

PHOENIX GEOPHYSICS LIMITED

REPORT ON THE

INDUCED POLARIZATION AND RESISTIVITY SURVEY

ON THE

WHITING CREEK PROJECT
WHIT 1-17 CLAIMS, OMINECA M.D.
BRITISH COLUMBIA

FOR

SMD MINING COMPANY LIMITED

N.T.S. 93E/11/14

Latitude: $53^{\circ}45'N$ Longitude: $127^{\circ}12.5'W$

BY

FRANK DISPIRITO, B.A.Sc., P.Eng., Geophysicist

PAUL A. CARTWRIGHT, B.A.Sc., Geophysicist

OCTOBER 14, 1981

9831

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1. Introduction

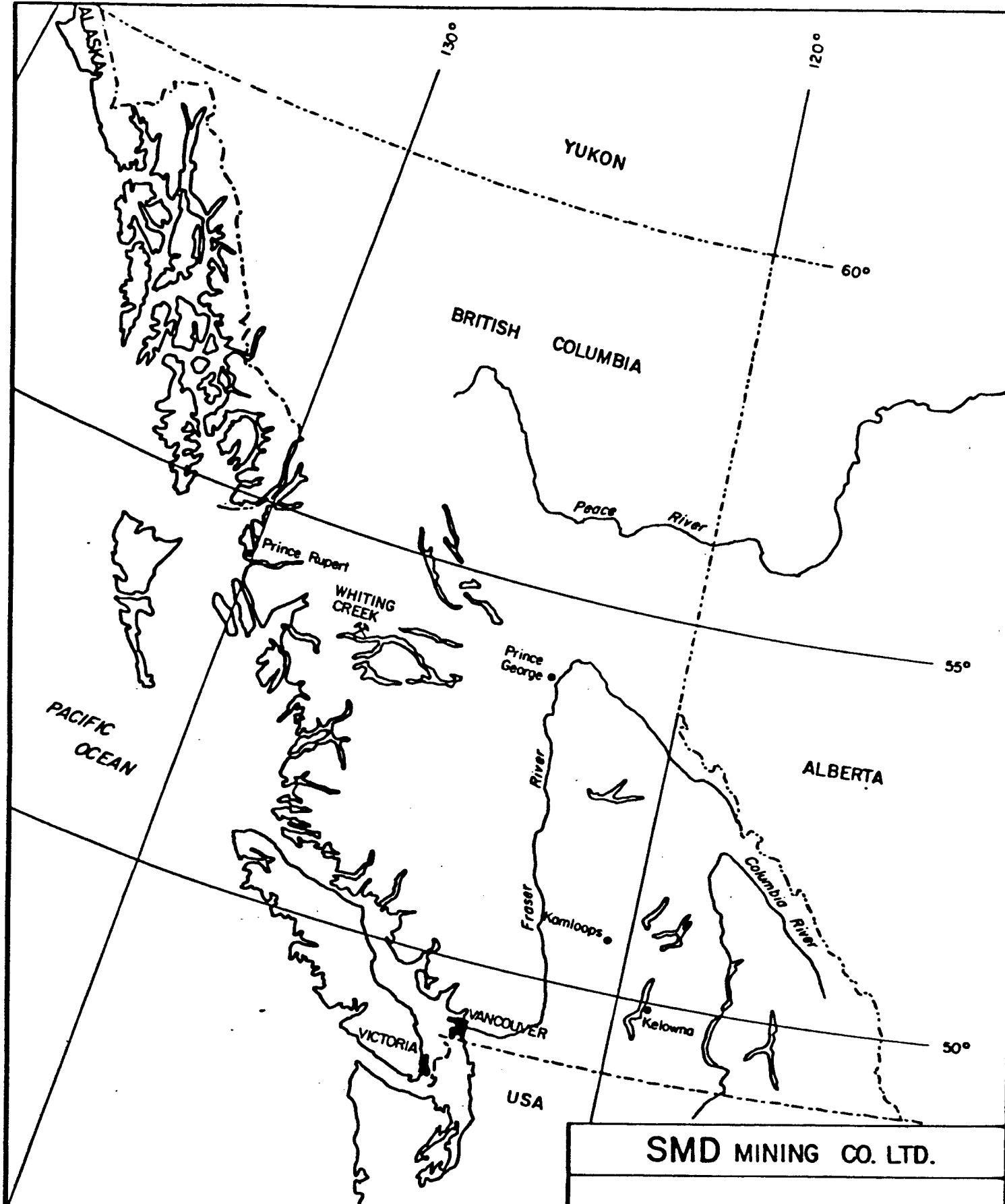
An Induced Polarization and Resistivity survey has been carried out for SMD Mining Company Limited on the WHIT 1-17 (Figs. 1 and 2) claims property. The property is located 116 kilometers due south of Smithers in the Omineca Mining Division, British Columbia. The center of the property is positioned at about $53^{\circ}45'$ north latitude and $127^{\circ}12.5'$ west longitude.

Access to the WHIT 1-17 claims is by forestry access road starting from just west of Houston and leading to Sweeny Lake. Total road distance from Houston is 120 kilometers.

The object of the survey was to detect zones of metallic mineralization on a southern extension of a grid which was previously surveyed using the IP and Resistivity method.

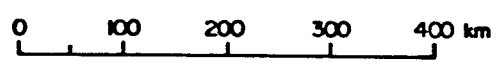
The survey was carried out in June of 1981 under the direction of Mr. Zenon Pozniak. His certificate of qualification is appended to this report.

A Phoenix IPT-1, IPV-1 frequency domain IP system was used for the survey, recording the 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 values are calculated according to the formula: $M.F. = (P.F.E. \times 1000) / \text{Resistivity}$. Dipole-dipole array was used exclusively, with a basic inter-electrode distance of 100 meters. Four dipole separations were recorded.

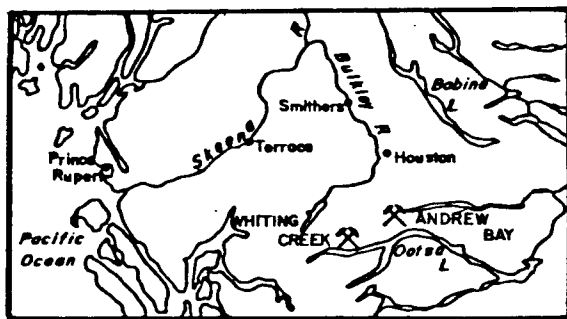
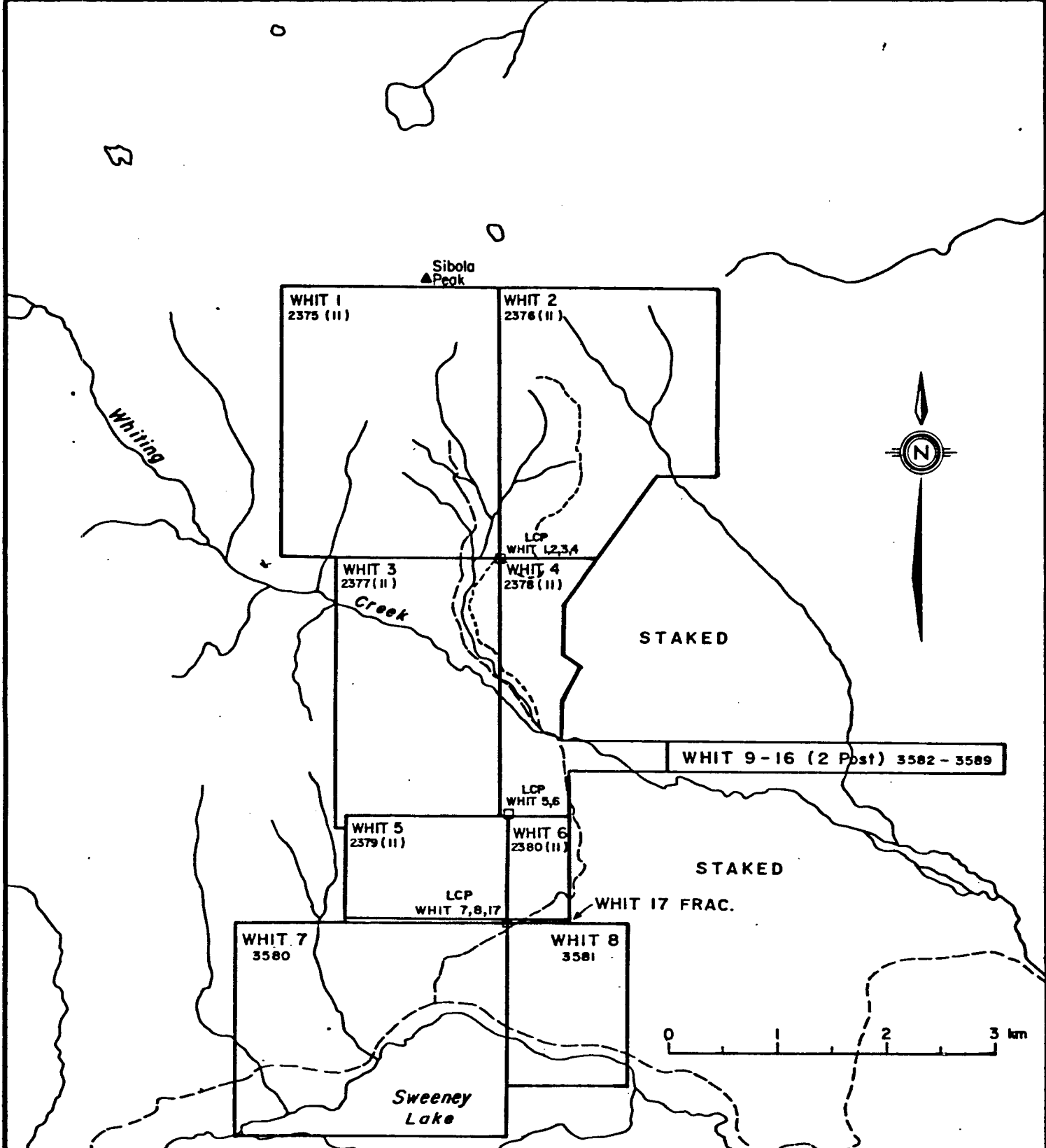


SMD MINING CO. LTD.

