5974

ASSESSMENT REPORT

on the

SALAL MINERAL CLAIMS

#5, #6, #7

Lillooet Mining Division, B.C.

Induced Polarization, Resistivity

and

Magnetometer Survey

by

PHOENIX GEOPHYSICS LIMITED

for

BP MINERALS LIMITED

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 5974 MAP

August 1976

SALAL MINERAL CLAIMS

Located at the headwaters of Salal Creek, a tributary of the Lillooet River, 105 miles north of Vancouver B.C.

Owned by

BP MINERALS LIMITED

Claim Numbers	Record Numbers
Salal #5	113 (8)
Salal #6	114 (8)
Salal #7	115 (8)

Total: 27 units

SALAL MINERAL CLAIMS

Assessment Work Apportionment

$5,200 - applied
Salal Group C

2 years assessment work for Salal #5 (9 units)
2 years assessment work for Salal #6 (9 units)
1 year assessment work for Salal #7 (9 units)

$4,500 of assessment work applied and
$700 carried to Salal #7.

STATEMENT OF COSTS

Salal Mineral Claims

1. Grid layout, Induced Polarization and Resistivity Survey -
   - contractor(Phoenix Geophysics Limited) invoice attached
   - 10.24 km or 6.36 line miles of survey

   $3,956

2. Grid layout, Magnetometer Survey and IP
   - A.G.Fyfe - 7 man days @ $37.20/man day $260
   - magnetometer rental(invoice attached) 105
   - supplies(pickets, flagging, diesel fuel) 50

   415

3. Truck rental
   - 9 days @ $12.50/day

   112

4. Helicopter support
   - Okanagan Helicopters Ltd. - 206B
     July 19, 25, 26
     total invoice cost $1,566 for 4.9 hours
   - 50% applied

   783

Total $5,266

TABLE OF CONTENTS

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) betwen 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.

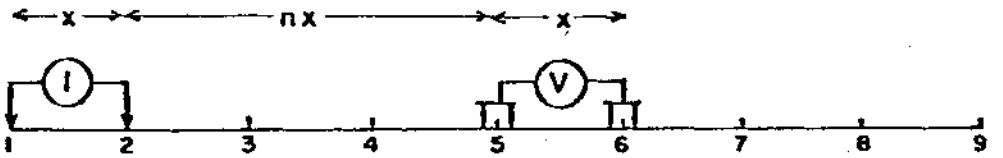
In some situations spurious noise, either man made or natural, will render it impossible to obtain a reading. The symbol "N" on the data plots indicates a station at which it is too noisy to record a reading. If a reading can be obtained, but for reasons of noise there is some doubt as to its accuracy,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

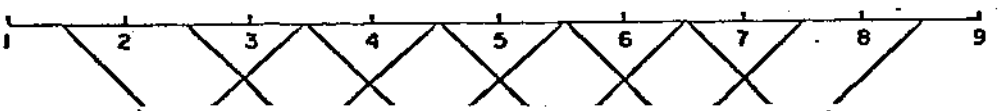
PHOENIX GEOPHYSICS LIMITED.

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



Stations on line

x = Electrode spread length
n = Electrode separation



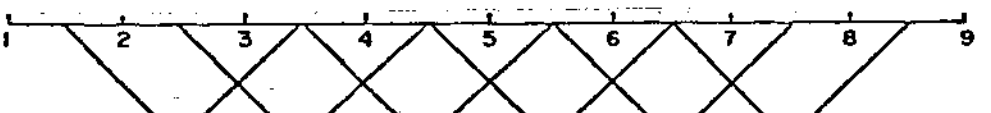
n - 1 — ρ 1,2-3,4 ρ 2,3-4,5 ρ 3,4-5,6 ρ 4,5-6,7 ρ 5,6-7,8 ρ 6,7-8,9

n - 2 — ρ 1,2-4,5 ρ 2,3-5,6 ρ 3,4-6,7 ρ 4,5-7,8 ρ 5,6-8,9

n - 3 — ρ 1,2-5,6 ρ 2,3-6,7 ρ 3,4-7,8 ρ 4,5-8,9

n - 4 — ρ 1,2-6,7 ρ 2,3-7,8 ρ 3,4-8,9

Apparent Resistivity



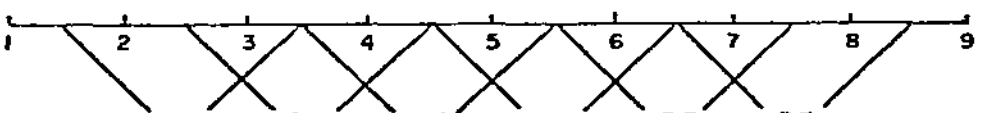
n - 1 — M.F. 1,2-3,4 M.F. 2,3-4,5 M.F. 3,4-5,6 M.F. 4,5-6,7 M.F. 5,6-7,8 M.F 6,7-8,9

n - 2 — M.F. 1,2-4,5 M.F. 2,3-5,6 M.F. 3,4-6,7 M.F. 4,5-7,8 M.F. 5,6-8,9

n - 3 — M.F. 1,2-5,6 M.F. 2,3-6,7 M.F. 3,4-7,8 M.F 4,5-8,9

n - 4 — M.F. 1,2-6,7 M.F. 2,3-7,8 M.F. 3,4-8,9

Apparent Metal Factor



n - 1 — F.E. 1,2-3,4 F.E. 2,3-4,5 F.E. 3,4-5,6 F.E. 4,5-6,7 F.E. 5,6-7,8 F.E. 6,7-8,9

n - 2 — F.E. 1,2-4,5 F.E. 2,3-5,6 F.E. 3,4-6,7 F.E. 4,5-7,8 F.E. 5,6-8,9

n - 3 — F.E. 1,2-5,6 F.E. 2,3-6,7 F.E. 3,4-7,8 F.E. 4,5-8,9

n - 4 — F.E. 1,2-6,7 F.E. 2,3-7,8 F.E. 3,4-8,9

Apparent Percent Frequency Effect

Fig. A

PHOENIX GEOPHYSICS LIMITED

REPORT ON THE
INDUCED POLARIZATION, RESISTIVITY
AND MAGNETOMETER SURVEYS
SALAL CREEK PROPERTY,
LILLOOET MINING DIVISION, B.C.
FOR
BP MINERALS LTD.

