

1619

A GEOPHYSICAL REPORT ON
AN INDUCED POLARIZATION SURVEY
JM #3 CLAIM GROUP
SOYOOS MINING DIVISION, BRITISH COLUMBIA
PROPERTY: JM #3 CLAIM GROUP
LOCATION: 6 MILES NW OF HEDLEY, B.C.
49° 120' SE
REPORT BY: Thomas A. Conto, B.Sc.
CLAIM OWNER: Anaconda American Brass Ltd

1649

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DATE OF WORK: 30 May - 22 June 1968

92 H-8

C O N T E N T S

	Page
Introduction.....	1
Location and Accessibility.....	1
Purpose of the Induced Polarization Survey.....	1
Survey Equipment and Field Procedure.....	2
Details of Survey.....	3
Results of the Induced Polarization Survey.....	3
APPENDIX I - Assessment Details.....	4
APPENDIX II - Statement of Costs.....	5
CERTIFICATE.....	6
STATEMENT OF OPERATOR'S QUALIFICATIONS.....	7

Plate No. 1.	(In Pocket)
Plate No. 2.	(In Pocket)

Introduction

Anaconda American Brass Limited staked the JM Claims during the 1967 field season. The JM No. 3 Claim Group consists of the following claims:

JM 76 and JM 78

A geophysical induced polarization survey was made over part of the JM No. 3 Claim Group during the period 30 May to 22 June, 1968. The field work was under the general supervision of Thomas A. Conto and the instrument operator was David Broswick.

Location and Accessibility

The JM claims are due west of McNulty Creek and approximately six miles northwest of Hedley in the Osoyoos Mining Division, B. C. (See location insert Plate No. 1.) The group can be reached by a fire access road which leaves the main Hedley-Princeton Highway two miles west of Hedley.

Purpose of the Induced Polarization Survey

Geochemical surveys in the area produced anomalous results in copper, lead, zinc and molybdenum. Outcrop on the JM Claims is very scarce. The cause of the geochemical anomaly could therefore not be determined. Induced polarization will locate "metallic" mineralization and was therefore used to locate specific areas of "metallic" mineral concentration.

Survey Equipment and Field Procedure

The geophysical concept of Induced Polarization (I.P.) is thought to be the electro-chemical phenomenon that occurs at a solution - "metallic" mineral interface when the mode of conduction changes from ionic to electronic. When a D.C. current is transmitted through a "grounded" dipole the measured voltage in a nearby dipole will not drop instantly to the S.P. voltage, but will decay with time. This voltage decay is the measurable I.P. effect which results from various types of polarization or blocking. The most predominant type is the solution - "metallic" mineral interface.

This effect is measured in various ways and is reported as the I.P. parameter. The variation in instrumentation and mathematical treatment of the method results in such terms as "percent frequency effect", "chargeability", phase angle and "metal factor". The parameter used in our equipment is the concept of phase angle. The phase angle is the angle whose tangent is the area under the voltage decay curve of the receiver dipole when the current is off divided by the area when the current is on, assuming the current on and off times are equal.

The equipment used for the survey was manufactured by Anaconda. The transmitter uses a pulse time of 5 seconds. The receiver responds to the current on and off voltages and from this information a phase angle is calculated. The measurements are made along a surveyed line using a pole-dipole electrode configuration with a variable spacing between current and near leg of the receiver dipole. Normally at least two "a" spacings are used for each traverse. The plotting point is midway between the current electrode and the near potential electrode. The phase angle is reported in minutes of phase shift.


Details of the Survey

Chain and compass lines were cut and surveyed with stations marked at 100 foot intervals along each line. Readings were taken every 200 feet with spreads of 200 and 400 feet. The plotting point is midway between the current electrode and the near potential electrode.

Results of the Induced Polarization Survey

The location of the I.P. lines relative to the claim boundary is shown on Plate No. 1. The readings are plotted in profile form for each line traversed (see Plate No. 2). The horizontal scale is one inch to 400 feet. The vertical scale along each profile is one inch to 50 minutes of phase shift. Readings in excess of 30 minutes are considered anomalous.

A very weak anomalous reading was recorded on the 400 foot spread at station 144 East. The possible significance of this reading must be examined in the light of the I.P. survey on the neighboring claim group, where much stronger results were obtained. Additional work on this group will be dependent on results of tests made on the JM No. 1. Claim Group.



