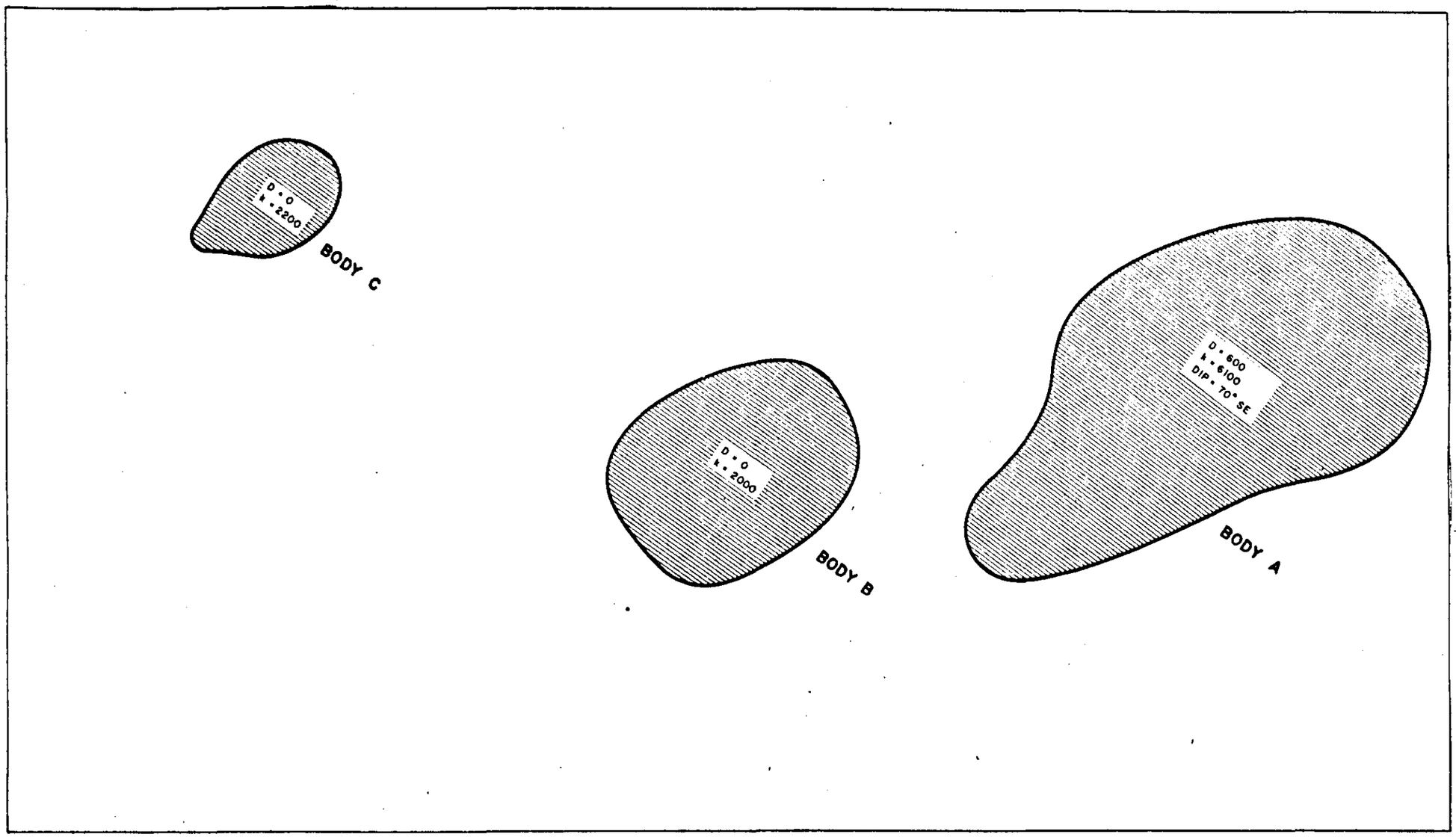
Flight lines

Flight altitude 1000 feet above ground level

1691

(2)

SPARTAN AIR SERVICES LIMITED.



LEGEND

C.P.O.G. CONCESSION BOUNDARY

LIMITS OF MAGNETIC RESPONSIVE BODY

D = 600 DEPTH OF BODY BELOW GROUND SURFACE

h = 4700 MAGNETIC SUSCEPTIBILITY OF BODY IN 10^{-6} cgs UNITS

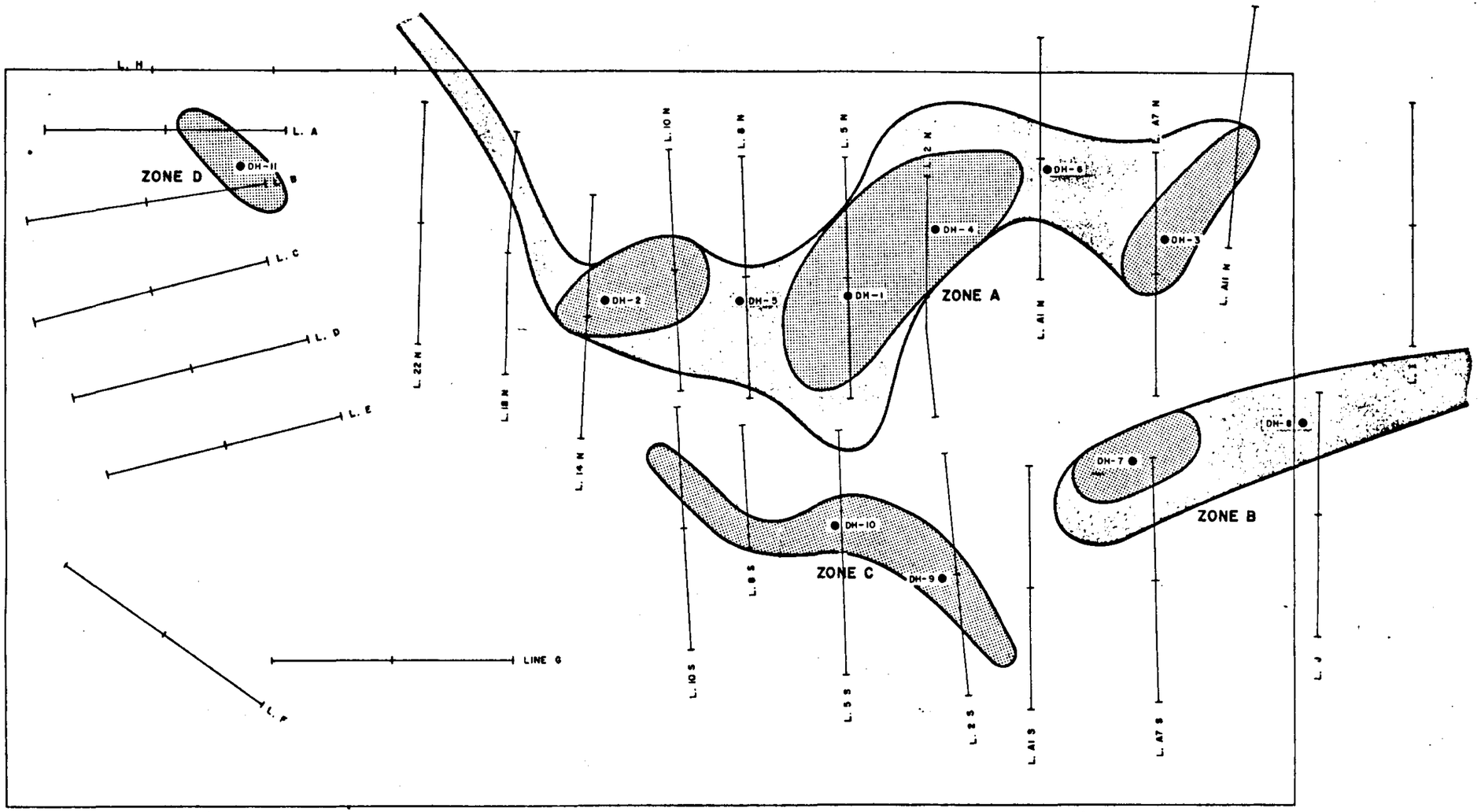
1691

(3)

CHARLES L. ELLIOT
Mining Geophysical Engineer
Tucson, Arizona

INTERPRETATION OVERLAY

AIRBORNE MAGNETIC DATA
MT. WASHINGTON COPPER MINE AREA
VANCOUVER ISLAND, BRITISH COLUMBIA
for
MARIETTA RESOURCES CO., LTD.
SCALE 1" = 1000' OCTOBER 1966



LEGEND

C.P.O.G. CONCESSION BOUNDARY

INDUCED POLARIZATION RESPONSIVE ZONE – STRONG

INDUCED POLARIZATION RESPONSIVE ZONE – MODERATE

● DH-5 PROPOSED DRILL HOLES

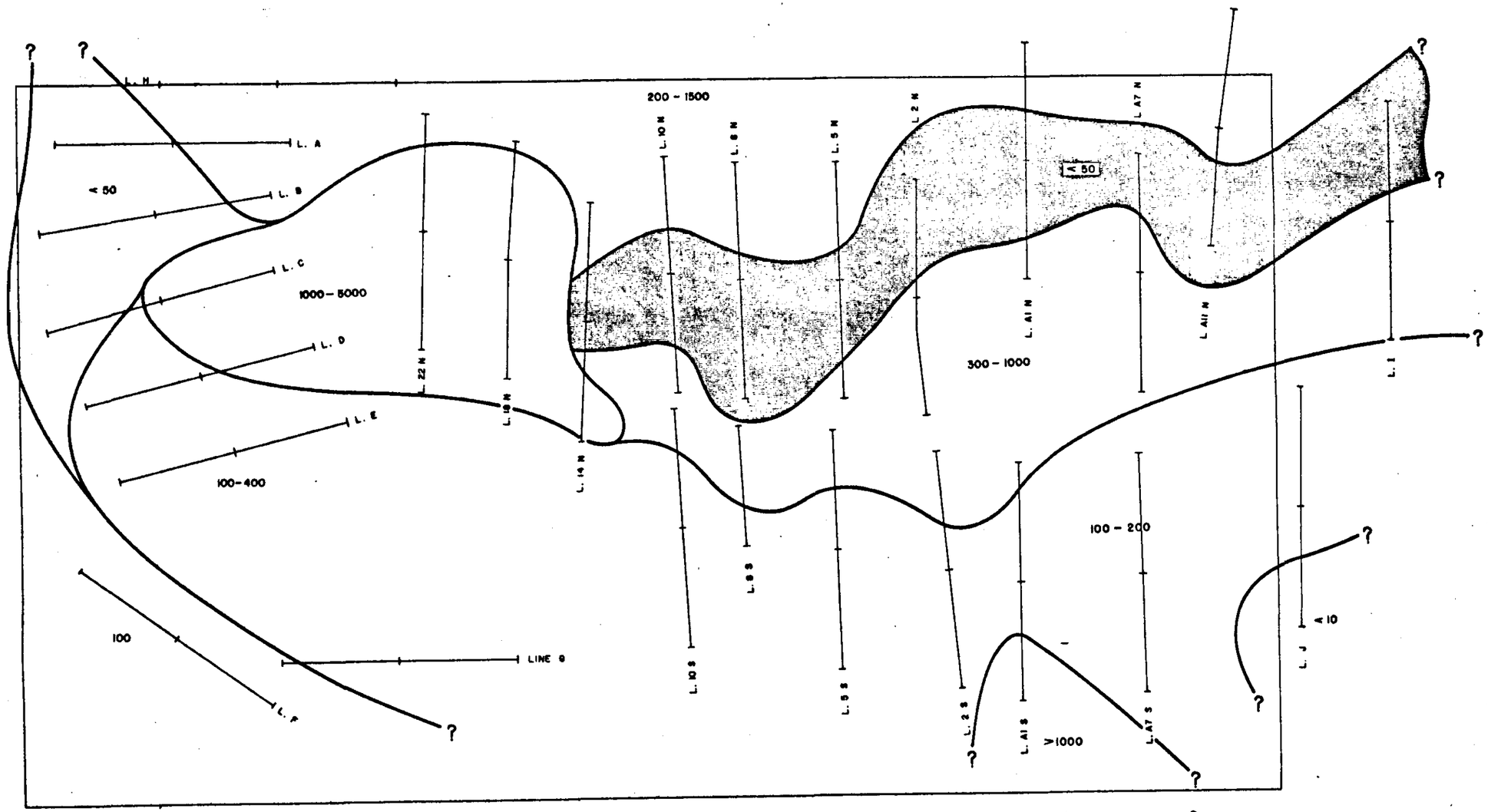
CHARLES L. ELLIOT
Mining Geological Engineer
Tucson, Arizona

1691

(4)

INTERPRETATION OVERLAY

INDUCED POLARIZATION DATA
MT. WASHINGTON COPPER MINE AREA
VANCOUVER ISLAND, BRITISH COLUMBIA
for
MARIETTA RESOURCES CO., LTD.
SCALE 1" = 1000' OCTOBER 1968



LEGEND

- C.R.O.G. CONCESSION BOUNDARY
- RESISTIVITY BOUNDARY
- < 300 RESISTIVITY VALUES IN OHM-METERS
- RESISTIVITY LOW ANOMALY

1691

(5)

CHARLES L. ELLIOT
Mining Geophysical Engineer
Tucson, Arizona

INTERPRETATION OVERLAY

RESISTIVITY DATA
MT. WASHINGTON COPPER MINE AREA
VANCOUVER ISLAND, BRITISH COLUMBIA
for
MARIETTA RESOURCES CO., LTD.
SCALE 1" = 400' OCTOBER 1968

TIME DOMAIN INDUCED POLARIZATION AND RESISTIVITY SURVEY

MT. WASHINGTON AREA - NANAIMO MINING DISTRICT

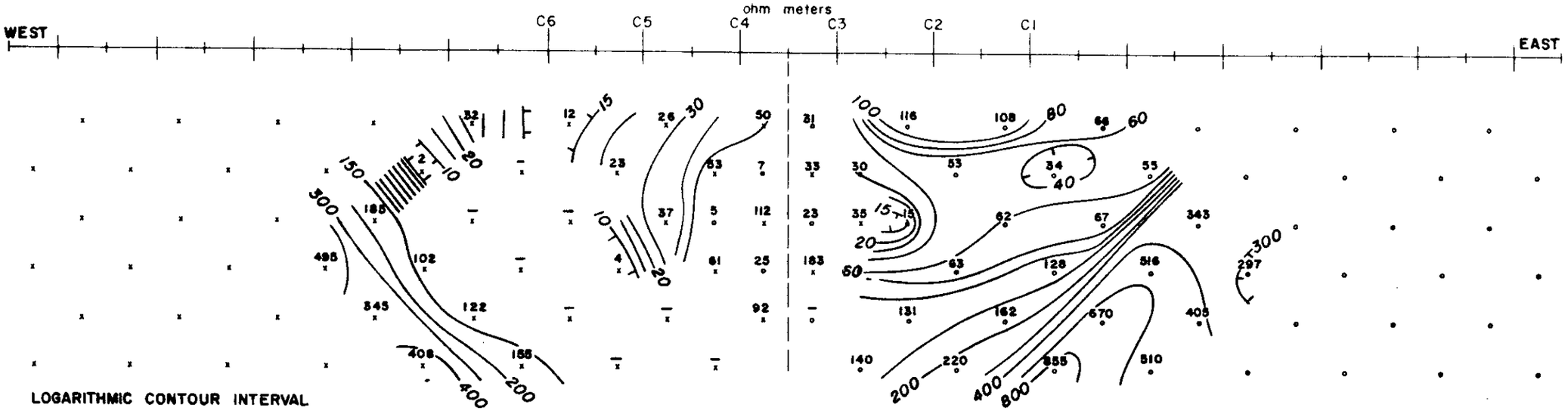
VANCOUVER ISLAND, BRITISH COLUMBIA (CANADA)

for

MARIETTA RESOURCES CO. LTD.

APPARENT RESISTIVITY

ohm meters

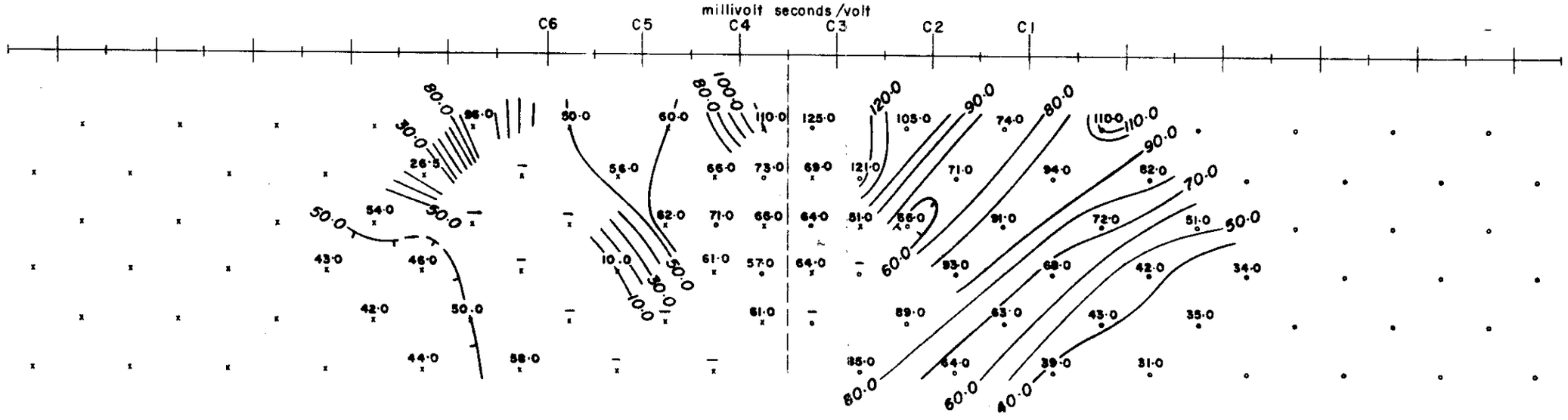


LOGARITHMIC CONTOUR INTERVAL

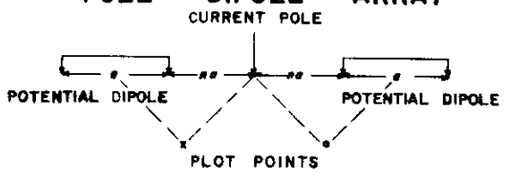
10-15-20-30-40-60-80-100, etc.

APPARENT POLARIZATION

millivolt seconds / volt



POLE DIPOLE ARRAY



LINE: . . . . . "A"

LOOKING: . . . NORTH

DIPOLE LENGTH: . . . . 500'

DATE: AUG. 10, 1968

LEGEND

FENCE . . . . . .

PIPELINE . . . . . .

POWERLINE . . . . .

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TUCSON, ARIZONA, U.S.A.

