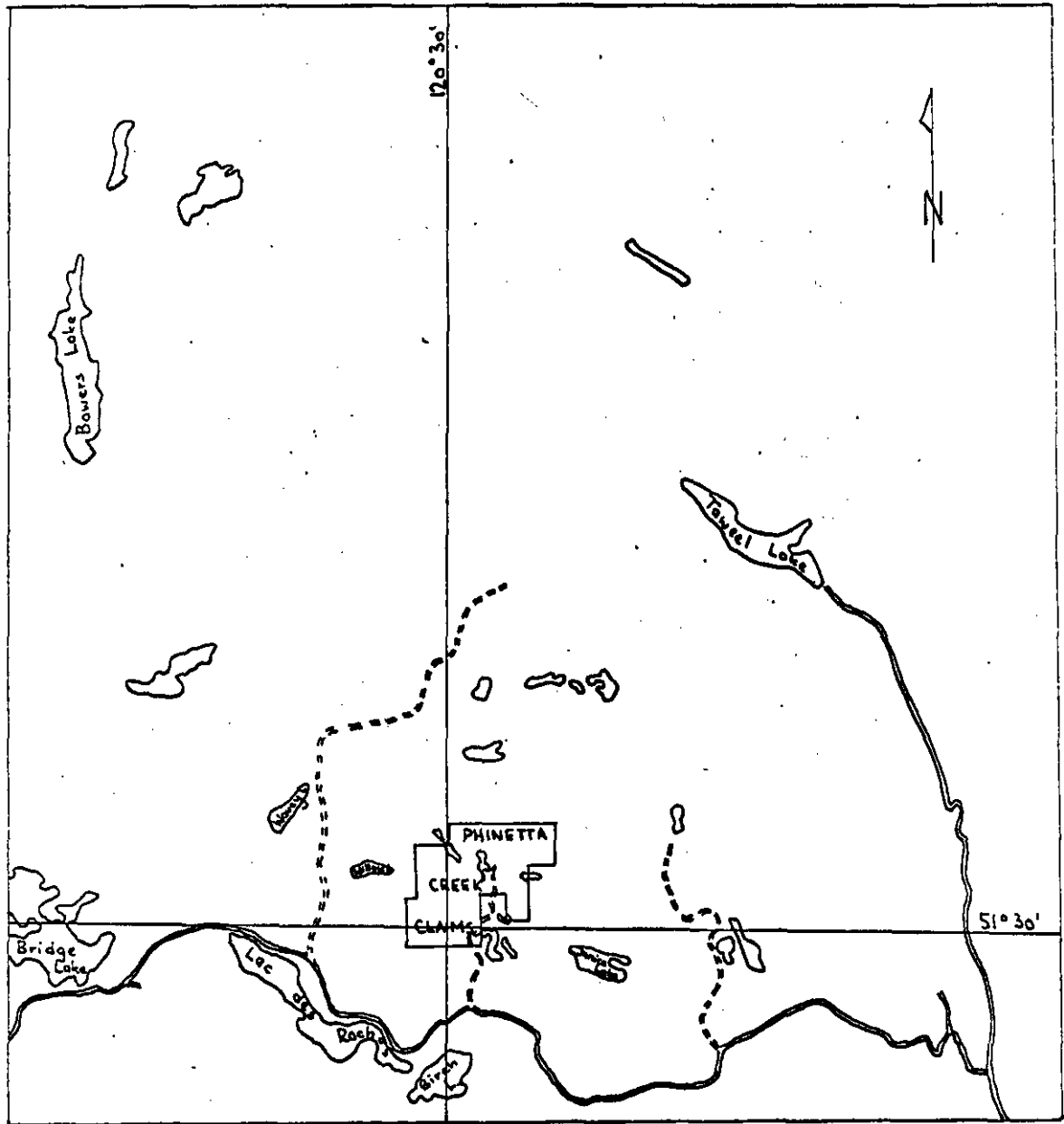


1750

A GEOPHYSICAL REPORT ON  
THE P.C. CLAIM GROUP  
KAMLOOPS MINING DISTRICT, BRITISH COLUMBIA

PROPERTY: P.C. CLAIM GROUP  
LOCATION: 14 MILES WNW OF LITTLE FORT,  
B.C., 51° 120° NE  
REPORT BY: P. E. HIRST, P. ENG.  
CLAIM OWNER: ANACONDA AMERICAN BRASS LIMITED  
DATE OF WORK: 29 July to 7 August 1968

3 February 1969



LOCATION MAP

PHINETTA CREEK CLAIMS  
 WILLOW CREEK AREA  
 KAMLOOPS M.D. B.C.

