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FILE NO:

REPORT ON THE
PINELODE GOLD PROSPECT
ATLIN MINING DIVISION, B.C.
N.T.S. 104 N/11, 12

BY

A.G. TROUP, P.Eng.

January, 1993

SUB-RECORDED

MAR 11 1993

22774

CLAIMS WORKED

CLAIM NAMES	UNITS	RECORD NUMBERS	ANNIVERSARIES
KAREN	10	2751	Aug. 25
MAY 1 - 21	21	2590 - 2610	April 28
YAM-1 - 3	54	2342 - 2344	Aug. 10,

LOCATION:	59°43' North Latitude 133°29' West Longitude
OWNERS OF RECORD:	D.G.S. Purvis, Cream Silver Mines Ltd.
OPERATOR:	Surprise Lake Exp. Ltd. Partnership
CONTRACTORS:	Archean Engineering Ltd. Peter E. Wallcott & Associates Ltd.

REPORT ON THE
PINELODE GOLD PROSPECT
ATLIN MINING DIVISION, B.C.
N.T.S. 104 N/11, 12

SUMMARY:

The Pinelode gold prospect is located 12 kilometres east of the community of Atlin in northwestern British Columbia. The property, comprised of 64 mineral units and 21 two post claims, overlies the head of the Pine Creek and Gold Run placer deposits and was staked to cover the suspected lode gold source of the placers.

The claim block straddles a prominent magnetic low detected by a Digem airborne geophysical survey in 1984 and later defined by a ground survey completed in 1990. The magnetic anomaly strikes east-west across the head of the placer pay streak and is elliptical in shape measuring 1,300 metres in length by 300 metres in width. This anomaly is situated along the faulted contact between an ultramafic intrusive and adjacent andesite. It is believed to be reflecting a zone of listwanite alteration along this contact.

In November and December 1992, an induced polarization survey was carried out over selected targets along Pine Creek. The results of the survey defined three zones of anomalous chargeability response, Zones A, B, & C, within the area surveyed. Zone A is 900 metres long by 200 metres in width and is situated in andesite along the north margin of the above magnetic feature. Zone B, located in the ultramafic body 400 metres south of Zone A, is 500 metres in length by 100 metres in width. Zone C, located 1,000 metres east of Zone A, is 700 metres long by 300 metres in width. Zone C is situated in andesite in an area of flat magnetic response.

The three chargeability anomalies exhibit characteristics that fit the model for a high grade gold stockwork within a low grade listwanite alteration zone. Zone A, the longest and strongest of the anomalies, is considered a priority one target and Zones B & C are considered priority two targets. All three zones require drill testing.

An additional \$250,000 exploration program is recommended for the Pinelode property. This work will involve rotary drill testing the three targets defined by the present program.

REPORT ON THE
 PINELODE GOLD PROSPECT
 ATLIN MINING DIVISION, B.C.
 N.T.S. 104 N/11, 12

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**REPORT ON THE
PINELODE GOLD PROSPECT
ATLIN MINING DIVISION
NTS 104 N/11,12**

1.0 INTRODUCTION:

The Pinelode Property is a lode gold prospect located in the historic Atlin placer gold camp in northwestern British Columbia (Figure 1). The property overlies the head of the Pine Creek and Gold Run placer deposits and was staked over the suspected lode gold source of the placers. In November 1992, Archean Engineering Ltd. was contracted to review all previous work on the property and to recommend and supervise an appropriate follow-up program. On completion of the property review an induced polarization survey was recommended for two targets located near the head of pay on Pine Creek. Peter E. Walcott & Associates was contracted to complete the survey. The program was completed in November and December by a four person crew based at Kirkwood Cabins in Atlin, B.C.

1.1 LOCATION AND ACCESS:

The Pinelode property is located approximately 12 kilometres east of Atlin, B.C. The claims, centred at latitude 59°43' and longitude 133°29' on N.T.S. Map Sheets 104 N/11 and 12, are accessible by the all-season Atlin-Surprise Lake gravel road. Numerous cat trails and the Birch Creek placer mining road give additional access to the bulk of the property during the summer months.

SURPRISE LAKE EXPLORATION SYNDICATE

PINELODE PROPERTY

ATLIN MINING DIVISION, B.C.

NTS: 104 N/11 & 12

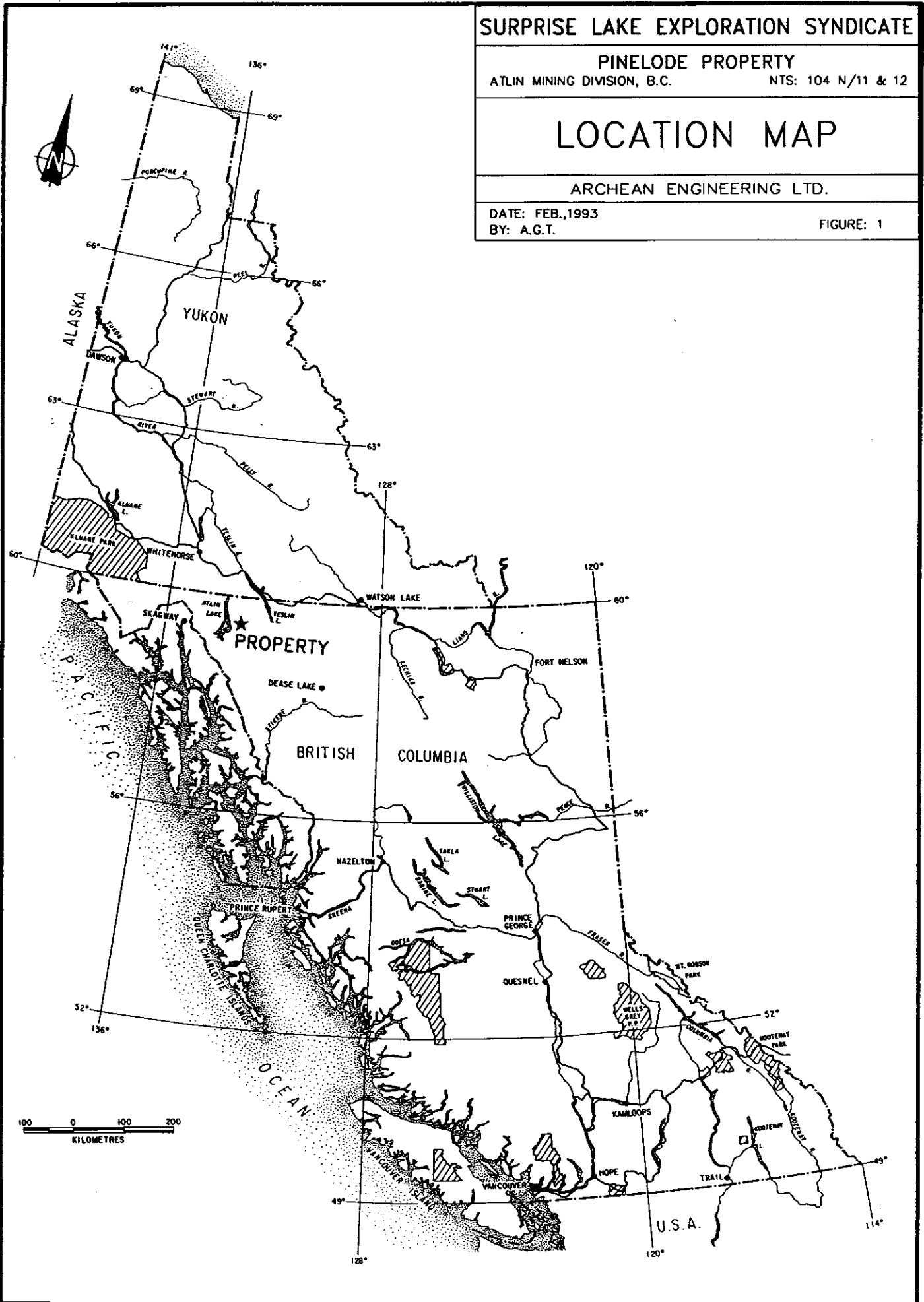
LOCATION MAP

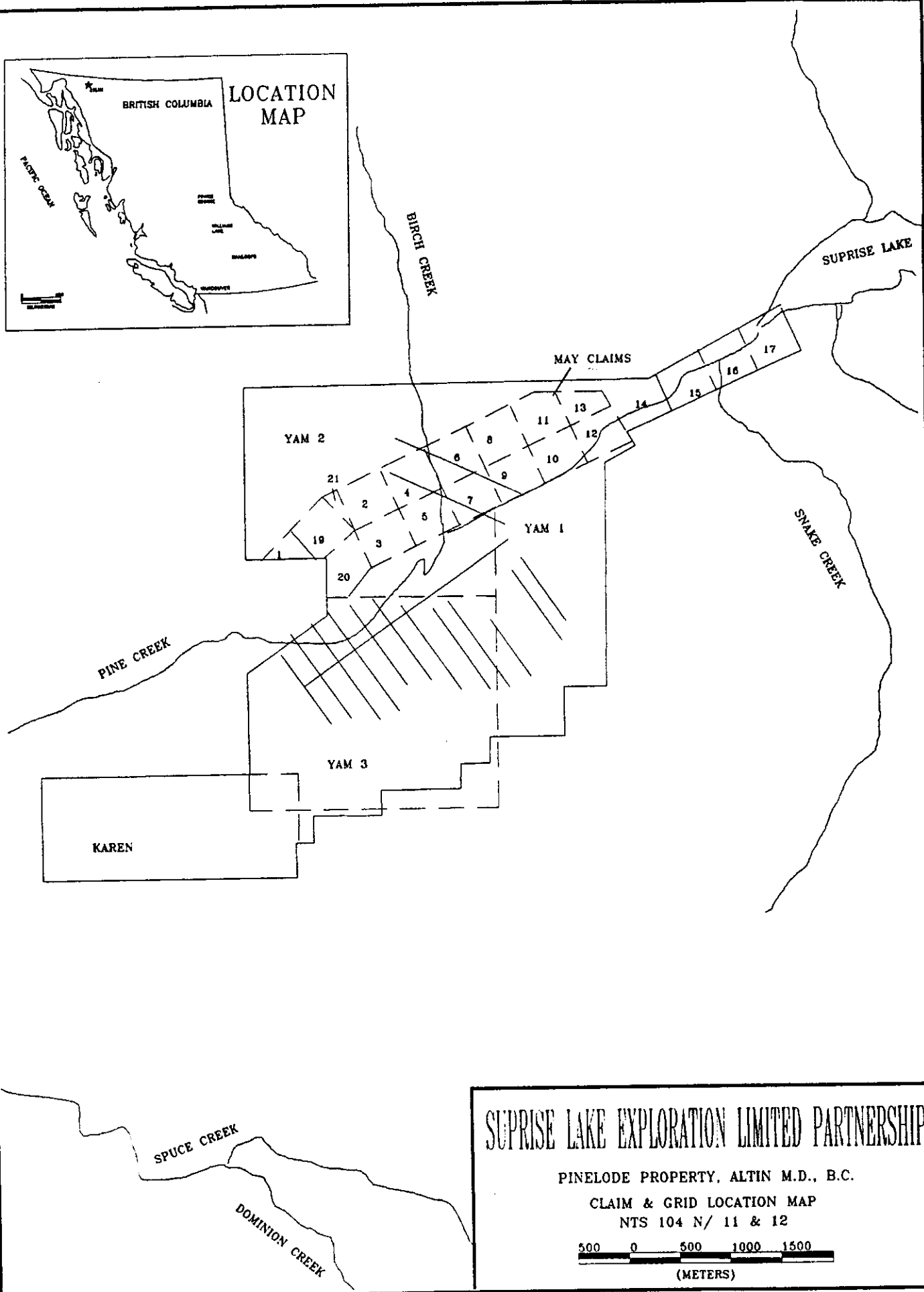
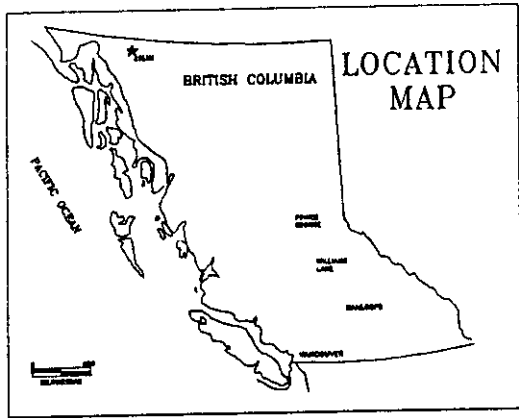
ARCHEAN ENGINEERING LTD.

DATE: FEB., 1993

BY: A.G.T.

FIGURE: 1





SUPRISE LAKE EXPLORATION LIMITED PARTNERSHIP
 PINELODE PROPERTY, ALTIN M.D., B.C.
 CLAIM & GRID LOCATION MAP
 NTS 104 N/ 11 & 12

500 0 500 1000 1500
 (METERS)

1.2 PHYSIOGRAPHY, VEGETATION AND CLIMATE:

The Atlin area is located just east of the Coast Mountains on the Teslin Plateau. The town of Atlin lies on the east shore of Atlin Lake, the largest natural lake in British Columbia, at an elevation of 900 metres. The topography is moderately rugged with slopes of up to 30° rising from the Pine Creek valley floor at an elevation of 900 metres to mountain tops at well over 1,900 metres. Most of the property lies on the Pine Creek valley bottom where topography is very gentle (900 - 950 metres); however, the southern edge of the claim block runs along the northwestern flank of Spruce Mountain where slopes are greater than 30° and topography reaches a maximum of 1300 metres. Till cover is thin or non-existent above the valley floor, giving way to felsenmeer and outcrop at higher elevations. On the valley bottom the property is covered by glacial till varying in thickness from 2 to more than 20 metres in thickness.

The tree line is at approximately 1,100 metres on north facing slopes and 1,200 metres on south facing slopes. Below 1,100 metres, the valleys are forested with lodgepole pine, black spruce, aspen and dwarf birch. Mountain alder and willow grow near streams with stunted buckbrush covering the hills above tree line.

Atlin enjoys a pleasant summer climate with temperatures averaging 20°C and little precipitation. Winter temperatures average -15°C in January with moderate snowfall. Total annual precipitation has been measured at 279.4 millimetres of moisture. Winter conditions can be expected from October to April.

1.3 PROPERTY INFORMATION:

The property is located in the Atlin Mining Division and consists of four modified grid claims totalling 64 units and 21 two-post claims. See Table 1 below for more claim details.

CLAIM NAMES	UNITS	RECORD NUMBERS	ANNIVERSARIES
KAREN	10	2751	August 25
MAY 1 - 21	21	2590 - 2610	April 28
YAM-1 - 3	54	2342 - 2344	August 10

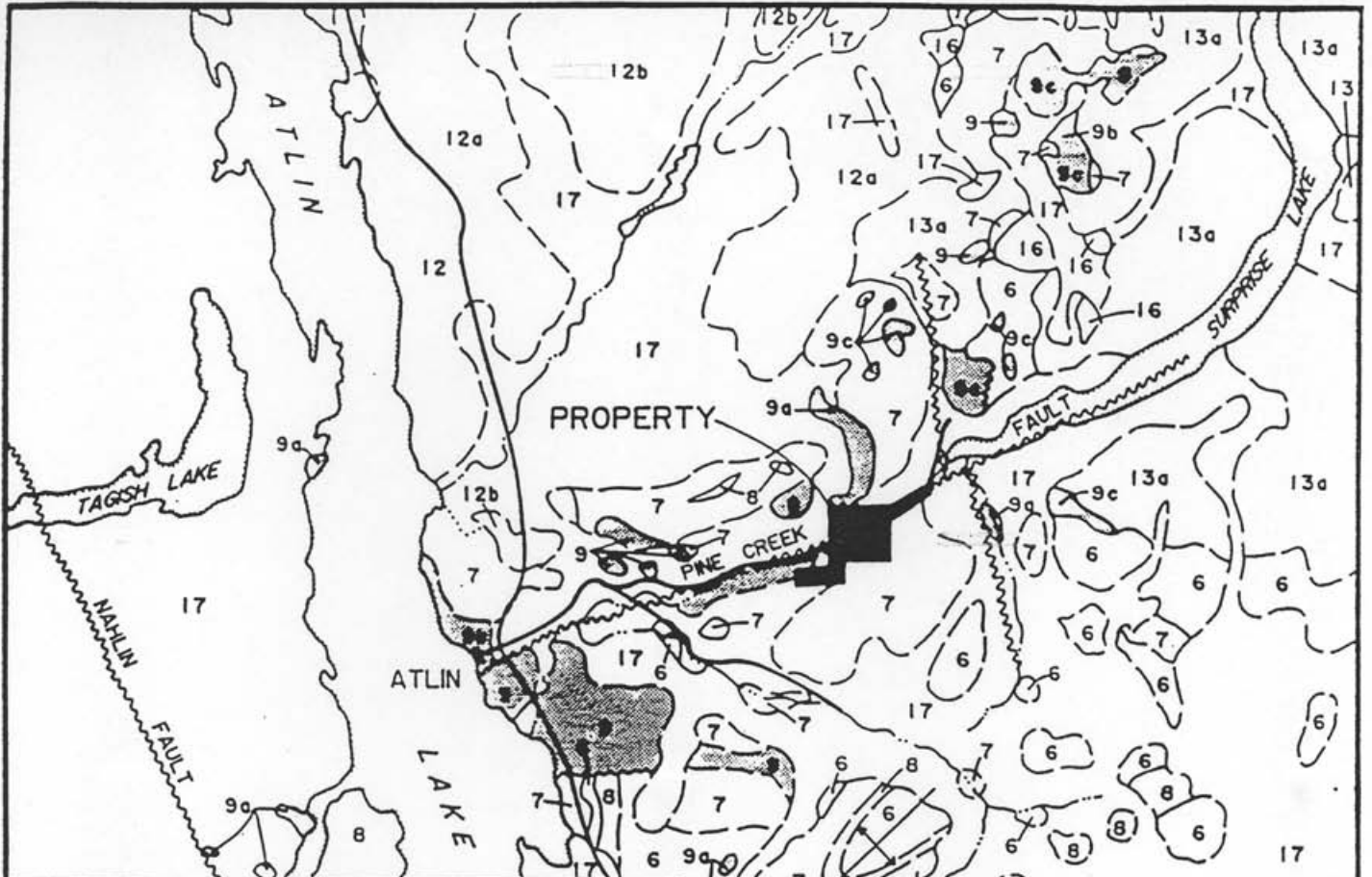
1.4 HISTORY:

Placer gold was first discovered in the Atlin area in 1897 by Fritz Miller while en route to Dawson. The first workings were on Pine Creek and by the end of 1898, more than 3,000 people were camped in the Atlin area. Eight Creeks - Spruce, Pine, Birch, Boulder, Ruby, Otter, Wright and McKee - have been important producers in the Atlin camp. Gold production from these creeks is estimated at 1,000,000 ounces. Pine and Spruce Creeks were the richest producers, accounting for almost 60% of total placer gold production.

Gold-bearing quartz veins were first discovered in the Atlin area in 1899 and by 1905 most of the known showings had been discovered. Although the original showings have been repeatedly worked and re-examined there is no record of regional exploration for lode mineralization from 1905 to 1981.

In 1981, Yukon Revenue Mines Ltd. acquired and re-examined the old Lakeview property. Yukon Revenue reported low-grade gold values over an extensive but delicate stockwork of carbonatized and silicified andesite adjacent to a serpentinite intrusive. The discovery by Yukon Revenue Mines Ltd. created a renewed interest in the camp especially where silicified and carbonatized ultramafics occur in the vicinity of major placer gold producing creeks.

The claims forming the subject property were later staked separately by Cream Silver Mines Ltd. and D.G.S. Purvis (Surprise Lake Exploration Limited Partnership) and eventually combined to form the Pinelode property. The claims cover the head of Gold Run, the rich placer pay streak developed along the Pine Creek valley. Placer miners reported recovering an unusual quantity of angular gold, often still attached to quartz, carbonatized andesite or serpentine, over this area.



