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1993 ASSESSMENT REPORT

**DOVE PROJECT
IDEAL 2 AND IDEAL 12 CLAIMS
LINECUTTING AND INDUCED POLARIZATION SURVEY**

**NANAIMO MINING DIVISION
NTS 92F/11
LATITUDE 49° 45', LONGITUDE 125° 11'**

**CLAIM OWNER
JOSEPH L. PAQUET**

**OPERATOR
WESTMIN RESOURCES LIMITED**

REPORT BY

**MURRAY I. JONES, P.Geo.
WESTMIN RESOURCES LIMITED**

AUGUST 9, 1993

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

22,975

RPT/93-011

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Geophysical Report by John Lloyd, Lloyd Geophysics Inc.

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1.0 SUMMARY

Work on the Dove project in 1993 consisted of establishment of a small grid which was used for an Induced Polarization (IP) survey. A total of 7.65 kilometres of line were cut, including an 800 metre baseline. A total of 6.85 line kilometres of IP were read at $x=25$ metres, $n=1$ to 6. The IP survey provides more detailed information in an area which was surveyed previously, and allows correlation of the IP response to the Paquet showing, a small realgar-arsenopyrite occurrence with possible epithermal origins.

The results of the IP survey indicate a small, chargeability anomaly near the Paquet showing. However, the location of the anomaly, and its discontinuous nature, suggest that there is not a good chance to develop a significant deposit. As a consequence, no further work is recommended on this target.

2.0 INTRODUCTION

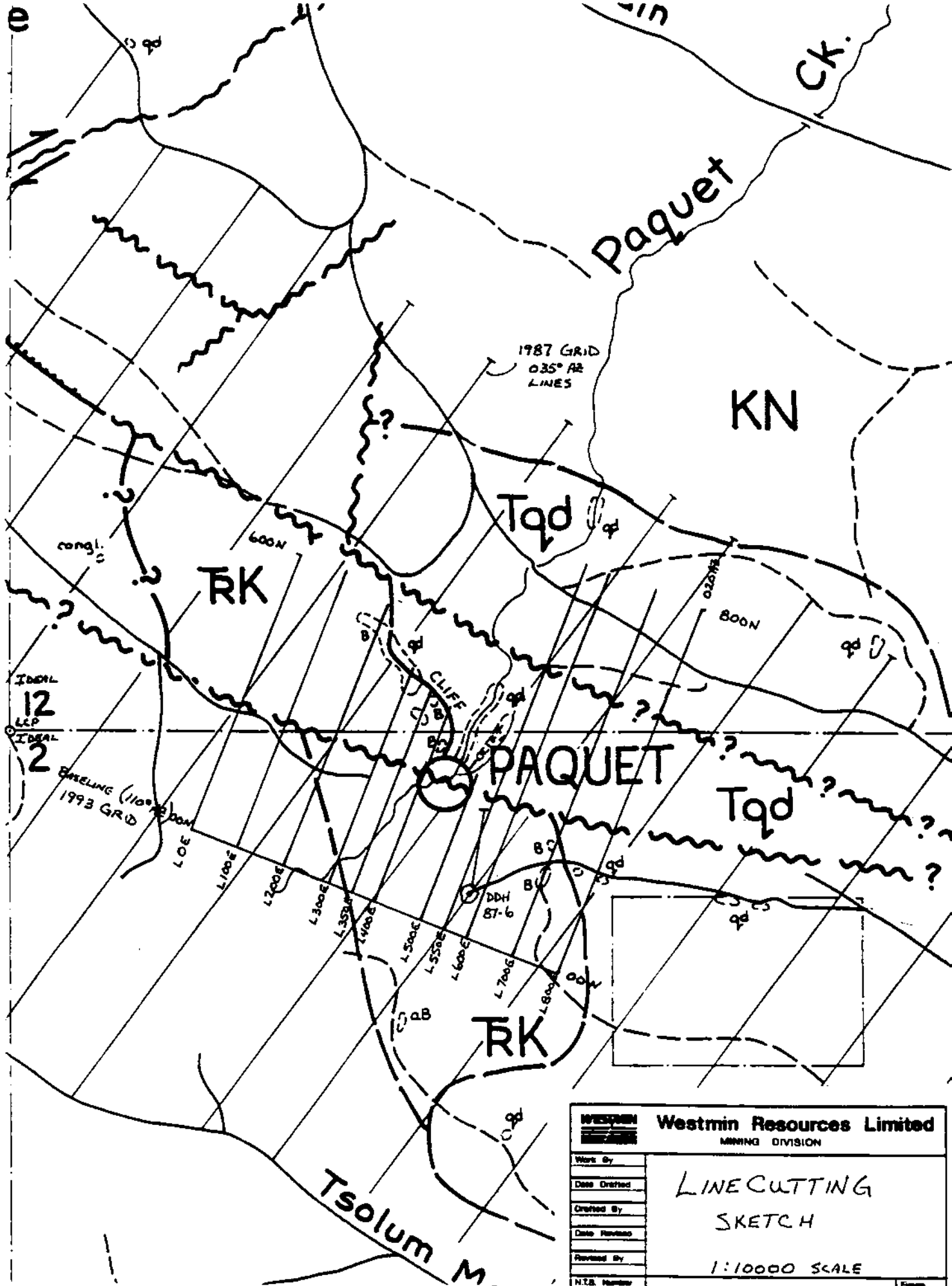
Between the dates April 13 to May 1, 1993, linecutting and an IP survey were conducted on the Ideal 2 and Ideal 12 claims, part of the Dove project of Westmin Resources Limited (Figure 1). The work was designed to provide additional information for possible diamond drilling on the Paquet showing. The geology of the Paquet showing is described in an earlier assessment report (Wright and Jones, 1993). The IP survey provides more detail in an area which was previously surveyed on wide spaced lines in 1987 (Wright, 1988). That earlier survey identified an anomaly in the area of the Paquet showing but did not define the anomaly well. This survey allows a better interpretation of the relationship of the IP anomaly to the local geology, in particular, the epithermal-style, realgar-arsenopyrite-rich Paquet showing, as well as testing for a sulphide zone at depth.

A total of 7.65 kilometres of line were cut to minimum IP standards, tight chained and slope corrected (Figure 2). The grid includes an 800 metre baseline (azimuth 110°) extending from 0E to 800E. Lines were cut grid north (azimuth 020°) from this baseline every 100 metres, with two fill-in lines at 350E and 550E. The northerly extent of the lines was generally restricted by the presence of a cliff in the central part of the grid but in no case did the lines extend past 800N. The IP survey was conducted on the cross lines for a total of 6.85 line kilometres read.

The IP survey is described in a full report by John Lloyd, Lloyd Geophysics Inc. (Appendix A). The reader is referred to this appendix for all pertinent information regarding location and access to the property, property geology and the results of the survey.



Westmin Resources Limited MINING DIVISION	
Work By	
Date Drafted	
Drafted By	
Date Revised	
Revised By	
N.T.S. Number	
1993 GRID LOCATION NTS 92F/11	
SCALE 1:50000	
Figure	1



Westmin Resources Limited MINING DIVISION	
Work By	LINECUTTING SKETCH 1:10000 SCALE
Date Drafted	
Drafted By	
Date Revised	
Revised By	
N.T.S. Number	Figure 2

3.0 CONCLUSIONS AND RECOMMENDATIONS

The Paquet showing occurs at approximately 470E and 300N on the 1993 grid. It is situated in the footwall rocks to the north of a prominent fault which is, or parallels, the Paquet Fault (see Appendix A). The attempt to trace the mineralization along strike and/or to depth with the IP survey was not too successful. A weak, discontinuous zone of chargeable ground was identified at the Paquet showing but this seems to correlate with the fault at the south edge of the mineralized zone, extending south into the hanging wall rocks. In addition, the IP survey indicates a small anomaly, centred at 350N on Line 600E, offset slightly to the north from the strike of the mineralized zone. The offset may be due to a postulated north-south fault which crosses this area. The presence of this offset may explain why a hole drilled in 1987 (87-6, Figure 2) did not encounter the strike extension of the Paquet showing (Wright, 1988). However, the anomaly is not extensive or particularly strong and does not seem to indicate a significant sulphide accumulation. The chargeability anomaly along the Paquet Fault may be caused by black, gougy, possibly graphitic, material noted in the fault at the Paquet showing.

There is a broad, relatively strong anomaly in the south part of the grid. This area is underlain by apparently unaltered, unmineralized, amygdaloidal basalts. Consequently, the source of the chargeability response is not obvious. The Nanaimo Group sediments, including some coal measures, are present in the vicinity and may possibly be contributing to the IP response.

Based on the discussion above, and the geophysical report appended herein, it is not recommended to drill the targets identified in this work. The anomalies do not seem to be of sufficient size and strength to represent viable targets in themselves and do not correlate well with the mineralized zone at the Paquet showing.

4.0 REFERENCES

Wright, R.L., 1988. 1987 Year End Report on the Dove Property. Internal Company Report, 70 pp., 8 vol.

Wright, R.L. and M.I. Jones, 1993. Geological Mapping and Lithogeochemical Survey, Ideal 2 and 12 Claims, Dove Project. BCMEMPR Assessment Report No. 22807, 25 pp.

5.0 STATEMENT OF EXPENDITURES

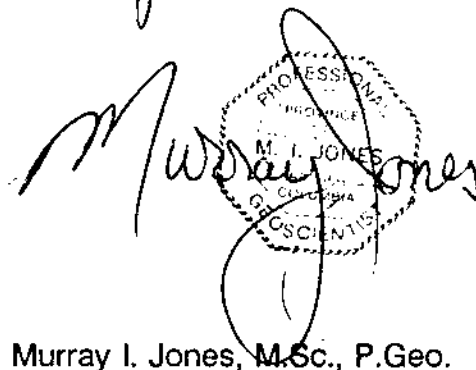
STATEMENT OF EXPENDITURES	
Linecutting 7.65 km at \$515 per km	\$ 3,940
IP survey	10,530
Project geologist 11 days at \$300 per day	3,300
Costs	
Travel, including accommodation	300
Meals (80%)	171
Gas	215
Repairs	6
Maps	8
Telephone/telex	25
Repairs	185
Total (Rounded)	\$18,680

6.0 STATEMENT OF QUALIFICATIONS

I, Murray I. Jones, of the District of North Vancouver, in the Province of British Columbia, hereby certify that:

1. I am registered as a professional geologist with the Association of Professional Engineers and Geoscientists of the Province of British Columbia (Registration No. 20063), residing at 1240 Shavington Street, North Vancouver, British Columbia with a business address at #904 - 1055 Dunsmuir Street, P.O. Box 49066, The Bentall Centre, Vancouver, British Columbia, V7X 1C4.
2. I graduated with a B.Sc. (Honours) in Geology from the University of British Columbia, Vancouver, B.C. in 1982 and with a M.Sc. in Geology from the University of Ottawa, Ottawa, Ontario in 1992.
3. I am an associate member of the Geological Association of Canada.
4. I have practised geology in Canada from 1979 to 1993.

DATED this 9 day of August, 1993 at Vancouver, British Columbia.


Murray I. Jones, M.Sc., P.Geol.

APPENDIX A

GEOPHYSICAL REPORT BY JOHN LLOYD, LLOYD GEOPHYSICS INC.

**AN ASSESSMENT REPORT ON AN
INDUCED POLARIZATION SURVEY ON THE
DOVE PROPERTY, NANAIMO MINING DIVISION
BRITISH COLUMBIA**

**LATITUDE 49°45'NORTH
LONGITUDE 125°11'WEST
NTS 92F/11E**

FOR

WESTMIN RESOURCES LIMITED

BY

John Lloyd, M.Sc., P.Eng.

**LLOYD GEOPHYSICS INC.
VANCOUVER, BRITISH COLUMBIA**

MAY, 1993

SUMMARY

During the period April 26 to May 1, 1993 Lloyd Geophysics Inc. carried out a time domain Induced Polarization (IP) Survey for Westmin Resources Limited on the DOVE Property near Courtenay, British Columbia.

Over an 800 metre strike length of the Paquet fault and a 600 metre strike length of an interpreted geological contact 50 to 100 metres north of the Paquet fault itself significant IP responses were, in each case, only detected on one line.

Although the geophysical results were generally disappointing one drill hole has been recommended to test the IP response over the Paquet fault and a second drill hole to test the IP response over the interpreted geological contact immediately north of the Paquet fault.

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LIST OF PSEUDO-SECTIONS

Pseudo-Sections

Dwg. Nos: 93339-01 to 93339-11

1.0 INTRODUCTION

During the period April 26 to May 1, 1993, Lloyd Geophysics Inc. carried out a time domain Induced Polarization (IP) survey on part of the DOVE Property near Courtenay, British Columbia which is held under option by Westmin Resources Limited.

The objective of the present survey was to measure and record the IP response over several mineralized showings in the Paquet Creek area and hopefully to delineate any extensions of these showings where the underlying rocks are poorly exposed.

2.0 PROPERTY LOCATION AND ACCESS

The property is located approximately 15 kilometres northwest of Courtenay, B.C. (Figures 1 and 2). The Ideal 2 and 12 Claims are located near the centre of the property in NTS map sheet 92F/11E, just south of Wolf Lake. Access to the property is by paved and gravel roads from Courtenay (20 min.) or from Campbell River (30 min.) Within the property, access is provided by numerous all-weather logging roads, which form a network throughout the area. As all the property has been logged at some point, there are trails to almost every corner of the claims.