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1. INTRODUCTION

An Induced Polarization and Resistivity Survey was carried out over Salal 5 Claim, Salal 6 Claim, and Salal 7 Claim of the Salal Creek Property for BP Minerals Ltd.

The property is situated approximately 105 miles north of Vancouver at the headwaters of Salal Creek, a tributary of the Lillooet River. The center of the property lies at approximately 50°46' north latitude and 123°16' west longitude.

Access is by road from Pemberton to within approximately 20 air miles of the property, from which point helicopter transport is required.

Previous work on the property includes extensive geological

mapping and geochemical sampling, as well as airborne and ground magnetometer surveying. At least 12 diamond drill holes have been drilled by several companies during the period 1964 to the present. Molybdenite and pyrite mineralization was encountered in many of the holes.

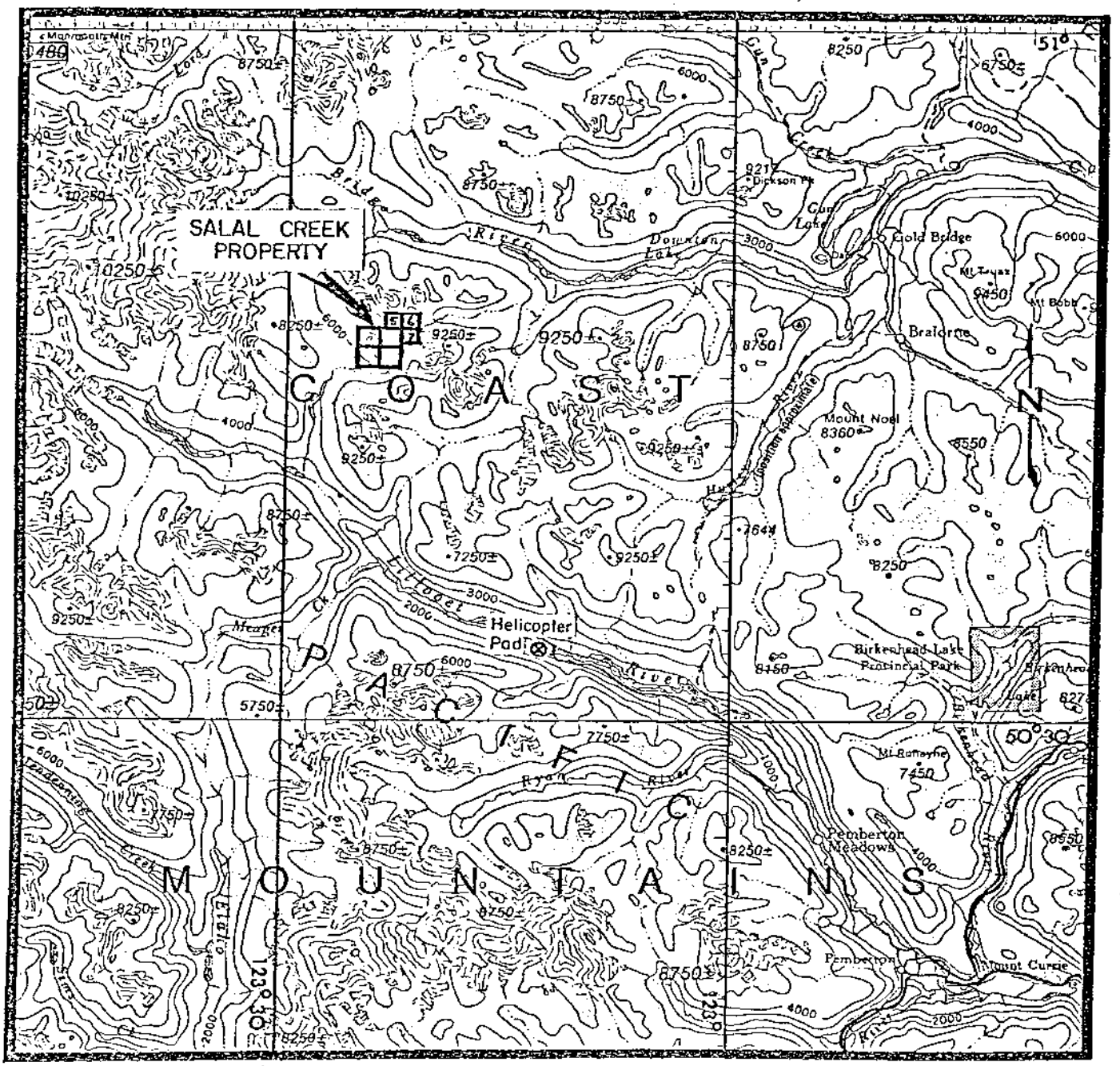
The Salal Creek property covers the southern part of the Late Tertiary Salal Creek stock, which intrudes into Mesozoic volcanic, sedimentary, and batholithic granitoid rock of the Coast Range Mountains. Two main phases have been identified within the stock, a coarse grained phase at the margins and a fine grained core. Molybdenite mineralization has been located in two main zones which form a discontinuous ring centered on the contact between the fine grained and coarse grained phases. The reader is referred to the 1976 Final Report on the "Salal Creek Molybdenum Property" by D.K. Mustard and R.H. Wong for additional information regarding the geological setting and previous work.

The purpose of the present Induced Polarization survey was to define a possible pyritic halo centered on an intrusive system at Windy Creek, and to maintain Salal 5 Claim, Salal 6 Claim and Salal 7 Claim in good standing.

Field work was carried out during the latter part of July 1976. A Phoenix Geophysics Frequency Domain IP System was used for the survey operating at 0.3 Hertz and 5.0 Hertz.

