

AGER, BERRETTA & ASSOCIATES INC.

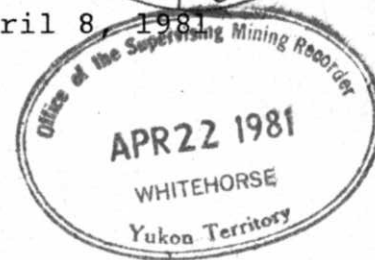
Telephone: (604) 669-7748

CONSULTING  
GEOPHYSICISTS

206 - 595 Howe Street  
Vancouver, B.C., Canada  
V6C 2T5



April 8, 1981



AIRBORNE MAGNETIC AND VLF  
ELECTROMAGNETIC SURVEY

PEGASEUS CLAIM GROUP, WATSON LAKE Md.  
PAYMASTER MINES LTD.

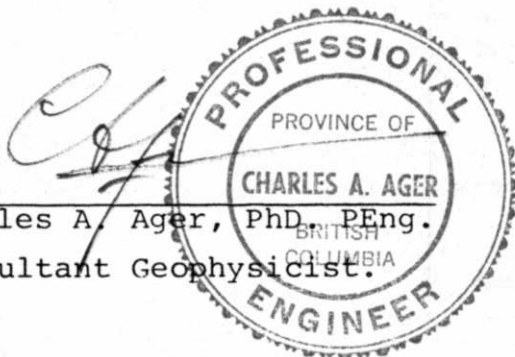
SUMMARY

This report presents the results of the airborne magnetic and VLF electromagnetic surveys over the Pegaseus claims area, Oscar Lake, Y.T. The purpose of the work was to outline any structural and/or anomalous zones which could relate to known sheelite skarns in the area. Further ground follow-up will be required to ascertain the economic nature of the targets delineated by this airborne geophysical survey.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "R. Englund".

Ralph J. Englund, BSc.  
Geophysicist.



Charles A. Ager, PhD, P.Eng.  
Consultant Geophysicist.

090801



This report has been examined by the Geological Evaluation Unit and is recommended to the Commissioner to be considered as representation work in the amount of

\$ 10,400.00

*[Handwritten Signature]*

Resident Geologist or  
Resident Mining Engineer

Considered as representation work under  
Section 53 (4) Yukon Quartz Mining Act.

*[Handwritten Signature]*  
B. R. BAXTER  
Supervising Mining Recorder

*[Handwritten Signature]*  
Commissioner of Yukon Territory



## Table of Contents

Introduction	page 1
Property	1
Instrumentation & Procedure	1
The Magnetic Maps	4
The VLF Electromagnetic Map	4
Interpretaton of Results	5
Conclusions and Recommendations	5
Certificates	6
Statement of Cost	7

### Figures

Figure 1	Location Map	page 2
Figure 2	Location Map and Grid Map	3
Figure 3	Magnetic Data Map	Leaflet
Figure 4	Magnetic Contour Map	Leaflet
Figure 5	VLF EM Contour Map	Leaflet

## INTRODUCTION

At the request of, and together with, Strato Geological Ltd. an airborne magnetic and VLF electromagnetic survey was conducted over the Pegaseus and Peg Claim Groups, Ocsar Lake Area, Y.T. during March 1981. The intent of the airborne geophysical work was to delineate any structural and/or anomalous zones within the claim group which could relate to known sheelite skarns west of the claim area. In total, 134 line kilometres of geophysical data was collected over the claim group.

