

PETER E. WALCOTT & ASSOC. LTD.

'84-1196-# 13410

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

13,410  
A REPORT

PART  
2 OF 3

ON

AN INDUCED POLARIZATION SURVEY

Atlin Area, British Columbia

59° 32'N, 133° 30'W

N.T.S. 104N - 11W & 12E

Claims Surveyed: SHUKSAN 2

KAREN 6

Survey Dates: June 28th - July 22nd,  
1984

FOR

STANDARD GOLD MINES LTD.

Vancouver, B.C.

BY

PETER E. WALCOTT & ASSOCIATES LIMITED

Vancouver, B.C.

DECEMBER 1984

GEOPHYSICAL SERVICES

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INTRODUCTION.

Between June 28th and July 22nd, 1984, Peter E. Walcott & Associates Limited carried out some induced polarization test surveying over parts of a property, located in the Atlin area of British Columbia, for Standard Gold Mines Ltd.

The survey was carried out over north and N 45°W handcut lines on the Shuksan claims and N 45°W handcut lines on the Karen claims.

Measurements (first to fourth separation in most cases) of apparent resistivity and chargeability (the I.P. response parameter) were made along the lines using the "dipole-dipole" method of surveying with dipoles ranging from 5 to 25 metres respectively.

The I.P. data are presented in contour form on individual pseudo-sections bound in this report.

PROPERTY, LOCATION AND ACCESS.

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

KAREN 3, 4, 5, 6, 7, 8

SHUKSAN 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16,  
17, 19

SURPRISE 1

The claims are situated straddling Spruce Creek some 15 kilometres southeast of the town of Atlin, British Columbia.

Access was obtained by means of 4 wheel drive vehicle along the Spruce Creek access road to the various placer operations that exist or existed there, and thence by a cleared cat road that was put in to service the property.

PREVIOUS WORK.

Previous work on the property consisted of reconnaissance geological work and prospecting, V.L.F. electromagnetic surveying, and airborne electromagnetic and magnetic surveying, the results of which are documented in reports held by Standard Gold Mines Ltd.

PURPOSE.

The purpose of the survey on the Shuksan was to determine if it was possible to locate the chert-ultramafic contact - the apparent area of location of the gold mineralization - on the basis of resistivity and chargeability measurements with an eye to tracing the same across the areas of no rock exposures.

The purpose of the survey on the Karen claims was to investigate the nature and causative sources of a bedrock conductor located on the airborne electromagnetic survey that was considered to be caused by sulphide mineralization due to the favourable geological environment.

GEOLOGY.

The reader is referred to the forementioned reports held by Standard Gold Mines Ltd.

SURVEY SPECIFICATIONS.

The induced polarization (I.P.) survey was carried out using a pulse type system, the principal components of which are manufactured by Hunttec Limited of Metropolitan Toronto, Ontario.

The system consists basically of three units: a receiver, a transmitter, and a motor generator. The transmitter, which provides a maximum of 2.5 kw d.c. to the ground, obtains its power from a 2.5 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 measurement of the current (I) in amperes flowing through electrodes C<sub>1</sub> and C<sub>2</sub>, the primary voltage (v) appearing between the two potential electrodes, P<sub>1</sub> and P<sub>2</sub>, during the "current-on" part of the cycle, and the apparent chargeability (M<sub>a</sub>) presented as a direct readout using a 200 millisecond delay and a 1000 millisecond sample window by the receiver, a digital receiver controlled by a microprocessor.

The apparent resistivity (P<sub>a</sub>) 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 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 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 are made for all possible combinations of transmitting and receiving dipoles, the latter consisting of two porous pots filled with an electrolyte copper sulphate solution "a" feet apart, up to the fourth separation, i.e. n = 4: the equipment is then moved 3 "a" feet along the line to the next set-up.

5 to 25 metre dipoles were employed on the Shuksan claims, and generally first to fourth separation measurements were made at similar intervals along the lines, whereas a 25 metre dipole was employed on the Karen claims.

SURVEY SPECIFICATIONS cont'd

In all some 4.3 kilometres of I.P. surveying were undertaken.

DISCUSSION OF RESULTS.

Shuksan claims.

The I.P. data should be studied in conjunction with the geological plan maps and sections. From them it can be seen that rather more graphitic rocks occurs in the area than firstly conceived and hence the essentially negative resistivity and chargeability results to the original application.

5 and 10 metre work over mapped horizons in the trenches showed that most of the higher chargeability zones - as seen on the pseudo-section plots - are due to graphite.

No diagnostic resistivity-chargeability contrasts are discernible over the chert-ultramafic contacts, and even the out-cropping limestone hill to the east, readily seen as a resistivity high - chargeability low on Lines 1 and 3, is not apparent from the results on Line 2 although a further 100 metres of profiles would be necessary to confirm this.