FIGURE 1.

CONTENTS

	Page
Introduction. . . . .	1
Location and Accessibility . . . . .	1
Survey Equipment and Field Procedure. . . . .	1, 2
Ground Magnetic Equipment . . . . .	2
Purpose of the Geophysical Survey . . . . .	2
Details of the Survey . . . . .	2
Results of the Geophysical Survey:	
Induced Polarization . . . . .	2, 3
Ground Magnetics. . . . .	3
Appendix I - Assessment Details . . . . .	4
Appendix II - Statement of Costs. . . . .	5

Location Map	Fig. 1.
Claim & Line Location Map	Plate 1. (In Pocket) <sup>#1</sup>
Induced Polarization Profiles	Plate 2. (In Pocket) <sup>#2</sup>
Ground Magnetic Profiles	Plate 3. (In Pocket) <sup>#3</sup>

## INTRODUCTION

Anaconda American Brass Limited staked a group of claims in the Willow Creek area of British Columbia during the 1967 field season. The P.C. claim group consists of the following 19 claims:

PC2, PC4, PC6, PC19, PC20, PC21, PC22, PC23, PC24, PC37, PC38, PC39, PC40, PC41, PC42, PC43, PC44, PC45, PC46.

A geophysical induced polarization and ground magnetic survey was made over part of the P.C. claim group during the period 29 July to 7 August 1968. The ground magnetic survey covered ground outside the claim group. However, only that portion contained within the group was credited toward the cost of this survey. The field work was under the general supervision of Peter E. Hirst, P. Eng., and the instrument operator was Peter Smith.

## LOCATION AND ACCESSIBILITY

The P.C. claims are located at latitude  $51^{\circ}30'$  and longitude  $120^{\circ}30'$ , approximately 14 miles WNW of Little Fort, British Columbia (See Fig. 1). They are approximately three miles north of the gravel road that connects Bridge Lake and Little Fort, B. C. A logging road leads from this road to the center of the claim group.

## 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 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 equal to 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. From an alternate point of view a phase angle difference can be measured from a R-C bridge tripole; each leg of the bridge being influenced by different equipotential surfaces.

The equipment used for the survey was manufactured by Anaconda. The transmitter has a cycling rate of one cycle per second. The receiver is a simple R-C bridge network which is manipulated to a null position for each movement of the various electrodes. The measurements are made along a surveyed line with a variable spacing between the near current electrode and middle potential electrode. The plotting point is midway between the mid-potential electrode and the current electrode. The phase angle is reported in minutes of phase shift and represents the difference between the two legs of the tripole.

#### GROUND MAGNETIC EQUIPMENT

The instrument used for the ground magnetic survey was a flux gate, vertical component magnetometer. It was manufactured by McPhar Geophysics Ltd., 139 Bond Avenue, Don Mills, Ontario. It is Model M-700 and serial number 6807.

Readings are taken at 100 foot intervals along pre-cut lines. Since the readings are all relative a datum level is established at a base station. This base is also used for diurnal and instrument corrections,

#### PURPOSE OF THE GEOPHYSICAL SURVEY

Geochemical reconnaissance in the Willow Creek area during the 1966 field season produced some anomalous results. The P.C. claim group is 95% covered by glacial drift which makes economic evaluation difficult. Induced polarization was used to indicate areas of concentrated "metallic" mineralization. The ground magnetics were surveyed in hopes of finding lithologic changes related to magnetite content.

#### DETAILS OF THE SURVEY

Chain and compass lines were used for ground control. Stations were marked at 100 foot intervals along each line. Induced polarization readings were taken at 200 foot intervals with electrode spreads of both 200 and 400 feet. Ground magnetic readings were taken at one hundred foot intervals.

