5259

94c/3W

GEOPHYSICAL SURVEY DATA

APPENDIX 2

TYPE OF SURVEY:	Time Domain Induced Polarization (IP) and Ground Magnetometer Survey
CLAIMS SURVEYED:	Part of the BEG claim group (including RON 1 and RON 2), 35 air miles N.W. of Germansen Landing, B.C., lat. 56° 10' N., long. 125° 20' W. Omineca Mining Division.
SURVEYED BY:	L. D. Brydle, B.Sc. and D. S. Coote, B.Sc., Eagle Geophysics Limited
SUPERVISION AND REPORT BY:	J. Lloyd, M.Sc., P. Eng., Eagle Geophysics Limited
CLAIMS HELD BY AND SURVEYED FOR:	BP Minerals Limited
SURVEY DATES:	July 12th to August 12th, 1974

AN ASSESSMENT REPORT ON A

TIME DOMAIN INDUCED POLARIZATION

AND GROUND MAGNETOMETER SURVEY

FOR

BP MINERALS LIMITED

BY

EAGLE GEOPHYSICS LIMITED

VANCOUVER, BRITISH COLUMBIA

OCTOBER 1974

AN ASSESSMENT REPORT ON A TIME
DOMAIN INDUCED POLARIZATION AND
GROUND MAGNETOMETER SURVEY ON
PART OF THE BEG CLAIM GROUP,
VEGA CREEK, BRITISH COLUMBIA,
FOR BP MINERALS LIMITED

by

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

S U M M A R Y

During the period July 12th to August 12th, 1974 Eagle Geophysics Limited carried out a time domain Induced Polarization (IP) survey for BP Minerals Limited, on part of the BEG claim group, near Uslika Lake in north central British Columbia. A ground magnetometer survey was completed at the same time by BP Minerals Limited.

The major magnetic highs have no coincident IP response, and insufficient outcrop did not permit identification of the underlying rocks.

Induced Polarization responses to the east of a major fault zone and in the vicinity of the old gold-copper workings are most probably caused by disseminated sulphides and are therefore recommended for further exploration by drilling.

TABLE OF CONTENTS

1. INTRODUCTION

During the period July 12th to August 12th, 1974 a time domain Induced Polarization (IP) survey was carried out by Eagle Geophysics Limited for BP Minerals Limited on a portion of the BEG claim group on Vega Creek, near Uslika Lake in north central British Columbia. During the same period a ground magnetometer survey was completed over the same grid by BP Minerals personnel, using a magnetometer provided by Eagle Geophysics Limited.

At the time this survey was completed the BEG claim group comprised 102 contiguous full sized and fractional mineral claims identified as follows:-

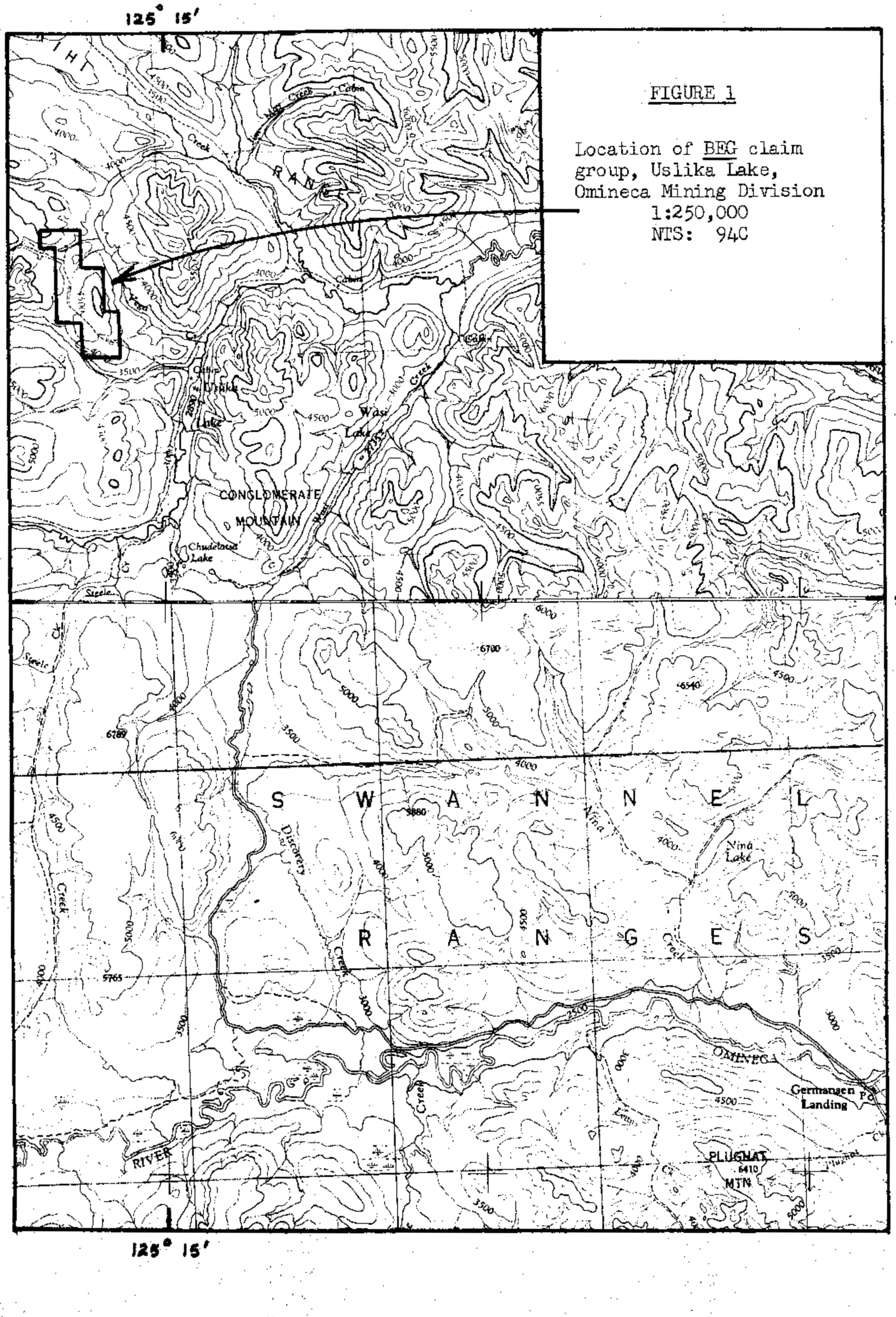
CLAIM NAME	RECORD NUMBER	EXPIRY DATE
RON 1 and RON 2	83778P and 83779P	Nov. 8, 1979
BEG 1 to BEG 40	128366 to 128405	Sept. 25, 1974
BEG 41 to BEG 98	130729 to 130786	July 15, 1975
BEG 99 Fraction	130787	July 15, 1975
BEG 100 Fraction	130788	July 15, 1975