C.A.M.S. 8526

TIME DOMAIN INDUCED POLARIZATION AND RESISTIVITY SURVEY

MT. WASHINGTON AREA - NANAIMO MINING DISTRICT

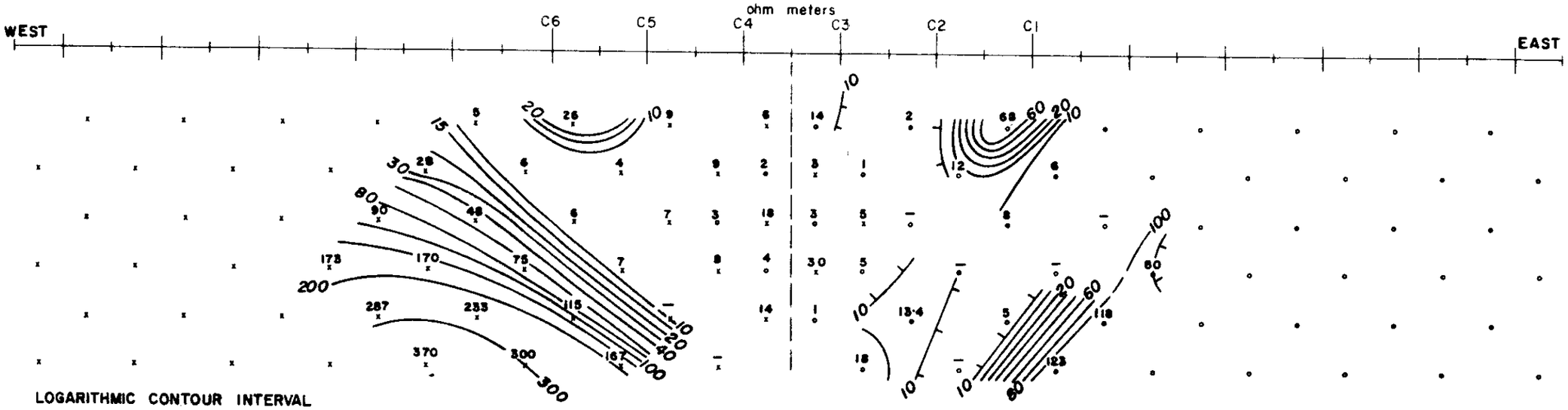
VANCOUVER ISLAND, BRITISH COLUMBIA (CANADA)

for

MARIETTA RESOURCES CO. LTD.

APPARENT RESISTIVITY

ohm meters

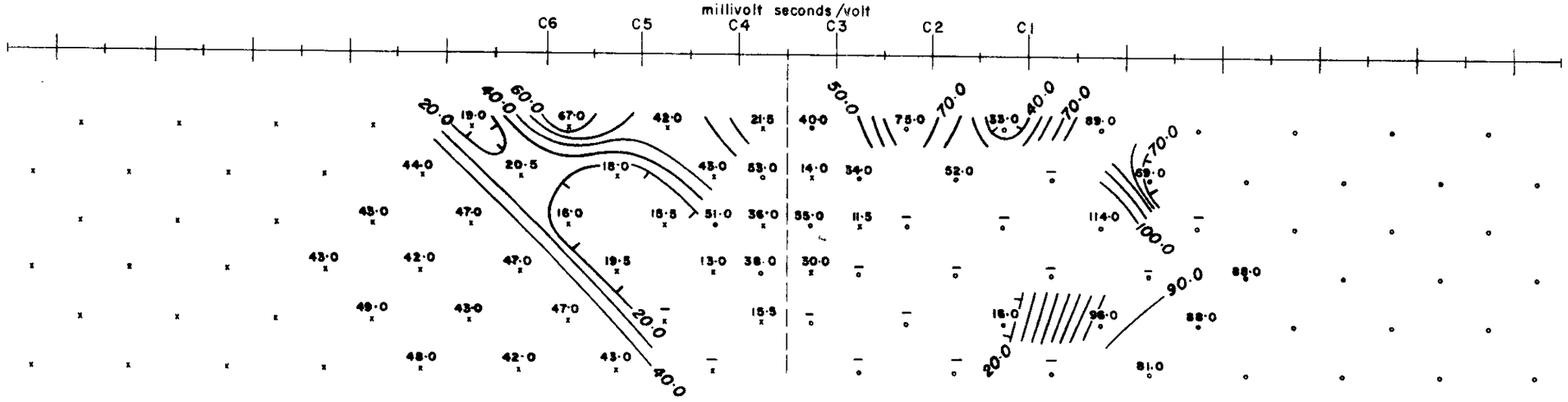


LOGARITHMIC CONTOUR INTERVAL

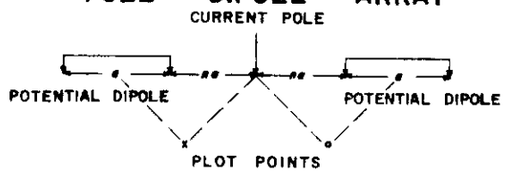
10-15-20-30-40-60-80-100, etc.

APPARENT POLARIZATION

millivolt seconds /volt



POLE DIPOLE ARRAY



LINE: . . . . . "B"

LOOKING. . . NORTH

DIPOLE LENGTH: . . . 500'

DATE: AUG. 8, 1968

LEGEND

FENCE. X

PIPELINE. . . . . o

POWERLINE. . . . T

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TUCSON, ARIZONA, U.S.A.

C.A.M.S. 8528

TIME DOMAIN INDUCED POLARIZATION AND RESISTIVITY SURVEY

MT. WASHINGTON AREA - NANAIMO MINING DISTRICT

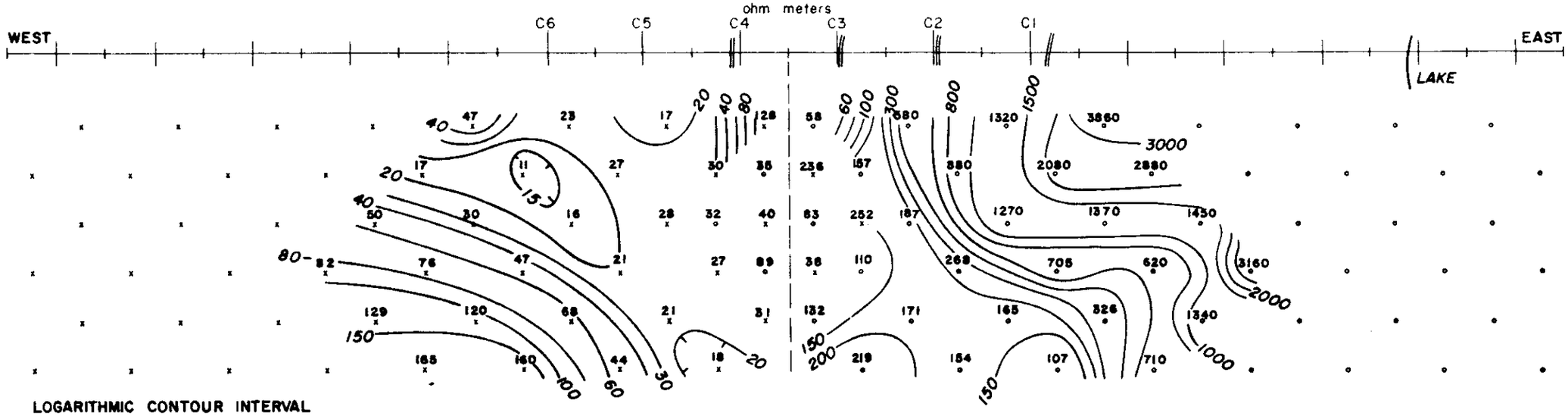
VANCOUVER ISLAND, BRITISH COLUMBIA (CANADA)

for

MARIETTA RESOURCES CO. LTD.

APPARENT RESISTIVITY

ohm meters

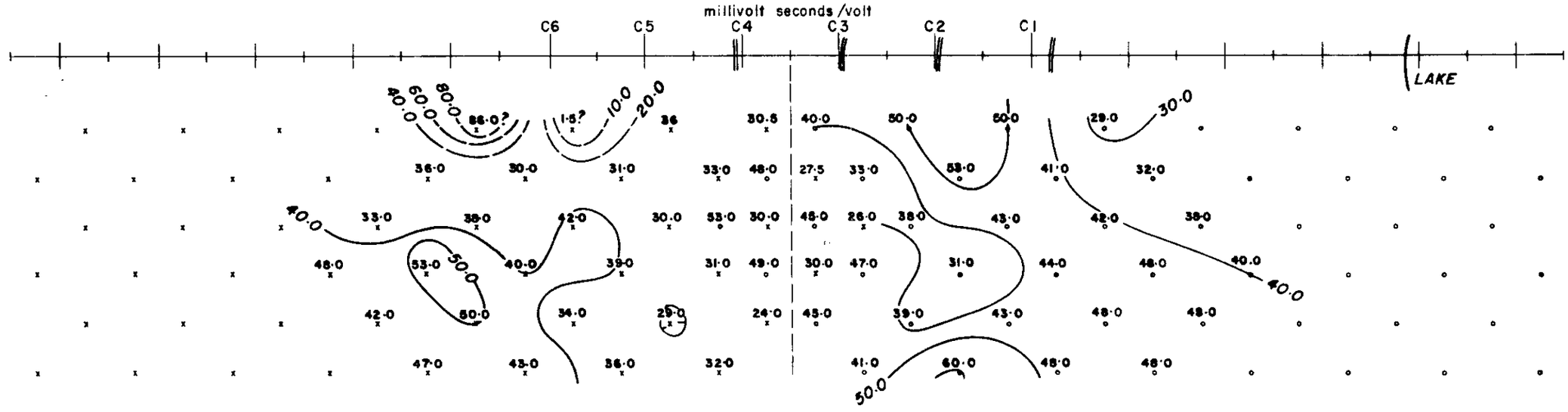


LOGARITHMIC CONTOUR INTERVAL

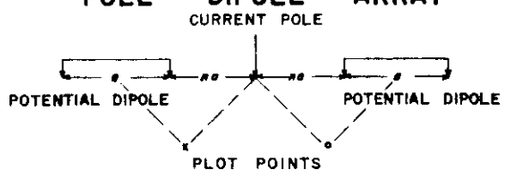
10-15-20-30-40-60-80-100, etc.

APPARENT POLARIZATION

millivolt seconds / volt



POLE DIPOLE ARRAY



LINE: . . . . . "C"

LOOKING: . . . NORTH

DIPOLE LENGTH: . . . 500'

DATE: AUG. 18, 1968

LEGEND

FENCE x

PIPELINE . . . . . o

POWERLINE . . . . . T

ROAD . . . . . =

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TUCSON, ARIZONA, U.S.A.

(8)

C.A.M.S. 8828

TIME DOMAIN INDUCED POLARIZATION AND RESISTIVITY SURVEY

MT. WASHINGTON AREA - NANAIMO MINING DISTRICT

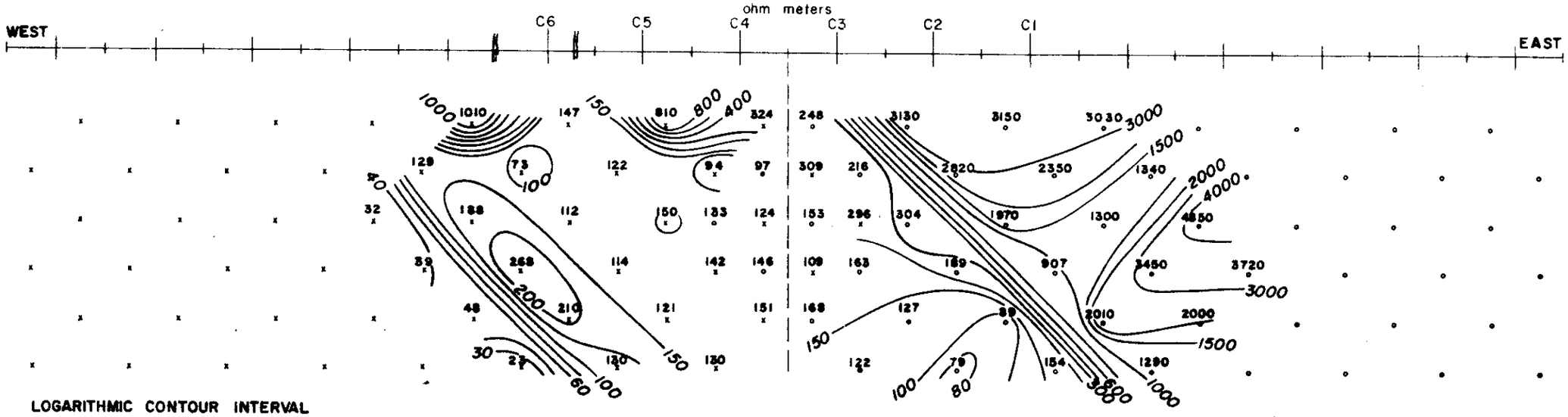
VANCOUVER ISLAND, BRITISH COLUMBIA (CANADA)

for

MARIETTA RESOURCES CO. LTD.

APPARENT RESISTIVITY

ohm meters

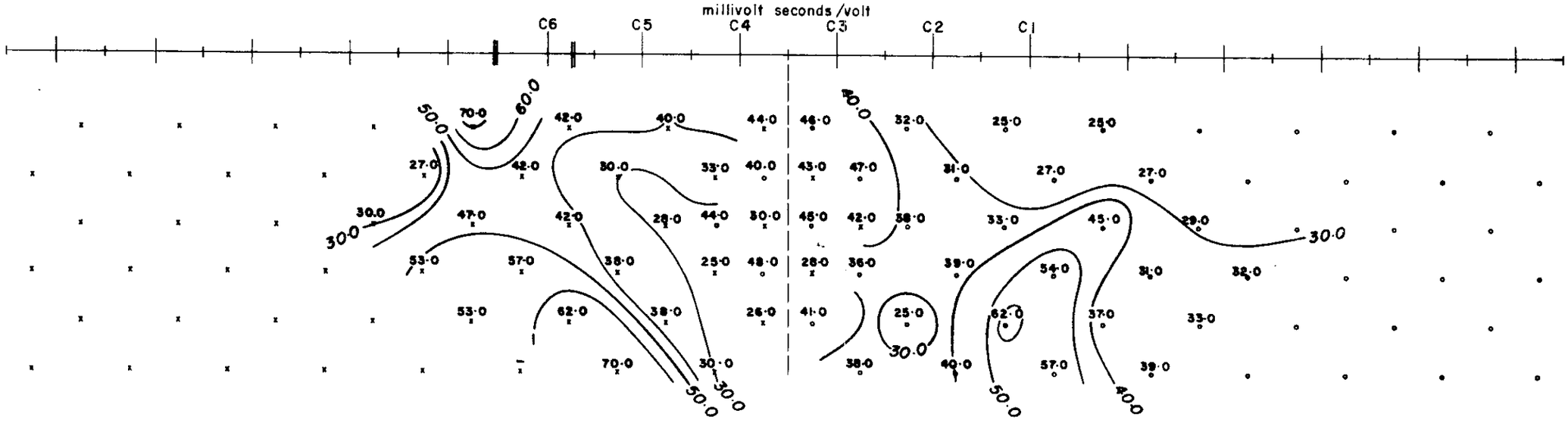


LOGARITHMIC CONTOUR INTERVAL

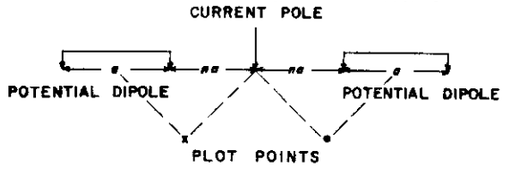
10-15-20-30-40-60-80-100,etc.

APPARENT POLARIZATION

millivolt seconds/volt



POLE DIPOLE ARRAY



LINE: . . . . . "D"

LOOKING: . . . NORTH

DIPOLE LENGTH: . . . .500'

DATE: AUG .19, 1968

LEGEND

FENCE. x

PIPELINE. . . . . o

POWERLINE. . . . . T

ROAD. . . . . =

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OTTAWA, ONT., CANADA

TUCSON, ARIZONA, U.S.A.

(9)

C.A.M.S. 8528

TIME DOMAIN INDUCED POLARIZATION AND RESISTIVITY SURVEY

MT. WASHINGTON AREA - NANAIMO MINING DISTRICT

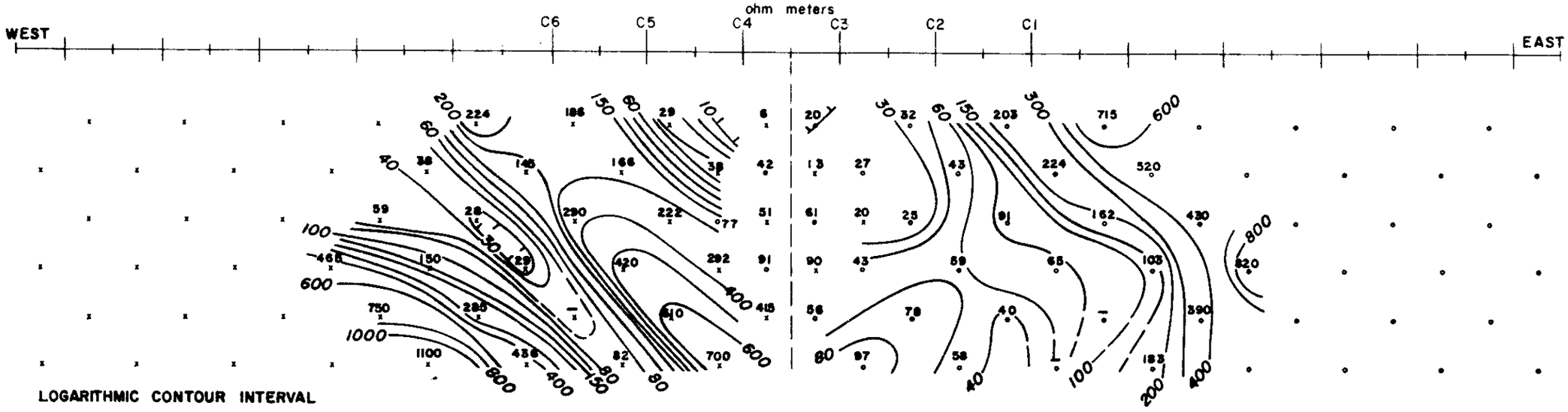
VANCOUVER ISLAND, BRITISH COLUMBIA (CANADA)

for

MARIETTA RESOURCES CO. LTD.

APPARENT RESISTIVITY

ohm meters

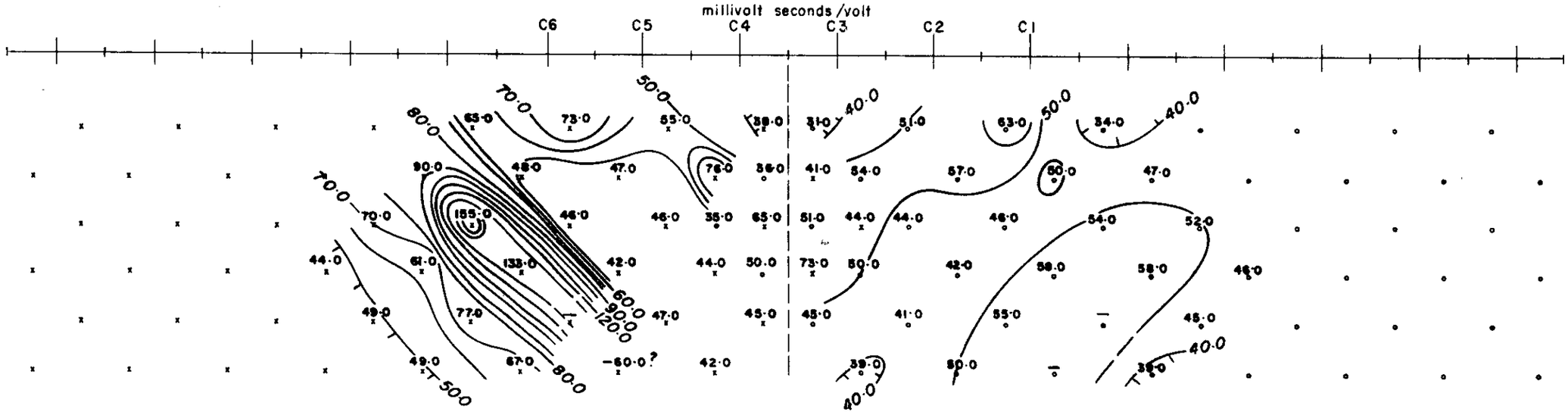


LOGARITHMIC CONTOUR INTERVAL

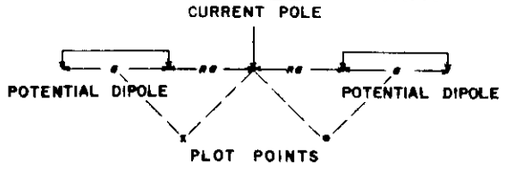
10-15-20-30-40-60-80-100, etc.

