

JEMIMA CLAIMS GRAVITY SURVEY

Jemima 3,4,20,22 Claims areas

Omineca Mining Division

NTS 93N/15W

124° 45.77' W Longitude

56° 56.57' N Latitude

Owner: W. L. Owen  
S. E. Porayko

Operator: C.H. Stanley  
C.A.Ager

Consultant: C.A.Ager & Associates Ltd

Date of Report: October 20, 1977

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. <u>6597</u>
MAP NO. _____

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Date of Work

Field Work: July 26 - Sept 26, 1977

Office Work: Sept 26-Oct 20, 1977

Crew

D.R.MacQuarrie, BSc, Geophysicist/Party Chief

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E. Erabander, Field Assistant

H. Moskaluk, Field Assistant

INTRODUCTION

During the period July 26-September 26, 1977, an exploratory gravity survey of 130 stations (6.5 km) was conducted over two different areas of the Jemima Claims group. The intent of the work was to delineate regions of excess mass within the underlying carbonate rocks which could indicate the presence of massive to semi-massive Ag-Pb-Zn mineralization.

The topography of the claims area is relatively steep and forest covered. The property is situated on the eastern flanks of a mountain between elevations 4000-5000 feet. The claims are underlain by slate and carbonate rocks. No geological mapping has been done except for regional reports on the area published by the provincial and federal governments.

Access to the property is by four wheel drive vehicle some 21.3 kilometers up the Nina Creek road from the Omineca Road intersection to the campsite on the eastern edge of a small lake; thence by trail to the west, up the hill to the property at bearing  $232^{\circ}$  to the Jemima 1-7 claims area. The road cuts through the Jemima 17-20 and 22 claims area as shown on Figures 2 & 3.

The claims are owned by W.L. Owens and S.E. Porayko and are under option to C.H. Stanley and C.A. Ager.