LOCATION MAP



PROJECT		WHITING CREEK	
NTS	93-E-11,14	DISPOSITION	WHIT 1-6
WORK BY	R.M. CANN	SCALE	1 : 7,500,000
DRAWN	C.D. DURBIN	DATE	FIG. 1



SMD MINING CO. LTD.			
INDEX MAP			
PROJECT		WHITING CREEK	
NTS	93-E-11,14	DISPOSITION	WHIT 1-8
WORK BY	R. M. CANN	SCALE	1: 50,000
DRAWN	C. D. DURBIN	DATE	FIG. 2

2. Description of Claims

The WHIT claim group consists of 17 claims, WHIT 1 to 17 inclusive as defined below. Kennco Explorations (Western) Ltd. is the current owner, and SMD Mining Company Ltd. is the current operator.

<u>CLAIM</u>	<u>RECORD NO.</u>	<u>UNITS</u>	<u>DATE RECORDED</u>	<u>EXPIRY DATE</u>
WHIT 1	2375	20	29 November 1979	29 November 1989
WHIT 2	2376	20	29 November 1979	29 November 1989
WHIT 3	2377	15	29 November 1979	29 November 1989
WHIT 4	2378	15	29 November 1979	29 November 1989
WHIT 5	2379	6	29 November 1979	29 November 1989
WHIT 6	2380	6	29 November 1979	29 November 1989
WHIT 7	3580	20	11 February 1981	11 February 1982
WHIT 8	3581	6	11 February 1981	11 February 1982
WHIT 9	3582	2 post	11 February 1981	11 February 1982
WHIT 10	3583	2 post	11 February 1981	11 February 1982
WHIT 11	3584	2 post	11 February 1981	11 February 1982
WHIT 12	3585	2 post	11 February 1981	11 February 1982
WHIT 13	3586	2 post	11 February 1981	11 February 1982
WHIT 14	3587	2 post	11 February 1981	11 February 1982
WHIT 15	3588	2 post	11 February 1981	11 February 1982
WHIT 16	3589	2 post	11 February 1981	11 February 1982
WHIT 17	N/A	staked August 1, 1981		

3. Presentation of Results

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

<u>LINE</u>	<u>ELECTRODE INTERVAL</u>	<u>DWG. NO.</u>
20 S	100 meters	IP 5804-1
22 S	100 meters	IP 5804-2
24 S	100 meters	IP 5804-3
26 S	100 meters	IP 5804-4
28 S	100 meters	IP 5804-5
30 S	100 meters	IP 5804-6
32 S	100 meters	IP 5804-7
Base Line	100 meters	IP 5805-8

Also enclosed with this report is Dwg. I.P.P.-B-6001, a plan map of the Whiting Creek Grid at a scale of 1:5,000. 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 receiver electrodes when the anomalous values were measured.

The grid and claim information shown on Dwg. I.P.P.-B-6001 has been taken from maps made available by the staff of SMD Mining Co. Ltd.

Since the Induced Polarization measurement is essentially an averaging process, as are all potential methods, it is frequently difficult to exactly pinpoint the source of an anomaly. Certainly, no anomaly can be located with more accuracy than the electrode interval length; i.e., when using 100 m electrode intervals the position of a narrow sulphide body can only be determined to lie between two stations 100 m apart. In order to definitely locate, and fully evaluate a narrow, shallow source, it is necessary to use shorter electrode intervals. In order to locate sources at some depth, larger electrode intervals must be used, with a corresponding increase in the uncertainties of location. Therefore, while the center of the indicated anomaly probably corresponds fairly well with source, the length of the indicated anomaly along the line should not be taken to represent the exact edges of the anomalous material.

4. Description of Geology

The property is characterized by volcanoclastic rocks of the Lower Jurassic Telkwa Formation of the Hazelton Group intruded by a series of granitic intrusions. Within the area, pyrite, chalcopyrite, bornite, and molybdenite have been observed in minor amounts and as strongly fracture-controlled mineralization.

The orientation of dykes suggests a strong northwesterly structural trend.

5. Discussion of Results

Previous IP and Resistivity surveys over the WHIT claims have outlined a broad anomalous zone. The present survey has defined a further southern extension of the anomalous zone.

Resistivity levels under the survey grid vary in magnitude from low to moderately high. The anomalous zone outlined on Plan Map Dwg. No. I.P.P.-B-6001 is characterized by higher than background polarizability readings together with relatively lower resistivities. This anomalous IP zone is indicated to extend from Line 12S to at least Line 26S and may continue southward. Depth to the top of the source appears to be less than one dipole length (100 meters). In order to better estimate the geometry and the true IP effect of the source, computer programs developed by Dr. W. Pelton of Phoenix Geophysics Ltd., were used to model the polarizability (P.F.E.) data acquired on Line 20S. These programs find the

two dimensional tabular source, which best "fits" the field data. The calculated source is centered at Station 1100W on Line 20S, is in the order of 228 meters wide and 29 meters deep (Figure 3). The true IP effect of the source is calculated to be 8.9 P.F.E.

The outline of the anomalous zone forms an arched pattern which is open (due to lack of coverage) to the east and south of the grid. The arched pattern is typical of many porphyry systems. Often, this type of anomalous pattern is a reflection of a halo of uneconomic mineralization and as such the strongest anomalies are not always the most economically important.

In addition, three separate anomalies have been interpreted. They have all been classified as probable. The anomalies are evident on Line 24S centered at Station 20 + 50W, on Line 32S at Station 26 + 00W and on Line 32S at Station 23 + 25W.

6. Summary and Conclusions

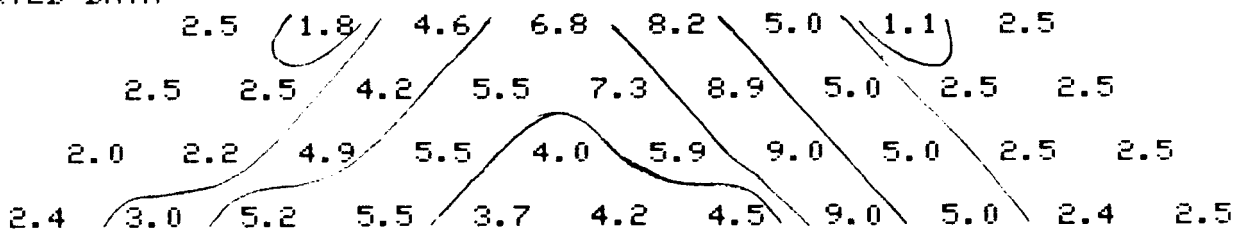
An Induced Polarization and Resistivity survey has been completed on the WHIT 1-17 claims. A broad zone previously indicated by an earlier IP survey has been traced southward to Line 26S where the zone is still open. The zone is still open to the east as is suggested by the pattern of the anomalous zone.

COMPUTED INTERPRETATION

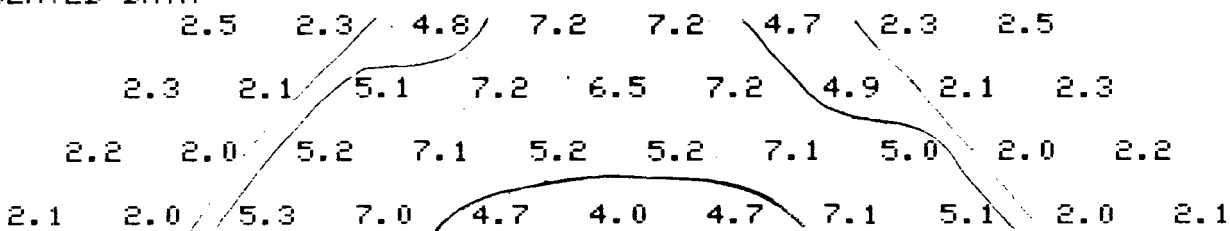


PROPERTY: Whiting Creek
 LINE: 20S
 SPONSOR: SMD Mining Company Ltd.
 DATA: P.F.E.
 A = 100 meters

OBSERVED DATA

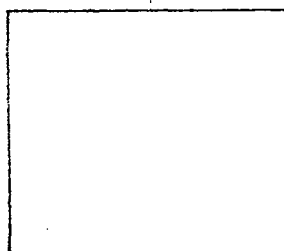


CALCULATED DATA



1200W 1100W 1000W

CALCULATED SOURCE



PARAMETERS OF CALCULATED SOURCE

CENTER: 1100W ± 1%
 DEPTH: 29 m ± 17%
 WIDTH: 228 m ± 9%
 DEPTH
 EXTENT: GRN 200_m ± Fixed

RES BODY: 300 ohm-m ± Fixed
 RES OVBN: 600 ohm-m ± Fixed
 RES HOST: 600 ohm-m ± Fixed
 IP BODY: 8.9 PFE ± 9%
 IP HOST: 2.5 PFE ± Fixed

Figure 3

Three other anomalies marked as probable have been identified on Line 24S centered at Station 20 + 50W, on Line 32S at Station 26 + 00W and on Line 32S at Station 23 + 25W.

Depth to the top of the source of all anomalies delineated by the present survey appears to be less than 100 meters. The anomalies present on Line 32S may be slightly deeper than the rest.

In order to completely delineate the pattern of of the anomalous zone additional IP coverage is needed to the east and south of the present grid.

Also, in order to define the extent and significance of the anomalies on Line 32S, further IP coverage is needed.

If the source of the IP anomaly outlined by the present survey has not yet been investigated by drilling, a vertical drill hole spotted at Station 1100W on Line 20S would test the source of the anomalous IP effects. This hole should penetrate at least 50 meters below the surface.

PHOENIX GEOPHYSICS LIMITED
OF

Frank Di Spirito
F. DISPIRITO
Frank DiSpirito, B.S., P.Eng.,
Geophysicst.