The profile on "Seismic L-2" (see seismic report by writer) done with a 10 metre dipole also showed the location of several chargeability highs, and with the possible exception of the area between 330 and 380W, where lower resistivities and chargeabilities were obtained, did little to suggest heavy overburden cover.

Karen claims.

Apparent chargeability and resistivity readings taken over Line 0, established by the geological crew, failed to locate a chargeability high - resistivity low, the expected signature of an airborne E.M. conductor, in the approximate location of the E.M. conductor axis although a moderate resistivity low was discernible between 125 and 200E. However several zones of higher chargeability readings suspected as having graphitic material as their causative source based on the Shuksan results are clearly seen on the pseudo-section.

As a result the geophysical crew established Line-1 200 metres to the southwest to further probe for the location of the E.M. conductor axis.

DISCUSSION OF RESULTS cont'd

The results showed the location of a moderate-strong resistivity low in the centre of the profile with no corresponding chargeability high. In fact small negative chargeability readings were obtained. Higher resistivity readings are observed on either end of the profile, and higher chargeability readings on the eastern extremity.

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS.

Between June 28th and July 20th, 1984, Peter E. Walcott & Associates Limited undertook induced polarization profiling on the Shuksan and Karen claims, located in the Atlin Gold Camp of British Columbia, for Standard Gold Mines Limited.

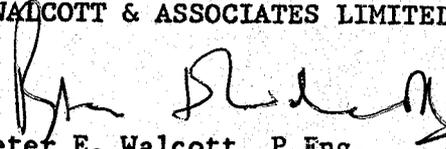
The survey of the former was designed to locate and trace the apparently favourable chert-ultramafic contact, while on the latter to properly define an airborne conductor prior to drilling.

The results on the Shuksan, although locating the presence of numerous chargeability highs primarily caused by graphite, failed to distinguish the desired contact, and as a result the survey was discontinued.

The results on the Karen confirmed the presence of a resistivity low, i.e. conductivity high, coinciding with the airborne conductor axis. However as no accompanying chargeability high was observed the writer concluded that the airborne conductor was not a bedrock conductor.

Respectfully submitted,

PETER E. WALCOTT & ASSOCIATES LIMITED

  
Peter E. Walcott, P.Eng.  
Geophysicist

Vancouver, B.C.

December 1984

PETER E. WALCOTT & ASSOC. LTD.

A P P E N D I X

COST OF SURVEY.

Peter E. Walcott & Associates Limited undertook the survey on a daily basis. Mobilization and reporting costs were to be billed in addition, so that to date the cost of services provided was \$18,723.66.

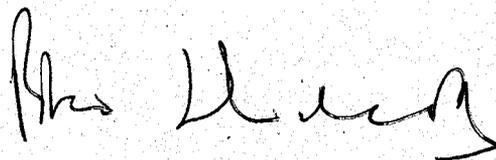
PERSONNEL EMPLOYED ON SURVEY

Name	Occupation	Address	Dates
Peter E. Walcott	Geophysicist	Peter E. Walcott & Assoc. 605 Rutland Court, Coquitlam, B.C. V3J 3T8	July 5th - 13th, 19th - 22nd, Nov. 25th - 30th 1984
V. Pashniak	Geophysical Operator	"	June 28th , July 3 - 4th, 84
S. Gibbons	"	"	July 3rd - 13th, 84
D. Sloan	"	"	June 28th, July 3rd - 13th, 19th - 22nd, 84
P. Charlie	"	"	July 3rd - 13th, 19th - 22nd, 84
C. Spiropoulos	Geophysical Assistant	"	June 28th, July 3rd - 4th, 19th - 22nd, 84
D. Dawson	"	"	July 5th - 13th, 84
G. MacMillan	Draughting	"	Nov. 2nd - 10th, 84
J. Walcott	Typing	"	December 9th, 84

CERTIFICATION.

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

1. I am a Graduate of the University of Toronto with a B.A.Sc. in Engineering Physics, Geophysics Option, in 1962.
2. I have been practising my profession for the last 22 years.
3. I am a member of the Association of Professional Engineers of British Columbia and Ontario.
4. I hold no interest, direct or indirect, in the securities and/or properties of Standard Gold Mines Ltd. nor do I expect to receive any.



Peter E. Walcott, P.Eng.

Vancouver, B.C.