APPARENT POLARIZATION

millivolt seconds / volt



POLE DIPOLE ARRAY



LINE: . . . . . "E"

LOOKING: . . NORTH

DIPOLE LENGTH: . . . 500'

DATE: AUG. 11, 1968

LEGEND

FENCE x

PIPELINE . . . . . o

POWERLINE . . . . . T

CANADIAN AERO *Mineral Surveys* LTD.

OTTAWA, ONT., CANADA

TUCSON, ARIZONA, U.S.A.

(10)

C.A.M.S. 3528

TIME DOMAIN INDUCED POLARIZATION AND RESISTIVITY SURVEY

MT. WASHINGTON AREA - NANAIMO MINING DISTRICT

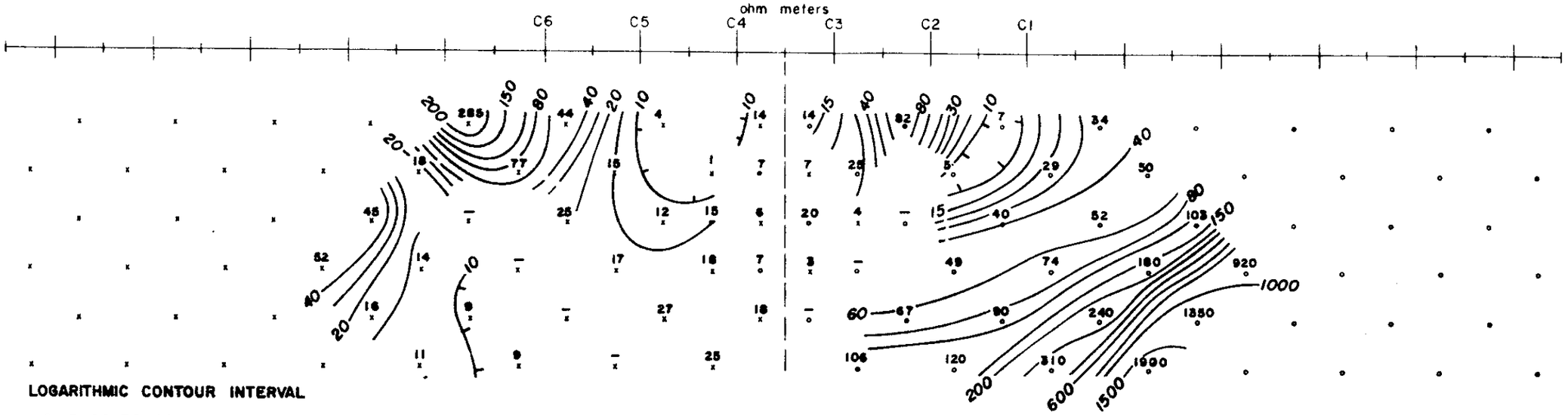
VANCOUVER ISLAND, BRITISH COLUMBIA (CANADA)

for

MARIETTA RESOURCES CO. LTD.

APPARENT RESISTIVITY

ohm meters

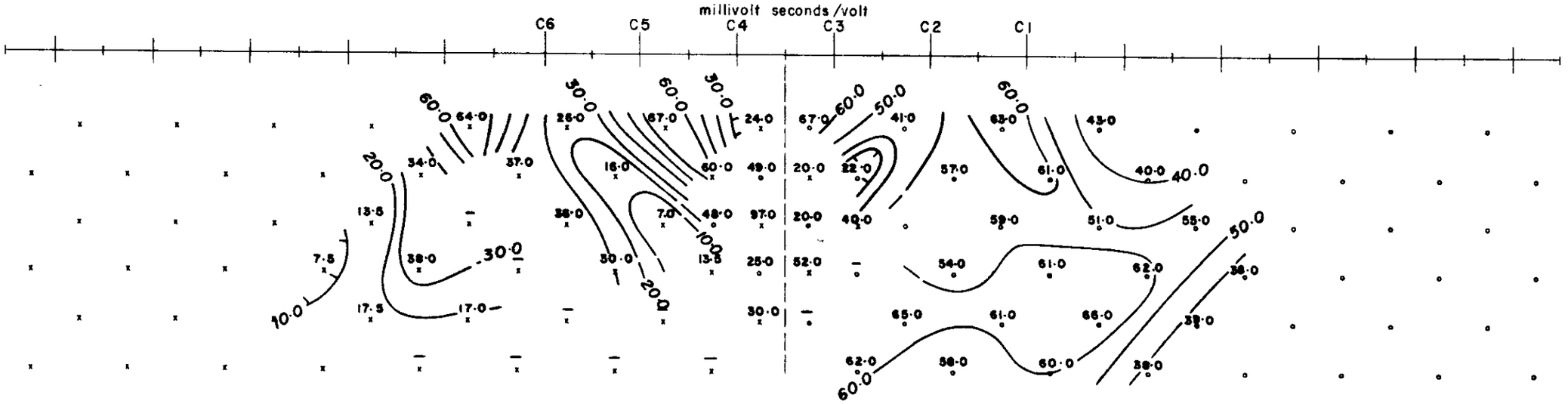


LOGARITHMIC CONTOUR INTERVAL

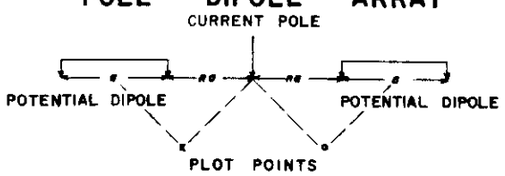
10-15-20-30-40-60-80-100,etc.

APPARENT POLARIZATION

millivolt seconds/volt



POLE DIPOLE ARRAY



LINE: . . . . . "F" (BEARING N 60° W)

LOOKING

DIPOLE
LENGTH: . . . . 500'

DATE: SEPT. 20, 1966

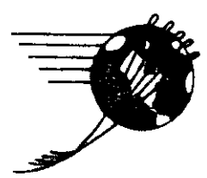
LEGEND

FENCE. x

PIPELINE. . . . . o

POWERLINE. . . . . T

CANADIAN AERO
Mineral Surveys LTD.
OTTAWA, ONT., CANADA
TUCSON, ARIZONA, U.S.A.



(11)

C. A. M. S. 6526

TIME DOMAIN INDUCED POLARIZATION AND RESISTIVITY SURVEY

MT. WASHINGTON AREA - NANAIMO MINING DISTRICT

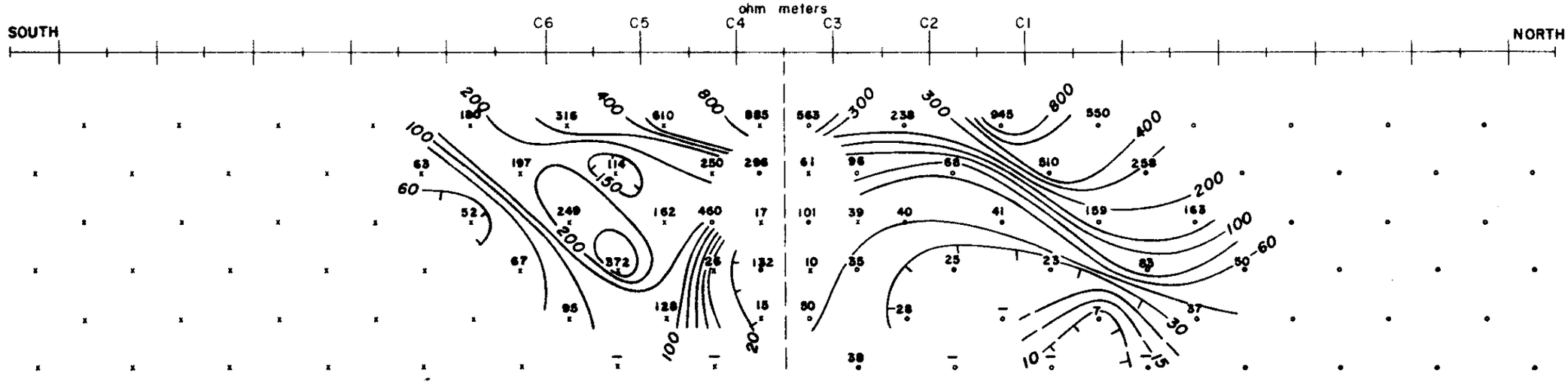
VANCOUVER ISLAND, BRITISH COLUMBIA (CANADA)

for

MARIETTA RESOURCES CO. LTD.

APPARENT RESISTIVITY

ohm meters

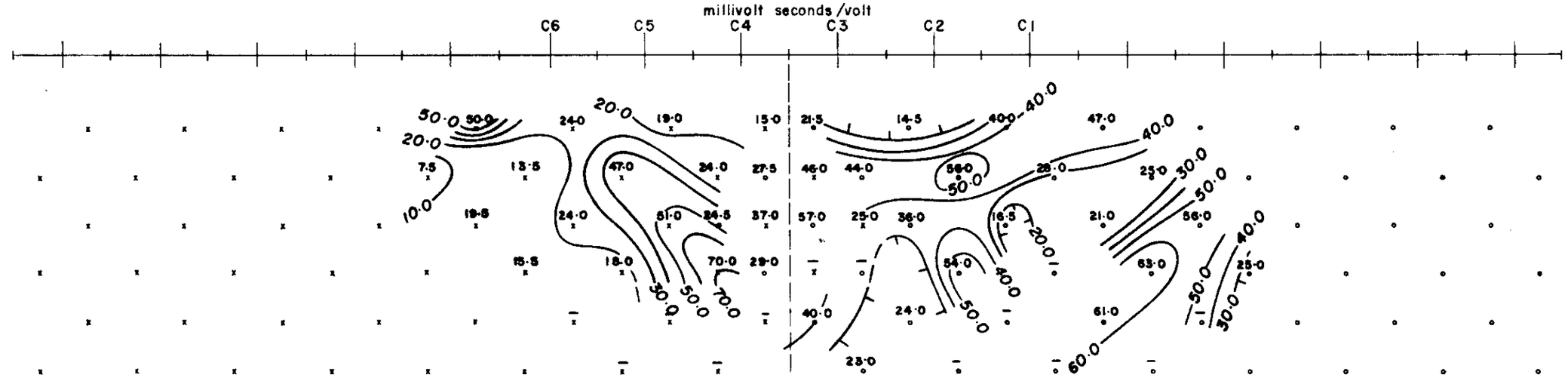


LOGARITHMIC CONTOUR INTERVAL

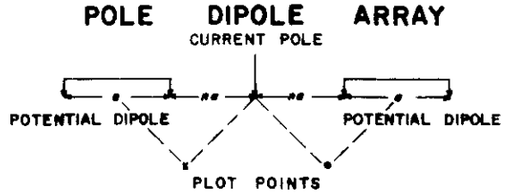
10-15-20-30-40-60-80-100, etc.

APPARENT POLARIZATION

millivolt seconds/volt



POLE DIPOLE ARRAY



LINE: . . . . . "8"

LOOKING: . . . WEST

DIPOLE LENGTH: . . . . 800'

DATE: SEPT. 17, 1968

LEGEND

FENCE . . . . . .

PIPELINE . . . . .

POWERLINE . . . . .

CANADIAN AERO *Mineral Surveys* LTD.

OTTAWA, ONT., CANADA

TUCSON, ARIZONA, U.S.A.

(12)

C.A.M.S. 8528

TIME DOMAIN INDUCED POLARIZATION AND RESISTIVITY SURVEY

MT. WASHINGTON AREA - NANAIMO MINING DISTRICT

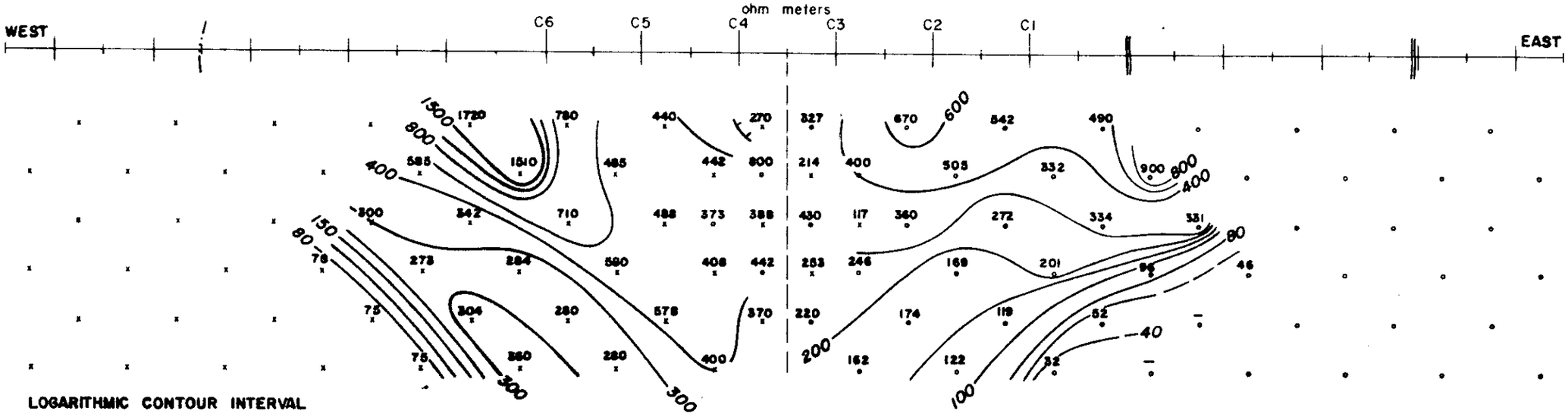
VANCOUVER ISLAND, BRITISH COLUMBIA (CANADA)

for

MARIETTA RESOURCES CO. LTD.

APPARENT RESISTIVITY

ohm meters

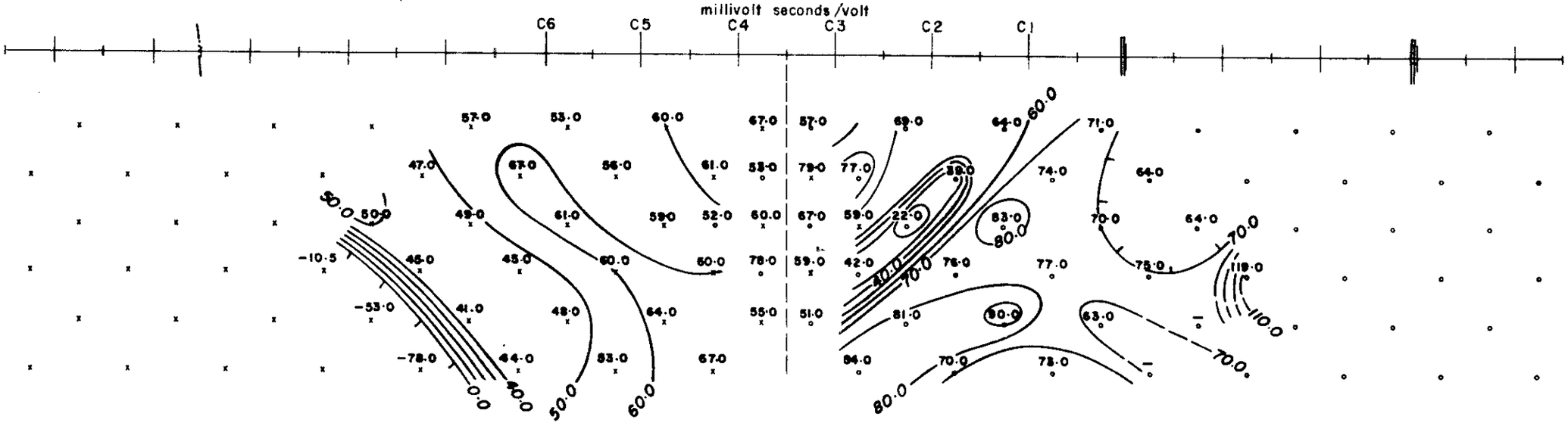


LOGARITHMIC CONTOUR INTERVAL

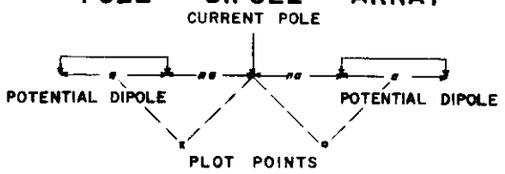
10-15-20-30-40-60-80-100, etc.

APPARENT POLARIZATION

millivolt seconds/volt



POLE DIPOLE ARRAY



LINE: . . . . . "H"

LOOKING: . . . NORTH

DIPOLE LENGTH . . . . 500'

DATE: SEPT. 19, 1968

LEGEND

FENCE . . . . . .

PIPELINE. . . . . .

POWERLINE . . . . .

ROAD & CREEK. . .

CANADIAN AERO *Mineral Surveys* LTD.

OTTAWA, ONT., CANADA

TUCSON, ARIZONA, U.S.A.

(13)

C.A.M.S. 6528

TIME DOMAIN INDUCED POLARIZATION AND RESISTIVITY SURVEY

MT. WASHINGTON AREA - NANAIMO MINING DISTRICT

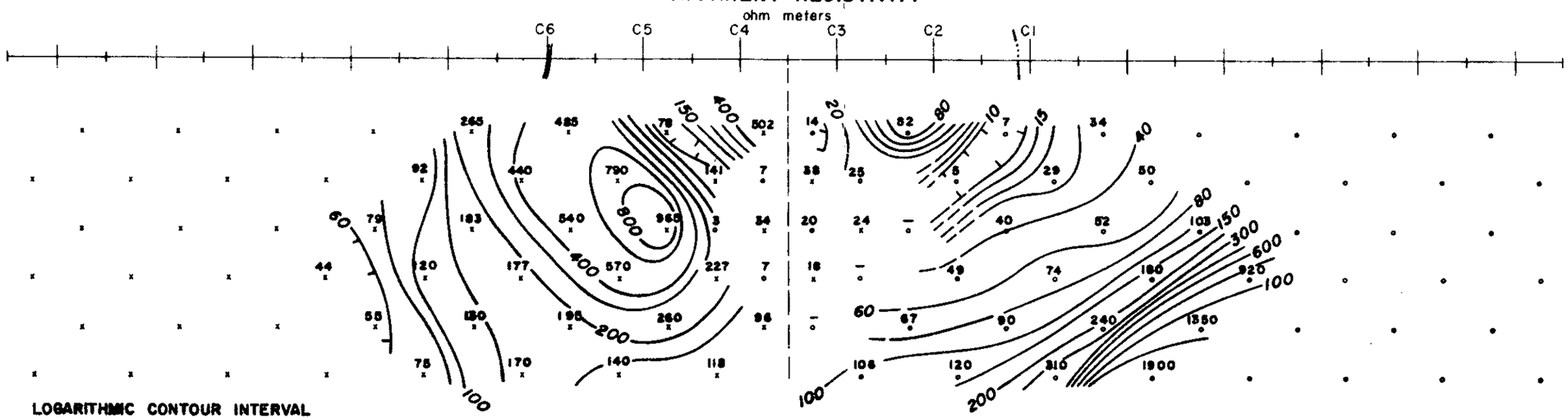
VANCOUVER ISLAND, BRITISH COLUMBIA (CANADA)

for

MARIETTA RESOURCES CO. LTD.