1.1 Property Location

The BEG claim group, in the Omineca Mining Division, is located approximately 35 miles northwest of Germansen Landing, British Columbia, at latitude 56° 10' N., and longitude 125° 20' W. The approximate location of the claim group is shown in Figure 1.

1.2 Property Access

The property can be reached on foot by a good 7 mile long trail from Uslika Lake. Uslika Lake is approximately 40 road miles northwest of Germansen Landing on the road to Johanson Lake. This road has a fairly good gravel surface.


125° 15'
FIGURE 1
Location of BEG claim group, Uslika Lake, Omineca Mining Division
1:250,000
NTS: 94C
56° 00'
56° 00'
Uslika Lake
Wasi Lake
CONGLOMERATE MOUNTAIN
Chudelatsa Lake
S W A N N E L L
R A N G E S
Discovery
Nina Lake
OMINECA
Germansen Landing
RIVER
PLUGHAT MTN
6410
Steele Cr
Creek
125° 15'

For establishing a camp, and mobilization of the geophysical equipment, access to the property on this survey was by helicopter. The helicopter operated either out of Uslika Lake, 6 air miles southeast of the property, or out of Johanson Lake, 45 air miles northwest of the property.

1.3 Purpose Of The Survey

The purpose of the IP survey was to search for and outline concentrations of disseminated sulphide mineralization known to occur in the underground workings either disseminated through the andesitic breccia or concentrated in calcite stringers that lie along fractures.

The purpose of the magnetometer survey was to assist in differentiating between the various rock types in sparse outcrop and overburden covered areas. It should also assist in evaluating IP anomalies which may be caused either by magnetite, by disseminated sulphides or by a combination of both.

2. INSTRUMENT SPECIFICATIONS

2.1 The Magnetometer

The magnetometer used to carry out this work was a direct reading Sharpe M.F.1 flux gate magnetometer, manufactured by Sharpe Instruments Of Canada Limited, now the instrument manufacturing division of Scintrex Limited, Toronto, Ontario.

The instrument measures variations in the vertical component of the earth's magnetic field to $\pm$ 10 gammas, on the most sensitive scale.

2.2 The Induced Polarization Unit

The IP equipment used to carry out this work was a time domain measuring system developed and manufactured by Huntec Limited of Toronto, Ontario.

The system consists of a transmitter, a motor generator and a Mark III receiving unit incorporating a digital display readout for chargeability measurements.

The transmitter, which provides a maximum of 7.5 kw D.C. to the ground, obtains its power from a 7.5 kw, 400 cycle, 3 phase Leland alternator driven by an Onan gasoline engine. The total cycle time for the transmitter was 6 seconds and the duty ratio (R) was 2 to 1. This means the cycling rate of the transmitter was 2 seconds current "ON" and 1 second current "OFF" with the pulses reversing continuously in polarity.