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

October 14, 1981

ASSESSMENT DETAILS

PROPERTY: Whiting Creek Project MINING DIVISION: Omineca
SPONSOR: SMD Mining Co. Ltd. PROVINCE: British Columbia
LOCATION: Whiting Creek, B.C.
TYPE OF SURVEY: Induced Polarization and Resistivity
OPERATING MAN DAYS: 33.0 DATE STARTED: 8 June 1981
EQUIVALENT 8 HR. MAN DAYS: 49.5 DATE FINISHED: 21 June 1981
CONSULTING MAN DAYS: 5 NUMBER OF STATIONS: 174
DRAFTING MAN DAYS: 5 NUMBER OF READINGS: 1620
TOTAL MAN DAYS: 59.5 MILES OF LINE SURVEYED: 16.6 km

CONSULTANTS:

Paul A. Cartwright, 4238 W. 11th Avenue, Vancouver, B.C.
Frank DiSpirito, 2748 Oxford Street, Vancouver, B.C.

FIELD TECHNICIANS:

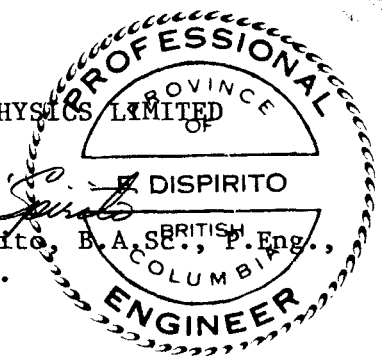
Z. Pozniak, 90 Humberview Road, Toronto, Ontario.
K. Corman, 10891 Bromley Place, Richmond, B.C.
R. Bulger, R.R. #2, Gibsons, B.C.

DRAUGHTSMEN:

Ron Wakaluk, 7886 Vivian Drive, Vancouver, B.C.

PHOENIX GEOPHYSICS LIMITED

Frank DiSpirito
Frank DiSpirito, B.A., S.C., P. Eng.,
Geophysicist.



DATED: 14 October 1981

STATEMENT OF COST

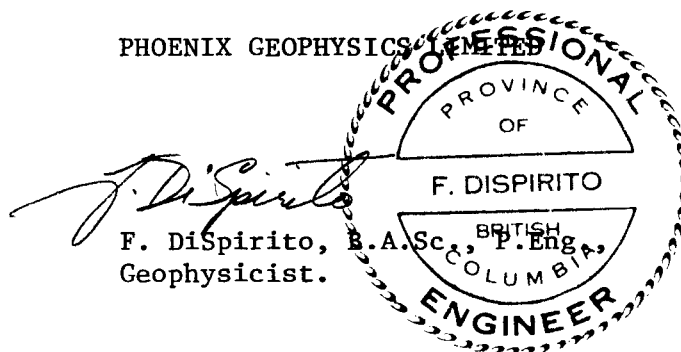
SMD MINING COMPANY LIMITED - IP AND RESISTIVITY SURVEY, WHITING CREEK,
BRITISH COLUMBIA

PERIOD: 8 June 1981 to 12 June 1981; 15 June to 21 June 1981

CREW: Z. Pozniak, K. Corman, R. Bulger

16.6 Line Kilometers @ \$ 525.00/km	\$ 8,715.00
Mobilization-Demobilization	2,850.00
Report Preparation	<u>1,328.00</u>
	\$ 12,893.00
Credit for 4th man supplied by SMDC 11 days @ \$60/day	<u>660.00</u>
T O T A L	<u><u>\$ 12,233.00</u></u>

PHOENIX GEOPHYSICS LIMITED




F. Di Spirito, B.A.Sc., P.Eng.
Geophysicist.

DATED: 14 October 1981

CERTIFICATE

I, Frank DiSpirito, of the City of Vancouver,
Province of British Columbia, do hereby certify that:

1. I am a geophysicist residing at 2748 Oxford Street,
Vancouver, B.C.
2. I am a graduate of the Univeristy of British
Columbia, with a B.A.Sc. Degree in Geological
Engineering.
3. I am a Professional Engineer, registered in the
Province of British Columbia.
4. I have been practising my profession for 7
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
SMD Mining Company Ltd. 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.

Frank DiSpirito
Frank DiSpirito, P. Eng.
The seal is circular with a decorative border. The text inside the seal reads: "PROFESSIONAL" at the top, "PROVINCE OF" in the upper middle, "F. DISPIRITO" in the center, "BRITISH COLUMBIA" in the lower middle, and "ENGINEER" at the bottom.

DATED AT VANCOUVER
this 14th day of October 1981.

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, 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 11 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 SMD Mining Company 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, B.Sc.

DATED AT VANCOUVER, B.C.
this 14th day of October 1981.

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

Zenon Pozniak

DATED AT VANCOUVER, B.C.
this 14th day of October 1981.

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. are the most useful values in 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 (ΔV) 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 (ΔV) the change in potential will be too small to be measurable. The symbol "TL" on the data plots indicates this situation.

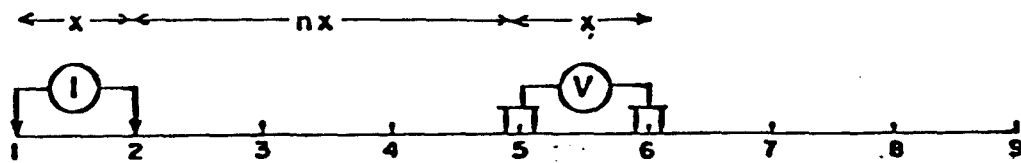
In some situations spurious noise, either man made or natural, will render it impossible to obtain a reading. The symbol "N" on the data plots indicates a station at which it is too noisy to record a reading. If a reading can be obtained, but for reasons of noise there is some doubt as to its accuracy,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

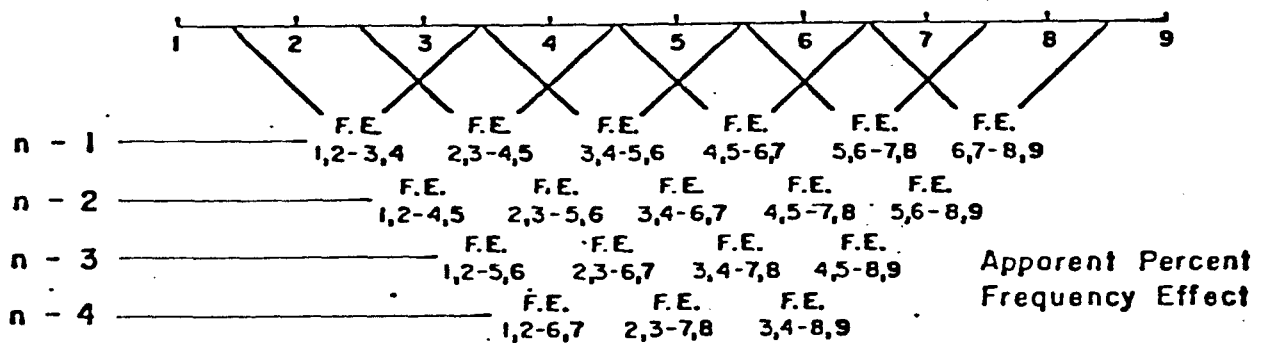
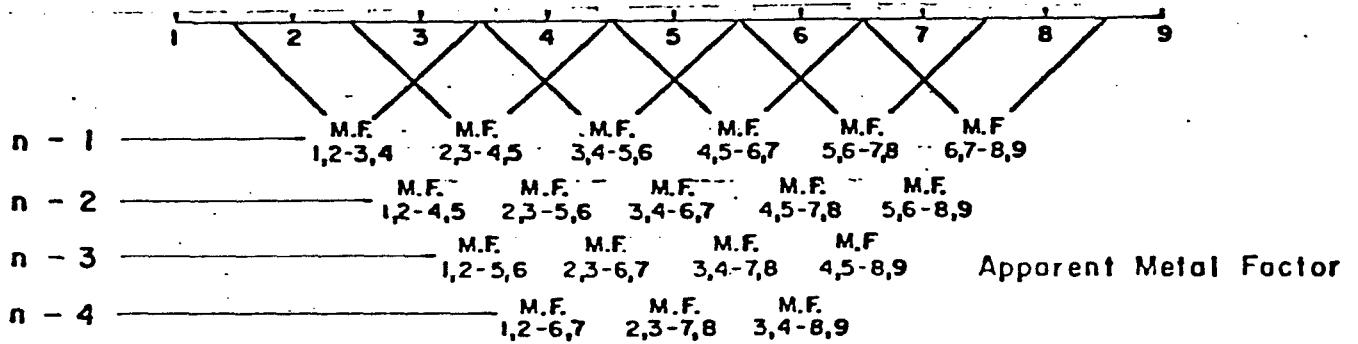
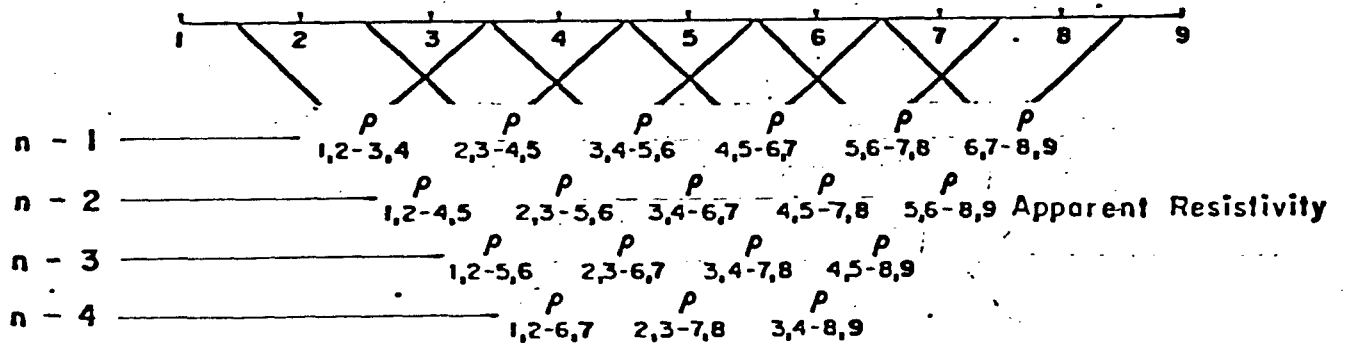
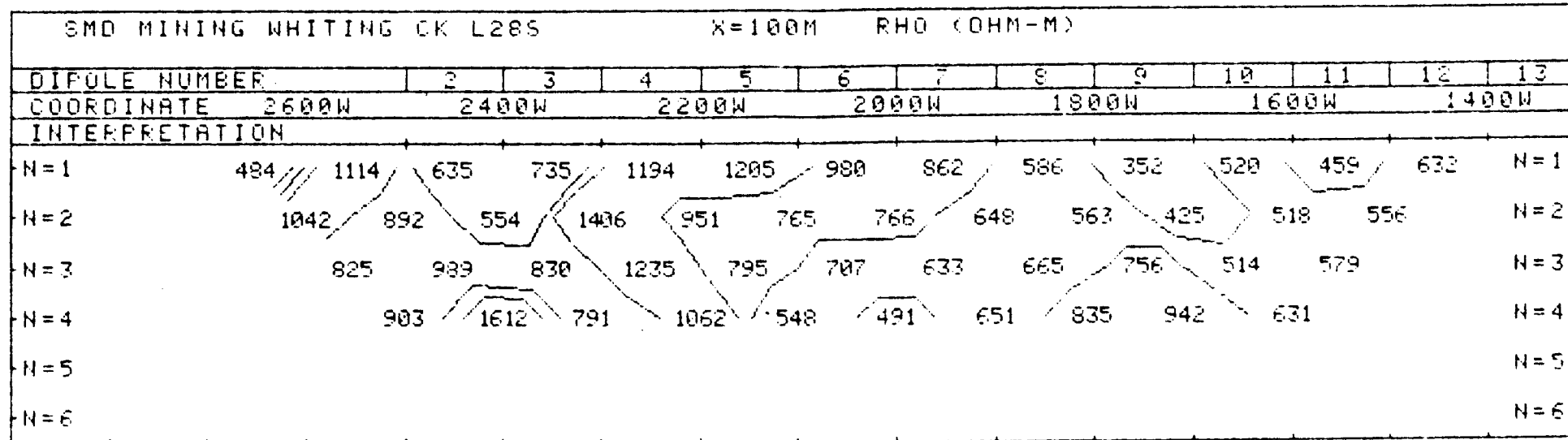