APPARENT RESISTIVITY

ohm meters

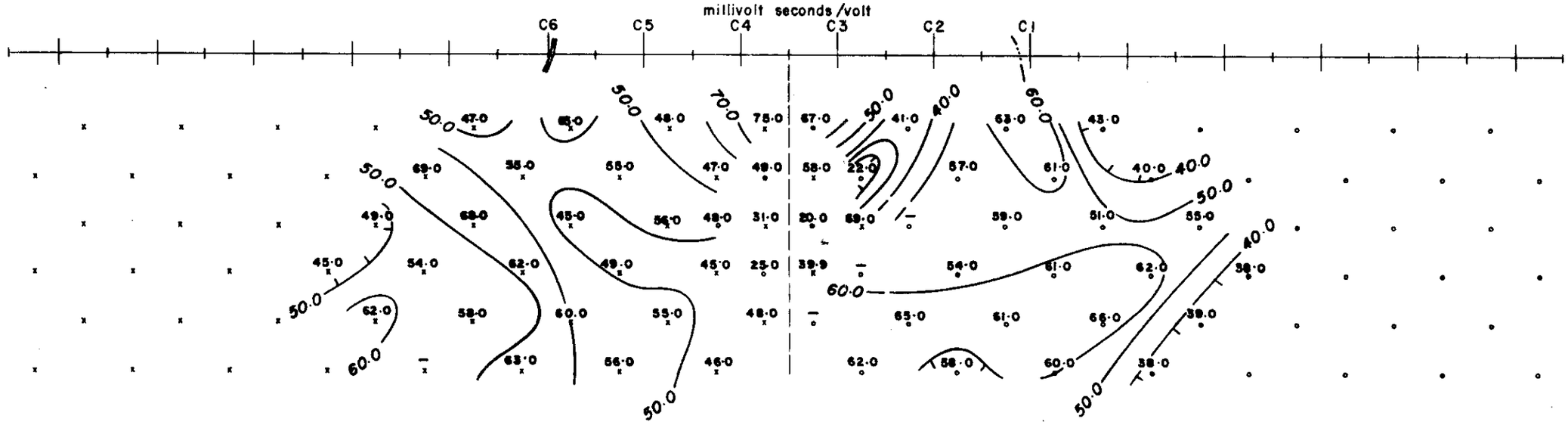


LOGARITHMIC CONTOUR INTERVAL

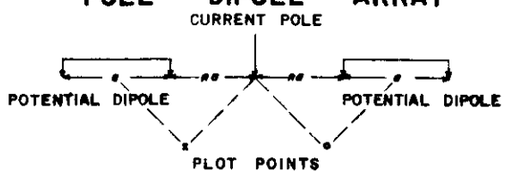
10-15-20-30-40-60-80-100, etc.

APPARENT POLARIZATION

millivolt seconds/volt



POLE DIPOLE ARRAY



LINE: . . . . . "I"

LOOKING: . . . WEST

DIPOLE LENGTH: . . . . 800'

DATE: SEPT. 24, 1968

LEGEND

FENCE . . . . . .

PIPELINE. . . . . .

POWERLINE . . . . .

ROAD & CREEK. . . . . .

CANADIAN AERO *Mineral Surveys* LTD.

OTTAWA, ONT., CANADA

TUCSON, ARIZONA, U.S.A.

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C.A.M.S. 8529

TIME DOMAIN INDUCED POLARIZATION AND RESISTIVITY SURVEY

MT. WASHINGTON AREA - NANAIMO MINING DISTRICT

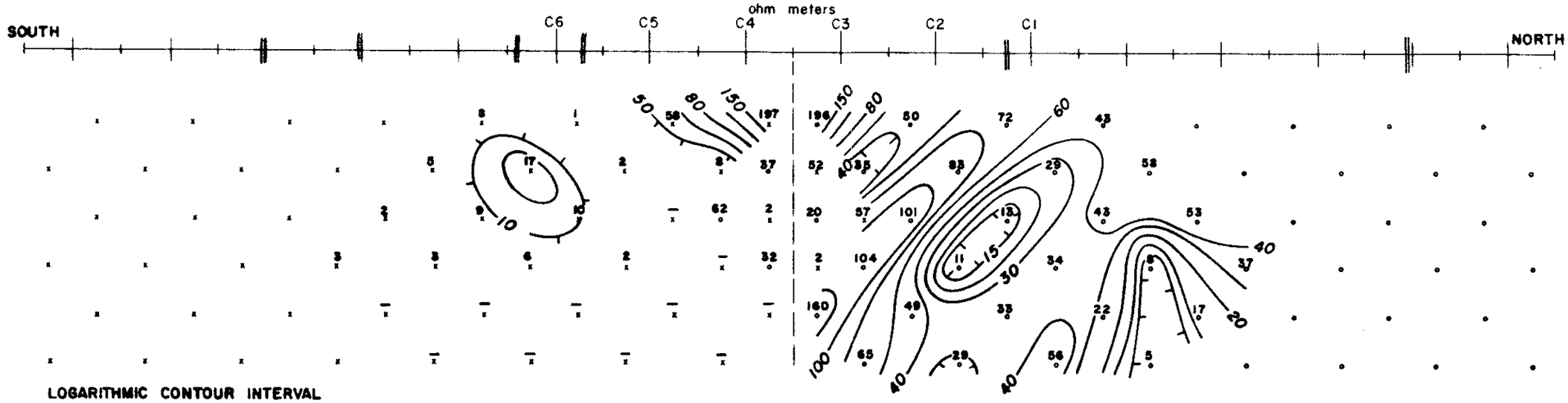
VANCOUVER ISLAND, BRITISH COLUMBIA (CANADA)

for

MARIETTA RESOURCES CO. LTD.

APPARENT RESISTIVITY

ohm meters

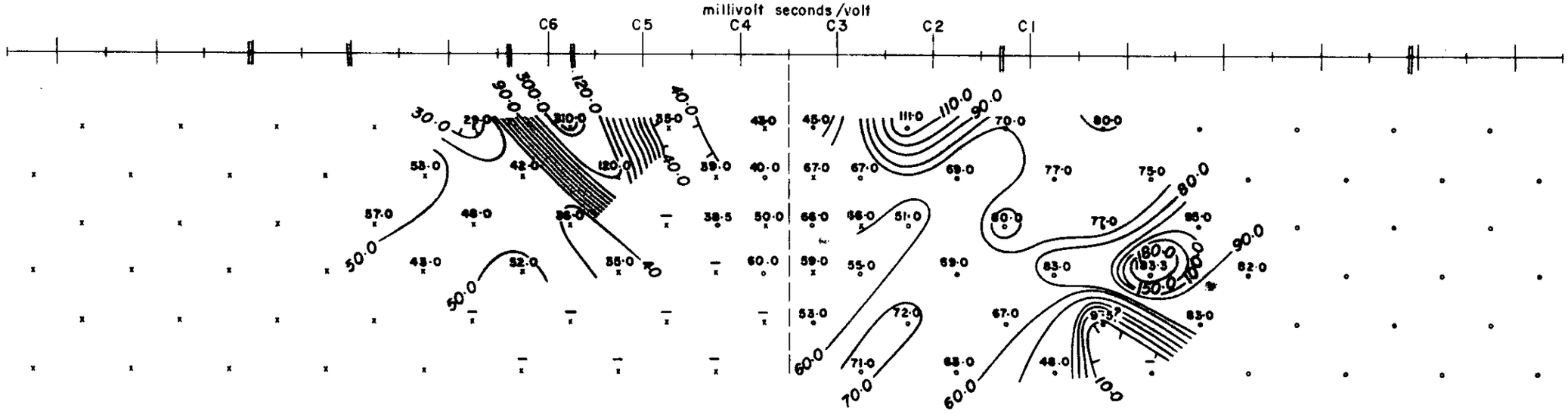


LOGARITHMIC CONTOUR INTERVAL

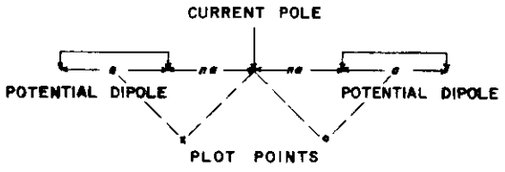
10-15-20-30-40-60-80-100, etc.

APPARENT POLARIZATION

millivolt seconds/volt



POLE DIPOLE ARRAY



LINE: . . . . . "J"

LOOKING: . . . . WEST

DIPOLE LENGTH: . . . . 500'

DATE: SEPT. 25, 1968

LEGEND

FENCE X

PIPELINE . . . . . o

POWERLINE . . . . . T

ROAD . . . . . =

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OTTAWA, ONT., CANADA

TUCSON, ARIZONA, U.S.A.

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C.A.M.S. 8529

TIME DOMAIN INDUCED POLARIZATION AND RESISTIVITY SURVEY

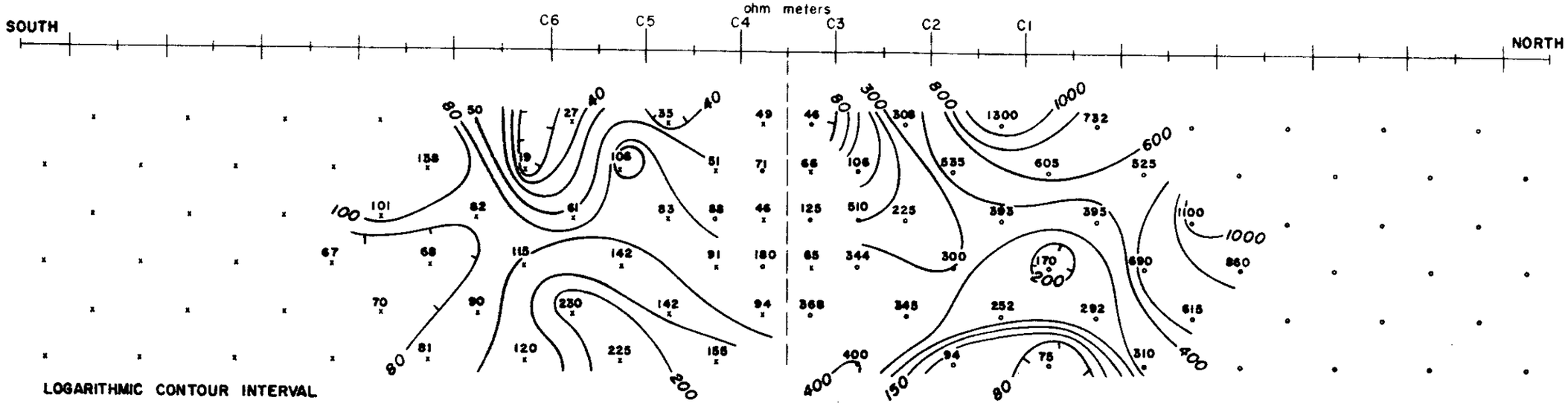
MT. WASHINGTON AREA - NANAIMO MINING DISTRICT
VANCOUVER ISLAND, BRITISH COLUMBIA (CANADA)

for

MARIETTA RESOURCES CO. LTD.

APPARENT RESISTIVITY

ohm meters

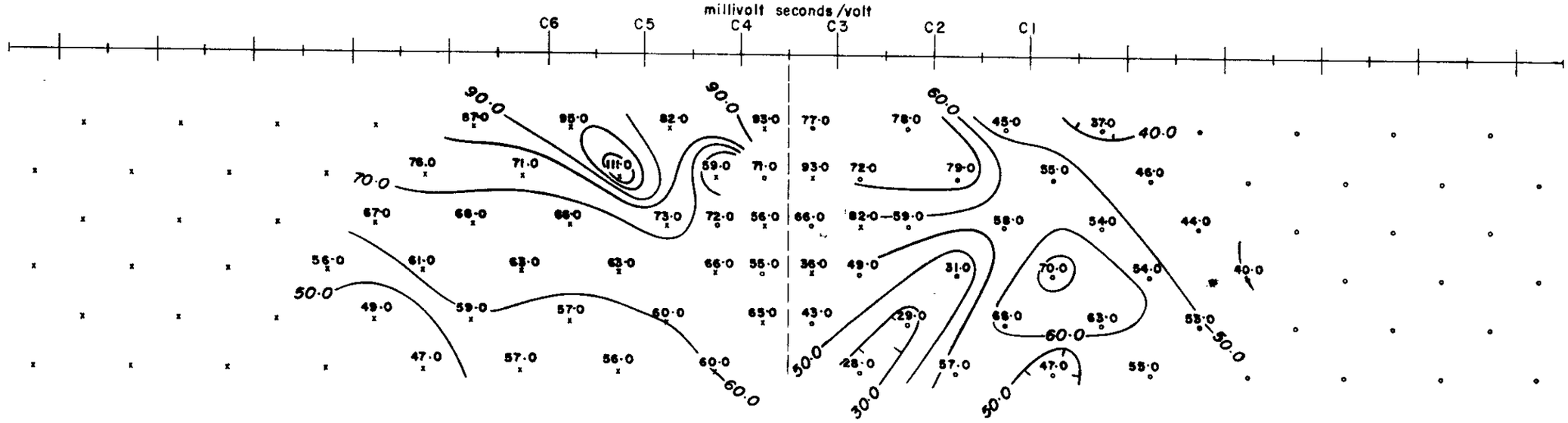


LOGARITHMIC CONTOUR INTERVAL

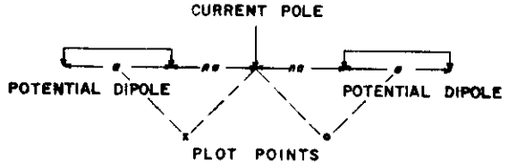
10-15-20-30-40-60-80-100,etc.

APPARENT POLARIZATION

millivolt seconds/volt



POLE DIPOLE ARRAY



LINE: . . . . "A"-1 N.

LOOKING . . . WEST

DIPOLE LENGTH: . . . 500'

DATE: AUG. 25, 1968

LEGEND

FENCE . . . . . .

PIPELINE. . . . .

POWERLINE . . . .

CANADIAN AERO *Mineral Surveys* LTD.

OTTAWA, ONT., CANADA

TUCSON, ARIZONA, U.S.A.

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C.A.M.S. 9526

TIME DOMAIN INDUCED POLARIZATION AND RESISTIVITY SURVEY

MT. WASHINGTON AREA - NANAIMO MINING DISTRICT

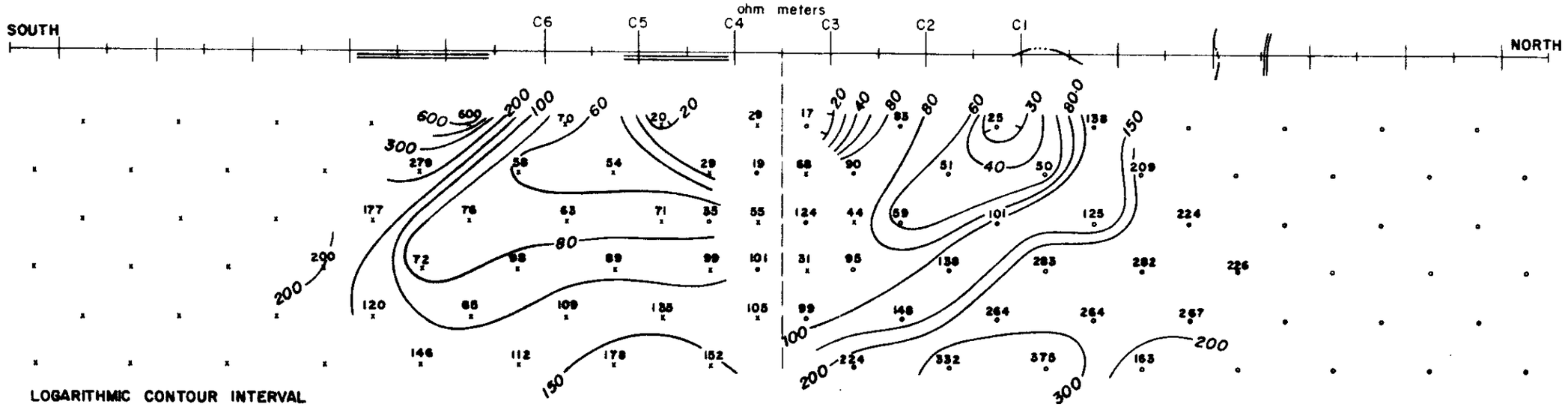
VANCOUVER ISLAND, BRITISH COLUMBIA (CANADA)

for

MARIETTA RESOURCES CO. LTD.

APPARENT RESISTIVITY

ohm meters

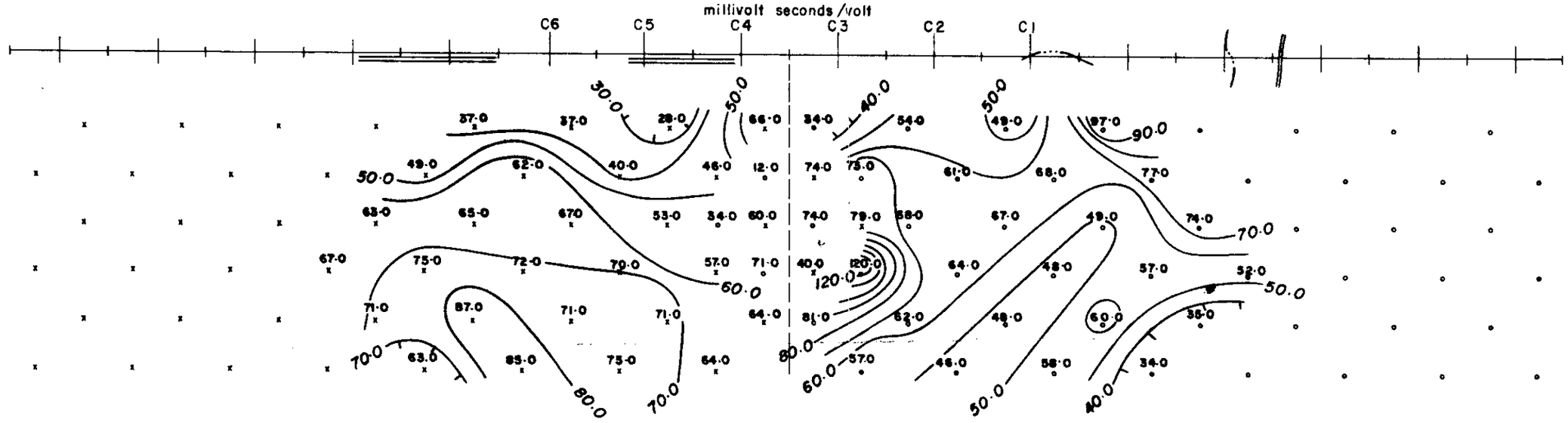


LOGARITHMIC CONTOUR INTERVAL

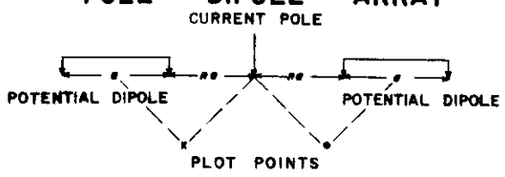
10-15-20-30-40-60-80-100, etc.