The property lies on the east and north flanks of Mt. Washington, at elevations between 100 and 790 metres. Slopes are low to moderate except for the banks of deeply-incised creeks. The area is covered by an extensive glacial till blanket, up to 20 metres thick. Rock exposures are mostly confined to creeks and in low-lying areas to the east. Several outcrop ridges do occur in the western part of the property separated by drift-filled valleys. The entire property is covered by second growth fir, hemlock, and cedar. Alder has overgrown old roads and cleared areas.

In the Ideal 2 and 12 Claim area, topography is moderately steep, sloping downward from

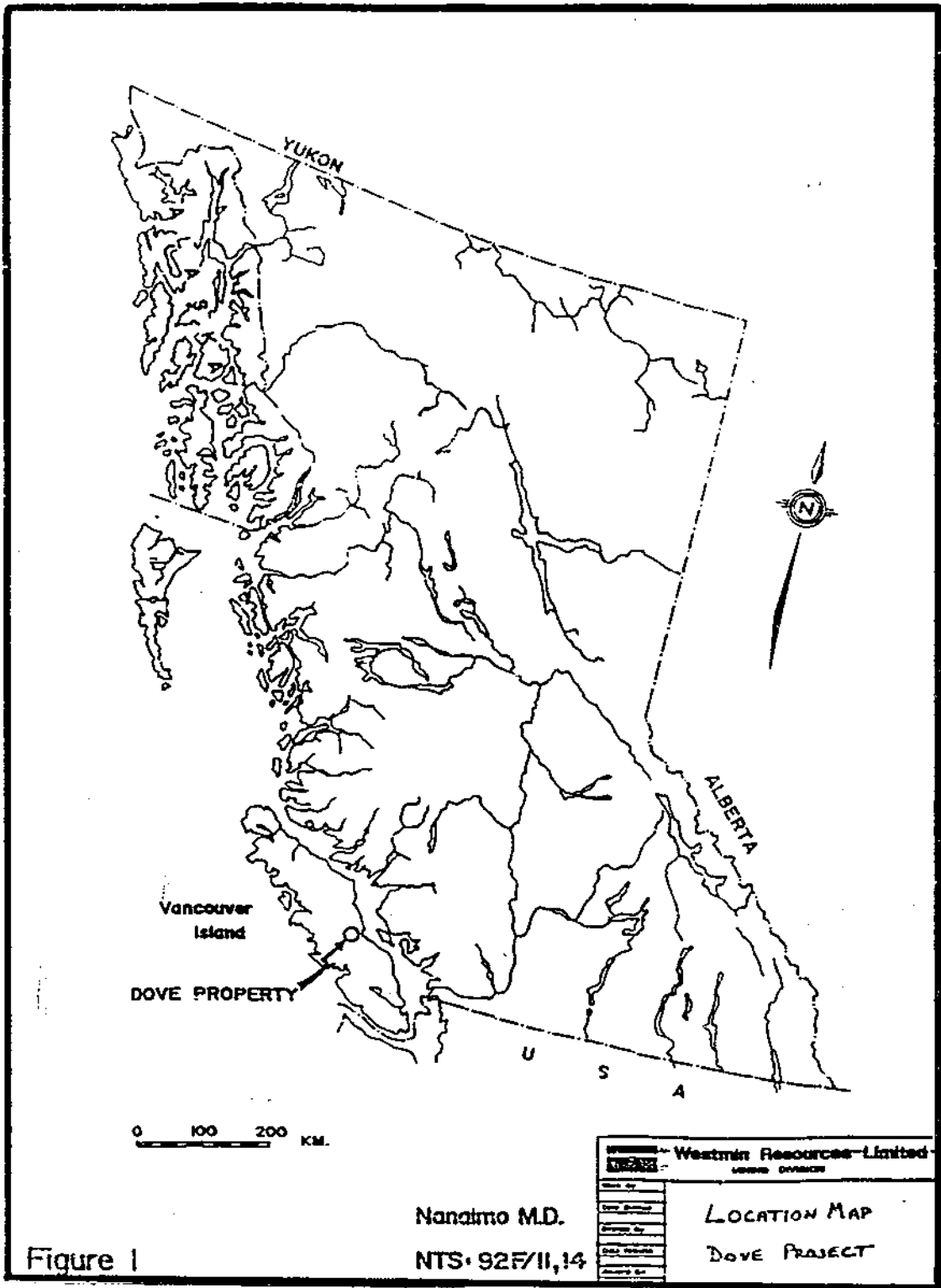


Figure 1

the swampy plateau at the headwaters of Paquet Creek to the shore of Wolf Lake. Paquet Creek forms a steep narrow gulley around the showings, where exposure is virtually continuous, but at the base of the escarpment, the creek forms a debris fan which is actually above the surrounding terrain. Elevations in this area range from 150 to 300 metres.

3.0 PROPERTY STATUS AND CLAIM HOLDINGS

The DOVE Property currently consists of the Ideal claim group (Figure 3) made up of 23 claims for a total of 222 units as shown below:

<u>Claim</u>	<u>Tenure No.</u>	<u>No. of Units</u>	<u>Record Date</u>	<u>Expiry Date</u>
Ideal 1	229976	16	June 2, 1986	June 2, 1993
Ideal 2	229977	20	June 3, 1986	June 3, 1995
Ideal 3	229978	20	June 3, 1986	June 3, 1994
Ideal 4	229979	20	June 3, 1986	June 3, 1994
Ideal 5	229980	9	June 3, 1986	June 3, 1993
Ideal 6	229981	9	June 4, 1986	June 4, 1993
Ideal 7	229999	6	June 13, 1986	June 13, 1994
Ideal 8	230023	20	Aug. 6, 1986	Aug. 6, 1995
Ideal 9	230011	12	July 29, 1986	July 29, 1993
Ideal 10	230075	20	Feb. 20, 1987	Feb. 20, 1995
Ideal 11	230076	20	Feb. 13, 1987	Feb. 13, 1995
Ideal 12	230098	20	Apr. 7, 1987	Apr. 7, 1994
Ideal 13	230103	1	Apr. 16, 1987	Apr. 16, 1995
Ideal 14	230104	1	Apr. 16, 1987	Apr. 16, 1995
Ideal 15	230105	1	Apr. 16, 1987	Apr. 16, 1995
Ideal 16	230106	1	Apr. 16, 1987	Apr. 16, 1995
Ideal 17	230107	1	Apr. 16, 1987	Apr. 16, 1995
Ideal 20	230178	2	Aug. 4, 1987	Aug. 4, 1993
Ideal 21	230179	4	Aug. 4, 1987	Aug. 4, 1993
Ideal 22	230290	12	June 17, 1988	June 17, 1995
Ideal #23	231336	2	Apr. 11, 1991	Apr. 11, 1993
Ideal #24	230896	4	Feb. 28, 1990	Feb. 28, 1995
Ideal #25	231427	1	Nov. 23, 1990	Nov. 23, 1994
		<u>222</u>		

The above information was provided by Westmin Resources Limited.

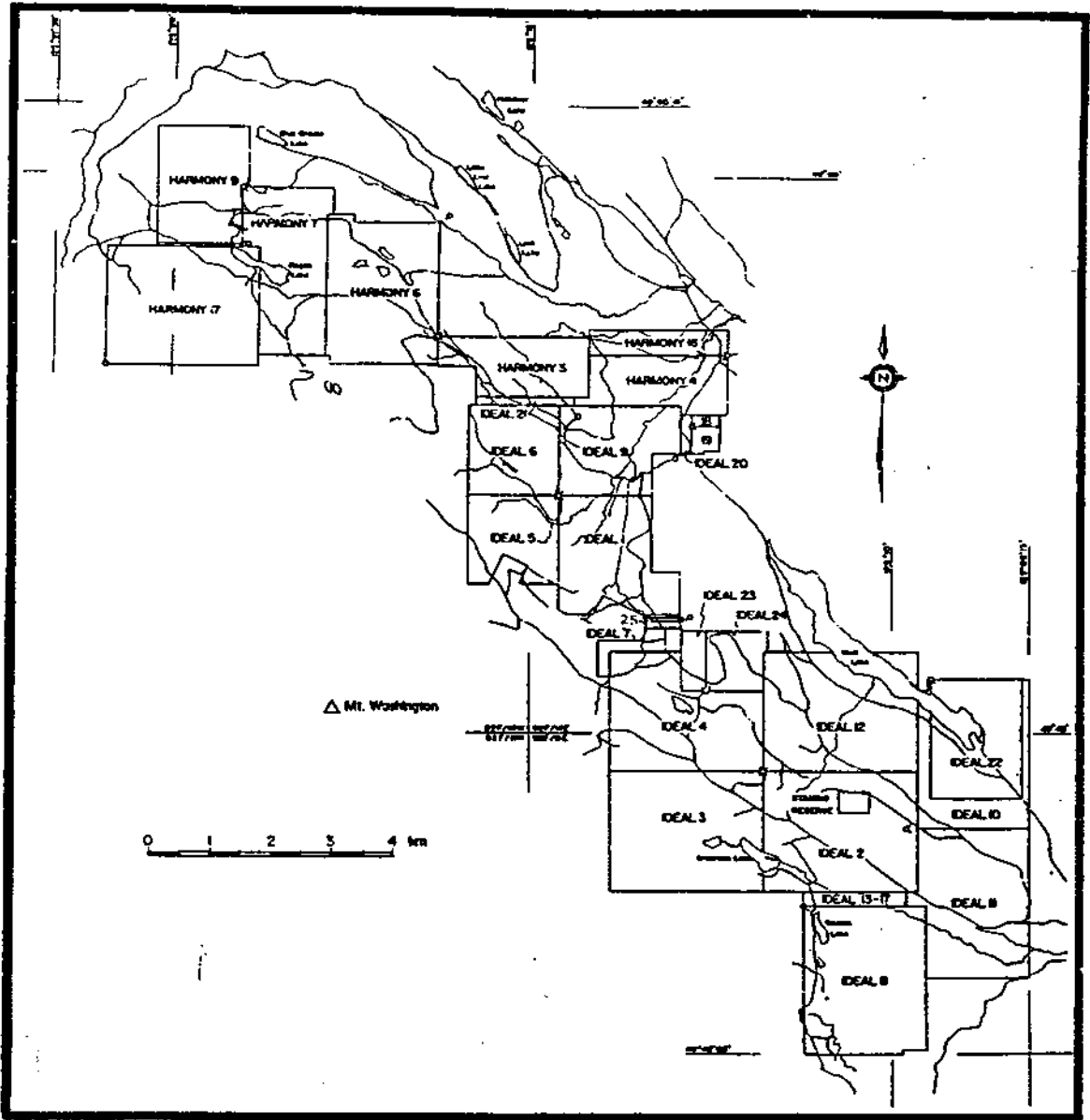


Figure 3. Claim Map: Ideal and Harmony Claims

4.0 EXPLORATION HISTORY

The history of exploration in the area of the Dove Property began in the 1940's and has continued to the present day. Early exploration concentrated on high-grade Au-bearing quartz veins. For the next three decades the area received intensive exploration for low-grade or porphyry-style copper deposits with little attention given to the high-grade veins. This work led eventually to the formation of the Mt. Washington Copper Co. Ltd. which mined close to 400,000 tons of ore from two small pits, 4.5 kilometres west of the Dove property. This ore had an average recovered grade of 1.16% Cu, 0.01 oz Au/ton, and 0.5 oz Ag/ton. In the mid-70's, Esso Minerals began work on the Meadows Zone, also on Mt. Washington, and by 1982 they had outlined 0.5 to 1.0 million tons of material grading 0.5% Cu.

The 1980's saw a return to exploration for epithermal, high-grade precious metal deposits. Better Resources Ltd. approached the Meadows Zone (now called the West Grid Zone) as such a target. In 1987, they had outlined almost 980,000 tons of drill-indicated reserves at 0.142 oz Au/ton and 0.67 oz Ag/ton in the Lakeview-West Grid and Domineer Zones. This project included some underground development consisting of 300 metres of adits and cross-drifts.

Better Resources also drilled the upper Murex Creek Breccia, a magnetite-Cu body, located just west of the Dove property. They drilled one intersection of 15.9 m of 0.178 oz Au/ton, plus 2.7 m of 0.08 oz Au/ton and 3.0 m of 0.11 oz Au/ton.

The Dove property itself has had sporadic exploration throughout the history of the exploration in the area. Since 1987 Westmin Resources Ltd. (previously in joint-venture with Visible Gold Inc.) has conducted several exploration programs on the property. These programs have involved airborne geophysical surveys, systematic geological mapping, linecutting, induced polarization, VLF-EM ground surveys, soil geochemistry and diamond

drilling. The Ideal 2 and 12 Claims were examined cursorily in this initial pass, with one diamond drill hole completed at that time along strike from the Paquet Creek showing. Follow-up programs, including more diamond drilling, have concentrated on specific areas of interest, the McDonald Creek (NS Grid) and Tailings Pond (Main Grid) areas (Wright, 1989). In general, the diamond drilling has turned up narrow zones of reasonable grade precious metal mineralization. Enhancement of these zones has been frustrated by the lack of understanding of the structural controls on the mineralization. The bedrock exposure necessary to develop an appreciation of the important structures in the drilled areas is not available due to the extensive glacial drift cover on the property.