LEGEND

QUATERNARY

17 GLACIAL DRIFT ALLUVIUM

TERTIARY

16 OLIVINE BASALT

CRETACEOUS

13 ALASKITE

JURASSIC

12 UNDIFFERENTIATED GRANITIC ROCKS

PENNSYLVANIAN & PERMIAN ATLIN INTRUSIONS

PERDOTITE

SERPENTINITE

CARBONITIZED SERPENTINITE

TALC BEARING (STEATITIZED) ULTRAMAFIC ROCKS

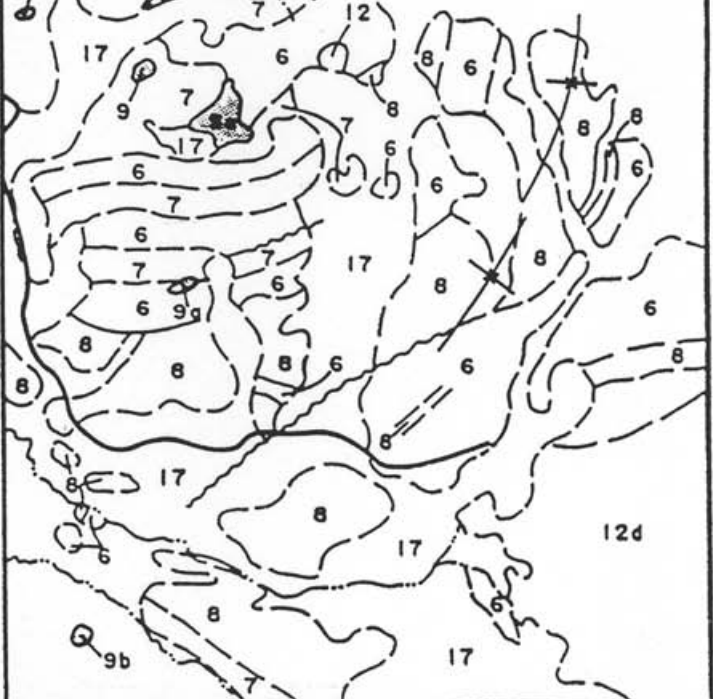
CACHE CREEK GROUP

6 CHERT, ARGILLITE, CHERT PEBBLE CONGLOMERATE

7 GREENSTONE, GREYWACKE, DERIVED AMPHIBOLITE

8 LIMESTONE, LIMESTONE BRECCIA

GRAVEL ROAD FAULT



REVISED	PINELODE	
	REGIONAL GEOLOGY	
PROJ. No. 369	SURVEY BY: _____	DATE: MAY 1990
N.T.S. 1:24 N/12	DRAWN BY: HANDESHIN	SCALE: 1:250,000
DWG. No.	NORANDA EXPLORATION	

1.5 WORK DONE BY SURPRISE LAKE EXP. LTD. SYNDICATE IN 1992:

The following field work was carried out over the Pinelode property by the Surprise Lake Syndicate during the period from November 27 to December 16, 1992:

- 1) A magnetometer grid cut by Noranda Explorations Ltd in 1990 was located on the ground and re-flagged.
- 2) The Noranda geophysical grid was extended 600 metres to the east by chaining and flagging 3.6 km of line.
- 3) Two parallel, 1.5 km long by 300 metre spaced, northwest trending lines were chained and flagged across the mouth of Birch Creek
- 4) A fourteen km induced polarization survey was carried out over the extended Noranda magnetometer grid and the Birch Creek grid.

2. GEOLOGY:

2.0 REGIONAL GEOLOGY:

Geologic mapping of this area was undertaken in 1951-55 by J.D. Aitken of the Geological Survey of Canada (G.S.C.) and compiled as Map 1082A (Figure 4). In 1966-68, J.W.H. Monger, also of the G.S.C., selectively mapped the Atlin area and published his findings in G.S.C. Paper 74-47.

The Atlin region is located in a eugeosynclinal area composed of three distinct northwest striking tectonic belts; the St. Elias and Insular Belt, Coast and Cascades Belt and Intermontane Belt. The rocks of the area belong to the Atlin Terrane, which correlate with the Cache Creek Group rocks of southern and central British Columbia. The Atlin Terrane consists of upper Paleozoic age radiolarian cherts, pelites, carbonates, volcanics and ultramafics. These rocks are intruded by Mesozoic granite, alaskite and quartz monzonite. The youngest rocks of the Atlin Terrane are composed of Tertiary and Quaternary volcanics. Till deposited by receding Pleistocene glaciers extensively covers the valleys.

The Atlin Terrane is bounded on the northeast by a northwest striking vertical fault and on the southwest by a northwest striking reverse fault. Structurally, the terrane is characterized by compressional deformation which is similar in style and trend to the southwest bounding faults (Monger, 1975). Minor fold axes generally strike northwest or trend southwest.

2.1 PROPERTY GEOLOGY:

A thick sequence of glacial till covers the property below 1,200 meters elevation; therefore outcrop exposure is scarce and is confined to the steeper southern edge of the property. Large piles of placer tailings occur on the western portion of the property and consist mainly of glacial gravels with minor fragments of local bedrock.

The claims are underlain by Cache Creek Group sediments and volcanics that have been intruded by Pennsylvanian and Permian ultramafics. Along the southern edge of the claim block Cache Creek sediments, consisting of light grey fetid limestone interbedded with dark grey to black argillite and light grey quartzite, are seen in outcrop. Over the northwestern portion of the property small outcrops and angular float of Cache Creek volcanics are seen. The volcanics consist mainly of light green, fine grained andesite and 1-2% disseminated pyrite. Ultramafics outcrop along the southern edge of the property and consist of dark green-blue waxy serpentinite. The outcrops exhibit weak to moderate carbonatization. To the north of these outcrops large angular fragments of quartz-carbonate altered serpentinite are common in the placer tailings along Gold Run and Pine Creek.

2.2 ECONOMIC GEOLOGY:

Within the Atlin Terrane large ultramafic intrusives similar to the serpentinite on the Pinelode property form a northeasterly trending belt. These intrusive bodies commonly exhibit intense listwanite alteration (silica-carbonate-mariposite) along their margins. This alteration is believed to be caused by northeasterly trending thrust faults that have enplaced these ultramafics within the Cache Creek Group rocks (C.H. Ash and R.L. Arskey, 1989).

The majority of known lode gold deposits in the Atlin area are associated with these quartz-carbonate altered ultramafics in contact with the Cache Creek Group volcanics. The alteration zones show up as distinct linear magnetic lows in contrast to the relatively high magnetic response of the unaltered ultramafics.

The most significant deposit discovered to date is the Yellowjacket prospect, situated in the Pine Creek fault zone, two kilometres west of the Pinelode property. Drilling by Homestake Exploration Ltd. from 1986 to 1989 gave gold intersections of up to 0.5 oz/t over widths of 3.0 metres. A drill inferred reserve of 300,000 tons grading 0.33oz/t was reported in 1988. The gold mineralization is associated with a

30 metre wide quartz stockwork developed in carbonatized andesite in fault contact with a serpentinite body.

3.0 GEOPHYSICS:

3.1 MAGNETOMETER SURVEYS:

In 1984 a 923 line-km, low level, aeromagnetic survey was flown over the entire Atlin placer gold camp on 300 metre spaced lines. The area surveyed included the area of the present property.

The results of the survey outlined a broad, 600 gamma, magnetic low over the present property. The anomaly strikes east-west across the head of the placer pay streak and is elliptical in shape measuring 1,300 metres in length by 300 metres in width.

In 1990 Noranda Exploration Ltd. carried out a 58 line-km ground magnetometer survey over the Pinelode property. Readings were taken at 12.5 metre intervals along 100 metre spaced northwest trending lines. Results of the survey confirmed the presence of the magnetic low detected by the DIGEM airborne survey. The ground survey showed the feature to be expressed as an east-west trending, 1200 gamma, magnetic low situated along the faulted contact between a serpentinite body to the south and Cache Creek Group andesite to the north.

3.2 INDUCED POLARIZATION SURVEYS:

In 1990 Noranda Exploration Co. Ltd., completed 7.2 km of induced polarization (I.P.) along four widely spaced reconnaissance lines over the present property. The survey results showed several high resistivity and high chargeability zones coinciding with linear magnetic low areas. These were believed to be reflecting listwanitic alteration zones. Because of the wide spaced nature of the I. P. lines (400-700 metres) the anomalies could not be traced with certainty from line to line.

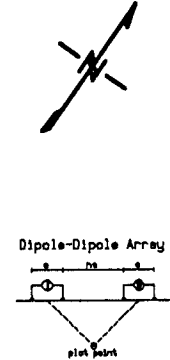
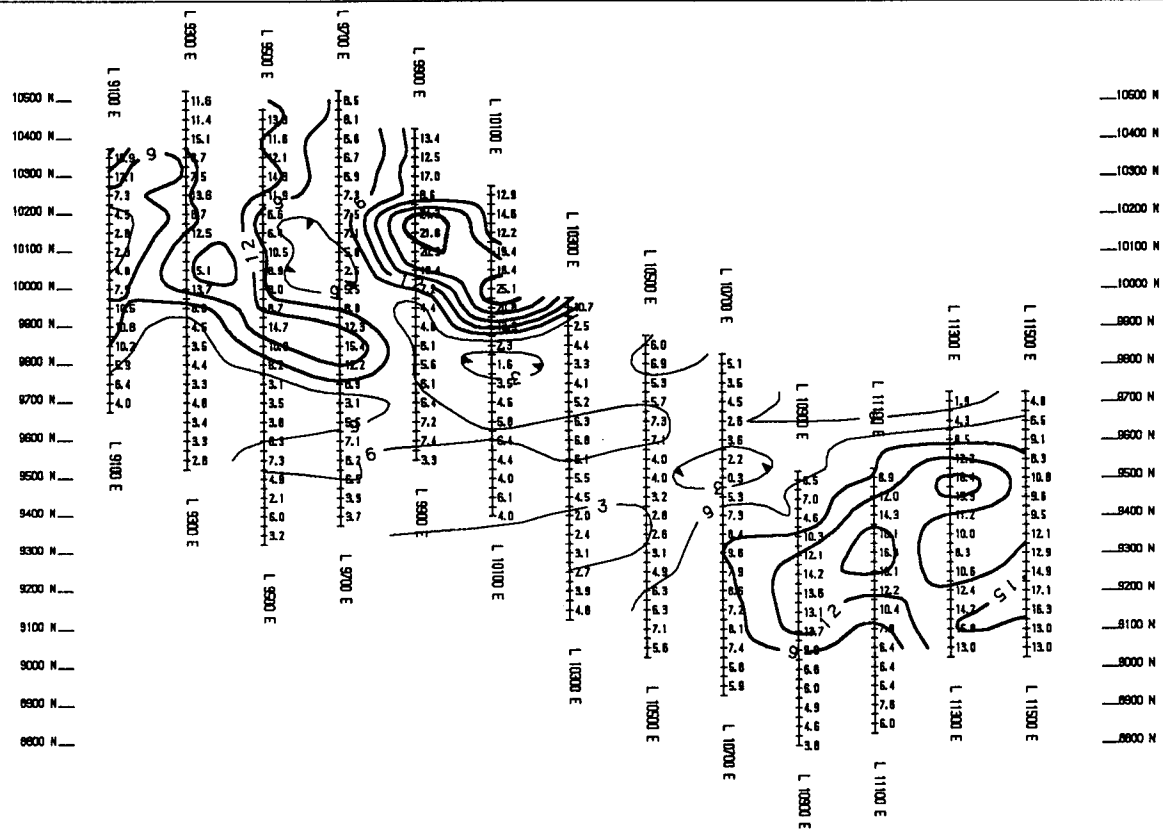
In November 1992, Peter E. Walcott & Associates Geophysics Ltd was contracted to carry out 14 line km of induced polarization over the claims. The work was carried out along 200 metre spaced lines over a portion of the magnetometer and I.P. grid run by Noranda Exploration in 1990, and along two, 300 metre spaced, flagged lines located at the mouth of Birch Creek.

The survey is discussed in detail in a separate report by Walcott & Associates. The results of the program defined three zones of anomalous chargeability response, Zones A, B, & C, within the survey area.

Zone A is 900 metres long by 200 metres in width and is situated in andesite along the north margin of the linear magnetic low described above. This zone extends from 100+00 N on line 103+00 E to 105+00 N on line 93+00 E. It is a complex zone that does not extend to surface on every line. The higher chargeabilities occur with higher resistivities, a feature often seen over gold bearing listwanitic alteration zones. Noranda drilled two short rotary holes near this zone but neither penetrated the anomaly. The first hole was drilled to the southwest of the anomaly and intersected serpentinized ultramafic cut by quartz veins. The second hole was drilled to the northeast of this anomaly and intersected carbonatized andesite cut by narrow quartz stringers.

Zone B, located in the ultramafic body 400 metres south of Zone A, is 500 metres in length by 100 metres in width. It extends from 101+00 N on line 93+00 E to 99+00 N on line 97+00 E. High chargeabilities coincide with high resistivities over this zone. This zone was originally discovered by Noranda and drilling was recommended but was not completed.

Zone C, located 1,000 metres east of Zone A, is 700 metres long by 300 metres in width. It extends from 92+00 N on line 109+00 E through 95+00 N on line 113+00 E. High chargeabilities coincide with high resistivities along this zone. This zone is situated over andesite in an area of flat magnetic response. Noranda was not aware of this zone but a short hole drilled 100 metres west of the zone intersected strongly carbonatized andesite and a carbonatized intrusive dyke.



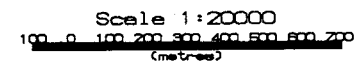
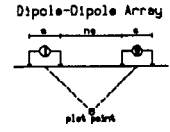
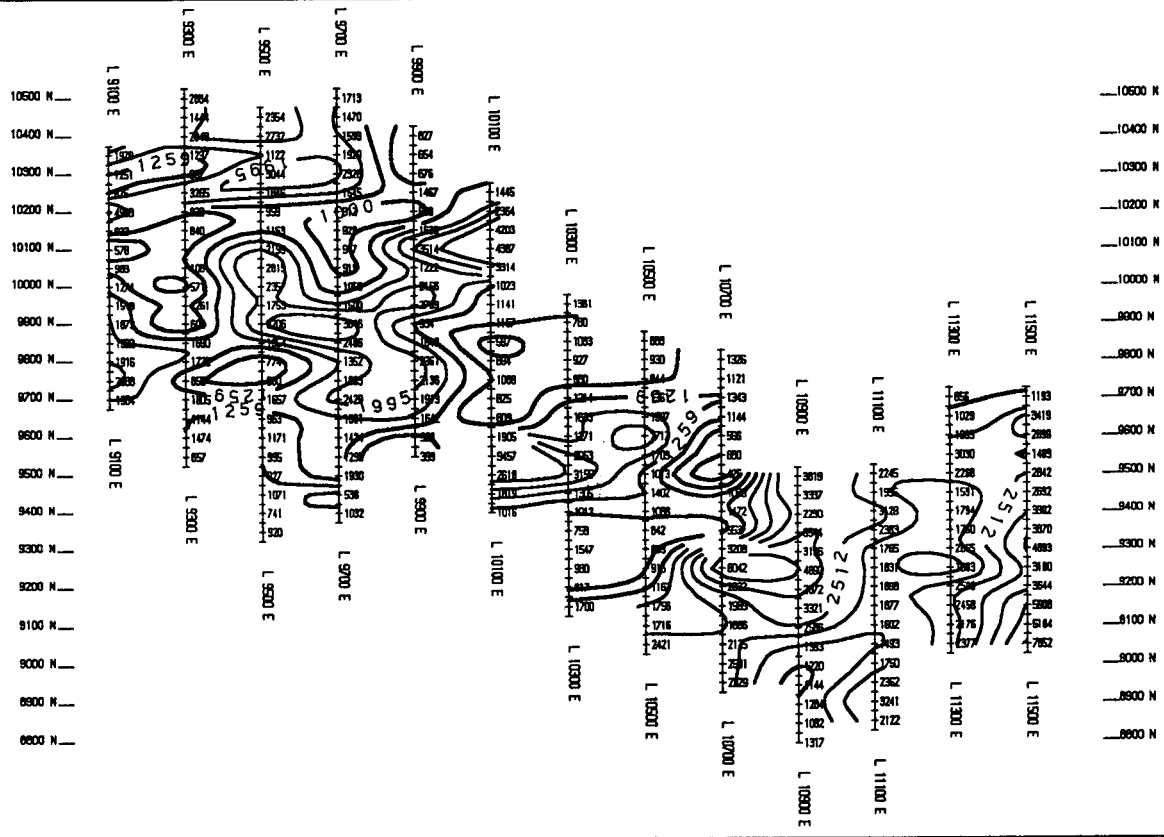
Scale 1:20000
 100 0 100 200 300 400 500 600 700
 (metres)

SURPRISE LAKE EXPLORATION LIMITED PARTNERSHIP

DIPLOLE-DIPLOLE ARRAY
INDUCED POLARIZATION SURVEY
 CONTOURS OF APPARENT CHANGEABILITY
 $a = 50 \text{ m.}, n = 2$

PIMELODE PROPERTY
 ATLIN AREA, BRITISH COLUMBIA
 DECEMBER 1982

Fig No. 3 N.T.S. 104/M/11 & 12
 PETER E. WALCOTT & ASSOC. LTD.



SURPRISE LAKE EXPLORATION LIMITED PARTNERSHIP	
DIPPOLE-DIPPOLE ARRAY INDUCED POLARIZATION SURVEY CONTOURS OF APPARENT RESISTIVITY $a = 50 \text{ m}, n = 2$	
PINELODE PROPERTY ATLIN AREA, BRITISH COLUMBIA DECEMBER 1982	
Fig No. 4	N.T.S. 104 N/11 & 12 PETER E. WALCOTT & ASSOC. LTD.

4.0 DISCUSSIONS AND CONCLUSIONS:

The results of the present program may be summarized as follows.

- 1) The present I.P. survey has defined three chargeability anomalies, Zones A, B & C, that coincide with areas of elevated resistivity response within or adjacent to a serpentinite intrusive body. These characteristics have elsewhere been demonstrated to be characteristic of gold bearing listwanitic alteration zones.
- 2) Zone A, the longest and strongest of these anomalies, is associated with a prominent magnetic low defined by previous ground and airborne surveys. This magnetic anomaly is believed to be reflecting a zone of hydrothermal alteration developed along the sheared contact of a serpentinite intrusive.
- 3) Placer mining operations along Pine Creek immediately west of these three anomalies have exposed abundant listwanite altered boulders along the placer pay streak, suggesting that one or more of these anomalies may be the source of the placer gold.
- 4) Previously discovered lode gold occurrences in the Atlin camp have been found in listwanitic alteration zones adjacent to serpentinite intrusive bodies. The most significant deposit discovered to date is the Yellowjacket prospect, situated two kilometres west of the Pinelode property. Previous drilling on the Yellowjacket intersected gold values of up to 0.5 oz/t, over widths of 3.0 metres, within a 30.0 metre wide quartz-carbonate stockwork.

The results summarized above are extremely encouraging and suggest that the Pinelode property has potential for hosting one or more high grade gold stockworks developed within extensive zones of low grade listwanite alteration.

5.0 RECOMMENDATIONS:

It is recommended that a 2,000 metre reverse circulation drill program be carried out to test the three chargeability anomalies defined by the present survey.

Priority should be given to Zone A where elevated chargeability values are associated with a prominent magnetic low. This anomaly should be tested with two fences of angle holes. Drilling should test line 99+00 E from 100+00 N to 102+25 N, and line 101+00 E from 98+75 N to 100+50 N.

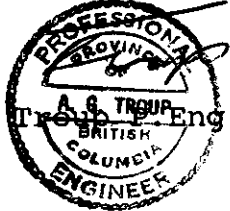
Zones B & C are considered secondary targets. It is therefore recommended that each of these anomalies be tested with only a single line of angle holes.

Zone B should be drill tested along line 97+00 E from 97+50 N to 99+50 N.

Zone C should be drilled along line 111+00 E from 92+00 N to 94+00 N.

It is anticipated that the cost of this program including planning, supervision, road construction, site preparation, drilling, assaying, reclamation, mobilization, demobilization and reporting will be \$250,000.00

Respectfully submitted at Vancouver, British Columbia,

A.
A.G.  Eng.

The seal is circular with the text "PROFESSIONAL ENGINEER" around the top and "BRITISH COLUMBIA" around the bottom. In the center, it says "A. G. TROUP". There is a signature over the seal.

6.0 REFERENCES:

- Aitken, J.D., 1960, Geology, Atlin, Cassiar District, British Columbia: Geological Survey of Canada, Map 1082A, Scale 1:253,440.
- Ash, C.H. and Arskey, R.L., 1990, Tectonic Setting of Listwanite Lode Gold Deposits in the Atlin Area Northwestern B.C., NTS 104N/12, B.C. Ministry of Energy Mines and Petroleum Resources, Open File 1990-22.
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- Walcott, P.E., 1992, Induced Polarization Survey on the Pinelode Property, Atlin Area, B.C. NTS 104N/11 & 12.

7.0 STATEMENT OF QUALIFICATIONS:

A.G. TROUP, P.ENG.

