82-#767 - 10766

PHOENIX GEOPHYSICS LIMITED

REPORT ON THE

SUNRISE PROPERTY
OMINECA MINING DIVISION
BRITISH COLUMBIA

FOR

WESTMIN RESOURCES LIMITED

Latitude: 55°21' Longitude: 127°29'
N.T.S. 93M/6W

CLAIMS: Van 1-6, Alpha 1-30, Griz, Griz Fr, Midnite Fr, Goat

CROWN GRANTS: Ethel, Sunset, Sunrise, Noonday, Hidden Treasure, Ethel Fr.

OWNER: Sunrise Metals Corporation

OPERATOR: Westmin Resources Limited

BY

PAUL A. CARTWRIGHT, B.Sc.
Geophysicist

October 6, 1982

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PART B

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PART C

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1) INTRODUCTION

An Induced Polarization and Resistivity Survey has been carried out by Phoenix Geophysics Ltd. for Westmin Resources Limited on the Sunrise Property, Omineca M.D., British Columbia.

The property is located approximately 15 kilometers to the north-east of New Hazelton, B.C., and access is via 23 kilometers of gravel road up Nine Mile Mountain from the settlement of Two Mile, B.C.

The following geological description has been provided by Mr. D.W. Ferguson, Project Geologist:

"Rocks underlying the Hazelton area of the Babine Range consist of two major sequences, one sedimentary, the other volcanic:

1) Upper Jurassic-Lower Cretaceous Bowser Group sedimentary rocks consisting of sandstone, siltstone, shale and conglomerate units.

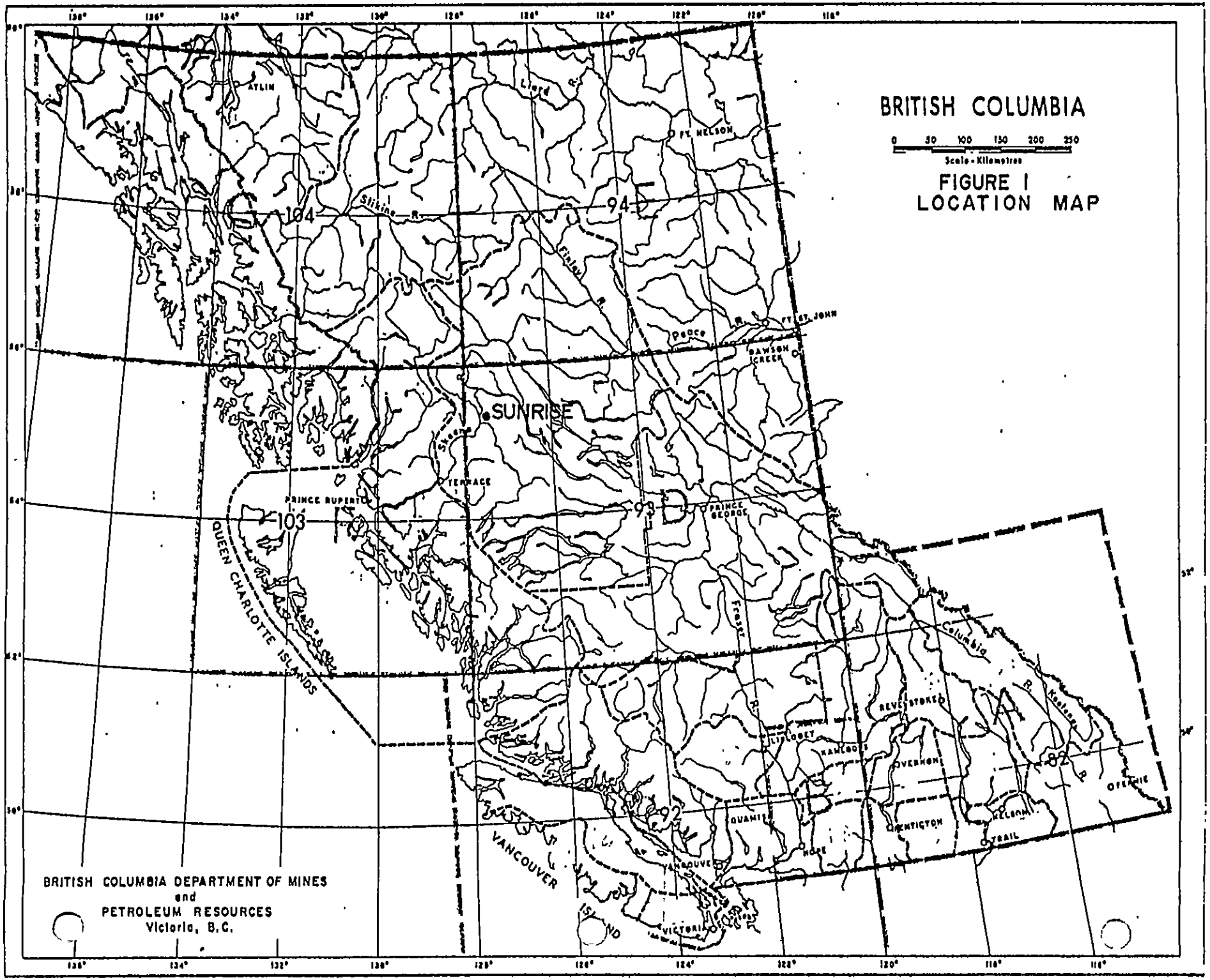
2) Lower to Middle Jurassic Hazelton Group andesitic volcanic rocks.

These sequences are intruded by stocks of Upper Cretaceous granodiorites, quartz diorite, and quartz monzonite Bulkley Intrusions. Smaller Eocene age Babine Intrusions consisting of diorite, porphyritic rock and breccia occur regionally.

The property is underlain by the one kilometer by three kilometer, westerly elongated Nine Mile Granodiorite Stock. The coarse-grained granodiorite is one of numerous Bulkley Intrusions dated at 72 Ma (hornblende). Finer-grained phases have been observed on the property.

The stock intrudes sandstone, siltstone and shale belonging to the Bowser Group. Sedimentary rocks are often hornfelsed adjacent to the intrusive contact and sandstone may be altered to quartzite. Structurally, the sediments form broad, moderately dipping synclines and anticlines.

Numerous quartz-carbonate veins with simple and complex minerals containing silver, lead, zinc, antimony and arsenic ($\pm$ gold) occur in both the granodiorite and the surrounding metasedimentary rocks. Generally, they are flat to moderately dipping structures (10^{o}-45^{o}) which are sometimes exposed for long distances, but pinch and swell greatly. Branching vein structures are common. Some areas consist of networks of veins and veinlets forming systems up to 3 meters in width".


BRITISH COLUMBIA
0 50 100 150 200 250
Scale - Kilometres
FIGURE I
LOCATION MAP
SUNRISE
104
94
103
93
92
82
ATLIN
Liard R.
FT. NELSON
Sikine R.
Fraser R.
Peace R.
FT. ST. JOHN
DAWSON CREEK
Skeena R.
TERRACE
PRINCE RUPERT
PRINCE GEORGE
QUEEN CHARLOTTE ISLANDS
Fraser R.
Columbia R.
Kootenay R.
REVELSTOKE
LILLOOET
KAMLOOPS
OVERNOM
QUANIS
PENTICTON
NELSON
TRAIL
OSOYOOS
VANCOUVER
VANCOUVER ISLAND
VICTORIA
BRITISH COLUMBIA DEPARTMENT OF MINES
and
PETROLEUM RESOURCES
Victoria, B.C.

The present IP and Resistivity Survey was planned in order to outline any areas of alteration and stockwork mineralization which might possibly exist at relatively shallow depths on the Sunrise Property.

Field work was carried out during July 1982 using a Phoenix Model IPV-1 IP and Resistivity receiver unit, in conjunction with a Phoenix Model IPT-1 IP and Resistivity transmitter unit, recording polarizability as percent frequency effect (P.F.E.) between frequencies of 4.0 Hertz and 0.25 Hertz. Apparent resistivity measurements are normalized in units of ohm-meters, while metal factor (M.F.) values are calculated according to the formula: M.F. = (P.F.E. x 1000) ÷ Apparent Resistivity. Dipole-dipole array was used exclusively, primarily with an interelectrode spacing of 100 meters, although some work was completed using 50 meter dipole lengths as well. Four dipole separations were recorded on every line.

Field work was conducted under the supervision of Mr. Zenon Pozniak, geophysical crew leader, whose certificate is attached to this report.

2) DESCRIPTION OF CLAIMS

The Sunrise Property consists of the following claims:

CLAIM NAME	RECORD NO.	UNITS	RECORD DATE
VAN 1-6	26761-66	6	September 8
ALPHA 1-5	22036-40	5	June 28
ALPHA 6-7	21304-05	2	July 22
ALPHA 8-10	22471-73	3	August 30
ALPHA 11-26	25387-402	16	June 29
ALPHA 27-30	26767-70	4	September 8
GRIZ	4279	10	September 15
GRIZ FRACTION	4280	1	September 15
MIDNITE FRACTION	4281	1	September 15
GOAT	4282	6	September 15

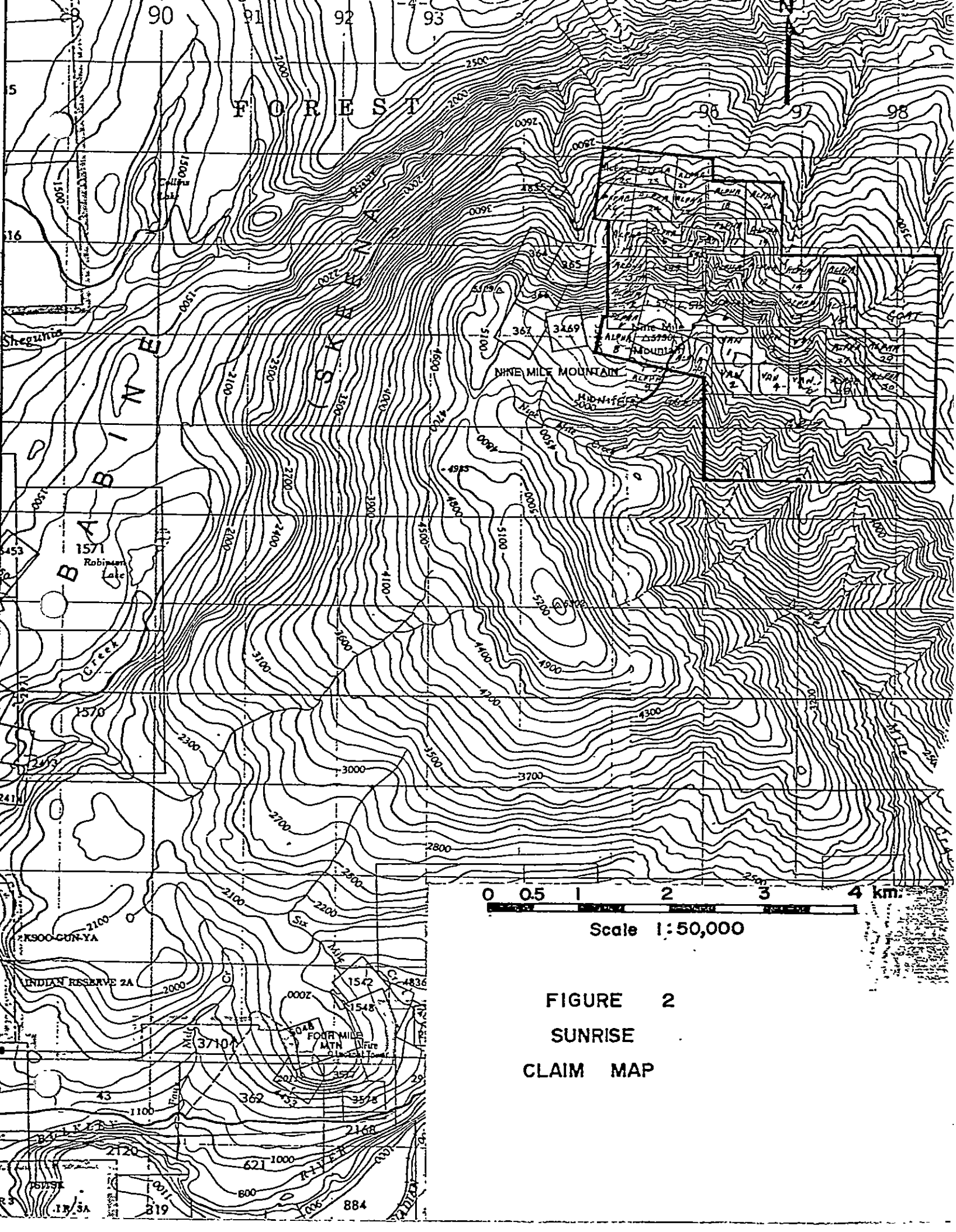


FIGURE 2

SUNRISE

CLAIM MAP

CROWN-GRANTED

	LOT No.
ETHEL	593
SUNSET	594
SUNRISE	595
NOONDAY	596
HIDDEN TREASURE	597
ETHEL FRACTION	599

Sunrise Metals Corp. is the current owner and Westmin Resources Ltd. is the current operator.

3) PRESENTATION OF DATA

The Induced Polarization and Resistivity data are shown on the following data plots in the manner described in the notes attached to this report (Part B).

LINE	ELECTRODE INTERVAL	DWG. NO.
2 + 00W	100 meters	I.P. 5312-1
1 + 00W	100 meters	I.P. 5312-2
0 + 00W	100 meters	I.P. 5312-3
0 + 00W	50 meters	I.P. 5312-4
1 + 00E	100 meters	I.P. 5312-5
1 + 00E	50 meters	I.P. 5312-6
2 + 00E	100 meters	I.P. 5312-7
2 + 00E	50 meters	I.P. 5312-8
2 + 50E	50 meters	I.P. 5312-9
3 + 00E	100 meters	I.P. 5312-10
4 + 00E	100 meters	I.P. 5312-11
5 + 00E	100 meters	I.P. 5312-12
6 + 00E	50 meters	I.P. 5312-13
7 + 00E	50 meters	I.P. 5312-14

Also included with this report is DWG. No. I.P.P.-B-3110, a plan map of the Sunrise Property, at a scale of 1:2500. The definite probable and possible Induced Polarization anomalies are indicated by bars, in the manner shown on the legend, on this plan map, as well as on the data plots. These bars represent the surface projection of the anomalous zones as

interpreted from the location of the transmitter and the receiver electrodes when the anomalous values were measured.

The geologic, claim, and grid information shown on DWG. I.P.P.-B-3110 has been provided by the staff of Westmin Resources Limited.

4) DESCRIPTION OF RESULTS

The two principal rock types underlying the Sunrise Property I.P. grid show quite different I.P. and Resistivity signatures. The granodiorites, as expected, give rise to very high magnitude apparent resistivity values, accompanied by polarizability (P.F.E.) values of moderately high magnitude. This is consistant with a competent rock type hosting a small amount of disseminated metallic sulphides.