5.0 REGIONAL GEOLOGY

The geology of the area of the Dove property has been mapped and described by Muller and Carson (1969) and Carson (1973) with revisions and detailing by Benvenuto (1986) and Wright (1987). The area is underlain by tholeiitic basalts of the Triassic Karmutsen Formation of the Vancouver Group, which is unconformably overlain by sediments (including coal measures) of the Upper Cretaceous Nanaimo Group. The Nanaimo Group consists of the basal Benson Conglomerate, the Comox Formation (sandstones, siltstones, shales, coal measures) and the Trent River Formation. The Quatsino Limestone normally overlies the Karmutsen basalts but is absent in the area surrounding the Dove property. This indicates a long period of erosion preceding the deposition of the Nanaimo Group sediments. There is evidence for significant topographic relief on the unconformable contact. As well, where intersected in drill holes, the unconformable contact is commonly composed of clay-altered material, which is interpreted as an alteration feature, but may in fact represent regolith (Wright, 1989). All of these formations are intruded by Tertiary sub-volcanic igneous rocks (dacite Porphyry, quartz diorite) and diatreme breccias, composed of clasts of intrusive and country rocks. The intrusions occur as dykes, small stocks, sills and laccoliths. K-Ar dating of a late quartz diorite on Mt. Washington has given an age of 35

Ma.

Several mineral deposits occur in the area of the Dove project. The Mt. Washington Copper Mine, as mentioned in the exploration history, occurs just west of the property and is associated with the Mt. Washington igneous system. Mineralization consists of a flat-lying drusy quartz-sulphide vein, up to 7.6m thick, containing chalcopyrite, bornite, arsenopyrite, pyrite, realgar, and molybdenite. The host rock is biotite-altered, quartz diorite sills interlayered with Nanaimo Group sediments. Late sericite-chlorite alteration is also evident. A low-grade, disseminated sulphide zone, 600 x 150 metres, is associated with the mine as well, but reserves have not been estimated. The Domineer-West Grid-Lakeview Zones of Better Resources represent various exposures of a prominent, shallow-dipping vein on the east ridge of Mt. Washington. The vein occupies fault zones locally and lies within igneous rocks and sedimentary rocks of the Comox Formation. Pyrite and arsenopyrite are the principle minerals in auriferous veins but numerous other sulphide minerals are reported. The Murex Breccia Zone is a low grade Cu deposit consisting of disseminated pyrite, chalcopyrite and pyrrhotite and is estimated to contain 2 million tons of 0.40% Cu within brecciated Karmutsen basalt.

Several other showings are present in the region, mostly having mineral assemblages indicative of epithermal, precious metal mineralization. These showings are characterized by realgar, orpiment, calcite and sulphides such as sphalerite, galena, arsenopyrite, and pyrite.

On Mt. Washington and elsewhere, the unconformity between the Karmutsen basalts and the Nanaimo Group sediments seems to be important for the localization of minerals. This is particularly true where the unconformity coincides with a major structural element, such as a fault.

6.0 PROPERTY GEOLOGY

The oldest unit on the property is the Karmutsen Formation, which is generally overlain by the Comox Formation. The basal Benson Conglomerate of the Nanaimo Group is present mostly in the north part of the property. The Comox Formation sedimentary rocks occur primarily in the low lying areas in the east part of the claims. These rocks are usually fresh in appearance, with local alteration related to structures and mineralized zones.

There are two types of Tertiary intrusions present on the Dove Property: a quartz diorite and a dacite porphyry. They generally occur in small stocks in the south half of the property. A large quartz diorite laccolith occurs along the east side of the property, and as far west as the Paquet Showing where it is in fault contact with the Karmutsen volcanic rocks. A fluidized contact breccia occurs on the margin of one of the smaller quartz diorite stocks, on the west side of the Ideal 7 Claim.

There is evidence in airphoto interpretations and landforms that several large scale lineaments occur on the property. These large structures seem to be exclusive to the Karmutsen terrane and are dominantly northwest-southeast in orientation. There are also crosscutting structures, the more obvious examples generally oriented north-south. Local evidence of faults and shear zones is plentiful on the outcrop scale. The orientation of these features is quite varied. They are commonly shallow-dipping structures, with the exception of the north-south structures, which appear to be subvertical.

Numerous sulphide showings occur throughout the property, but in particular seem to be concentrated around a large mag high feature in the central part of the claims. The showings of most interest tend to have anomalous concentrations of Au, Ag, As and Sb. In general, the showings are related to structural elements, such as faults and joints. There may be a zoning of elements away from the mag feature near the centre of the property, from more base metal-rich to more precious metal-rich showings. The mineralized zones are

definitely later features, crosscutting the Karmutsen Formation and Nanaimo Group rocks. The mineralization seems to be approximately coeval with the Tertiary intrusive events.

The presence of structural complexities at the mineralized showings makes extrapolation and interpretation of the zones difficult. As well, the lack of good exposure of bedrock in most areas adds to the problems of evaluating the showings.

The Paquet Fault is a very strong feature where it is exposed in Paquet Creek, but due to extensive overburden surrounding the creek, the extent and continuity are uncertain. Similarly, a prominent north-south lineament that can easily be seen on airphotos immediately to the south, cannot be traced with any degree of certainty into the area of the showings. Several small shears and veinlets around the showing do suggest that the feature does continue into this area.

Detailed mapping in 1992 located a number of significant structures, which could be related to the poorly-exposed north-south lineament:

- at the toe of the landslide, about 100 m below the main showing, a 1 to 10 cm-wide calcite-realgar vein with an attitude of 180/80E is exposed in the cliff face.
- at the east end of the Paquet Creek showing, a well-defined shear zone is exposed in the cliff face. This zone, which ranges in width from 1 to 30 cm, and a small tensional feature associated with it contain significant amounts of antimony, arsenic and copper, but no gold. Silver values are, however, anomalous.
- the Paquet Fault has an attitude of approx 114/57S at the west end of the zone, at the base of the waterfall. At the east end, the fault changes to

110/vert, indicating a curvature of the shear due possibly to interaction with a second intersecting shear ... the NS lineament.

7.0 INSTRUMENT SPECIFICATIONS

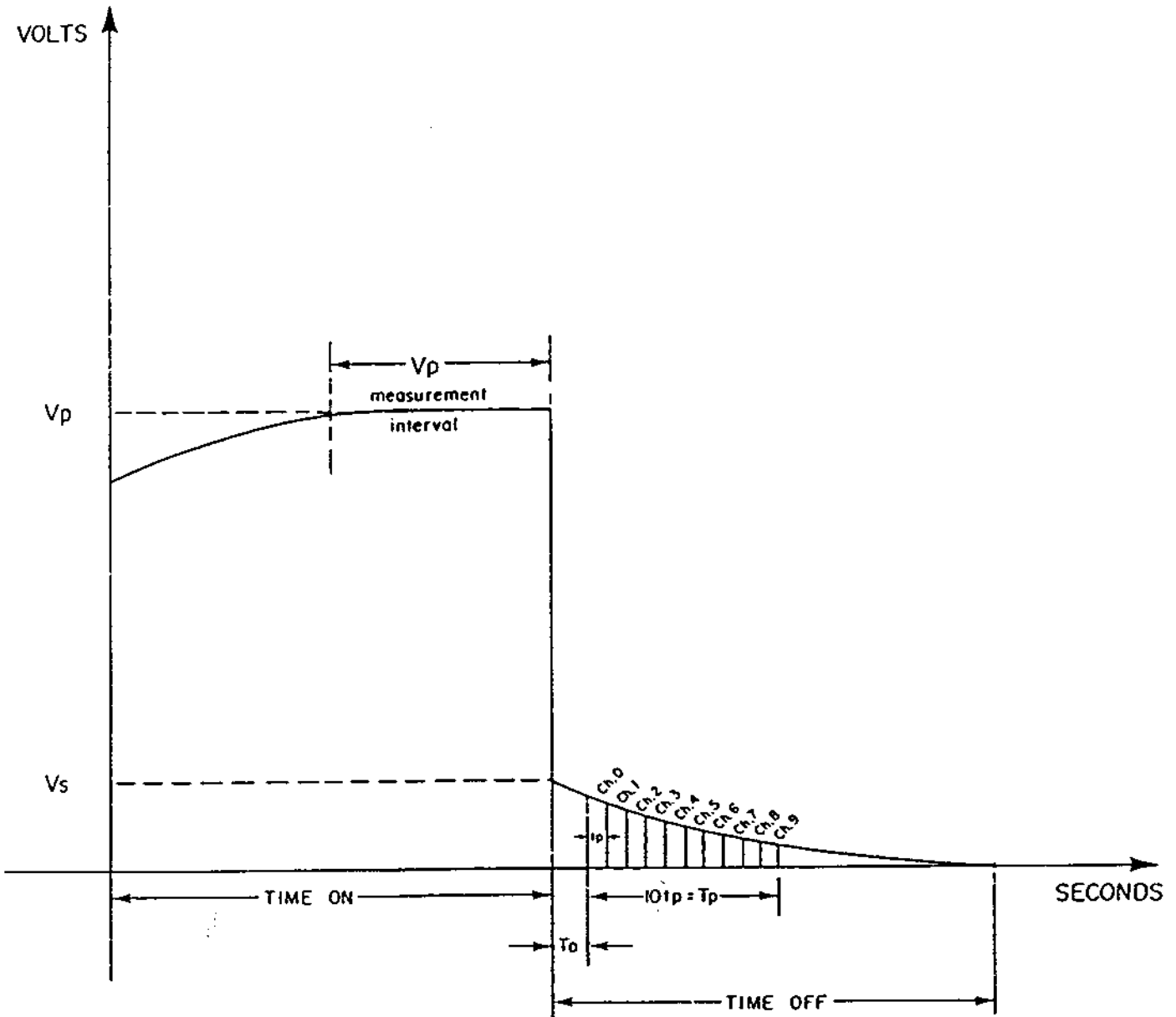
The equipment used to carry out this survey was a time domain measuring system consisting of a Wagner Leland/Onan motor generator set and a Mark II transmitter manufactured by Hunttec Limited, Toronto, Canada and a 6 channel IP-6 receiver manufactured by BRGM Instruments, Orleans, France.

The Wagner Leland/Onan motor generator supplies in excess of 7.5 kilowatts of 3 phase power to the ground at 400 hertz via the Mark II transmitter.

The transmitter was operated with a cycle time of 8 seconds and the duty cycle ratio: [(time on)/(time on + time off)] was 0.5. This means the cycling sequence of the transmitter was 2 seconds current "on" and 2 seconds current "off" with consecutive pulses reversed in polarity.

The IP-6 receiver can read up to 6 dipoles simultaneously. It is microprocessor controlled, featuring automatic calibration, gain setting, SP cancellation and fault diagnosis. To accommodate a wide range of geological conditions, the delay time, the window widths and hence the total integration time is programmable via the keypad. Measurements are calculated automatically every 2 to 4 seconds from the averaged waveform which is accumulated in memory.

The window widths of the IP-6 receiver can be programmed arithmetically or logarithmically. For this particular survey the instrument was programmed arithmetically into 10 equal window widths or channels, Ch₀, Ch₁, Ch₂, Ch₃, Ch₄, Ch₅, Ch₆, Ch₇, Ch₈, Ch₉ (Figure 4).



BRGM IP-6 RECEIVER PARAMETERS

Figure 4

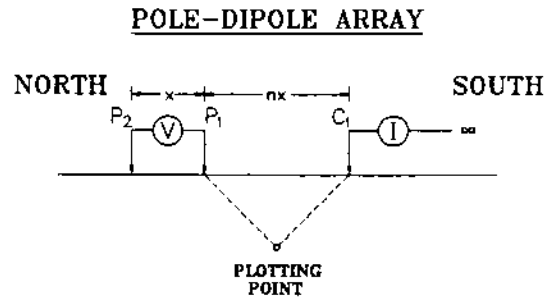
These may be recorded individually and summed up automatically to obtain the total chargeability. Similarly the resistivity (ρ_a) in ohm-metres is also calculated automatically.

The instrument parameters chosen for this survey were as follows:

Cycle Time (T_c)	= 8 seconds
Ratio $\frac{\text{(Time On)}}{\text{(Time Off)}}$	= 1:1
Duty Cycle Ratio	
$\frac{\text{(Time On)}}{\text{(Time On)+(Time Off)}}$	= 0.5
Delay Time (T_D)	= 120 milliseconds
Window Width (t_p)	= 90 milliseconds
Total Integrating Time (T_p)	= 900 milliseconds

8.0 SURVEY SPECIFICATIONS

The configuration of the pole-dipole array used for this survey is shown below, where the current electrode C_1 was always located south of the potential measuring dipole P_1P_2 .



$$x = 25 \text{ metres} \quad n = 1, 2, 3, 4, 5 \text{ and } 6$$

The dipole length (x) is the distance between P_1 and P_2 and determines mainly the sensitivity of the array. The electrode separation (nx) is the distance between P_1 and C_1 and determines mainly the depth of penetration of the array.