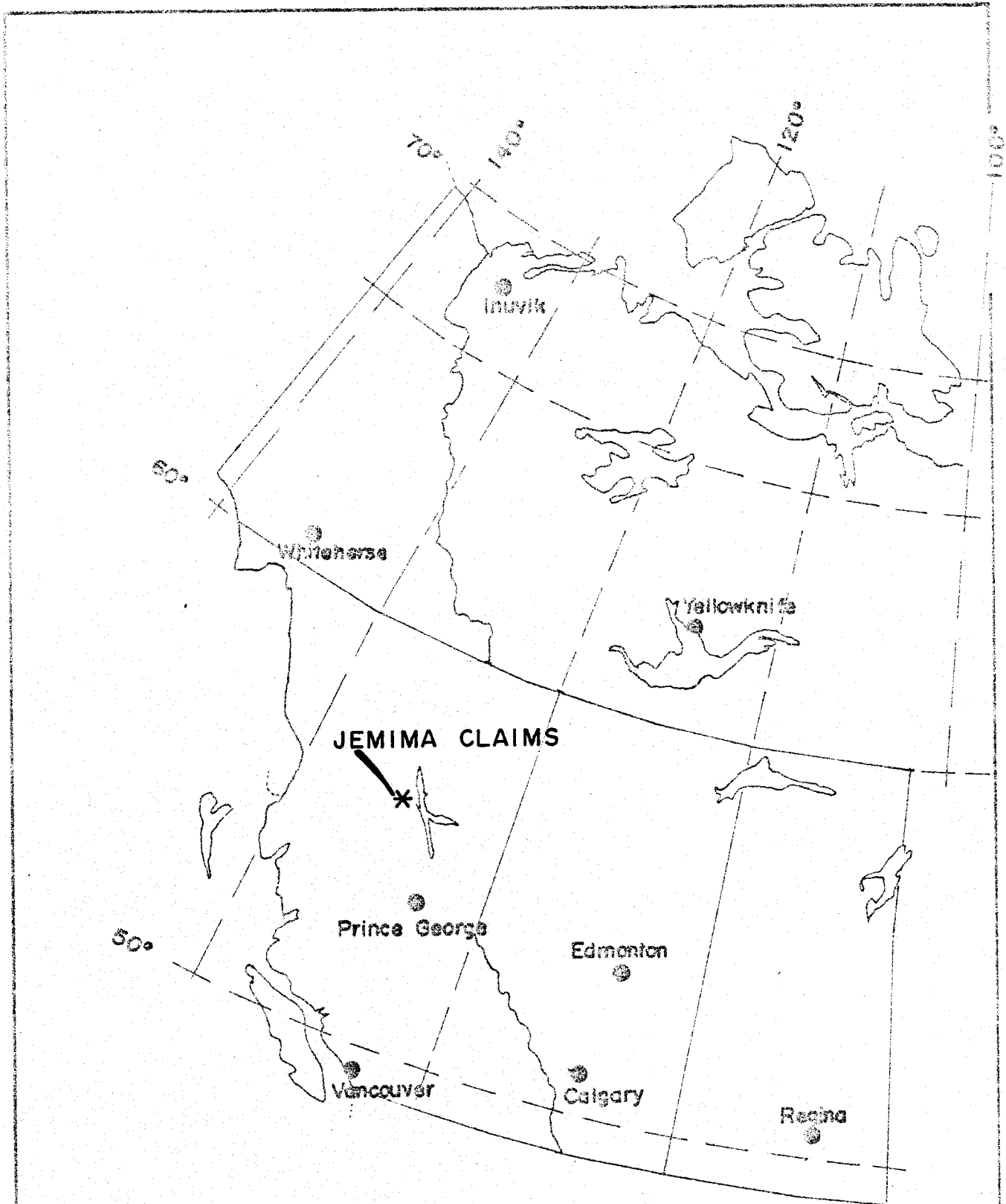


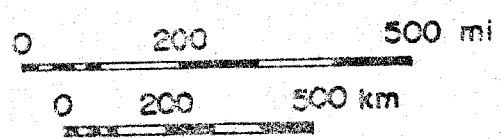
FIG. 1

*LOCATION MAP*

**JEMIMA CLAIMS AREA**

DATE: SEPT. 1977

C.A. AGER & ASSOC.  
SURREY B.C. CANADA





124°45.77'

JEMIMA CLAIMS

56°56.57'