The metasediments, on the other hand, display low to very low apparent resistivity values, and generally highly anomalous polarizability readings. This suggests that substantial amounts of highly conductive graphite are present within the metasediment unit. Any sulphide mineralization present would, of course, add to the overall response.

Six of the eight anomalous I.P. zones outlined by the present data appear to be contained within the metasediments. These six I.P. zones represent the most conductive portions of the sedimentary unit, probably outlining trends of greater graphite and/or sulphide concentration. All eight zones are discussed briefly below.

i) Zone A1, Zone B1, Zone B2

Zone A1 is a very conductive trend which could be the downslope extension of Zone B1, although it does not appear likely that Zone B2 could be part of the same horizon, unless a synclinal or anticlinal structure were present.

ii) Zone A2, Zone B3

Both of these anomalous IP responses are interpreted to be on the eastern edge of the grid area. The former feature appears to outline a large conductive area at depth, while the latter portrays a relatively narrow, near-surface source of low resistivity, and higher than background polarizability.

iii) Zone C

This zone is best outlined on Line 0, in the 50 meter data, as a narrow, near-surface anomaly, lying immediately north of another deeper IP source, that is Zone B1. Zone C may extend east to Line 1E as a much weaker trend.

Two of the IP zones interpreted in the data occur in areas of granodiorite rock.

iv) Zone D

Disseminated mineralization is the most probable source of this short IP zone, as indicated by higher than background polarizability values, together with moderately high apparent resistivity values. Zone D is best outlined on the 50 meter data from Line 2E.

v) Zone E

A single anomaly marks this zone, on the northern end of Line 2 + 50E. A shallow, narrow source is indicated, located between Station 5 + 50N and Station 6 + 00N. Depth to the top is less than 50 meters.

SUMMARY AND RECOMMENDATIONS

The contact between the granodiorite rocks on the north, and the metasedimentary rocks on the south, is outlined very well by the IP and

resistivity results, as the latter rock types show much lower apparent resistivity levels and somewhat higher apparent polarizability values than the former rocks.

Six zones of higher conductivity are indicated to lie within the metasediments. Because graphite may be the primary cause of these zones, it is recommended that drilling be considered to test these IP trends, only if other information is available to provide additional encouragement. The other alternative would be to complete more sophisticated spectral IP surveying in an attempt to differentiate between graphite and sulphides.

Zone D and Zone E appear to be located within the granodiorite rock unit and therefore are most probably caused by metallic sulphide mineralization. Zone E is the more interesting of the two and should receive higher priority for drilling. A hole located to pass approximately 35 meters beneath Line 2 + 50E, Station 5 + 75N is recommended. Zone D would be best evaluated by a drill hole spotted to pass approximately 35 meters beneath Line 2 + 00E, Station 1 + 75N.

PHOENIX GEOPHYSICS LTD.

Paul A. Cartwright

Paul A. Cartwright,
B.Sc., Geophysicist.

DATED: 6 October 1982

ASSESSMENT DETAILS

PROPERTY: Sunrise Property

MINING DIVISION: Omineca

SPONSOR: Westmin Resources Ltd.

PROVINCE: British Columbia

LOCATION: Nine Mile Mountain, B.C.

TYPE OF SURVEY: Induced Polarization and Resistivity

OPERATING MAN DAYS: 18

DATE STARTED: 10 July 1982

EQUIVALENT 8 HR. MAN DAYS: 27

DATE FINISHED: 23 July 1982

CONSULTING MAN DAYS: 4

NUMBER OF STATIONS: 158

DRAFTING MAN DAYS: 4

NUMBER OF READINGS: 1113

TOTAL MAN DAYS: 35

MILES OF LINE SURVEYED: 10.6 km

CONSULTANTS:

Paul A. Cartwright, 4238 W. 11th Avenue, Vancouver, B.C.

FIELD TECHNICIANS:

Z. Pozniak, 90 Humberview Road, Toronto, Ontario.

K. Corman, 10891 Bromley Place, Richmond, B.C.

DRAUGHTSMEN:

R.C. Norris, 1204 - 45 Sunrise Avenue, Toronto, Ontario.

R.J. Pryde, R.R. #1, Sharon, Ontario.

PHOENIX GEOPHYSICS LIMITED

Paul A. Cartwright

Paul A. Cartwright, B.Sc.,
Geophysicist.

DATED: 6 October 1982

STATEMENT OF COST

WESTMIN RESOURCES LIMITED - IP AND RESISTIVITY SURVEY, SUNRISE PROPERTY
BRITISH COLUMBIA

PERIOD: July 10, 1982 to July 23, 1982.

CREW: Z. Pozniak, K. Corman

9 operating days @ $ 700.00 per day	$ 6,300.00
3 Bad Weather Days @ $360.00 per day	1,030.00
T O T A L	$ 8,630.00

PHOENIX GEOPHYSICS LIMITED

Paul A. Cartwright, B.Sc.,
Geophysicist.

DATED: October 6, 1982.

I, Paul A. Cartwright, of the City of Vancouver, Province of British Columbia, do hereby certify that:

1. I am a geophysicist residing at 4238 West 11th Avenue, Vancouver, B.C.

2. I am a graduate of the University of British Columbia, Vancouver, B.C, with a B.Sc. Degree.

3. I am a member of the Society of Exploration Geophysicists and the European Association of Exploration Geophysicists.

4. I have been practising my profession for 12 years.

5. I have no direct or indirect interest, nor do I expect to receive any interest directly or indirectly in the property or securities of Westmin Resources Limited or any affiliate.

6. The statements made in this report are based on a study of published geological literature and unpublished private reports.

7. Permission is granted to use in whole or in part for assessment and qualifications requirements but not for advertising purposes.

Paul A. Cartwright, II

Paul A. Cartwright, B.Sc.

DATED at VANCOUVER, B.C.
this 6th day of October 1982.

CERTIFICATE

I, Zenon Pozniak, of the City of Toronto, Province of Ontario, do hereby certify that:

1. I am a geophysical crew leader residing at 90 Humberview Road, Toronto, Ontario.

2. I have been practising my vocation about four years.

3. I am presently employed as a geophysical crew leader by Phoenix Geophysics Ltd. at 200 Yorkland Blvd., Willowdale, Ontario.

Zenon Pozniak

DATED AT VANCOUVER, B.C.
THIS 6th day of October 1982.

PART B

PHOENIX GEOPHYSICS LIMITED

NOTES ON THE THEORY, METHOD OF FIELD OPERATION AND PRESENTATION OF DATA FOR THE INDUCED POLARIZATION METHOD

Induced Polarization as a geophysical measurement refers to the blocking action or polarization of metallic or electronic conductors in a medium of ionic solution conduction.

This electro-chemical phenomenon occurs wherever electrical current is passed through an area which contains metallic minerals such as base metal sulphides. Normally, when current is passed through the ground, as in resistivity measurements, all of the conduction takes place through ions present in the water content of the rock, or soil, i.e., by ionic conduction. This is because almost all minerals have a much higher specific resistivity than ground water. The group of minerals commonly described as "metallic", however, have specific resistivities much lower than ground waters. The induced polarization effect takes place at those interfaces where the mode of conduction changes from ionic in the solutions filling the interstices of the rock to electronic in the metallic minerals present in the rock.

The blocking action or induced polarization mentioned above, which depends upon the chemical energies necessary to allow the ions to give up or receive electrons from the metallic

surface, increases with the time that a d.c. current is allowed to flow through the rock; i.e., as ions pile up against the metallic interface the resistance to current flow increases. Eventually, there is enough polarization in the form of excess ions at the interfaces, to appreciably reduce the amount of current flow through the metallic particle. This polarization takes place at each of the infinite number of solution-metal interfaces in a mineralized rock.

When the d.c. voltage used to create this d.c. current flow is cut off, the Coulomb forces between the charged ions forming the polarization cause them to return to their normal position. This movement of charge creates a small current flow which can be measured on the surface of the ground as a decaying potential difference.

From an alternate viewpoint it can be seen that if the direction of the current through the system is reversed repeatedly before the polarization occurs, the effective resistivity of the system as a whole will change as the frequency of the switching is changed. This is a consequence of the fact that the amount of current flowing through each metallic interface depends upon the length of time that current has been passing through it in one direction.

The values of the per cent frequency effect or F.E. are a measurement of the polarization in the rock mass. However, since the measurement of the degree of polarization is related to the apparent resistivity of the rock mass, it is found that the metal factor values or M.F. can be useful values

determining the amount of polarization present in the rock mass. The MF values are obtained by normalizing the F.E. values for varying resistivities.

The Induced Polarization measurement is perhaps the most powerful geophysical method for the direct detection of metallic sulphide mineralization, even when this mineralization is of very low concentration. The lower limit of volume per cent sulphide necessary to produce a recognizable IP anomaly will vary with the geometry and geologic environment of the source, and the method of executing the survey. However, sulphide mineralization of less than one per cent by volume has been detected by the IP method under proper geological conditions.

The greatest application of the IP method has been in the search for disseminated metallic sulphides of less than 20% by volume. However, it has also been used successfully in the search for massive sulphides in situations where, due to source geometry, depth of source, or low resistivity of surface layer, the EM method cannot be successfully applied. The ability to differentiate ionic conductors, such as water-filled shear zones, makes the IP method a useful tool in checking EM anomalies which are suspected of being due to these causes.

In normal field applications the IP method does not differentiate between the economically important metallic minerals such as chalcopyrite, chalcocite, molybdenite, galena, etc., and the other metallic minerals such as pyrite. The Induced Polarization effect is due to the total of all electronic conducting minerals in the rock mass. Other electronic conducting

materials which can produce an IP response are magnetite, pyrolusite, graphite, and some forms of hematite.

In the field procedure, measurements on the surface are made in a way that allows the effects of lateral changes in the properties of the ground to be separated from the effects of vertical changes in the properties. Current is applied to the ground at two points in distance (X) apart. The potentials are measured at two points (X) feet apart, in line with the current electrodes is an integer number (n) times the basic distance (X).

The measurements are made along a surveyed line, with a constant distance (nX) between the nearest current and potential electrodes. In most surveys, several traverses are made with various values of (n); i.e., (n) = 1, 2, 3, 4, etc. The kind of survey required (detailed or reconnaissance) decides the number of values of (n) used.

In plotting the results, the values of apparent resistivity, apparent per cent frequency effect, and the apparent metal factor measured for each set of electrode positions are plotted at the intersection of grid lines, one from the center point of the current electrodes and the other from the center point of the potential electrodes. (See Figure A) The resistivity values are plotted at the top of the data profile, above the metal factor values. On a third line, below the metal factor values, are plotted the values of the percent frequency effect. The lateral displacement of a given value is determined by the location along the survey line of the center

point between the current and potential electrodes. The distance of the value from the line is determined by the distance (nX) between the current and potential electrodes when the measurement was made.

The separation between sender and receiver electrodes is only one factor which determines the depth to which the ground is being sampled in any particular measurement. The plots then, when contoured, are not section maps of the electrical properties of the ground under the survey line. The interpretation of the results from any given survey must be carried out using the combined experience gained from field results, model study results and the theoretical investigations. The position of the electrodes when anomalous values are measured is important in the interpretation.

In the field procedure, the interval over which the potential differences are measured is the same as the interval over which the electrodes are moved after a series of potential readings has been made. One of the advantages of the Induced Polarization method is that the same equipment can be used for both detailed and reconnaissance surveys merely by changing the distance (X) over which the electrodes are moved each time. In the past, intervals have been used ranging from 25 feet to 2000 feet for (X). In each case, the decision as to the distance (X) and the values of (n) to be used is largely determined by the expected size of the mineral deposit being sought, the size of the expected anomaly and the speed with which it is desired to progress.

The diagram in Figure A demonstrates the method used in plotting the results. Each value of the apparent resistivity, apparent metal factor, and apparent per cent frequency effect is plotted and identified by the position of the four electrodes when the measurement was made. It can be seen that the values measured for the larger values of (n) are plotted farther from the line indicating that the thickness of the layer of the earth that is being tested is greater than for the smaller values of (n); i.e., the depth of the measurement is increased.

The IP measurement is basically obtained by measuring the difference in potential or voltage (Δ V) obtained at two operating frequencies. The voltage is the product of the current through the ground and the apparent resistivity of the ground. Therefore, in field situations where the current is very low due to poor electrode contact, or the apparent resistivity is very low, or a combination of the two effects; the value of (Δ V) the change is potential will be too small to be measurable. The symbol "TL" on the data plots indicates this situation.

In some situations spurious noise, either man-made or natural, will render it impossible to obtain a reading. The symbol "N" on the data plots indicates a station at which it is too noisy to record a reading. If a reading can be obtained, but for reasons of noise there is some doubt as to its accuracy, the reading is bracketed in the data plot ( ).

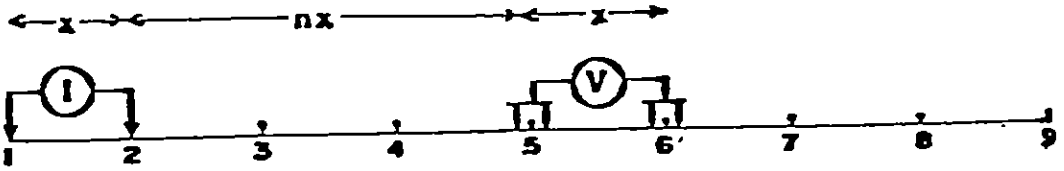
In certain situations negative values of Apparent Frequency Effect are recorded. This may be due to the geologic

environment or spurious electrical effects. The actual negative frequency effect value recorded is indicated on the data plot; however, the symbol "NEG" is indicated for the corresponding value of Apparent Metal Factor. In contouring negative values the contour lines are indicated to the nearest positive value in the immediate vicinity of the negative value.

The symbol "NR" indicates that for some reason the operator did not attempt to record a reading, although normal survey procedures would suggest that one was required. This may be due to inaccessible topography or other similar reasons. Any symbol other than those discussed above is unique to a particular situation and is described within the body of the report.