#### RESULTS OF THE GEOPHYSICAL SURVEY

##### Induced Polarization

The results of the I.P. survey are plotted in profile form for each line traversed (Plate 2.). The line number indicates the north position of the line on our grid. The station number indicates the west position of each plotting point (Plate 1.). The horizontal scale for the station positions is 400 feet per inch. The vertical scale represents the difference in phase shift between the far and near leg. Readings in excess of

30 minutes are considered anomalous.

The anomalous areas indicate zones where there is a concentration of "metallic" mineralization. Since most of the areas are covered by glacial drift, physical tests will be necessary to evaluate the economic potential of the anomalous areas.

Ground Magnetics

The results of the magnetic survey are presented in profile form with a horizontal scale of 1"=400 feet. The vertical scale is 1"=1,000 gammas (Plate 3.).

On lines 56N at stations 116 west rocks of abnormally high susceptibility and/or strong remnant character were indicated. Most of these lines have magnetic relief confined within one hundred gammas of the base level. A few local areas exhibit a high frequency rattle of 200 to 600 gammas above background. It is possible this indicates a lithologic change from the smooth response.

*P. E. Hirst*  
*Feb 3, 1969*

Peter E. Hirst  
P. Eng.

PEH:rb

## APPENDIX I

## ASSESSMENT DETAILS

Property: PC Claim Group Mining Division: Kamloops  
 Owner: Anaconda American Brass Limited Province: British Columbia  
 Location: 14 Miles WNW of Little Fort, B.C. Date Started: 29 July 1968  
 Date Finished: 7 August 1968

Type of Survey: Geophysical (Induced Polarization)  
 Operating Man Days: 32  
 Operating Crew Days: 9  
 Supervisory Man Days: 4  
 Drafting & Typing: 3

Personnel Employed on Survey

Supervision & Interpretation:  
 Peter E. Hirst, P. Eng.

Drafting & 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>
Peter Smith	Instrument Operator	500/mo.	7	July 29-Aug. 4	134.00
Dennis Rank	Helper & Mag. Operator	425/mo.	9	July 29-Aug. 4,6,7	147.00
Harold Rush	Helper	450/mo.	8	July 29-Aug. 4,6	138.00
Manfred Wenzel	Helper	400/mo.	8	July 29-Aug. 4,7	<u>123.00</u>
					\$ 542.00

Declared before me at the City  
 of Concordia, in the  
 Province of British Columbia, this 7  
 day of February 1969, A.D.

P. E. Hirst  
 Peter E. Hirst  
 P. Eng.

Feb 3, 1969

Julie Turner  
 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)	\$ 542.00
Room and Board @ \$12.50/man/day	400.00
Transportation @ \$23.00/crew/day	207.00
Overhead @ .5 (Salaries & Room & Board)	471.00
Supervision	200.00
Drafting & Typing	<u>100.00</u>
	\$1,920.00

Declared before me at the *City*  
of *Monroeville*, in the  
Province of *British Columbia*, this *7*  
of *February* 1969.

*P. E. Hirst*  
*Feb 3, 1969*

*P. E. Hirst*  
Peter E. Hirst  
P. Eng.

*J. L. Turner*  
Notary Public for the Province of British Columbia  
SUB-MINING RECORDER



I, Peter E. Hirst, of the town of Britannia Beach, Province of British Columbia, do hereby certify that:

- 1) Peter Smith was the instrument operator for the Induced Polarization Survey conducted by Anaconda American Brass Limited on the P.C. Claim Group.
- 2) Peter Smith is an undergraduate student at the University of British Columbia majoring in geophysics.
- 3) Peter Smith was trained by Anaconda personnel to operate the instrument and had had six months experience prior to the conduct of this survey.
- 4) I consider Peter Smith fully qualified to operate the equipment.