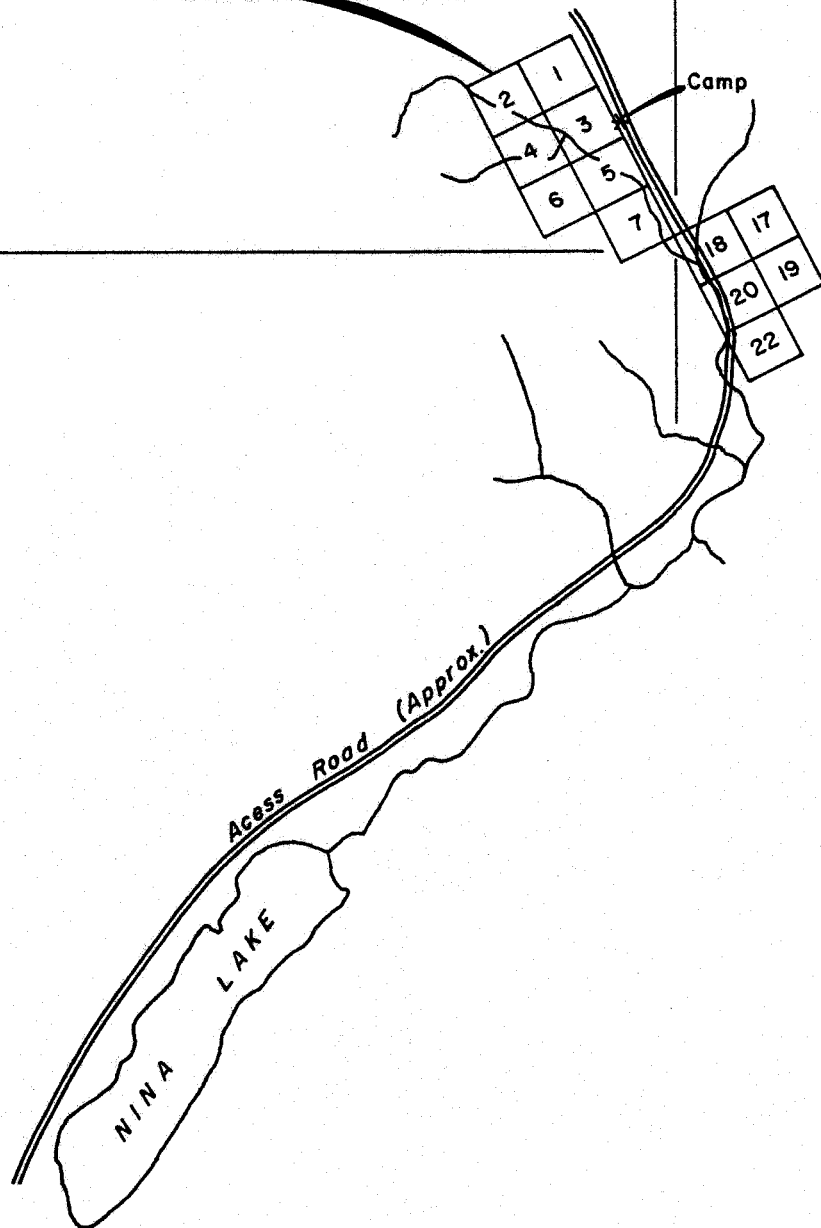


FIG. 2



**CLAIM MAP**

**JEMIMA CLAIMS**

DATE: SEPT. 1977

C.A. AGER & ASS.  
SURREY B.C. CANADA

N.T.S. 93N/15W  
OMINECA MINING DIVISION

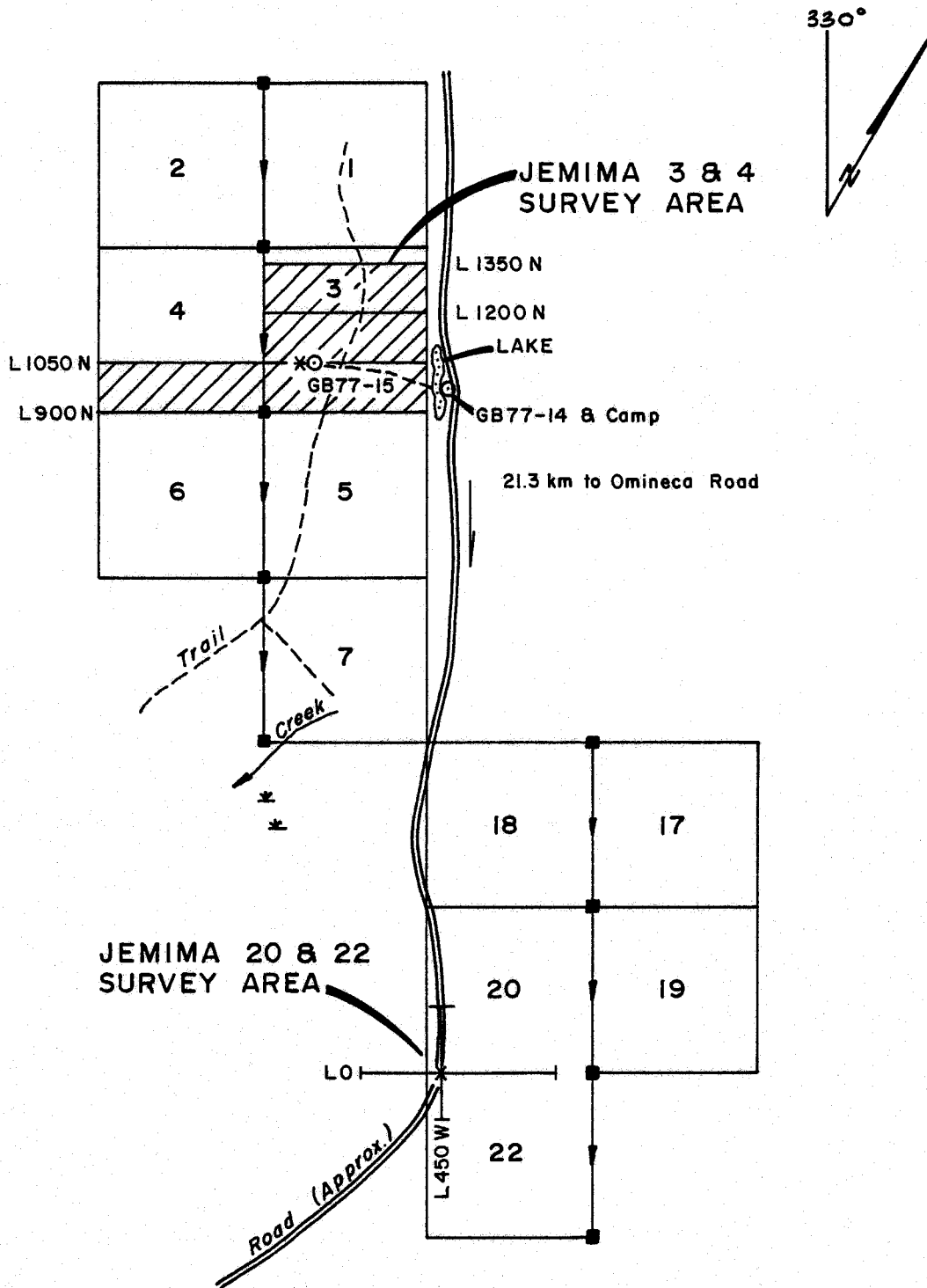


FIG. 3

**SURVEY AREAS**

**JEMIMA CLAIMS**

DATE: SEPT. 1977

C.A. AGER & ASS.  
SURREY B.C. CANADA

**LEGEND**

- \* Showing
- ⊙ GB77-15-Gravity Base Stn.
- N.T.S. 93N/15W

INSTRUMENTATION , SURVEY PROCEDURE & DATA REDUCTION

The gravity observations were made using a LaCoste & Romberg Model G gravity meter (Serial No. 209) with reading accuracy of  $\pm 0.01$  mgal. Gravity meter readings were within the dial range 4550-4650 for which the instrument constant was 1.06004 mgal/division. Instrument and diurnal drift were accounted for by tying into pre-established base stations within three hour intervals. (Refer to Appendix B for base station descriptions).

The gravity grid was established using chain and compass. Stations were at 25 and 50 meter intervals along lines 150 meters apart. Reference is made to Figures 4 and 5 for grid details and other identifying features.

Elevations were determined using an electronic level developed by Ager & Associates Ltd. Elevations were taken to the top of each peg which marks each station position at ground level. Relative elevations are accurate to  $\pm 0.03$  meters. Absolute elevations were determined for each area by picking a reference value from the 1:250,000 NTS 93N map sheet for the area.

The simple Bouguer gravity maps were calculated using standard procedures. Bouguer density was 2.67 g/cc which corresponds to an elevation factor of 0.19685 mgal/meter. Preliminary rock density measurements on dolomitic and mineralized rocks from