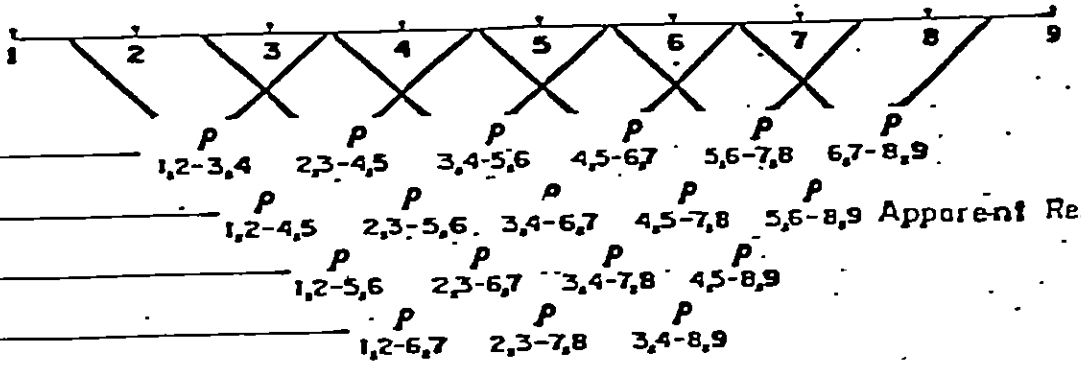
PHOENIX GEOPHYSICS LIMITED

METHOD USED IN PLOTTING DIPOLE-DIPOLE INDUCED POLARIZATION AND RESISTIVITY RESULTS

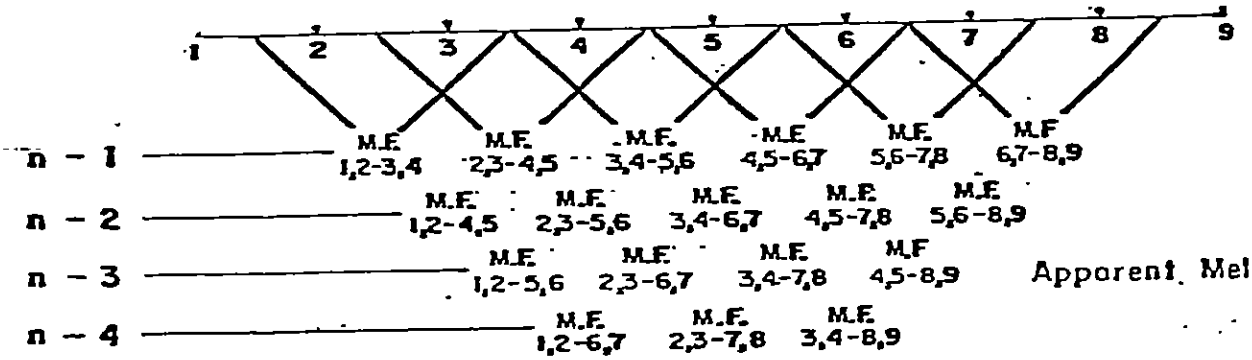


Stations on line

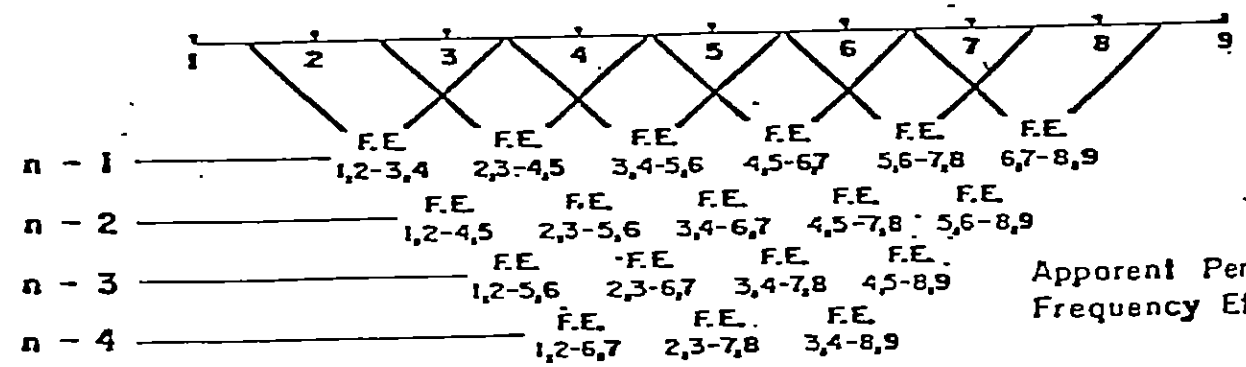
x = Electrode spread length
n = Electrode separation



Apparent Resistivity

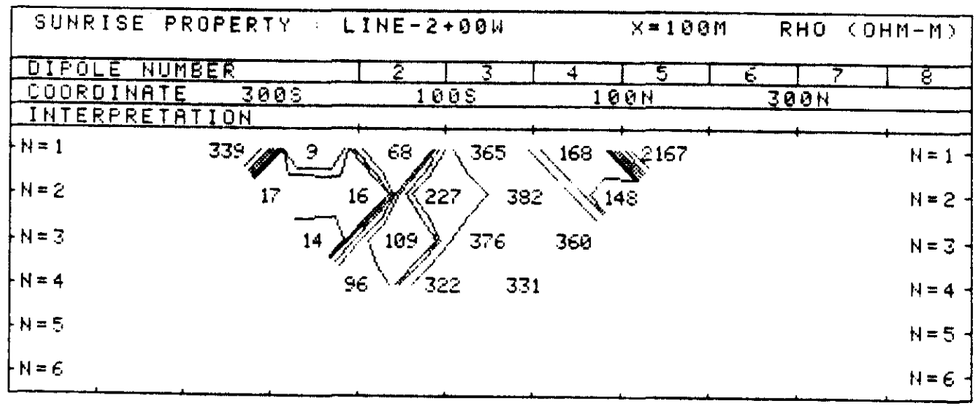


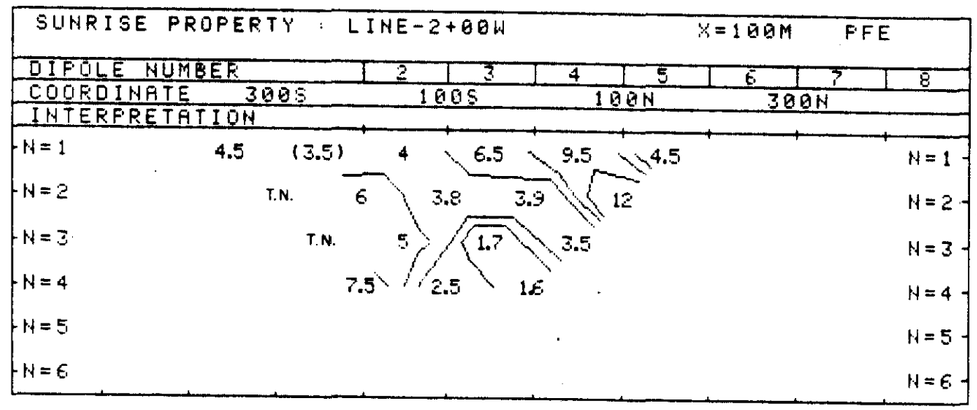
Apparent Metal Factor

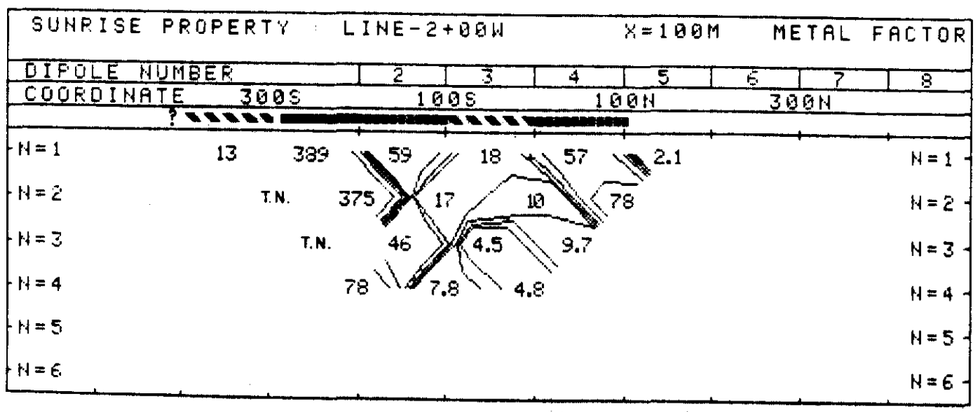


Apparent Percent Frequency Effect

Fig. A







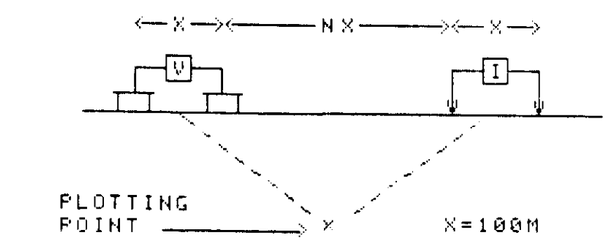
DWG. NO. -I.P-5312-1

WESTMIN RESOURCES LTD.

SUNRISE PROPERTY

OMINECA M.D. / BRITISH COLUMBIA

LINE NO. -2+00W



SURFACE PROJECTION OF ANOMALOUS ZONE

DEFINITE
PROBABLE
POSSIBLE

FREQUENCY (HERTZ)
0.25 & 4.0 HZ

NOTE- CONTOURS AT LOGARITHMIC INTERVALS. 1, -1.5 -2, -3, -5, -7.5, -10

DATE SURVEYED: JULY 1982

APPROVED

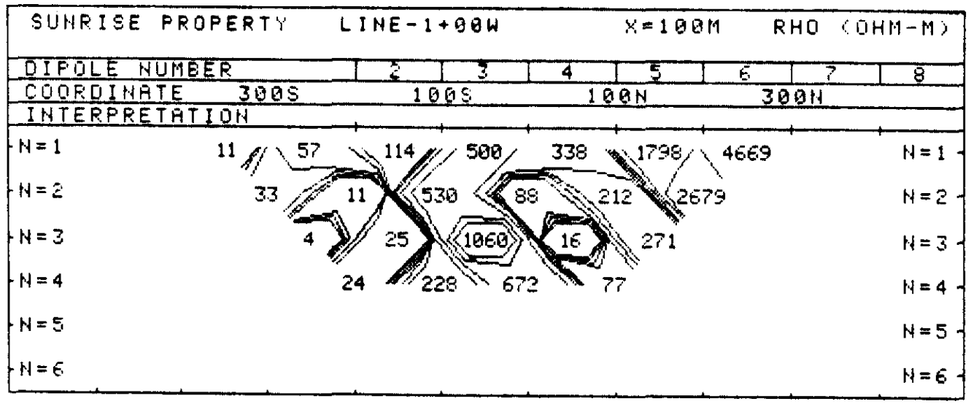
P.A.C.

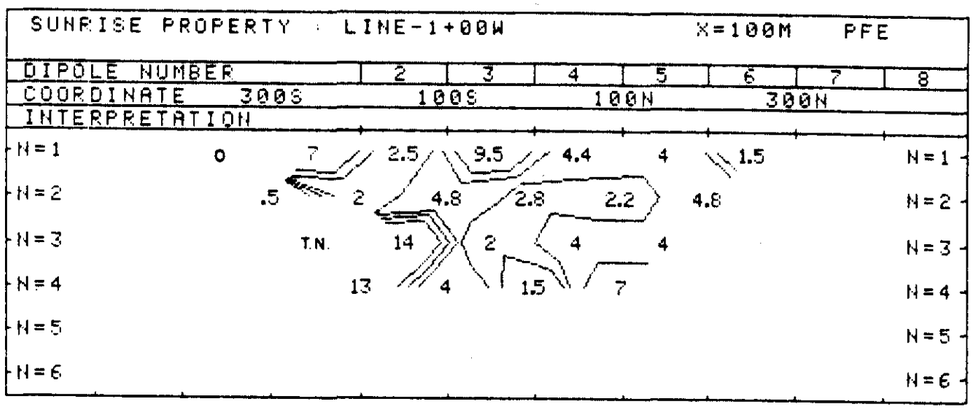
DATE JULY 26/82

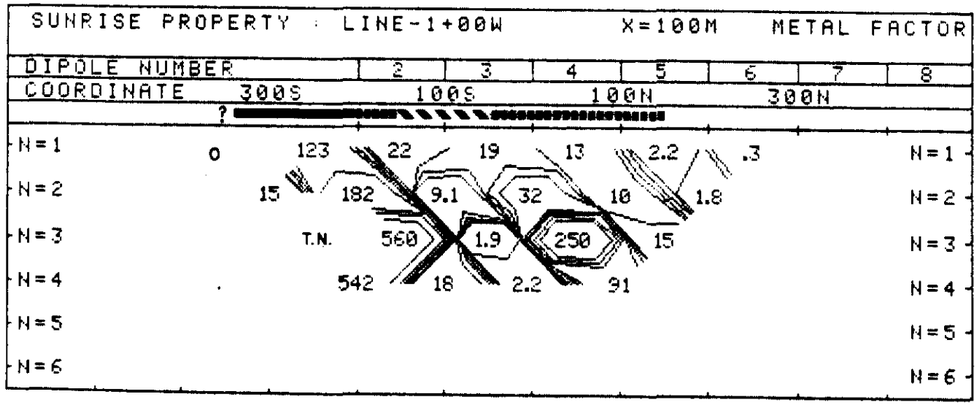
PHOENIX GEOPHYSICS LTD.

INDUCED POLARIZATION

AND RESISTIVITY SURVEY







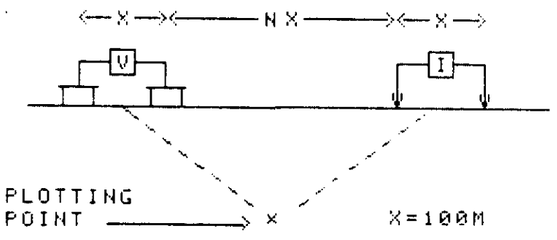
DWG NO.-I.P.-5312-2

WESTMIN RESOURCES LTD.

SUNRISE PROPERTY

OMINECA M.D. / BRITISH COLUMBIA

LINE NO.-1+00W



SURFACE PROJECTION OF ANOMALOUS ZONE

DEFINITE
PROBABLE
POSSIBLE

FREQUENCY (HERTZ)
0.25 & 4.0 HZ.

NOTE- CONTOURS AT LOGARITHMIC INTERVALS. 1,-1.5 -2,-3,-5,-7.5,-10

DATE SURVEYED: JULY 1982
APPROVED

P.A.C.

DATE JULY 26/82

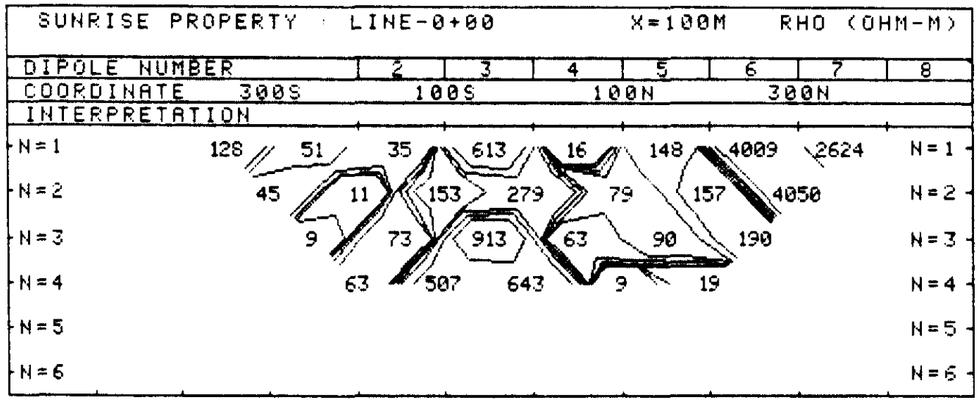
PHOENIX GEOPHYSICS LTD.