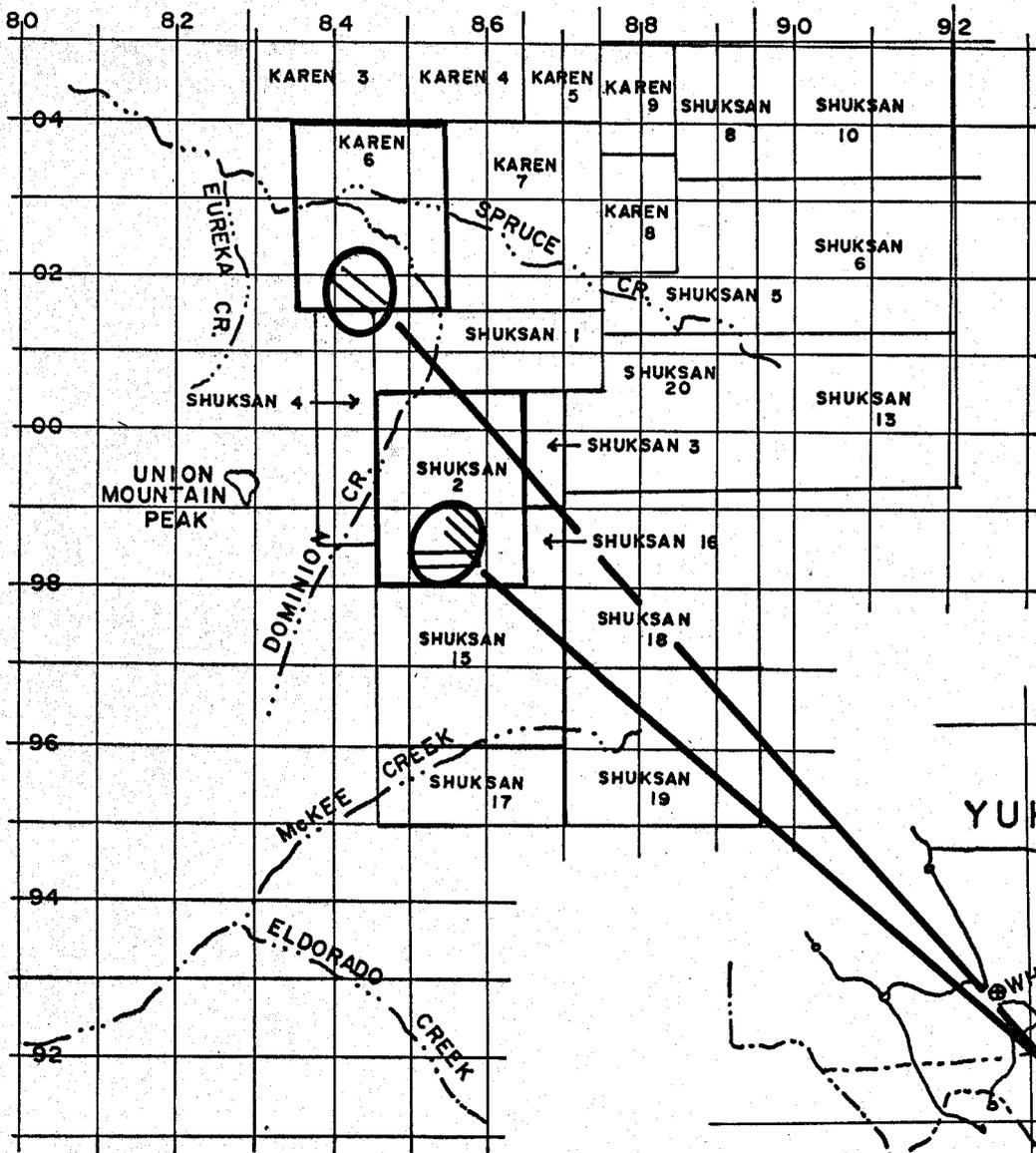
November 1984

# STANDARD GOLD MINE LTD.

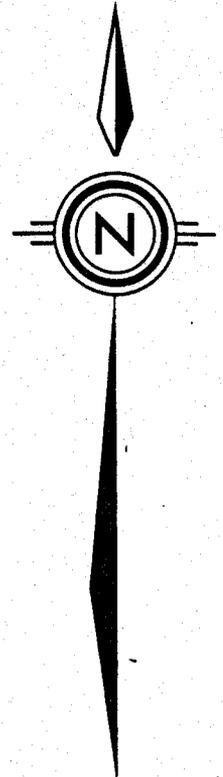
## CLAIM LOCATION MAP

### KAREN & SHUKSAN CLAIM GROUP

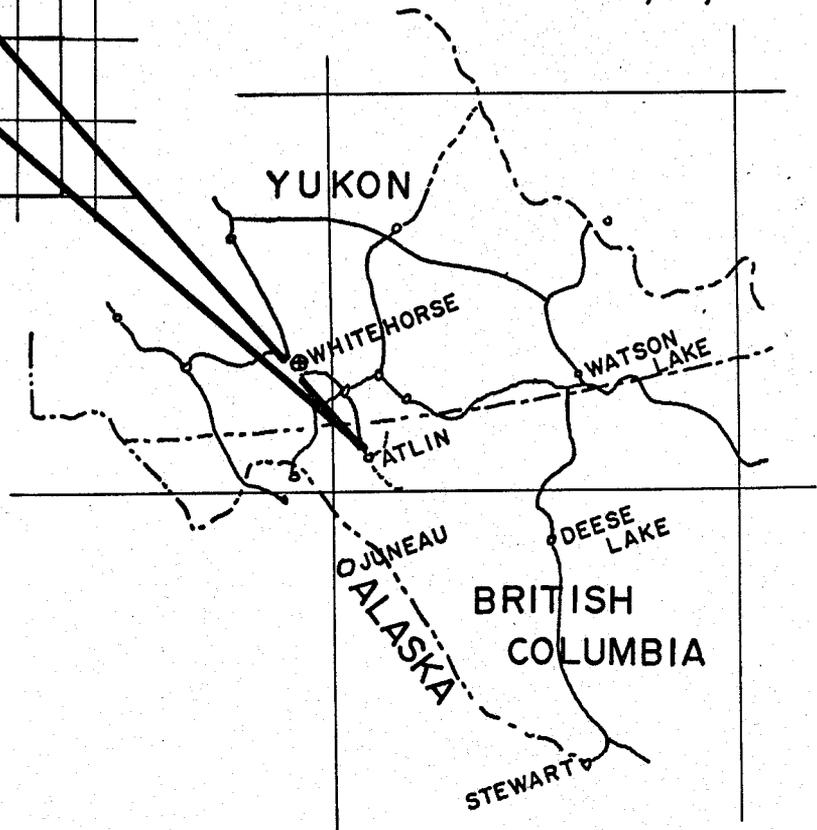
### ATLIN MINING DIVISION, B.C.



SCALE 1:100,000



SCALE 1:9,100,000



N.T.S. 104-N-11W & 12E

I.P. Pseudo Sections



Anomalous Zone.



Possible Anomalous Zone.



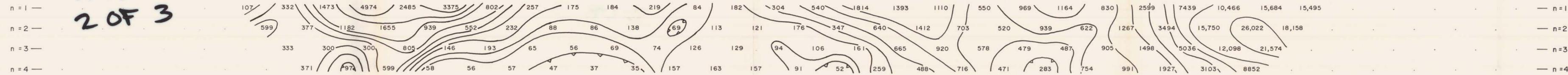
Zone undefined at ends.

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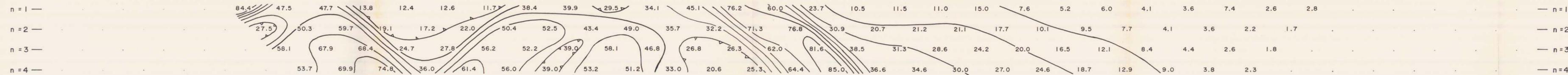
PART  
2 OF 3

700-W | 650-W | 600-W | 550-W | 500-W | 450-W | 400-W | 350-W | 300-W | 250-W | 200-W | 150-W | 100-W | 50-W | 0+00

APPARENT RESISTIVITY OHM - METRES



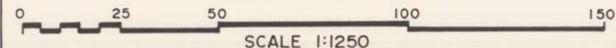
APPARENT CHARGEABILITY MILLI-SECONDS



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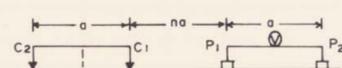