The Mark III receiver presents digitally four individual (M) values of the decay curve at each station. The (M) value reading is the

$$M_1 = \frac{e(t_1)}{V_p} = \sum_{1}^{n} \int_{(td)}^{(td+tp)} Vs \cdot dt \Big/ Vp \cdot tp$$

$$M_2 = \frac{e(t_2)}{V_p} = \frac{1}{2} \sum_{1}^{n} \int_{(td+tp)}^{(td+3tp)} Vs \cdot dt \Big/ Vp \cdot tp$$

$$M_3 = \frac{e(t_3)}{V_p} = \frac{1}{4} \sum_{1}^{n} \int_{(td+3tp)}^{(td+7tp)} Vs \cdot dt \Big/ Vp \cdot tp$$

$$M_4 = \frac{e(t_4)}{V_p} = \frac{1}{8} \sum_{1}^{n} \int_{(td+7tp)}^{(td+15tp)} Vs \cdot dt \Big/ Vp \cdot tp$$

$$Ma = t_p \times 10^{-2} \sum (M_1 + 2M_2 + 4M_3 + 8M_4) \quad \text{(Milliseconds)}$$

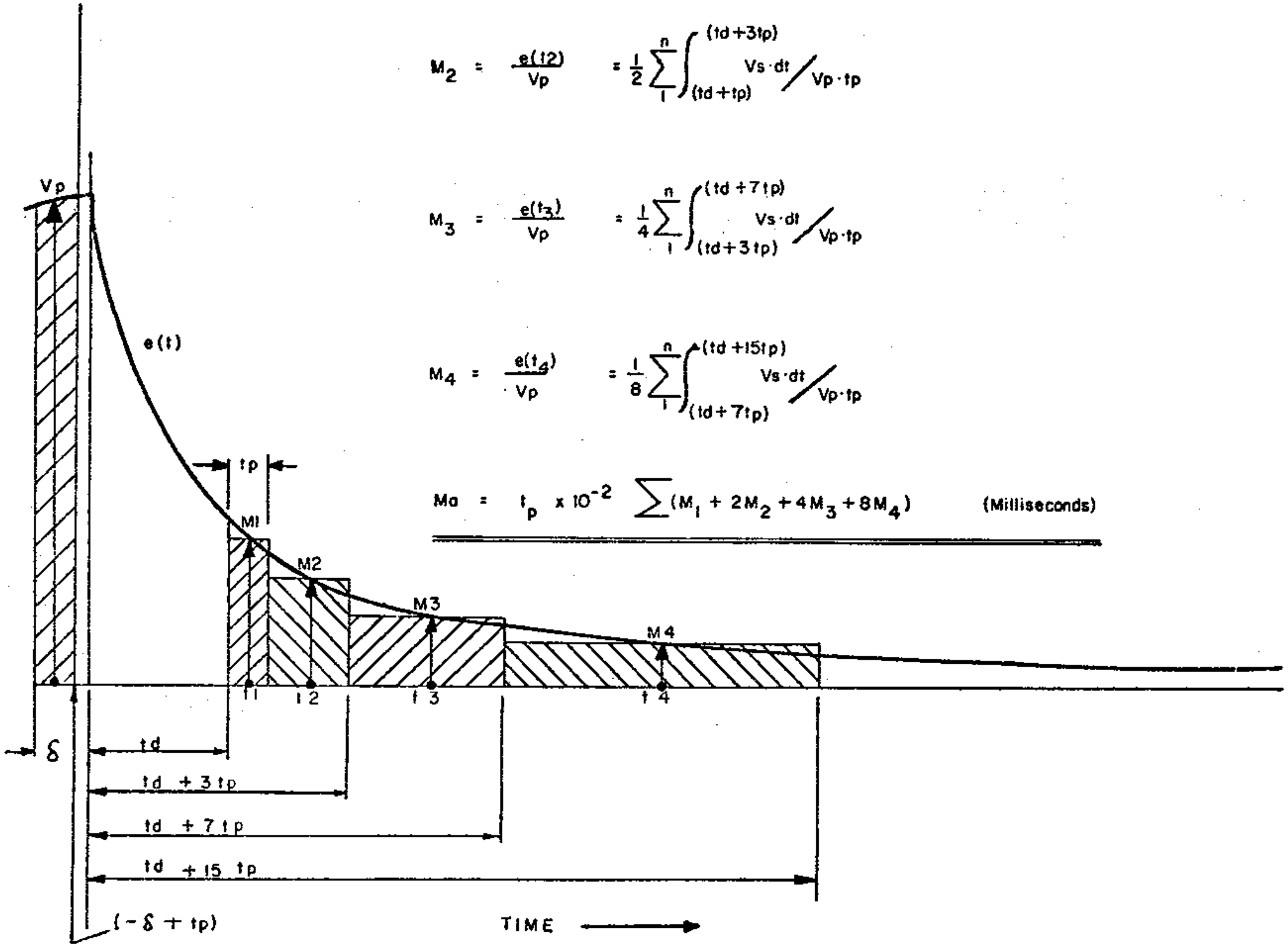


FIGURE 2

ratio of (V_s) divided by (V_p) expressed as a percentage. The quantity (V_p) is displayed separately.

The parameters measured by this unit are shown in Figure 2. The delay time (t_d) and the integration interval (t_p) of the receiver define completely the measurements (M_1), (M_2), (M_3) and (M_4).