Fig. A



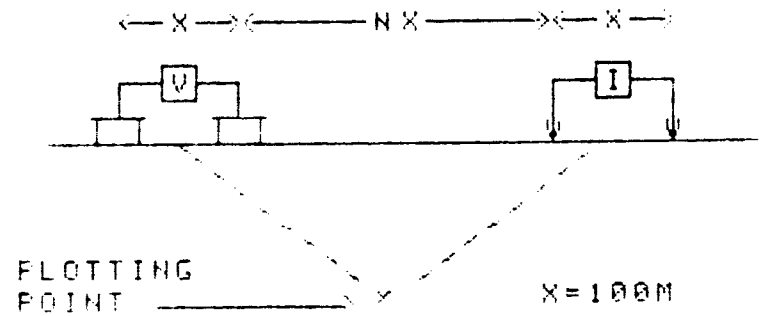
SMD MINING CO. LTD.

WHITING CK GRID; OMINECA M.D.

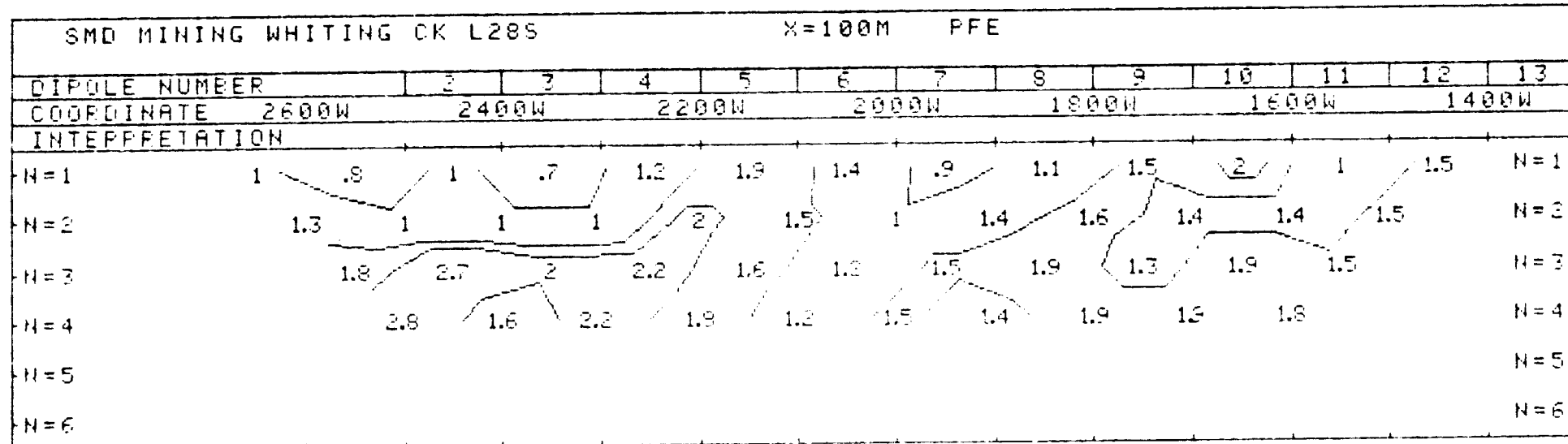
HOUSTON; B.C.

LINE NO. -285

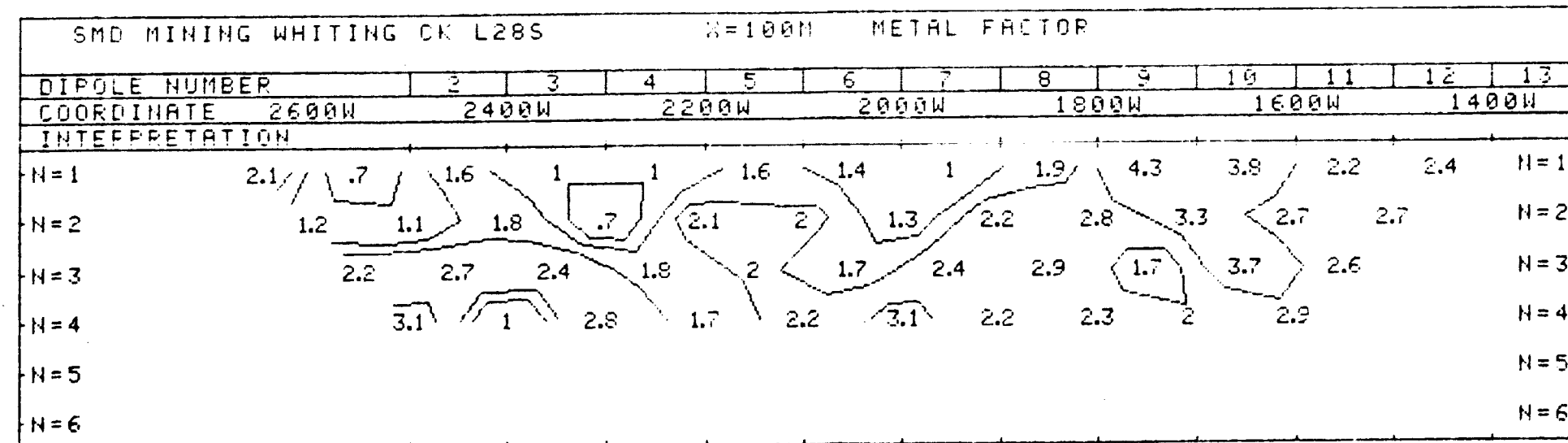
9831



SURFACE PROJECTION OF ANOMALOUS ZONE



DEFINITE ———
 PROBABLE
 POSSIBLE - - - - -



FREQUENCY (HERTZ)
4 0.0 25

DATE SURVEYED: JUNE 1981
APPROVED

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

PAC
DATE Aug 25/81

PHOENIX GEOPHYSICS LTD.

INDUCED POLARIZATION
AND RESISTIVITY SURVEY

SMD MINING WHITING CK BASE LINE		X=100M				PHO (OHM-M)			
DIPOLE NUMBER	2	3	4	5	6	7	8		
COORDINATE	2000S	1800S	1600S	1400S					
INTERPRETATION									
N=1	4465	2588	1188	1924	1159	1378			N=1
N=2	4357	1364	1233	2565	2732				N=2
N=3	2007	1283	1940	3202					N=3
N=4		1801	1772	4104					N=4
N=5									N=5
N=6									N=6

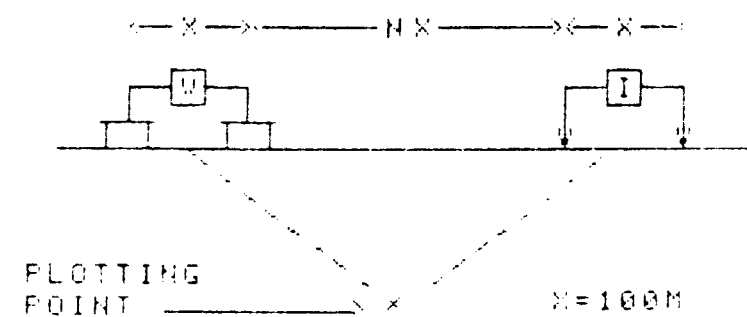
SMD MINING CO. LTD.

WHITING CK GRID, OMINECA M.D.

HOUSTON, B.C.