SHUKSAN "2" CLAIM GROUP  
ATLIN MINING DIVISION, B.C.

I.P. # 1 LINE



INDUCED POLARIZATION SURVEY

DIPOLE - DIPOLE  
ELECTRODE CONFIGURATION



PLOTTING POINT

- CURRENT ELECTRODE EAST OF POTENTIAL ELECTRODE
- DIPOLE SEPARATION "a" - 25 METRES
- TIME DELAY - 200 MILLI-SECONDS
- SAMPLING TIME - 1000 MILLI-SECONDS
- RECEIVER - HUNTEC MARK IX
- TRANSMITTER - HUNTEC 2.5 KW.
- CONTOUR INTERVAL
- APPARENT RESISTIVITY - 50,70,100,200,300,500,700,1000, 2000, 3000, 5000, 7000, 10,000 etc.
- APPARENT CHARGEABILITY - 10, 15, 20, 30, 40, 50, etc.

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JULY - 1984

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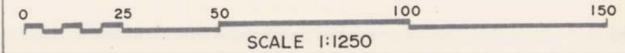
PART  
2 OF 3

550-W 500-W 450-W 400-W 350-W 300-W 250-W 200-W 150-W 100-W 50-W 0+00 50-E

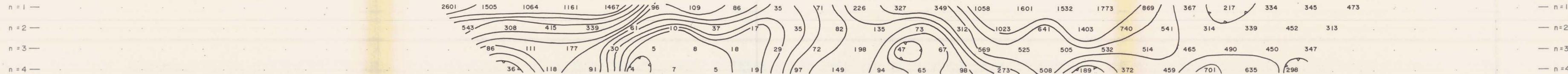
STANDARD GOLD MINE LTD.