The delay time (t_d) may be set to 15, 30, 60, 120 or 240 milliseconds; similarly the integration interval (t_p) may be set to 20, 30, 40, 50 or 60 milliseconds. This provides twenty-five different sets of values for each of the four sample points (t_1), (t_2), (t_3) and (t_4) of Figure 2. These quantities have been calculated and are shown in Table 1, together with the limits of integration corresponding to each of the intervals (M_1), (M_2), (M_3) and (M_4).

For this survey the delay time (t_d) was fixed at 60 milliseconds and the integrating interval (t_p) at 40 milliseconds; this gives a total integrating time (T_p) of 600 milliseconds; these parameters are indicated in Table 1.

The apparent chargeability (M_a) in milliseconds is obtained by summing the (M) factors, weighted for their individual integrating times as follows:-

$$M_a = t_p \times 10^{-2} \sum (M_1 + 2M_2 + 4M_3 + 8M_4) \text{ milliseconds} \quad - - (1)$$

The apparent resistivity (ρ_a) in ohm-metres is obtained by dividing (V_p) by the measured current (I_g) and multiplying by a factor (K) which is dependent on the geometry of the array used. The absolute

Period t_p	DELAY TIME t_d IN MILLISECONDS															
	15			30			60			120			240			
	S	M	E	S	M	E	S	M	E	S	M	E	S	M	E	
20	15	25	35	30	40	50	60	70	80	120	130	140	240	250	260	M_1
	35	55	75	50	70	90	80	100	120	140	160	180	260	280	300	M_2
	75	115	155	90	130	170	120	160	200	180	220	260	300	340	380	M_3
	155	235	315	170	250	330	200	280	360	260	340	420	380	460	540	M_4
30	15	30	45	30	45	60	60	75	90	120	135	150	240	255	270	M_1
	45	75	105	.60	90	120	90	120	150	150	180	210	270	300	330	M_2
	105	165	225	120	180	240	150	210	270	210	270	330	330	390	450	M_3
	225	345	465	240	360	480	270	390	510	330	450	570	450	570	690	M_4
40	15	35	75	30	50	70	60	80	100	120	140	160	240	260	280	M_1
	75	95	135	70	110	150	100	140	180	160	200	240	280	320	360	M_2
	135	215	295	150	230	310	180	260	340	240	320	400	360	440	520	M_3
	295	455	615	310	470	630	340	500	660	400	560	720	520	680	840	M_4
50	15	40	65	30	55	80	60	85	110	120	145	170	240	265	290	M_1
	65	115	165	80	130	180	110	160	210	170	220	270	290	340	390	M_2
	165	265	365	180	280	380	210	310	410	270	370	470	390	490	590	M_3
	365	565	765	380	580	780	410	610	810	470	670	870	590	790	990	M_4
60	15	45	75	30	60	90	60	90	120	120	150	180	240	270	300	M_1
	75	135	195	90	150	210	120	180	240	180	240	300	300	360	420	M_2
	195	315	435	210	330	450	240	360	480	300	420	540	420	540	660	M_3
	435	675	915	450	690	930	480	720	960	540	780	1020	660	900	1140	M_4

MILLISECONDS

Table 1

S -- time in milliseconds from turn off at which integration commences.

E -- time in milliseconds from turn off at which integration ceases.

M -- the mid point between S and E.

value of (V_p) is obtained by multiplying the digital voltmeter reading by the scale factor of the input attenuator.

The chargeabilities and resistivities obtained are called apparent as they are values which that portion of the earth sampled would have if it were homogeneous. As the earth sampled is usually inhomogeneous, the calculated apparent chargeabilities and resistivities are functions of the actual chargeabilities and resistivities of the rocks.

The majority of geophysicists, using time domain equipment, quote their apparent chargeability measurements in units of milliseconds. This is an unfortunate choice of units since these units are really millivolt seconds per volt. Therefore data obtained by different transmitters and receivers using different timing and sampling sequences will yield different "millisecond" values over the same orebody or mineralized zone. The interpreter must therefore pay special attention to the transmitter cycling time, the receiver delay time, and the receiver integrating interval and total integrating time before making comparisons between data obtained with different systems.

In the early 1960's a good deal of time domain data obtained with Huntec equipment in British Columbia used a transmitter with a 4 second cycle time, a duty ratio (R) of 3 to 1 and a receiver with a fixed delay time of 15 milliseconds and a fixed total integrating time of 400 milliseconds. Data obtained with the present Huntec equipment used on this survey is numerically 2.3 times greater than data obtained with the earlier system described above. This of course only holds true for the sampling parameters selected for this particular survey. Furthermore the present data is approximately equivalent numerically to data obtained with standard Newmont equipment presently manufactured and operated by Scintrex Limited.

3. SURVEY SPECIFICATIONS

The ground magnetometer and IP surveys were carried out on cut and chained compass lines. All cross lines run approximately east-west. On the northern part of the grid, the detailed area, the cross lines are approximately 400 feet apart and were turned off at right angles from a transit baseline at 100+00E. On the southern part of the grid, the cross lines are 800 feet apart and were turned off at right angles from a transit baseline at 144+00E.