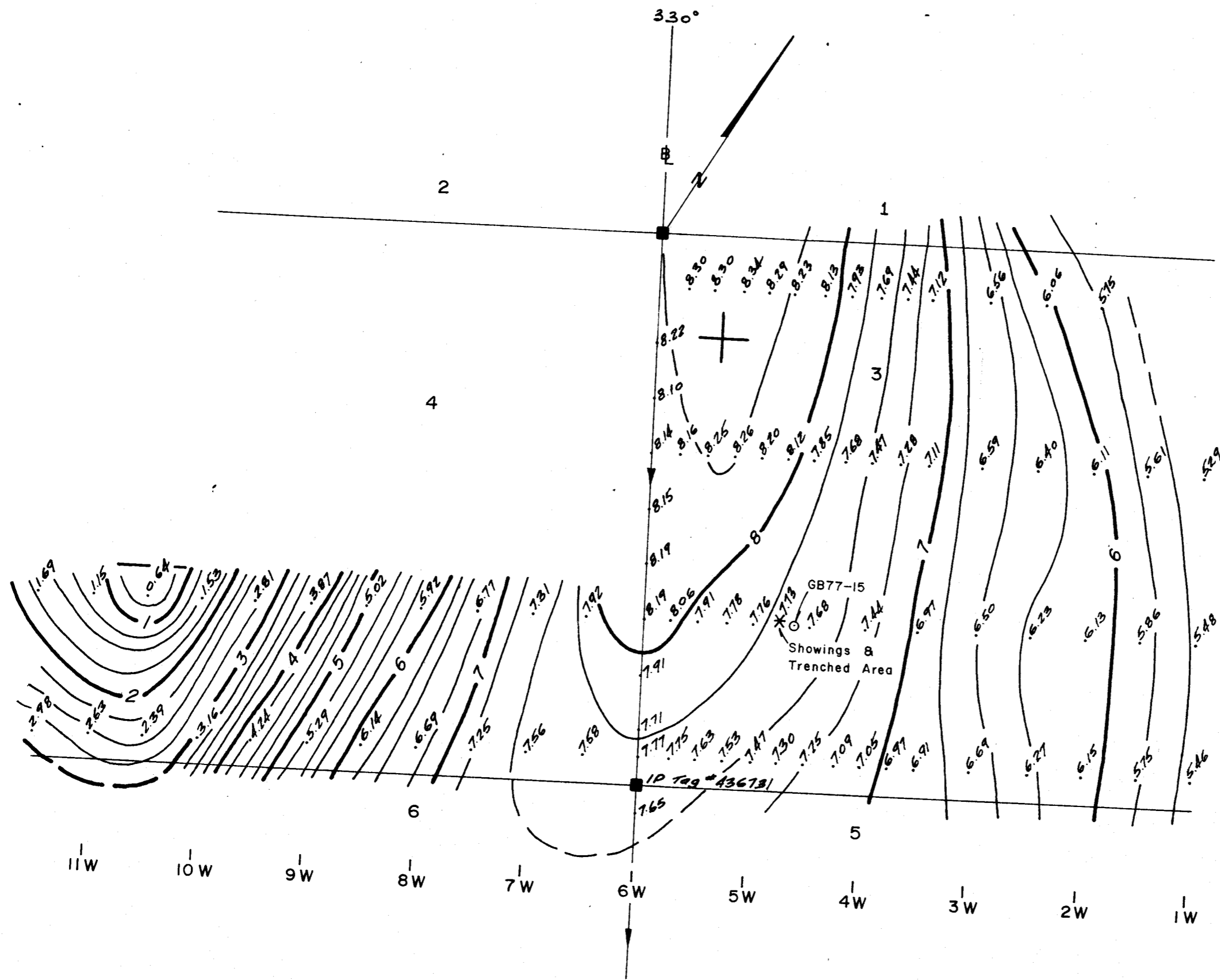
the survey area are given in Appendix A. No densities were determined for shale or carbonate rocks. However, based on density information on rock samples from the northern part of this belt, these units will be within the density range 2.65 - 2.70 g/cc. Hence, a density of 2.67 g/cc was used for data reduction. No terrain calculations were made due to the limited scope of the work and to the lack of accurate elevation maps in the vicinity of the survey area.

#### INTERPRETATION OF RESULTS

The gravity survey work was of a reconnaissance nature. The areas surveyed are too confined to do a full scale interpretation. However, based on the simple Bouguer gravity maps, the following information is self-evident:

##### (1) Jemima 3,4 Claims Area

The gravity maps for this area (Figure 4) indicates a a gravity high feature centered at 550-600W and extending from 900-1350N. The feature is open to the north. This high is probably caused by dolomitic rock units. However, the fact that Pb-Zn-Ag mineralization has been observed in dolomitic rocks on the flanks of this feature (L1050N + 475W) make it extremely noteworthy. The steep gradient between 700-1000W on L1050-L900N represents a rock contact zone. It is interpreted to be the contact between slates on the west and carbonates to the east.