SHUKSAN "2" CLAIM GROUP  
ATLIN MINING DIVISION, B.C.

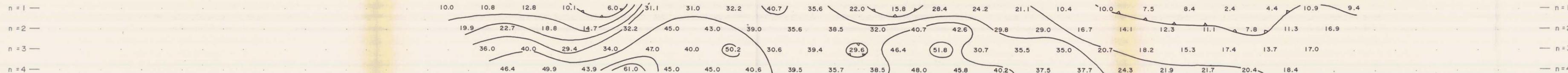
I.P. # 2 LINE



APPARENT RESISTIVITY OHM - METRES

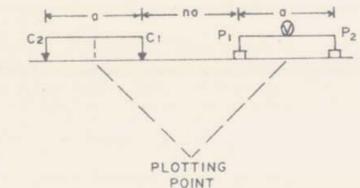


APPARENT CHARGEABILITY MILLI-SECONDS



INDUCED POLARIZATION SURVEY

DIPOLE - DIPOLE  
ELECTRODE CONFIGURATION



CURRENT ELECTRODE EAST OF POTENTIAL ELECTRODE  
DIPOLE SEPARATION "a" - 25 METRES  
TIME DELAY - 200 MILLI-SECONDS  
SAMPLING TIME - 1000 MILLI-SECONDS  
RECEIVER - HUNTEC MARK IV  
TRANSMITTER - HUNTEC 2.5 KW.  
CONTOUR INTERVAL  
APPARENT RESISTIVITY - 5, 7, 10, 20, 30, 50, 70, 100, 200,  
300, 500, 700, 1000, 2000, etc.  
APPARENT CHARGEABILITY - 10, 15, 20, 30, 40, 50, etc.

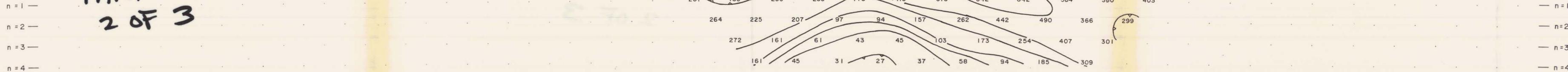
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JULY - 1984

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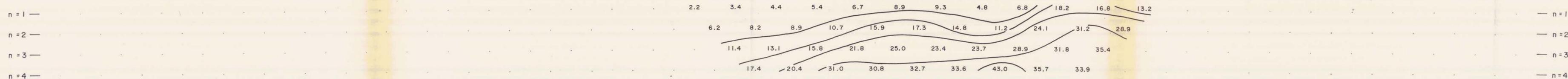
PART  
2 OF 3

650-W 600-W 550-W 500-W 450-W 400-W 350-W 300-W

APPARENT RESISTIVITY OHM - METRES



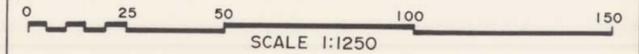
APPARENT CHARGEABILITY MILLI-SECONDS



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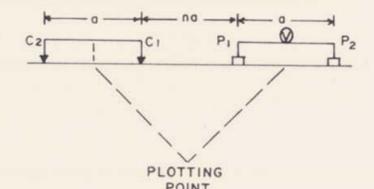
SHUKSAN "2" CLAIM GROUP  
ATLIN MINING DIVISION, B.C.

I.P. # 3 LINE



INDUCED POLARIZATION SURVEY

DIPOLE - DIPOLE  
ELECTRODE CONFIGURATION



CURRENT ELECTRODE EAST OF POTENTIAL ELECTRODE  
DIPOLE SEPARATION "a" - 25 METRES  
TIME DELAY - 200 MILLI-SECONDS  
SAMPLING TIME - 1000 MILLI-SECONDS  
RECEIVER - HUNTEC MARK IV  
TRANSMITTER - HUNTEC 2.5 KW.  
CONTOUR INTERVAL  
APPARENT RESISTIVITY - 30, 50, 70, 100, 200, 300, 500  
700, 1000, 2000, etc.  
APPARENT CHARGEABILITY - 10, 15, 20, 30, 40, 50, etc.