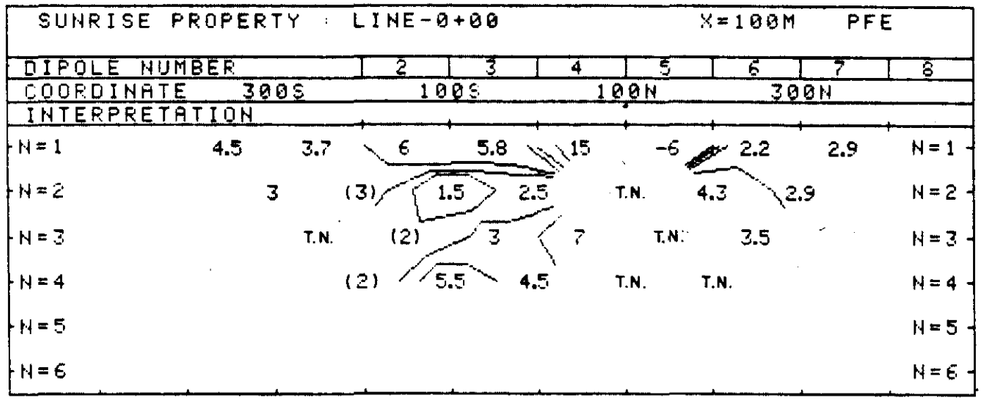
INDUCED POLARIZATION

AND RESISTIVITY SURVEY

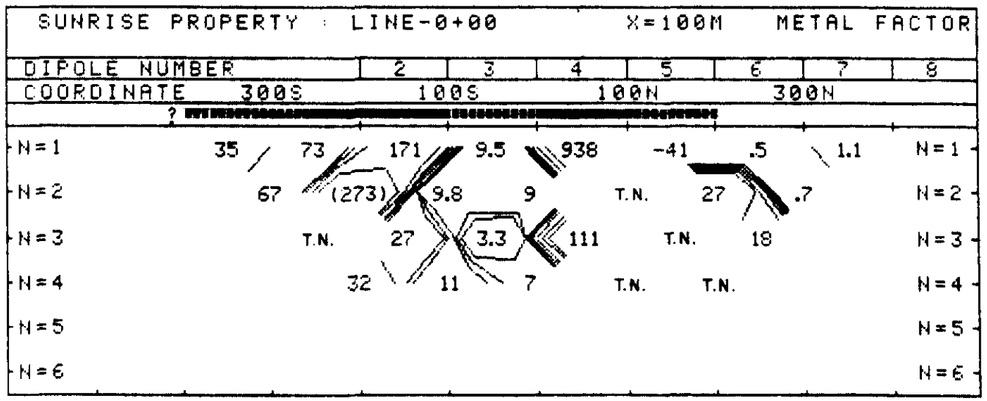
GEOLOGICAL BRANCH
ASSESSMENT REPORT

10,766





TOPOGRAPHY ⊕ TOWER



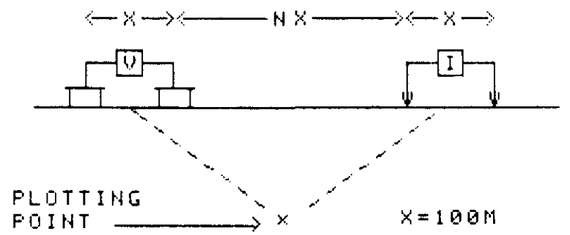
DWG. NO.-I.P.-5312-3

WESTMIN RESOURCES LTD.

SUNRISE PROPERTY

OMINECA M.D. / BRITISH COLUMBIA

LINE NO.-0+00



SURFACE PROJECTION OF ANOMALOUS ZONE

DEFINITE
PROBABLE
POSSIBLE

FREQUENCY (HERTZ)
0.25 & 4.0 HZ.

NOTE- CONTOURS AT LOGARITHMIC INTERVALS. 1,-1.5 -2,-3,-5,-7.5,-10

DATE SURVEYED: JULY 1982

APPROVED

P.A.C.

DATE JULY 26/82

PHOENIX GEOPHYSICS LTD.

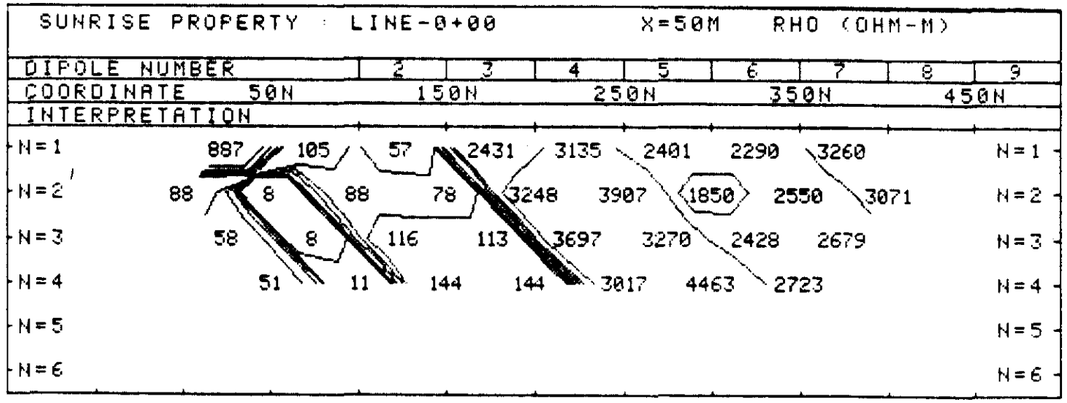
INDUCED POLARIZATION

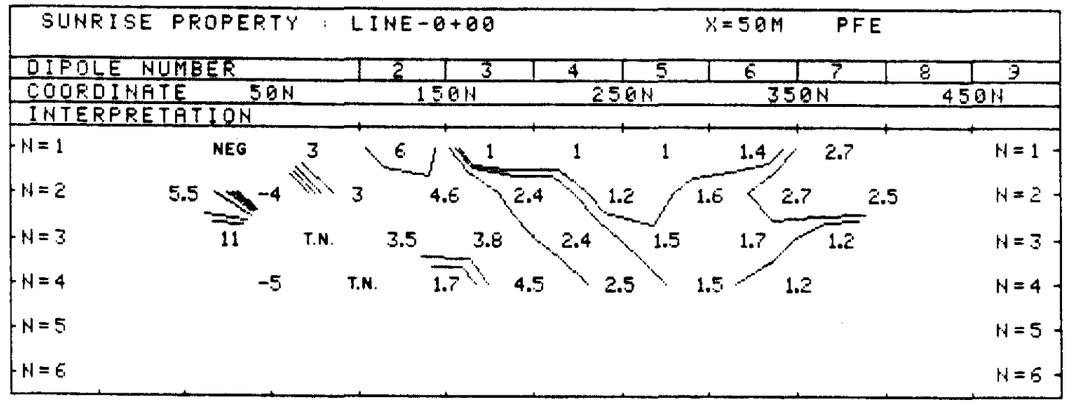
AND RESISTIVITY SURVEY

GEOLOGICAL BRANCH
ASSESSMENT REPORT

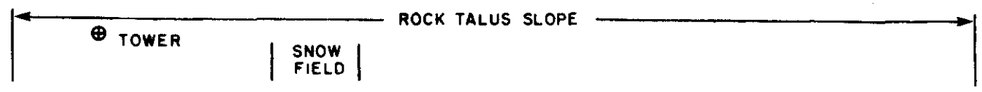
10,766

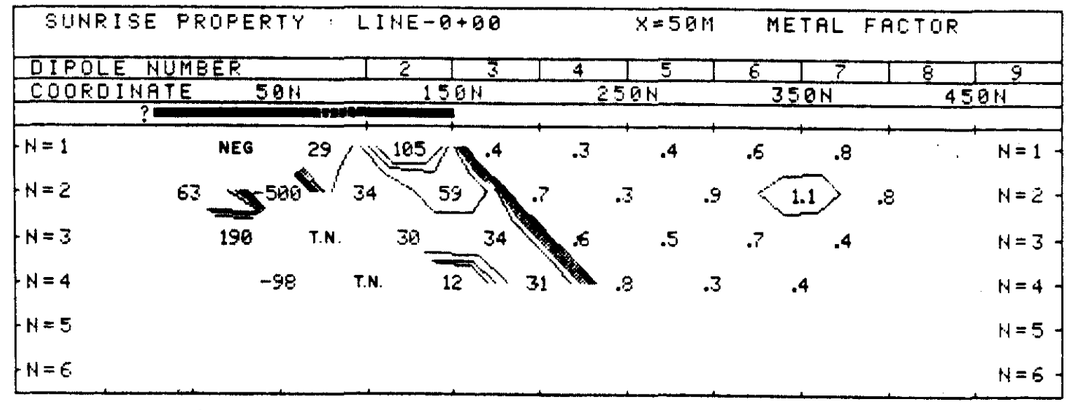
DWG. NO. -I.P-5312-4





TOPOGRAPHY



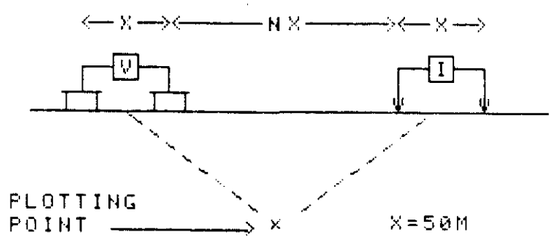


WESTMIN RESOURCES LTD.

SUNRISE PROPERTY

OMINECA M.D. / BRITISH COLUMBIA

LINE NO. -0+00



SURFACE PROJECTION OF ANOMALOUS ZONE

DEFINITE
PROBABLE
POSSIBLE

FREQUENCY (HERTZ)
0.25 & 4.0 HZ.

NOTE- CONTOURS AT LOGARITHMIC INTERVALS. 1, -1.5 -2, -3, -5, -7.5, -10

DATE SURVEYED: JULY 1982

APPROVED

P.A.C.

DATE JULY 26/82

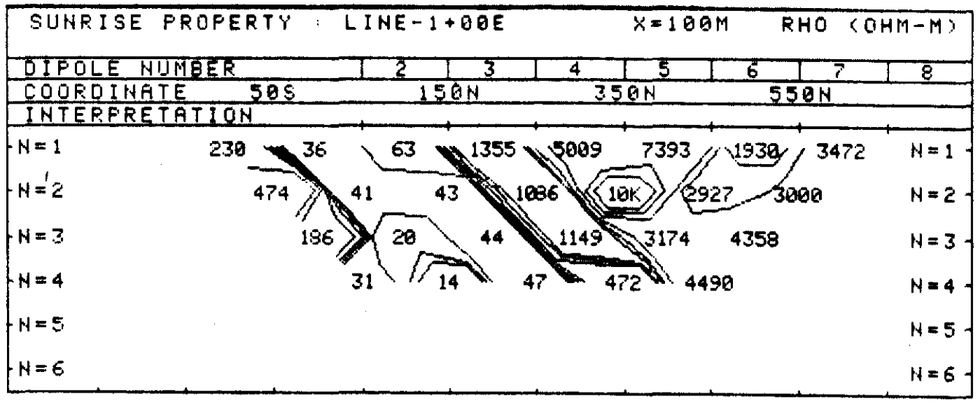
PHOENIX GEOPHYSICS LTD.

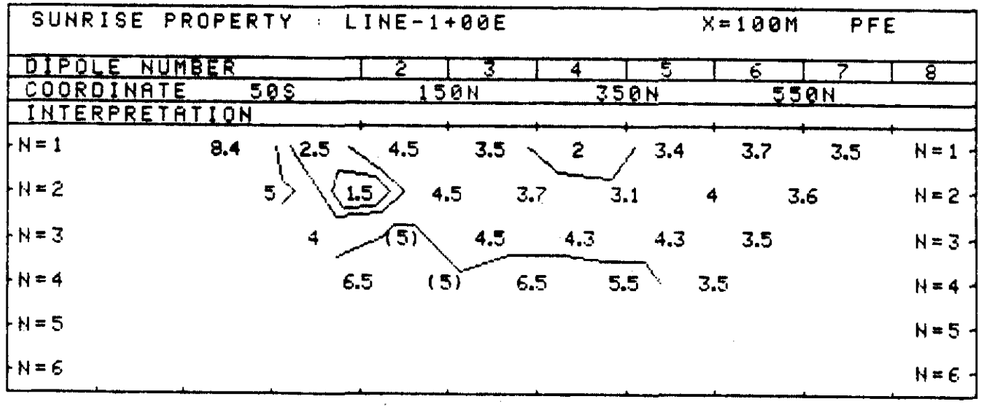
INDUCED POLARIZATION

AND RESISTIVITY SURVEY

GEOLOGICAL BRANCH
ASSESSMENT REPORT

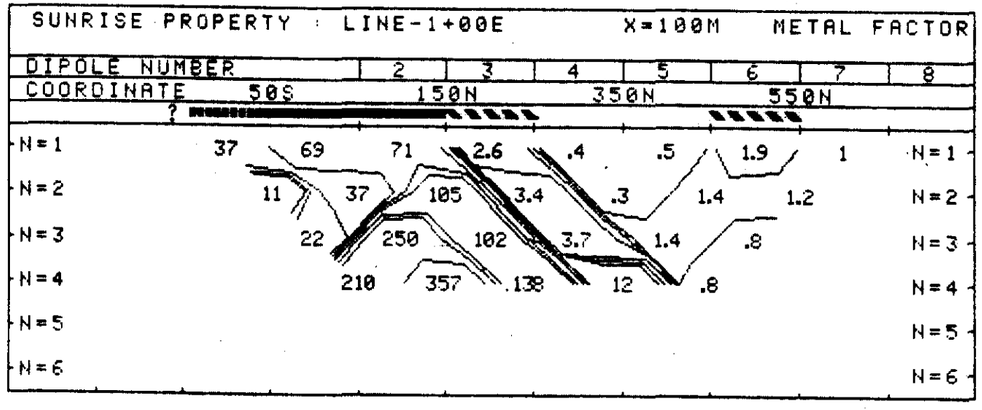
10,766





TOPOGRAPHY

SNOW FIELD



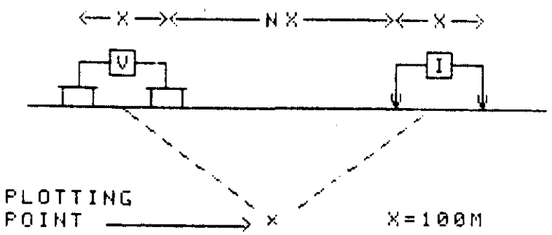
DWG. NO. -I.P.-5312-5

WESTMIN RESOURCES LTD.