3.1 The Magnetometer Survey

Magnetic measurements were made at 200-foot station intervals along all cross lines. Corrections for diurnal variation of the earth's magnetic field were made to these measurements by tying-in to previously established base stations at intervals not exceeding two hours. By surveying in this manner, on days when the diurnal changes are small, it is generally possible to repeat any reading on the property to within $\pm$ 20 gammas.

3.2 The Induced Polarization Survey

The pole-dipole array was used for this IP survey. With this array the current electrode C_1 and the two potential electrodes P_1 and P_2 are moved in unison along the lines to be surveyed. The second current electrode is grounded an "infinite" distance away, which is at least ten times the distance between C_1 and P_1, for the largest electrode separation. The dipole length (x) is the distance between P_1 and P_2. The electrode separation (nx) is the distance between C_1 and P_1 and is equal to or some multiple of the distance between P_1 and P_2.

The dipole length (x) determines mainly the sensitivity of the array, whereas the electrode separation (nx) determines mainly the depth of penetration of the array for a body of some particular size, shape, depth and true chargeability.

The cross lines were surveyed with a dipole length (x) equal to 200 feet and measurements of apparent chargeability and apparent resistivity were made for the first and second electrode separations, that is for n = 1 and n = 2. Measurements were taken at 200-foot station intervals.

4. PRESENTATION OF DATA

The data obtained from the ground magnetometer and IP surveys described in this report are presented on five (5) maps which are folded into a map pocket at the end of the report.

Map number E74188V-1 is a contour map of the relative readings of the vertical component of the earth's magnetic field, measured in gammas. The contour interval is 250 gammas.

Map numbers E74188V-2 and E74188V-3 are contour maps of the apparent chargeability for the first (n = 1) and second (n = 2) electrode separation measurements respectively. The contour interval is 5 milliseconds for both maps.

Map numbers E74188V-4 and E74188V-5 are contour maps of the apparent resistivity for the first (n = 1) and second (n = 2) separation measurements respectively. The contour interval is 250 ohm-metres.

All maps are at a horizontal scale of 1 inch equals 500 feet.

5. DISCUSSION OF RESULTS

5.1 General Remarks

Induced polarization interpretation procedures have been most completely developed in situations of mineralized horizontal layering, where the electrode separations used are small compared with the lateral extent of the mineralized bodies. Geologically, the porphyry coppers of large lateral extent are practical examples where such interpretation procedures can be used to best advantage.

For more confined bodies, where the electrode separations used are often large compared with the lateral extent of the bodies themselves, the complex problem of resolving the combined effects of depth, width, thickness and true chargeability of such bodies, together with the physical characteristics of the overburden and country rocks have only recently been studied in detail. The results of much of this work remain as yet unpublished. The interpreter must therefore use empirical solutions, type curves obtained from theoretical investigations, plus experience gained from surveys over known orebodies and the results of both computer and tank model studies.

The sulphide content of the underlying rocks or, since rocks containing magnetite, graphite or clay minerals frequently give an IP response, an equivalent sulphide content is one of the critical factors that we would like to determine from IP field measurements. However experience has shown that this is both difficult and unreliable, mainly because there are a large number of factors which contribute to an IP response. These factors vary considerably from one geological environment to another and even from one porphyry copper deposit to another. An IP response depends, at least, on the following factors:-

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

Although the above factors have not yet been separated, some interpreters have developed empirical rules for making rough estimates of the percent sulphides by volume contained within rocks giving anomalous IP responses.

Anomalies are often classified into three groups: definite, probable and possible. This grouping is based on the relative amplitudes of the apparent chargeability and to a lesser degree on apparent resistivity. Of equal importance in the grouping of these anomalies is the overall anomaly pattern and the degree to which this pattern may be correlated from line to line and with rock types of possible economic importance. Such a correlation, particularly for weak anomalies, increases considerably their attractiveness as potential drilling targets.

5.2 Geology And Mineralization

The claim group is underlain by northwesterly trending, steeply dipping, dark green andesitic flows, breccias and tuffs of the Takla group of Upper Triassic - Lower Jurassic age. Minor stocks and sills of monzonitic composition intrude the Takla group rocks in the vicinity of some old workings on Vega Creek; here andesites exposed in an adit contain sizable fragments of monzonite. Minor interbeds of argillite have been observed, fossils from which indicate a Lower Jurassic age.

A major shear or fault zone striking N 15° W and dipping 65° SW crosses the claim group several hundred feet west of the adit. This zone can be traced for several miles southeast of Vega Creek. It is characterized by intense shearing and alteration of the andesites to ankeritic carbonates across a width of about 200 feet.

Three directions of faulting and shearing have been observed in the underground workings. These strike approximately N 15° E, N 65° E and N 75° W respectively, with fault planes spaced at intervals of about 20 feet.

The main gold-copper showings, as exposed in the underground workings, consist of chalcopyrite, pyrite and minor bornite, either disseminated through the andesite breccia or concentrated along calcite stringers that lie along fracture planes. No sulphides were seen along the faults, which are apparently post mineralization.

5.3 The Magnetometer Results

The ground magnetic data over those parts of the grid area surveyed is in good agreement with the low level airborne magnetic data obtained during the spring of 1974.