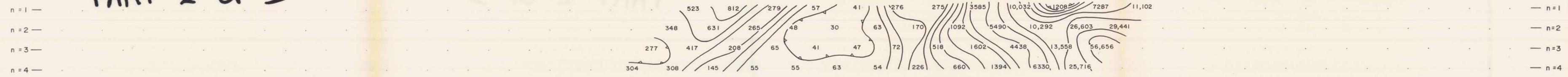
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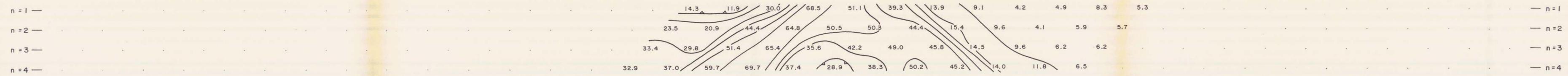
PART 2 OF 3

400-W 350-W 300-W 250-W 200-W 150-W 100-W 50-W 0+00

APPARENT RESISTIVITY OHM - METRES



APPARENT CHARGEABILITY MILLI-SECONDS



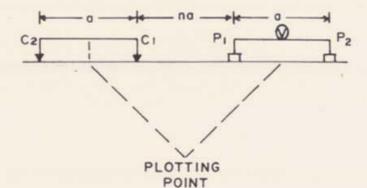
STANDARD GOLD MINE LTD.  
SHUKSAN "2" CLAIM GROUP  
ATLIN MINING DIVISION, B.C.

I.P. # 3 LINE



INDUCED POLARIZATION SURVEY

DIPOLE - DIPOLE  
ELECTRODE CONFIGURATION



CURRENT ELECTRODE EAST OF POTENTIAL ELECTRODE  
DIPOLE SEPARATION "a" - 25 METRES  
TIME DELAY - 200 MILLI-SECONDS  
SAMPLING TIME - 1000 MILLI-SECONDS  
RECEIVER - HUNTEC MARK IX  
TRANSMITTER - HUNTEC 2.5 KW.  
CONTOUR INTERVAL  
APPARENT RESISTIVITY - 50, 70, 100, 200, 300, 500, 700,  
1000, 2000, 3000, 5000, etc.  
APPARENT CHARGEABILITY - 10, 15, 20, 30, 40, 50, etc.

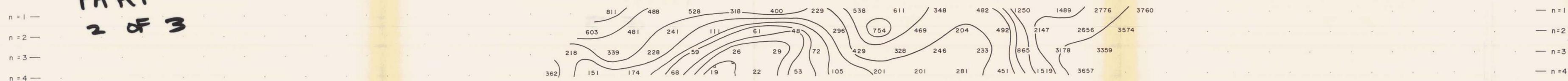
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JULY - 1984

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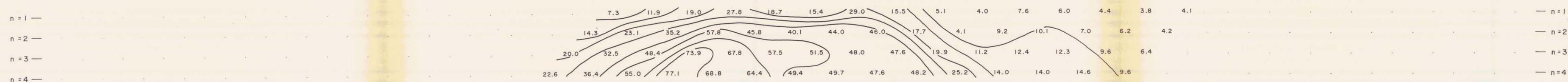
PART  
2 OF 3

285-W 265-W 245-W 225-W 205-W 185-W 165-W 145-W 125-W 105-W

APPARENT RESISTIVITY OHM - METRES



APPARENT CHARGEABILITY MILLI-SECONDS



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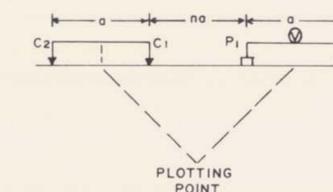
SHUKSAN "2" CLAIM GROUP  
ATLIN MINING DIVISION, B.C.

I.P. # 3 LINE



INDUCED POLARIZATION SURVEY

DIPOLE - DIPOLE  
ELECTRODE CONFIGURATION



CURRENT ELECTRODE EAST OF POTENTIAL ELECTRODE  
DIPOLE SEPARATION "a" - 10 METRES

TIME DELAY - 200 MILLI-SECONDS

SAMPLING TIME - 1000 MILLI-SECONDS

RECEIVER - HUNTEC MARK IV

TRANSMITTER - HUNTEC 2.5 KW.

CONTOUR INTERVAL

APPARENT RESISTIVITY - 10, 20, 30, 50, 70, 100, 200, 300,  
500, 700, 1000, 2000, etc.

APPARENT CHARGEABILITY - 10, 15, 20, 30, 40, 50, etc.

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JULY - 1984



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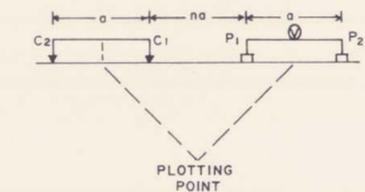
SHUKSAN "2" CLAIM GROUP  
ATLIN MINING DIVISION, B.C.