APPARENT POLARIZATION

millivolt seconds/volt



POLE DIPOLE ARRAY



LINE: . . . "A"-1 S.

LOOKING: . . . WEST

DIPOLE LENGTH: . . . . 500'

DATE: SEPT. 5, 1968

LEGEND

FENCE x

PIPELINE . . . . . o

POWERLINE . . . . . T

ROAD & CREEK . . .

CANADIAN AERO

Mineral Surveys LTD.

OTTAWA, ONT., CANADA

TUCSON, ARIZONA, U.S.A.

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C.A.M.S. 8528

TIME DOMAIN INDUCED POLARIZATION AND RESISTIVITY SURVEY

MT. WASHINGTON AREA - NANAIMO MINING DISTRICT

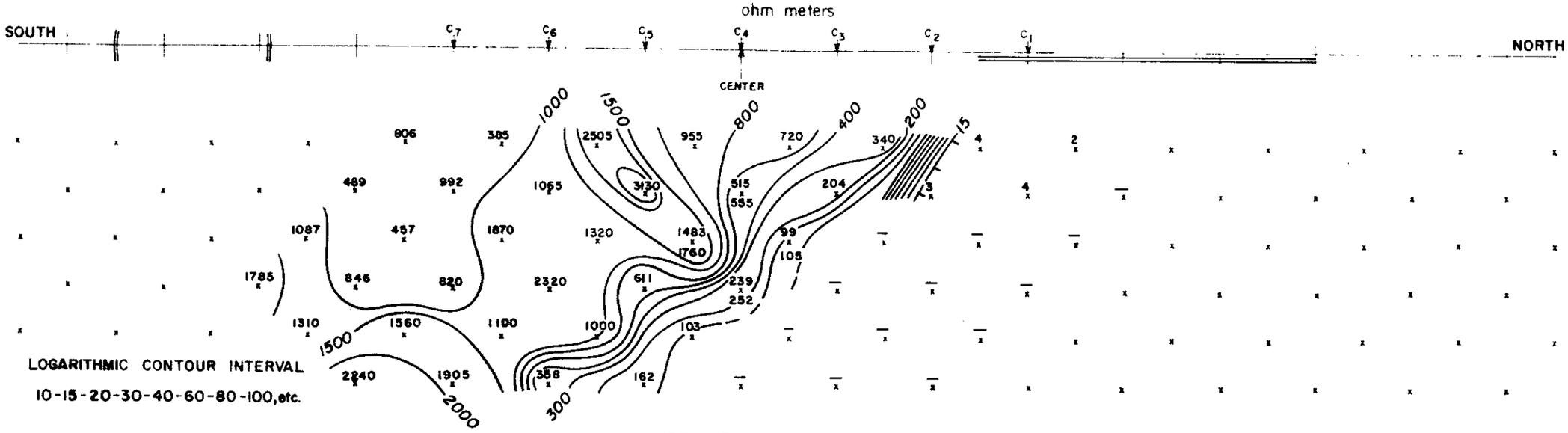
VANCOUVER ISLAND, BRITISH COLUMBIA (CANADA)

for

MARIETTA RESOURCES CO. LTD.

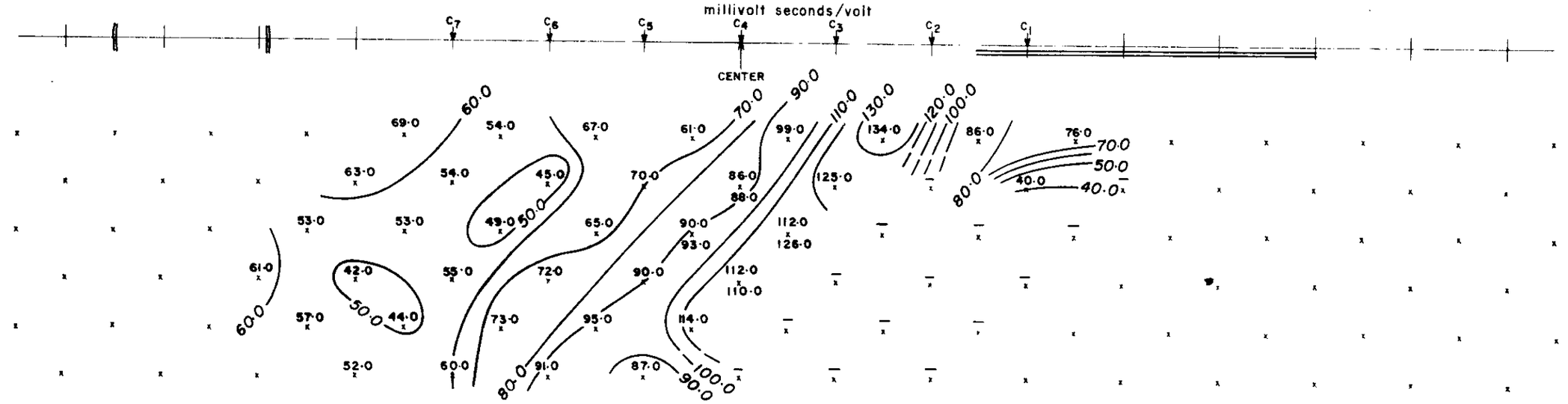
APPARENT RESISTIVITY

ohm meters

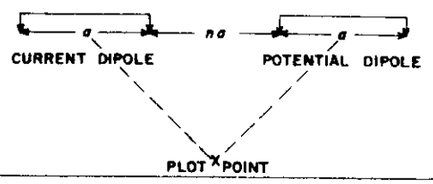


APPARENT POLARIZATION

millivolt seconds/volt



DIPOLE DIPOLE ARRAY



LINE: . . . . "A"-7, N

LOOKING: . . . WEST

DIPOLE LENGTH: . . . . 500'

DATE: AUG. 21st. 1968

LEGEND

FENCE x

PIPELINE . . . . . o

POWERLINE . . . . . T

ROAD . . . . . =

CANADIAN AERO *Mineral Surveys* LTD

OTTAWA, ONT. CANADA

TUCSON, ARIZONA. U.S.A.

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C.A.M.S. 8528

TIME DOMAIN INDUCED POLARIZATION AND RESISTIVITY SURVEY

MT. WASHINGTON AREA - NANAIMO MINING DISTRICT

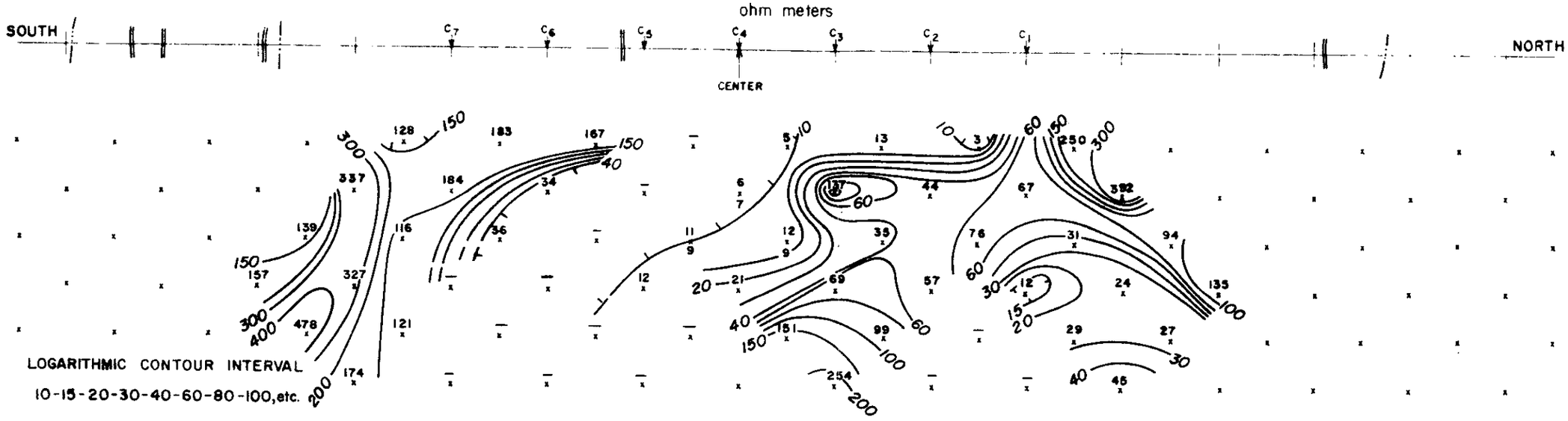
VANCOUVER ISLAND, BRITISH COLUMBIA (CANADA)

for

MARIETTA RESOURCES CO. LTD.

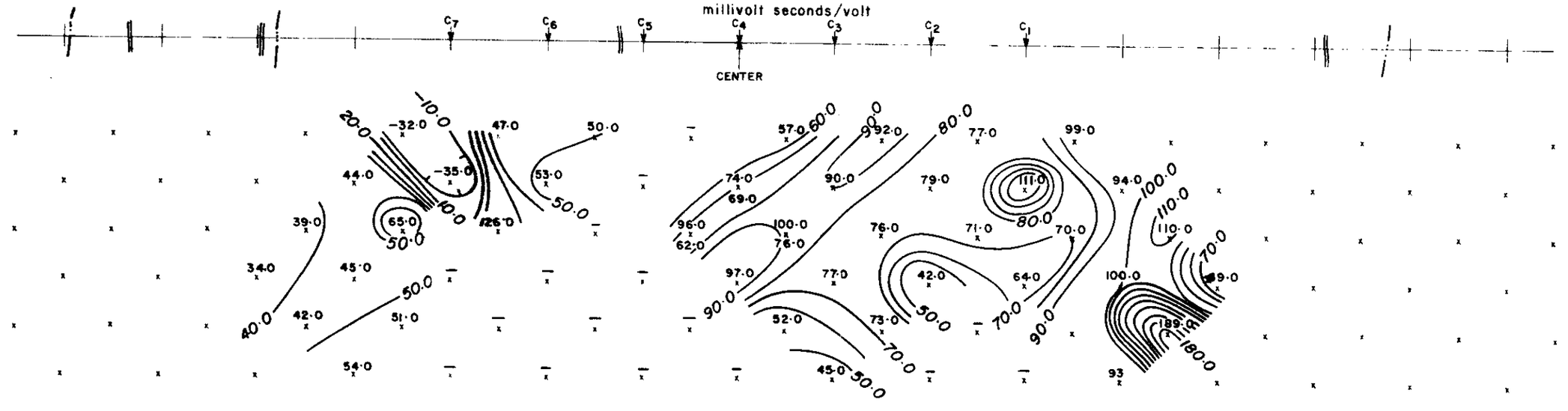
APPARENT RESISTIVITY

ohm meters

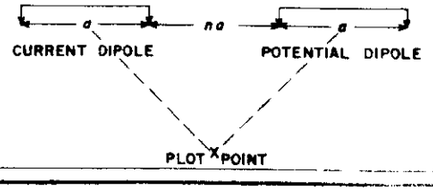


APPARENT POLARIZATION

millivolt seconds/volt



DIPOLE DIPOLE ARRAY



LINE: . . . "A" -7, S

LOOKING: . . . WEST

DIPOLE LENGTH: . . . 500'

DATE: AUG. 19, 1968

LEGEND

FENCE x

PIPELINE . . . . . o

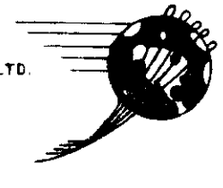
POWERLINE . . . . T

ROAD & CREEK . . ═══ - - - -

CANADIAN AERO *Mineral Surveys* LTD.

OTTAWA, ONT. CANADA

TUCSON, ARIZONA, U.S.A.



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C.A.M.S. 6528

TIME DOMAIN INDUCED POLARIZATION AND RESISTIVITY SURVEY

MT. WASHINGTON AREA – NANAIMO MINING DISTRICT

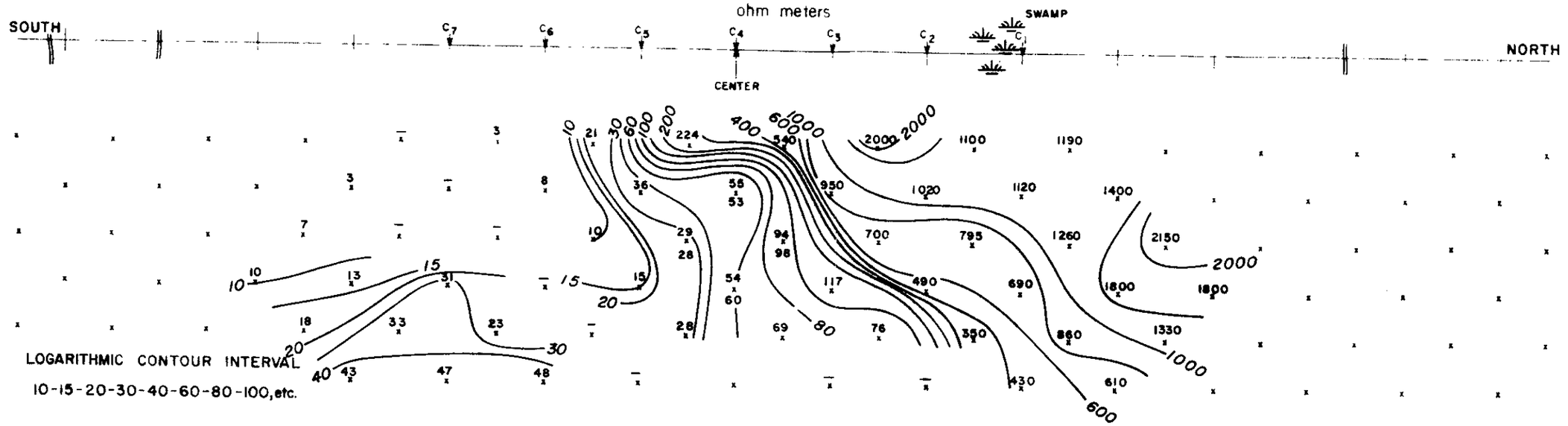
VANCOUVER ISLAND, BRITISH COLUMBIA (CANADA)

for

MARIETTA RESOURCES CO. LTD.

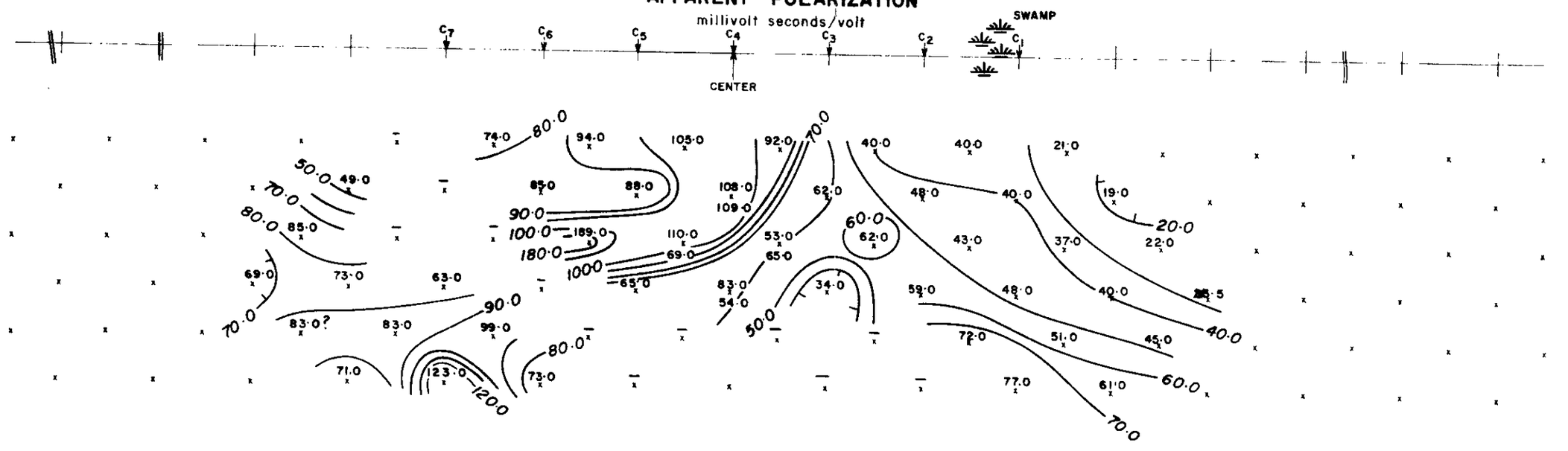
APPARENT RESISTIVITY

ohm meters

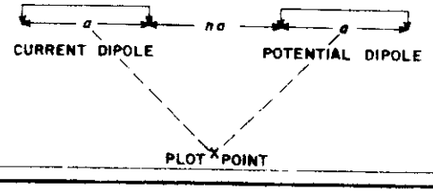


APPARENT POLARIZATION

millivolt seconds/volt



DIPOLE DIPOLE ARRAY



LINE: . . . "A"-11, N

LOOKING: . . . WEST

DIPOLE LENGTH. . . . . 500'

AUG., 28, 1968

LEGEND

FENCE X

PIPELINE. . . . . o

POWERLINE. . . . T

ROAD . . . . . =

CANADIAN AERO *Mineral Surveys* LTD.

OTTAWA, ONT. CANADA

TUCSON, ARIZONA U.S.A.

C.A.M.S. 8528

TIME DOMAIN INDUCED POLARIZATION AND RESISTIVITY SURVEY

MT. WASHINGTON AREA - NANAIMO MINING DISTRICT

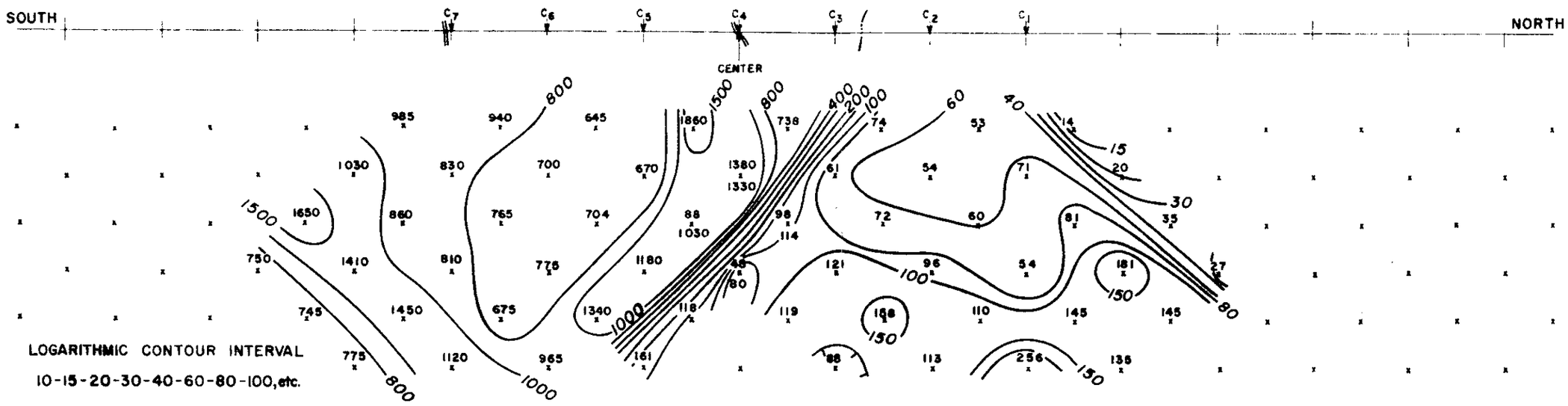
VANCOUVER ISLAND, BRITISH COLUMBIA (CANADA)

for

MARIETTA RESOURCES CO. LTD.