Thomas A. Conto

TAC:rb
29 August 1968

APPENDIX I

ASSESSMENT DETAILS

Property: JM No. 3 Claim Group Mining Division: Osoyoos
 Owner: Anaconda American Brass Ltd. Province: British Columbia
 Location: 6 miles NW of Hedley Date of Work: May 30-June 22/68

Type of Survey: Geophysical (Induced Polarization)
 Operating Man Days: 2
 Operating Crew Days: 1/2 day
 Supervisory Man Days: 2
 Drafting and Typing: 2

Personnel Employed on Survey

Supervision and Interpretation: Thomas A. Conto

Drafting and Typing: Phil Emery
 Ruth Broderick

Field Technicians:

<u>Name</u>	<u>Category</u>	<u>Rate</u>	<u>Days Worked</u>	<u>Period</u>	<u>Wage</u>
David Broswick	Instrument Operator	475/mo.	1/4 day	June 4(1/4).	\$ 7.50
Peter Bruce	Helper	425/mo.	1/4 day	same	6.80
Jim Rutter	Helper	450/mo.	1 and 1/4 days	May 30, June 4(1/4).	25.20
Don James	Helper	450/mo.	1/4 day	June 4(1/4)	7.20
Total					\$ 46.70

Declared before me at the *City*
 of *Vancouver*, in the
 Province of British Columbia, this *30th*
 day of *August, 1968*, A.D.

Thomas A. Conto
 Thomas A. Conto

J. Paul
 A Commissioner for taking Affidavits within British Columbia or
 A Notary Public in and for the Province of British Columbia.

SUB-MINING RECORDER

APPENDIX II

STATEMENT OF COSTS

Field Crew:

Salaries (as per Appendix I)	\$ 46.70
Transportation @ \$15.00/crew/day	7.50
Room and Board @ \$11.00/man/day	22.00
Overhead @ 0.5 (Salaries + Room & Board)	34.35
Drafting and Typing	50.00
Supervision	<u>50.00</u>
Total	\$ 210.55

Declared before me at the *City*
of *Vancouver*, in the
Province of British Columbia, this *30th*
day of *August, 1968*, A.D.

Thomas A. Conto
Thomas A. Conto

J. Paul
A Commissioner for taking Affidavits within British Columbia or
A Notary Public in and for the Province of British Columbia.

SUB-MINING RECORDER

C E R T I F I C A T E

I, Thomas A. Conto, of the town of Britannia Beach, Province of British Columbia, do hereby certify that:

- 1) I am a geophysicist residing at Britannia Beach, British Columbia.
- 2) I am a graduate of the University of Utah with a B.Sc. Degree (1960) in Geophysics.
- 3) I am an associate member of the Society of Exploration Geophysicists.
- 4) I have been practising my profession for five years.
- 5) I have no direct or indirect interest, nor do I expect to receive any interest, direct or indirect, in the property of Anaconda American Brass Ltd.
- 6) The statements made in this report are based on a study of published literature and unpublished private reports and geophysical data.

Dated at Britannia Beach
this 29th day of August 1968



Thomas A. Conto, B.Sc. Geophysics

STATEMENT OF OPERATOR'S QUALIFICATIONS

I, Thomas A. Conto, do make the following statement:

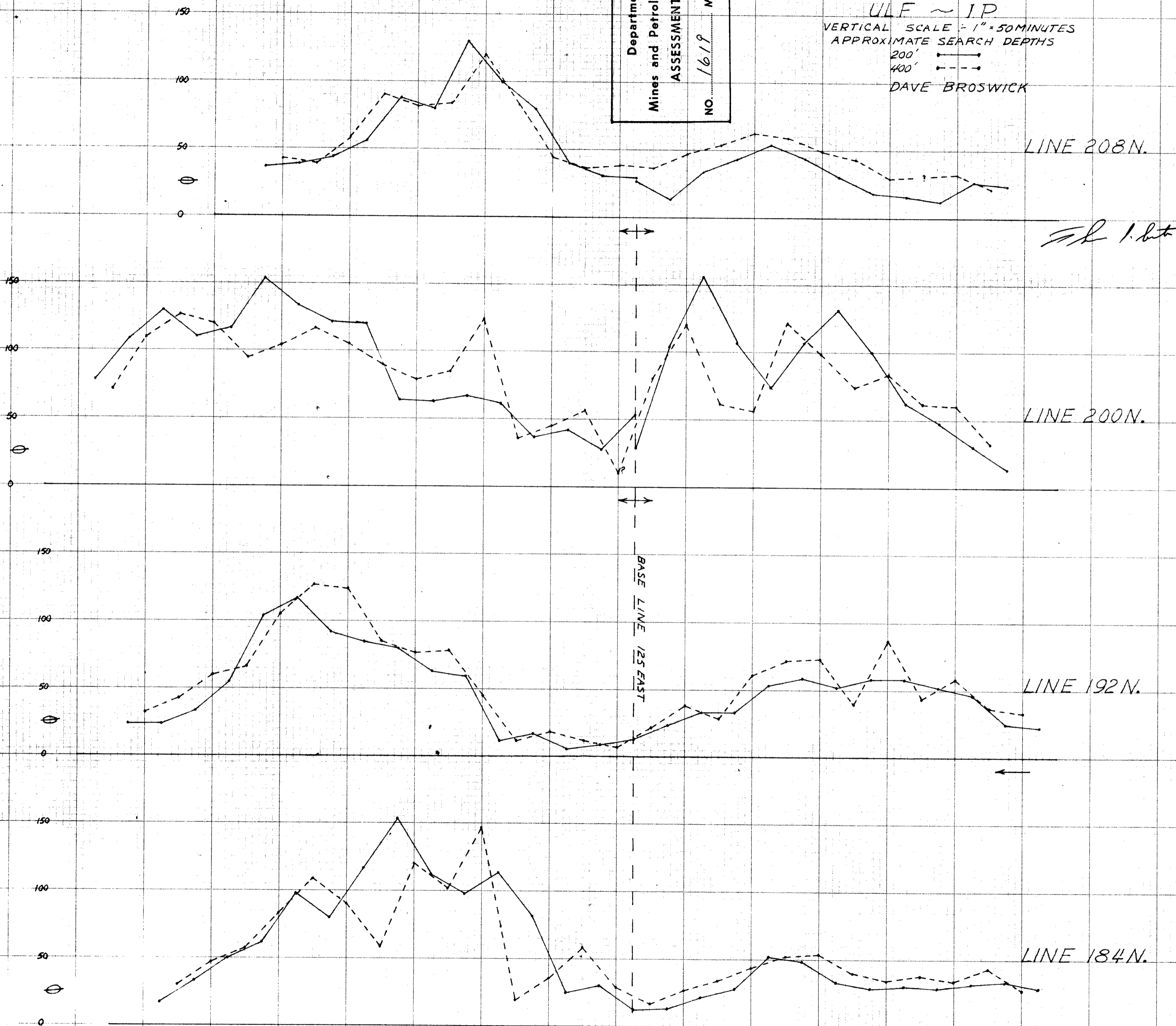
- 1) David Broswick was the instrument operator for the Geophysical Survey conducted by Anaconda American Brass Ltd. on the JM Claim Group.
- 2) David Broswick had been working on an Induced Polarization Crew for ten months prior to the start of this survey. He worked as an instrument operator for six of the ten months.
- 3) David Broswick has been trained by Anaconda personnel to be an instrument operator and I consider him fully qualified.


Thomas A. Conto

TO ACCOMPANY GEOPHYSICAL REPORT
DATED AUGUST 29, 1968, BY T.A. CONTO

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 1619 MAP 2

ANACONDA AMERICAN BRASS LTD.
WESTERN EXPLORATION DIVISION
J.M. CLAIM GROUP
SIMILKIMEEN M.D. HEDLEY B.C.
JUNE 1968 HOR. SCALE = 1" = 400'
ULF ~ IP
VERTICAL SCALE = 1" = 50 MINUTES
APPROXIMATE SEARCH DEPTHS
200' ———
400' - - -
DAVE BROSWICK



1619

64 NE 72 NE 80 NE 88 NE 96 NE 104 NE 112 NE 120 NE 128 NE

50

0

LINE 135 N.W.

50

0

LINE 118 N.W.

50

0

LINE 101 N.W.

50

0

LINE 84 N.W.

64 NE 72 NE 80 NE 88 NE 96 NE

1619

I.P.

ANACONDA AMERICAN BRASS LTD WESTERN EXPLORATION DIVISION

J.M. GROUP
SIMILKAMEEN M.D., HEDLEY, B.C.

5 SECOND U.L.F.

SCALES: HORIZONTAL 1"=400' - VERTICAL 1"=50 MINUTES
===== 200 FOOT SPREAD - - - - - 400 FOOT SPREAD

DATA BY: DAVE BROSCHICK

JUNE 1968

J.P. [Signature]

TO ACCOMPANY GEOPHYSICAL REPORT DATED AUGUST 29, 1968, BY T.A. CONTO

PLATE 3