

1966

A GEOPHYSICAL REPORT ON
AN INDUCED POLARIZATION SURVEY
FRIENDLY LAKE NOS. 1, 2 and 3 CLAIM GROUPS
KAMLOOPS MINING DIVISION, BRITISH COLUMBIA
PROPERTY: FL EAST AND WEST CLAIM GROUP
LOCATION: 16 MILES NW OF LITTLE FORT, B.C.
51 ~~59~~⁵⁹ 120° NW
REPORT BY: Rod Macrae, P. Eng.
Thomas A. Conto, B. Sc.
CLAIM OWNER: Anaconda American Brass Limited
DATE OF WORK: 17 Aug. to Sept. 26, 1968

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Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. **1966** MAP

INTRODUCTION

A geophysical induced polarization survey was made over portions of the Friendly Lake Nos. 1, 2 and 3 claim groups during the period 17 August to 26 September 1969. The field work was under the general supervision of R. Macrae, P. Eng., and Thomas A. Conto. The instrument operators were Paul Cartwright and Robert Rodriguez.

The 40 claims of the FL No. 1 claim group are as follows:

RO 2	RO 3	RO 4	RO 5	RO 6	RO 7
RO 8	RO 9	RO 10	RO 12	RO 22	RO 25
RO <u>26</u>	RO 35	RO 37	RO <u>38</u>	RO 43	RO <u>44</u> 3
RO 45	RO 82	RO 83	RO 84	RO 85	RO 86
RO 87	RO <u>88</u>	RO <u>89</u>	RO <u>90</u>	RO <u>91</u>	TC 68 4-7
TC 87	SO 2	SO 4	SO 18	SO 54	SO 56
a SO <u>105</u>	SO <u>107</u>	SO 109	SO 111		2-9

The 40 claims of the FL No. 2 claim group are as follows:

RL 2	RL 7	RL 8	SO 1	SO 3	SO 5
SO 6	SO 7	SO 8	SO 9	SO 10	SO <u>11</u> 1
SO 12	SO <u>13</u>	SO 14	SO <u>15</u>	SO 16	SO <u>17</u> 3-4
SO 19	SO <u>21</u>	SO 30	SO <u>32</u>	SO 33	SO 34
SO 35	SO 36	SO 37	SO 38	SO 39	SO 40
4 SO 41	SO <u>42</u>	SO 43	SO <u>44</u>	SO 45	SO 46 2-6
SO <u>48</u>	SO <u>50</u>	SO <u>53</u>	SO 55		2-8

The 22 claims of the FL No. 3 claim group are as follows:

a RO <u>15</u>	RO <u>16</u>	RO <u>17</u>	RO <u>18</u>	RO 19	RO 20 6
RO <u>21</u>	RO <u>23</u>	RO <u>29</u>	RO 30	RO <u>39</u>	RO <u>70</u> 3-9
RO <u>71</u>	RO <u>72</u>	RO 73	RO 74	RO 76	RO 77
RO 78	RO 79	RO 80	RO 81		

LOCATION AND ACCESSIBILITY

The property is located on N.T.S. sheets 92 p. 9 and 10 about 16 miles NW of Little Fort, B. C. Access is by rough forest roads leading north from the Bridge Lake - Little Fort road.

PURPOSE OF THE INDUCED POLARIZATION SURVEY

Geochemical surveys in the area produced anomalous results in copper, molybdenum, lead and zinc. Limited outcrop in the area prevented adequate evaluation of the geochemical results. Induced polarization was 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 five (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

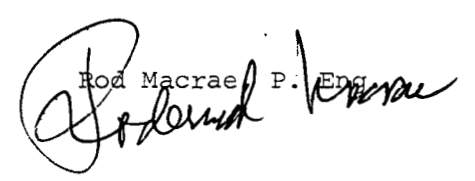
Chain and compass lines were used for control on the survey. Stations were marked at 100 foot intervals along each line. Readings were taken every 200 feet with "A" spacings of 200 feet and "N" spacings of one and two. Several readings were taken with an "N" spacing of four. The plotting point is midway between the current electrode and the near potential electrode.

RESULTS OF THE SURVEY

The location of the I.P. lines relative to the claims boundary is shown on plate No. 1. Plate 2. and 3. are profile plots for each line traversed during the period covered by this report. The horizontal profile scale is one inch to 400 feet. The vertical scale of each profile is one inch to 50 minutes of phase shift. Readings in excess of 30 minutes are statistically considered anomalous.