ACADEMIC

1967	B.Sc. Geology	McMaster University, Ontario
1969	M.Sc. Geochemistry	McMaster University, Ontario

PRACTICAL

1981 -	3605 Creery Avenue West Vancouver, B.C.	Consulting Geologist with Archean Engineering Ltd.
1977 - 1980	Geological Survey of Malaysia	Project Manager on a CIDA supported mineral explora- tion survey over peninsular Malaysia.
1969 - 1977	Rio Tinto Canadian Exploration Ltd. Vancouver, B.C.	Geologist involved in all aspects of mineral explora- tion in B.C., the Yukon and N.W.T.
1968	McMaster University Dept. of Geology Hamilton, Ontario	M.Sc. thesis work. Reconnaissance mapping and geochemical study, Lake Shubenicadia area, Nova Scotia.
1967 (summer)	Canex Aerial Exploration Ltd. Toronto, Ontario	Geologist in charge of detailed mapping and reconnaissance geochemical program in Gaspé, Quebec.
1966 (summer)	McMaster University Dept. of Geology Hamilton, Ontario	Detailed and reconnaissance mapping in Northern Ontario.
1965 (summer)	International Nickel Co. of Canada Thompson, Manitoba	Detailed mapping in the Thompson area, Manitoba.
1964 (summer)	Geological Survey of Canada Ottawa, Ontario	Regional geochemical survey in the Keno Hill area, Y.T.

8.0 COST STATEMENT

1 December 1992 - 31 January 1993

Drafting and Plotting	\$ 256.80
Planning, Supervision and Field Results Studies	1,738.75
Report Preparation	<u>1,750.00</u>
Total Cost	<u>\$3,545.55</u>

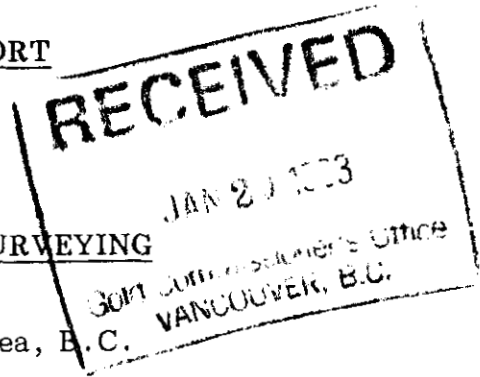
PETER E. WALCOTT
& ASSOCIATES LTD

A GEOPHYSICAL REPORT

ON

INDUCED POLARIZATION SURVEYING

Pinelode Property, Atlin Area, B.C.
59°43'N, 133°29'W
N.T.S. 104 N/11 & 12



CLAIMS SURVEYED:

YAM 1, 2 & 3
MAY 4, 5, 6, 7 & 9

SURVEY DATES:

November 27th - December 16th, 1992

OPERATOR:

SURPRISE LAKE EXPLORATION LIMITED PARTNERSHIP
Vancouver, British Columbia

OWNERS:

SURPRISE LAKE EXPLORATION LIMITED PARTNERSHIP
CREAM SILVER MINES LTD.

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

22,774

PETER E. WALCOTT & ASSOCIATES LIMITED

Vancouver, British Columbia

DECEMBER 1992

LOG NO: FEB 0 5 1993 RD.	PETER E. WALCOTT & ASSOCIATES LTD
ACTION.	
FILE NO:	

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CERTIFICATION	iii
REGIONAL GEOLOGY 1:250,000	
CLAIM & GRID LOCATION MAP 1:50,000	
I.P. PSEUDOSECTIONS	

ACCOMPANYING MAPS - Scale 1:5,000

MAP POCKET

CONTOURS OF APPARENT CHARGEABILITY	a = 50m	n=2	W-502-1
CONTOURS OF APPARENT RESISTIVITY	a = 50m	n=2	W-502-2

PETER E. WALCOTT
& ASSOCIATES LTD

- 1 -

INTRODUCTION.

Between November 27th and December 16th, 1992, Peter E. Walcott & Associates Limited undertook limited induced polarization (I.P.) surveying over parts of the Pinelode property, located in the Atlin area of British Columbia, at the request of Mr. D.G.S. Purvis, General Partner of the Surprise Lake Exploration Limited Partnership.

The surveying was carried out over eleven N 35° W and two N 65° W *flagged compass* lines and was a continuation of the limited surveying carried out by Noranda Exploration in May of 1990.

Measurements (first to fifth separation) of apparent chargeability (the I.P. response parameter) and resistivity were made every 50 metres along the lines using the dipole-dipole method of surveying with a 50 metre dipole.

The I.P. data are presented in contour form on individual pseudo-sections bound in this report. In addition the second separation chargeability and resistivity data along with the adjusted Noranda data where appropriate are presented in contour form on Maps W-502-1 & 2 at a scale of 1:5,000.

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- 2 -

PROPERTY, LOCATION & ACCESS.

The property is located in the Atlin Mining Division of British Columbia and consists of the following claims:

<u>Claim Name</u>	<u>Tenure No.</u>	<u>No. of Writs</u>	<u>Anniversary</u>
KAREN	2751	10	August 25th
YAM 1	2342	14	August 10th
YAM 2	2343	20	August 10th
YAM 3	2344	20	August 10th
MAY 1-21	2590-2610		April 28th

The claims are situated straddling Pine Creek some 5 kilometres west of its head at Surprise Lake, and some 12 kilometres east of the town of Atlin, British Columbia.

Access was obtained by means of the all-season Atlin-Surprise Lake gravel road which traverses the property.

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- 3 -

PREVIOUS WORK.

Previous work on the property in recent times consisted of airborne electromagnetic and magnetic surveying by Dighem in 1984, limited ground magnetic surveying and mapping by Cream Silver Mines in 1986, and ground magnetic and limited induced polarization by Noranda in 1990 followed by a short three hole rotary drill programme.

The results of the above are well documented in reports held by the Surprise Lake Exploration Limited Partnership.

PETER E. WALCOTT
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- 4 -

GEOLOGY.

The reader is referred to reports on the property and surrounding claims by L. Dandy and R. Gonzalez for Cream Silver Mines in 1986, and by R. Diment of Noranda Exploration in 1990.

Basically the Atlin area lies within a northwest trending sequence of upper Paleozoic Cache Creek Group rocks - radiolarian cherts, pelites, carbonates, and volcanics -, the Atlin Terrane, intruded by Mesozoic granite, alaskite and quartz monzonite.

Within the Atlin Terrane Permian ultramafic rocks form a discordant belt that cuts the tectonic fabric of the former. These Atlin Intrusions, consisting for the most of peridotite, serpentinite and minor mafic dykes, commonly exhibit intense carbonitization along their margins characterized by the presence of mariposite.

The majority of the known lode gold deposits are associated with these quartz-carbonite altered ultramafics in contact with the Cache Creek volcanics.

Most of the property is covered by a thick sequence of glacial till underlain by Cache Creek Group sediments intruded in places by Permian ultramafics as above.

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- 5 -

SURVEY SPECIFICATIONS.

The induced polarization (I.P.) survey was carried out using a pulse type system, the principal components of which are manufactured by Phoenix Geophysics Limited of Metropolitan Toronto, Ontario and BRGM Instruments of Orleans, France.

The system consists basically of three units, a receiver (BRGM), a transmitter and a motor generator (Phoenix). The transmitter, which provides a maximum of 2.0 kw d.c. to the ground, obtains its power from a 2.0 kw 400 c.p.s. three phase alternator driven by a gasoline engine. The cycling rate of the transmitter is 2 seconds "current-on" and 2 seconds "current-off" with the pulses reversing continuously in polarity. The data recorded in the field consists of careful measurements of the current (I) in amperes flowing through electrodes C_1 and C_2 , the primary voltage (V) appearing between any two potential electrodes, P_1 through P_6 , during the "current-on" part of the cycle and the chargeability (M_a) presented as a direct readout using a 240 millisecond delay and a 1600 millisecond sample window by the receiver, a digital receiver controlled by a microprocessor - the sample window is actually the total of ten individual windows of 160 millisecond widths.

The apparent resistivity (P_a) in ohm metres is proportional to the ratio of the primary voltage and the measured current, the proportionality factor depending on the geometry of the array used. The chargeability and the resistivity 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 chargeability and resistivity are functions of the actual chargeability and resistivity of the rocks.

The survey was carried out using the "dipole-dipole" electrode array. This electrode configuration and the methods of presenting the results are illustrated on the pseudosection plots in the appendix. Depth penetration with this array is increased or decreased by increasing or decreasing "a" and/or "n".

In practise, the equipment is set up at a particular station of the line to be surveyed; three transmitting dipoles are laid out to the rear, measurements for all possible combinations of transmitting and receiving dipoles, up to the fifth separation, i.e. $n = 5$: the equipment is then moved 3 "a" feet along the line to the next set-up.

A 50 metre dipole was employed on this survey, and first to fifth separation measurements made every 50 metres along the survey lines.

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- 6 -

SURVEY SPECIFICATIONS cont'd

Three transmitting dipoles were setup on Line 10200 E for comparison of the appropriate readings with those obtained on the previous survey by Noranda. Although their data file printout showed usage of a 240 millisecond delay and a 1600 millisecond integration window our comparison suggested a 100 millisecond delay and a 1000 millisecond integration window were more appropriate. Then their data was adjusted accordingly when making the contour plot of the second separation chargeability.

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- 7 -

DISCUSSION OF RESULTS.

The results from the survey should be studied in conjunction with those of the magnetic and I.P. surveys carried out by Noranda Exploration as previously mentioned, as well as those of the airborne work.

The ground magnetic survey clearly delineated the ultramafics - strongly magnetic - from the Cache Creek Group rocks - fairly uniform magnetic signature - as can be seen on the contour plan of the total field data.

A strongly pronounced magnetic low can be seen trending westwards from Line 10200 E to Line 9000 E along the contact between the ultramafics to the south and the andesites to the north. This inert signature presumably represents a shear/fault zone of intensely altered rocks and/or stockworks of quartz as a result of a silica liberation similar to those observed on the Lakeview property to the north where a similar magnetic signature was observed.

The results of the I.P. survey show that in general the intrusives exhibit lower chargeabilities and slightly lower resistivities than the surrounding greenstones as can be seen by comparing the plan maps of the second separation chargeability and resistivity - Maps W-502-1 & 2 - with that of the total field intensity. The higher resistivities - lower conductivities - of the andesites are readily apparent from their sterile E.M. response in contrast to those of the more argillaceous rocks of the Cache Creek Group on the airborne E.M. - magnetic plan maps.

Three zones of higher chargeability - Zones A, B & C - are clearly discernible on the previously mentioned contour map of the second separation measurements - Map W-502-1.

The strongest of these - Zone A - strikes westerly along the north side of the magnetic low from Line 10200 E to Line 9300 E - it is apparent on the deeper separations on Line 9700 E on the Noranda survey.

It is a complex zone associated in places with higher resistivities as can be seen by perusal of the individual pseudosections and the plan map of the resistivity values - Map W-502-2 - that appears to grade into the higher background chargeabilities of the andesites to the north, which have been noted to carry 1 to 2% pyrite mineralization.

Its characteristics generally fit the model for low grade gold mineralization associated with listwanitic alteration zones - linear magnetic lows - which are highly silicified - high resistivities - and contain 1 to 4% disseminated sulphides - moderately high chargeabilities - and in view of the large angular

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DISCUSSION OF RESULTS cont'd

quartz-carbonate altered serpentinite in the nearby Queenstake pit it would appear to be a probable source of the placer gold.

Zone B, originally defined by Noranda on Lines 9300 E and 9700 E, is located within the ultramafic package and strikes parallel to Zone A from 9700 E to 9300 E. It is also associated with resistivity highs as can be seen from the respective pseudosections but has no pronounced magnetic signature indicative of alteration. It did not as hoped connect with the anomalous readings on strike on Line 10800 E.

Zone C strikes N 30° E approximately parallel to and is 300 metres east of the inferred intrusive-andesite contact from Line 10900 E to Line 11300 E, and would appear to be related to increased pyrite content in the latter.

Lines 10000 N and 10300 N were run at N 65° W across fault structures interpreted from airborne magnetics. No anomalous chargeability responses obtained on either line except for a moderate one on the most easterly dipole on the southern line near the postulated andesite-intrusive contact that runs N 30° E along Pine Creek. A similar response with no accompanying resistivity increase was noted on the south end of the strong chargeability response obtained by Noranda on Line 10800 E adjacent to the same contact some 750 metres to the southwest.

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- 9 -

SUMMARY, CONCLUSIONS & RECOMMENDATIONS.

Between November 27th and December 16th, 1992, Peter E. Walcott & Associates Limited carried out a limited induced polarization (I.P.) surveying programme over parts of the Pinelode property in the Atlin area of British Columbia for the Surprise Lake Exploration Limited Partnership.

The programme was a continuation of one initiated by Noranda Exploration in 1990, and with the exception of two reconnaissance lines was carried out over the magnetometer survey grid.

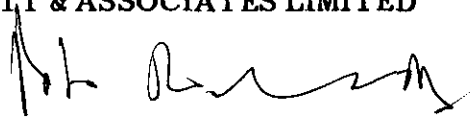
The I.P. results confirmed the existence of three definite zones and one possible zone of complex chargeability with the strongest of the definite ones - Zone A - and the possible one located at the contact between intense and quiet magnetic signatures.

As a result the writer recommends that

- (1) Zone A and the associated magnetic low be tested by a fence of holes between Lines 9900 E to 10100 E to thoroughly investigate the ultramafic-andesitic contact.
- (2) Magnetic and I.P. surveying be carried out to further investigate the possibility of listwanitic alteration within the above mentioned possible chargeability zone.
- (3) In view of its location to the known placer pit consideration be given to investigating Zone B by borehole techniques.

Respectfully submitted,

PETER E. WALCOTT & ASSOCIATES LIMITED


Peter E. Walcott, P.Eng.
Geophysicist

Vancouver, B.C.
December 1992

PETER E. WALCOTT
& ASSOCIATES LTD

APPENDIX
=====

PETER E. WALCOTT
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- i -

COST OF SURVEY.

Peter E. Walcott & Associates Limited undertook the survey on a daily basis. Mobilization and reporting costs were extra so that the total costs of services provided was \$38,785.15.

PETER E. WALCOTT
& ASSOCIATES LTD

- i -

COST OF SURVEY.

Peter E. Walcott & Associates Limited undertook the survey on a daily basis. Mobilization and reporting costs were extra so that the total costs of services provided was \$38,785.15. This was broken down as follows:

1. <u>Wages</u>		
G. MacMillan	19 days @ \$350/day	\$6,650.00
P. Charlie	18 days @ \$250/day	\$4,500.00
R. Smith	16 days @ \$250/day	\$4,000.00
C. Smith	7 days @ \$250/day	\$1,750.00
L. Sampson	9 days @ \$250/day	<u>\$2,250.00</u>
		\$19,150.00
2. <u>Equipment rentals:</u> 13 days at \$400.00 per day		\$5,200.00
3. <u>Vehicles:</u> 13 days at \$100.00/day		\$1,300.00
	6 days at \$ 70.00/day	\$420.00
	gasoline	\$887.69
	mileage	<u>\$1,212.00</u>
		\$3,819.69
4. <u>Accommodation</u>		\$3,578.11
5. <u>Report preparation:</u> typing & collating		\$320.00
	plotting & printing	\$880.00
	interpretation & writing . . .	\$1,000.00
	colour printing	<u>\$2,300.00</u>
		\$4,500.00
6.	GST	<u>\$2,537.35</u>
		<u>\$38,785.15</u>
		=====

PETER E. WALCOTT
& ASSOCIATES LTD

- ii-

PERSONNEL EMPLOYED ON SURVEY.

<u>Name</u>	<u>Occupation</u>	<u>Address</u>	<u>Dates</u>
Peter E. Walcott	Geophysicist	Peter E. Walcott & Assoc. 605 Rutland Court, Coquitlam, B.C. V3J 3T8	Dec. 21-28th, 92
G. MacMillan	Geophysical Operator	"	Nov. 27 - Dec. 16, 1992
P. Charlie	"	"	Nov. 27 - Dec. 15, 1992
R. Smith	Geophysical Assistant	"	Nov. 29 - Dec. 14, 1992
G. Sampson	"	"	Nov. 28 - Dec. 7, 1992
C. Smith	"	"	Dec. 7 - Dec. 13, 1992
J. Walcott	Typing	"	Dec. 30th, 1992

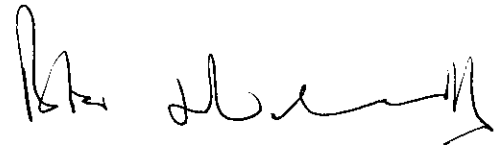
**PETER E. WALCOTT
& ASSOCIATES LTD**

- iii -

CERTIFICATION.

I, Peter E. Walcott, of the City of Coquitlam, British Columbia, hereby certify that:

1. I am a graduate of the University of Toronto in 1962 with a B.A.Sc. in Engineering Physics, Geophysics Option.
2. I have been practising my profession for the last thirty years.
3. I am a member of the Association of Professional Engineers of British Columbia and Ontario.
4. I hold no interests, direct or indirect, in the securities or properties of Surprise Lake Exploration Partnership Limited nor do I expect to receive any.

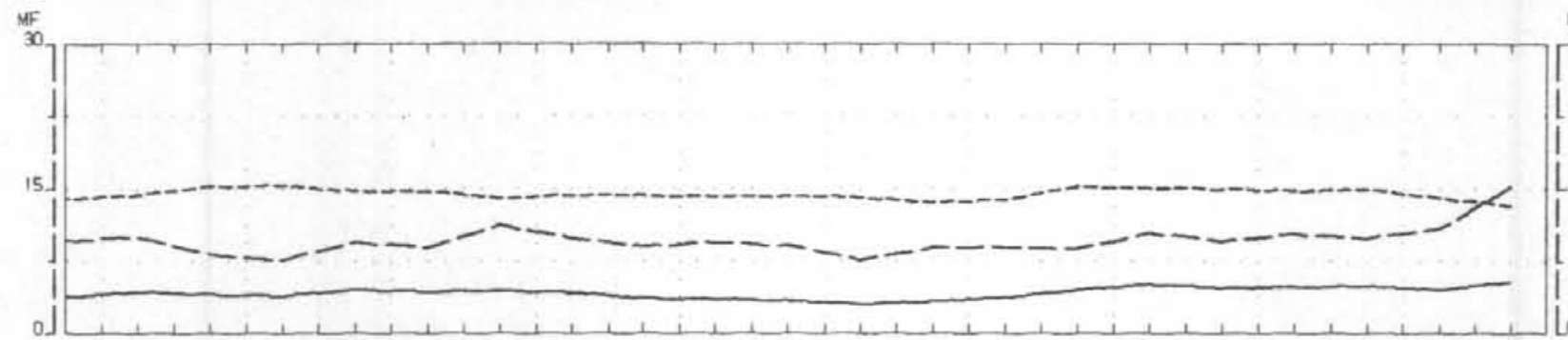


Peter E. Walcott, P.Eng.