SUNRISE PROPERTY

OMINECA M.D. / BRITISH COLUMBIA

LINE NO.-1+00E



SURFACE PROJECTION OF ANOMALOUS ZONE

DEFINITE
PROBABLE
POSSIBLE

FREQUENCY (HERTZ)
0.25 & 4.0 HZ.

NOTE- CONTOURS AT LOGARITHMIC INTERVALS. 1,-1.5 -2,-3,-5,-7.5,-10

DATE SURVEYED: JULY 1982

APPROVED

P.A.C.

DATE JULY 26/82

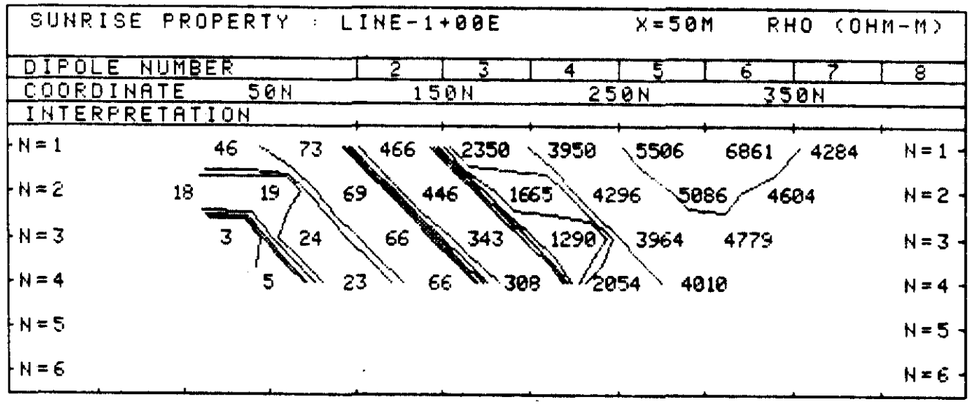
PHOENIX GEOPHYSICS LTD.

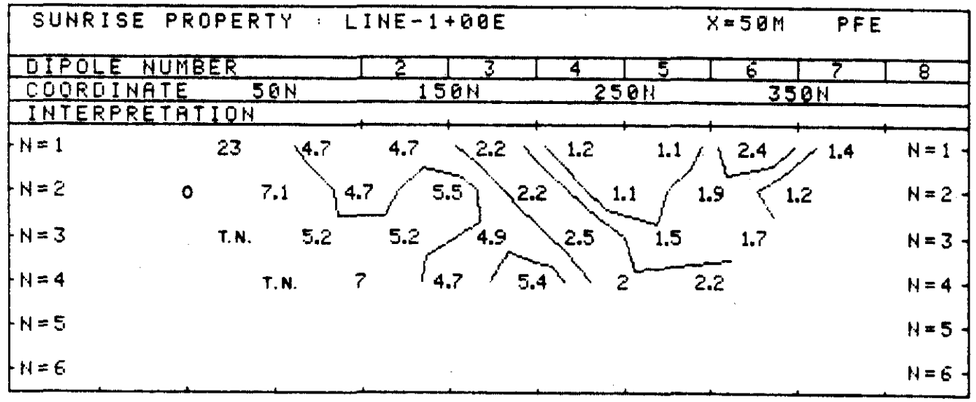
INDUCED POLARIZATION

AND RESISTIVITY SURVEY

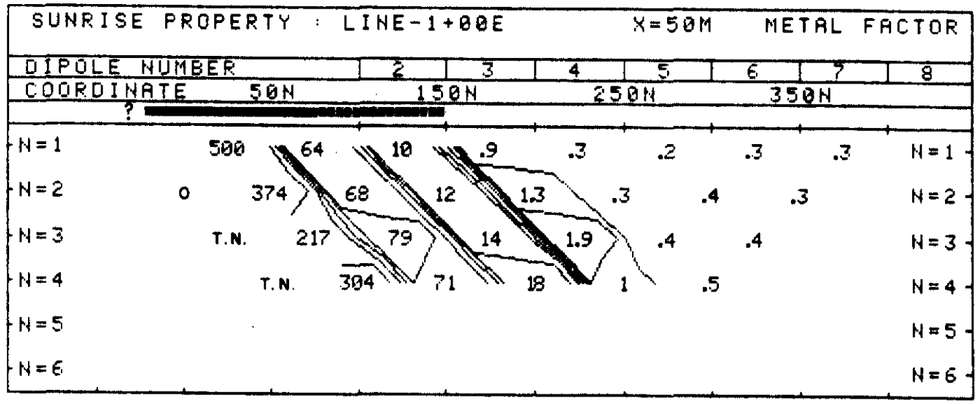
GEOLOGICAL BRANCH
ASSESSMENT REPORT

10,766





TOPOGRAPHY — ROCK TALUS SLOPE — TRENCHING



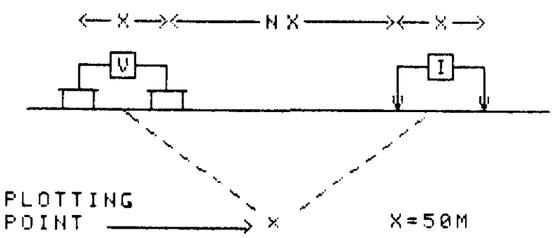
DWG. NO.-I.P.-5312-6

WESTMIN RESOURCES LTD.

SUNRISE PROPERTY

OMINECA M.D. / BRITISH COLUMBIA

LINE NO.-1+00E



SURFACE PROJECTION OF ANOMALOUS ZONE

DEFINITE
PROBABLE
POSSIBLE

FREQUENCY (HERTZ)
0.25 & 4.0 HZ.

NOTE- CONTOURS AT LOGARITHMIC INTERVALS 1,-1.5 -2,-3,-5,-7.5,-10

DATE SURVEYED: JULY 1982

APPROVED

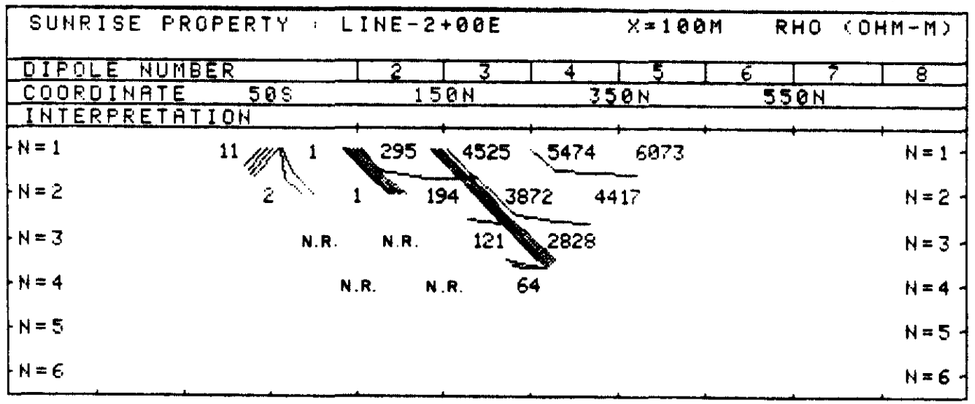
P.A.C.

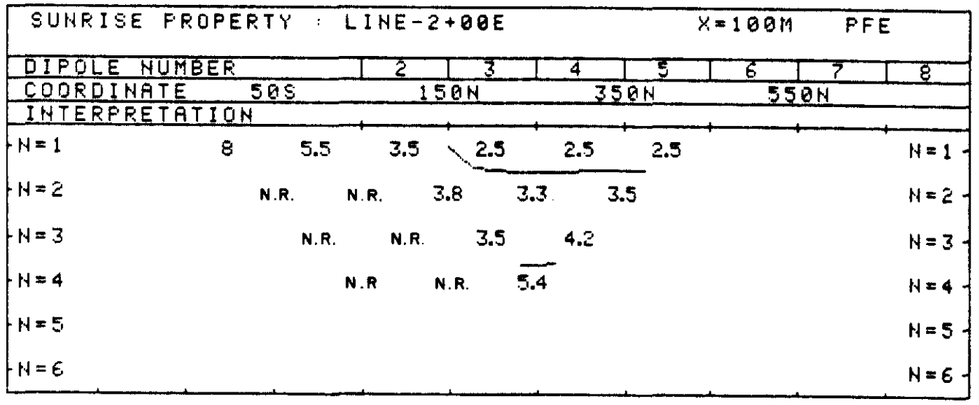
DATE JULY 26/82

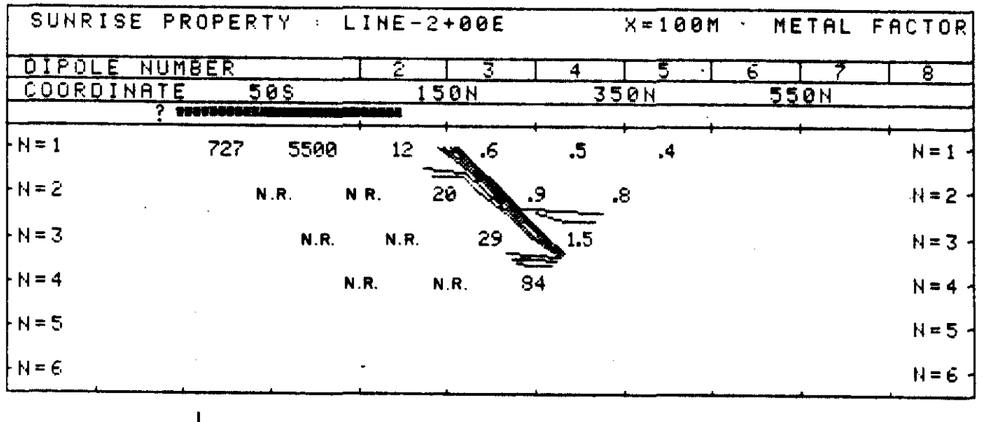
PHOENIX GEOPHYSICS LTD.

INDUCED POLARIZATION

AND RESISTIVITY SURVEY







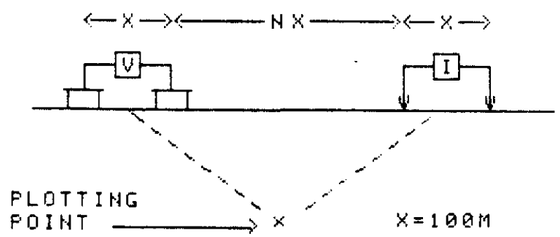
DWG. NO.-I.P.-5312-7

WESTMIN RESOURCES LTD.

SUNRISE PROPERTY

OMINECA M.D. / BRITISH COLUMBIA

LINE NO.-2+00E



SURFACE PROJECTION OF ANOMALOUS ZONE

DEFINITE
PROBABLE
POSSIBLE

FREQUENCY (HERTZ)
0.25 & 4.0 HZ.

NOTE- CONTOURS AT LOGARITHMIC INTERVALS. 1,-1.5 -2,-3,-5,-7.5,-10

DATE SURVEYED: JULY 1982

APPROVED

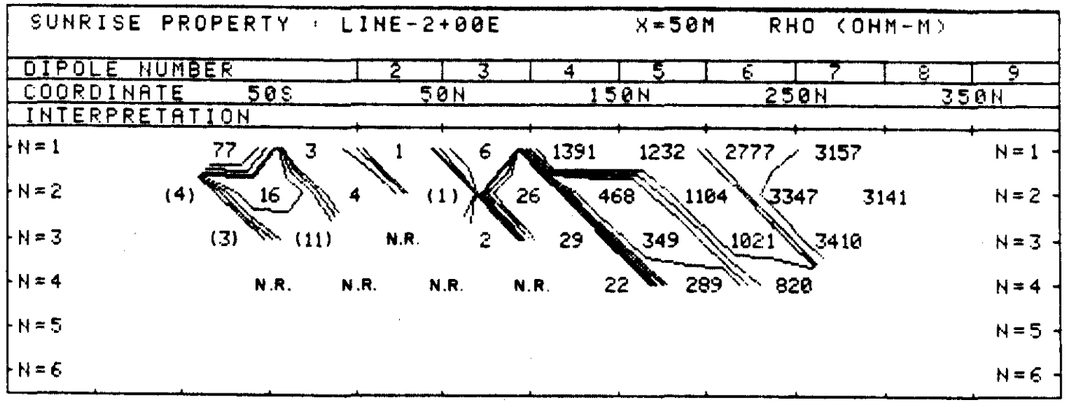
P.A.C.

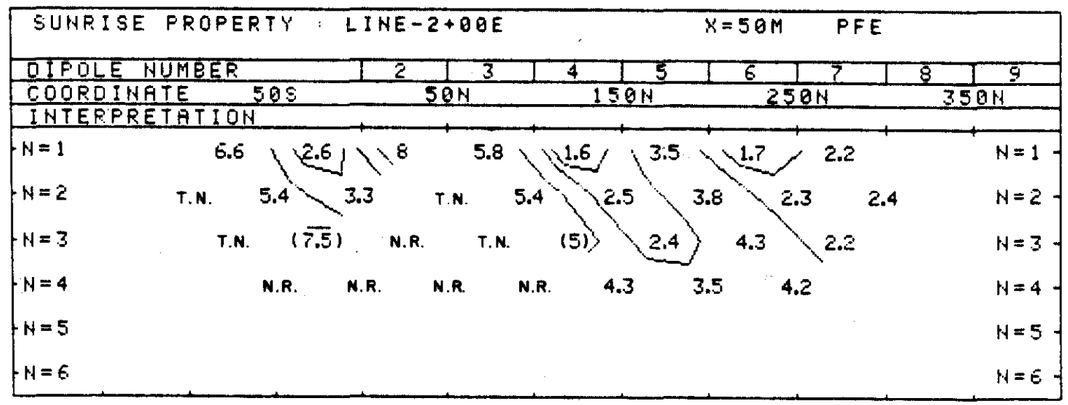
DATE JULY 26/82

PHOENIX GEOPHYSICS LTD.