Areas with readings above 30 minutes statistically contain anomalous "metallic" mineralization. It is not possible to evaluate the economic potential of the indicated "metallic" mineralization without further physical testing of the mineralized areas.


Thomas A. Conto


Rod Macrae P. Eng

APPENDIX I

ASSESSMENT DETAIL

Property: Friendly Lake Nos. 1, 2 and 3 Claim Groups
 Owner: Anaconda American Brass Limited
 Location: 16 miles NW of Little Fort, B. C.
 Mining Division: Kamloops
 Province: British Columbia
 Date of Work: 17 August to 26 September 1968

Type of Survey: Geophysical (Induced Polarization)
 Operating Man Days: 88
 Operating Crew Days: 22
 Supervisory Man Days: 6
 Drafting and Typing: 3 days

Total Line Feet: 44,900 ft. = 100% of Total
 Line Feet FL No. 1 Group: 14,300 ft. = 32% of Total
 Line Feet FL No. 2 Group: 12,100 ft. = 27% of Total
 Line Feet FL No. 3 Group: 18,500 ft. = 41% of Total


Personnel Employed on Survey


Supervision and Interpretation: Rod Macrae, 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>
P. Cartwright	Instrument Operator	\$500/mo.	5	Aug. 17, 28-31	\$ 100
R. Rodriguez	same	500/mo.	17	Sept. 5, 6, 8-10, 15-26	340
F. Skelton	Helper	450/mo.	22	Aug. 17, 28-31 Sept. 5, 6, 8-10, 15-26	396
P. Maughan	Helper	425/mo.	22	same	374
R. Heyman	Helper	425/mo.	17	Sept. 5, 6, 8-10, 15-26	289
A. Stewart	Helper	425/mo.	5	Aug. 17, 28-31	85
					\$1,584

Declared before me at the City
 of Vancouver, in the
 Province of British Columbia, this 15th
 day of August, 1969, A.D.


 Thomas A. Conto


 Rod Macrae, P. Eng.

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

APPENDIX II
STATEMENT OF COSTS


Field Crew:

Salaries (as per Appendix I)	\$ 1,584.00
Room and Board @ \$9.00/man/day	792.00
Transportation @ \$20.00/crew/day	440.00
Supervision	150.00
Drafting and Typing	<u>75.00</u>
Total	\$ 3,041.00

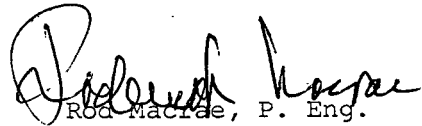
GROUP ALLOCATION

Allocation to Friendly Lake #1 group @ 32% of total	\$ 973.12
Allocation to Friendly Lake #2 group @ 27% of total	821.07
Allocation to Friendly Lake #3 group @ 41% of total	<u>1,246.81</u>
	\$ 3,041.00

Declared before me at the City
of Vancouver, in the
Province of British Columbia, this 15th
day of August, 1969, A.D.


Thomas A. Conto

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


Rod Macrae, P. Eng.

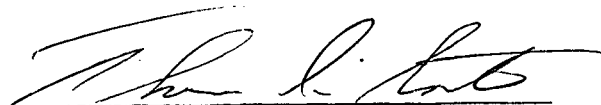
CERTIFICATE

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 active member of the Society of Exploration Geophysicists.
- 4) I have been practising my profession for six year.
- 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 Limited.
- 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 4th day of August, 1969