2. DESCRIPTION OF CLAIMS

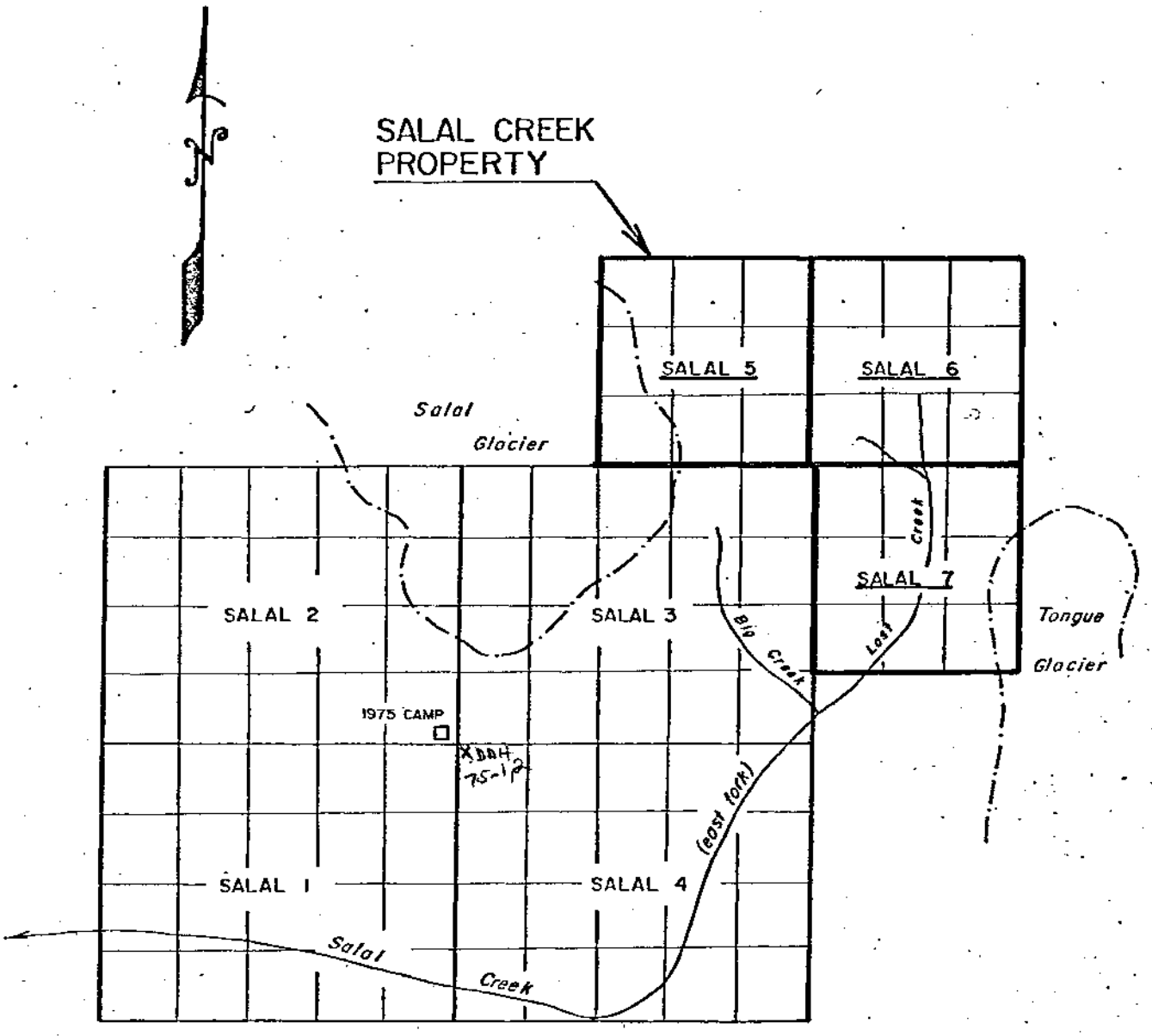
The Salal 5 Claim, Salal 6 Claim and Salal 7 Claim are shown on Fig. 1, and Fig. 2. Details are as follows:



SCALE
1 inch = 8 miles
1 : 500,000

LOCATION MAP

Figure 1



BP Minerals Limited

CLAIM BOUNDARIES

SALAL CREEK

SCALE 1" = 4000'		NTS 92 J / 14 W	FIG. 2
DRAWN 76-24	DATE FEB / 76	PROJ. 507	

Claim Holder	Claim Name	Record No.,	Units
BP Minerals Ltd.	Salal 5	113	1-3 14-19
BP Minerals Ltd.	Salal 6	114	1-3 14-19
BP Minerals Ltd.	Salal 7	115	1-3 14-19

3. PRESENTATION OF RESULTS

The Induced Polarization and Resistivity results are shown on the following data plots in the manner described in the notes preceding this report.

Line	Electrode Intervals	Dwg. No.
Base Line	600 feet	IP 5025-1
0	600 feet	IP 5026-1
24N	600 feet	IP 5026-2
48N	600 feet	IP 5026-3

Also enclosed with this report is Dwg. I.P.P. 2029, a plan map of the Salal Creek Grid at a scale of 1" = 1000'. 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 magnetometer survey results are plotted in profile form on Dwg. I.P.P. 2029

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 600' electrode intervals the position of a narrow sulphide body can only be determined to lie between two stations 600' 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 centre of the indicated anomaly probably corresponds fairly well with the source, the length of the indicated anomaly along the line should not be taken to represent the exact edges of the anomalous material.

The grid and claim information shown on Dwg. I.P.P.2029 and Fig. 1, and Fig. 2, has been taken from maps made available by the staff of BP Minerals Ltd.

4. DISCUSSION OF RESULTS

Apparent Resistivity values are relatively high in magnitude over most of the survey area. The absence of any conductive overburden as well as the large dimensions of the electrode array used, ensured that most of the current signal penetrated unweathered, resistive bedrock.

Background Percent Frequency Effect (P.F.E.) values are also somewhat higher than would be expected from barren rock. It is probable that most of the country rock underlying the survey area contains some amount of metallic sulphide mineralization.

The Induced Polarization method has been used very successfully to explore for disseminated mineral deposits; however, it must be

remembered that the mineral molybdenite does not exhibit any appreciable IP effect and it is the associated metallic mineralization which is detected by the IP survey.

Extremely resistive contact conditions were encountered at some electrode positions on the northern part of the grid. In these cases the data was corrected for these effects.

The four lines surveyed with the Induced Polarization and Resistivity method are discussed below.