**Vancouver, B.C.
December 1992**

RES 5000
500
50
FILTERED PROFILES

IP 30
15
0

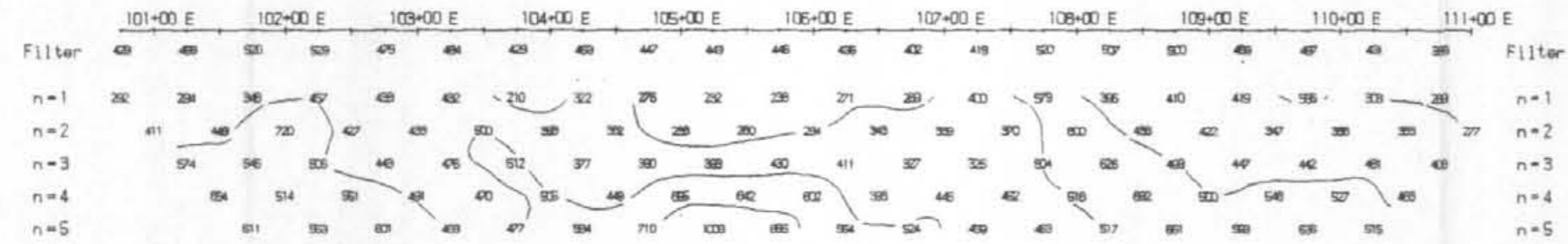


MF 30
15
0

IP 30
15
0

RES 5000
500
50
FILTERED PROFILES

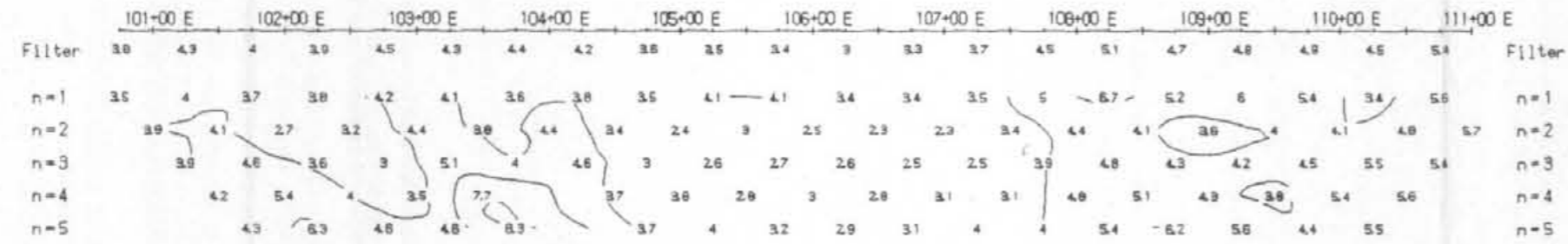
RESISTIVITY
ohm-metres



RESISTIVITY
ohm-metres

INTERPRETATION

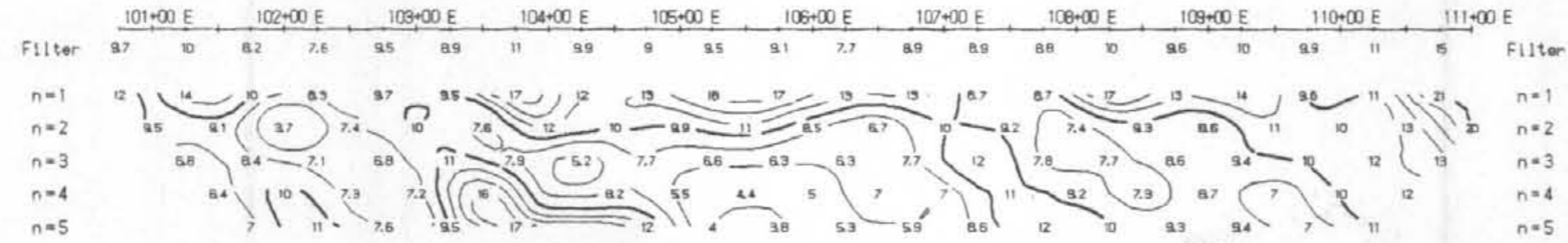
CHARGEABILITY
millivolts/volt



INTERPRETATION

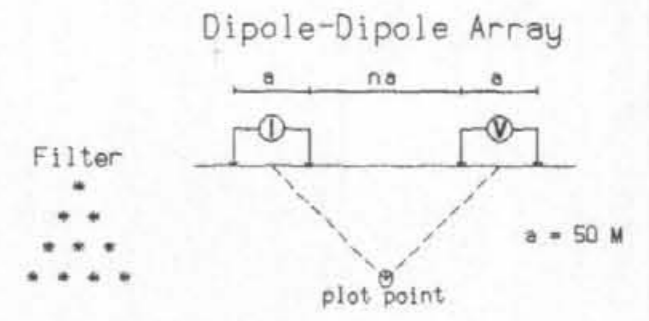
CHARGEABILITY
millivolts/volt

METAL FACTOR
ch/res X 100



METAL FACTOR
ch/res X 100

Line 10300 N



Instrument: Phoenix IPT1 Tx., BRGM Elrec 6 Rx.
Frequency: 0.125 Hz.
Operators: G.M., P.C.

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10, ...

INTERPRETATION

Well defined, strong increase in polarization with or without marked decrease in resistivity.

Fairly well defined moderate increase in polarization.

Poorly defined polarization increase.

Resistivity feature.



22774

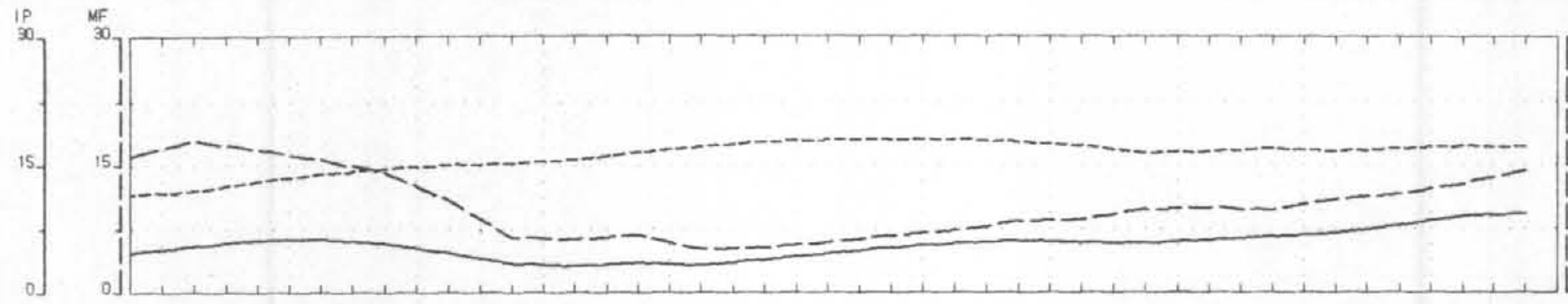
SURPRISE LAKE EXPLORATION LIMITED PARTNERSHIP

INDUCED POLARIZATION SURVEY
PINELODE PROPERTY
ATLIN AREA, BRITISH COLUMBIA

Date: 92/12/16 N.T.S.: 104N/12
Interpretation: P.E.W.

PETER E. WALCOTT & ASSOC. LTD.

FILTERED PROFILES
RES 5000



FILTERED PROFILES
RES 5000

RESISTIVITY
ohm-metres

Filter	101+00 E	102+00 E	103+00 E	104+00 E	105+00 E	106+00 E	107+00 E	108+00 E	109+00 E	110+00 E	111+00 E	112+00 E	Filter											
n=1	200	199	304	397	277	199	354	216	332	335	465	598	813	557	488	484	337	462	673	930	626	631	648	n=1
n=2	280	344	408	392	397	354	277	350	937	639	711	689	737	689	638	470	489	899	638	939	850	689	936	n=2
n=3	465	396	392	461	685	465	414	577	654	590	776	706	935	837	624	625	892	701	694	894	695	646	646	n=3
n=4	465	291	408	685	685	685	685	685	1072	932	697	885	1064	885	800	724	719	708	625	817	719	719	719	n=4
n=5	347	389	579	689	1198	1012	685	1027	1096	985	985	1046	1019	1065	901	846	898	694	646	980	980	980	980	n=5

RESISTIVITY
ohm-metres

INTERPRETATION



CHARGEABILITY
millivolts/volt

Filter	101+00 E	102+00 E	103+00 E	104+00 E	105+00 E	106+00 E	107+00 E	108+00 E	109+00 E	110+00 E	111+00 E	112+00 E	Filter											
n=1	3.2	3.8	4.8	5.8	4.9	2.9	3.0	2.2	4.9	3.4	4.3	4.8	5.7	5.7	5.4	4.8	4.1	5.3	5.8	4.6	5.3	6.9	6.8	n=1
n=2	4.4	6.9	6.9	6	4.8	2.9	1.5	2.1	2.4	2.9	3.9	4.5	5.9	5.7	6	4.6	4.8	4.7	5.6	5.9	7.7	8.4	8.8	n=2
n=3	6.7	7.3	5.6	5.6	5.4	4.1	1.7	2	2.8	3.3	4.1	5	5.8	5.7	6.7	5.5	5.8	6.4	6.1	6.1	11	8.7	8.7	n=3
n=4	7.8	5.6	6	6.1	6	4.7	1.8	2.8	3.6	3.9	5	5.9	6.5	6.8	7.9	5.9	7.5	8.1	8.4	11	12	12	12	n=4
n=5	6.8	5.9	5.4	6.7	6.6	4.9	2.9	4.2	5	4.5	6	6.4	6.6	6.6	6	7.2	8.7	11	10	10	10	10	10	n=5

INTERPRETATION

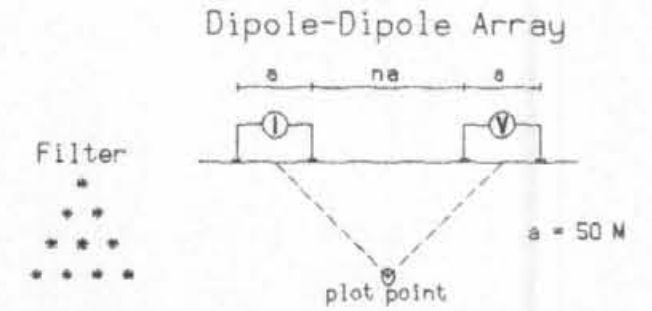
CHARGEABILITY
millivolts/volt

METAL FACTOR
ch/res X 100

Filter	101+00 E	102+00 E	103+00 E	104+00 E	105+00 E	106+00 E	107+00 E	108+00 E	109+00 E	110+00 E	111+00 E	112+00 E	Filter											
n=1	16	18	17	16	14	11	6.5	6.3	6.8	5.1	5.3	5.9	6.7	7.3	8.4	8.6	9.8	10	9.7	11	12	13	14	n=1
n=2	16	18	17	17	12	9	5.9	6.1	4.7	4.6	5.5	6.6	7.2	8.1	10	9.8	9.9	8.3	8.7	9.1	11	11	15	n=2
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n=5	20	16	11	7.8	5.7	4.9	3.1	4.1	4.8	4.7	6.5	6.1	6.5	6.2	6.6	8.5	13	18	12	18	18	18	18	n=5

METAL FACTOR
ch/res X 100

Line 10000 N



Instrument: Phoenix IPT1 Tx., BRGM Elrec 6 Rx.
Frequency: 0.125 Hz.
Operators: G.M., P.C.

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10, ...

INTERPRETATION

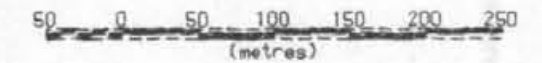
Well defined, strong increase in polarization with or without marked decrease in resistivity.

Fairly well defined moderate increase in polarization.

Poorly defined polarization increase.

Resistivity feature.

Scale 1:5000



22774

SURPRISE LAKE EXPLORATION LIMITED PARTNERSHIP

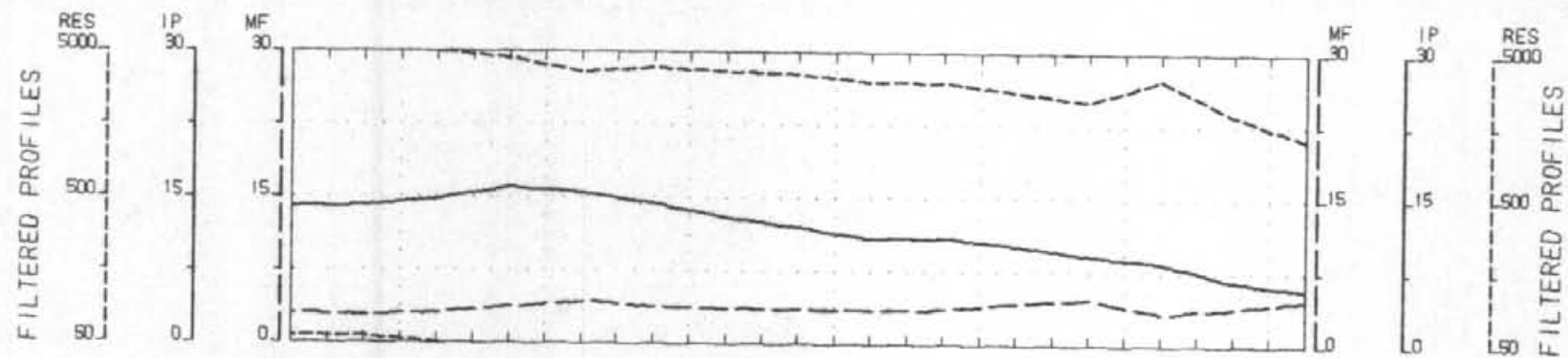
INDUCED POLARIZATION SURVEY
PINELODE PROPERTY
ATLIN AREA, BRITISH COLUMBIA

Date: 92/12/16

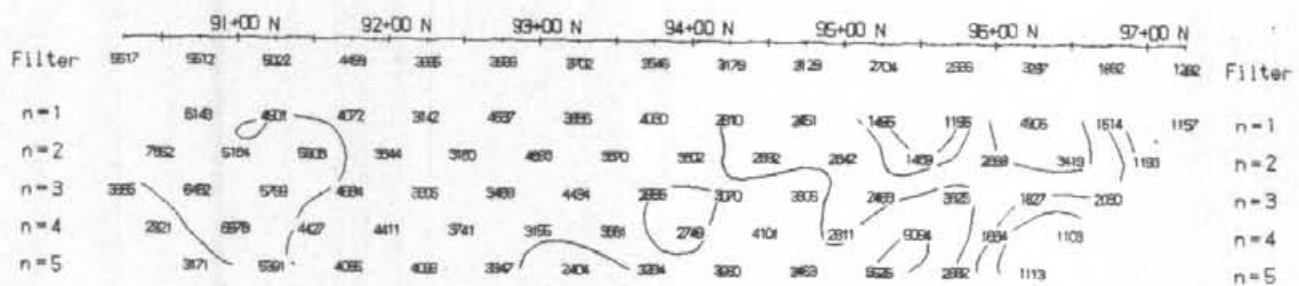
N.T.S.: 104N/12

Interpretation: P.E.W.

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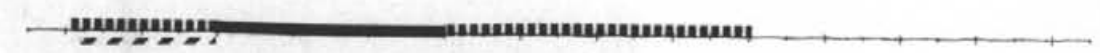


RESISTIVITY
ohm-metres

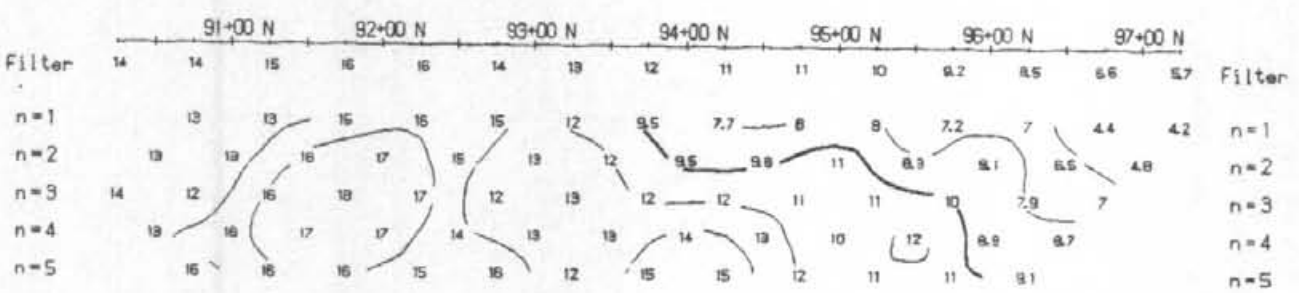


RESISTIVITY
ohm-metres

INTERPRETATION



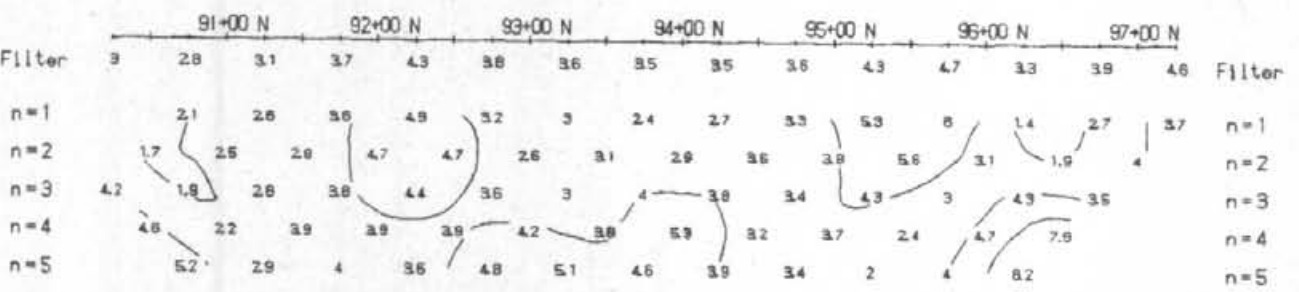
CHARGEABILITY
millivolts/volt



INTERPRETATION

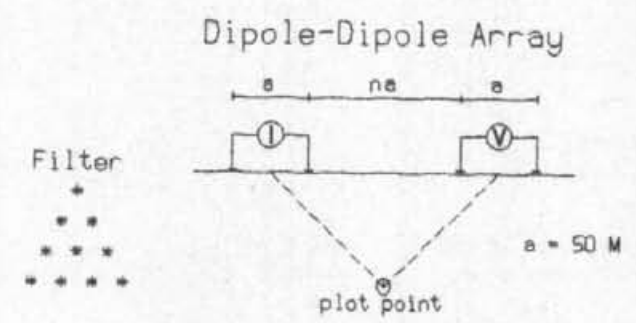
CHARGEABILITY
millivolts/volt

METAL FACTOR
ch/res X 100



METAL FACTOR
ch/res X 100

Line 11500 E

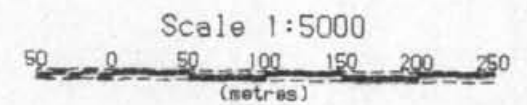


Instrument: Phoenix IPT1 Tx., BRGM Elrec 6 Rx.
Frequency: 0.125 Hz.
Operators: G.M., P.C.

Logarithmic Contours
1, 1.5, 2, 3, 5, 7.5, 10, ...

INTERPRETATION

- Well defined, strong increase in polarization with or without marked decrease in resistivity.
- Fairly well defined moderate increase in polarization.
- Poorly defined polarization increase.
- Resistivity feature.



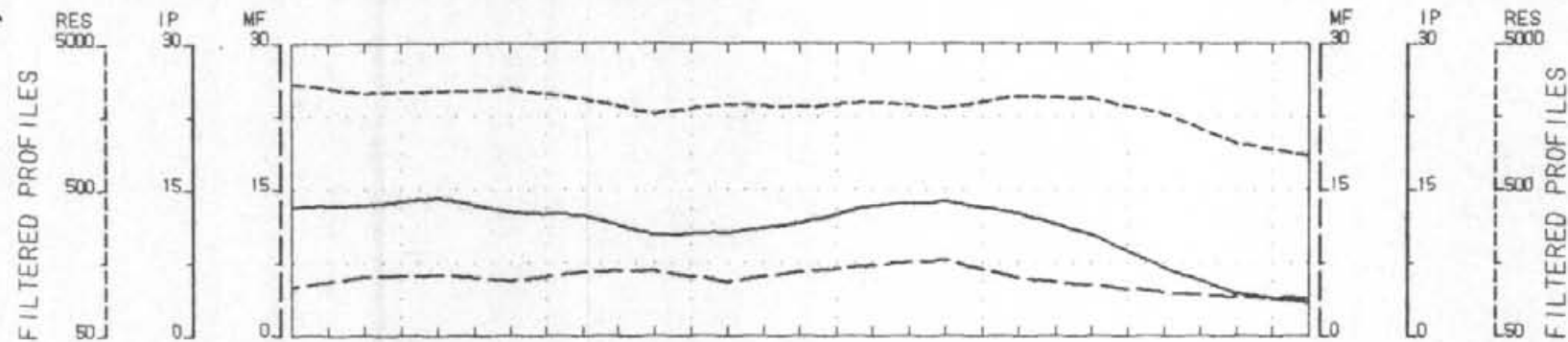
22774

SURPRISE LAKE EXPLORATION LIMITED PARTNERSHIP

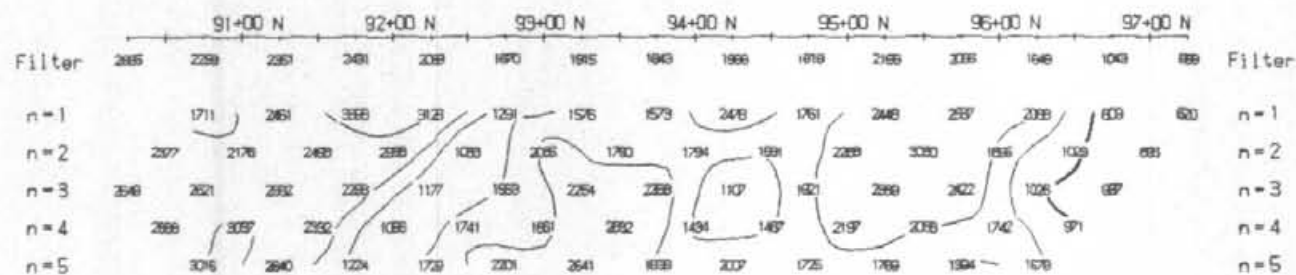
INDUCED POLARIZATION SURVEY
PINELODE PROPERTY
ATLIN AREA, BRITISH COLUMBIA

Date: 92/12/16 N.T.S.: 104N/12
Interpretation: P.E.W.