Thomas A. Cont, B.Sc. Geophysics

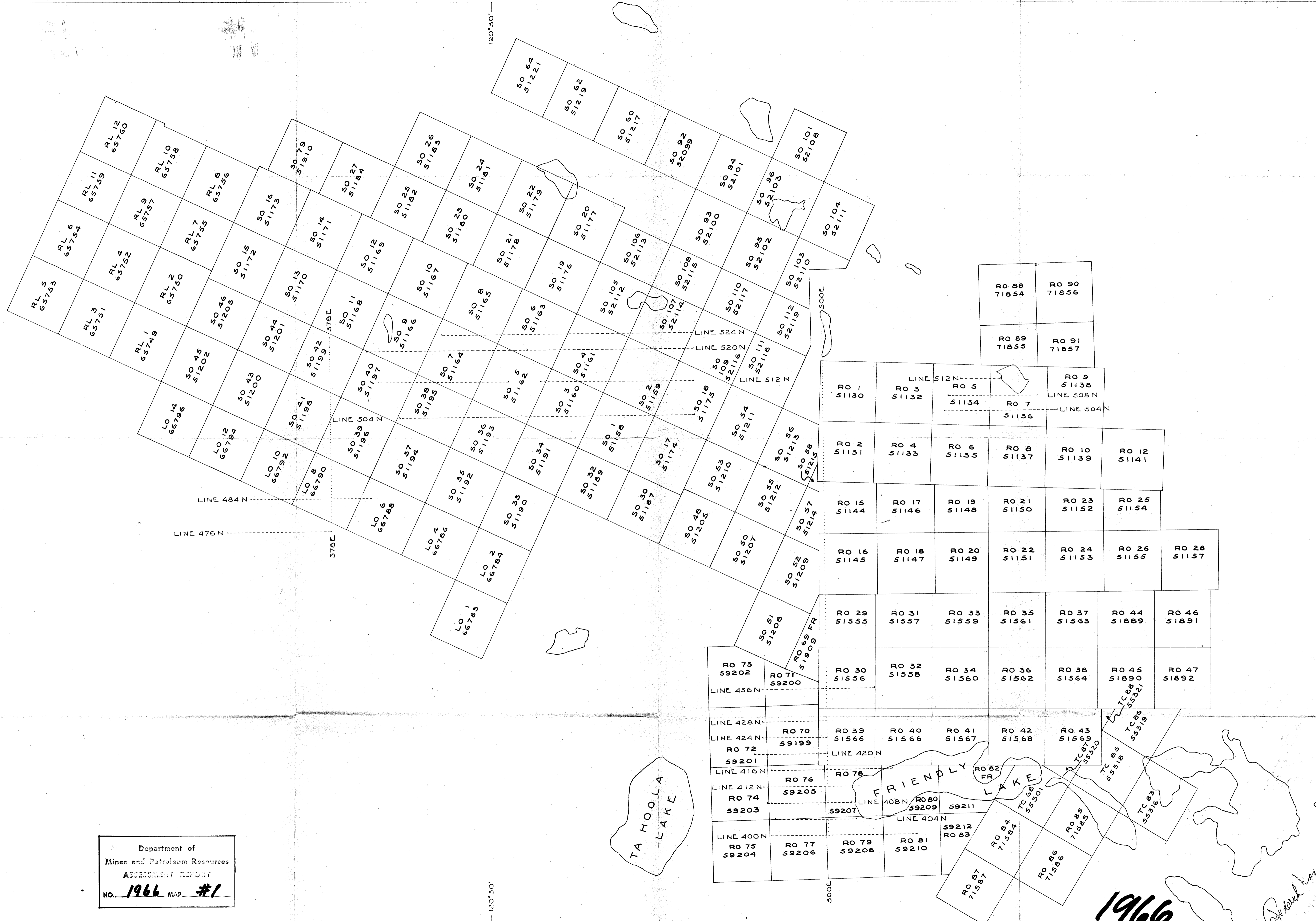
STATEMENT OF OPERATORS' QUALIFICATIONS

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

- 1) Paul Cartwright and Robert Rodriguez were the instrument operators for the Geophysical Survey conducted by Anaconda American Brass Limited on the FL Nos. 1, 2 and 3 claim groups.
- 2) Paul Cartwright and Robert Rodriguez have been trained by Anaconda personnel to be instrument operators and I consider them fully qualified.



Thomas A. Conto



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MINERAL CLAIM NAMES AND RECORD NUMBERS ARE SHOWN.
----- SECTION OF LINE SURVEYED IN 1968.
..... EASTING COORDINATE.

TO ACCOMPANY GEOPHYSICAL REPORT BY R. MACRAE (P.ENG) DATED AUG. 4, 1969.