Line 0

All of the data recorded on this line is anomalous, with the region between station 12+00E and station 36+00E displaying somewhat higher values than the rest of the line. This uniformity of the results suggests the source to be either a moderately mineralized rock type or a concentration of metallic mineralization close to the line and striking in a parallel direction. This latter interpretation is supported by the results from the Base Line 0.

Base Line 0

On this line, a definite anomaly is indicated centered between station 3+00N and station 9+00N. The depth to the top of the source would appear to be within one dipole length (600 feet) of the surface. This response suggests that the IP results obtained along the length of Line 0 were caused by a zone of mineralization striking approximately parallel to the line and lying approximately 300 feet to 900 feet to the north.

Another much weaker response is evident on the northwestern

end of the Base Line 0, to the north of station 48+00N, beyond which point the response is undefined.

Line 24N

Two weak, possibly anomalous areas can be interpreted on this line. One is located from the vicinity of station 6+00W to beyond the southwestern limit of IP coverage. This anomaly exhibits very uniform values and may be indicative of a change in rock type. The other anomalous region is evident on the northeast end of the line from station 36+00E to beyond the end of IP coverage. Both sources are indicated to be within one dipole length (600') of the surface.

Line 48N

The IP data indicates two weak, possible anomalies, the first of which is located approximately between station 3+00W and station 6+00E. Depth to the source appears to be relatively shallow (less than 600 feet). This may be the same source which gives rise to the weak anomaly recorded on the northwestern end of the Base Line 0. Another possible anomaly is present on the northeastern end of Line 48N. Here, the cause of the anomalous response is either quite deep (greater than 600'),or situated to one side of the line.

MAGNETOMETER SURVEY

All of the aforementioned lines were surveyed by an employee of BP Minerals Ltd., using a McPhar M700 Fluxgate Magnetometer and employing a 100 foot station interval.

Generally, the magnetic relief shown in the data is not great, rarely exceeding the range 750 gammas to 1500 gammas. However, two very similar magnetic features, which exceed this range, are evident

on Line 48N at approximately station 6+00W and on Line 24N at approximately 4+00E. It would appear that the probable sources of both these anomalies are separate, narrow dykes of reverse polarized material. The magnetic data recorded on the Base Line 0 confirms that two separate, unconnected sources are present.

Also on Line 24N, in the area between station 15+00E and station 22+00E, a more complex magnetic variation is present, which could represent two parallel dyke-like structures.

5. CONCLUSIONS AND RECOMMENDATIONS

One definite anomaly is indicated by the IP data, with the most probable position of the source being roughly parallel to and slightly north of Line 0. This IP response may mark the contact between the inner pyrite $\pm$ magnetite mineral zone and the surrounding magnetite-pyrite $\pm$ hematite mineral zone as proposed by Mustard (1966). Shorter spreads could be used to better evaluate the depth and nature of the IP source. Other lines located at 1200 foot intervals parallel to the Base Line 0 would definitely establish the length and position of this anomalous zone.

Several much weaker IP responses are recorded elsewhere on the survey grid; however, it is difficult to establish the relationship between these anomalies due to the considerable distances between adjacent lines. Additional infill lines, situated at 1200 foot intervals, are recommended to better clarify the pattern of these weaker IP anomalies. Initially, this would involve surveying Line 12N, Line 36N, and Line 60N. In all cases, the exact location of the lines would have to be decided upon in the field so as to avoid extreme topography. Also it would

appear that the month of August is the best time to carry out IP surveying on the Salal Creek property, in order to minimize any problems caused by snow cover.

PHOENIX GEOPHYSICS LIMITED.

Paul A. Cartwright

Paul A. Cartwright
Geophysicist

Ashton W. Mullan

Ashton W. Mullan, P. Eng.
Geologist

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
A.W. MULLAN

DATED: August 18, 1976.

ASSESSMENT DETAILS

PROPERTY: Salal Creek

MINING DIVISION: Lillooet

SPONSOR: BP Minerals Ltd.

PROVINCE: British Columbia

LOCATION: Pemberton

TYPE OF SURVEY: Induced Polarization

OPERATING MAN DAYS:	20	DATE STARTED:	July 18, 1976
EQUIVALENT 8 HR. MAN DAYS:	30	DATE FINISHED:	July 26, 1976
CONSULTING MAN DAYS:	2	NUMBER OF STATIONS:	60
DRAFTING MAN DAYS:	5	NUMBER OF READINGS:	351
TOTAL MAN DAYS:	37	MILES OF LINE SURVEYED:	6.36

CONSULTANTS:

Ashton W. Mullan, Phoenix Geophysics Ltd. 1521 Pemberton Ave. N.Vancouver, B.C.
Paul A. Cartwright, 229 Kennilworth Ave. Toronto, Ontario.

FIELD TECHNICIANS:
Paul A. Cartwright, 229 Kennilworth Ave. Toronto, Ontario.
B. D'Entremont, 1442 Lawrence Ave.W. Toronto, Ontario.
Plus 2 Extra Labourers:
Douglas Mowat, 1340 Camridge Road, W.Vancouver, B.C.
John Mullan, 1440 Sandhurst Place, West Vancouver, B.C.

DRAUGHTSMEN:
B. Boden, R.R.#1, Omemee, Ontario.
Robert Norris, 235 Baythorn Drive, Apt. 209, Thornhill, Ontario.

PHOENIX GEOPHYSICS LIMITED

Ashton W. Mullan

Ashton W. Mullan, P.Eng.

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
A. W. MULLAN

Dated: August 18, 1976

STATEMENT OF COST

B.P. Minerals Ltd. - IP Survey - Salal Creek,
Lillooet Mining Division - Pemberton, B.C.

Crew: P. Cartwright - B.D'Entremont

Total Survey Cost:			$3,956.05
Breakdown of Cost			
5 days Operating		@ $400.00/day	2,000.00
2 days Travel 1 day Organization 1 day Standby	4 days	@ $150.00/day	600.00
Additional charge (less than 10 operating days)			200.00
EXPENSES:			
Meals	223.10		
Vehicle Expense	45.04		
Supplies	29.48		
Camp Equipment Rental 8 days @ $10.00/day	80.00		
Disposable Electrodes	18.79		
	396.41		
+ 10%	39.64		
			436.05
Extra Labour			
2 men - 8 days	600.00		
+ 20%	120.00		
			720.00
			$3,956.05

PHOENIX GEOPHYSICS LIMITED

Ashton W. Mullan

Ashton W. Mullan, P.Eng.