9.0 DATA PROCESSING

At the end of each survey day the data collected was processed in the field for data integrity checking, for a quick review of any anomalies detected and for inspection by the Client's representative.

In the Vancouver office the data was downloaded to a Compaq 386 coupled to a Hewlett Packard Draftsmaster II line plotter for preparation of final pseudo-sections or to a small Hewlett Packard colour plotter for preparation of contour plans.

10.0 DATA PRESENTATION

The data obtained from the survey described in this report are presented on 11 pseudo-sections and 2 contour plans as listed below:

Pseudo-Sections (1:1000)

<u>Line No.</u>	<u>Dwg. No.</u>	<u>Line No.</u>	<u>Dwg. No.</u>
0	93339-01	500E	93339-07
100E	93339-02	550E	93339-08
200E	93339-03	600E	93339-09
300E	93339-04	700E	93339-10
350E	93339-05	800E	93339-11
400E	93339-06		

Contour Plan Maps (1:5000)

Figure 5,	Chargeability $N = 1$	93339-13
Figure 6,	Resistivity $N = 1$	93339-20

11.0 DISCUSSION OF RESULTS

An IP response depends largely on the following factors:

1. The volume content of sulphide minerals present
2. The number of pore paths that are blocked by sulphide grains
3. The number of sulphide faces that are available for polarization
4. The absolute size and shape of the sulphide grains and the relationship of their size and shape to the size and shape of the available pore paths
5. The electrode array employed
6. The width, depth, thickness and strike length of the mineralized body and its location relative to the array

7. The resistivity contrast between the mineralized body and the unmineralized host rock

The sulphide content of the underlying rocks is one of the critical factors that we would like to determine from field measurements. Experience has shown that this is both difficult and unreliable because of the large number of variables, described above, which contribute to an IP response. The problem is further complicated by the fact that rocks containing magnetite, graphite, clay minerals and variably altered rocks produce IP responses of varying amplitudes.

A detailed study has been made of the pseudo-sections which accompany this report. These pseudo-sections are not sections of the electrical properties of the sub-surface strata and cannot be treated as such when determining the depth, width and thickness of a zone which produces an anomalous pattern.

From this study the anomalies selected are shown on the individual pseudo-sections and are classified into 4 groups. These are definite, probable and possible anomalies and anomalies which have a deeper source.

This classification is based partly on the relative amplitudes of the chargeability and to a lesser degree on the resistivity response. Of equal importance in this classification is the overall anomaly pattern and the degree to which this pattern may be correlated from line to line, provided of course that the correlation is not so extensive along strike that it most probably represents the subcrop of an uneconomic geological formation.

The geological map provided by Westmin Resources Limited shows the geophysical grid is crossed by two major faults; the Paquet Fault F1 and an unnamed fault F2 which lies from 200 to 400 metres northeast of the Paquet fault itself. The location of these 2 faults are shown on both the pseudo-sections at the end of this report and on Figures 5 and 6 which

are the 1:5000 Chargeability and Resistivity colour contour plans for $n = 1$.

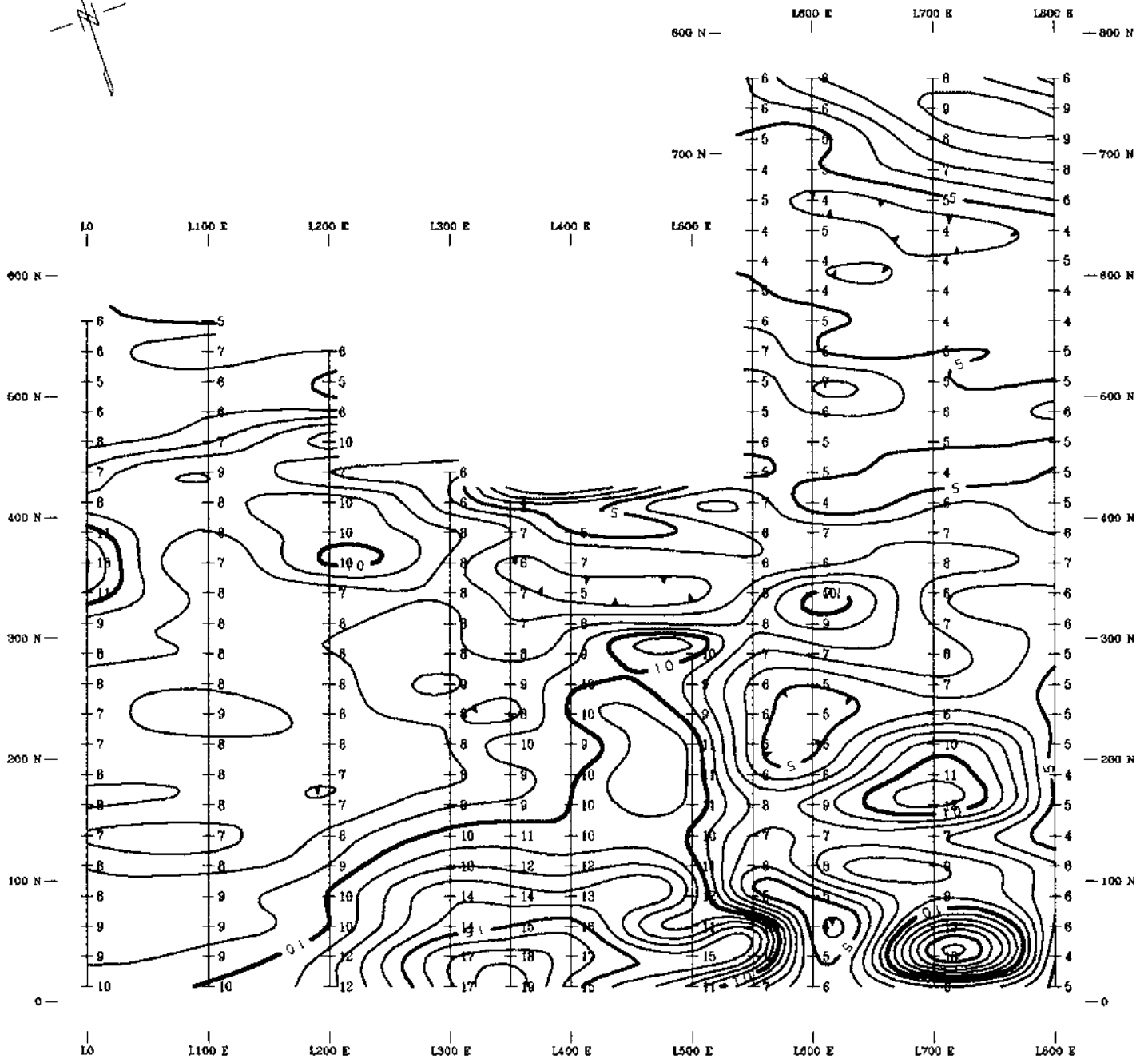
Neither the Paquet fault F1 or the fault F2 have any significantly continuous Chargeability or Resistivity expressions. On the other hand interpretation of the geophysical data indicates the presence of a geological contact or fault contact F3, which lies immediately between and roughly parallel to both the Paquet fault F1 and the fault F2.

The Paquet fault was crossed by 11 IP survey lines extending over a strike length of 800 metres. Only on line 400E was there any IP response coincident with the fault itself. Even here the IP response is weak, poorly defined and complicated by the fact that on this particular line the interpreted geological contact or fault contact F3 is less than 50 metres northeast of the Paquet fault itself. It would be hard to justify drilling this fairly weak IP anomaly based on the geophysical data alone.

The geological or fault contact F3 was also crossed by 11 IP survey lines, but can only be traced for some 600 metres of strike length. It terminates abruptly 100 metres before reaching either the western or eastern edges of the IP grid. This suggests that it is most probably a normal geological contact and not a fault contact. There is only a vague correlation of the IP response with this geological contact, except on line 600E at approximately 350N where the IP signature is fairly strong and the correlation is very good. It would be fairly easy to justify drilling this anomaly if it was also regarded as a good geological target.

12.0 CONCLUSIONS AND RECOMMENDATIONS

It has been concluded that over an 800 metre strike length, the main target of geological interest, namely the Paquet fault has no significant resistivity signature and only a weak, poorly defined IP chargeability response on line 400E.



LEGEND

INDUCED POLARIZATION SURVEY

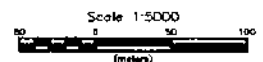
POLE-DIPOLE ARRAY

DIPOLE SEPARATION : 25 METRES

CURRENT ELECTRODE SOUTH OF POTENTIAL DIPOLE

CONTOUR INTERVALS

- 1.0 MSEC
- 5.0 MSEC
- 10.0 MSEC



WESTMIN RESOURCES LTD.

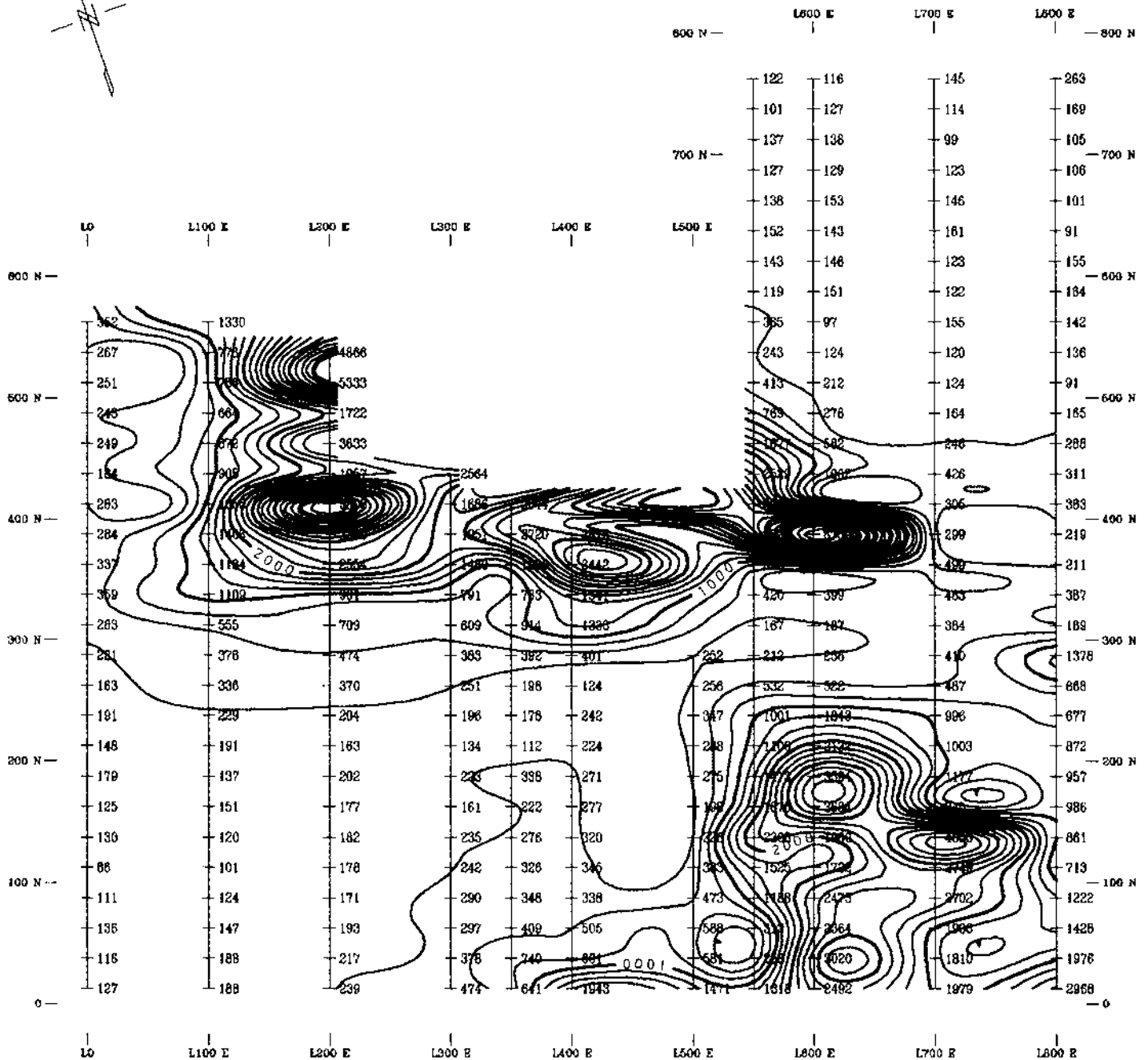
DOVE PROPERTY
Nanaimo Mining Division

**CHARGEABILITY N = 1
PLAN MAP**

Map Scale 1:5000 Drawing No.: 93339-13

LLOYD GEOPHYSICS INC.

FIGURE 5



LEGEND

INDUCED POLARIZATION SURVEY

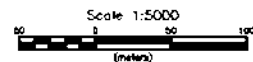
POLE-DIPOLE ARRAY

DIPOLE SEPARATION : 25 METRES

CURRENT ELECTRODE SOUTH OF POTENTIAL DIPOLE

CONTOUR INTERVALS

- 250 OHM-M
- 1000 OHM-M
- 5000 OHM-M



WESTMIN RESOURCES LTD.

DOVE PROPERTY
Nanaimo Mining Division

RESISTIVITY N = 1

Map Scale 1:5000 Drawing No: 93339-20

LLOYD GEOPHYSICS INC.