ANACONDA AMERICAN BRASS LTD. WESTERN EXPLORATION DIVISION

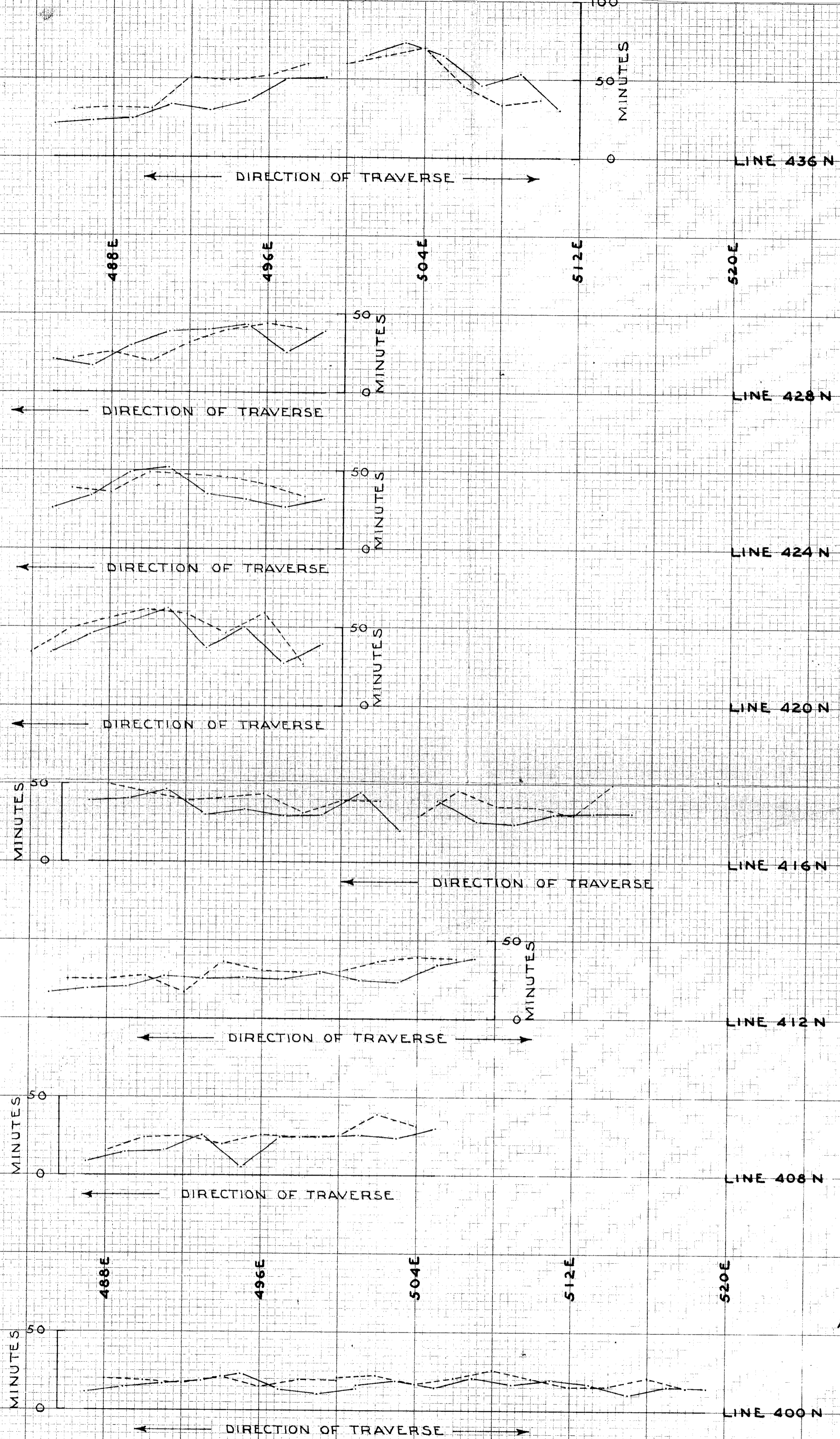
FRIENDLY LAKE CLAIMS

KAMLOOPS M.D., B.C.
SCALE: 1" = 1000'

1968 I.P.

1966

PLATE I



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ANACONDA AMERICAN BRASS LTD. WESTERN EXPLORATION DIVISION

FRIENDLY LAKE
 KAMLOOPS M.D., B.C.