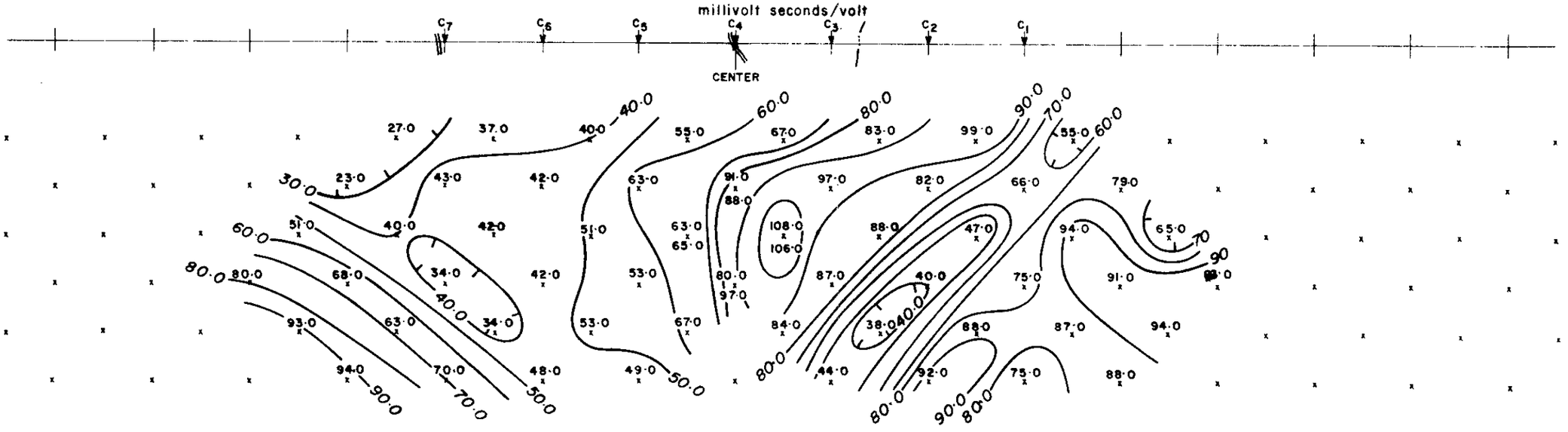
APPARENT RESISTIVITY

ohm meters

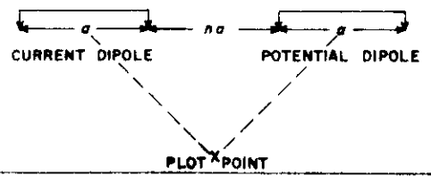


APPARENT POLARIZATION

millivolt seconds/volt



DIPOLE DIPOLE ARRAY



LINE: 2-N

LOOKING: . . . . WEST

DIPOLE LENGTH: . . . . 500'

DATE: JULY, 20, 1968

LEGEND

FENCE. . . . . .

PIPELINE. . . . . .

POWERLINE. . . . . .

ROAD & CREEK. . . . . .

CANADIAN AERO *Mineral Surveys* LTD.

OTTAWA, ONT. CANADA

TUCSON, ARIZONA, U.S.A.

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C.A.M.S. 6528

TIME DOMAIN INDUCED POLARIZATION AND RESISTIVITY SURVEY

MT. WASHINGTON AREA - NANAIMO MINING DISTRICT

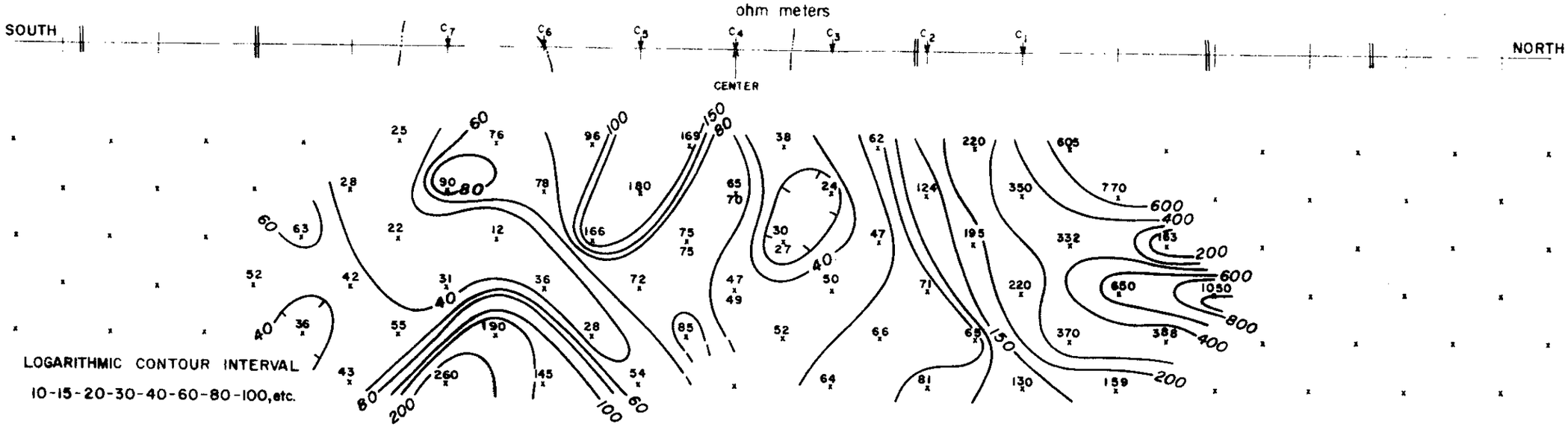
VANCOUVER ISLAND, BRITISH COLUMBIA (CANADA)

for

MARIETTA RESOURCES CO. LTD.

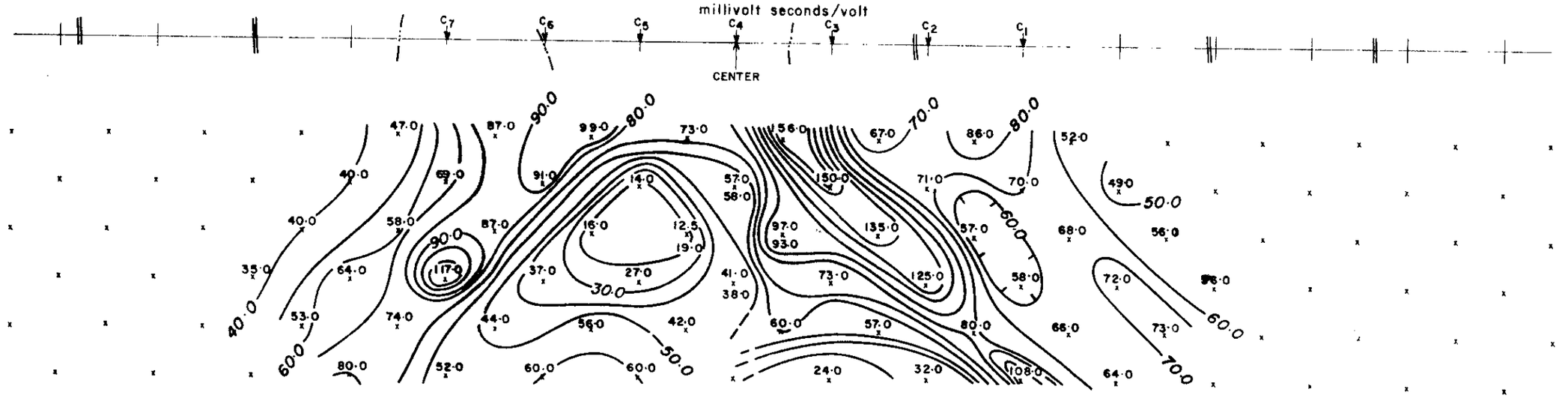
APPARENT RESISTIVITY

ohm meters

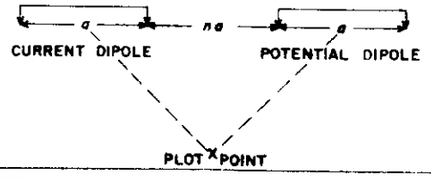


APPARENT POLARIZATION

millivolt seconds/volt



DIPOLE DIPOLE ARRAY



LINE: 2-S

LOOKING: . . . WEST

DIPOLE LENGTH: . . . . 500'

DATE: JULY, 31, 1968

LEGEND

FENCE x

PIPELINE . . . . . o

POWERLINE . . . . . T

ROAD & CREEK . . . . . =

CANADIAN AERO *Mineral Surveys* LTD.

OTTAWA, ONT. CANADA

TUCSON, ARIZONA. U.S.A.

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C.A.M.S. 8528

TIME DOMAIN INDUCED POLARIZATION AND RESISTIVITY SURVEY

MT. WASHINGTON AREA - NANAIMO MINING DISTRICT

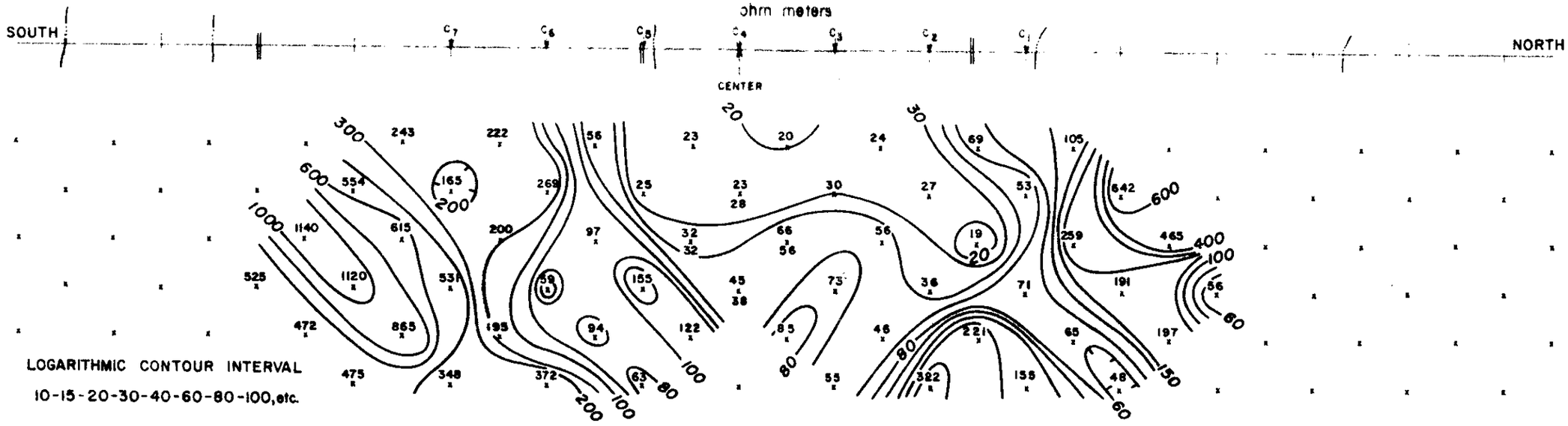
VANCOUVER ISLAND, BRITISH COLUMBIA (CANADA)

for

MARIETTA RESOURCES CO. LTD.

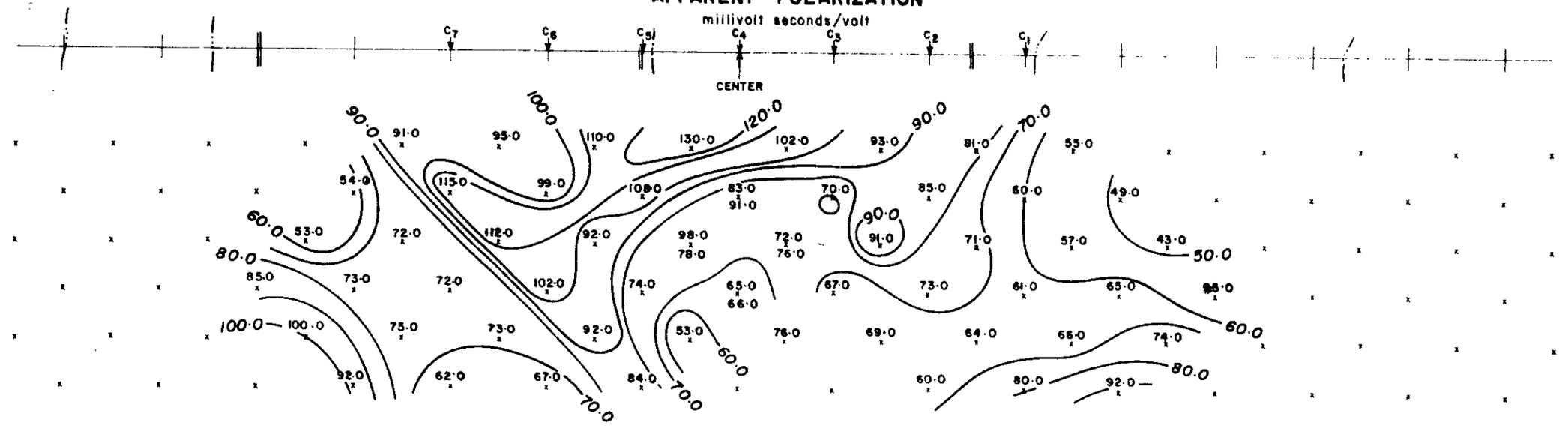
APPARENT RESISTIVITY

ohm meters

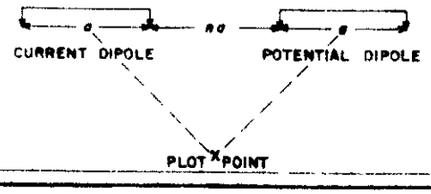


APPARENT POLARIZATION

millivolt seconds/volt



DIPOLE DIPOLE ARRAY



LINE . . . . . 5-N.

LOOKING. . . . WEST

DIPOLE LENGTH. . . . . 500'

DATE: JULY, 21, 1968

LEGEND

FENCE . . . . .

PIPELINE. . . . .

POWERLINE. . . .

ROAD & CREEK. . .

CANADIAN AERO
Mineral Surveys LTD.
OTTAWA, ONT. CANADA
TUCSON, ARIZONA, U.S.A

(23)

C.A.M.S. 8526

TIME DOMAIN INDUCED POLARIZATION AND RESISTIVITY SURVEY

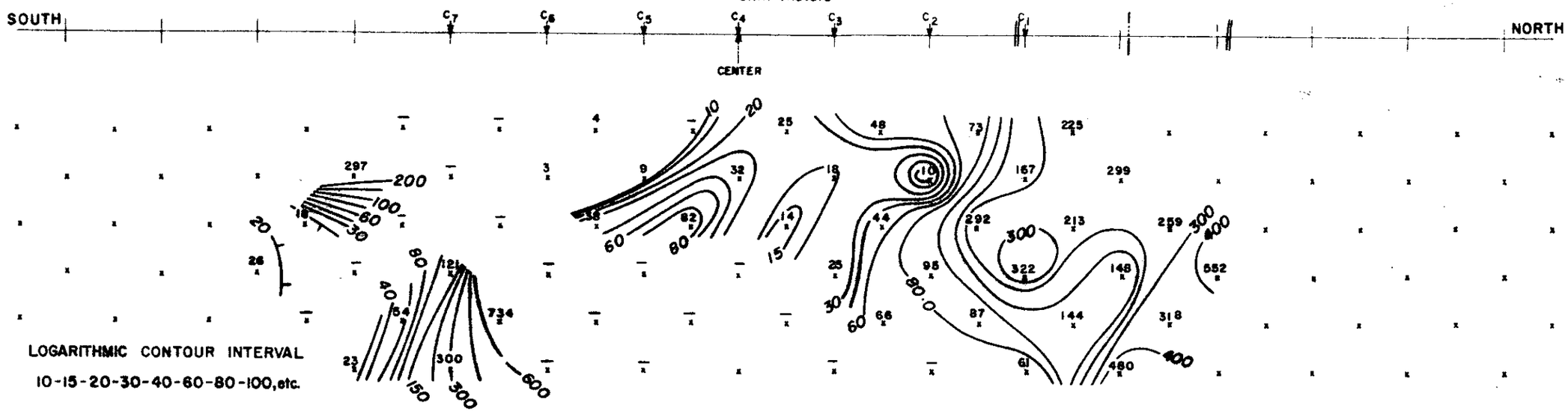
MT. WASHINGTON AREA - NANAIMO MINING DISTRICT
VANCOUVER ISLAND, BRITISH COLUMBIA (CANADA)

for

MARIETTA RESOURCES CO. LTD.

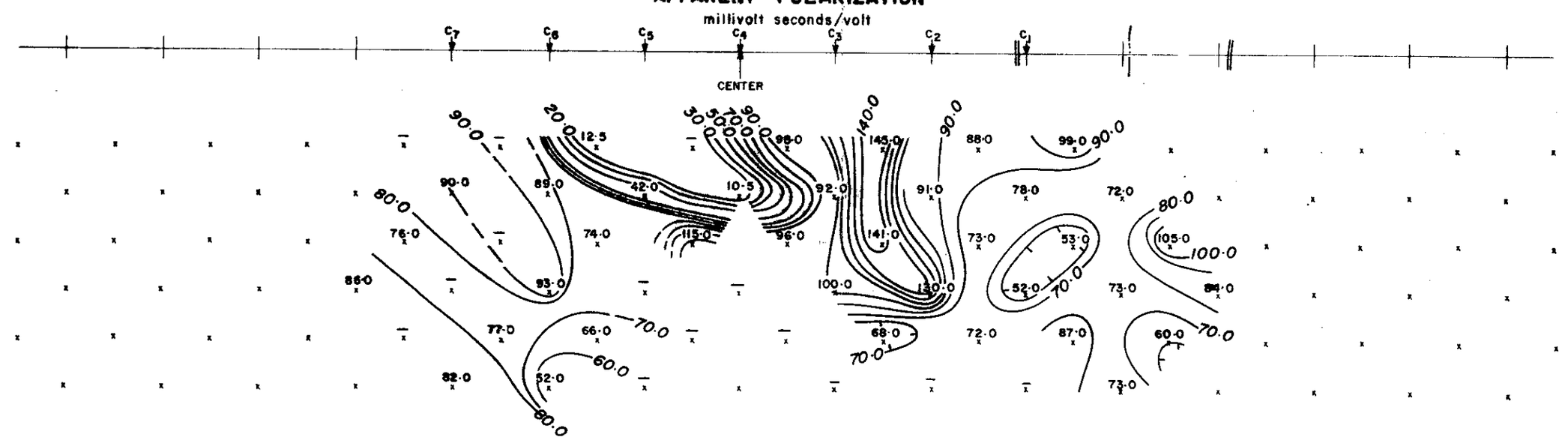
APPARENT RESISTIVITY

ohm meters

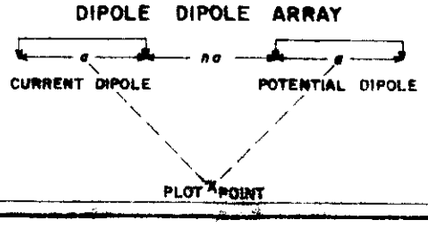


APPARENT POLARIZATION

millivolt seconds/volt



DIPOLE DIPOLE ARRAY



LINE: 5-S

LOOKING: . . . WEST

DIPOLE LENGTH: . . . .500'

DATE: JULY, 29, 1968

LEGEND

FENCE x

PIPELINE . . . . . o

POWERLINE . . . . . T

ROAD & CREEK . . .