FIGURE 6

It was further concluded that the resistivity data has mapped a geological contact 50 to 100 metres north of the Paquet fault over a strike length of about 600 metres. The IP chargeability response over this contact is in general restricted to line 600E, where the response is fairly strong and the overall signature fairly well defined.

If geologically justified one hole is recommended to test the IP anomaly over the Paquet fault on line 400E and one hole is recommended to test the geological contact on line 600E.

<u>Hole No.</u>	<u>Collar Location</u>	<u>Angle</u>	<u>Azimuth</u>	<u>Length of Hole</u>
1	Station 210N on Line 400E	-45°	Along Line 400E from SW to NE	75 m
2	Station 300N on Line 600E	-45°	Along Line 600E from SW to NE	100m

Additional drilling should be based on good prospective geology and the results obtained from the two drill holes recommended on the basis of the geophysical data alone.

Respectfully Submitted,
LLOYD GEOPHYSICS INC.



John Lloyd, M.Sc., P.Eng.
Senior Geophysicist

Vancouver, B.C.

May 1993

APPENDICES

APPENDIX A

Personnel Employed on Survey

<u>Name</u>	<u>Occupation</u>	<u>Address</u>	<u>Dates</u>
J Lloyd	Senior Geophysicist	Lloyd Geophysics Inc. 1007-1166 Alberni Street Vancouver, B.C. V6E 3Z3	May 25-27/93
J Cornock	Geophysicist	"	Apr 26-May 1/93
D Klit	Geophysicist	"	Apr 26-May 1/93
J Carver	Field Assistant	"	April 26-May 1/93
C Bilquist	Field Assistant	"	April 26-May 1/93
I Campbell	Field Assistant	"	April 26-May 1/93

APPENDIX B

Cost of Survey and Reporting

Lloyd Geophysics Inc. contracted the IP data acquisition on a per diem basis. Mobilization/Demobilization, truck charges, room and board, data processing, computer plotting, consumables, reproduction costs, interpretation and report writing were additional costs. The breakdown of these costs was as follows:

Mobilization/Demobilization	\$ 1,570.00
Data Acquisition	5,140.00
Truck Charges	651.00
Room & Board	1,700.80
Data Processing & Computer Plotting	300.00
Consumables & Reproduction Costs	106.00
Interpretation and Reporting	<u>1,062.50</u>
Sub-Total	\$ 10,530.50
GST 7%	<u>737.12</u>
TOTAL GEOPHYSICAL COST:	\$ <u>11,267.42</u>

APPENDIX C

Certification of Author

I, John Lloyd, of 1007-1166 Alberni Street, in the City of Vancouver, in the Province of British Columbia, do hereby certify that:

1. I graduated from the University of Liverpool, England in 1960 with a B.Sc. in Physics and Geology, Geophysics Option.
2. I obtained the diploma of the Imperial College of Science and Technology (D.I.C.), in Applied Geophysics from the Royal School of Mines, London University in 1961.
3. I obtained the degree of M.Sc. in Geophysics from the Royal School of Mines, London University in 1962.
4. I am a member in good standing of the Association of Professional Engineers in the Province of British Columbia, the Society of Exploration Geophysicists of America, the European Association of Exploration Geophysicists and the Canadian Institute of Mining and Metallurgy.
5. I have no direct or indirect interest in the DOVE property nor do I hold any securities of Westmin Resources Limited.
6. I have been practising my profession for over 30 years.

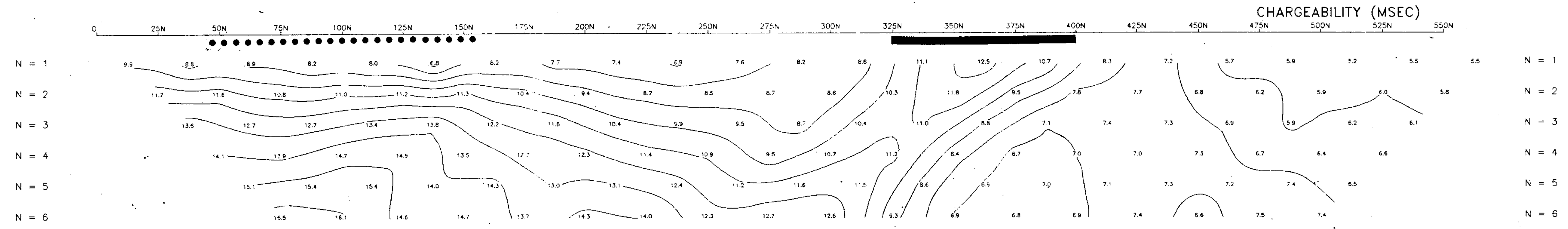
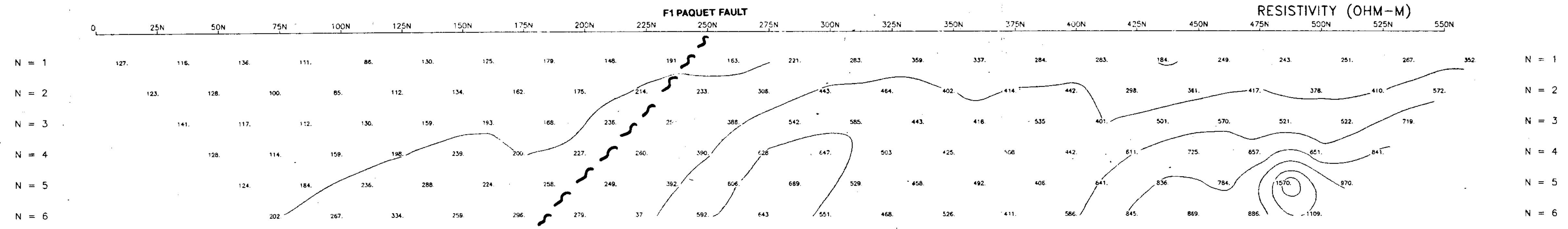
Vancouver, B.C.

May, 1993

APPENDIX D

References

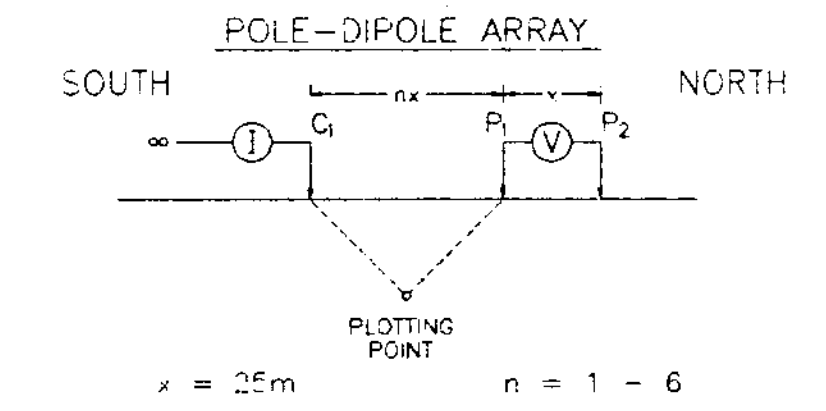
1. Benvenuto, G. 1986. Geology and Mineralization of the Dove Property and area near Mt. Washington, Vancouver Island, B.C. Assessment Report, 68p.
2. Carson, D.J.T., 1973. The plutonic rocks of Vancouver Island, B.C.: their petrography, chemistry, age and emplacement. G.S.C. Paper 72044, 70 p.
3. Muller, J.E. and Carson, D.J.T., 1969. Geology and mineral deposits of the Alberni area, B.C. G.S.C., Paper 68-50.
4. Wright, R.L., 1988. 1987 Year End Report on the Dove Property. Internal Company Report, 70 p., 8 vol.
5. Wright, R.L., 1989. 1988 Year End Report on the Dove Property. Internal Company Report, 49 p., 4 vol.
6. Wright, R.L., 1990. 1989 Year End Report on the Dove Property. Internal Company Report, 42 p., 3 vol.
7. Wright, R.L. 1992. Geological Mapping and Lithogeochemical Survey. 1992 Assessment Report., 20 p.



WESTMIN RESOURCES LTD.

Dove Property
Courtenay, B.C.

LINE: OE



CURRENT ELECTRODE C₁ SOUTH OF POTENTIAL DIPOLE P₁P₂

SURFACE PROJECTION OF ANOMALOUS ZONES

- DEFINITE
- PROBABLE
- POSSIBLE
- AT DEPTH

SCALE 1 : 1000

CONTOUR INTERVALS
APP. CHARGEABILITY : 1.0 (msec)
APP. RESISTIVITY : 200 (ohm-m)

DATE SURVEYED: APRIL 30, 1993
Tx: Huntec Mk2 Model 7500
Rx: EDA IP-5

LLOYD GEOPHYSICS INC.

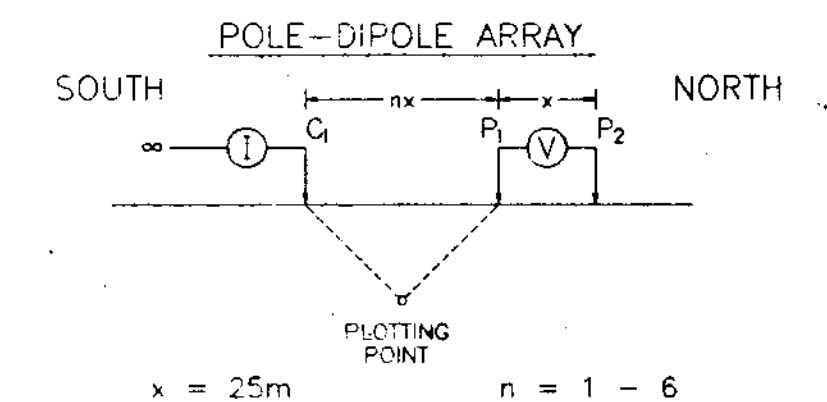
INDUCED POLARIZATION SURVEY

DRAWING NUMBER : 93339-01

WESTMIN RESOURCES LTD.

Dove Property
Courtenay, B.C.

LINE: 100E



CURRENT ELECTRODE C_1 SOUTH OF POTENTIAL DIPOLE P_1P_2

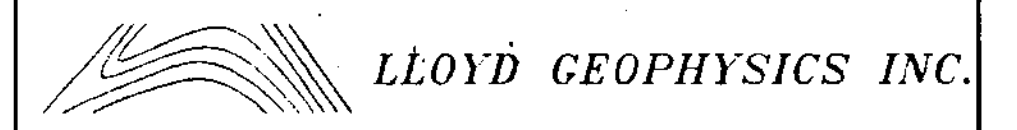
SURFACE PROJECTION OF ANOMALOUS ZONES

- DEFINITE
- PROBABLE
- POSSIBLE
- AT DEPTH

SCALE 1 : 1000

CONTOUR INTERVALS
APP. CHARGEABILITY : 1.0 (msec)
APP. RESISTIVITY : 200 (ohm-m)

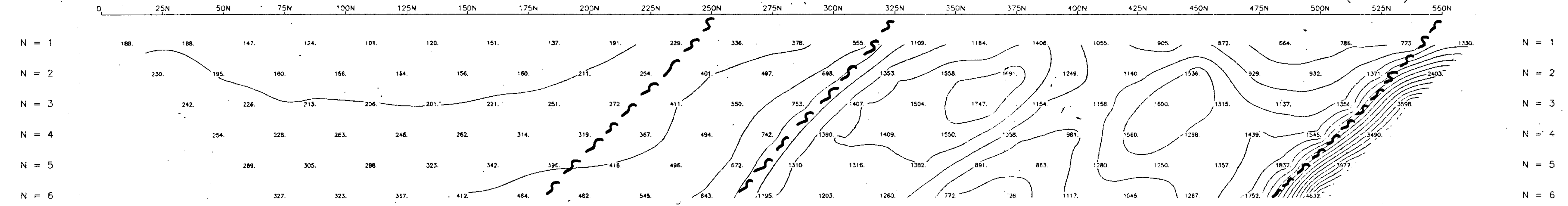
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Rx: EDA IP-6