*P. E. Hirst*

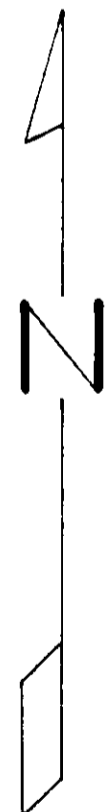
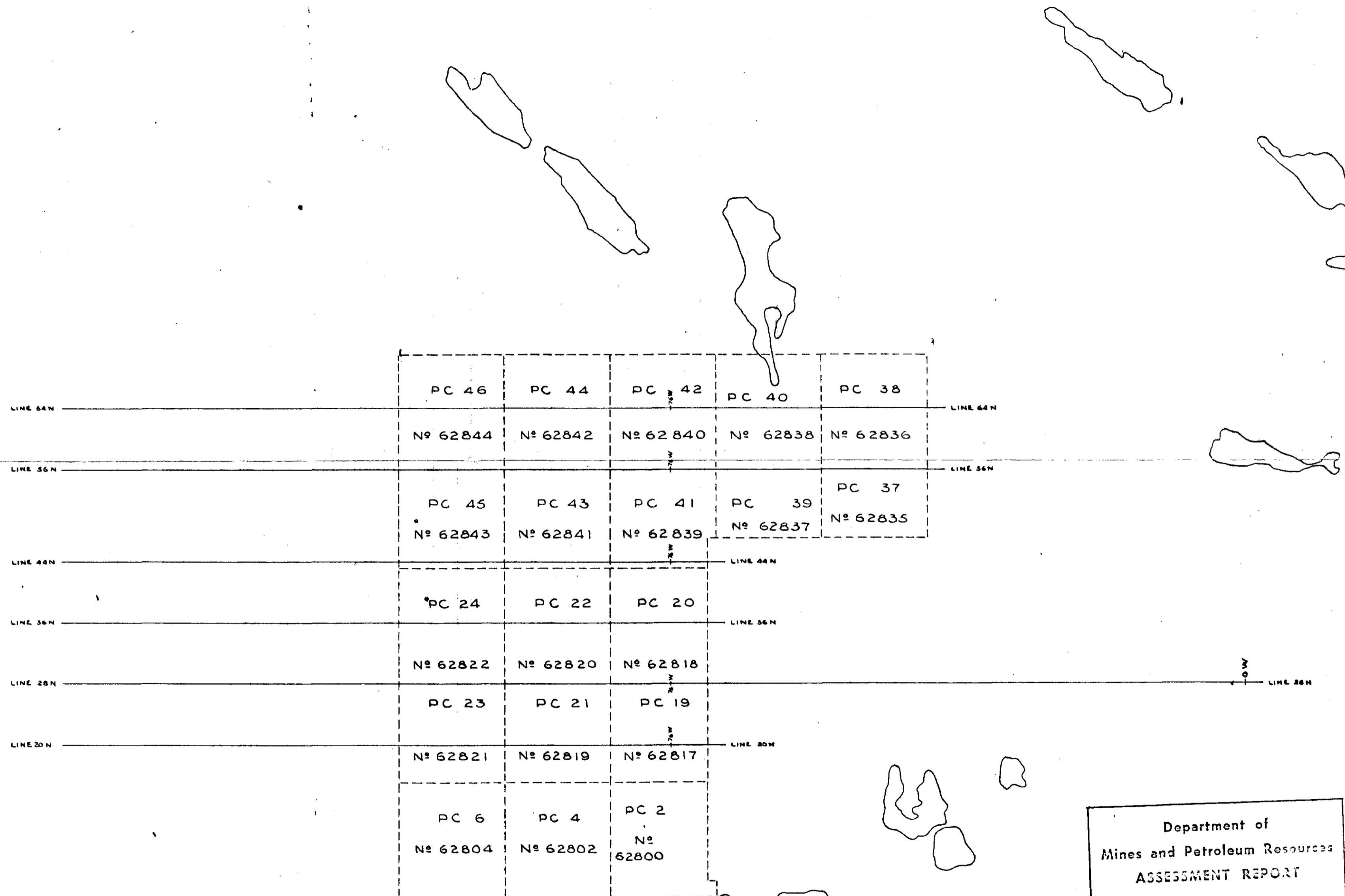
Peter E. Hirst  
P. Eng.

THIS MAP IS TO ACCOMPANY THE GEOPHYSICAL REPORT BY P.E. HIRST DATED FEBRUARY 3, 1969.