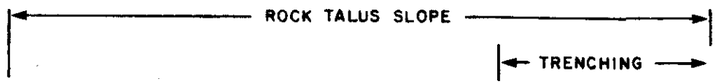
INDUCED POLARIZATION

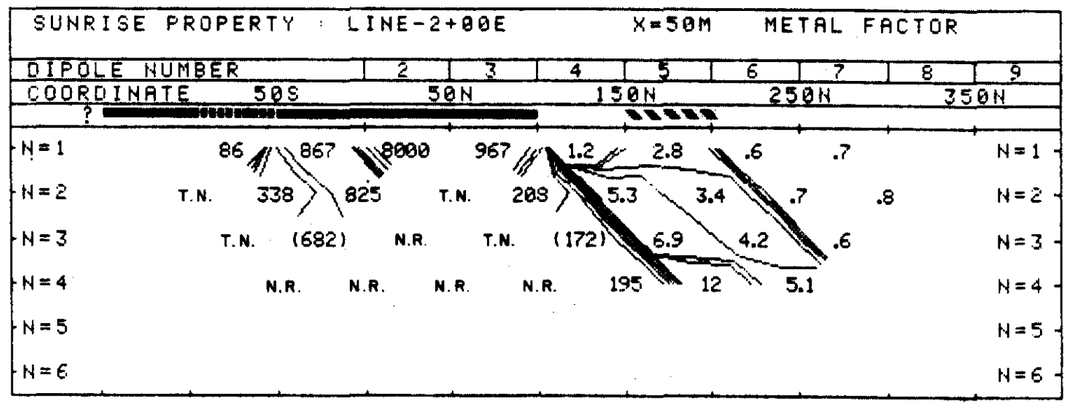
AND RESISTIVITY SURVEY





TOPOGRAPHY





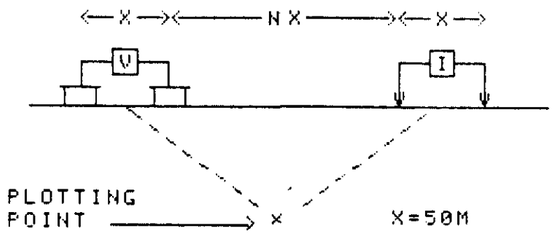
DWG. NO.-I.P.-5312-8

WESTMIN RESOURCES LTD.

SUNRISE PROPERTY

OMINECA M.D. / BRITISH COLUMBIA

LINE NO.-2+00E



SURFACE PROJECTION OF ANOMALOUS ZONE

DEFINITE
PROBABLE
POSSIBLE

FREQUENCY (HERTZ)
0.25 & 4.0 HZ.

NOTE- CONTOURS AT LOGARITHMIC INTERVALS. 1,-1.5 -2,-3,-5,-7.5,-10

DATE SURVEYED: JULY 1982

APPROVED

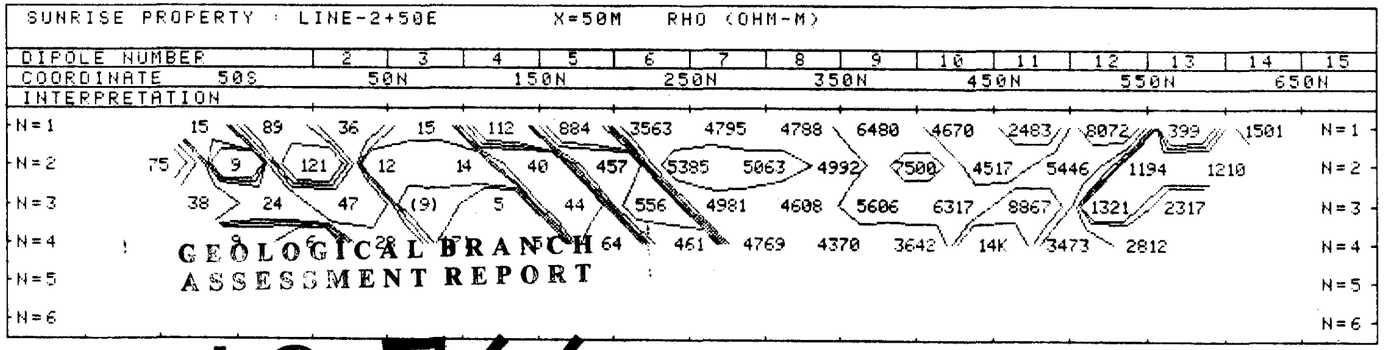
P.A.C.

DATE July 26/82

PHOENIX GEOPHYSICS LTD.

INDUCED POLARIZATION

AND RESISTIVITY SURVEY



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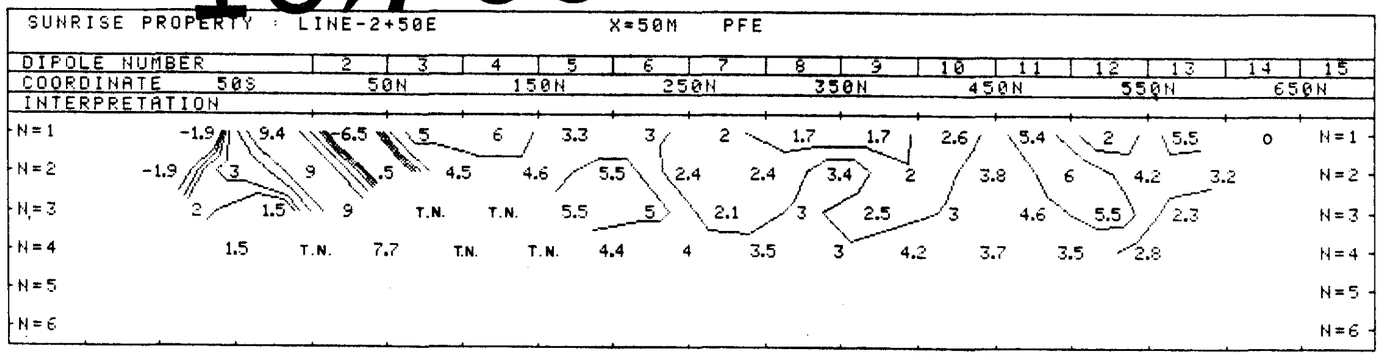
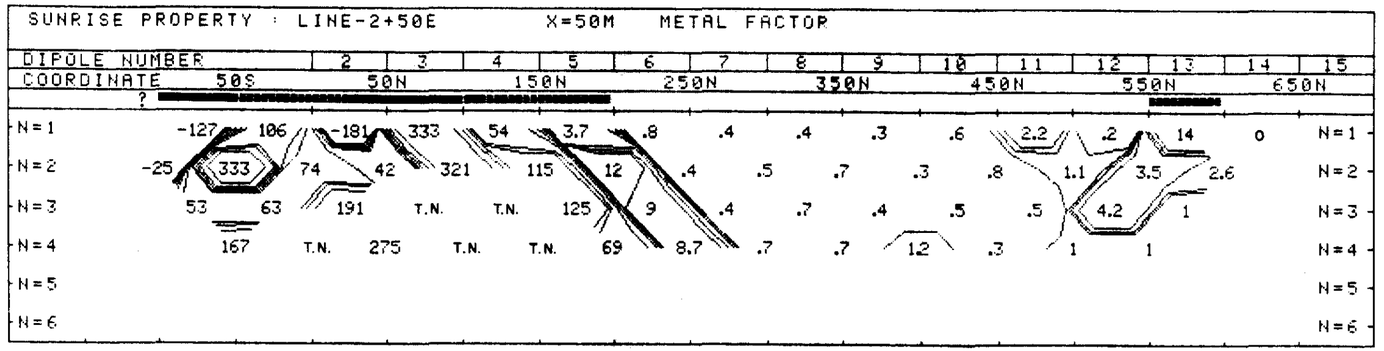


TOPOGRAPHY

ROCK TALUS SLOPE

TRENCHING



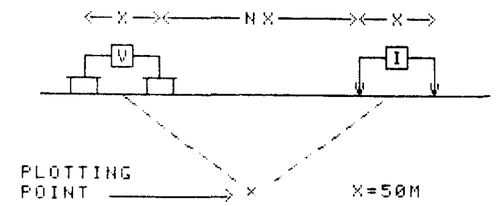
DWG. NO.-I.P.-5312-9

WESTMIN RESOURCES LTD.

SUNRISE PROPERTY

OMINECA M.D. / BRITISH COLUMBIA

LINE NO.-2+50E



SURFACE PROJECTION OF ANOMALOUS ZONE

DEFINITE
PROBABLE
POSSIBLE

FREQUENCY (HERTZ)
0.25 & 4.0 HZ.

NOTE- CONTOURS AT LOGARITHMIC INTERVALS. 1,-1.5 -2,-3,-5,-7.5,-10

DATE SURVEYED: JULY 1982

APPROVED

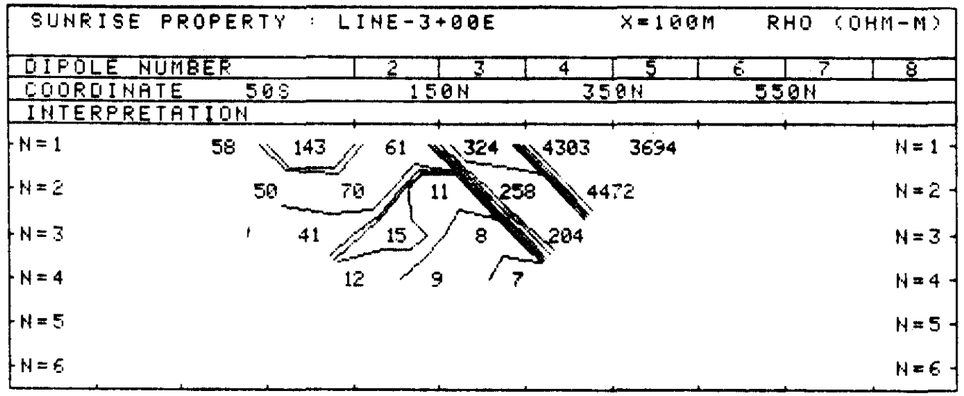
P.A.C.

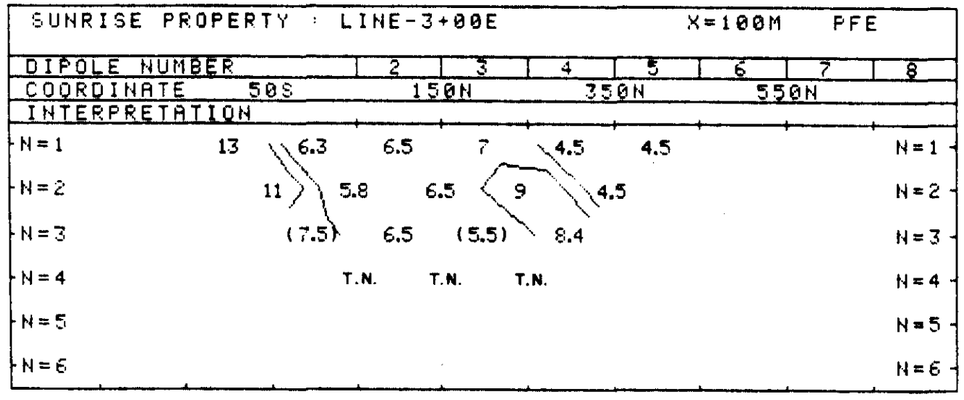
DATE JULY 26/82

PHOENIX GEOPHYSICS LTD.

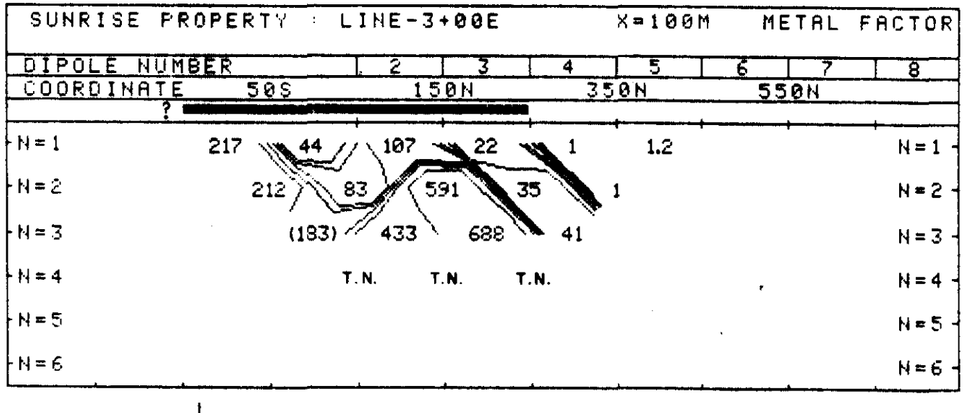
INDUCED POLARIZATION

AND RESISTIVITY SURVEY





TOPOGRAPHY | ROCK | TALUS | SLOPE



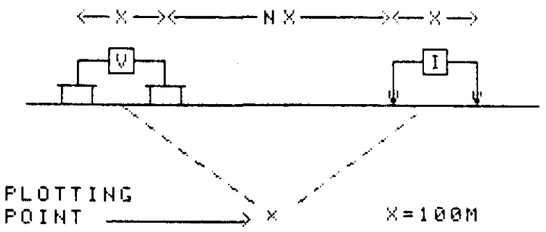
DWG. NO -I.P.-5312-10

WESTMIN RESOURCES LTD.

SUNRISE PROPERTY

OMINECA M.D. / BRITISH COLUMBIA

LINE NO.-3+00E



SURFACE PROJECTION OF ANOMALOUS ZONE

DEFINITE
PROBABLE
POSSIBLE

FREQUENCY (HERTZ)
0.25 & 4.0 HZ.

NOTE- CONTOURS AT LOGARITHMIC INTERVALS. 1,-1.5 -2,-3,-5,-7.5,-10

DATE SURVEYED: JULY 1982

APPROVED

P.A.C.

DATE JULY 26/82

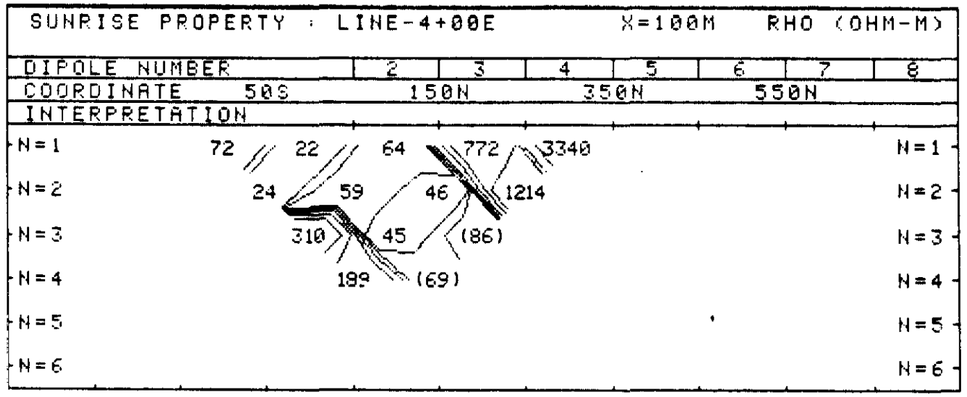
PHOENIX GEOPHYSICS LTD.