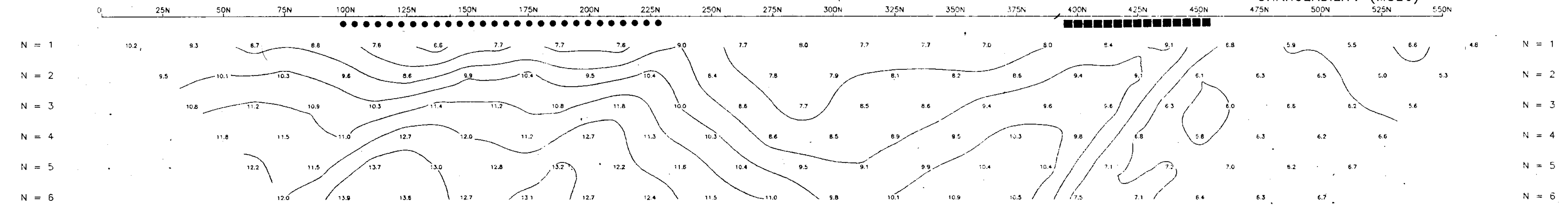
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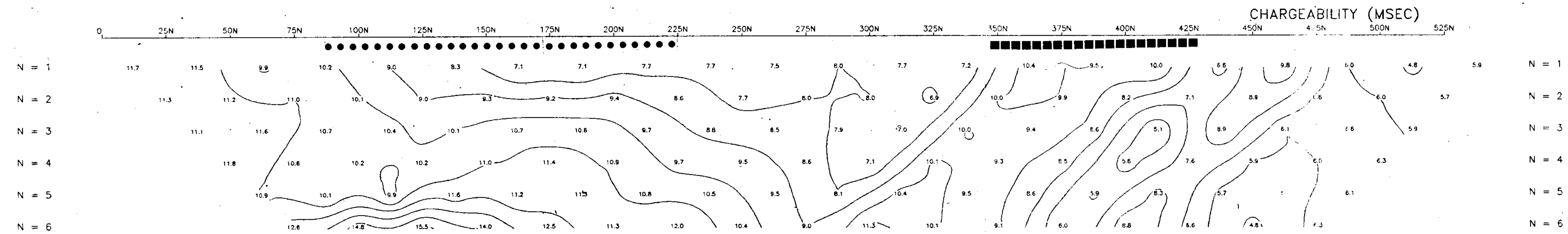
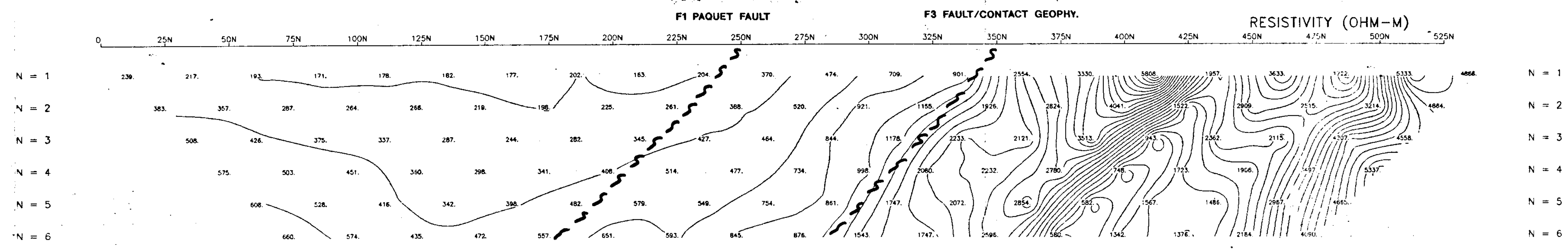
F1 PAQUET FAULT F3 FAULT/CONTACT, GEOPHY.

RESISTIVITY (OHM-M)



CHARGEABILITY (MSEC)

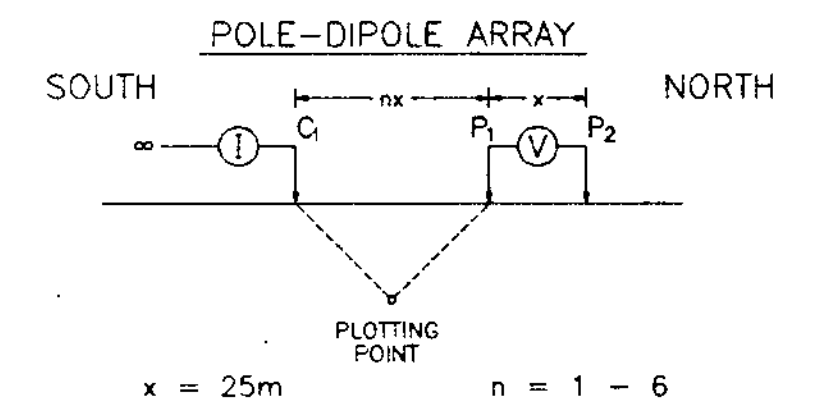




WESTMIN RESOURCES LTD.

Dove Property
Courtenay, B.C.

LINE: 200E



CURRENT ELECTRODE C₁ SOUTH
OF POTENTIAL DIPOLE P₁P₂

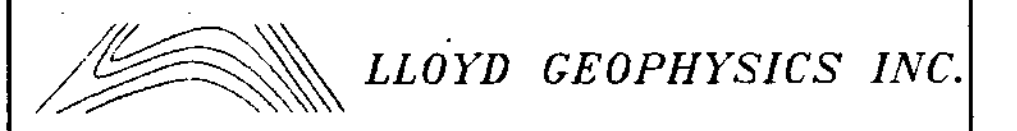
SURFACE PROJECTION
OF ANOMALOUS ZONES

- DEFINITE
- PROBABLE
- POSSIBLE
- AT DEPTH

SCALE 1 : 1000

CONTOUR INTERVALS
APP.CHARGEABILITY : 1.0 (msec)
APP.RESISTIVITY : 200 (ohm-m)

DATE SURVEYED: APRIL 29, 1993
Tx: Huntec Mk2 Model 7500
Rx: EDA IP-6

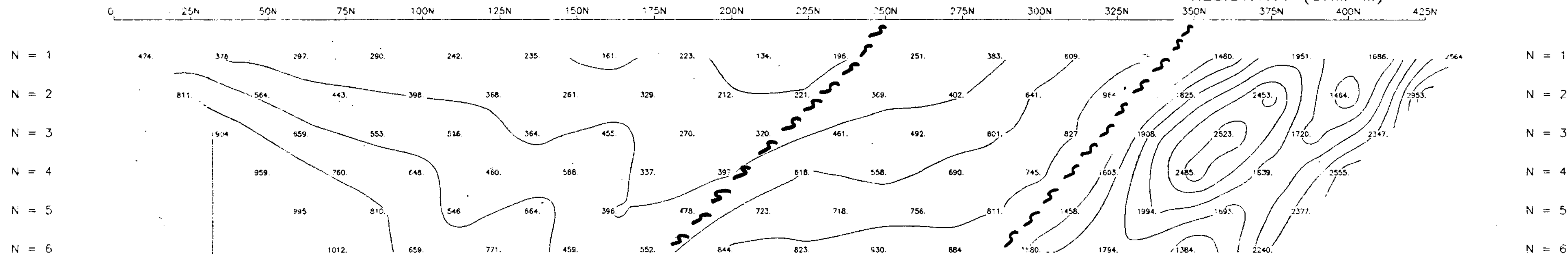


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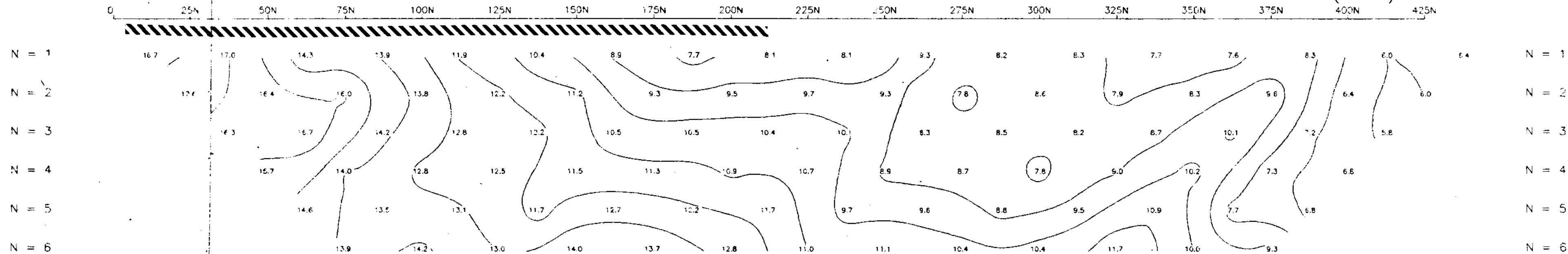
F1 PAQUET FAULT

F3 FAULT/CONTACT GEOPHY.

RESISTIVITY (OHM-M)



CHARGEABILITY (MSEC)

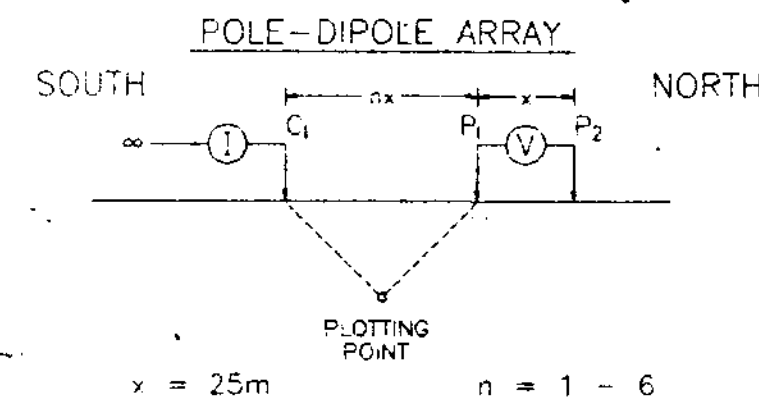


WESTMIN RESOURCES LTD.

Dove Property

Courtenay, B.C.

LINE: 300E



CURRENT ELECTRODE C₁ SOUTH OF POTENTIAL DIPOLE P₁P₂

SURFACE PROJECTION OF ANOMALOUS ZONES

- DEFINITE
- PROBABLE
- POSSIBLE
- AT DEPTH

SCALE 1 : 1000

CONTOUR INTERVALS

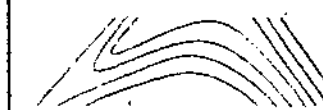
APP.CHARGEABILITY : 1.0 (msec)

APP.RESISTIVITY : 200 (ohm-m)

DATE SURVEYED: APRIL 29, 1993

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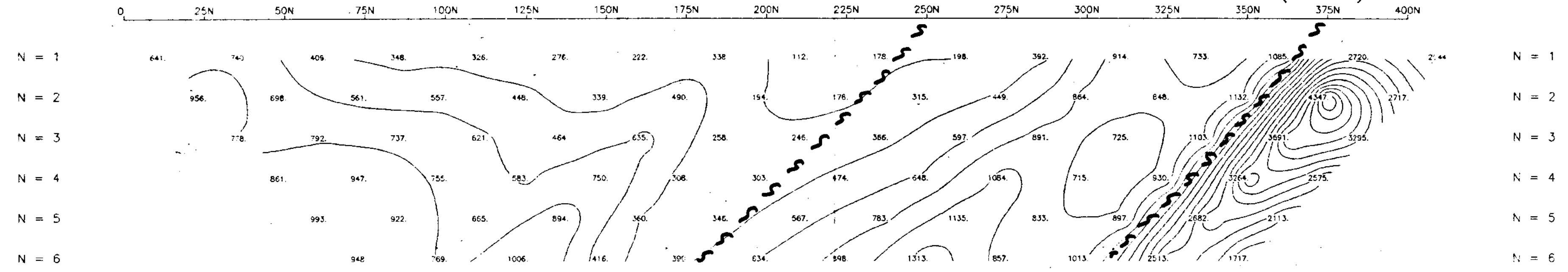
LLOYD GEOPHYSICS INC.

INDUCED POLARIZATION SURVEY

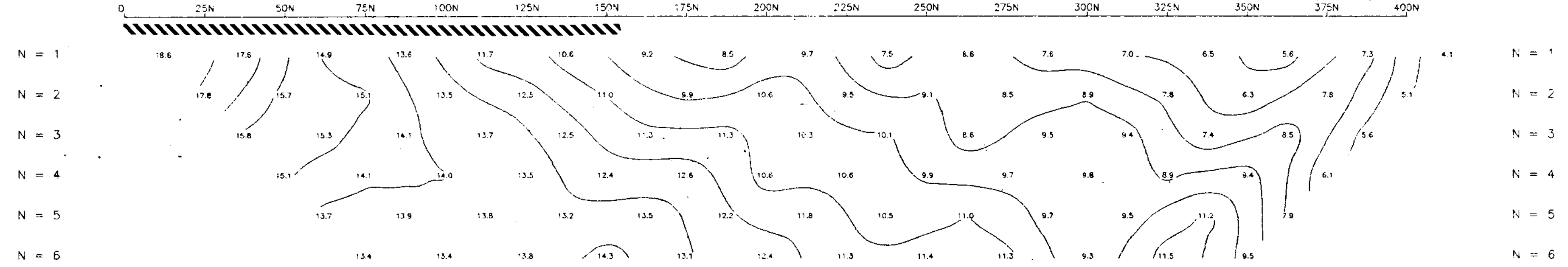
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F1 PAQUET FAULT

**F3 FAULT/CONTACT GEOPHY.
RESISTIVITY (OHM-M)**



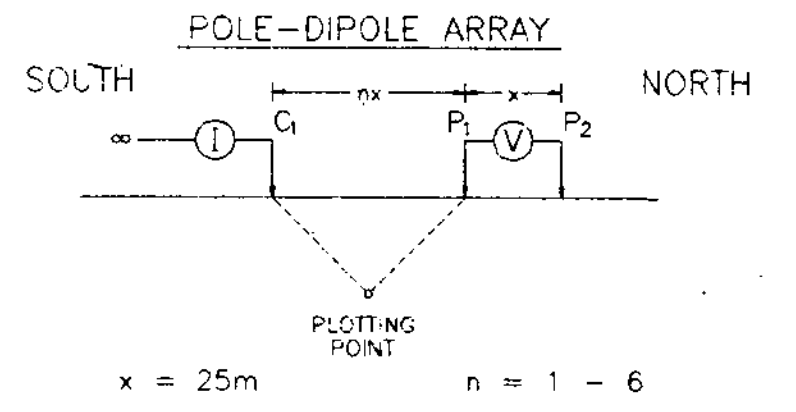
CHARGEABILITY (MSEC)



WESTMIN RESOURCES LTD.