Where well exposed rock units exhibit distinct magnetic patterns or signatures, extrapolation into areas of sparse outcrop can lead to successful delineation and sometimes to reliable identification of the major magnetic rock units underlying the area surveyed. This claim group is largely overburden covered, and although the delineation of distinct magnetic rock units is fairly clear the identification of these same rock units, presumably intrusive stocks or dykes and volcanic rocks, is open to conjecture.

Three well defined magnetic anomalies have been outlined on the northern (detailed) part of the grid, and two similar magnetic anomalies or zones have been outlined on the southern part of the grid. These anomalies which probably represent similar magnetic rock units have the following common characteristics:-

1. They align themselves closely with the structural or geological "grain" of the underlying rocks, being several thousand feet long and a few hundred feet wide.

2. They have a fairly low but uniform magnetic response, varying from about 500 to 1500 gammas above background.

3. They have sharp magnetic contacts and simple magnetic patterns. This indicates, providing the depth of burial is only overburden cover, that these rocks contain a fairly uniform distribution of magnetic minerals and have simple steep-sided geometrical shapes.

4. There is no evidence of zoning within the individual magnetic anomalies themselves.

5. There is, in general, a distinct lack of IP response over these magnetic anomalies.

Along a ridge top in the vicinity of 292+00N and 149+00E, andesite agglomerates containing copper mineralization were observed, along with a lesser number of syenitic dykes. These rocks lie directly beneath a well defined magnetic high.

5.4 The Induced Polarization Results

The apparent resistivity readings over the IP grid area vary from less than 100 ohm-metres to slightly less than 2000 ohm-metres. These variations are caused by a combination of topographical effects, changes in overburden thickness and differences in rock types sampled.

A broad, poorly defined apparent resistivity low, a few hundred feet east of the 100+00E baseline, running approximately north-south and extending from line 328+00N to line 392+00N has been interpreted to represent the known fault zone which crosses the claim group.

The apparent chargeability readings vary from a background of less than 15 milliseconds to over 40 milliseconds in certain anomalous zones on the northern part of the grid, and similarly from less than 5 milliseconds to over 30 milliseconds on the southern part of the grid.

A series of fairly linear apparent chargeability anomalies, usually greater than 20 milliseconds, extends from line 328+00N to line 392+00N on the west side of the major fault zone, mainly west of the 100+00E baseline. They have no magnetic response and may be caused by pyrite mineralization in argillites.

A strong apparent chargeability anomaly, clearly outlined by the 20 millisecond contour has been located in the central area on the northern part of the grid, and probably lies to the east of the major fault zone. The anomaly is about 4000 feet long, a few hundred feet wide, and lies mainly between two major magnetic highs. At its southern extremity however, at station 125+00E on line 340+00N, where the first electrode separation reading reaches a maximum of 62.1 milliseconds, it is coincident with a distinct easterly protrusion of the adjacent magnetic high. Pyrite and small amounts of chalcopyrite have been observed in rocks exposed by a creek at this location.

The old gold-copper workings underlie an IP anomaly which is small in amplitude and lateral extent, but partially coincident with the flank of a magnetic high. In the opinion of the writer this anomaly, along with the previously described one, represents the most interesting areas of the property for further exploration.

On the southern part of the grid, similar, less well defined IP anomalies have been located in areas with little or no anomalous magnetic response.

6. CONCLUSIONS AND RECOMMENDATIONS

From a study of the IP and ground magnetometer data obtained on the survey described in this report it has been concluded that:-

1. There is, at present, insufficient geological information to identify the nature of the rocks underlying the major magnetic highs on the property.

2. The IP responses to the east of the major fault zone and in the vicinity of the old workings are most probably caused by disseminated sulphide mineralization, with magnetite contributing little to the IP response.

In view of the lack of outcrop and the favourable geophysical picture developed to date, it is recommended that these data be carefully studied in conjunction with the geochemical data, with a view to selecting suitable drill locations for further exploration of the property.

Respectfully submitted,

EAGLE GEOPHYSICS LIMITED,

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

October 1974

APPENDICES

CERTIFICATION

I, John Lloyd, of 575 Lucerne Place in the District of North Vancouver, in the Province of British Columbia, do hereby certify that:-

1. I graduated from the University of Liverpool, England in 1960 with a B.Sc. in Physics and Geology, Geophysics Option.

2. I obtained the Diploma of the Imperial College of Science and Technology (D.I.C.), in Applied Geophysics from the Royal School of Mines, London University, in 1961.

3. I obtained the degree of M.Sc. in Geophysics from the Royal School of Mines, London University, in 1962.

4. I am a member of the Association of Professional Engineers in the Province of British Columbia, the Society of Exploration Geophysicists of America, the European Association of Exploration Geophysicists and The Canadian Institute of Mining and Metallurgy.

5. I have been practising my profession for the last twelve years.

6. I have no interest or shares in any property or securities of BP Minerals Limited nor do I expect to receive any.

John Lloyd, P. Eng.