LINE NO. - BASE LINE

SMD MINING WHITING CK BASE LINE		X=100M				PFE			
DIPOLE NUMBER	2	3	4	5	6	7	8		
COORDINATE	2000S	1800S	1600S	1400S					
INTERPRETATION									
N=1	3.4	6.5	3.5	2.7	3.5	1			N=1
N=2	7.2	4.2	4	4.3	4.5				N=2
N=3		5.5	4.6	5.1	3.8				N=3
N=4			5.6	6.3	5.2				N=4
N=5									N=5
N=6									N=6



SURFACE PROJECTION OF ANOMALOUS ZONE

DEFINITE ———
 PROBABLE ·····
 POSSIBLE - - - - -

SMD MINING WHITING CK BASE LINE		X=100M				METAL FACTOR			
DIPOLE NUMBER	2	3	4	5	6	7	8		
COORDINATE	2000S	1800S	1600S	1400S					
INTERPRETATION									
N=1	1.9	2.6	2.9	1.4	3	1.7			N=1
N=2	1.7	3.1	3.2	1.6	1.6				N=2
N=3	2.7	3.6	2.6	1.2					N=3
N=4		3.1	3.6	1.3					N=4
N=5									N=5
N=6									N=6

FREQUENCY (HERTZ)
 4.0, 0.25

DATE SURVEYED JUNE 1981
 APPROVED

NOTE - CONTOURS
 AT LOGARITHMIC
 INTERVALS: 1, -1, 5,
 -2, -3, -5, -7, 5, -10

PAC
 DATE Aug 25/81

PHOENIX GEOPHYSICS LTD.

INDUCED POLARIZATION
 AND RESISTIVITY SURVEY

SMD MINING WHITING CK L30S												X=100M		RHO (OHM-M)	
DIPOLE NUMBER	2	3	4	5	6	7	8	9	10	11					
COORDINATE	2600W	2400W	2200W	2000W	1800W	1600W									
INTERPRETATION															
N=1	636	1040	911	669	1140	1301	950	1111	450	312	287	N=1			
N=2		1006	1306	789	837	1797	998	911	600	516	434	N=2			
N=3			1025	1018	855	1279	1235	767	431	849	601	N=3			
N=4				745	1119	120	874	878	345	578	753	N=4			
N=5												N=5			
N=6												N=6			

SMD MINING CO. LTD.

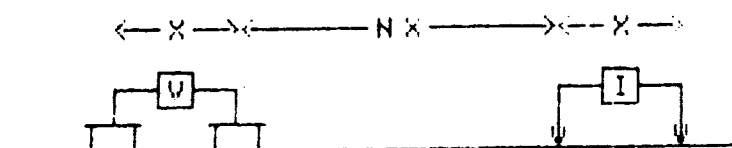
WHITING CK. GRID; OMINECA M.D.

HOUSTON, B.C.

LINE NO. -30S

9831

SMD MINING WHITING CK L30S												X=100M		PFE	
DIPOLE NUMBER	2	3	4	5	6	7	8	9	10	11					
COORDINATE	2600W	2400W	2200W	2000W	1800W	1600W									
INTERPRETATION															
N=1	8	2.1	1.4	1.3	1.5	1.5	1	2	1.5	1.3	1.2	N=1			
N=2		2	1.9	1.6	1.5	1.6	1.1	1.5	2	1.3	.6	N=2			
N=3			1.9	1.5	1.5	2	1.9	1.3	1	1.6	.8	N=3			
N=4				1.5	2	3	2	2.4	1.5	1.9	2	N=4			
N=5												N=5			
N=6												N=6			



PLOTTING POINT X X=100M

SURFACE PROJECTION OF ANOMALOUS ZONE

DEFINITE
 PROBABLE
 POSSIBLE

SMD MINING WHITING CK L30S												X=100M		METAL FACTOR	
DIPOLE NUMBER	2	3	4	5	6	7	8	9	10	11					
COORDINATE	2600W	2400W	2200W	2000W	1800W	1600W									
INTERPRETATION															
N=1	13	2	1.5	1.9	1.3	1.2	1.1	1.9	3.3	4.2	4.2	N=1			
N=2		2	1.5	2	1.8	1.9	1.1	1.6	3.3	2.5	1.4	N=2			
N=3			1.8	1.5	1.8	1.6	1.5	1.7	2.3	1.9	1.3	N=3			
N=4				2	1.8	2.7	2.3	2.7	4.3	3.1	2.7	N=4			
N=5												N=5			
N=6												N=6			

FREQUENCY (HERTZ)
4.0; 0.25

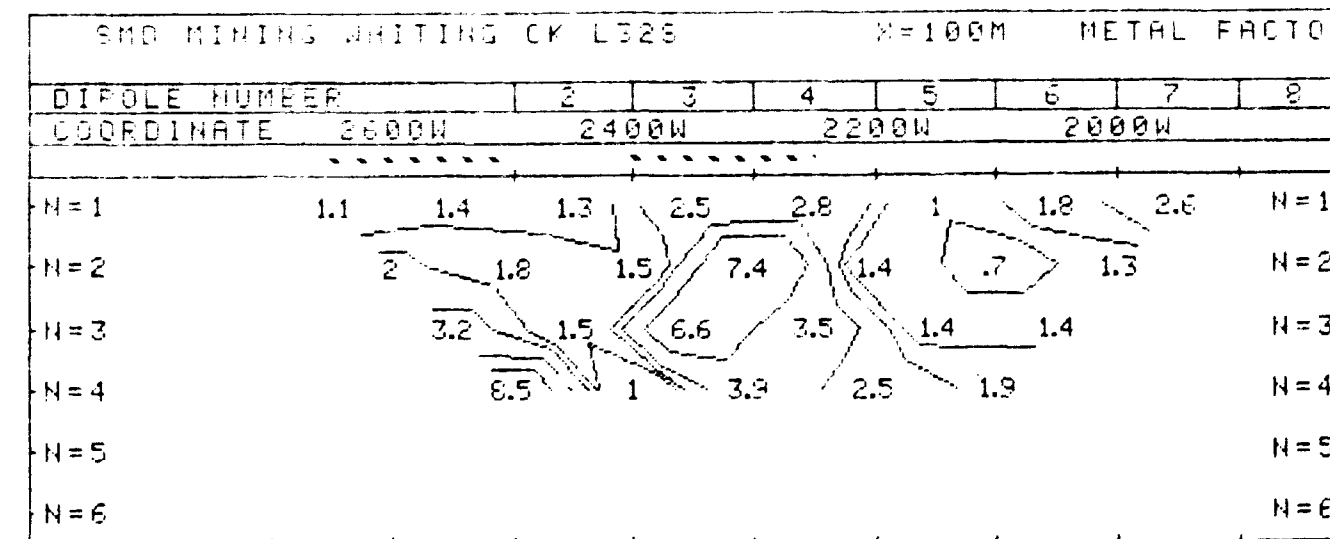
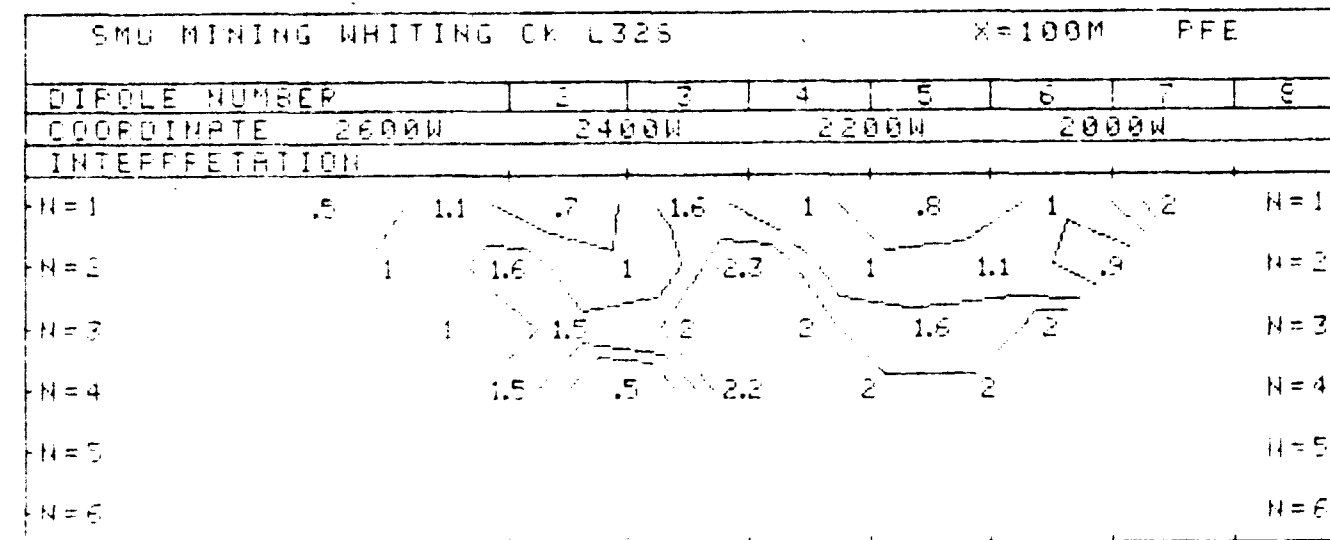
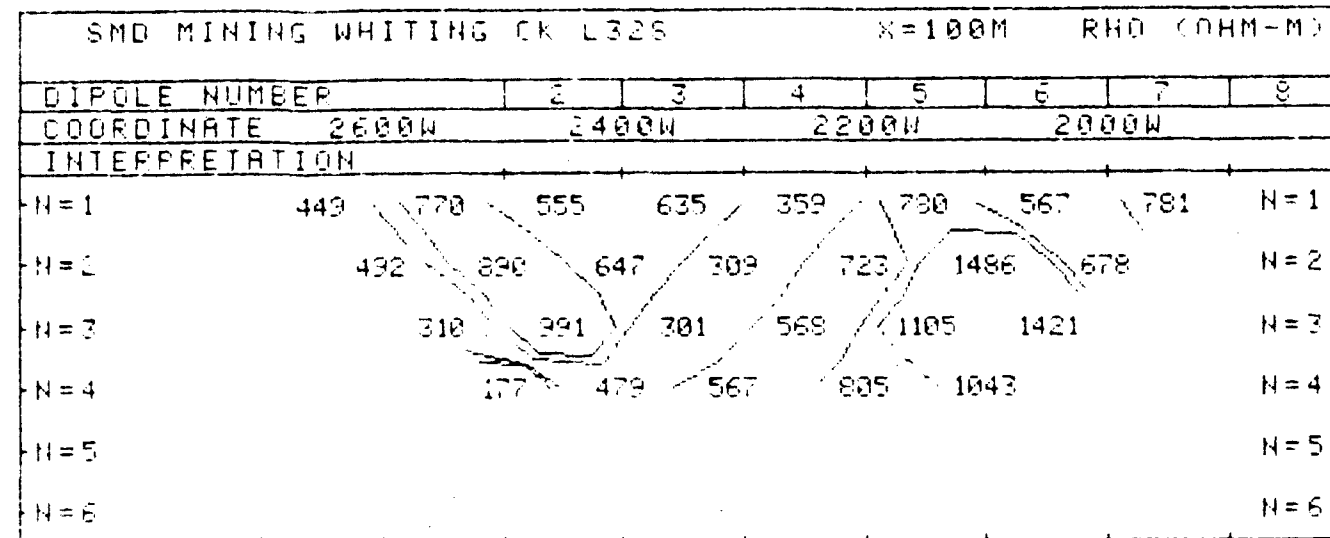
DATE SURVEYED: JUNE 1981
APPROVED

NOTE- CONTOURS
AT LOGARITHMIC
INTERVALS. 1.-1.5
-2.-3.-5.-7 5.-10

PAC
DATE Aug 25/81

PHOENIX GEOPHYSICS LTD.