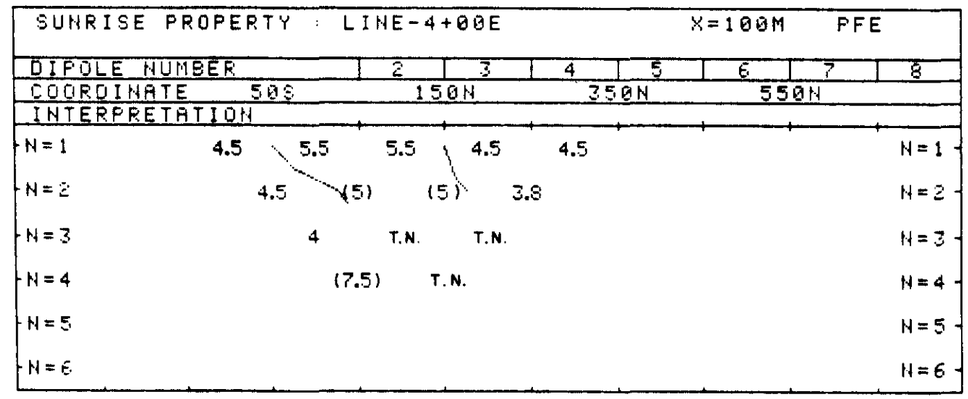
INDUCED POLARIZATION

AND RESISTIVITY SURVEY

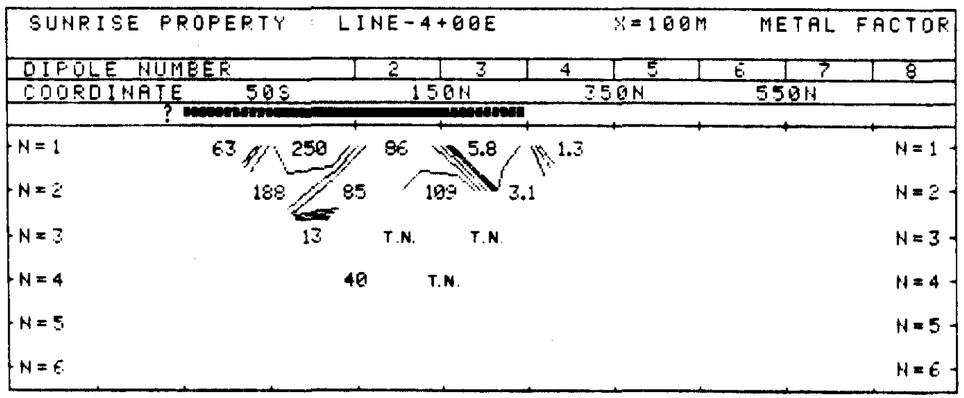
GEOLOGICAL BRANCH
ASSESSMENT REPORT

10,766





TOPOGRAPHY | CLIFF AND TALUS SLOPE | CLIFF



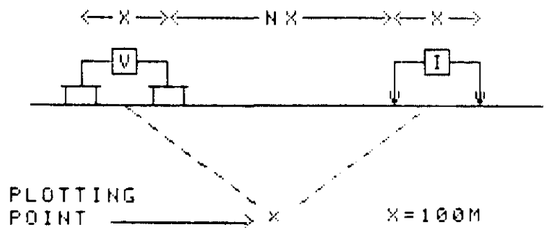
DWG. NO.-I.P.-5312-11

WESTMIN RESOURCES LTD.

SUNRISE PROPERTY

OMINECA M.D. / BRITISH COLUMBIA

LINE NO.-4+00E



SURFACE PROJECTION OF ANOMALOUS ZONE

DEFINITE
PROBABLE
POSSIBLE

FREQUENCY (HERTZ)
0.25 & 4.0 HZ

NOTE- CONTOURS AT LOGARITHMIC INTERVALS 1,-1.5 -2,-3,-5,-7.5,-10

DATE SURVEYED: JULY 1982

APPROVED

P.A.C.

DATE JULY 26/82

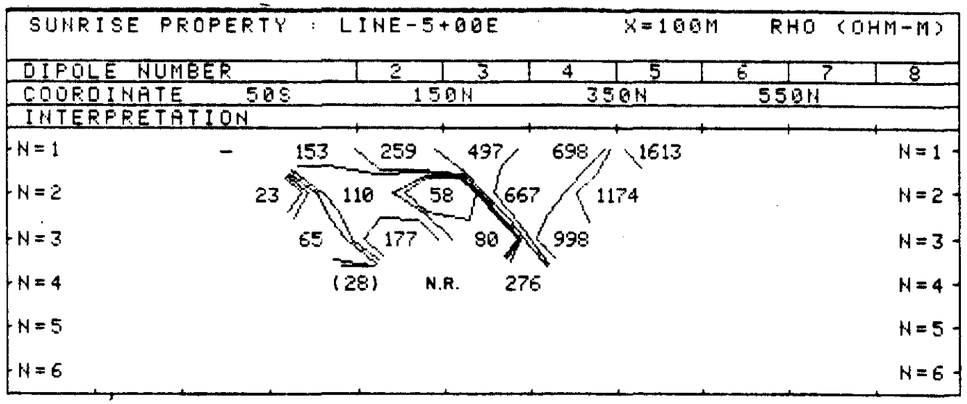
PHOENIX GEOPHYSICS LTD.

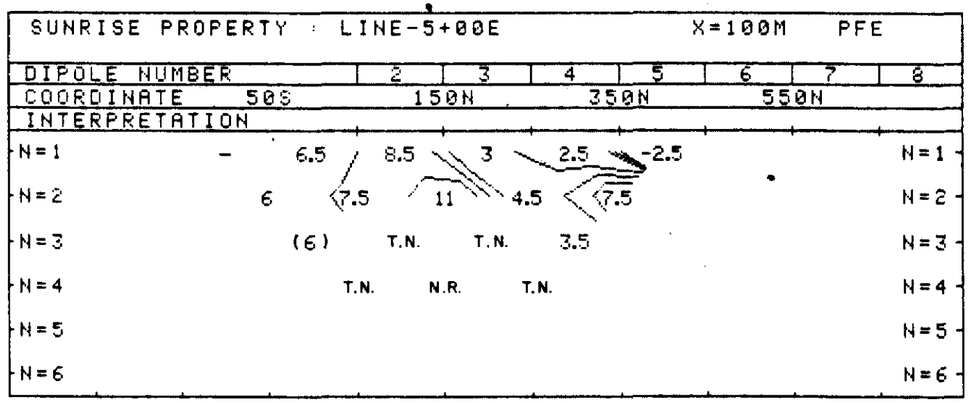
INDUCED POLARIZATION

AND RESISTIVITY SURVEY

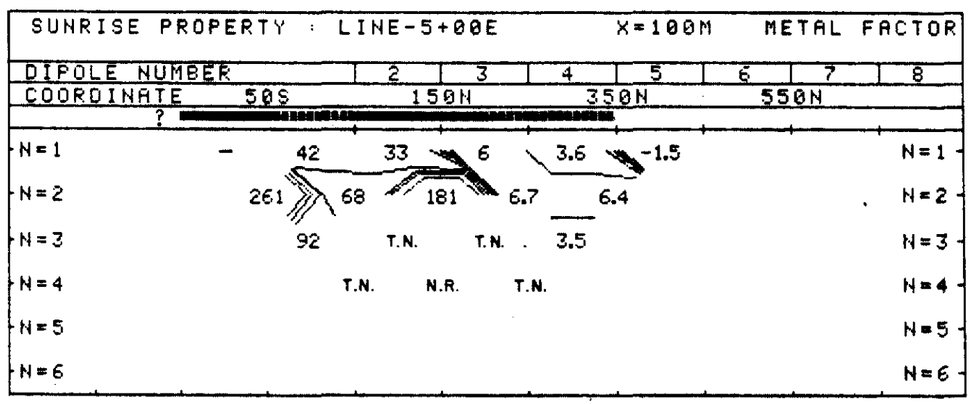
GEOLOGICAL BRANCH
ASSESSMENT REPORT

10,766





TOPOGRAPHY | ROCK TALUS | CLIFF



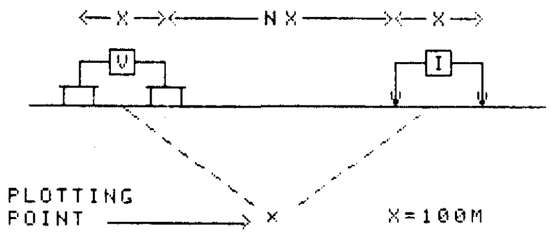
DWG. NO.-I.P-5312-12

WESTMIN RESOURCES LTD.

SUNRISE PROPERTY

OMINECA M.D. / BRITISH COLUMBIA

LINE NO.-5+00E



SURFACE PROJECTION OF ANOMALOUS ZONE

DEFINITE
PROBABLE
POSSIBLE

FREQUENCY (HERTZ)
0.25 & 4.0 HZ.

NOTE- CONTOURS AT LOGARITHMIC INTERVALS. 1,-1.5 -2,-3,-5,-7.5,-10

DATE SURVEYED: JULY 1982

APPROVED

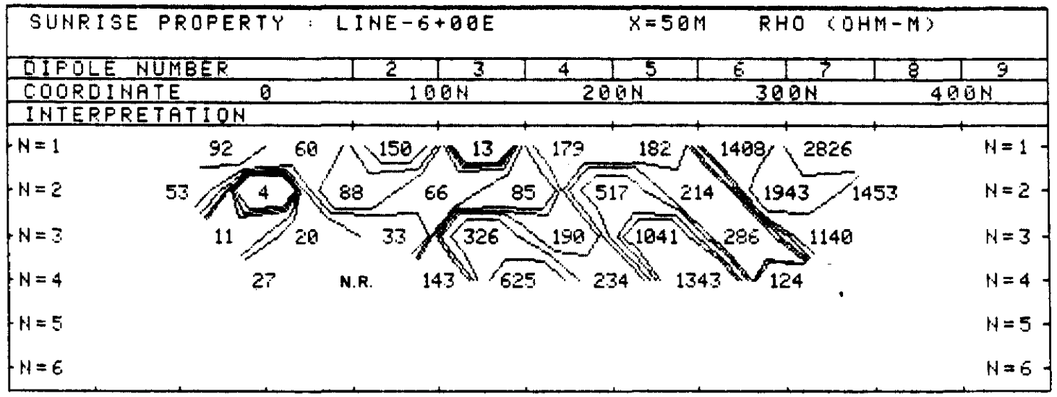
P.A.C.

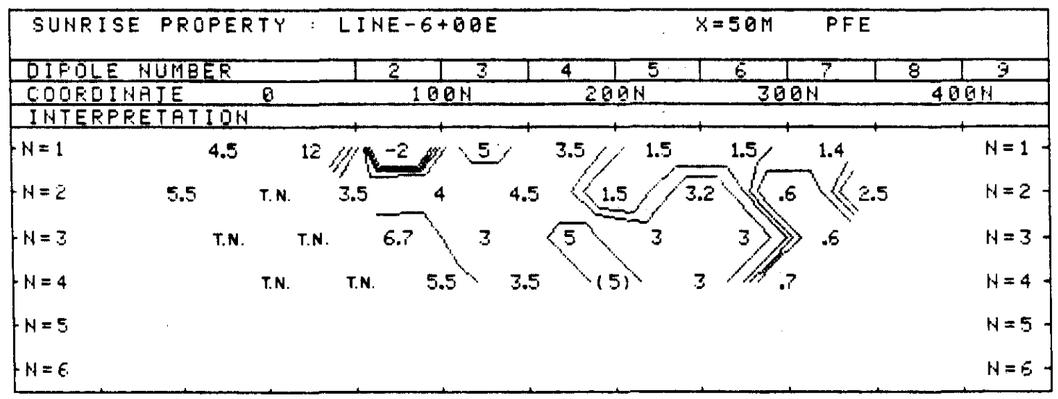
DATE JULY 26/82

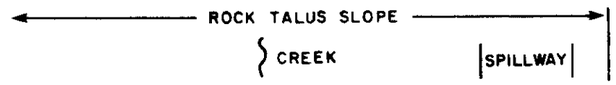
PHOENIX GEOPHYSICS LTD.

INDUCED POLARIZATION

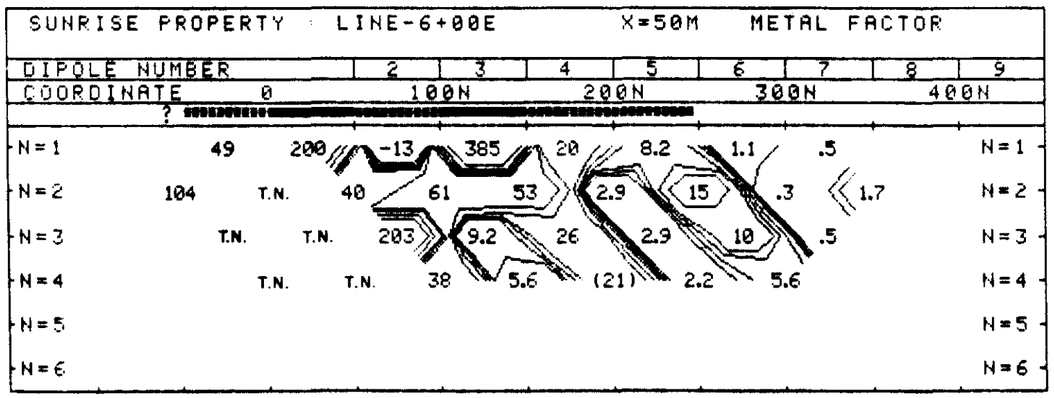
AND RESISTIVITY SURVEY







TOPOGRAPHY



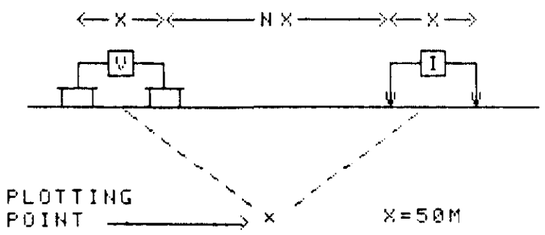
DWG. NO.-I.P.-5312-13

WESTMIN RESOURCES LTD.

SUNRISE PROPERTY

OMINECA M.D. / BRITISH COLUMBIA

LINE NO.-6+00E



SURFACE PROJECTION OF ANOMALOUS ZONE

DEFINITE
PROBABLE
POSSIBLE

FREQUENCY (HERTZ)
0.25 & 4.0 HZ.

NOTE- CONTOURS AT LOGARITHMIC INTERVALS 1,-1.5 -2,-3,-5,-7.5,-10

DATE SURVEYED: JULY 1982

APPROVED

P.A.C.