John Lloyd

Vancouver, B. C.
October, 1974

PERSONNEL EMPLOYED ON SURVEY

Eagle Geophysics Limited provided the following personnel to complete the field work, field supervision, and report writing of the IP survey described in this report:-

NAME	OCCUPATION	ADDRESS	DATES
J. Lloyd	Geophysicist	Eagle Geophysics Ltd. 575 Lucerne Place, North Vancouver, B.C.	July 12 to July 14, 1974 Oct. 1 to Oct. 4, 1974
L. D. Brydle	"	"	July 12 to Aug. 12, 1974
D. S. Coote	"	"	July 12 to Aug. 12, 1974
R. V. Pelletier	Helper	"	July 12 to July 30, 1974
G. L. Harrison	"	"	July 12 to Aug. 12, 1974
D. Boulanger	"	"	July 12 to Aug. 7, 1974
R. Beauvais	"	"	Aug. 2 to Aug. 12, 1974
Mrs. A. Appel	Secretary	"	Oct. 8, 1974

Eagle Geophysics Limited provided a magnetometer, and the magnetic survey was carried out by Mr. G. Barbour of BP Minerals Limited. Drafting of the final maps was directed by BP Minerals Limited who sub-contracted this work to Altair Drafting Services Limited.

B.P. MINERALS LIMITED
BEG CLAIM GROUP, OMINECA MINING DIVISION, B.C.
TIME DOMAIN
INDUCED POLARIZATION SURVEY
SECOND SEPARATION CONTOURS OF APPARENT RESISTIVITY
SCALE IN FEET
500 0 500 1000 1500 2000 2500
MAP NUMBER E74188V-5
To accompany a report by:
John Lloyd M.Sc., P. Eng.
EAGLE GEOPHYSICS LIMITED
OCTOBER 1974
Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 5259 MAP #5
WEST
STATION LOCATION
EAST
NOTES: (1) ALL LINES WERE SURVEYED USING THIS ARRAY
(2) FOR ALL LINES SURVEYED THE MEASURING DIPOLE P1 P2 WAS ALWAYS TO THE EAST OF THE LEADING CURRENT ELECTRODE C1
(3) MEASUREMENTS ARE FOR x=200 FEET; n=2
CONTOURS OF APPARENT RESISTIVITY
CONTOUR INTERVAL 250 OHM-METRES
MAG. DECL. 28° E
5259
M5

88-E 92-E 96-E 100-E 104-E 108-E 112-E 116-E 120-E 124-E 128-E 132-E 136-E 140-E 144-E 148-E 152-E 156-E
L. 416-N.
L. 412-N.
L. 408-N.
L. 404-N.
L. 400-N.
L. 396-N.
L. 392-N.
L. 388-N.
L. 384-N.
L. 380-N.
L. 376-N
L. 372-N
L. 368-N.
L. 364-N.
L. 360-N.
L. 356-N.
L. 352-N.
L. 348-N.
L. 344-N.
L. 340-N.
L. 336-N.
L. 332-N.
L. 328-N.
L. 320-N.
L. 312-N.
L. 304-N.
L. 296-N.
L. 288-N.
L. 280-N.
L. 272-N.
L. 264-N.
L. 256-N.
L. 248-N.
L. 240-N.
L. 236-N.
L. 224-N.
L. 216-N.
L. 208-N.
L. 200-N.
136-E 144-E 152-E 160-E 168-E 176-E 184-E 192-E
135,000 E.
140,000 E.
145,000 E.
160,000 N.
155,000 N.
150,000 N.
145,000 N.
MAG. DECL. 28° E.
WEST
STATION LOCATION
EAST
C1 P1 P2
nx x
NOTES: (1) ALL LINES WERE SURVEYED USING THIS ARRAY
(2) FOR ALL LINES SURVEYED THE MEASURING DIPOLE P1 P2 WAS ALWAYS TO THE EAST OF THE LEADING CURRENT ELECTRODE C1
(3) MEASUREMENTS ARE FOR x=200 FEET; n=1
500 CONTOURS OF APPARENT RESISTIVITY
CONTOUR INTERVAL 250 OHM-METRES
B.P. MINERALS LIMITED
BEG CLAIM GROUP, OMINECA MINING DIVISION, B.C.
TIME DOMAIN
INDUCED POLARIZATION SURVEY
FIRST SEPARATION CONTOURS OF APPARENT RESISTIVITY
SCALE IN FEET
500 0 500 1000 1500 2000 2500
MAP NUMBER E74188V-4
To accompany a report by:
John Lloyd M.Sc., P.Eng.
EAGLE GEOPHYSICS LIMITED
OCTOBER 1974
Altair
Department of Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 5259 MAP #4
5259 M4