INDUCED POLARIZATION
AND RESISTIVITY SURVEY



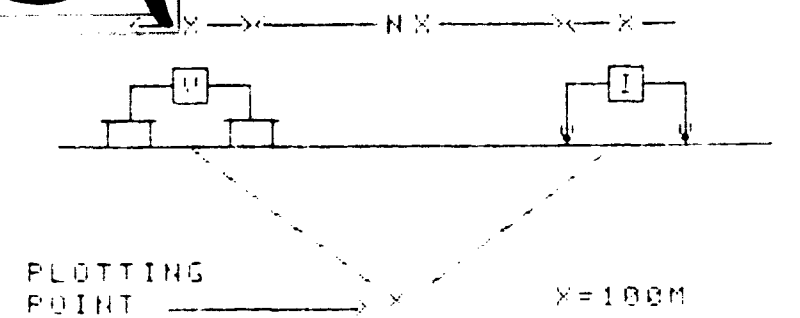
SMD MINING CO. LTD.

WHITING CK. GRID. MINECA M D

HOUSTON, B. C.

LINE NO - 325

9831



SURFACE PROJECTION OF ANOMALOUS ZONE

DEFINITE —————
 PROBABLE
 POSSIBLE - - - - -

FREQUENCY (HERTZ)
 4 000 35

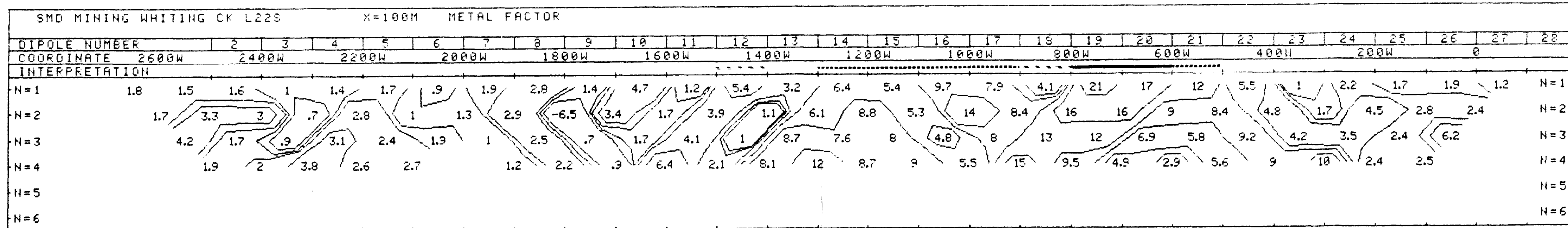
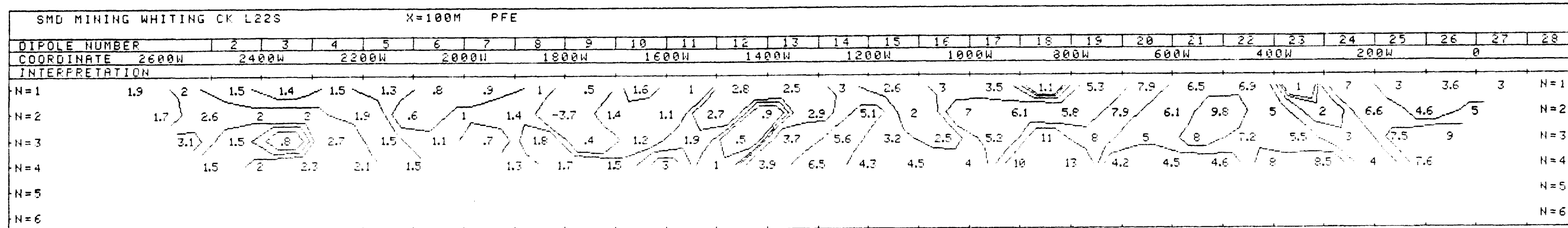
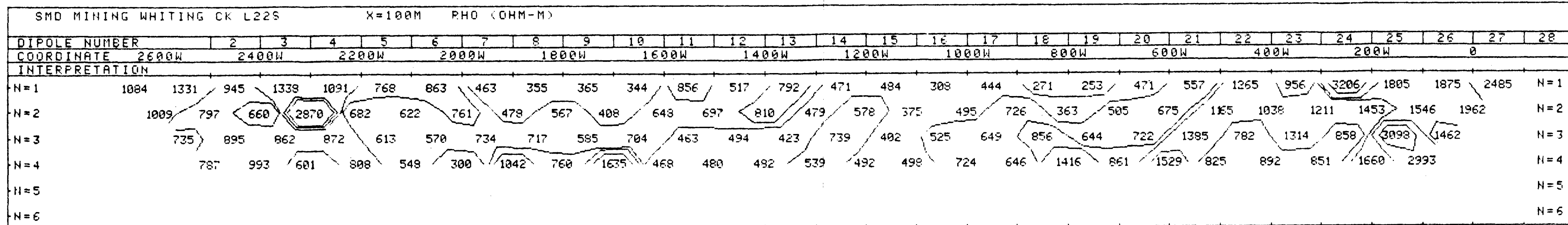
DATE SURVEYED JUNE 1981
 APPROVED

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

PAC
 DATE Aug 25/81

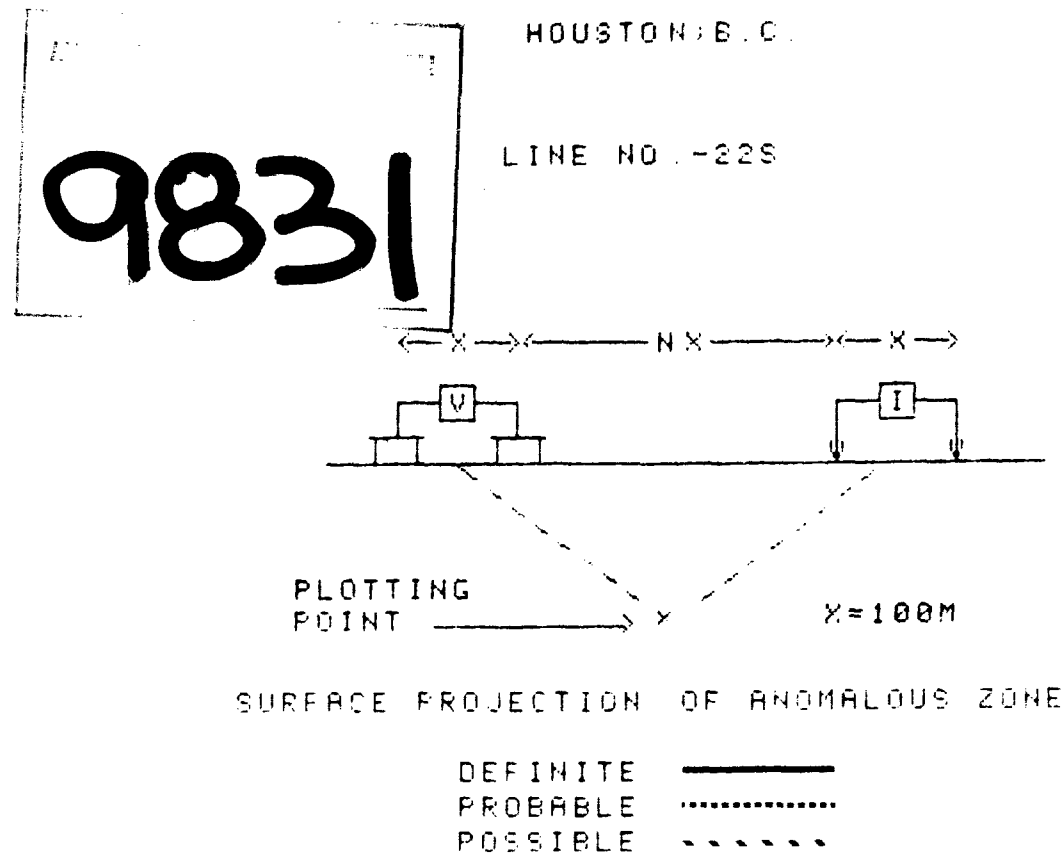
PHOENIX GEOPHYSICS LTD.

INDUCED POLARIZATION
 AND RESISTIVITY SURVEY



SMD MINING CO. LTD.

WHITING CK GRID/MINECA M.D.