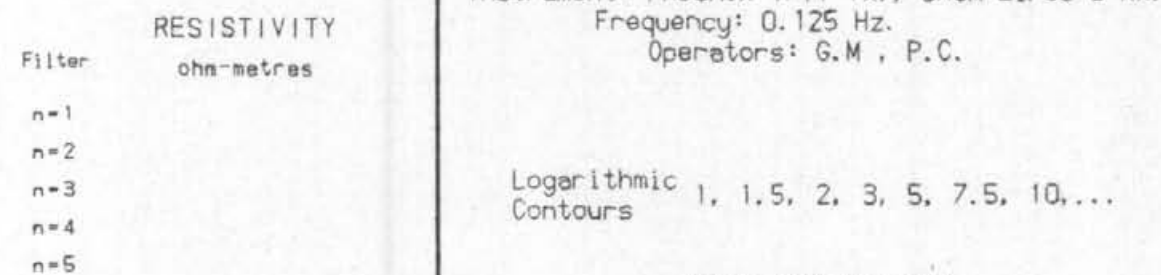
PETER E. WALCOTT & ASSOC. LTD.



RESISTIVITY
ohm-metres



RESISTIVITY
ohm-metres



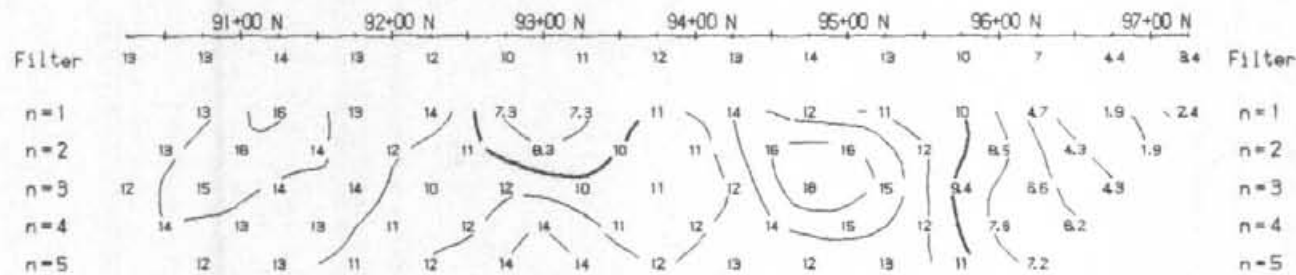
INTERPRETATION



INTERPRETATION

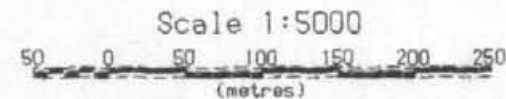
Well defined, strong increase in polarization with or without marked decrease in resistivity.
Fairly well defined moderate increase in polarization.
Poorly defined polarization increase.

CHARGEABILITY
millivolts/volt

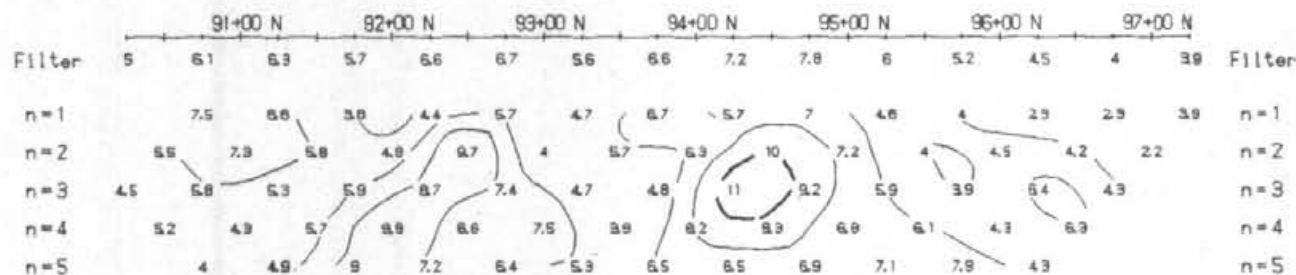


CHARGEABILITY
millivolts/volt

Resistivity feature.

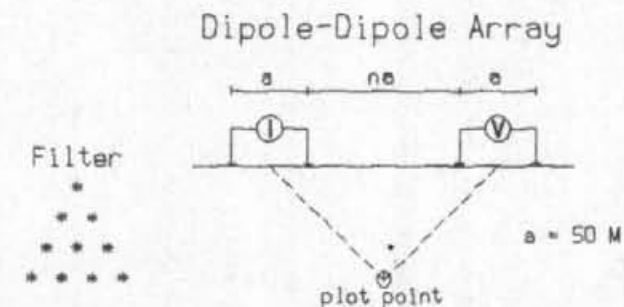


METAL FACTOR
ch/res X 100



METAL FACTOR
ch/res X 100

Line 11300 E



Instrument: Phoenix IPT1 Tx., BRGM Elrec 6 Rx.
Frequency: 0.125 Hz.
Operators: G.M., P.C.

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10, ...

INTERPRETATION

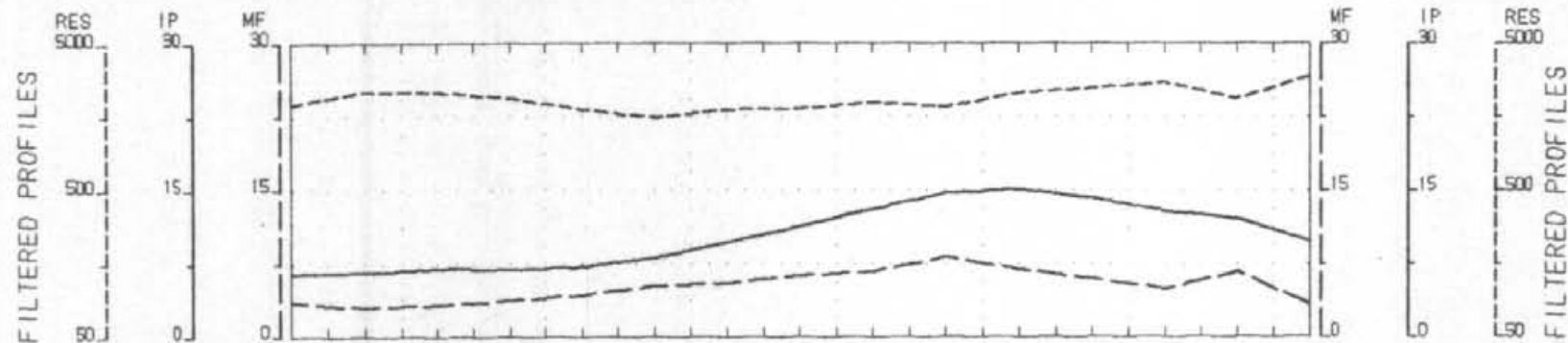
22774

SURPRISE LAKE EXPLORATION LIMITED PARTNERSHIP

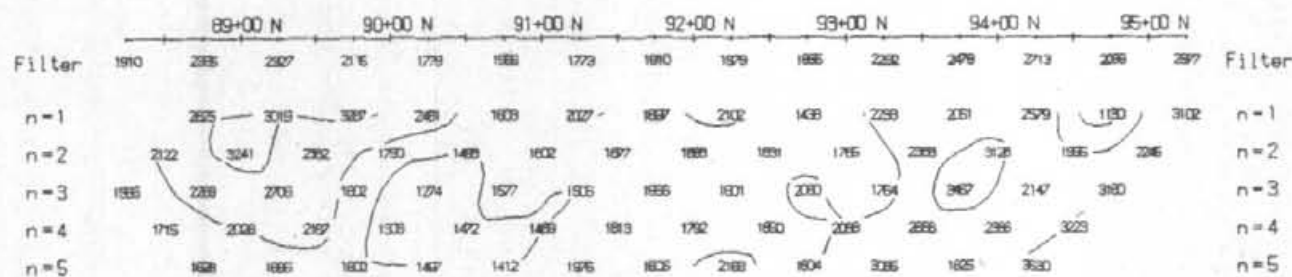
INDUCED POLARIZATION SURVEY
PINELODE PROPERTY
ATLIN AREA, BRITISH COLUMBIA

Date: 92/12/16 N.T.S.: 104N/12
Interpretation: P.E.W.

PETER E. WALCOTT & ASSOC. LTD.



RESISTIVITY
ohm-metres

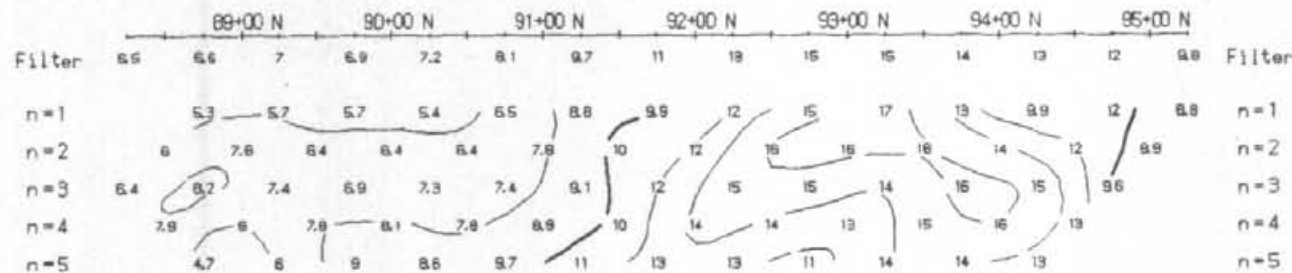


RESISTIVITY
ohm-metres

INTERPRETATION



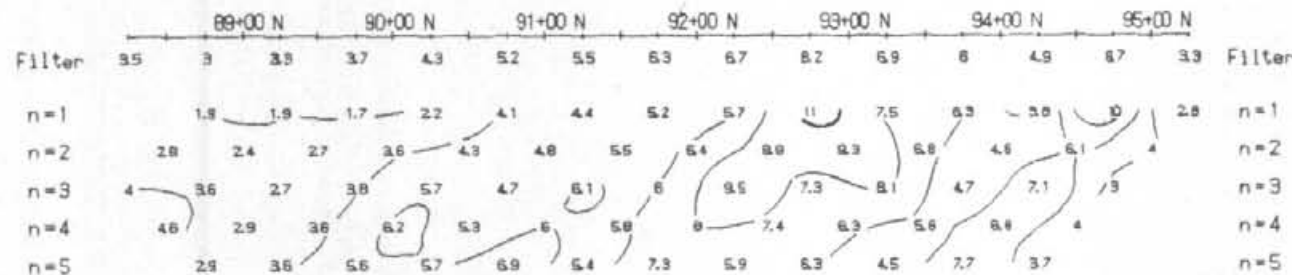
CHARGEABILITY
millivolts/volt



INTERPRETATION

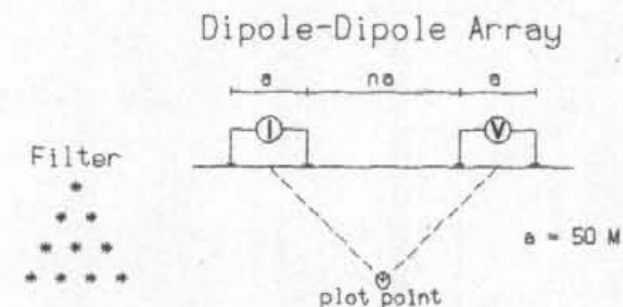
CHARGEABILITY
millivolts/volt

METAL FACTOR
ch/res X 100



METAL FACTOR
ch/res X 100

Line 11100 E

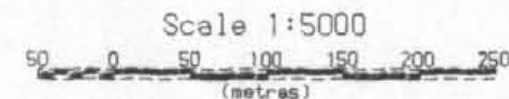


Instrument: Phoenix IPT1 Tx., BRGM Elrec 6 Rx.
Frequency: 0.125 Hz.
Operators: G.M., P.C.

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10, ...

INTERPRETATION

- Well defined, strong increase in polarization with or without marked decrease in resistivity.
- Fairly well defined moderate increase in polarization.
- Poorly defined polarization increase.
- Resistivity feature.



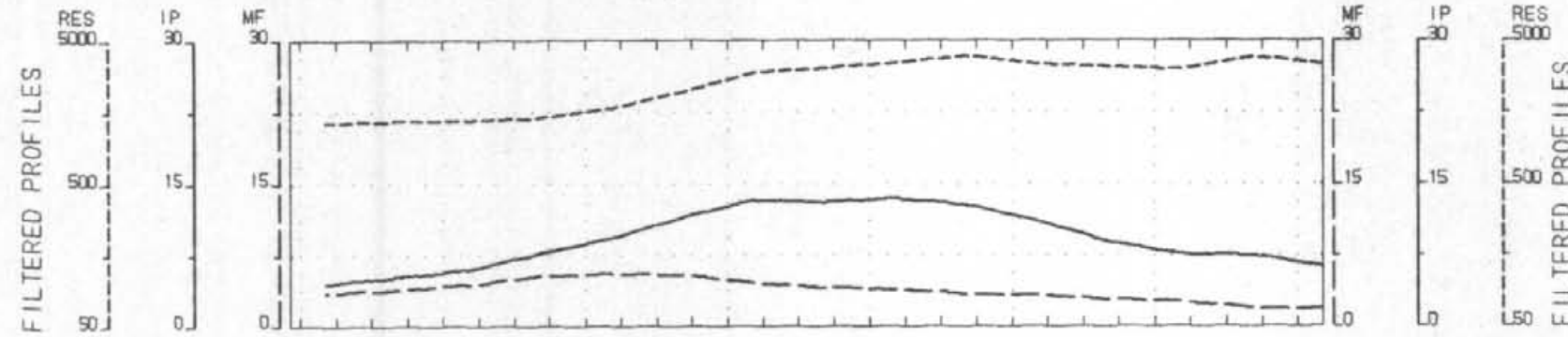
22774

SURPRISE LAKE EXPLORATION LIMITED PARTNERSHIP

INDUCED POLARIZATION SURVEY
PINELODE PROPERTY
ATLIN AREA, BRITISH COLUMBIA

Date: 92/12/16 N.T.S.: 104N/12
Interpretation: P.E.W.

PETER E. WALCOTT & ASSOC. LTD.



RESISTIVITY
ohm-metres

Filter	87+93 N	88+93 N	89+93 N	90+93 N	91+93 N	92+93 N	93+93 N	94+93 N	Filter						
n=1	988	1131	1086	1192	1335	1635	2712	2970	3270	4888	2888	2377	1638	3275	2844
n=2	1307	1032	1284	1144	1220	1308	2528	3321	2972	4680	3135	3544	2230	3397	3019
n=3	1365	1401	1335	1240	1284	2841	2916	3467	3776	3288	3337	3351	4315	3188	
n=4	2280	1288	1420	1888	2215	2900	3138	4388	3777	3404	2381	5765	3948		
n=5	2500	1300	1488	2205	2801	3327	4119	3932	2871	2988	4768	4948			

INTERPRETATION



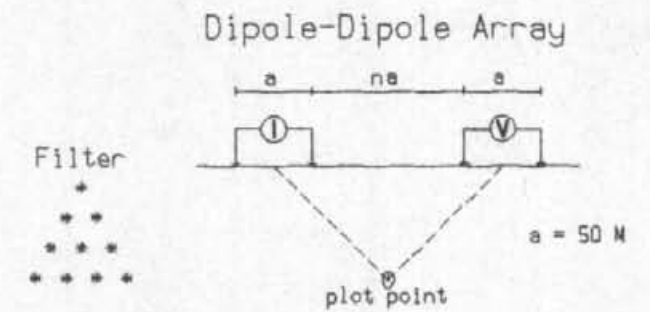
CHARGEABILITY
millivolts/volt

Filter	87+93 N	88+93 N	89+93 N	90+93 N	91+93 N	92+93 N	93+93 N	94+93 N	Filter						
n=1	3.5	3.9	4	6.9	8.2	9.4	12	12	15	14	10	7.1	8	5.4	4
n=2	3.8	4.6	4.8	8	8.8	8.9	14	13	14	14	12	10	4.8	7	6.5
n=3	4.6	4.7	5.4	5.4	7.1	14	15	13	12	13	12	8.2	5.8	8	
n=4	4.8	6.5	6.8	7.3	13	15	14	13	13	12	8.4	11	7.7		
n=5	5.5	6.2	6.4	15	14	12	14	15	11	9	13	12			

METAL FACTOR
ch/res X 100

Filter	87+93 N	88+93 N	89+93 N	90+93 N	91+93 N	92+93 N	93+93 N	94+93 N	Filter						
n=1	3.5	3.9	4.4	5.3	5.6	5.4	4.6	4.1	3.8	3.4	3.3	2.8	2.6	1.9	1.8
n=2	3.6	3.5	3.8	5.8	8	5.8	4.2	4	4.7	2.9	3.4	3.4	3.7	1.7	1.4
n=3	2.9	4.2	3.8	5.2	5.6	6.4	5.8	4	4.6	2.9	3.9	2.9	2.1	2.1	1.7
n=4	3.3	3.2	4.7	5.1	5.5	6.6	5.1	3.8	3.3	4	3.5	2.4	1.6	2.5	
n=5	2.1	5	4.8	5.5	5.9	5.1	4.3	3	4.6	3.6	3.1	1.9	2		
n=5	2.8	4.5	5.6	6.7	5.7	3.8	3.4	4.1	3.8	3	2.7	2.5			

Line 10900 E



Instrument: Phoenix IPT1 Tx., BRGM Elrec 6 Rx.
Frequency: 0.125 Hz.
Operators: G.M., P.C.

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10, ...

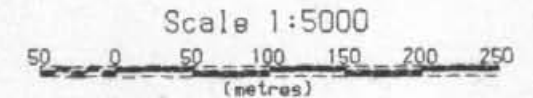
INTERPRETATION

Well defined, strong increase in polarization with or without marked decrease in resistivity.

Fairly well defined moderate increase in polarization.

Poorly defined polarization increase.

Resistivity feature.



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SURPRISE LAKE EXPLORATION LIMITED PARTNERSHIP

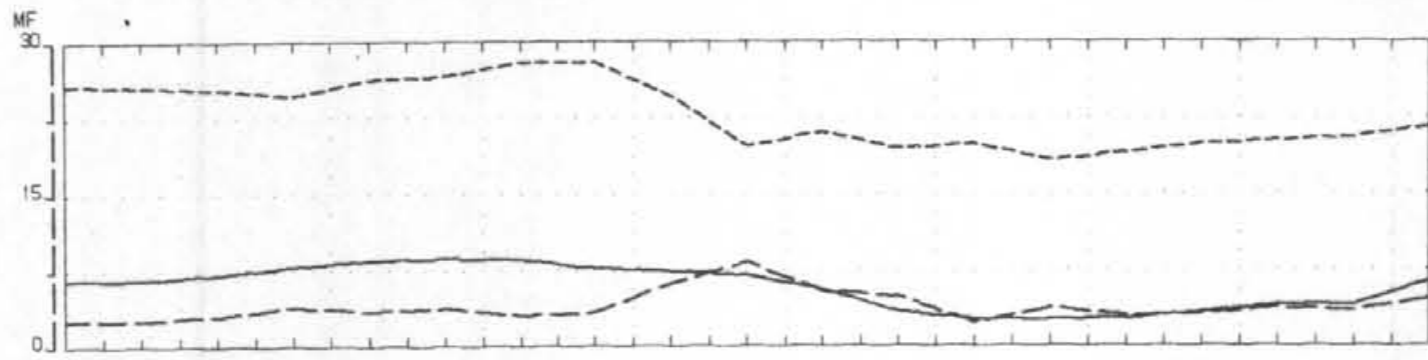
INDUCED POLARIZATION SURVEY
PINELODE PROPERTY
ATLIN AREA, BRITISH COLUMBIA

Date: 92/12/16 N.T.S.: 104N/12
Interpretation: P.E.W.

PETER E. WALCOTT & ASSOC. LTD.