Dove Property
Courtenay, B.C.

LINE: 350E



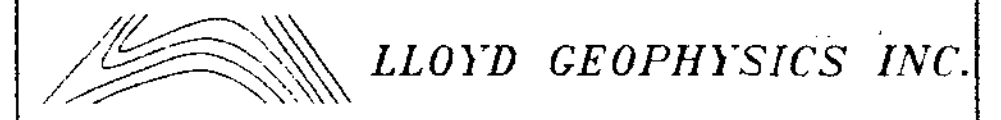
CURRENT ELECTRODE C₁ SOUTH
OF POTENTIAL DIPOLE P₁P₂

SURFACE PROJECTION
OF ANOMALOUS ZONES

- DEFINITE
- PROBABLE
- POSSIBLE
- AT DEPTH

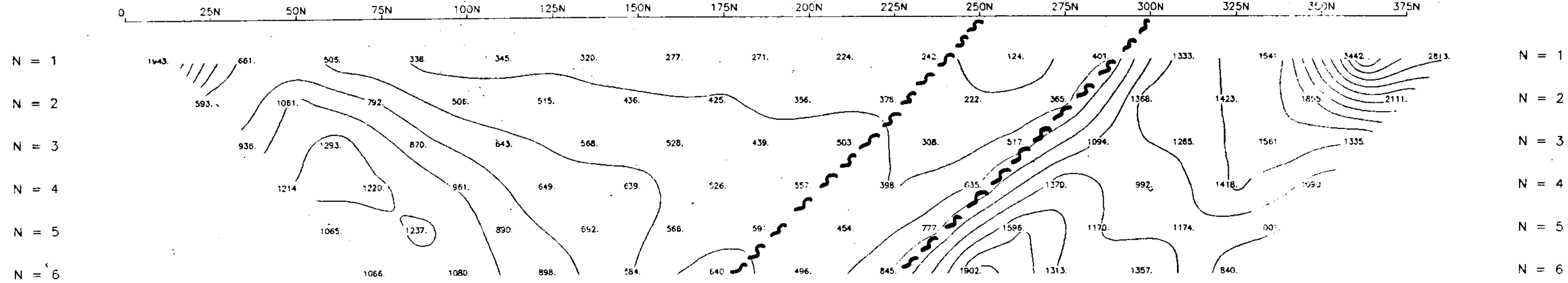
SCALE 1 : 1000

CONTOUR INTERVALS
APP.CHARGEABILITY : 1.0 (msec)
APP.RESISTIVITY : 200 (ohm-m)
DATE SURVEYED: APRIL 29, 1993
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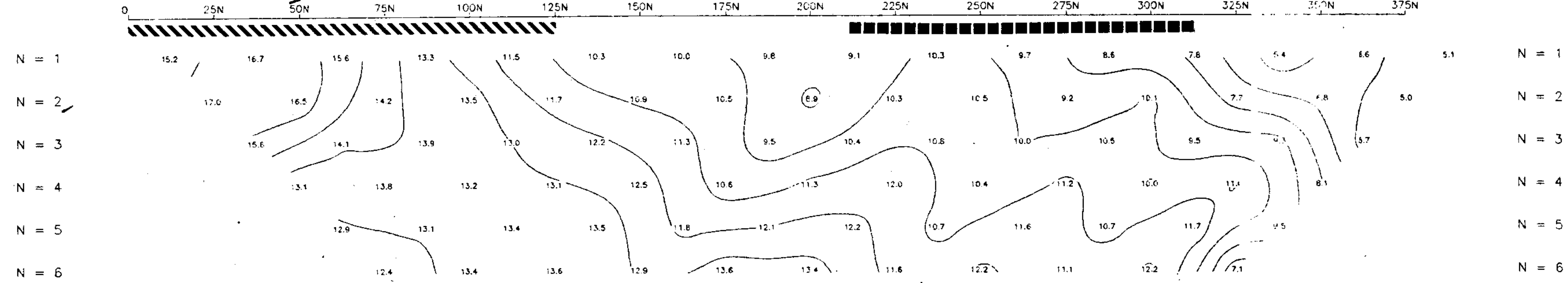


INDUCED POLARIZATION SURVEY
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F1 PAQUET FAULT F3 FAULT/CONTACT GEOPHY.
RESISTIVITY (OHM-M)



CHARGEABILITY (MSEC)

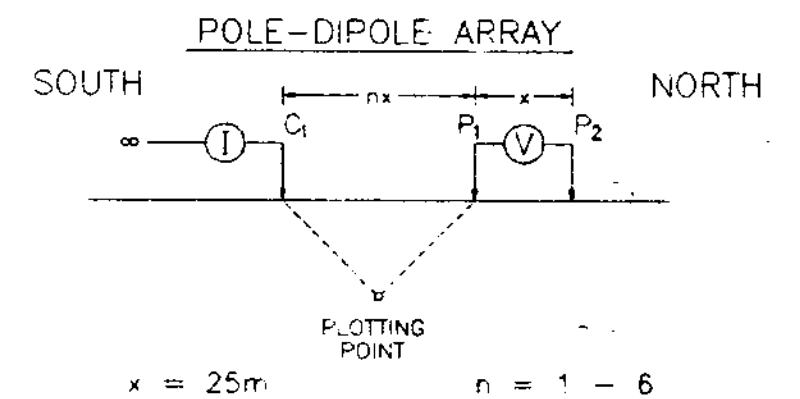


WESTMIN RESOURCES LTD.

Dove Property

Courtenay, B.C.

LINE: 400E



CURRENT ELECTRODE C₁ SOUTH OF POTENTIAL DIPOLE P₁P₂

SURFACE PROJECTION OF ANOMALOUS ZONES

- DEFINITE
- PROBABLE
- POSSIBLE
- AT DEPTH

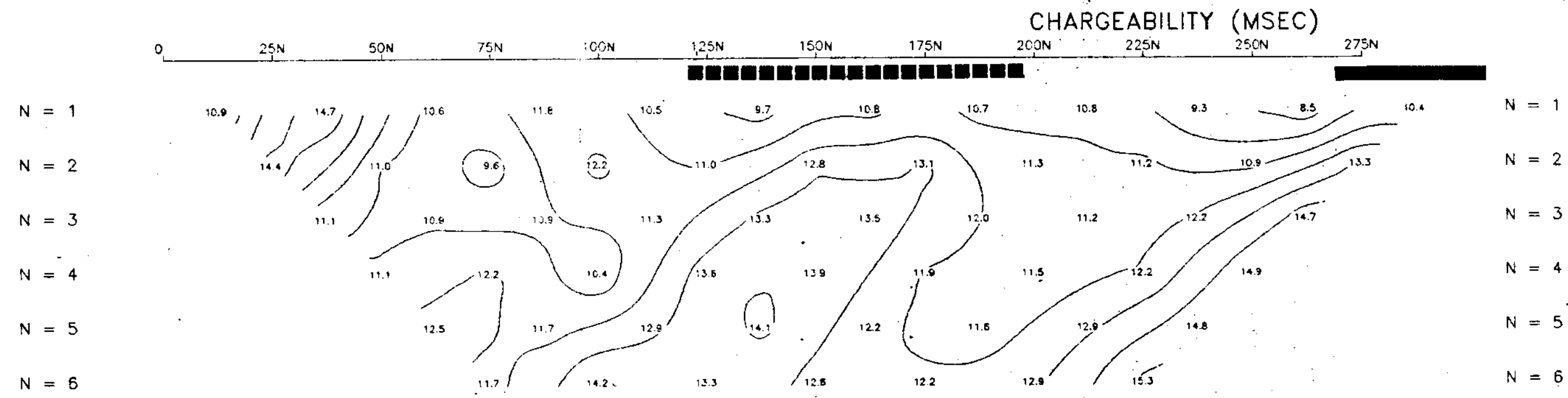
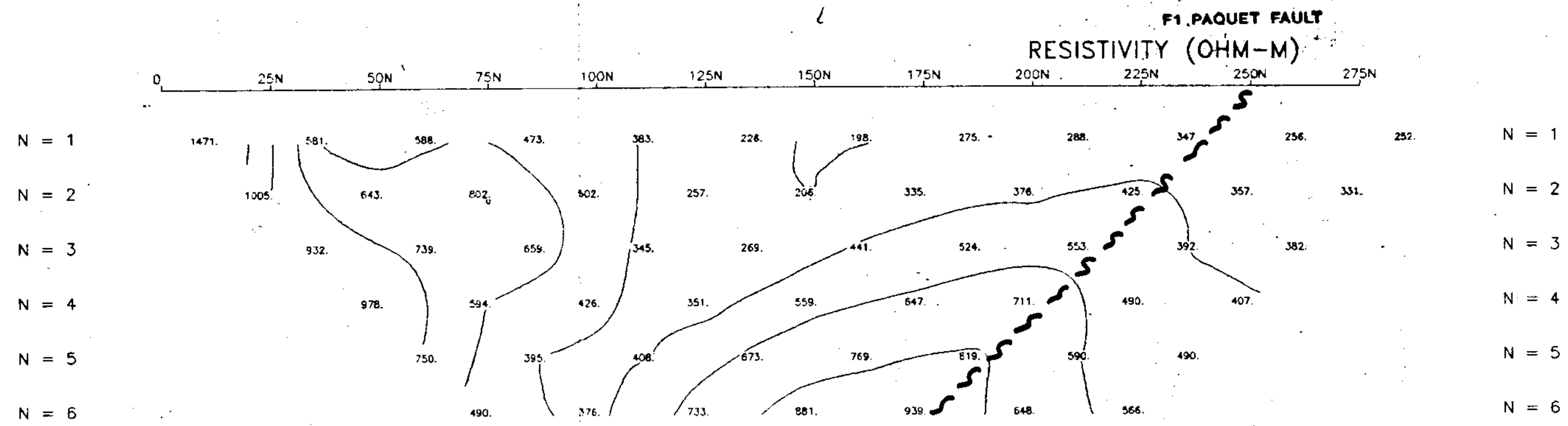
SCALE 1 : 1000

CONTOUR INTERVALS
APP.CHARGEABILITY : 1.0 (msec)
APP.RESISTIVITY : 200 (ohm-m)
DATE SURVEYED APRIL 29, 1993
Tx: Huntec Mk2 Model 7500
Rx: EDA IP-6

LLOYD GEOPHYSICS INC.

INDUCED POLARIZATION SURVEY

DRAWING NUMBER : 93339-06

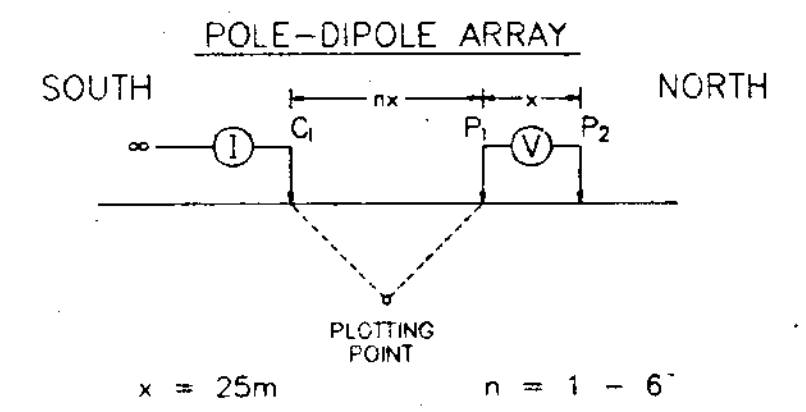


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Dove Property

Courtenay, B.C.