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
A. W. MULLAN

Dated: August 18, 1976

CERTIFICATE

I, Paul A. Cartwright, of the City of Toronto, Province of Ontario, do hereby certify that:

1. I am a geophysicist residing at 229 Kennilworth Ave. Toronto, Ontario.

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

3. I am a member of the Society of Exploration Geophysicists.

4. I have been practising my profession about 6 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 BP Minerals 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 qualification requirements but not for advertising purposes.

Dated at Toronto

This 18th day of August, 1976

Paul A. Cartwright

Paul A. Cartwright, B.Sc.

CERTIFICATE

I, Ashton W. Mullan, of the City of North Vancouver, in the Province of British Columbia, hereby certify:

1. That I am a geologist/geophysicist and a fellow of the Geological Association of Canada, Geophysics Division, with a business address at 1521 Pemberton Avenue, North Vancouver, B.C.

2. That I am registered as a member of the Association of Professional Engineers of the Provinces of Ontario and British Columbia.

3. That I hold a B.Sc. degree from McGill University.

4. That I have been practising my profession as a geologist/geophysicist for over twenty 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 BP Minerals 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 qualification requirements but not for advertising purposes.

Dated at North Vancouver

This 18th day of August, 1976

A.W. Mullan, B.Sc. P.Eng.

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
A. W. MULLAN

PHOENIX Geophysics Limited

200 YORKLAND BLVD., WILLOWDALE, ONTARIO M2J 1R6 TELEPHONE (416) 493-6350

I N V O I C E

August 4, 1976
Invoice No. 733

BP Minerals Ltd.
405 - 1199 West Pender St.
Vancouver, B.C.
V6E 2R1

RENTAL - Re Salal Project.

1 M-700, Serial No. 68-73

10 days REntal @ $10.50/day $105.00

APPROVED FOR PAYMENT
CHARGE 800-25
DATE AUG 20 1976 INITIALS

I.P. Survey (Group 3)

PHOENIX GEOPHYSICS LIMITED

BP Minerals Limited
RECEIVED
AUG 6 1976
Vancouver, B.C.

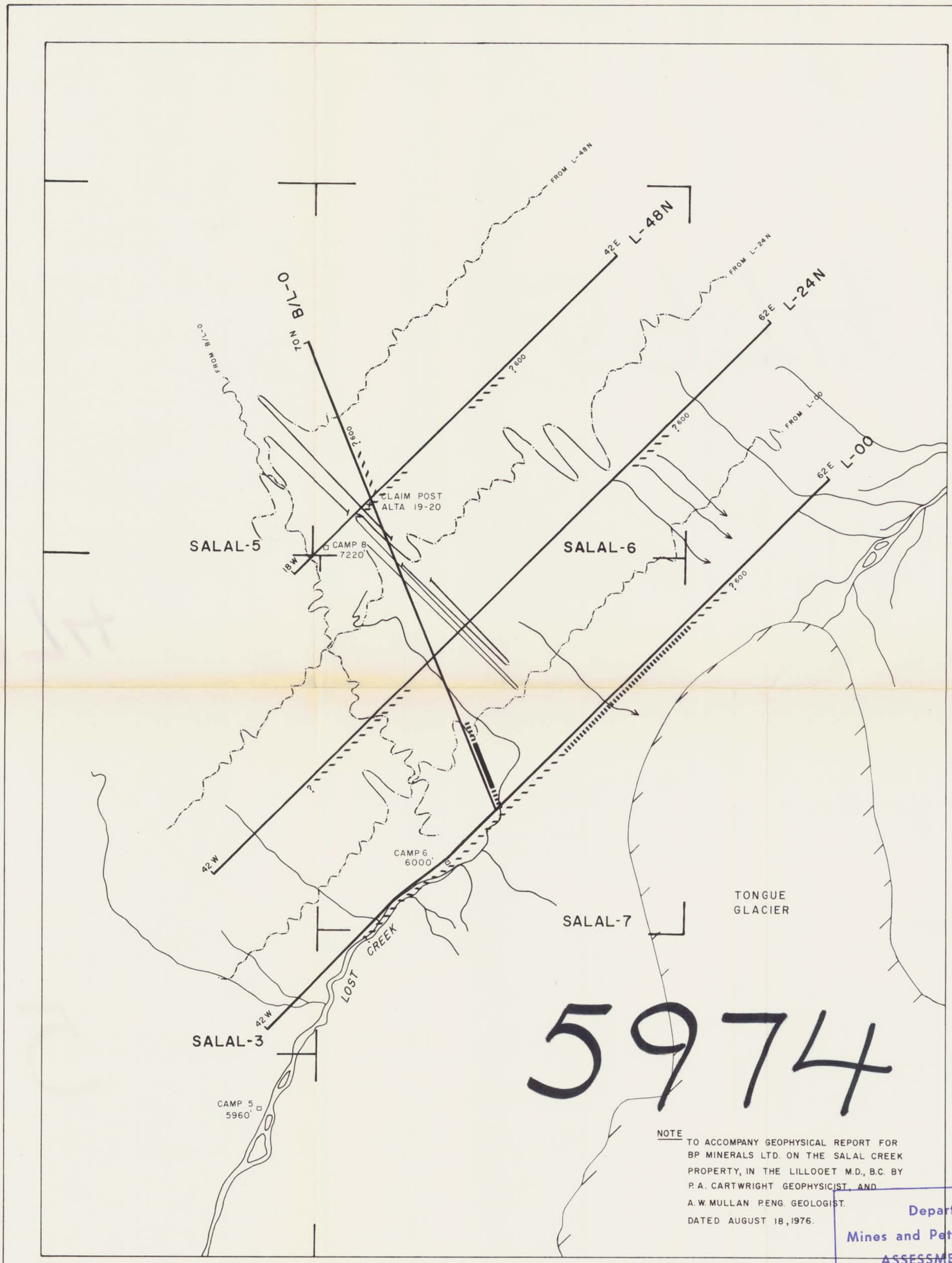
North Vancouver Office: 1521 Pemberton Ave., British Columbia V7P 2S3 Telephone (604) 987-9665
Tucson Office: 818 West Miracle Mile, Tucson, Arizona 85705 Telephone (602) 888-1540

DWG.NO.-I.P.P-2029

PHOENIX GEOPHYSICS LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY

PLAN MAP



5974 M-1

NOTE TO ACCOMPANY GEOPHYSICAL REPORT FOR BP MINERALS LTD. ON THE SALAL CREEK PROPERTY, IN THE LILLOOET M.D., B.C. BY P. A. CARTWRIGHT GEOPHYSICIST, AND A. W. MULLAN P.ENG. GEOLOGIST. DATED AUGUST 18, 1976.