P. ENG.

EXPLANATION

THE MINERAL CLAIM BOUNDARIES ARE SHOWN AS DASHED LINES. SOLID LINES DENOTE PICKETED LINES. THE I.P. SURVEY WAS CONDUCTED ALONG PARTS OF SOME OF THESE PICKET LINES. THE RECORD NUMBER OF EACH MINERAL CLAIM IS SHOWN BELOW THE CLAIM NAME.



Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 1750 MAP 1

1750

ANACONDA AMERICAN BRASS LTD. WESTERN EXPLORATION DIVISION

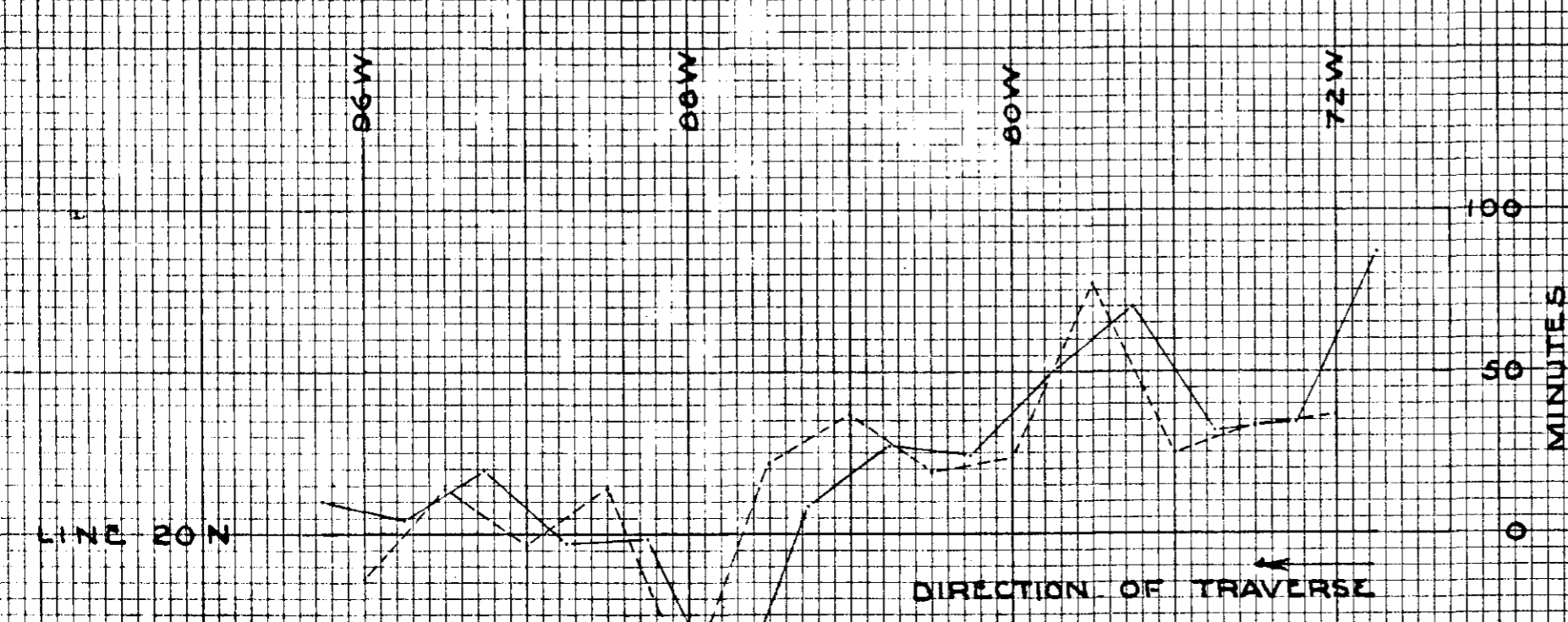
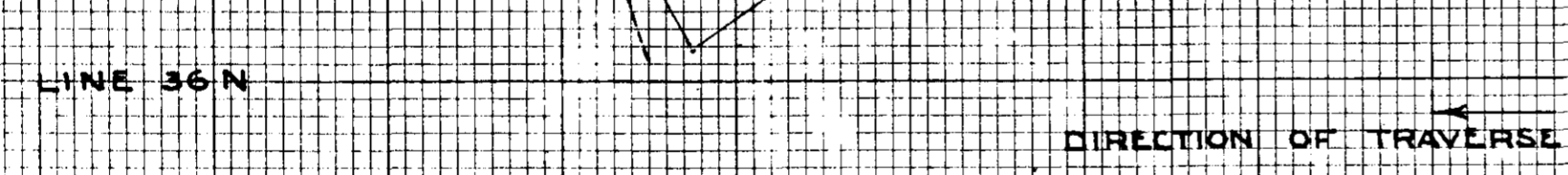
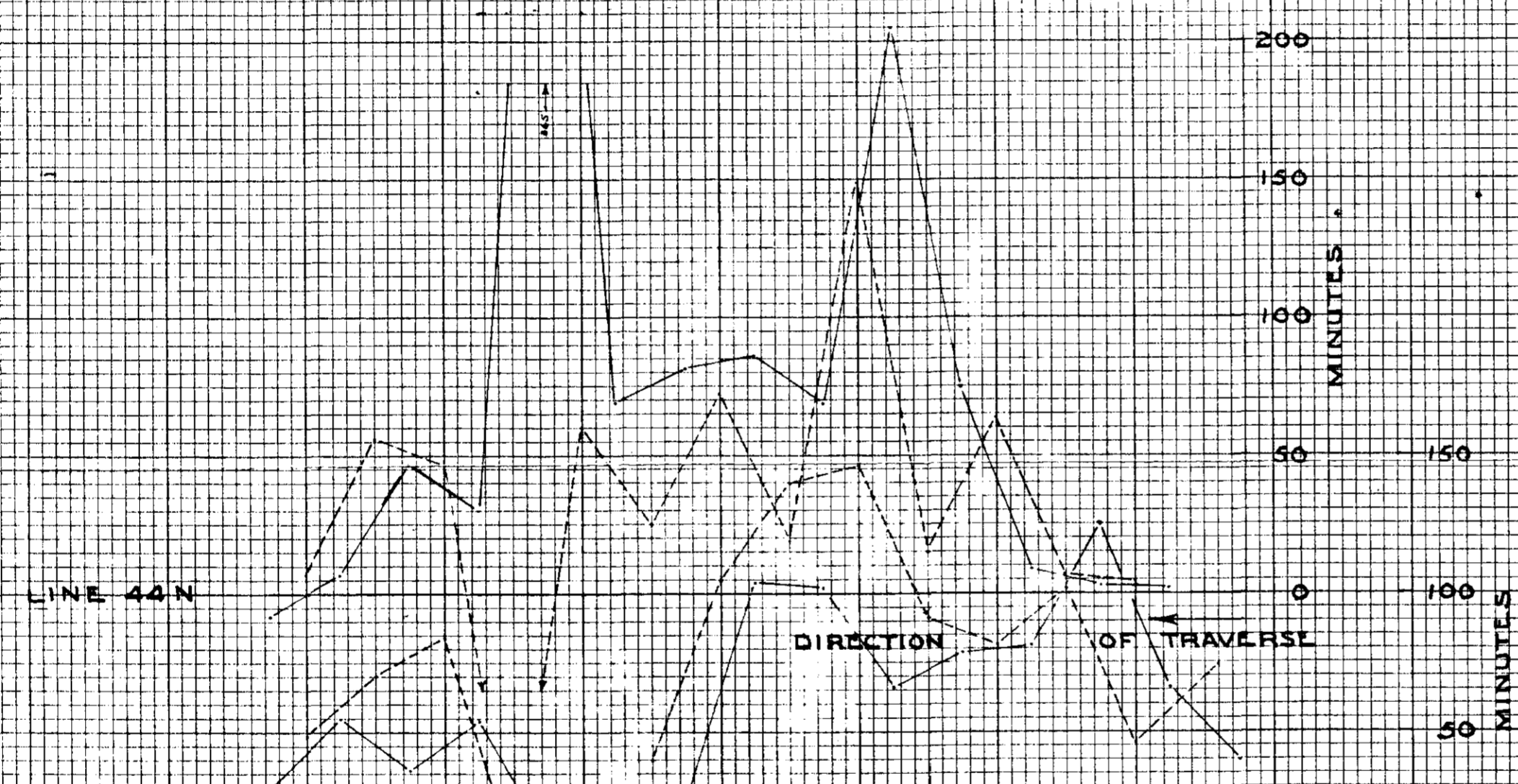
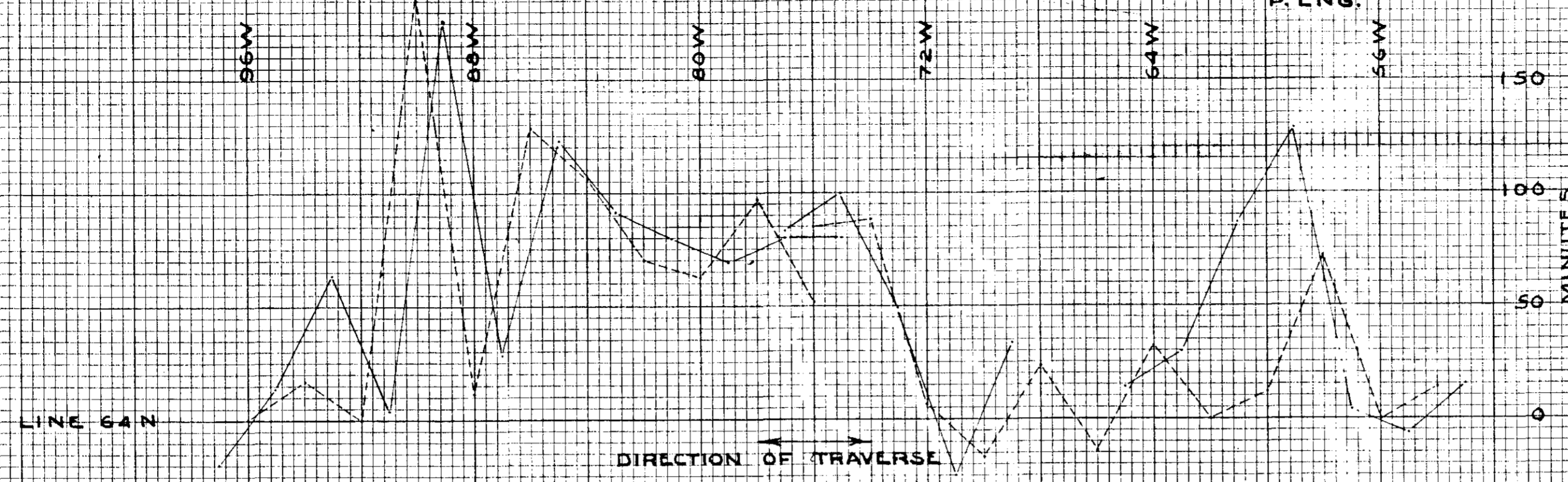
**WILLOW CREEK AREA**  
KAMLOOPS MINING DIVISION, B.C.