L 1350 N  
 L 1200 N  
 L 1050 N  
 L 900 N

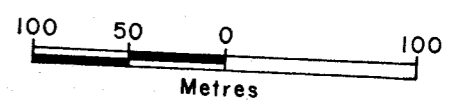
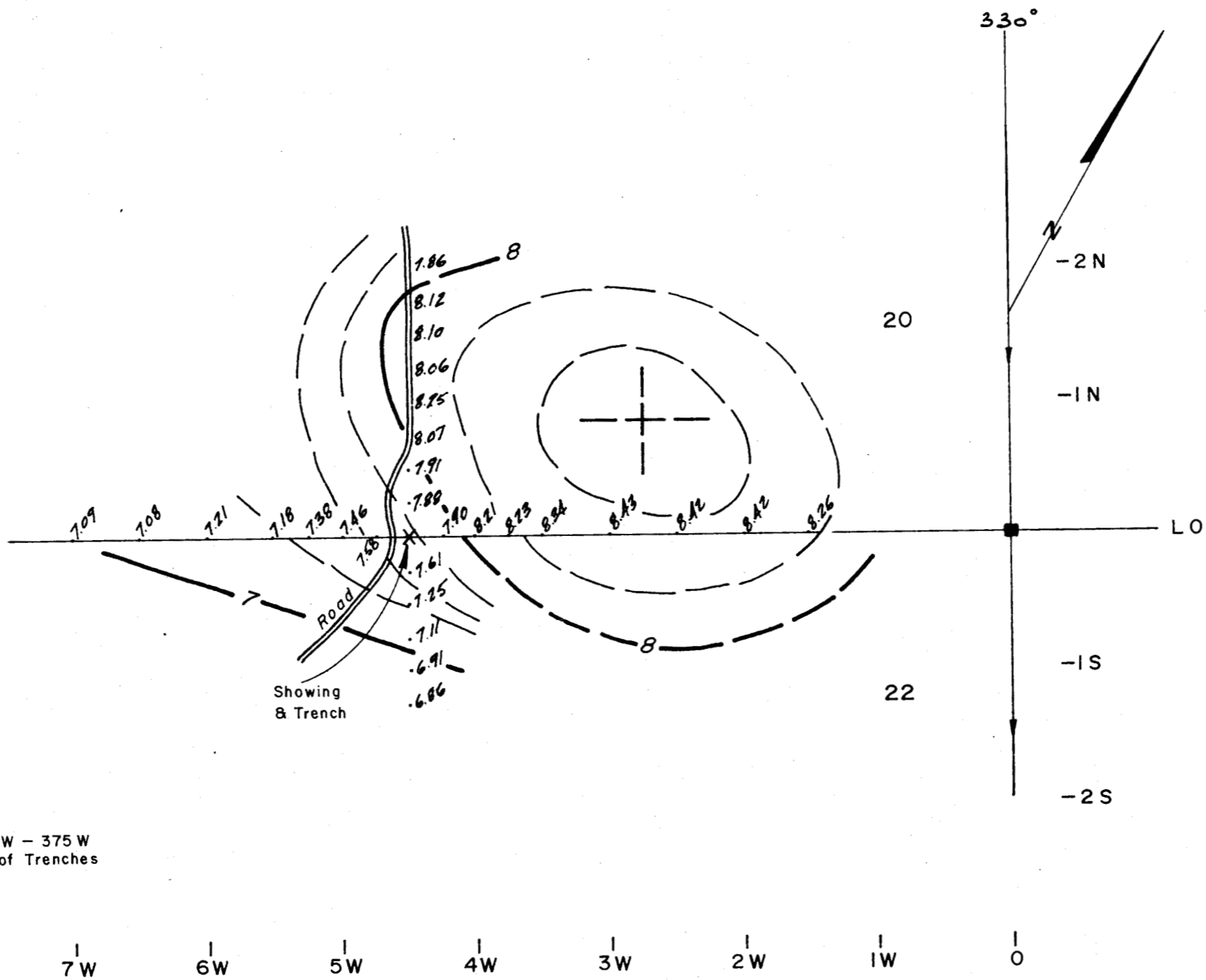


FIG. 4

**LEGEND**  
 Contour Interval = 0.25 Mgal  
 Bouguer Density = 2.67 glcc  
 Elevation Factor = .19685 Mgal/Meter

<b>SIMPLE BOUGER GRAVITY</b>	
<b>JEMIMA 3,4 CLAIMS</b>	
DATE: SEPT. 1977	C.A. AGER & ASS. SURREY, BC. CANADA



NOTE:  
 LINE 'O': 550W - 375W  
 Approx. Area of Trenches

LEGEND  
 Contour Interval = 0.25 Mgal  
 Bouguer Density = 2.67 g/cc  
 Elevation Factor = .19685 Mgal/Meter