5 SECOND U.L.F.

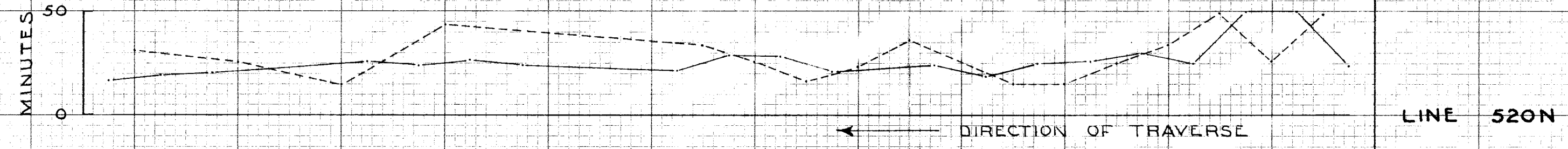
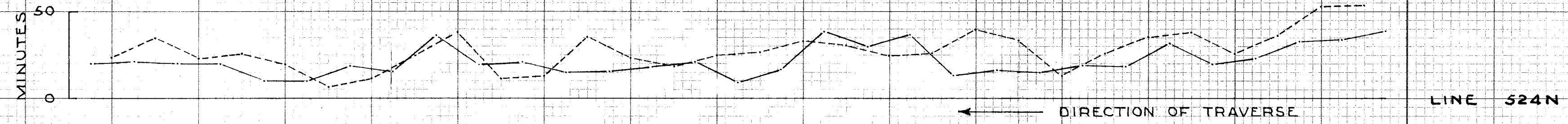
SCALES: HORIZONTAL 1" = 400'
 VERTICAL 1" = 50 MINUTES