DATE July 26/82

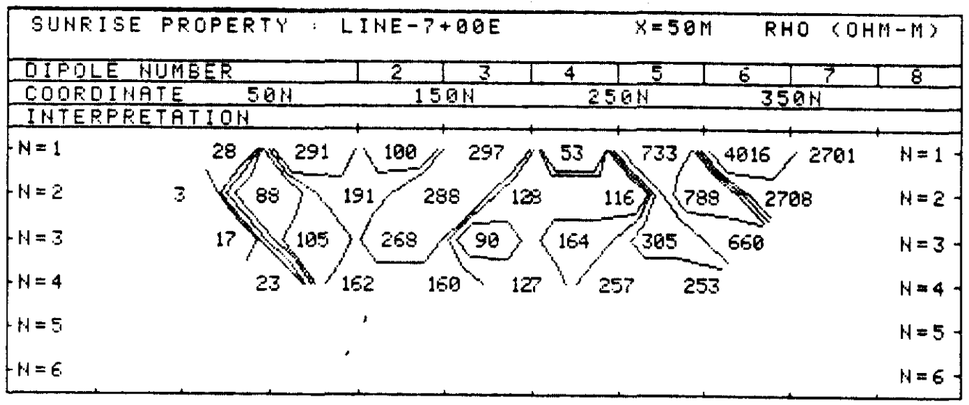
PHOENIX GEOPHYSICS LTD.

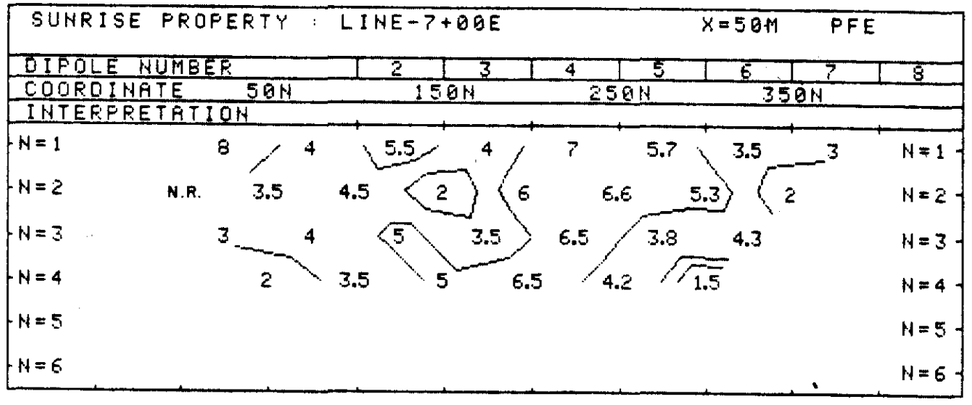
INDUCED POLARIZATION

AND RESISTIVITY SURVEY

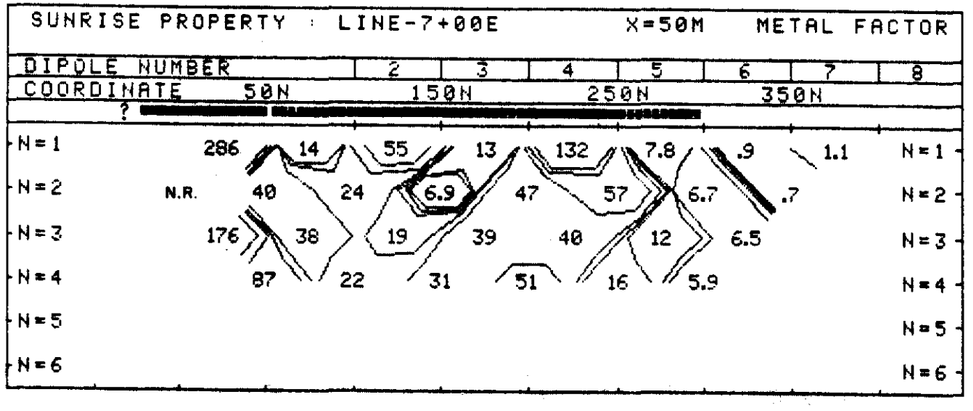
GEOLOGICAL BRANCH
ASSESSMENT REPORT

10,766





TOPOGRAPHY | TALUS SLOPE | SNOW FIELD | CLIFF



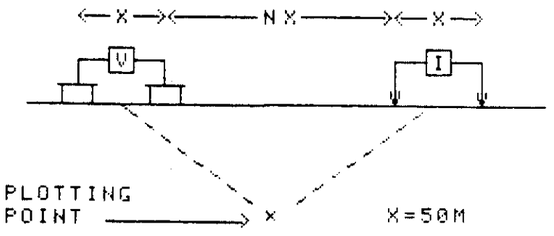
DWG. NO.-I.P.-5312-14

WESTMIN RESOURCES LTD.

SUNRISE PROPERTY

OMINECA M.D. / BRITISH COLUMBIA

LINE NO.-7+00E



SURFACE PROJECTION OF ANOMALOUS ZONE

DEFINITE
PROBABLE
POSSIBLE

FREQUENCY (HERTZ)
0.25 & 4.0 HZ.

NOTE- CONTOURS AT LOGARITHMIC INTERVALS. 1,-1.5 -2,-3,-5,-7.5,-10

DATE SURVEYED: JULY 1982

APPROVED

P.A.C.

DATE JULY 26/82

PHOENIX GEOPHYSICS LTD.

INDUCED POLARIZATION

AND RESISTIVITY SURVEY

ITEMIZED COST STATEMENT

PHYSICAL WORK

Road Rehabilitation - 5 km using a D85E Komatsu		$ 6,000
Labour - 4 men @ $70/man day x 8 days		2,240
	SUB TOTAL	$ 8,240

GEOPHYSICAL WORK

Contractor (as per page 8 of report)		8,630
Labour - 2 men @ $70/man day x 13 days		1,820
Geological Supervision - 1 man @ $100/day x 13 days		1,300
Food - $600/week x 2 weeks		1,200
Transportation - Truck & Trailer Rental @ $1400/mo.		700
- Gas & Repairs		250
Camp Supplies and Construction		2,330
Travel & Subsistence		600
Communications		100
Maps and Reports		300
	SUB TOTAL	$17,230
	TOTAL	$25,470

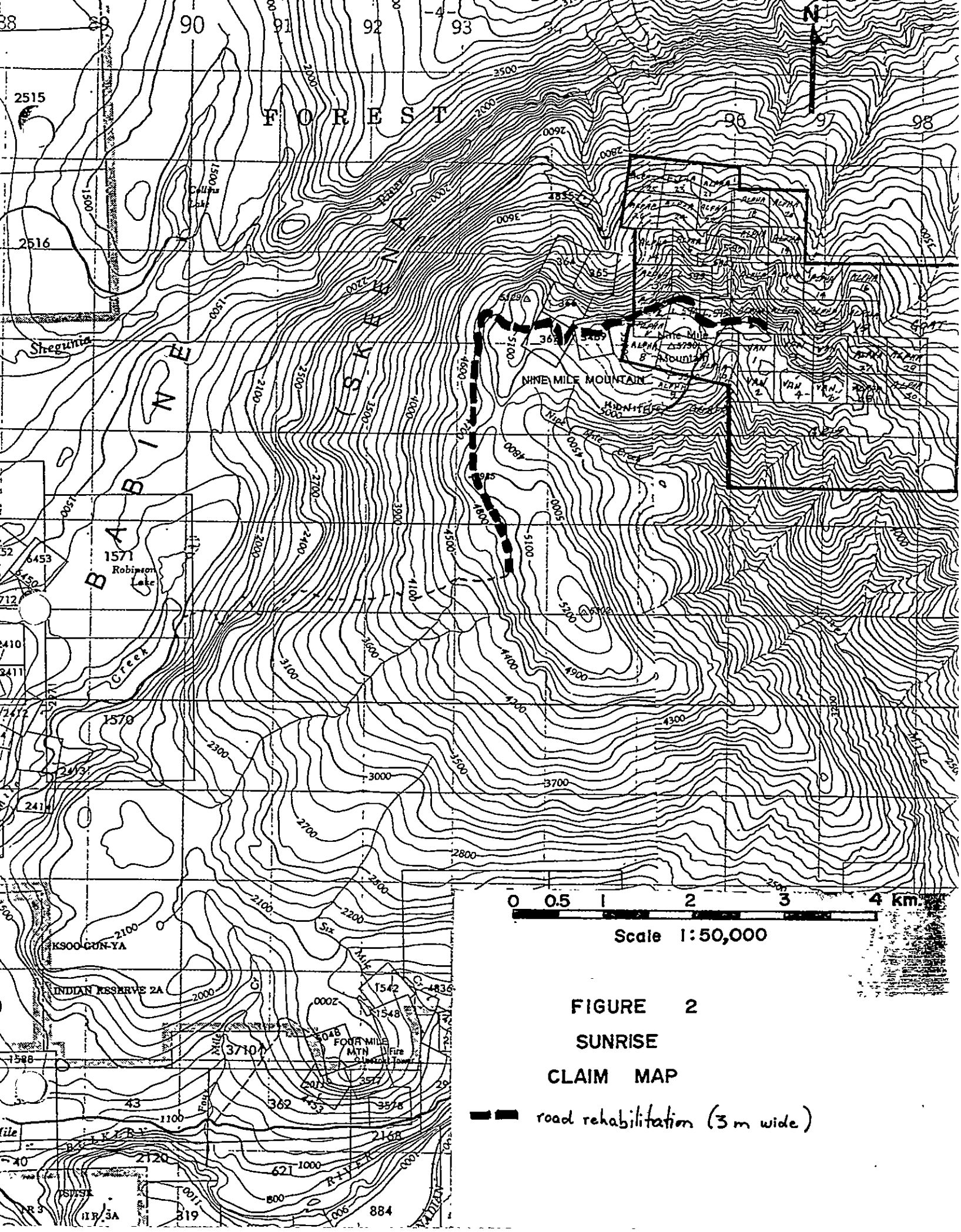


FIGURE 2

SUNRISE

CLAIM MAP

road rehabilitation (3 m wide)

STATEMENT OF QUALIFICATIONS

I, DEL W. FERGUSON, P. O. Box 48593 Bentall Centre, Vancouver, B.C., do hereby certify that:

a) I am a geologist with office address at #904 - 1055 Dunsmuir Street; Vancouver, B.C. V7X 1C4.

b) I am a graduate of the University of Western Ontario with an Honours Bachelor of Science degree in Geology.

c) I have had three years of geological experience in various phases of exploration in B.C.

d) I have supervised all exploration work on the Sunrise Property during the 1982 field season.

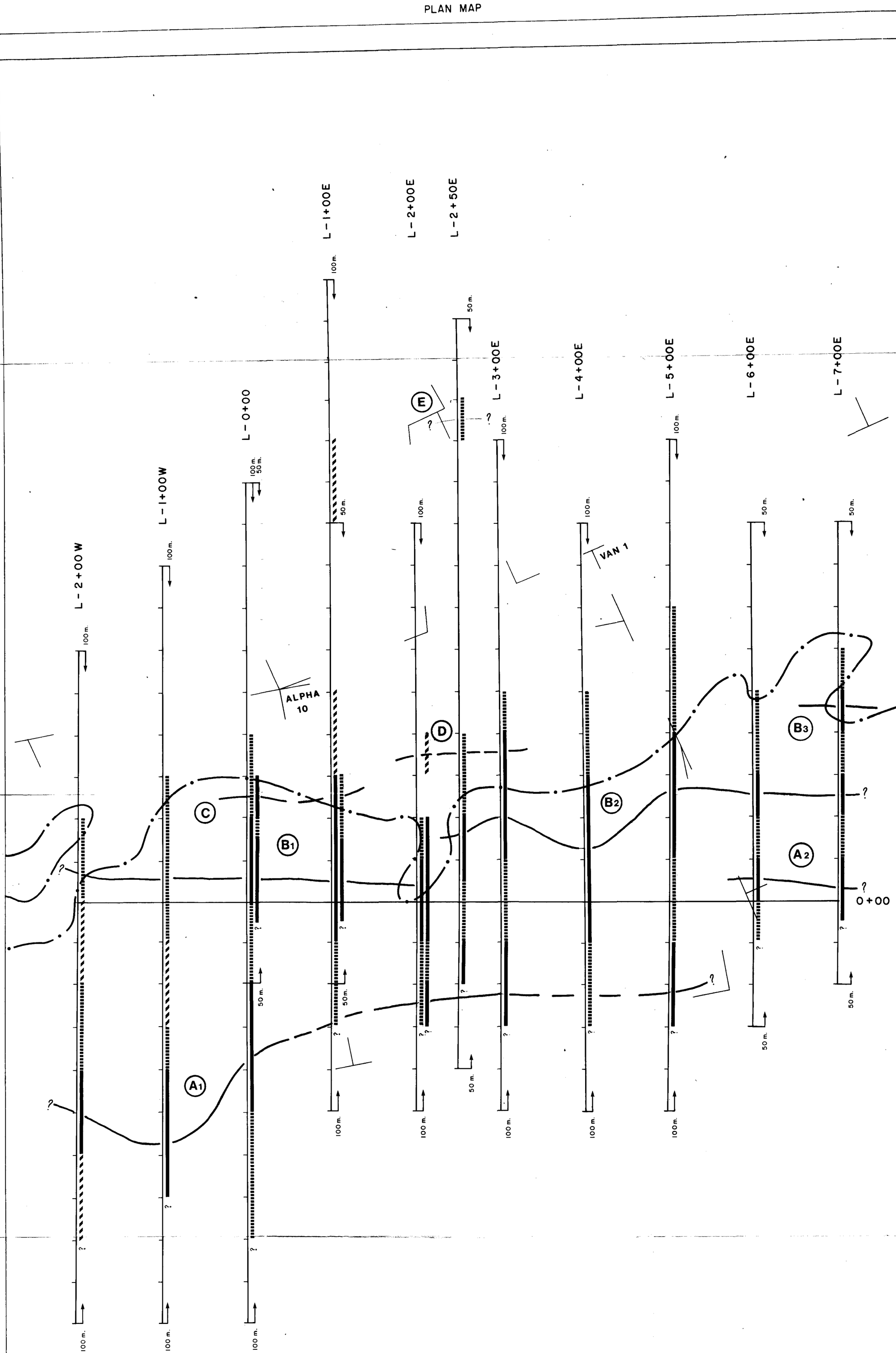
Respectfully submitted,

Del W. Ferguson
Project Geologist
Westmin Resources Limited

PHOENIX GEOPHYSICS LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY

PLAN MAP



NOTE:
TO ACCOMPANY GEOPHYSICAL REPORT
FOR WESTMIN RESOURCES LTD. ON THE
SUNRISE PROPERTY, OMINECA M.D., B.C.
BY PAUL A. CARTWRIGHT, BSc. GEOPHYSICIST.

DATED — JULY 30, 1982

GEOLOGICAL BRANCH
ASSESSMENT REPORT

10,766

WESTMIN RESOURCES LTD.

SUNRISE PROPERTY

OMINECA M.D., BRITISH COLUMBIA

SURFACE PROJECTION
OF ANOMALOUS ZONE

DEFINITE
PROBABLE
POSSIBLE

100m.
50m.

SCALE

50m 0 50m 100m

1:2500

— GEOLOGICAL CONTACT

— CENTER OF ANOMALOUS
I.P. ZONE

DRAWN: R.J.P.

DATE: JULY 1982

APPROVED: PAC

DATE: July 26/82