SEISMIC # 2 LINE



INDUCED POLARIZATION SURVEY

DIPOLE - DIPOLE  
ELECTRODE CONFIGURATION

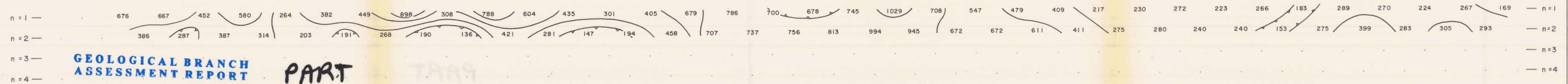


CURRENT ELECTRODE EAST OF POTENTIAL ELECTRODE  
DIPOLE SEPARATION "a" - 10 METRES  
TIME DELAY - 200 MILLI-SECONDS  
SAMPLING TIME - 1000 MILLI-SECONDS  
RECEIVER - HUNTEC MARK IV  
TRANSMITTER - HUNTEC 2.5 KW.  
  
CONTOUR INTERVAL  
APPARENT RESISTIVITY - 100, 200, 300, 500, 700,  
1000, 2000, etc.  
APPARENT CHARGEABILITY - 5, 10, 15, 20, etc.

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JULY - 1984

700-W 680-W 660-W 640-W 620-W 600-W 580-W 560-W 540-W 520-W 500-W 480-W 460-W 440-W 420-W 400-W 380-W 360-W 340-W

APPARENT RESISTIVITY OHM - METRES



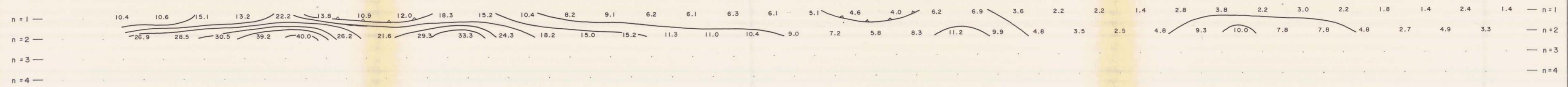
GEOLOGICAL BRANCH  
ASSESSMENT REPORT

PART

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2 OF 3

APPARENT CHARGEABILITY MILLI-SECONDS



STANDARD GOLD MINE LTD.

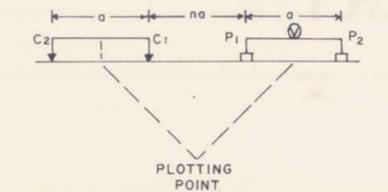
SHUKSAN "2" CLAIM GROUP  
ATLIN MINING DIVISION, B.C.

SEISMIC # 2 LINE



INDUCED POLARIZATION SURVEY

DIPOLE - DIPOLE  
ELECTRODE CONFIGURATION

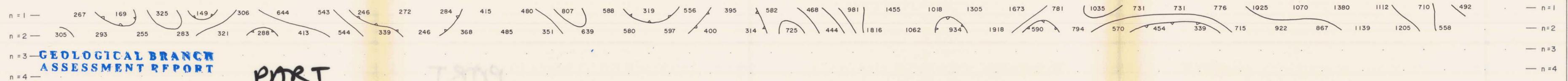


CURRENT ELECTRODE EAST OF POTENTIAL ELECTRODE  
DIPOLE SEPARATION "a" - 10 METRES  
TIME DELAY - 200 MILLI-SECONDS  
SAMPLING TIME - 1000 MILLI-SECONDS  
RECEIVER - HUNTEC MARK IX  
TRANSMITTER - HUNTEC 2.5 KW.  
CONTOUR INTERVAL  
APPARENT RESISTIVITY - 100, 200, 300, 500, 700,  
1000, 2000, etc.  
APPARENT CHARGEABILITY - 5, 10, 15, 20, etc.

SURVEY BY  
PETER E. WALCOTT & ASSOC. LTD.  
JULY - 1984

360-W 340-W 320-W 300-W 280-W 260-W 240-W 220-W 200-W 180-W 160-W 140-W 120-W 100-W 80-W 60-W 40-W 20-W 0+00

APPARENT RESISTIVITY OHM - METRES

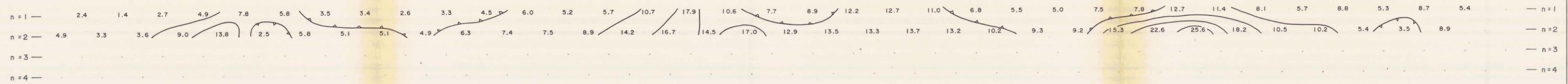


GEOLOGICAL BRANCH  
ASSESSMENT REPORT

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2 OF 3

APPARENT CHARGEABILITY MILLI-SECONDS



STANDARD GOLD MINE LTD.

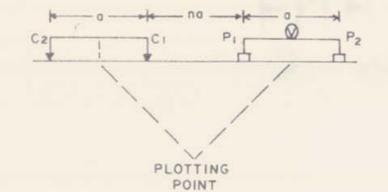
KAREN "6" CLAIM GROUP  
ATLIN MINING DIVISION, B.C.