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 5974 MAP #1

N

SURFACE PROJECTION OF ANOMALOUS ZONE

DEFINITE ——————

PROBABLE ·····

POSSIBLE \ \ \ \ \ \

NUMBER AT END OF ANOMALIES INDICATE SPREAD USED.

BP MINERALS LIMITED

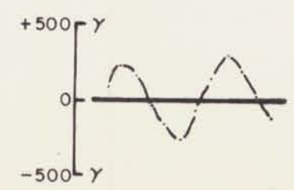
SALAL CREEK PROPERTY,

LILLOOET M.D., BRITISH COLUMBIA

SCALE

One inch = 1000 feet

PROFILE SCALE
1" = 1000 γ



NOTE: MAGNETIC DATA NOT CORRECTED FOR DIURNAL CHANGE.

DRAWN: R.C.N.

DATE: AUG. 1976

APPROVED:

DATE: Aug 18, 1976

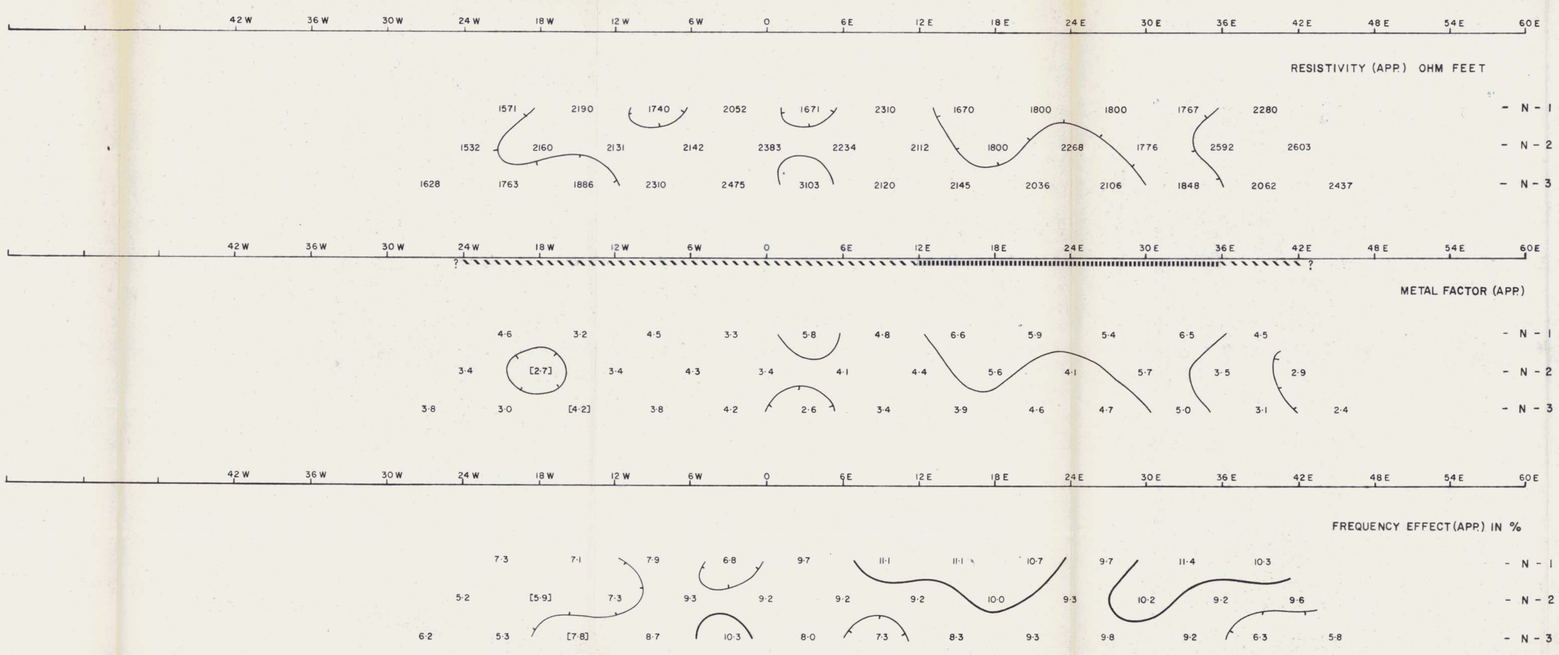
PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA A. W. MULLAN

DWG. NO.- I.P.P.- 2029

DWG. NO.- I.P.-5026-1

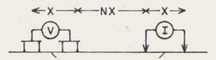
BP MINERALS LIMITED

SALAL CREEK PROPERTY,
LILLOOET M.D., BRITISH COLUMBIA.



LINE NO.- 0

ELECTRODE CONFIGURATION



PLOTTING POINT → × X = 600'

SURFACE PROJECTION OF ANOMALOUS ZONE
DEFINITE
PROBABLE
POSSIBLE

FREQUENCIES 0.31-5.0 HZ.

DATE SURVEYED JULY, 1976.