CANADIAN AERO
Mineral Surveys LTD.
OTTAWA, ONT. CANADA
TUCSON, ARIZONA. U.S.A.

(24)

C.A.M.S. 6526

TIME DOMAIN INDUCED POLARIZATION AND RESISTIVITY SURVEY

MT. WASHINGTON AREA - NANAIMO MINING DISTRICT

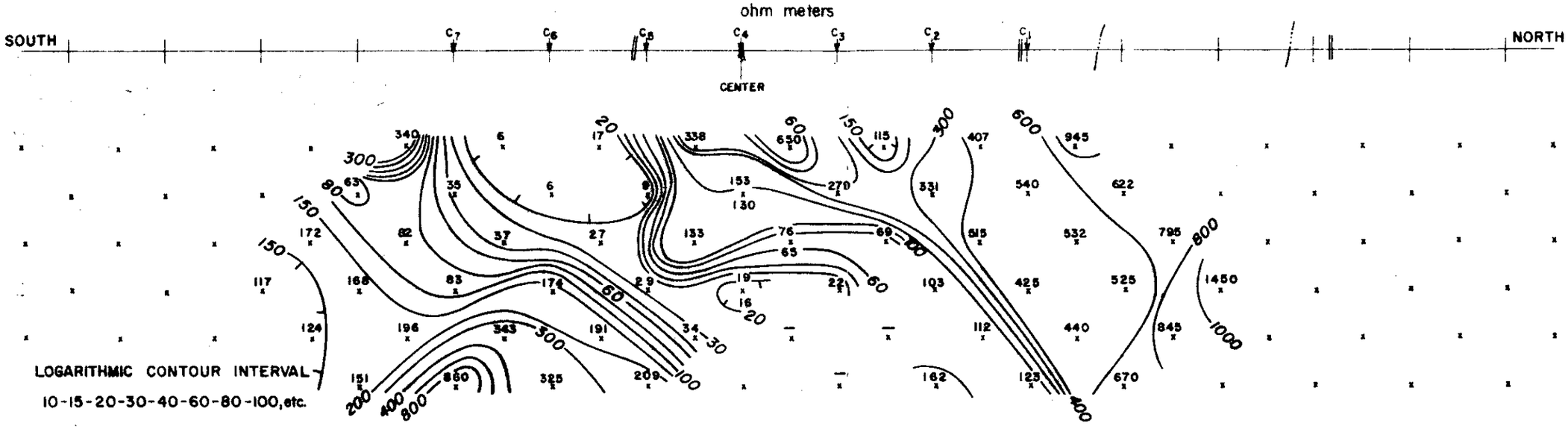
VANCOUVER ISLAND, BRITISH COLUMBIA (CANADA)

for

MARIETTA RESOURCES CO. LTD.

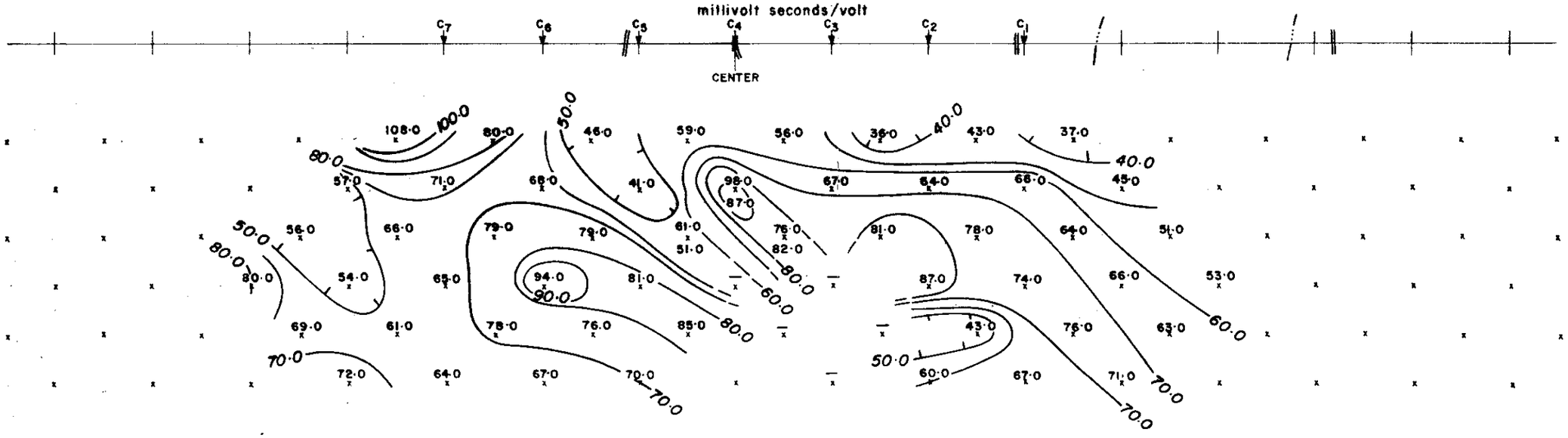
APPARENT RESISTIVITY

ohm meters

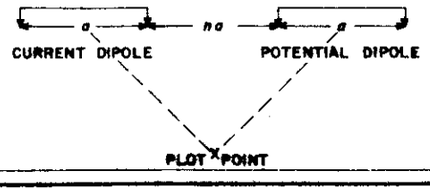


APPARENT POLARIZATION

millivolt seconds/volt



DIPOLE DIPOLE ARRAY



LINE: 8-N

LOOKING: . . . WEST

DIPOLE LENGTH: . . . . 500'

DATE: JULY, 22, 1968

LEGEND

FENCE x

PIPELINE . . . . . o

POWERLINE . . . . . T

ROAD & CREEK . . . . . ==

CANADIAN AERO *Mineral Surveys* LTD.

OTTAWA, ONT. CANADA

TUCSON, ARIZONA. U.S.A.

(25)

C.A.M.S. 8528

TIME DOMAIN INDUCED POLARIZATION AND RESISTIVITY SURVEY

MT. WASHINGTON AREA - NANAIMO MINING DISTRICT

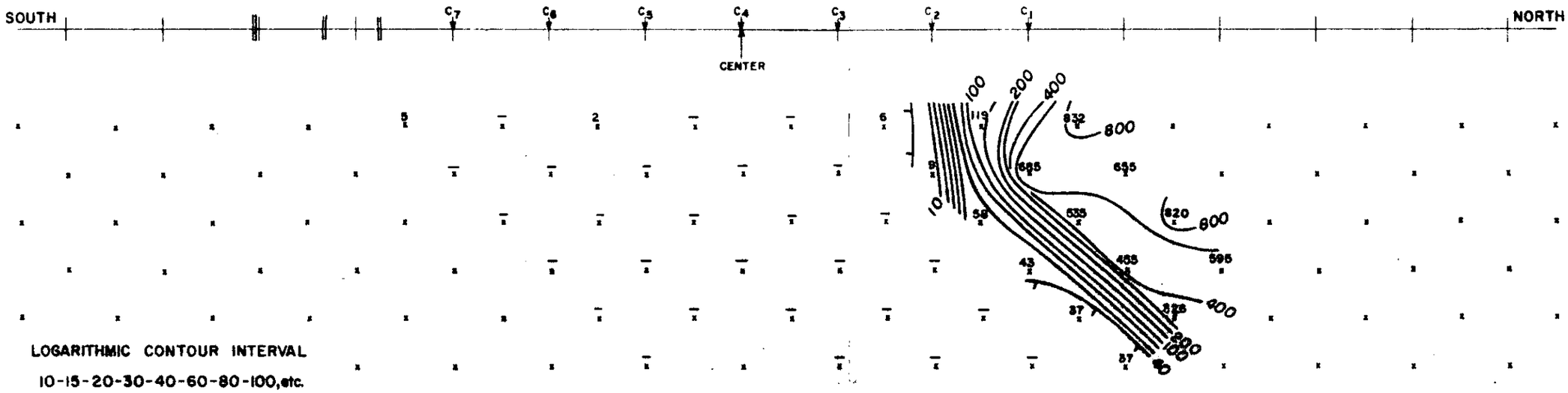
VANCOUVER ISLAND, BRITISH COLUMBIA (CANADA)

for

MARIETTA RESOURCES CO. LTD.

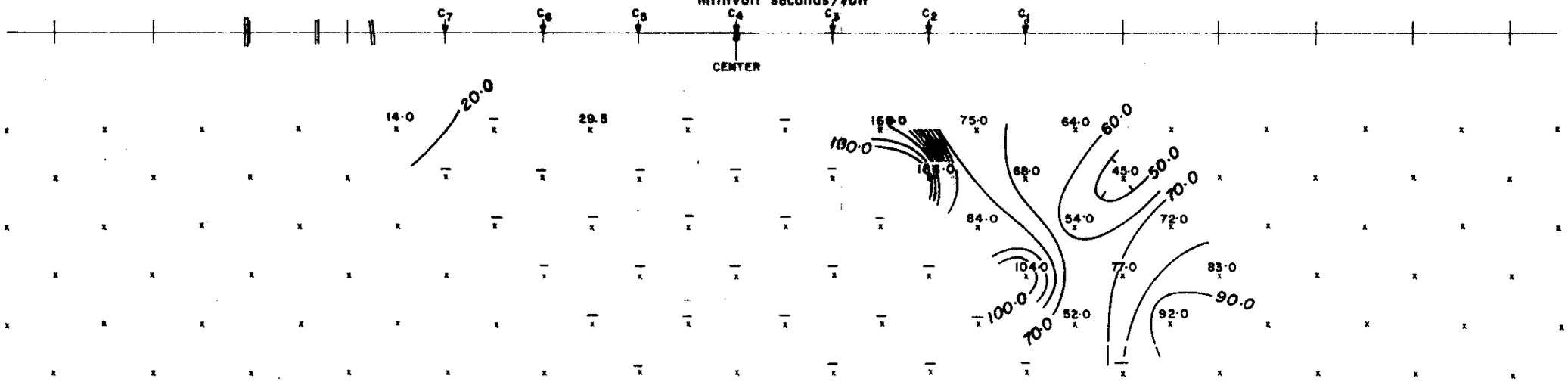
APPARENT RESISTIVITY

ohm meters

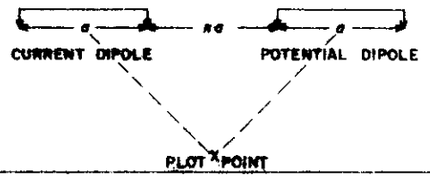


APPARENT POLARIZATION

millivolt seconds/volt



DIPOLE DIPOLE ARRAY



LINE: 8-S

LOOKING: . . . WEST

DIPOLE LENGTH: . . . 500'

DATE: JULY, 28, 1968

LEGEND

FENCE . . . . . .

PIPELINE. . . . .

POWERLINE. . . .

ROAD. . . . . .

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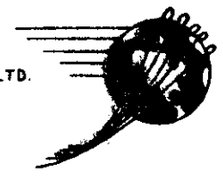
TUCSON, ARIZONA. U.S.A.



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C.A.M.S. 8528

TIME DOMAIN INDUCED POLARIZATION AND RESISTIVITY SURVEY

MT. WASHINGTON AREA - NANAIMO MINING DISTRICT

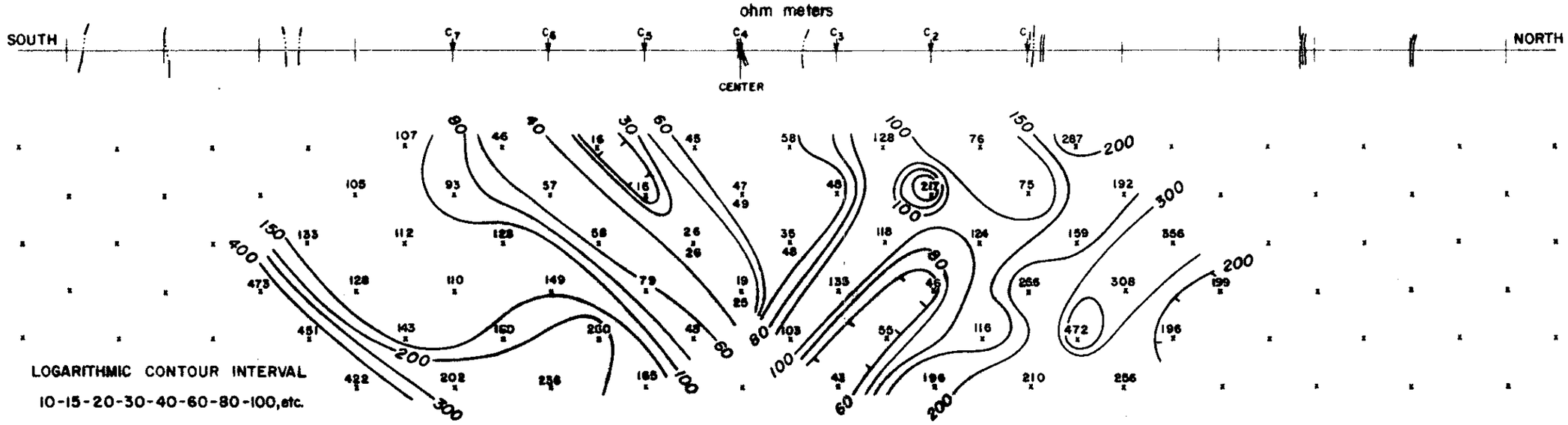
VANCOUVER ISLAND, BRITISH COLUMBIA (CANADA)

for

MARIETTA RESOURCES CO. LTD.

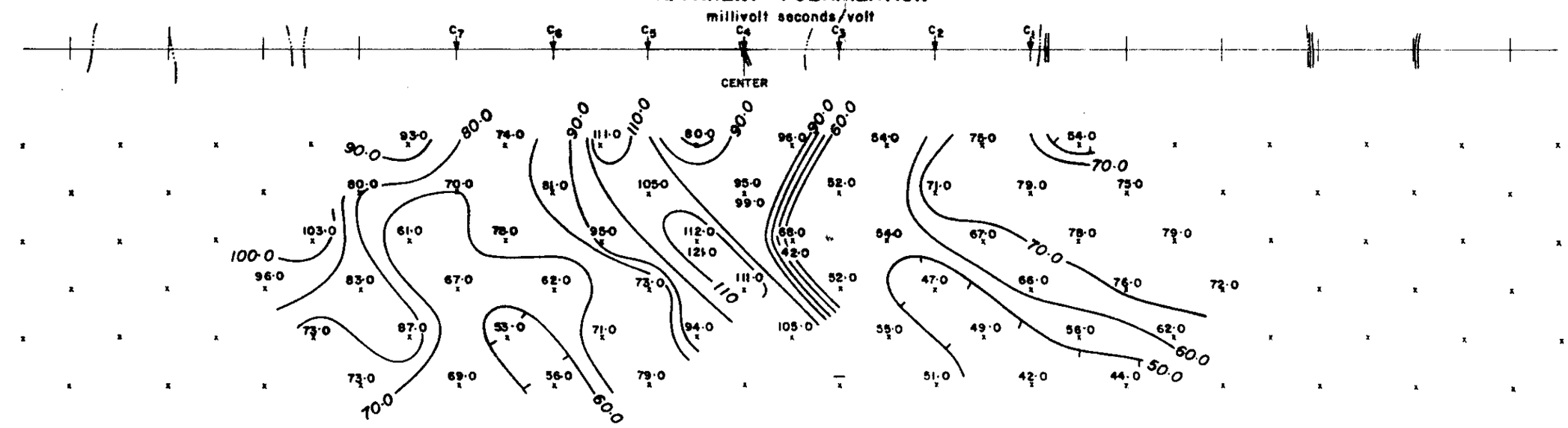
APPARENT RESISTIVITY

ohm meters

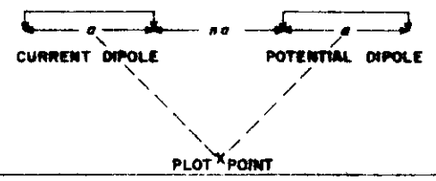


APPARENT POLARIZATION

millivolt seconds/volt



DIPOLE DIPOLE ARRAY



LINE: . . . . . 10 - N

LOOKING: . . . . WEST

DIPOLE LENGTH: . . . . 500'

DATE: JULY, 25, 1968

LEGEND

FENCE. . . . .

PIPELINE. . . . .

POWERLINE. . . . .

ROAD & CREEK. . .

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TUCSON, ARIZONA. U.S.A.

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C.A.M.S. 8529

TIME DOMAIN INDUCED POLARIZATION AND RESISTIVITY SURVEY

MT. WASHINGTON AREA - NANAIMO MINING DISTRICT

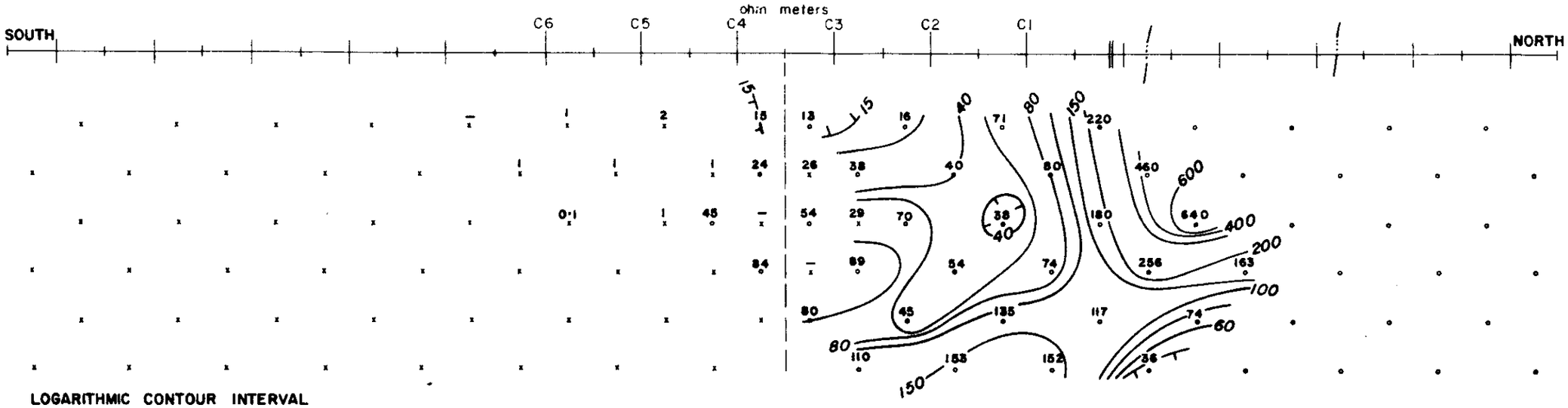
VANCOUVER ISLAND, BRITISH COLUMBIA (CANADA)

for

MARIETTA RESOURCES CO. LTD.