NOLAN LINE # 0



INDUCED POLARIZATION SURVEY

DIPOLE - DIPOLE  
ELECTRODE CONFIGURATION



CURRENT ELECTRODE EAST OF POTENTIAL ELECTRODE  
DIPOLE SEPARATION "a" - 25 METRES  
TIME DELAY - 200 MILLI-SECONDS  
SAMPLING TIME - 1000 MILLI-SECONDS  
RECEIVER - HUNTEC MARK IV  
TRANSMITTER - HUNTEC 2.5 KW.  
CONTOUR INTERVAL  
APPARENT RESISTIVITY - 100, 200, 300, 500, 700,  
1000, 2000, etc.  
APPARENT CHARGEABILITY - 2, 3, 5, 7, 10, 20, 30, 50, etc.

SURVEY BY  
PETER E. WALCOTT & ASSOC. LTD.  
JULY - 1984

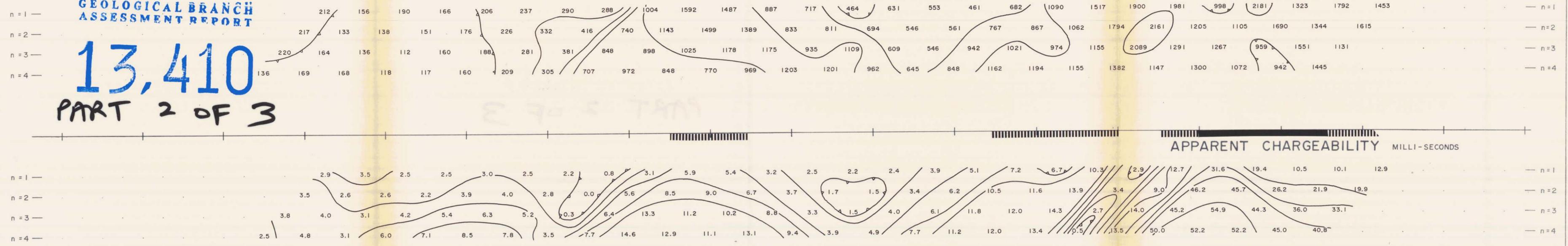
0+00 50-E 100-E 150-E 200-E 250-E 300-E 350-E 400-E 450-E 500-E 550-E 600-E 650-E 700-E 750-E 800-E

APPARENT RESISTIVITY OHM - METRES

APPARENT CHARGEABILITY MILLI-SECONDS

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

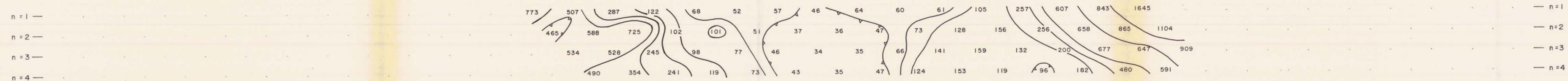
13,410  
PART 2 OF 3



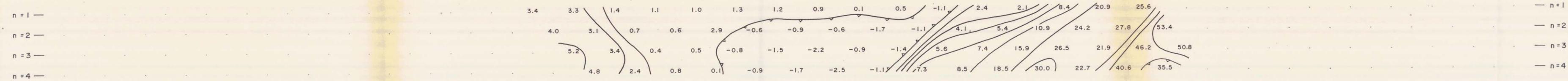
13,410  
PART 2 OF 3

250-W 200-W 150-W 100-W 50-W 0+00 50-E 100-E 150-E 200-E 250-E

APPARENT RESISTIVITY OHM - METRES



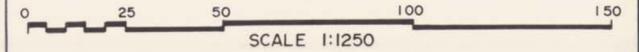
APPARENT CHARGEABILITY MILLI-SECONDS



STANDARD GOLD MINE LTD.

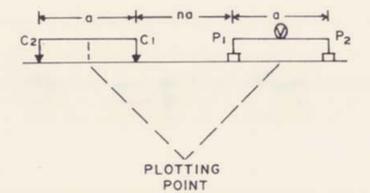
KAREN "6" CLAIM GROUP  
ATLIN MINING DIVISION, B.C.

NOLAN LINE # 1



INDUCED POLARIZATION SURVEY

DIPOLE - DIPOLE  
ELECTRODE CONFIGURATION



CURRENT ELECTRODE EAST OF POTENTIAL ELECTRODE  
DIPOLE SEPARATION "a" - 25 METRES

TIME DELAY - 200 MILLI-SECONDS

SAMPLING TIME - 1000 MILLI-SECONDS

RECEIVER - HUNTEC MARK IX

TRANSMITTER - HUNTEC 2.5 KW.

CONTOUR INTERVAL

APPARENT RESISTIVITY - 50, 70, 100, 200, 300, 500, 700, 1000, 2000, etc.

APPARENT CHARGEABILITY - 0, 2, 3, 5, 7, 10, 20, 30, etc.

SURVEY BY  
PETER E. WALCOTT & ASSOC. LTD.  
JULY - 1984