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

APPROVED

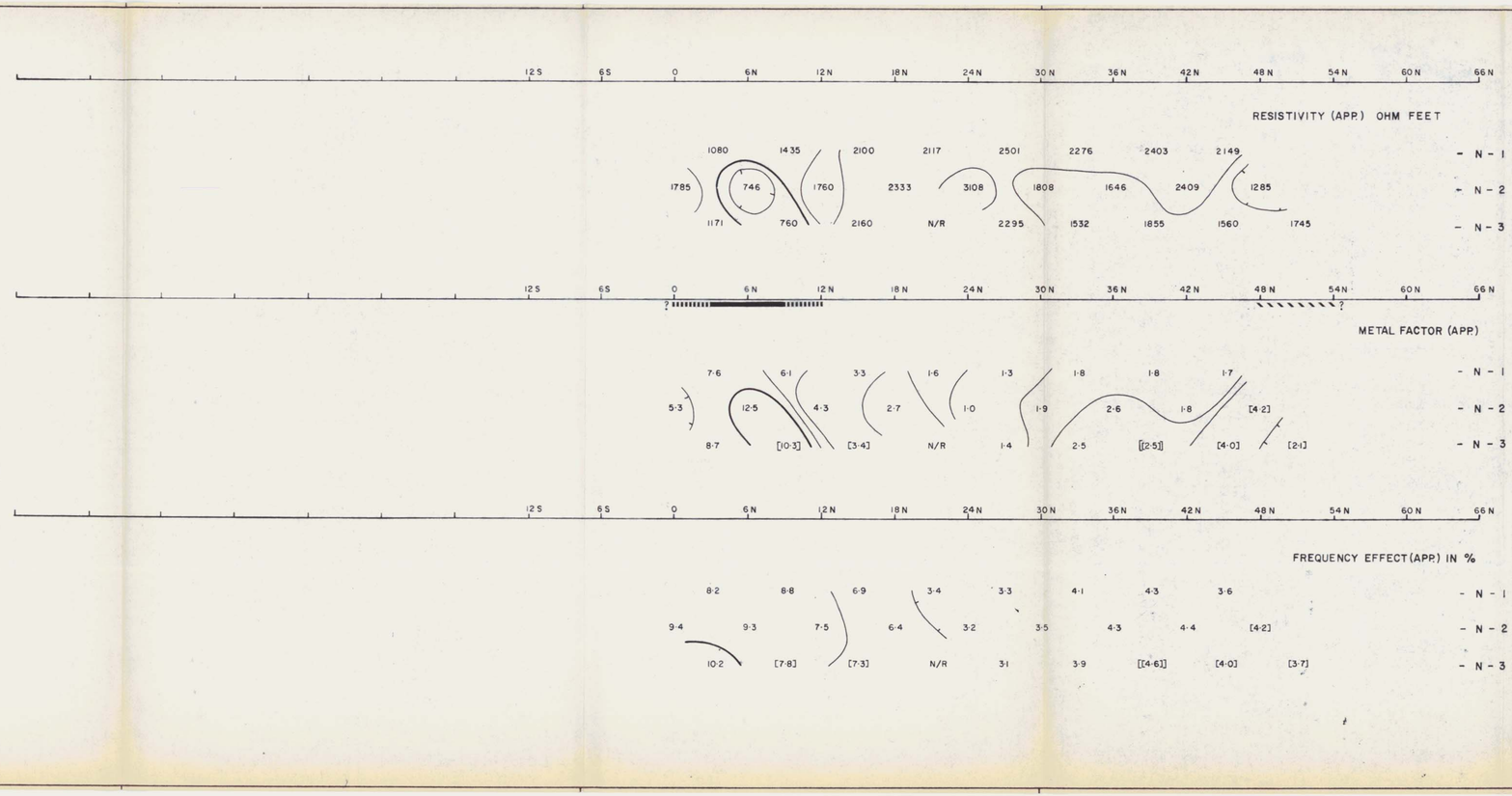
DATE

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA

PHOENIX GEOPHYSICS LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY

#5974 -(2)



5974

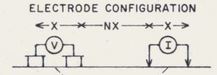
DWG. NO.- I.P.-5025-1

BP MINERALS LIMITED

SALAL CREEK PROPERTY,
LILLOOET M.D., BRITISH COLUMBIA.