88-E. 92-E. 96-E. 100-E. 104-E. 108-E. 112-E. 116-E. 120-E. 124-E. 128-E. 132-E. 136-E. 140-E. 144-E. 148-E. 152-E. 156-E.
L. 416-N.
L. 412-N.
L. 408-N.
L. 404-N.
L. 400-N.
L. 396-N.
L. 392-N.
L. 388-N.
L. 384-N.
L. 380-N.
L. 376-N.
L. 372-N.
L. 368-N.
L. 364-N.
L. 360-N.
L. 356-N.
L. 352-N.
L. 348-N.
L. 344-N.
L. 340-N.
L. 336-N.
L. 332-N.
L. 328-N.
L. 320-N.
L. 312-N.
L. 304-N.
L. 296-N.
L. 288-N.
L. 280-N.
L. 272-N.
L. 264-N.
L. 256-N.
L. 248-N.
L. 240-N.
L. 236-N.
L. 224-N.
L. 216-N.
L. 208-N.
L. 200-N.
136-E. 144-E. 152-E. 160-E. 168-E. 176-E. 184-E. 192-E.
160,000 N.
155,000 N.
150,000 N.
145,000 N.
135,000 E.
140,000 E.
145,000 E.
N
MAG. DECL. 28° E.
28°
WEST
STATION LOCATION
EAST
∞ I V
C1 P1 P2
nx x
NOTES: (1) ALL LINES WERE SURVEYED USING THIS ARRAY
(2) FOR ALL LINES SURVEYED THE MEASURING DIPOLE P1 P2 WAS ALWAYS TO THE EAST OF THE LEADING CURRENT ELECTRODE C1
(3) MEASUREMENTS ARE FOR x=200 FEET; n=2
5 CONTOURS OF APPARENT CHARGEABILITY
CONTOUR INTERVAL 5 MILLISECONDS
B. P. MINERALS LIMITED
BEG CLAIM GROUP, OMINECA MINING DIVISION, B.C.
TIME DOMAIN
INDUCED POLARIZATION SURVEY
SECOND SEPARATION CONTOURS OF APPARENT CHARGEABILITY
SCALE IN FEET
500 0 500 1000 1500 2000 2500
Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 5259 MAP #3
MAP NUMBER E74188V-3
To accompany a report by:
John Lloyd M. Sc., P. Eng.
EAGLE GEOPHYSICS LIMITED
OCTOBER 1974
Altair
5259
M3

88-E
92-E
96-E
100-E
104-E
108-E
112-E
116-E
120-E
124-E
128-E
132-E
136-E
140-E
144-E
148-E
152-E
156-E
L. 416-N.
L. 412-N.
L. 408-N.
L. 404-N.
L. 400-N.
L. 396-N.
L. 392-N.
L. 388-N.
L. 384-N.
L. 380-N.
L. 376-N.
L. 372-N.
L. 368-N.
L. 364-N.
L. 360-N.
L. 356-N.
L. 352-N.
L. 348-N.
L. 344-N.
L. 340-N.
L. 336-N.
L. 332-N.
L. 328-N.
L. 320-N.
L. 312-N.
L. 304-N.
L. 296-N.
L. 288-N.
L. 280-N.
L. 272-N.
L. 264-N.
L. 256-N.
L. 248-N.
L. 240-N.
L. 236-N.
L. 224-N.
L. 216-N.
L. 208-N.
L. 200-N.
136-E.
144-E.
152-E.
160-E.
168-E.
176-E.
184-E.
192-E.
160,000 E.
155,000 N.
150,000 N.
145,000 N.
160,000 N.
155,000 N.
150,000 N.
145,000 N.
140,000 E.
MAG. DECL. 28° E.
WEST
STATION LOCATION
EAST
C1
P1
P2
nx
x
NOTES: (1) ALL LINES WERE SURVEYED USING THIS ARRAY
(2) FOR ALL LINES SURVEYED THE MEASURING DIPOLE P1 P2 WAS ALWAYS TO THE EAST OF THE LEADING CURRENT ELECTRODE C1
(3) MEASUREMENTS ARE FOR x=200 FEET; n=1
CONTOURS OF APPARENT CHARGEABILITY
CONTOUR INTERVAL 5 MILLISECONDS
B.P. MINERALS LIMITED
BEG CLAIM GROUP, OMINECA MINING DIVISION, B.C.
TIME DOMAIN
INDUCED POLARIZATION SURVEY
FIRST SEPARATION CONTOURS OF APPARENT CHARGEABILITY
SCALE IN FEET
500 0 500 1000 1500 2000 2500
Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 5259 MAP #2
MAP NUMBER E74188V-2
To accompany a report by:
John Lloyd M.Sc., P.Eng.
EAGLE GEOPHYSICS LIMITED
OCTOBER 1974
Altair
5259
M2

LEGEND
CONTOURS ARE VERTICAL COMPONENT MEASUREMENTS OF THE EARTH'S MAGNETIC FIELD
1500
CONTOUR INTERVAL 500 GAMMAS
B.P. MINERALS LIMITED
BEG CLAIM GROUP, OMINECA MINING DIVISION, B.C.
GROUND MAGNETOMETER SURVEY
VERTICAL COMPONENT MEASUREMENTS
SCALE IN FEET
500 0 500 1000 1500 2000 2500
EAGLE GEOPHYSICS LIMITED
OCTOBER 1974
Department of Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 5259 MAP #1
MAP NUMBER E74188V-1
To accompany a report by
John Lloyd M.Sc. P. Eng.
Altair
MAG. DECL. 28° E.
N
5259
M1