— 200 FOOT SPREAD - - - - 400 FOOT SPREAD

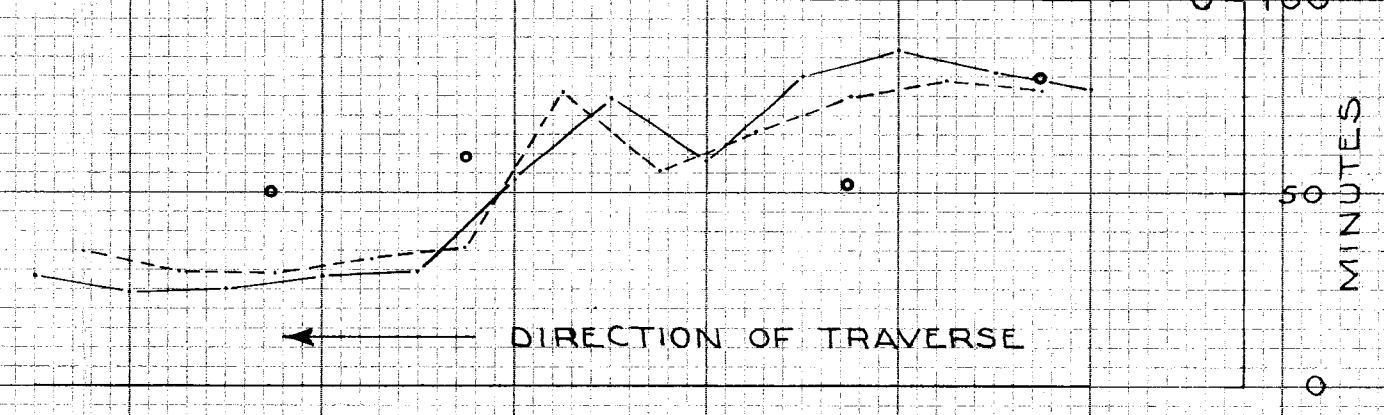
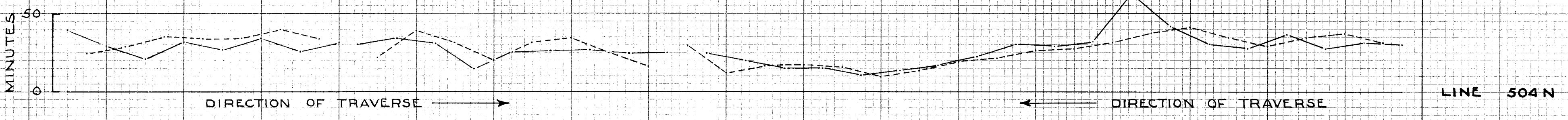
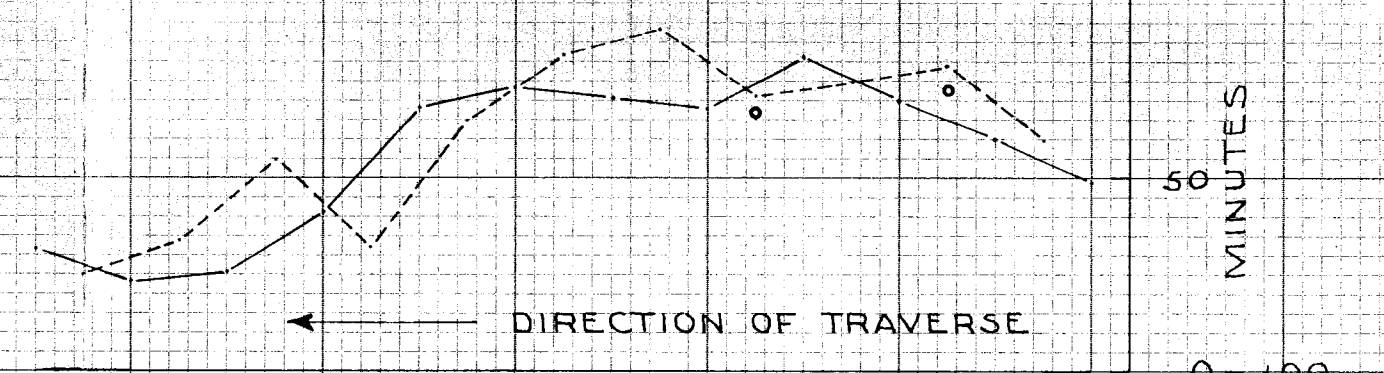
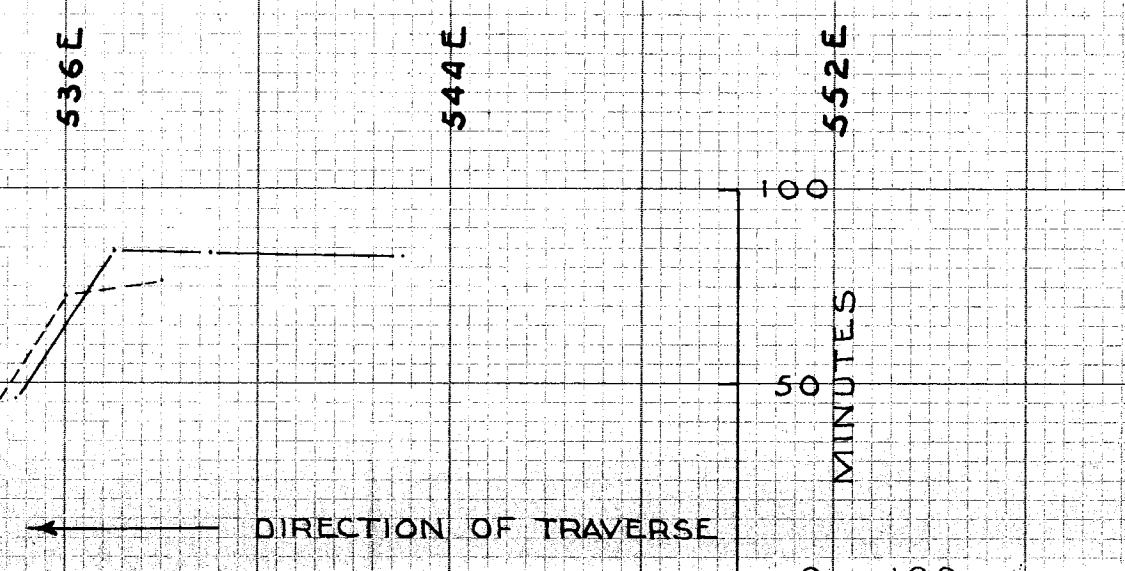
TO ACCOMPANY GEOPHYSICAL REPORT BY R. MACRAE (P.ENG) DATED AUG. 4, 1969

PLATE II

Shelton
St. Louis
1966



400E 408E 416E 424E 432E 440E 448E 456E 464E



• 800 FOOT SPREAD READINGS

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J. Leind

TO ACCOMPANY GEOPHYSICAL REPORT BY R. MACRAE (P. ENG) DATED AUG. 4, 1969.

ANACONDA AMERICAN BRASS LTD. WESTERN EXPLORATION DIVISION

FRIENDLY LAKE
KAMLOOPS M.D., B.C.

5 SECOND U.L.F.

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

R. B. Holt
1966

PLATE III