LINE NO.- Base Line

ELECTRODE CONFIGURATION



SURFACE PROJECTION OF ANOMALOUS ZONE

DEFINITE
PROBABLE
POSSIBLE

FREQUENCIES 0·31-5·0 HZ

DATE SURVEYED JULY, 1976

APPROVED

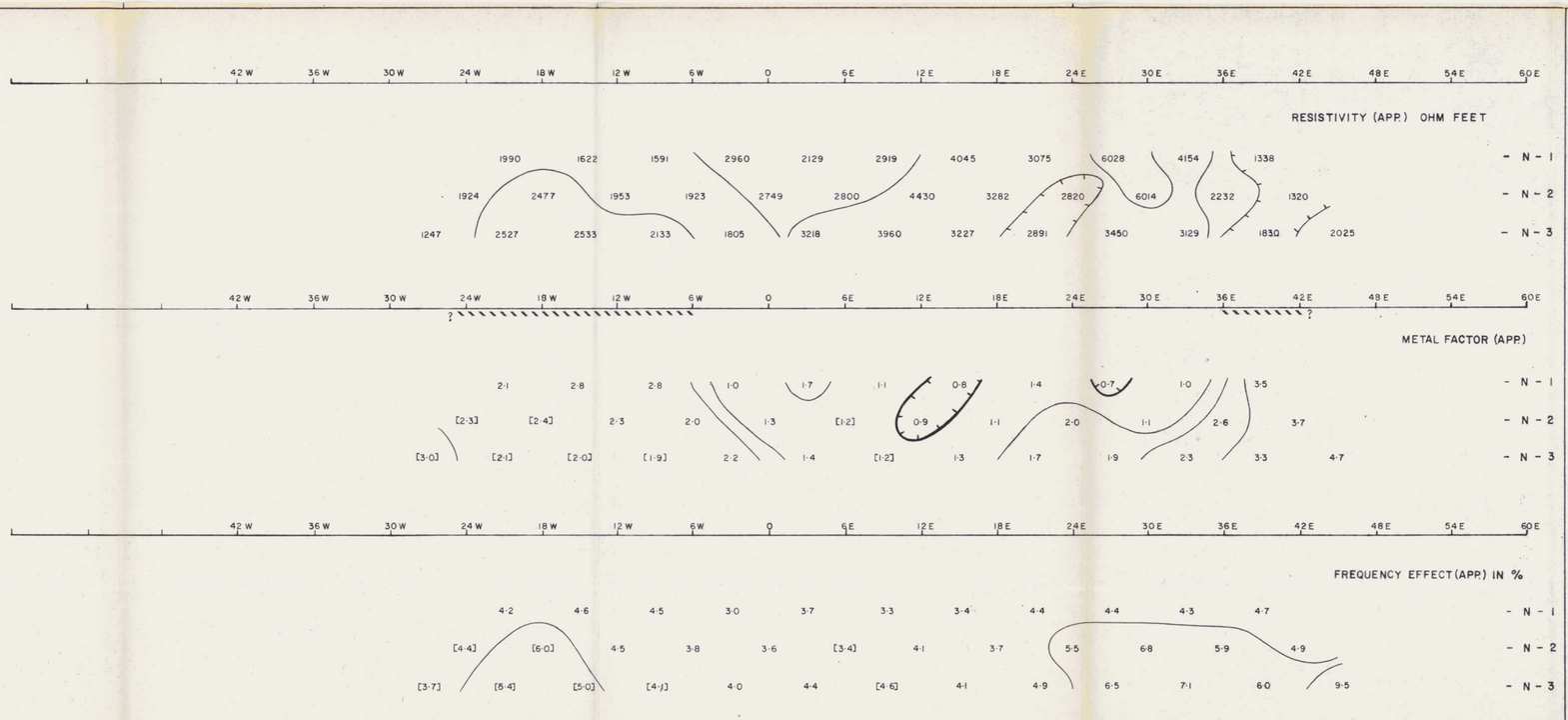
DATE Aug 8, 1976

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

PHOENIX GEOPHYSICS LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY

*5974 - (1)



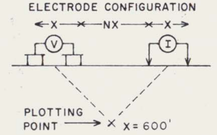
DWG. NO.- I.P.-5026-2

BP MINERALS LIMITED

SALAL CREEK PROPERTY,
LILLOOET M.D., BRITISH COLUMBIA.

LINE NO.- 24 N

ELECTRODE CONFIGURATION



SURFACE PROJECTION OF ANOMALOUS ZONE

DEFINITE
PROBABLE
POSSIBLE

FREQUENCIES 0.31-5.0 HZ.

DATE SURVEYED JULY, 1976

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

APPROVED

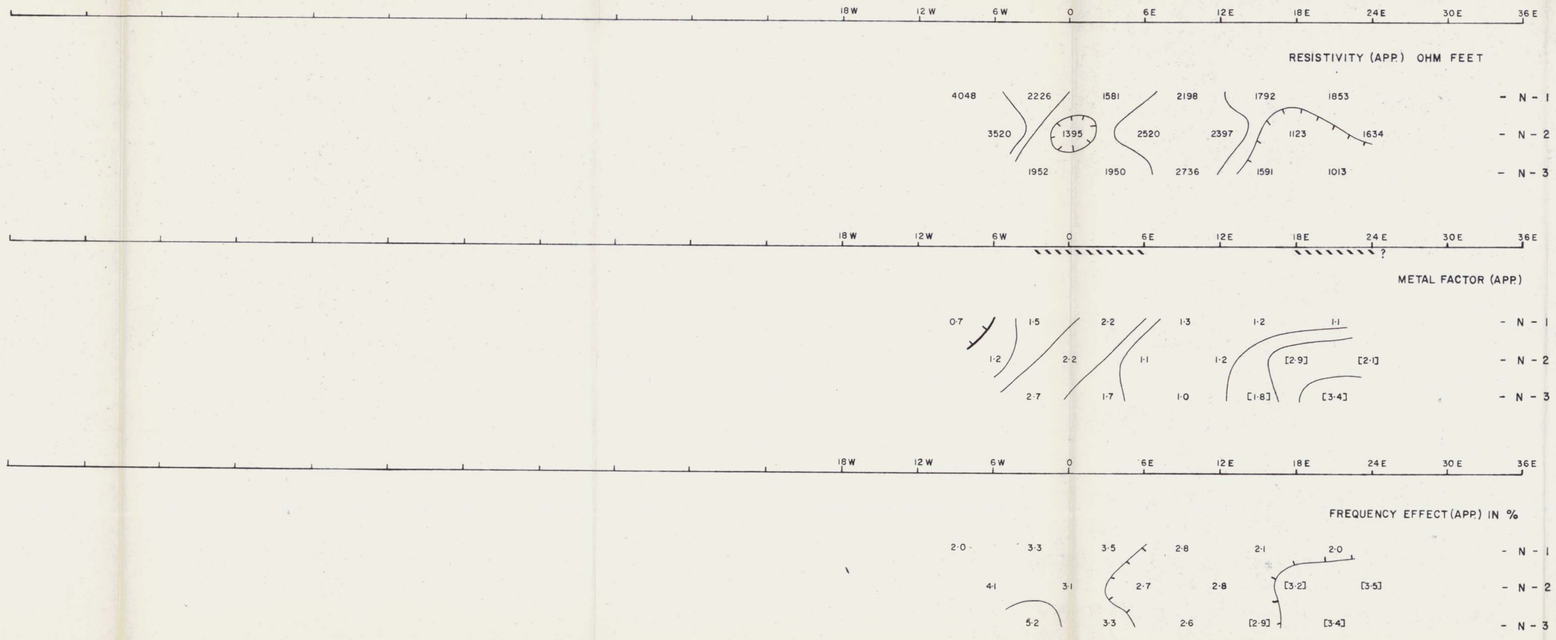
DATE Aug 13, 1976 IAN

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA

PHOENIX GEOPHYSICS LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY

#5974 - (3)



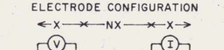
DWG. NO.- I.P.-5026-3

BP MINERALS LIMITED

SALAL CREEK PROPERTY,
LILLOOET M.D., BRITISH COLUMBIA.

LINE NO.- 48 N

ELECTRODE CONFIGURATION



PLOTTING POINT → × X = 600'

SURFACE PROJECTION OF ANOMALOUS ZONE

DEFINITE ——
PROBABLE ▪▪▪▪▪▪▪▪▪▪
POSSIBLE ˋˋˋˋˋˋ

FREQUENCIES 0.31-5.0 HZ.

DATE SURVEYED JULY, 1976

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

APPROVED

DATE NOV 15, 1976

PROFESSIONAL ENGINEER OF BRITISH COLUMBIA

PHOENIX GEOPHYSICS LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY

#5974 -(4)