FILTERED PROFILES
RES 5000
500
50

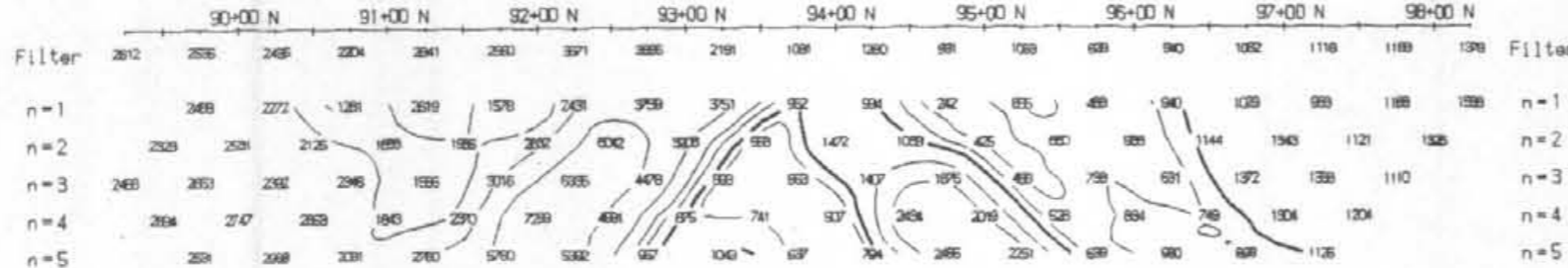
IP 30
15
0



MF 30
15
0

FILTERED PROFILES
RES 5000
500
50

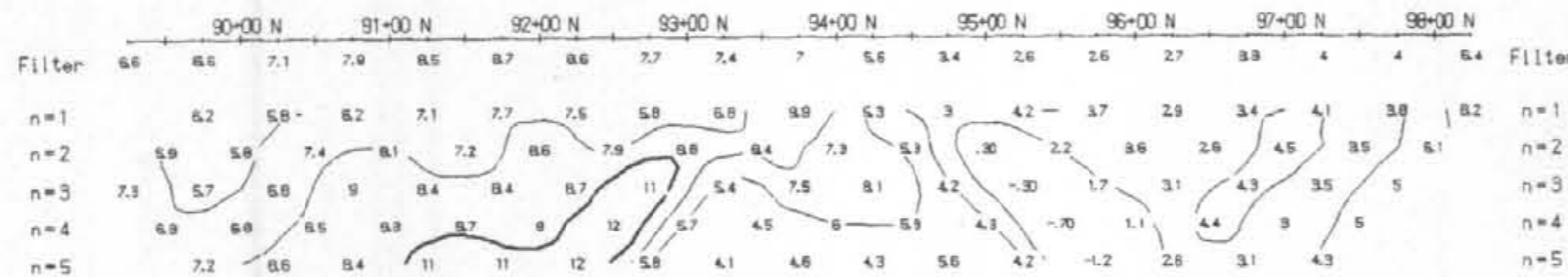
RESISTIVITY
ohm-metres



RESISTIVITY
ohm-metres

INTERPRETATION

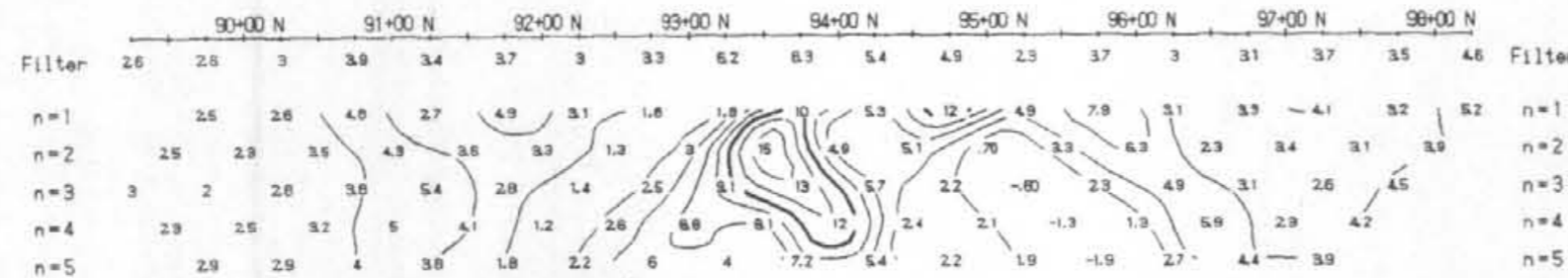
CHARGEABILITY
millivolts/volt



INTERPRETATION

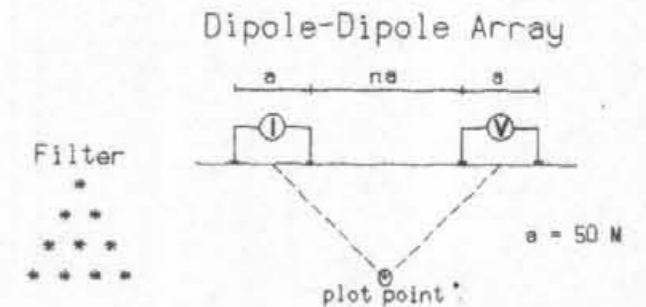
CHARGEABILITY
millivolts/volt

METAL FACTOR
ch/res. X 100



METAL FACTOR
ch/res X 100

Line 10700 E



Instrument: Phoenix IPT1 Tx., BRGM Elrec 6 Rx.
Frequency: 0.125 Hz.
Operators: G.M., P.C.

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10, ...

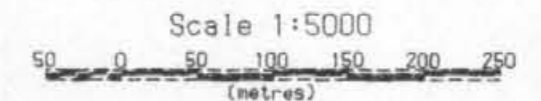
INTERPRETATION

Well defined, strong increase in polarization with or without marked decrease in resistivity.

Fairly well defined moderate increase in polarization.

Poorly defined polarization increase.

Resistivity feature.



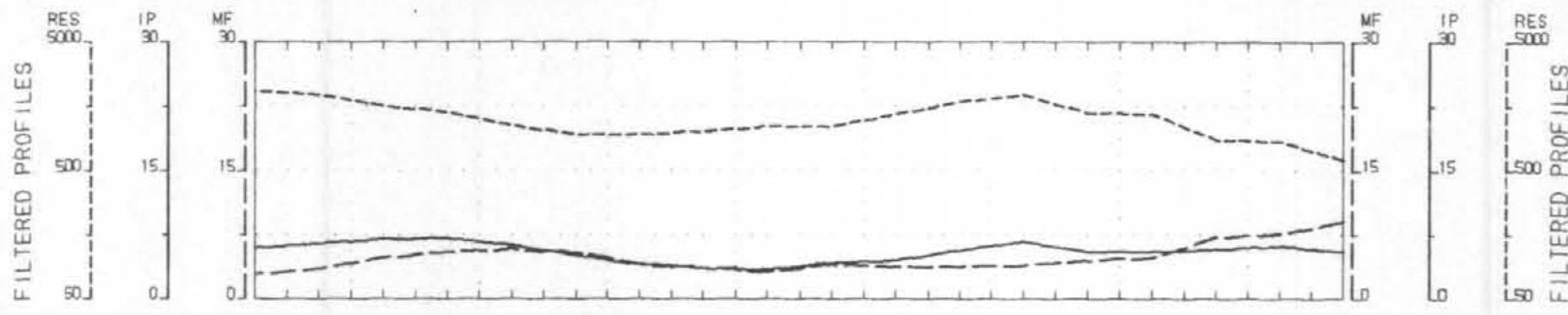
22774

SURPRISE LAKE EXPLORATION LIMITED PARTNERSHIP

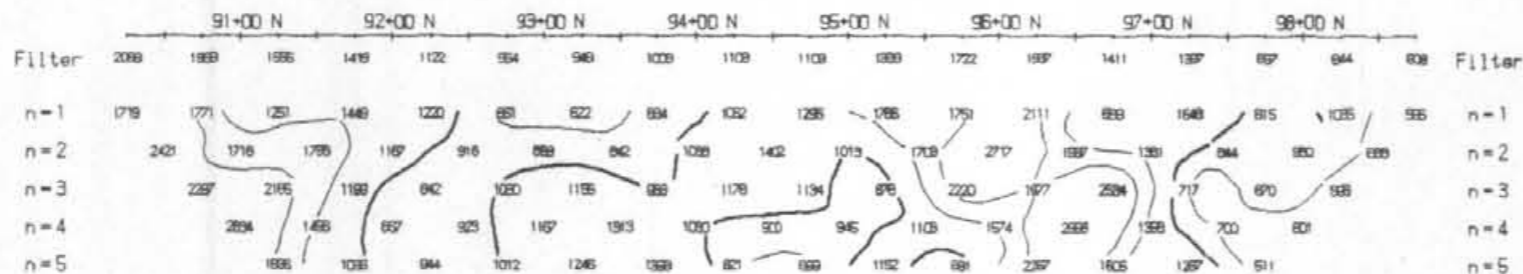
INDUCED POLARIZATION SURVEY
PINELODE PROPERTY
ATLIN AREA, BRITISH COLUMBIA

Date: 92/12/16 N.T.S.: 104N/12
Interpretation: P.E.W.

PETER E. WALCOTT & ASSOC. LTD.



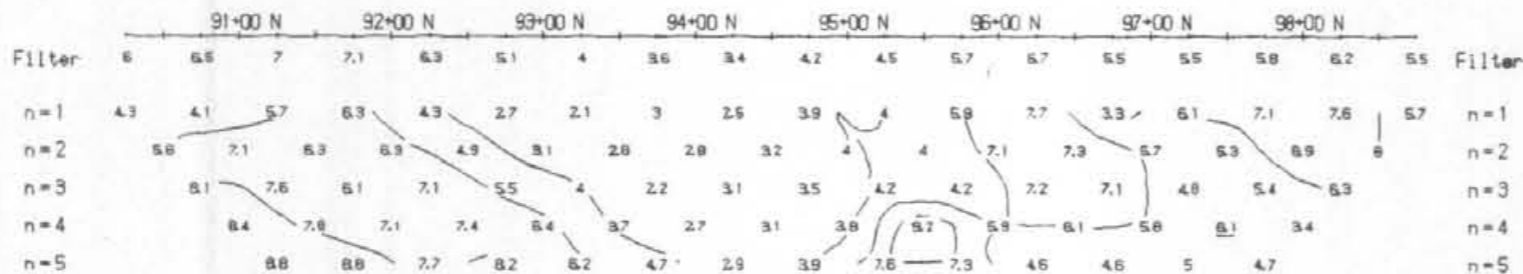
RESISTIVITY
ohm-metres



RESISTIVITY
ohm-metres

INTERPRETATION

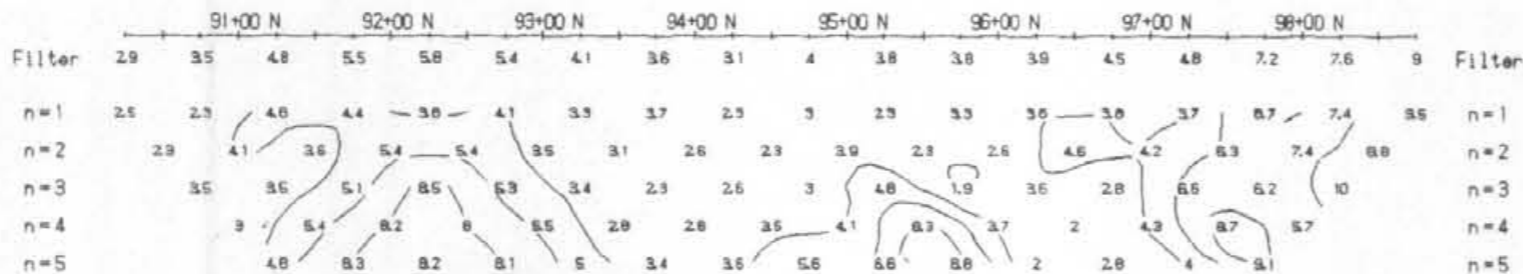
CHARGEABILITY
millivolts/volt



INTERPRETATION

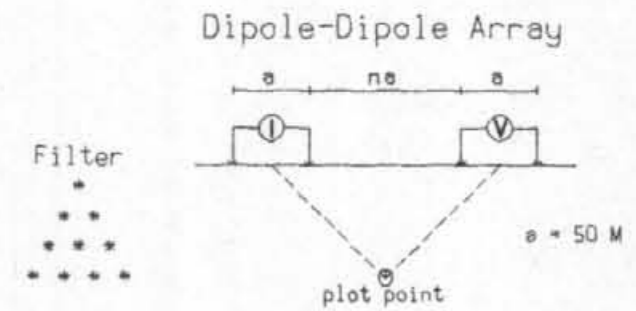
CHARGEABILITY
millivolts/volt

METAL FACTOR
ch/res X 100



METAL FACTOR
ch/res X 100

Line 10500 E



Instrument: Phoenix IPT1 Tx., BRGM Elrec 6 Rx.
Frequency: 0.125 Hz.
Operators: G.M., P.C.

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10, ...

INTERPRETATION

Well defined, strong increase in polarization with or without marked decrease in resistivity.
Fairly well defined moderate increase in polarization.
Poorly defined polarization increase.
Resistivity feature.



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SURPRISE LAKE EXPLORATION LIMITED PARTNERSHIP

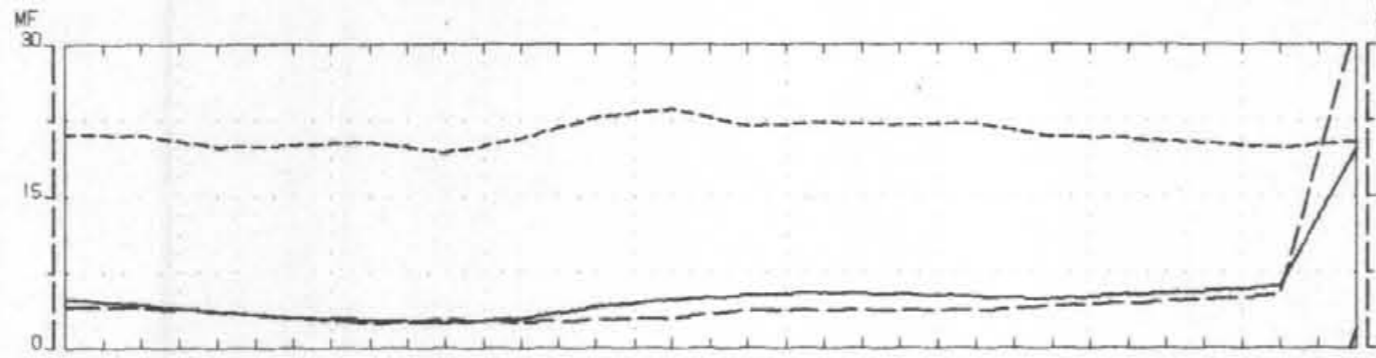
INDUCED POLARIZATION SURVEY
PINELODE PROPERTY
ATLIN AREA, BRITISH COLUMBIA

Date: 92/12/16 N.T.S.: 104N/12
Interpretation: P.E.W.

PETER E. MALCOTT & ASSOC. LTD.

FILTERED PROFILES
RES 5000
500
50

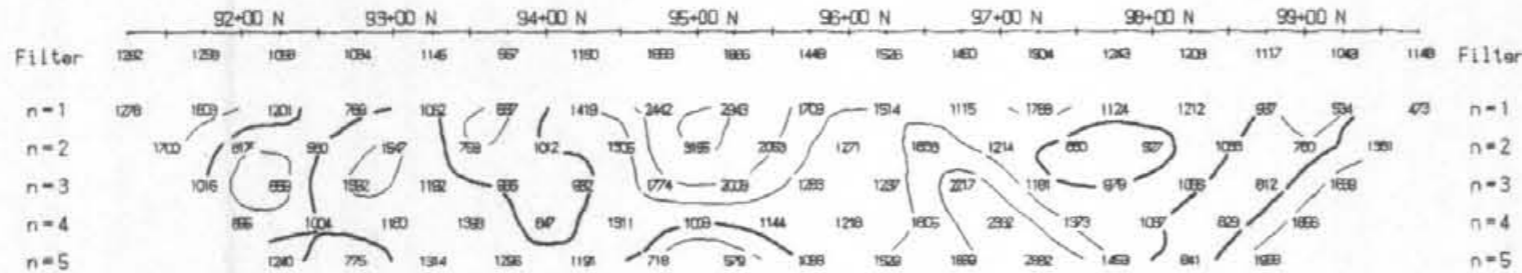
IP 30
15
0



MF 30
15
0

FILTERED PROFILES
RES 5000
500
50

RESISTIVITY
ohm-metres



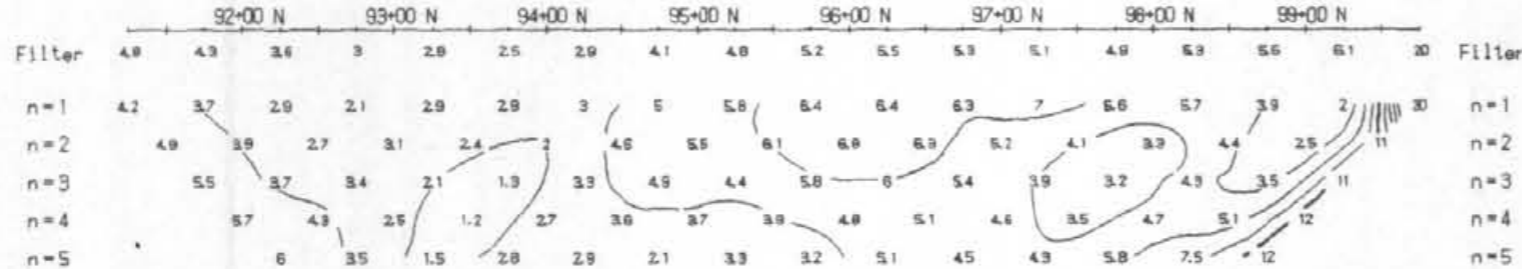
RESISTIVITY
ohm-metres

INTERPRETATION



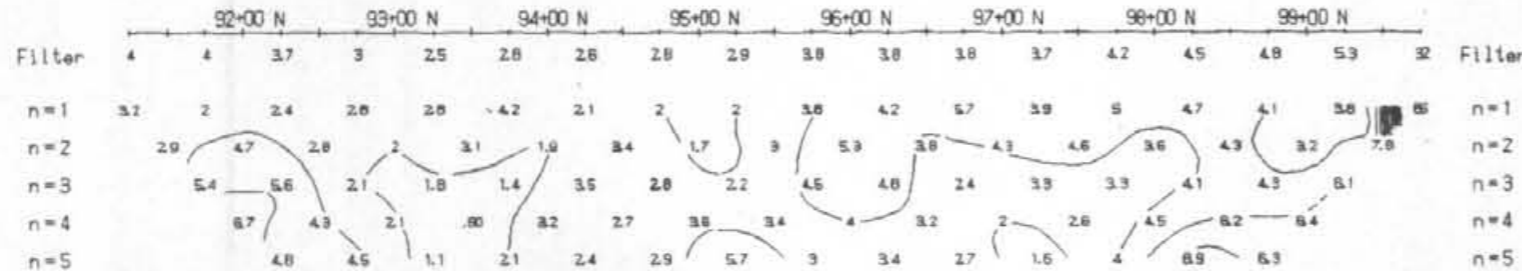
INTERPRETATION

CHARGEABILITY
millivolts/volt



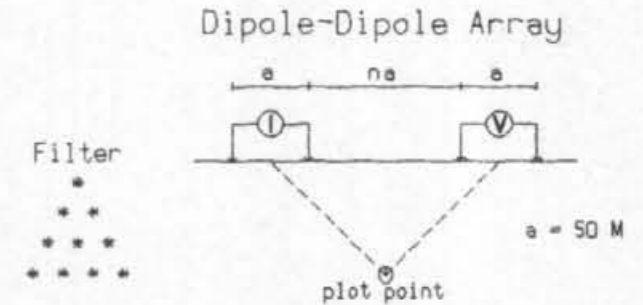
CHARGEABILITY
millivolts/volt

METAL FACTOR
ch/res X 100



METAL FACTOR
ch/res X 100

Line 10300 E

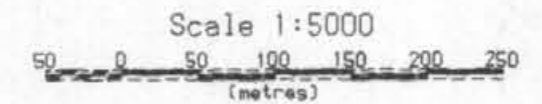


Instrument: Phoenix IPT1 Tx., BRGM Elrec 6 Rx.
Frequency: 0.125 Hz.
Operators: G.M, P.C.

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10, ...

INTERPRETATION

- Well defined, strong increase in polarization with or without marked decrease in resistivity.
- Fairly well defined moderate increase in polarization.
- Poorly defined polarization increase.
- Resistivity feature.