LINE: 500E



CURRENT ELECTRODE C_1 SOUTH OF POTENTIAL DIPOLE P_1P_2

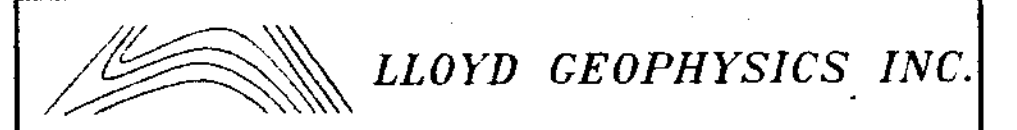
SURFACE PROJECTION OF ANOMALOUS ZONES

- DEFINITE
- PROBABLE
- POSSIBLE
- AT DEPTH

SCALE 1 : 1000

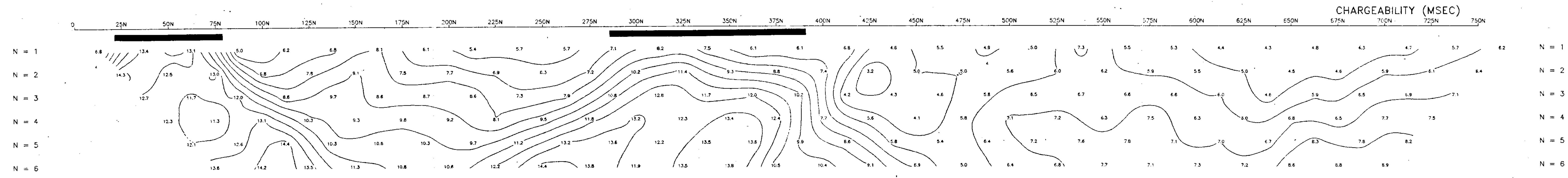
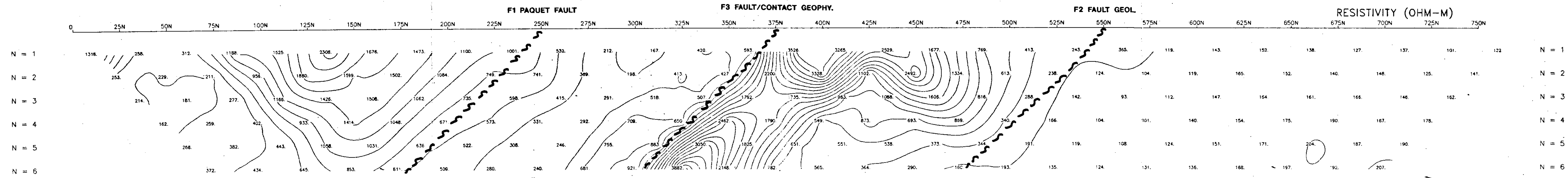
CONTOUR INTERVALS
 APP.CHARGEABILITY : 1.0 (msec)
 APP.RESISTIVITY : 200 (ohm-m)

DATE SURVEYED: APRIL 29, 1993
 Tx: Huntec Mk2 Model 7500
 Rx: EDA IP-6



INDUCED POLARIZATION SURVEY

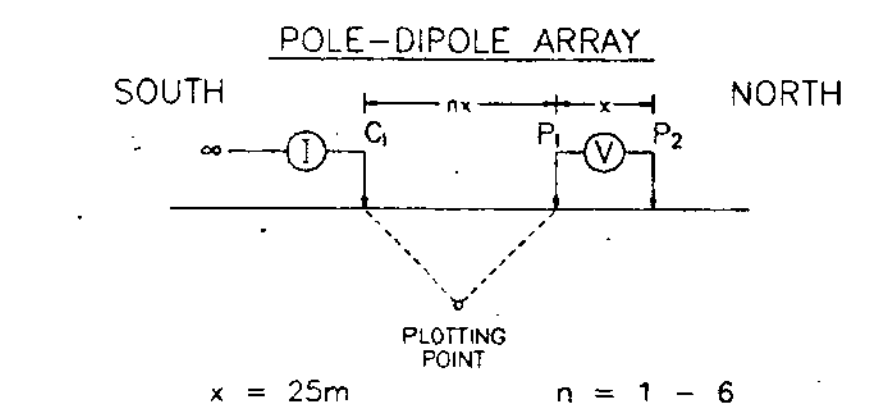
DRAWING NUMBER : 93339-07



WESTMIN RESOURCES LTD.

Dove Property
Courtenay, B.C.

LINE: 550E



CURRENT ELECTRODE C₁ SOUTH
OF POTENTIAL DIPOLE P₁P₂

SURFACE PROJECTION
OF ANOMALOUS ZONES

- DEFINITE
- PROBABLE
- POSSIBLE
- AT DEPTH

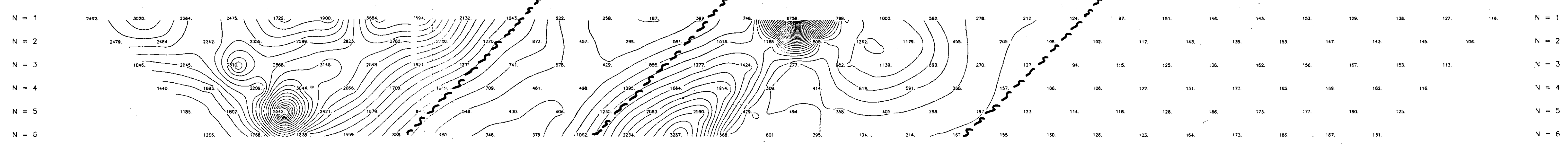
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CONTOUR INTERVALS
APP.CHARGEABILITY : 1.0 (msec)
APP.RESISTIVITY : 200 (ohm-m)

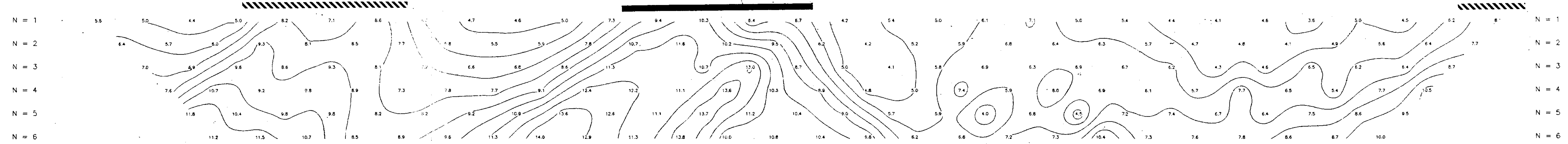
DATE SURVEYED: April 28, 1993
Tx: Huntec Mk2 Model 7500
Rx: EDA IP-6

LLOYD GEOPHYSICS INC.
INDUCED POLARIZATION SURVEY
DRAWING NUMBER : 93339-08

F1 PAQUET FAULT **F3 FAULT/CONTACT GEOPHY.** **F2 FAULT GEOL.** **RESISTIVITY (OHM-M)**



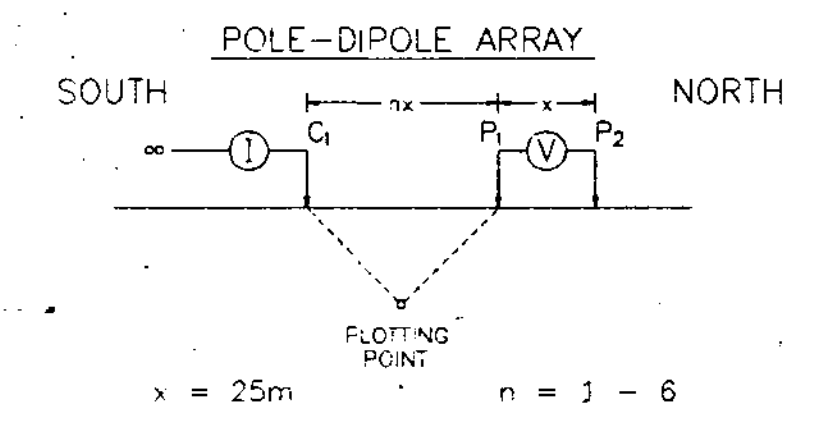
CHARGEABILITY (MSEC)



WESTMIN RESOURCES LTD.

Dove Property
Courtenay, B.C.

LINE: 600E



CURRENT ELECTRODE C1 SOUTH
OF POTENTIAL DIPOLE P1P2

SURFACE PROJECTION
OF ANOMALOUS ZONES

- DEFINITE
- PROBABLE
- POSSIBLE
- AT DEPTH

SCALE 1 : 1000

CONTOUR INTERVALS
APP CHARGEABILITY : 1.0 (msec)
APP RESISTIVITY : 200 (ohm-m)

DATE SURVEYED: April 28, 1993
Tx: Huntec Mk2 Model 7500
Rx: EDA IP-6

LLOYD GEOPHYSICS INC.

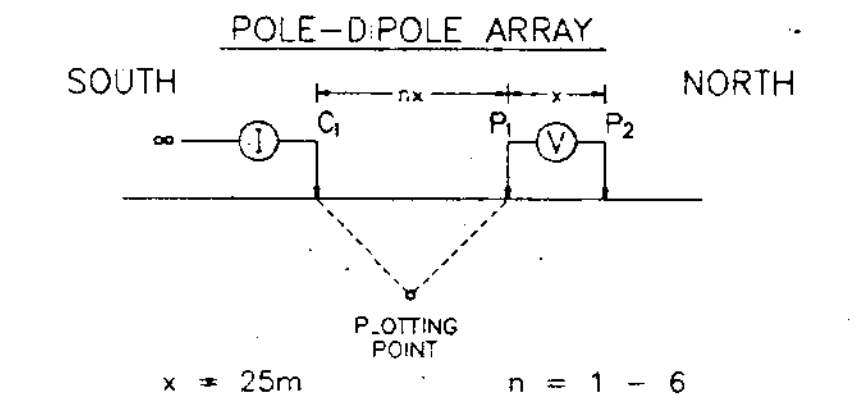
INDUCED POLARIZATION SURVEY
DRAWING NUMBER : 93339-09

WESTMIN RESOURCES LTD.

Dove Property

Courtenay, B.C.

LINE: 700E



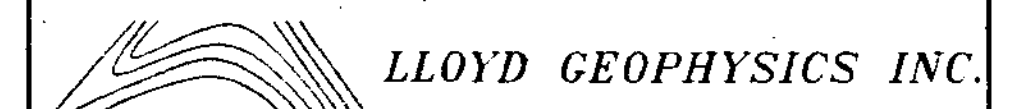
CURRENT ELECTRODE C₁ SOUTH OF POTENTIAL DIPOLE P₁P₂

SURFACE PROJECTION OF ANOMALOUS ZONES

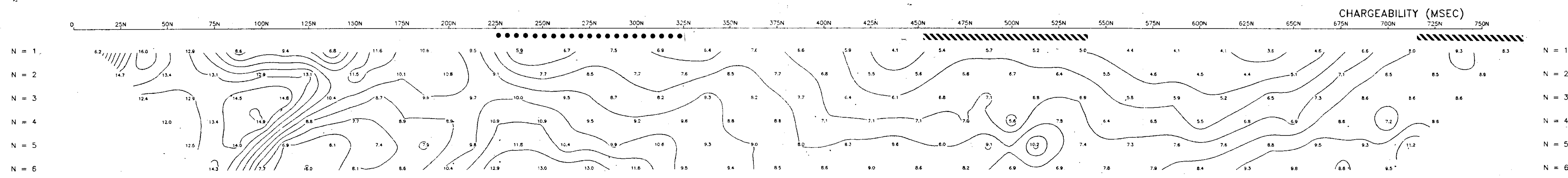
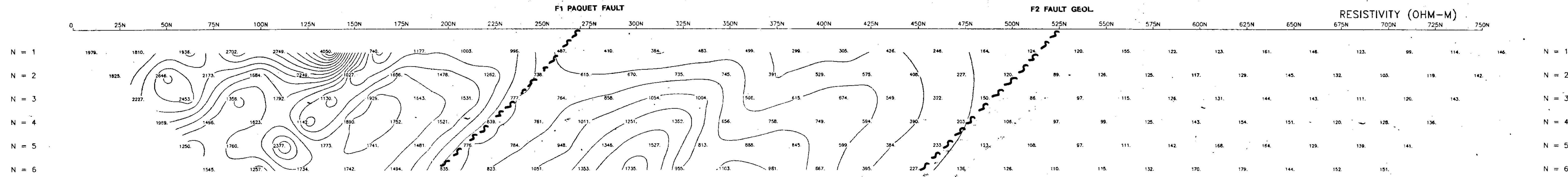
- DEFINITE
- PROBABLE
- POSSIBLE
- AT DEPTH

SCALE 1 : 1000

CONTOUR INTERVALS
 APP.CHARGEABILITY : 1.0 (msec)
 APP.RESISTIVITY : 200 (ohm-m)
 DATE SURVEYED: APRIL 27, 1993
 Tx: Huntec Mk2 Model 7500
 Rx: EDA JP-6



INDUCED POLARIZATION SURVEY
 DRAWING NUMBER : 93339-10

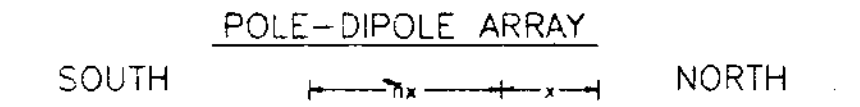


WESTMIN RESOURCES LTD.

Dove Property

Courtenay, B.C.

LINE: 800E



SOUTH NORTH
N = 1
N = 2
N = 3
N = 4
N = 5
N = 6

x = 25m n = 1 - 6

CURRENT ELECTRODE C₁ SOUTH OF POTENTIAL DIPOLE P₁P₂

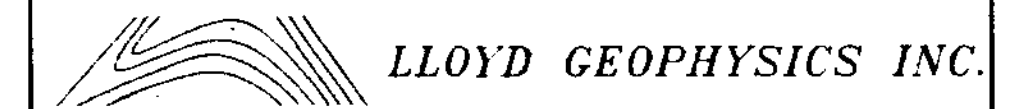
SURFACE PROJECTION OF ANOMALOUS ZONES

- DEFINITE [Solid black bar]
- PROBABLE [Dashed black bar]
- POSSIBLE [Hatched black bar]
- AT DEPTH [Dotted black bar]

SCALE 1 : 1000

CONTOUR INTERVALS
APP.CHARGEABILITY : 1.0 (msec)
APP.RESISTIVITY : 200 (ohm-m)

DATE SURVEYED: APRIL 27, 1993
Tx: Huntec MK2 Model 7500
Rx: EDA IP-6



LLOYD GEOPHYSICS INC.
INDUCED POLARIZATION SURVEY
DRAWING NUMBER : 93339-11