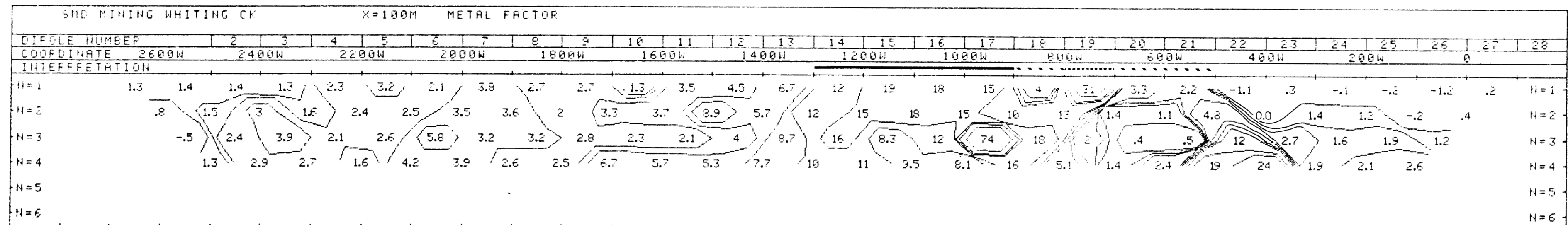
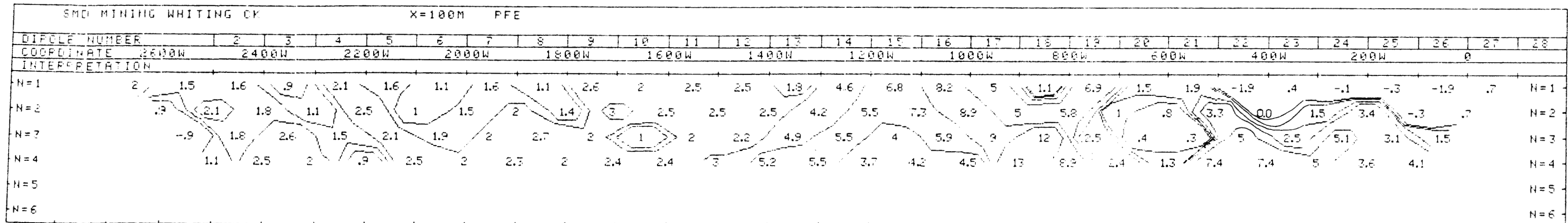
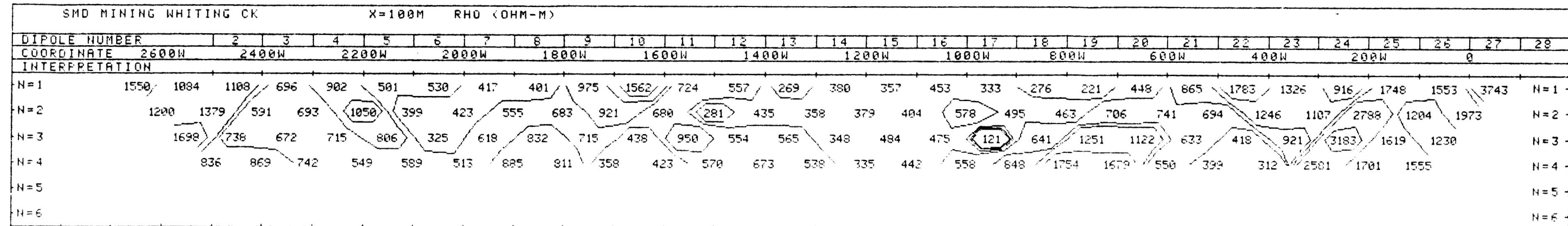


FREQUENCY (HERTZ) 4 0 0.25 DATE SURVEYED JUNE 1981 APPROVED

NOTE - CONTOURS AT LOGARITHMIC INTERVALS 1, -1.5, -2, -3, -5, -7.5, -10 DATE Aug 25, 81

PHOENIX GEOPHYSICS LTD.

INDUCED POLARIZATION AND RESISTIVITY SURVEY



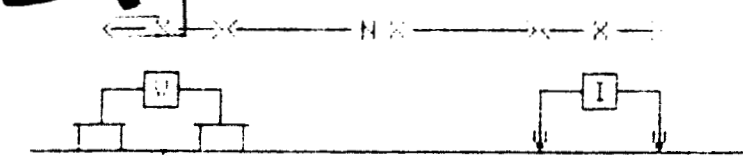
SMD MINING CO. LTD.

WHITING CK GRID/OMINECA M.D.

HOUSTON, B.C.

LINE NO. - 205

9831



FLOTTING POINT X=100M
SURFACE PROJECTION OF ANOMALOUS ZONE

DEFINITE ———
PROBABLE
POSSIBLE

FREQUENCY (HERTZ)
4.0, 0.25

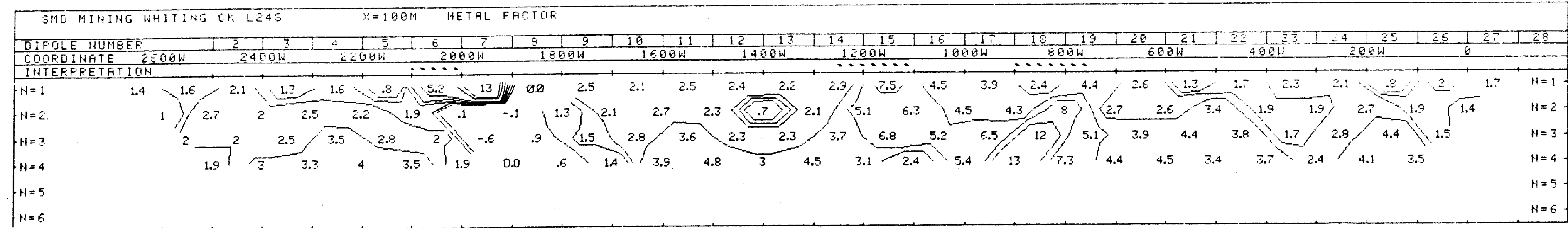
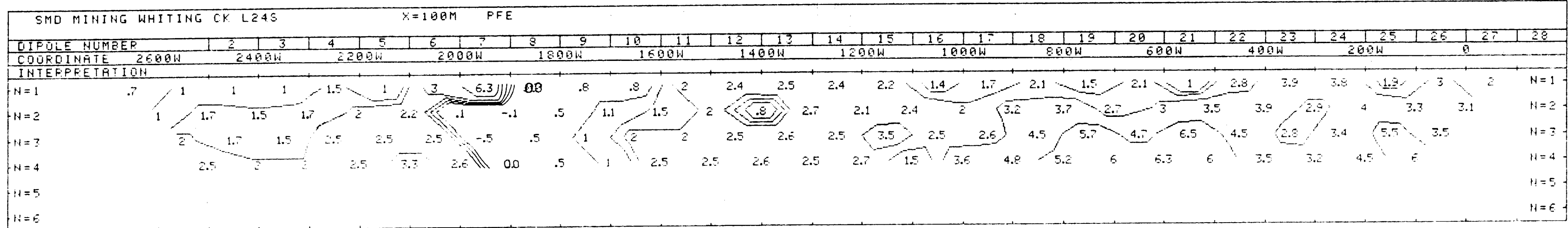
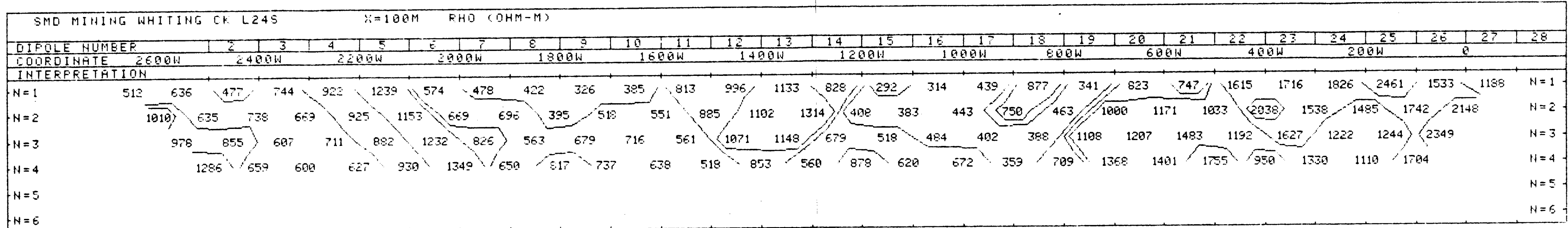
DATE SURVEYED: JUNE 1991
APPROVED

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

DATE Aug 25 91

PHOENIX GEOPHYSICS LTD.

INDUCED POLARIZATION
AND RESISTIVITY SURVEY



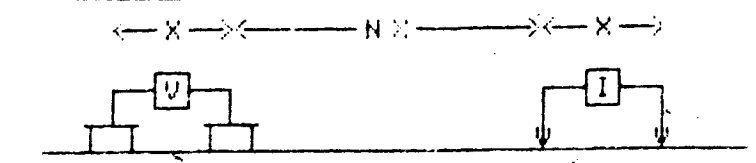
SMD MINING CO. LTD.

WHITING CK GRID/OMINECA M.D.

HOUSTON/B.C.