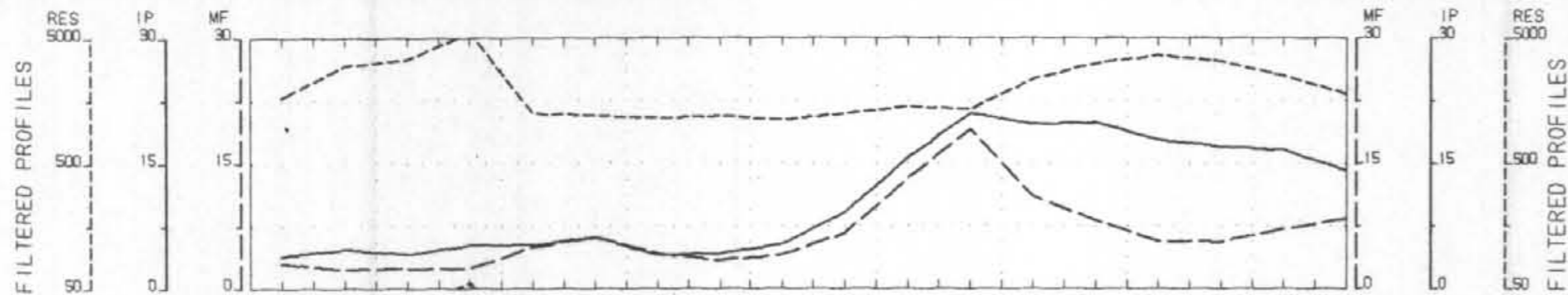
22774

SURPRISE LAKE EXPLORATION LIMITED PARTNERSHIP

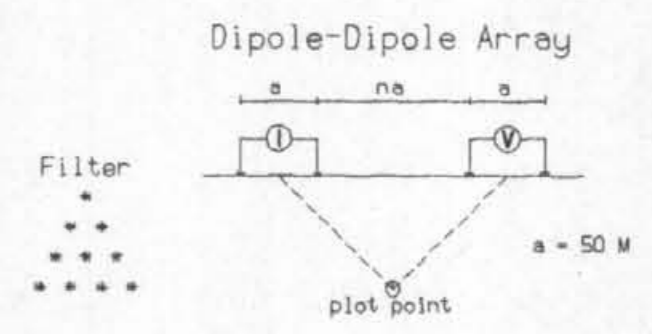
INDUCED POLARIZATION SURVEY
PINELODE PROPERTY
ATLIN AREA, BRITISH COLUMBIA

Date: 92/12/16 N.T.S.: 104N/12
Interpretation: P.E.W.

PETER E. WALCOTT & ASSOC. LTD.



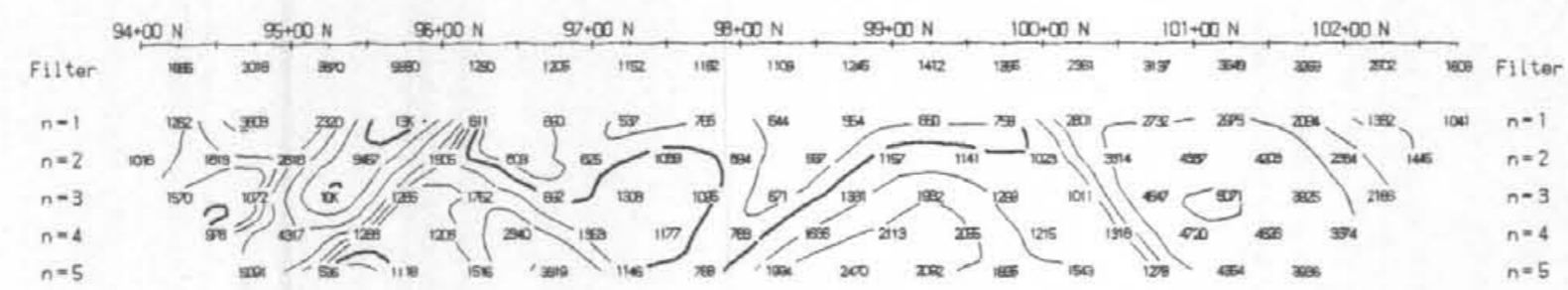
Line 10100 E



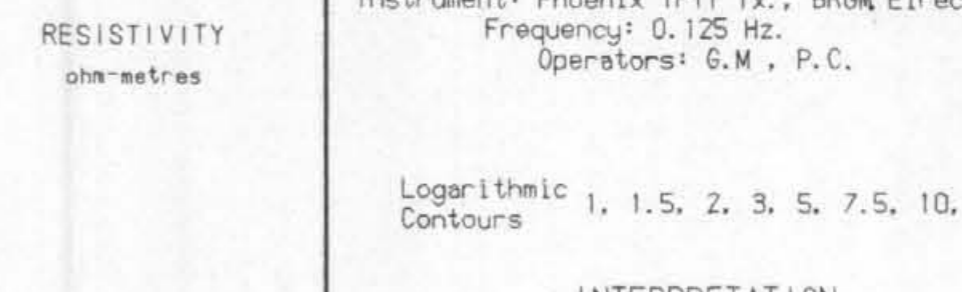
Instrument: Phoenix IPT1 Tx., BRGM Elrec 6 Rx.
 Frequency: 0.125 Hz.
 Operators: G.M., P.C.

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10, ...

RESISTIVITY
ohm-metres



RESISTIVITY
ohm-metres



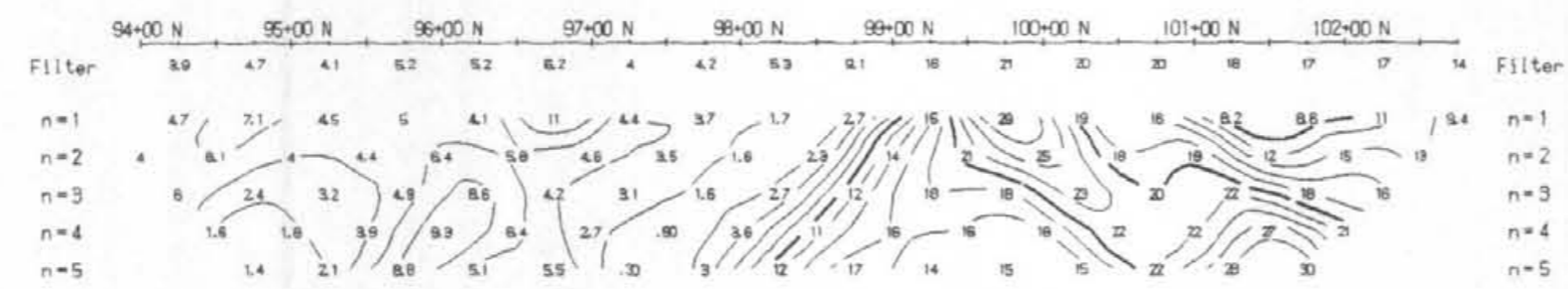
INTERPRETATION



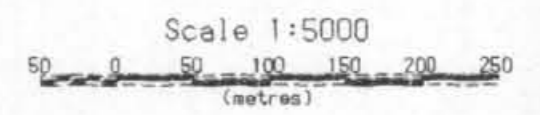
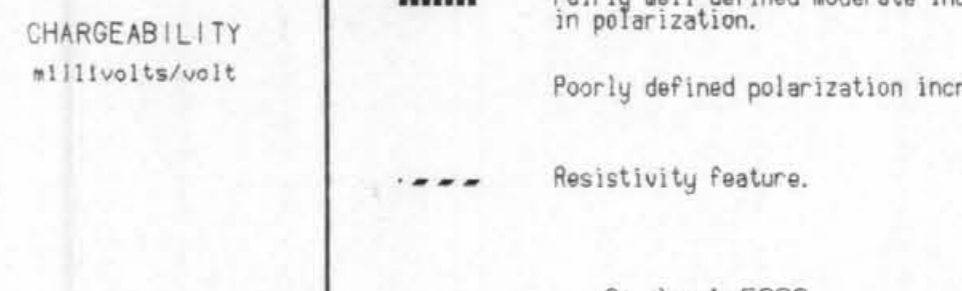
INTERPRETATION

- INTERPRETATION**
- Well defined, strong increase in polarization with or without marked decrease in resistivity.
 - Fairly well defined moderate increase in polarization.
 - Poorly defined polarization increase.
 - Resistivity feature.

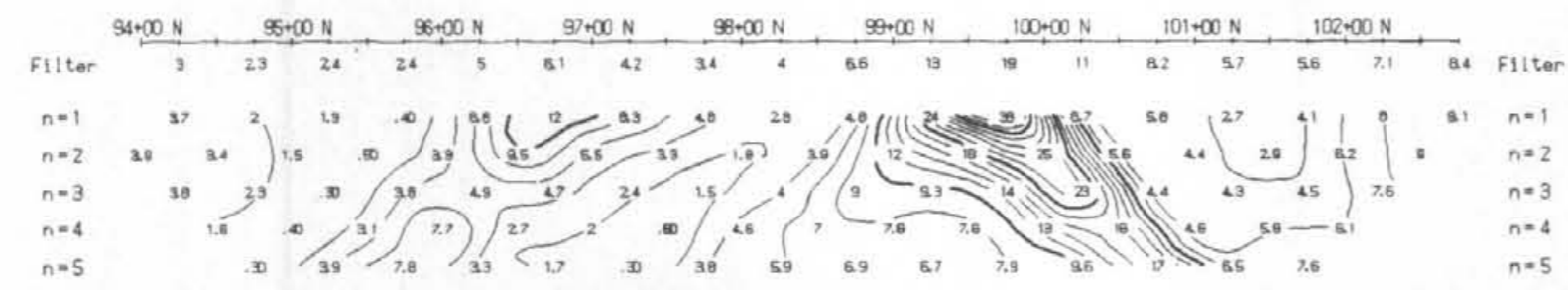
CHARGEABILITY
millivolts/volt



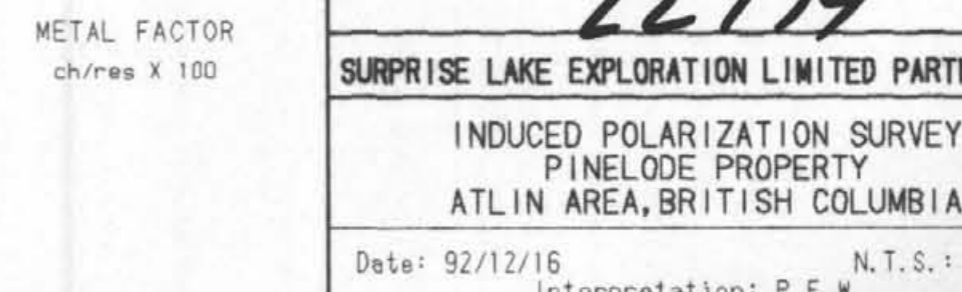
CHARGEABILITY
millivolts/volt



METAL FACTOR
ch/res X 100



METAL FACTOR
ch/res X 100



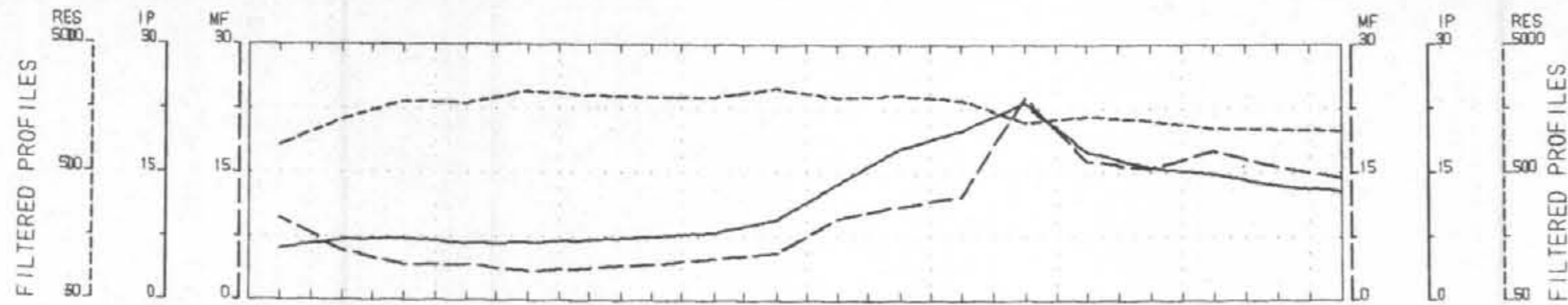
22774

SURPRISE LAKE EXPLORATION LIMITED PARTNERSHIP

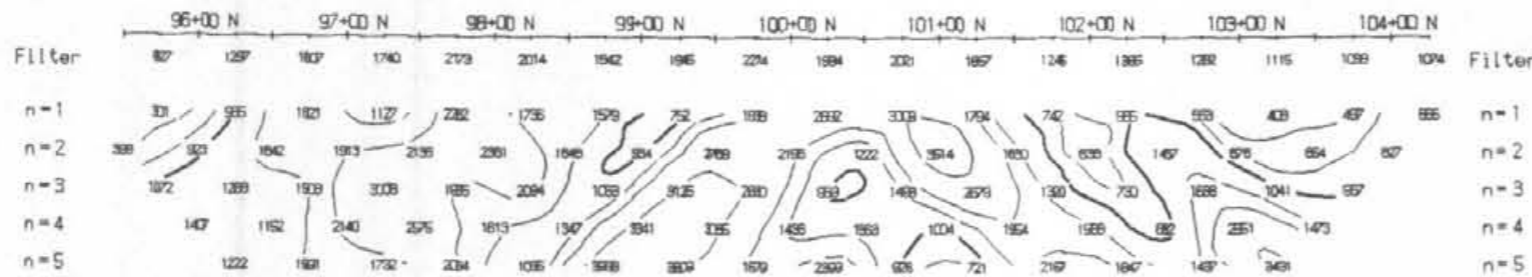
INDUCED POLARIZATION SURVEY
 PINELODE PROPERTY
 ATLIN AREA, BRITISH COLUMBIA

Date: 92/12/16 N.T.S.: 104N/12
 Interpretation: P.E.W.

PETER E. WALCOTT & ASSOC. LTD.



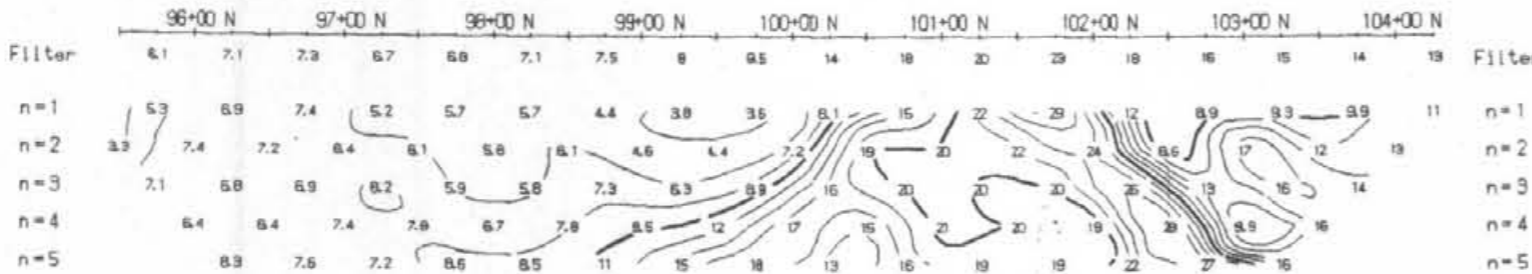
RESISTIVITY
ohm-metres



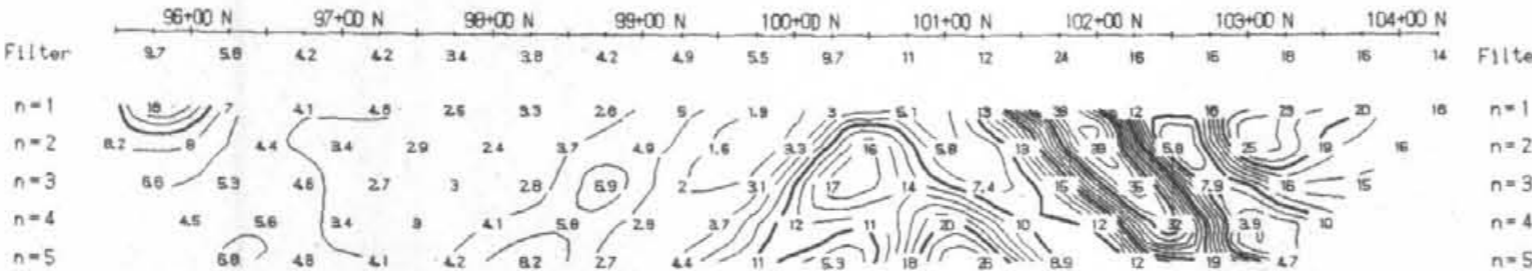
INTERPRETATION



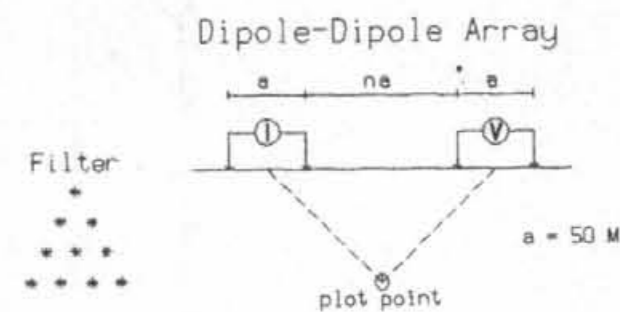
CHARGEABILITY
millivolts/volt



METAL FACTOR
ch/res X 100



Line 9900 E

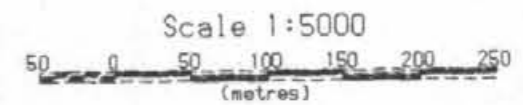


Instrument: Phoenix IPT1 Tx., BRGM Elrec 6 Rx.
Frequency: 0.125 Hz.
Operators: G.M, P.C.

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10, ...

INTERPRETATION

- Well defined, strong increase in polarization with or without marked decrease in resistivity.
- Fairly well defined moderate increase in polarization.
- Poorly defined polarization increase.
- Resistivity feature.



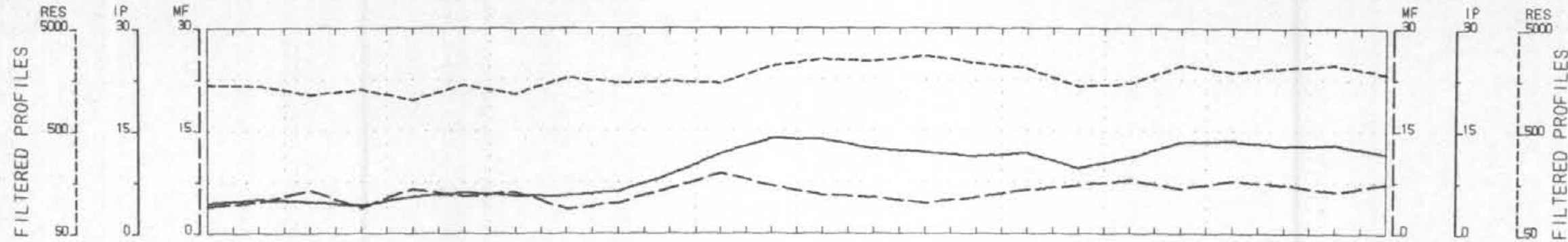
22774

SURPRISE LAKE EXPLORATION LIMITED PARTNERSHIP

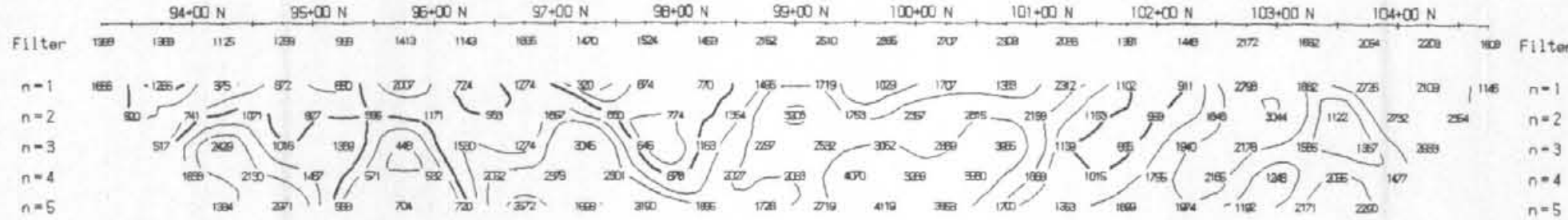
INDUCED POLARIZATION SURVEY
PINELODE PROPERTY
ATLIN AREA, BRITISH COLUMBIA

Date: 92/12/16 N.T.S.: 104N/12
Interpretation: P.E.W.

PETER E. WALCOTT & ASSOC. LTD.