SCALE: 1" = 1000'

FEBRUARY, 1969

J.S.H. et  
Feb 3, 1969

THIS MAP IS TO ACCOMPANY THE GEOPHYSICAL REPORT BY P. E. HIRST DATED FEBRUARY 3, 1969.



Department  
 Mines and Petroleum  
 ASSESSMENT  
 NO. 1750 MAP 2

ANACONDA AMERICAN BRASS LTD. WESTERN EXPLORATION DIVISION

**WILLOW CREEK (P. C. CLAIMS)**  
 KAMLOOPS M.D., B.C.

**P.D.R.-H.**

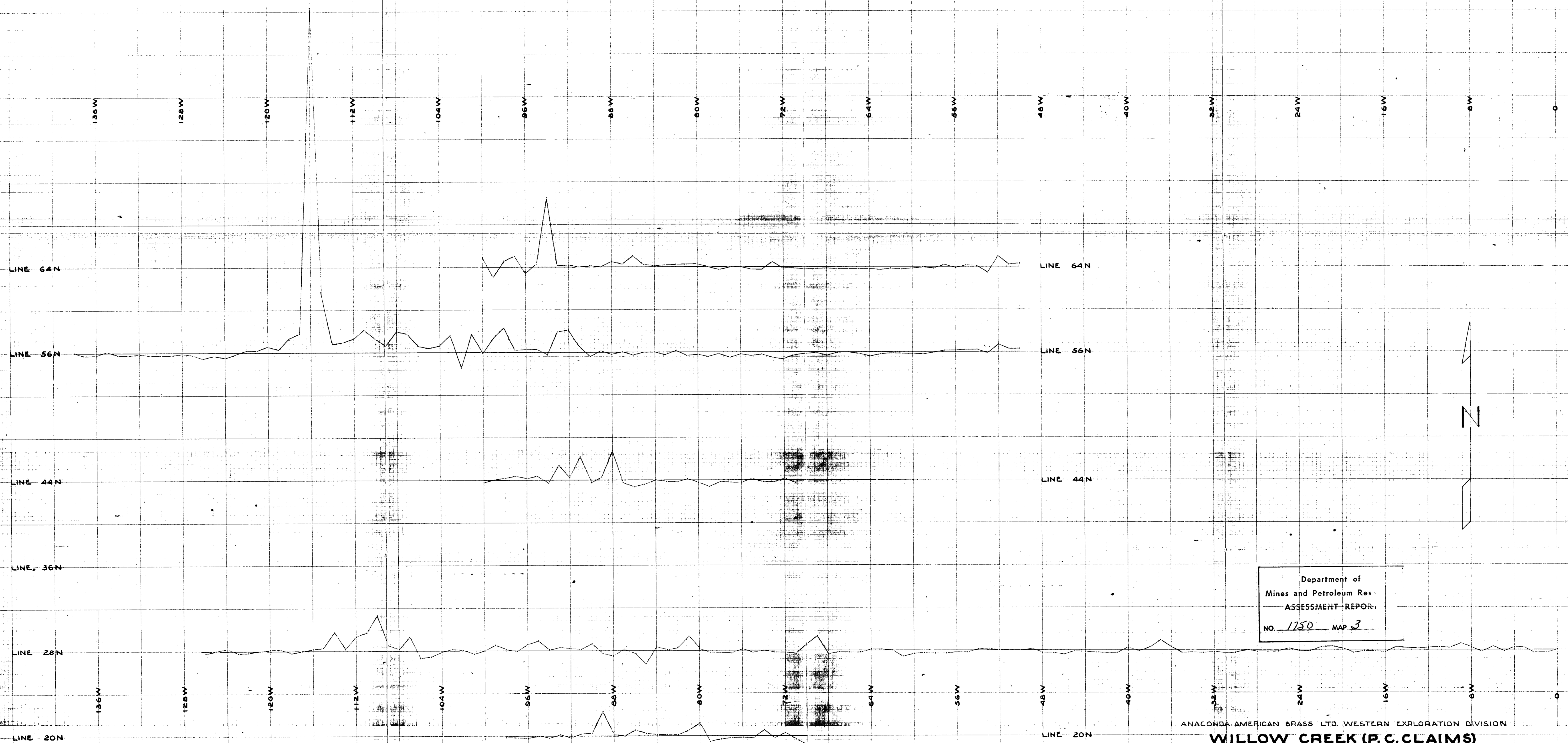
SCALES: HORIZONTAL 1" = 400' - VERTICAL 1" = 50 MINUTES  
 200 FOOT SPREAD      400 FOOT SPREAD

DATA BY: PETER SMITH      AUGUST, 1968

1750

P.E. Hirst  
 Feb 3, 1969

2



Department of  
Mines and Petroleum Res.  
ASSESSMENT REPORT  
NO. 1750 MAP 3

ANACONDA AMERICAN BRASS LTD. WESTERN EXPLORATION DIVISION  
**WILLOW CREEK (P.C. CLAIMS)**  
KAMLOOPS M.D., B.C.

**GROUND MAGNETICS**

SCALES: HORIZONTAL 1"=400' - VERTICAL 1"=1000 GAMMAS  
DATA BY: PETER SMITH AUGUST, 1968

THIS MAP IS TO ACCOMPANY THE GEOPHYSICAL REPORT BY P.E. HIRST DATED FEBRUARY 3, 1969.  
P. ENG.

1750 ③ PLATE 3

P.E. HIRST  
Feb 3 1969