LINE NO -245

9831



PLOTTING POINT X X=100M
SURFACE PROJECTION OF ANOMALOUS ZONE

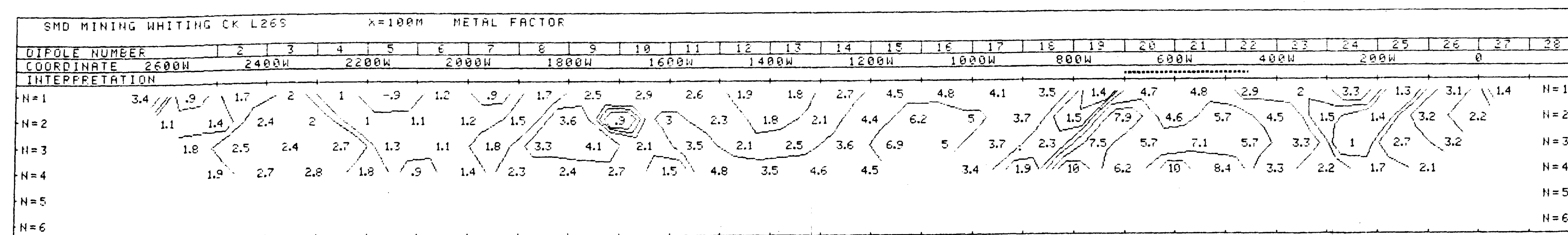
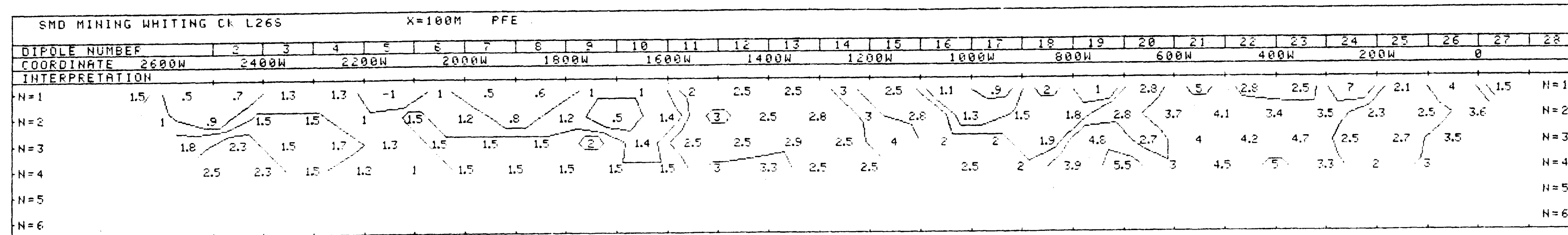
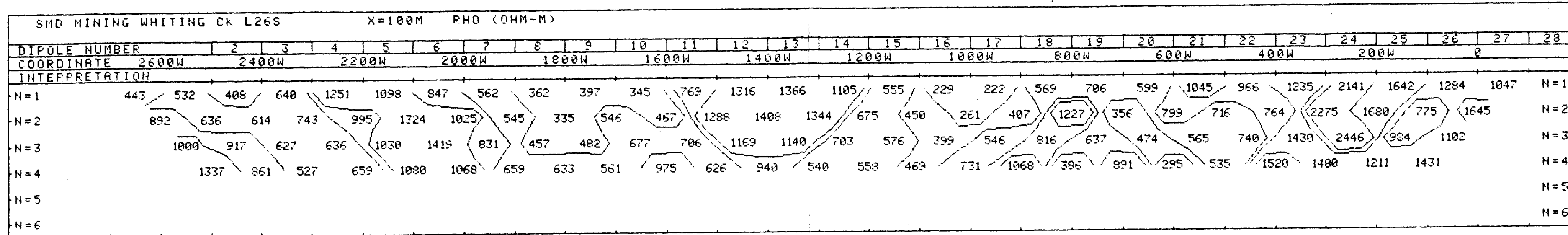
DEFINITE ———
PROBABLE
POSSIBLE - - - - -

FREQUENCY (HERTZ) 4 0/0 25 DATE SURVEYED JUNE 1981
APPROVED

NOTE- CONTOURS AT LOGARITHMIC INTERVALS 1:-1.5 -2:-3:-5:-7.5:-10 DATE Aug 25/81

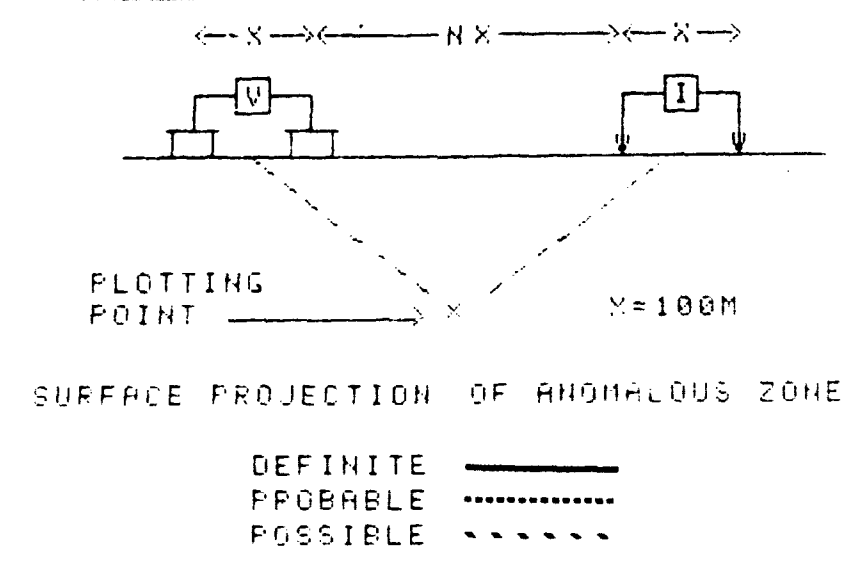
PHOENIX GEOPHYSICS LTD.

INDUCED POLARIZATION AND RESISTIVITY SURVEY



SMD MINING CO. LTD.
 WHITING CK GRID, OMINECA M.D.
 HOUSTON, B.C.
 LINE NO. -26S

9831

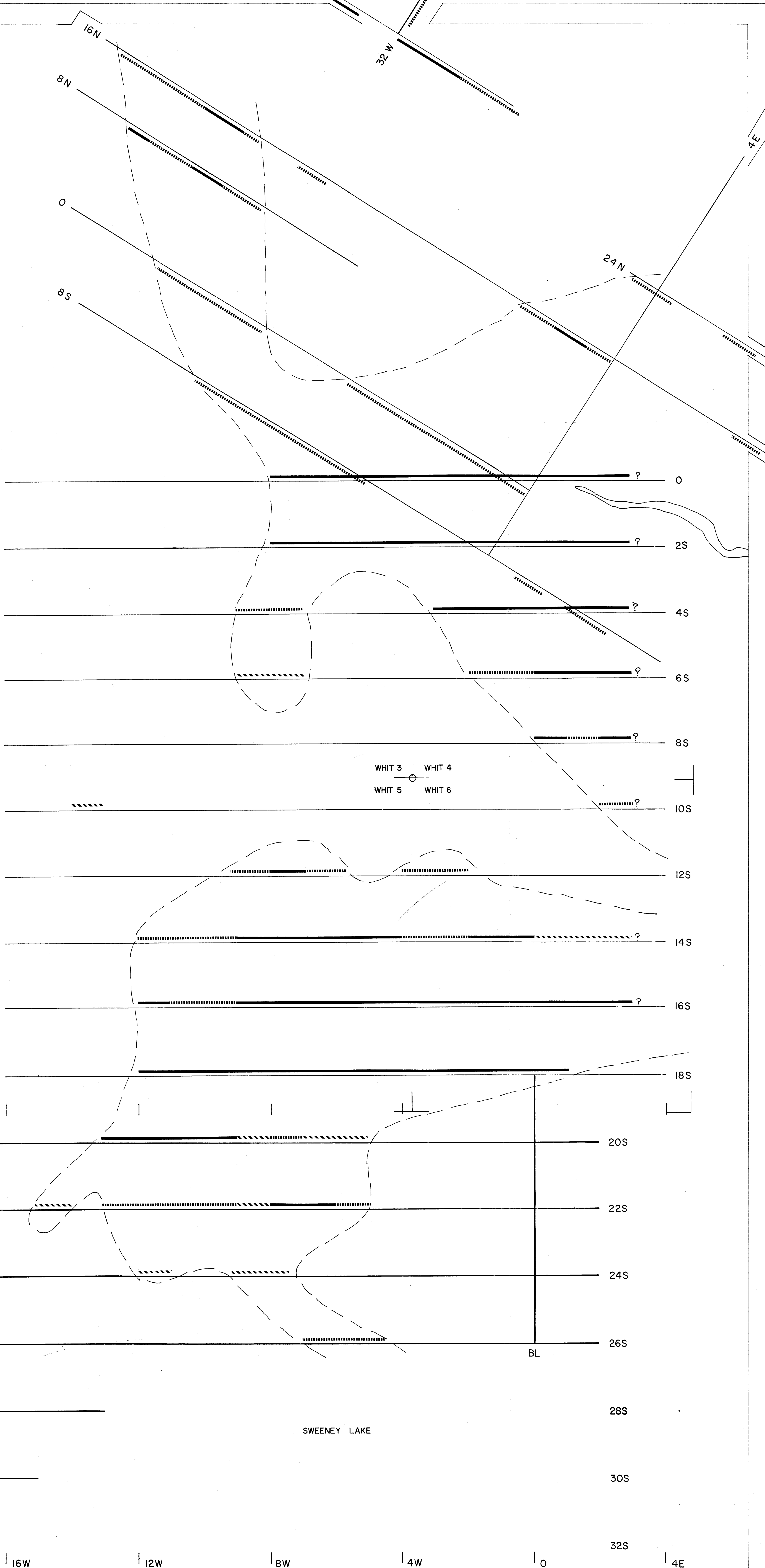


FREQUENCY (HERTZ) 4.00.25 DATE SURVEYED: JUNE 1981
 APPROVED _____
 NOTE - CONTOURS AT LOGARITHMIC INTERVALS: 1, -1.5, -2, -3, -5, -7.5, -10
 DATE Aug 25/81

PHOENIX GEOPHYSICS LTD.
 INDUCED POLARIZATION
 AND RESISTIVITY SURVEY

PHOENIX GEOPHYSICS LIMITED
INDUCED POLARIZATION AND RESISTIVITY SURVEY
PLAN MAP

WHIT 1 WHIT 2
WHIT 3 WHIT 4



WHIT 3 WHIT 4
WHIT 5 WHIT 6

SWEENEY LAKE

BL

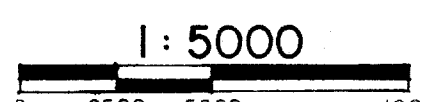
NOTE
TO ACCOMPANY GEOPHYSICAL REPORT
FOR SMD MINING CO. LTD. ON THE
WHITING CR. PROJECT, B.C. BY
F. D'OPRITO, B.A.Sc. ENG. AND PAUL
CARTWRIGHT B.Sc.
DATED OCT. 14, 1981

SURFACE PROJECTION
OF ANOMALOUS ZONE
DEFINITE ———
PROBABLE - - - - -
POSSIBLE
NUMBER AT END OF ANOMALIES
INDICATE SPREAD USED.

OUTLINE OF ANOMALOUS IP ZONE - - - - -

SMD MINING CO. LTD.
WHITING CREEK PROJECT
OMINECA M.D., B.C.

SCALE
1:5000



— 1981 SURVEY - PHOENIX GEOPHYSICS LTD.
- - - - - PREVIOUS SURVEYS

9831

DRAWN: R.G.W.
DATE: JULY 30, 1981
APPROVED: [Signature]
DATE: October 14, 1981