APPARENT RESISTIVITY

ohm meters

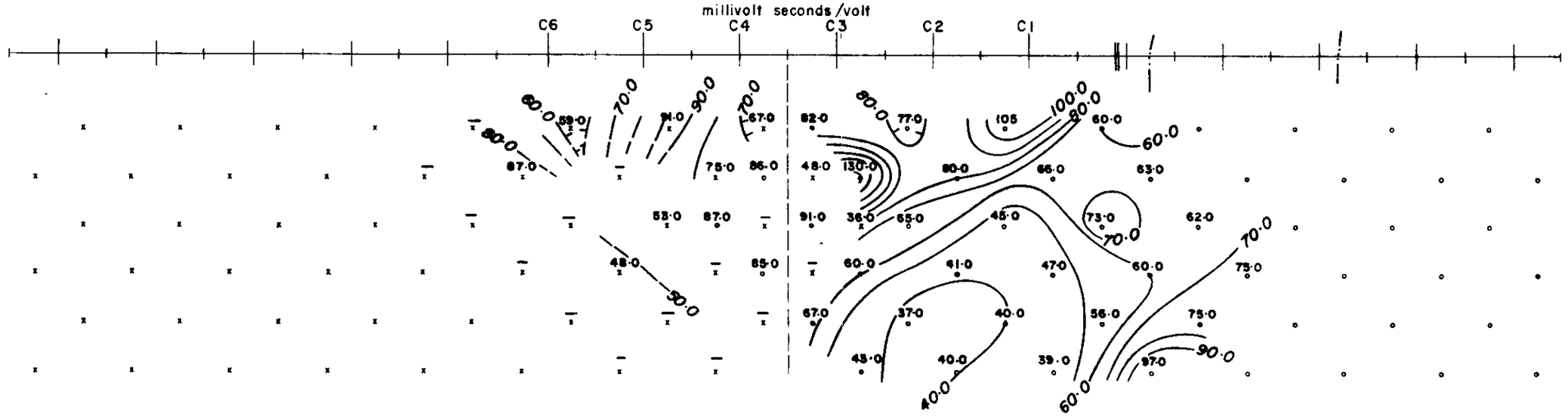


LOGARITHMIC CONTOUR INTERVAL

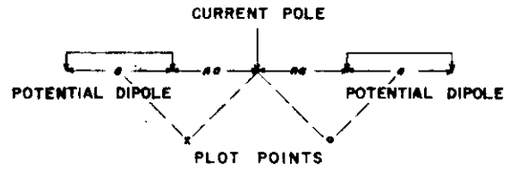
10-15-20-30-40-60-80-100, etc.

APPARENT POLARIZATION

millivolt seconds / volt



POLE DIPOLE ARRAY



LINE: 10-S

LOOKING: . . . WEST

DIPOLE LENGTH: . . . 500'

DATE: SEPT. 2, 1958

LEGEND

FENCE X

PIPELINE . . . . . ◇

POWERLINE . . . . . T

ROAD & CREEK . . .

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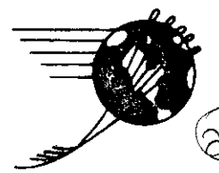
TUCSON, ARIZONA, U.S.A.



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C.A.M.S. 8528

TIME DOMAIN INDUCED POLARIZATION AND RESISTIVITY SURVEY

MT. WASHINGTON AREA - NANAIMO MINING DISTRICT

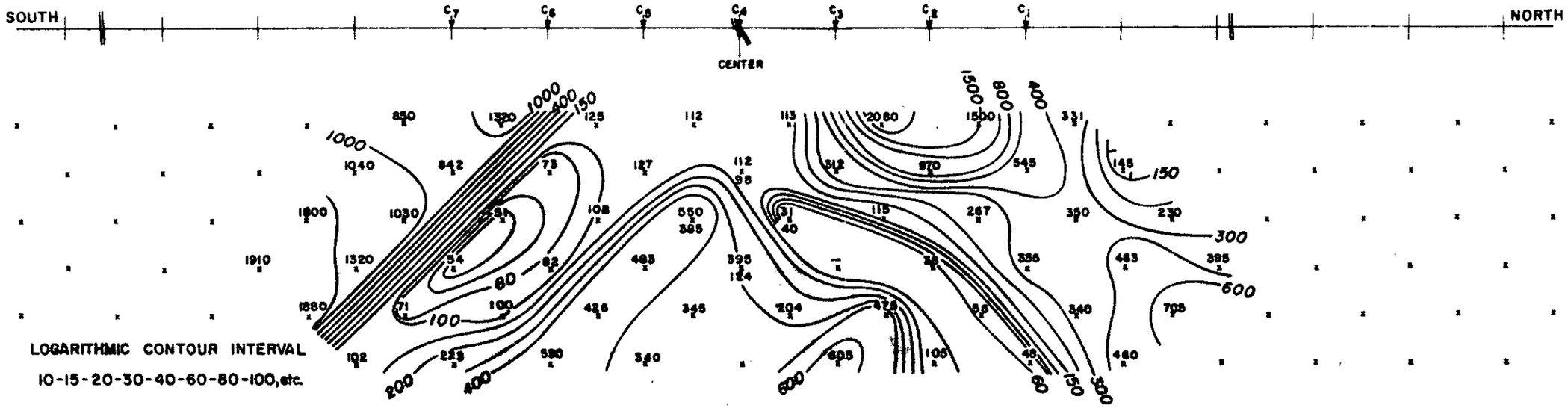
VANCOUVER ISLAND, BRITISH COLUMBIA (CANADA)

for

MARIETTA RESOURCES CO. LTD.

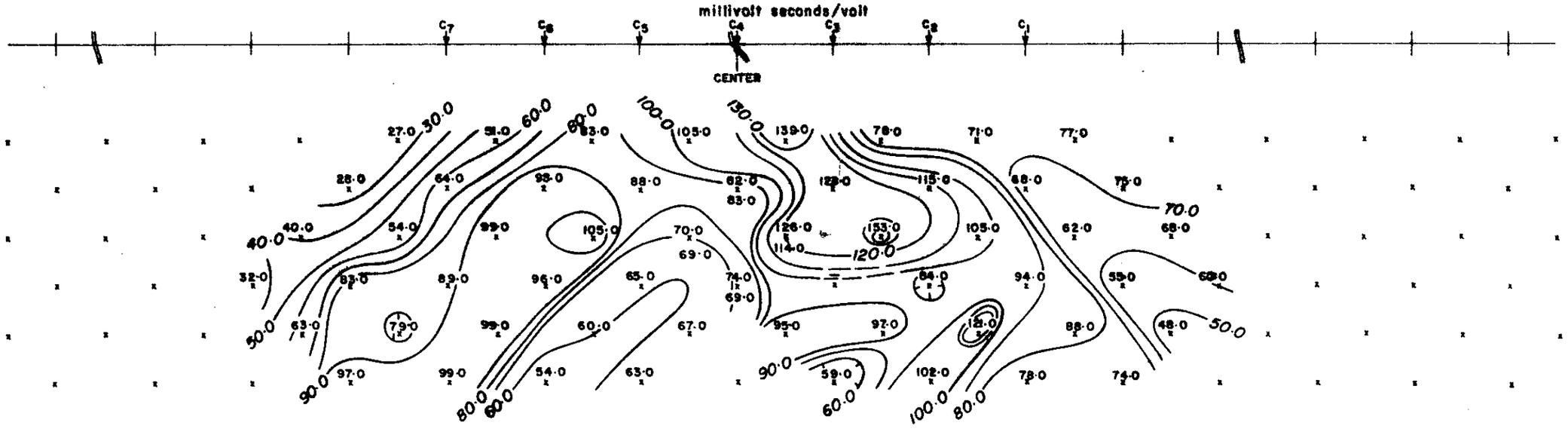
APPARENT RESISTIVITY

ohm meters

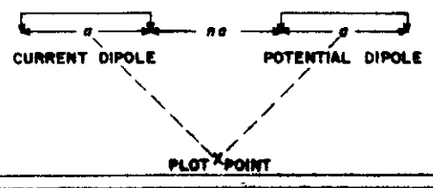


APPARENT POLARIZATION

millivolt seconds/volt



DIPOLE DIPOLE ARRAY



LINE: 14-N

LOOKING: . . . . WEST

DIPOLE LENGTH: . . . . 500'

DATE: AUG. 1st., 1968

LEGEND

FENCE . . . . . |x|

PIPELINE . . . . . |

POWERLINE . . . . . T

ROAD . . . . . =

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C.A.M.S. 8528

TIME DOMAIN INDUCED POLARIZATION AND RESISTIVITY SURVEY

MT. WASHINGTON AREA - NANAIMO MINING DISTRICT

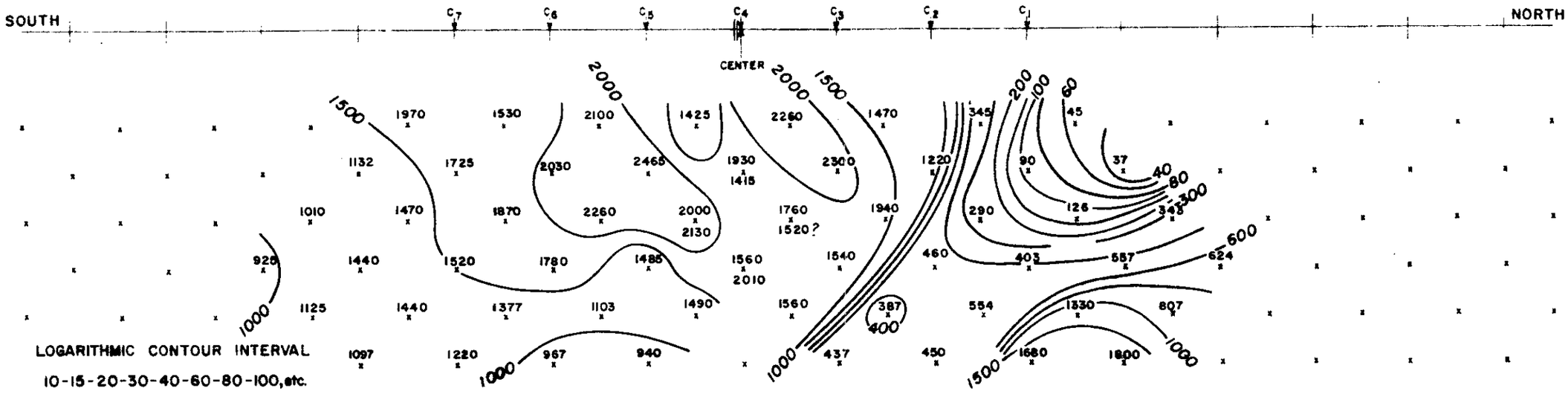
VANCOUVER ISLAND, BRITISH COLUMBIA (CANADA)

for

MARIETTA RESOURCES CO. LTD.

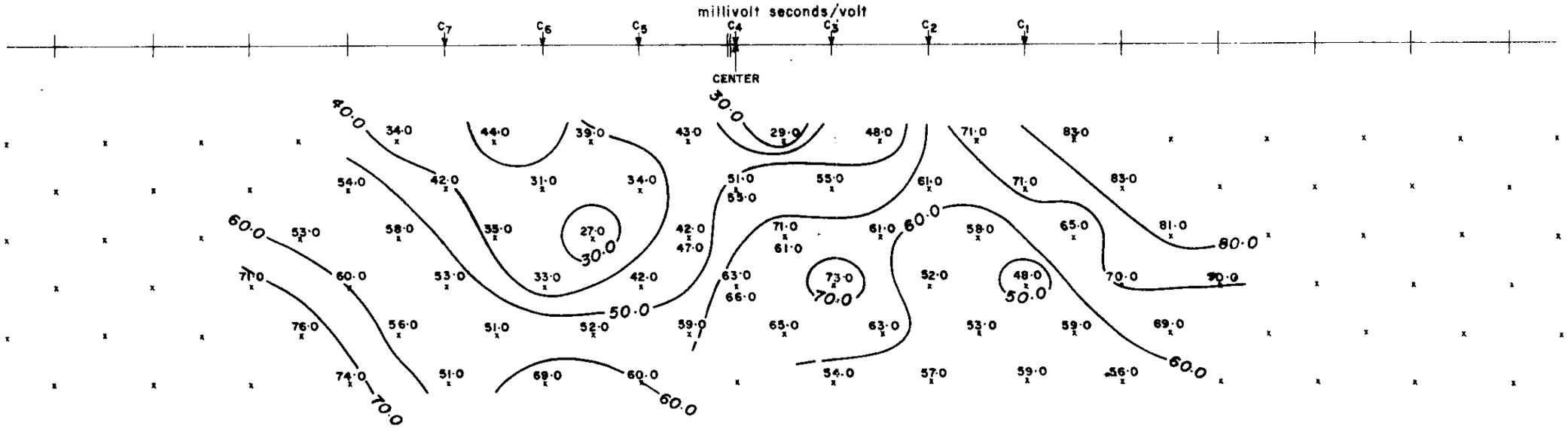
APPARENT RESISTIVITY

ohm meters

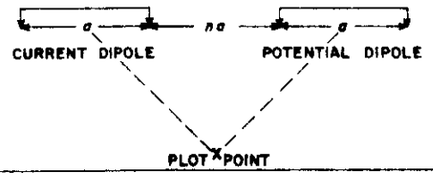


APPARENT POLARIZATION

millivolt seconds/volt



DIPOLE DIPOLE ARRAY



LINE: . . . . . 18 - N

LOOKING: . . . . WEST

DIPOLE LENGTH: . . . . 500'

DATE: AUG. 2, 1968

LEGEND

FENCE x

PIPELINE. . . . . o

POWERLINE. . . . . T

ROAD. . . . . =

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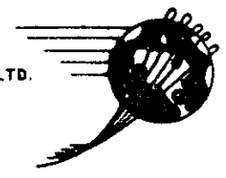
TUCSON, ARIZONA. U.S.A.



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C.A.M.S. 6528

TIME DOMAIN INDUCED POLARIZATION AND RESISTIVITY SURVEY

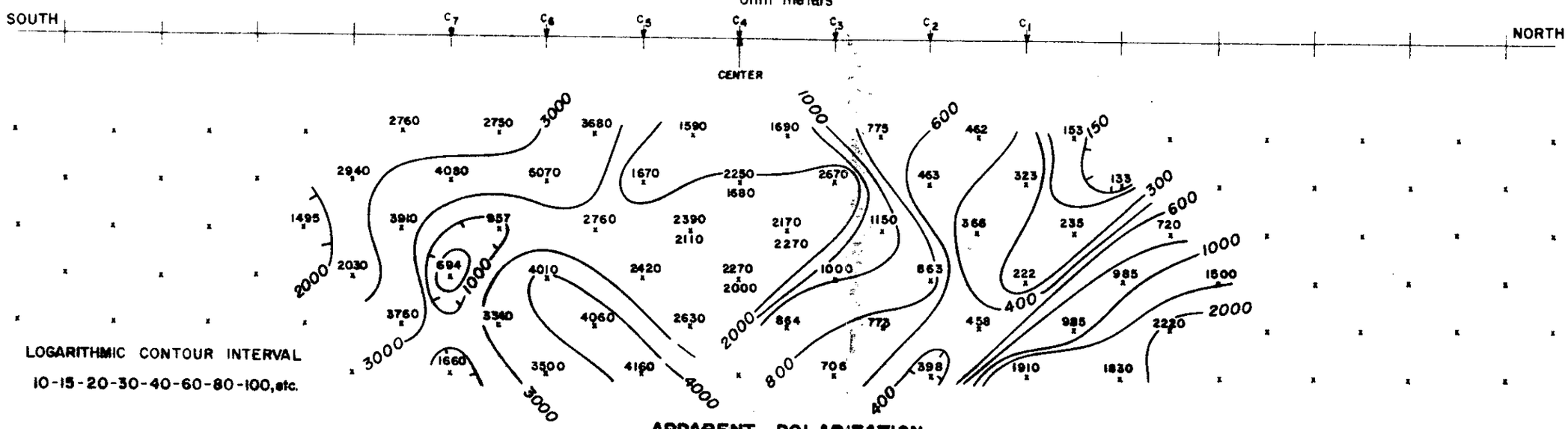
MT. WASHINGTON AREA - NANAIMO MINING DISTRICT
VANCOUVER ISLAND, BRITISH COLUMBIA (CANADA)

for

MARIETTA RESOURCES CO. LTD.

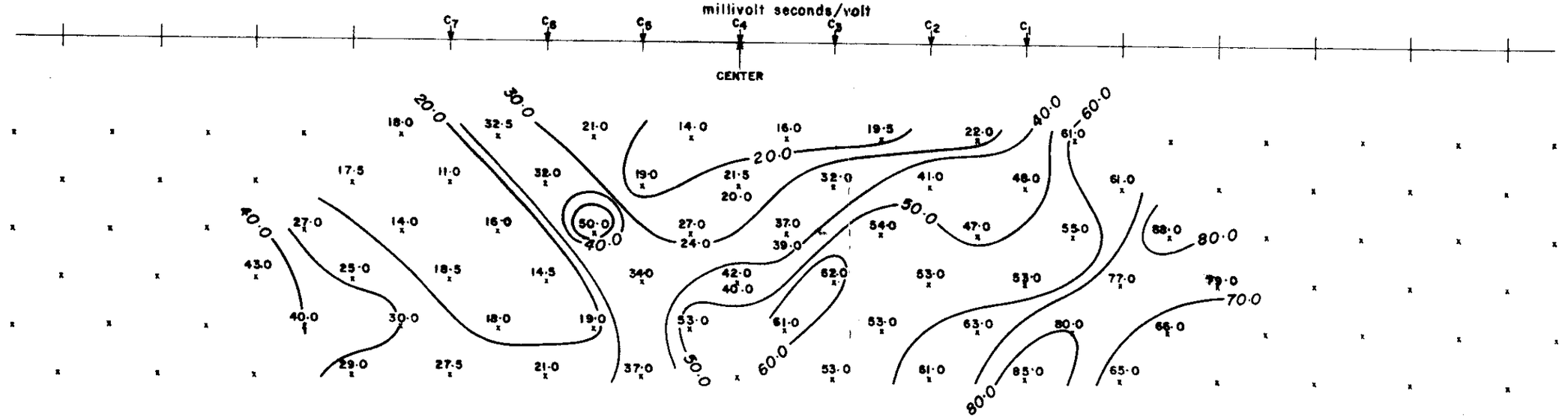
APPARENT RESISTIVITY

ohm meters

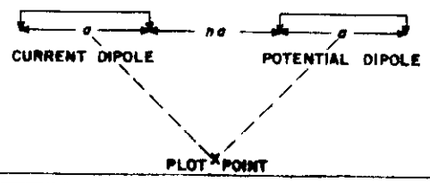


APPARENT POLARIZATION

millivolt seconds/volt



DIPOLE DIPOLE ARRAY



LINE: 22-N

LOOKING: . . . WEST

DIPOLE LENGTH: . . . 500'

DATE: AUG. 3, 1968

LEGEND

FENCE. x

PIPELINE. . . . .

POWERLINE. . . . .

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TUCSON, ARIZONA. U.S.A

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