RESISTIVITY
ohm-metres

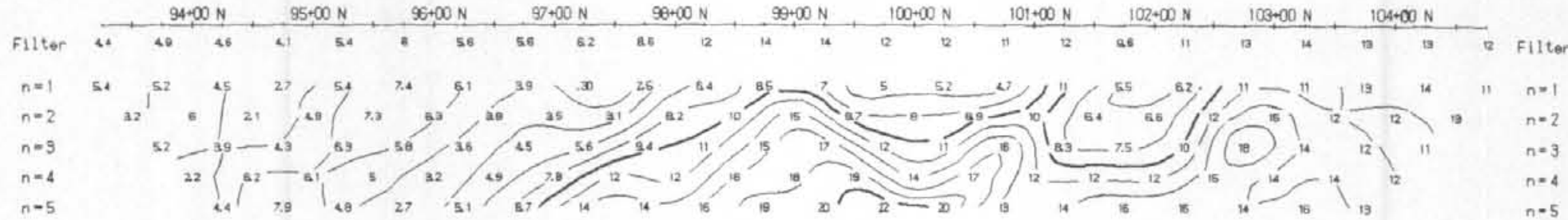


RESISTIVITY
ohm-metres

INTERPRETATION



CHARGEABILITY
millivolts/volt

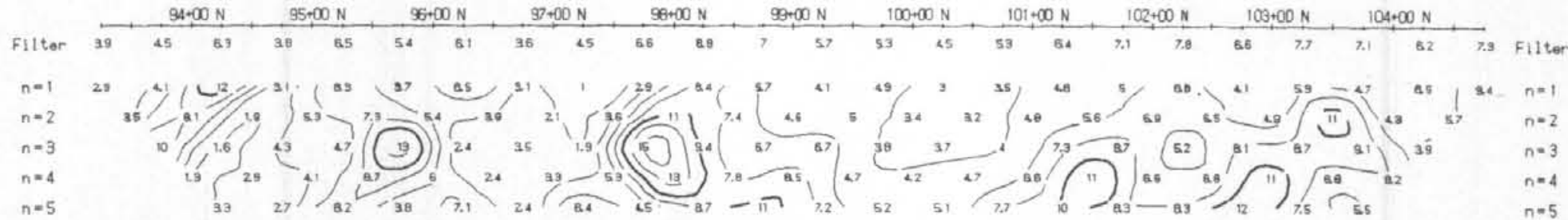


CHARGEABILITY
millivolts/volt

INTERPRETATION

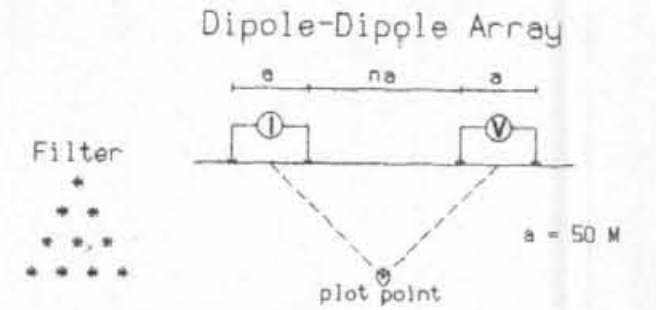
- INTERPRETATION
- Well defined, strong increase in polarization with or without marked decrease in resistivity.
 - Fairly well defined moderate increase in polarization.
 - Poorly defined polarization increase.
 - Resistivity feature.

METAL FACTOR
ch/res X 100



METAL FACTOR
ch/res X 100

Line 9500 E



Instrument: Phoenix IPT1 Tx., BRGM Elrec 6 Rx.
Frequency: 0.125 Hz.
Operators: G.M., P.C.

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10, ...

INTERPRETATION



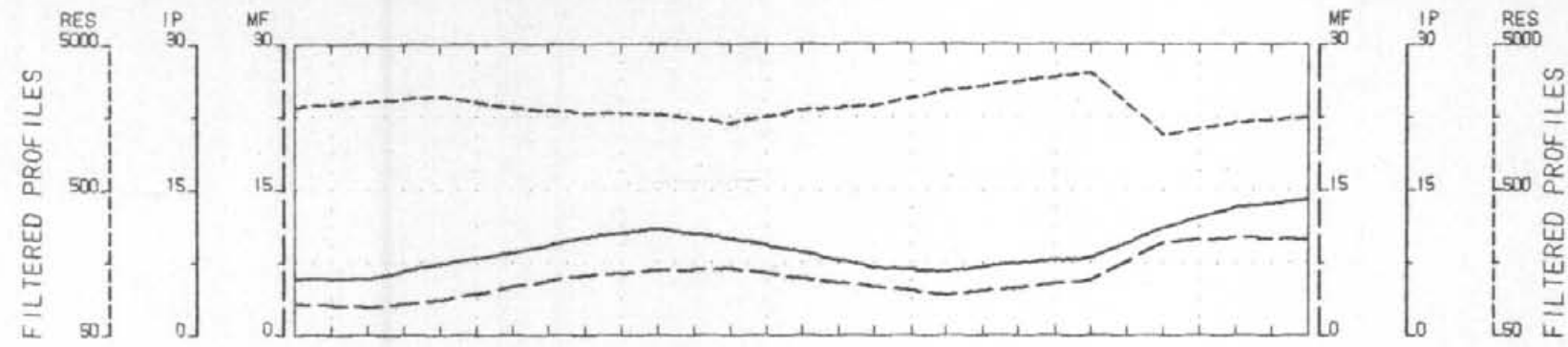
22774

SURPRISE LAKE EXPLORATION LIMITED PARTNERSHIP

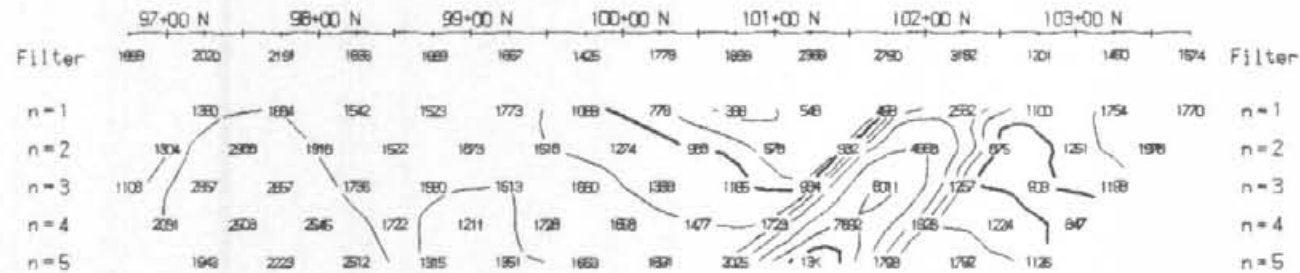
INDUCED POLARIZATION SURVEY
PINELODE PROPERTY
ATLIN AREA, BRITISH COLUMBIA

Date: 92/12/16 N.T.S.: 104N/12
Interpretation: P.E.W.

PETER E. WALCOTT & ASSOC. LTD.



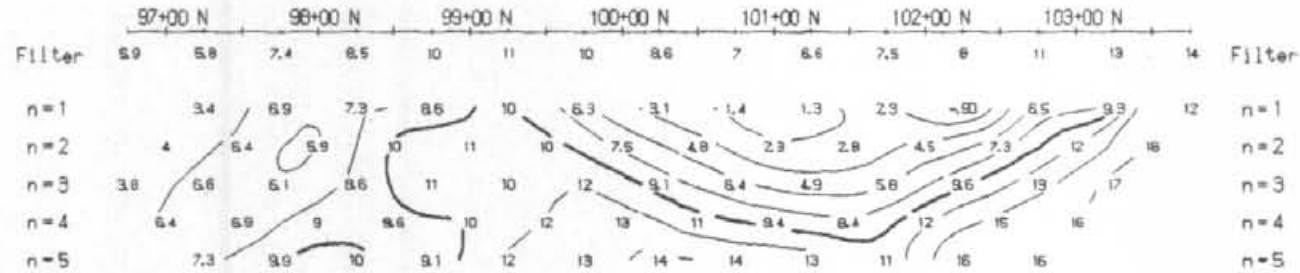
RESISTIVITY
ohm-metres



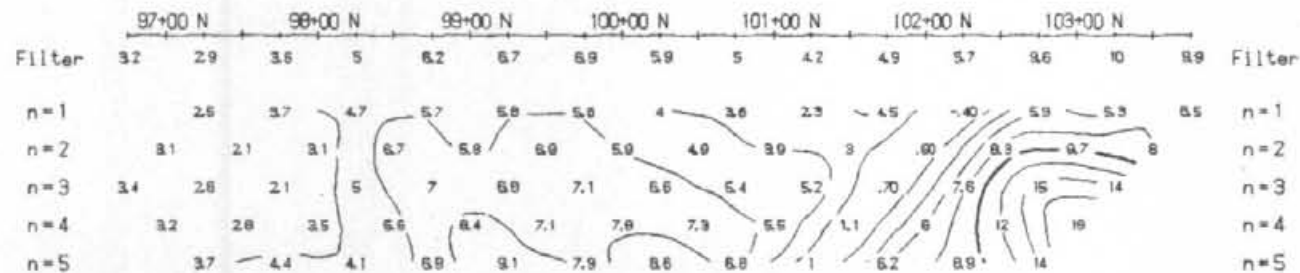
INTERPRETATION



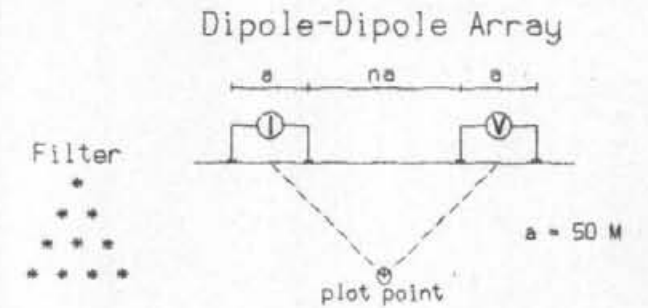
CHARGEABILITY
millivolts/volt



METAL FACTOR
ch/res X 100



Line 9100 E



Instrument: Phoenix IPT1 Tx., BRGM Elrec 6 Rx.
Frequency: 0.125 Hz.
Operators: G.M., P.C.

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10, ...

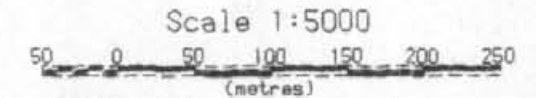
INTERPRETATION

Well defined, strong increase in polarization with or without marked decrease in resistivity.

Fairly well defined moderate increase in polarization.

Poorly defined polarization increase.

Resistivity feature.



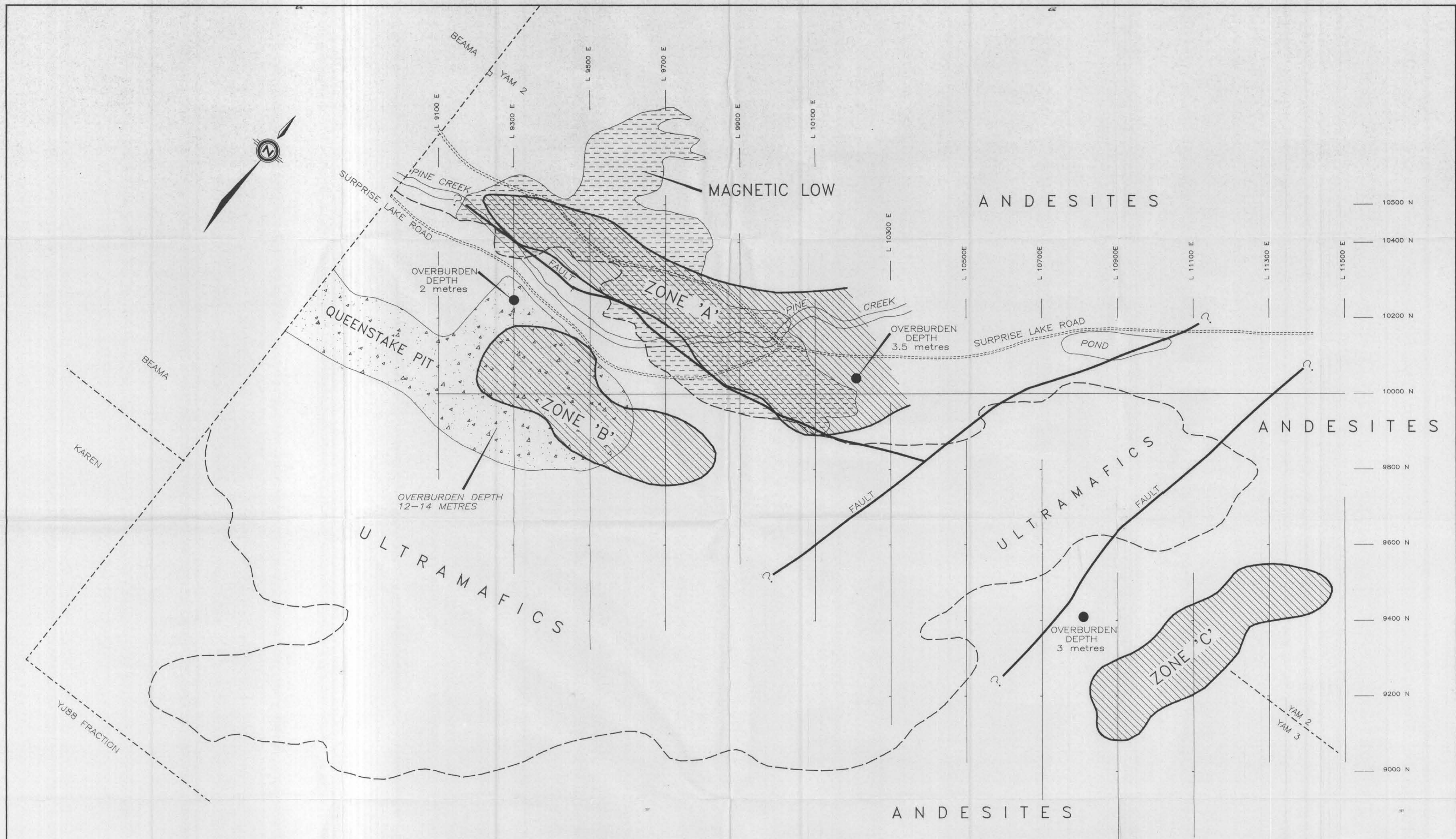
22774






SURPRISE LAKE EXPLORATION LIMITED PARTNERSHIP

INDUCED POLARIZATION SURVEY
PINELODE PROPERTY
ATLIN AREA, BRITISH COLUMBIA

Date: 92/12/16 N.T.S.: 104N/12
Interpretation: P.E.W.

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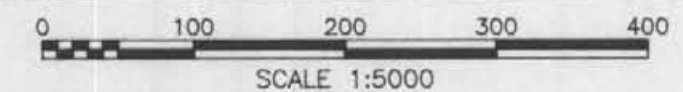


- LEGEND:
-  MAGNETIC LOW
 -  CHARGEABILITY I.P. ANOMALY
 -  FAULT
 -  GEOLOGIC CONTACT
 -  NORANDA DRILL HOLE

22774
 GEOTECHNICAL

SURPRISE LAKE EXPLORATION LIMITED PARTNERSHIP
 PINELODE PROPERTY
 ATLIN MINING DIVISION, B.C. NTS: No. 104 N/11 & 12



COMPILATION MAP

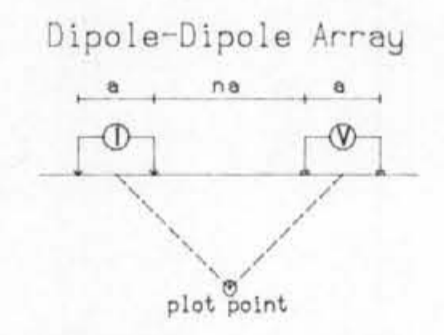


DATE: FEB., 1993
 BY: A.G.T. FIGURE No.



LEGEND

-  FAULTS INTERPRETED FROM MAGNETICS
-  MODERATE I.P. RESPONSE ON LINES OUTSIDE OF GRID AREA



SURPRISE LAKE EXPLORATION LIMITED PARTNERSHIP

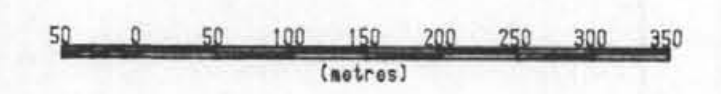
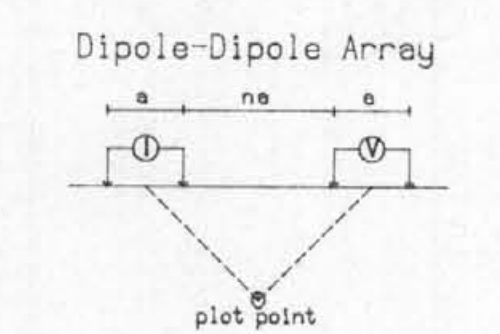
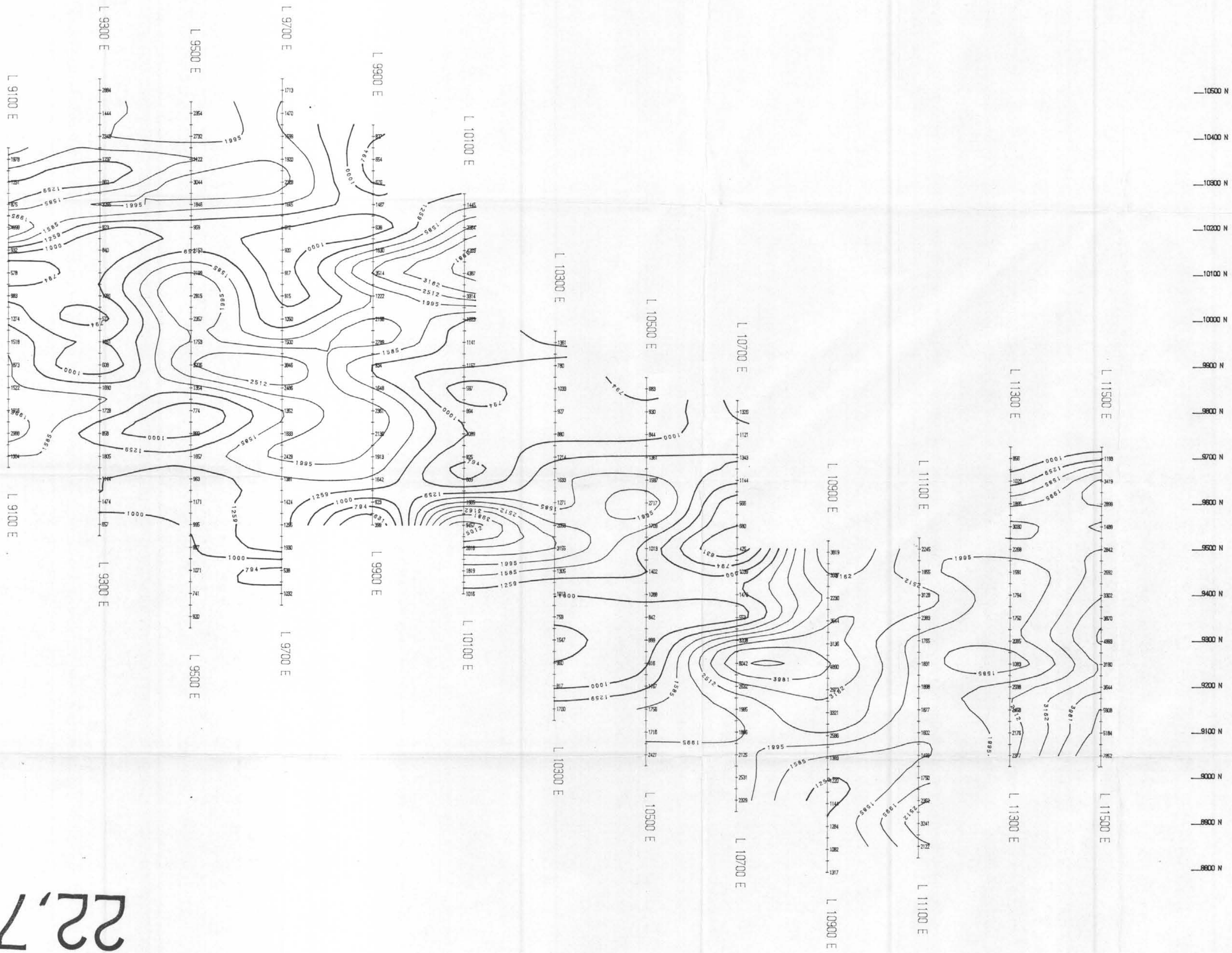
DIPLOLE-DIPLOLE ARRAY
 INDUCED POLARIZATION SURVEY
 CONTOURS OF APPARENT CHARGEABILITY
 $a = 50 \text{ m.}, n = 2$

PINELODE PROPERTY
 ATLIN AREA, BRITISH COLUMBIA
 DECEMBER 1992

Map No. M-502-1 N.T.S. 104 N/11 & 12
 PETER E. WALCOTT & ASSOC. LTD.

**GEOLOGICAL BRANCH
 ASSESSMENT REPORT**

22,774



22,774
 GEOLOGICAL BRANCH
 ASSESSMENT REPORT

SURPRISE LAKE EXPLORATION LIMITED PARTNERSHIP
 DIPOLE-DIPOLE ARRAY
 INDUCED POLARIZATION SURVEY
 CONTOURS OF APPARENT RESISTIVITY
 e = 50 m., n = 2
 PINELODE PROPERTY
 ATLIN AREA, BRITISH COLUMBIA
 DECEMBER 1992
 Map No. W-502-2 N.T.S. 104 N/11 & 12
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