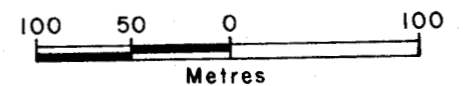


FIG. 5

SIMPLE BOUGUER GRAVITY	
JEMIMA 20,22 CLAIMS	
DATE: SEPT. 1977	C.A. AGER & ASS. SURREY B.C. CANADA

(2) Jemima 20,22 Claims Area

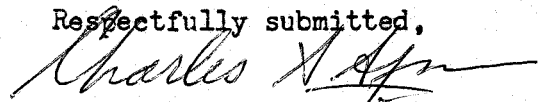
There is insufficient data to properly construct a contour map (Figure 5). However, data from the two lines surveyed suggest the presence of a gravity high feature situated to the northeast of the main mineralized showing at ON+450W. More work is definitely required here before the economic nature of this area can be properly assessed.

CONCLUSIONS & RECOMMENDATIONS

Based on the gravity results presented in this report, the following work is recommended:

- (1) Extend the gravity survey to cover all the Jemima claims at line spacing 150 meters and station interval 50 meters.
- (2) Conduct an induced polarization survey over the same grid as the gravity work using dipole-dipole array with  $a=50$  meters,  $n=2$ .
- (3) Map the geology of the entire claims area and detail prospect the geological and geophysical anomalous areas.
- (4) Diamond drill the coincident gravity high-I.P. high zones within dolomitic units at or near the carbonate-slate contact.

Respectfully submitted,



Charles A. Ager, Ph.D., PEng.

Geophysicist

October 20, 1977

APPENDIX ARock Density Measurements - Jemima Claims

<u>Rock Type</u>	<u>No of Samples</u>	<u>Mean Density</u>
Dolomite	1	2.75 g/cc
Dolomite Breccia	6	2.83 g/cc
Mineralized Dolomite Breccia	6	3.10 g/cc

\* \* \* \* \*

APPENDIX BGravity Base Station Data

<u>Station No.</u>	<u>Location &amp; Description</u> (Figures 2 and 3)	<u>Observed Gravity</u>	
		<u>Relative</u>	<u>Absolute</u>
GB 77-14	Station is located on a large semi-buried rock in a campsite 21.3 km northeast up the Nina Creek road. It is 4 m south of a large tree on the west side of the road.	135.92	981,212.70
GB 77-15	Station is situated on a large rock on the trail west of the lakes campsite at the main showings trenches at grid coordinates L1050N+462W.	121.81	981,198.59
9352-74	National network base station located on the gas pumps base at Gillilands Lodge, Germansen Landing, B.C.		981,303.54









STATEMENT NO.	CONT.	FORTRAN STATEMENT	IDENTIFICATION
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C. A. AGER & ASSOCIATES LTD.

Telephone (604) 536-1154

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GEOPHYSICISTS

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Surrey, B.C. Canada  
V3S 4N7

IN ACCOUNT WITH

C.H. Stanley & C.A. Ager  
502-409 Granville Street  
Vancouver, B.C.

FOR

Professional geophysical services rendered in regard to  
the gravity survey over the Jemima 3,4,20,22 Claims  
area as follows:

6.5 km gravity survey work @ \$400/km	\$ 2600.00
Total rendered herewith	<u>\$ 2600.00</u>

CERTIFICATE OF QUALIFICATIONS

I, Charles A. Ager, do hereby certify that:

- (1) I am a practising geophysicist with offices and residence at 15423 34th Avenue, Surrey, B.C., Canada.
- (2) I have received the following university degrees:
  - (a) 1968 B.A. (Honours Math/Physics)  
California State University, Sacramento, Calif.
  - (b) 1972 M.Sc. (Applied Geophysics)  
University of B.C., Vancouver, B.C.
  - (c) 1975 Ph.D. (Applied Geophysics)  
University of B.C., Vancouver, B.C.
- (3) I am a member in good standing of the following professional organizations:
  - (a) B.C. Geophysical Society
  - (b) Society of Exploration Geophysicists
  - (c) Association of Professional Engineers  
of the Province of British Columbia
- (4) Since 1968 I have been engaged in exploration and mining geophysics over numerous projects in western North America and eastern Canada.
- (5) The geophysical field work and the interpretation of the results in this report were done under my direct supervision.

06/20/77



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Charles A. Ager, PhD, PEng  
Geophysicist