## PROPERTY

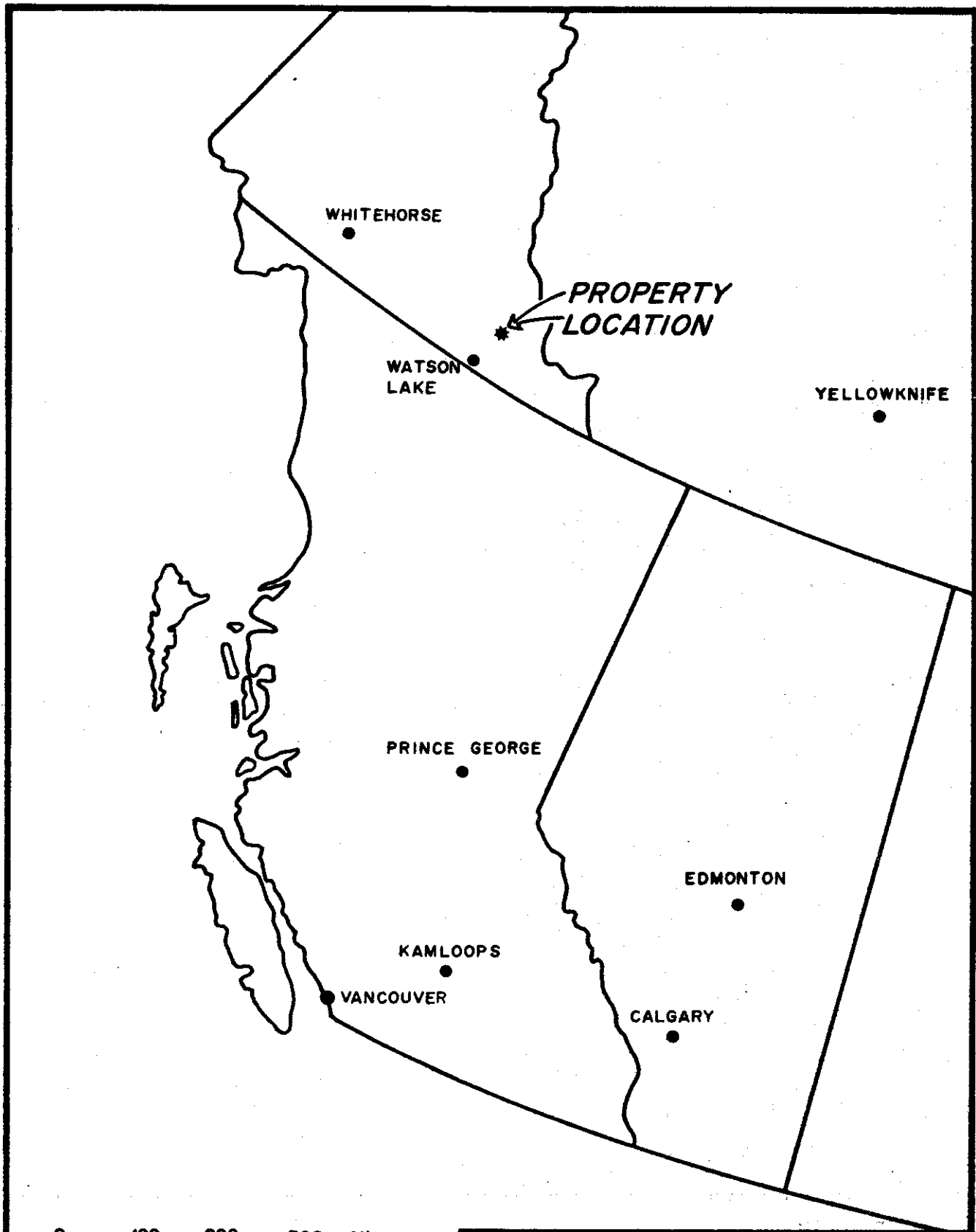
The property is located in the Watson Lake Mining District - NTS 105A,  $60^{\circ} 45'$  N Lat. by  $128^{\circ} 45'$  W Long. (Figures 1 and 2). Access to the area is by float plane and/or helicopter to Oscar Lake some 67 kilometres north of Watson Lake Y.T. The property comprises:

Pegaseus	1-31	No's YA35549 to YA35580
Peg	1-72	No's YA36717 to YA36788

## INSTRUMENTATION AND SURVEY PROCEDURE

The survey was flown with flight lines in a north-south direction, line spacing of 20 metres and mean terrain clearance of 60 metres for a total of 134 line kilometres. The south-west extension of the claim group, Pegaseus Units 23-32, was flown with east-west flight lines. The instrumentation consisted of a Sabre Electronics proton precession magnetometer and VLF electromagnetic receiver tuned to both the Seattle and Annalolis transmitter stations with detecting elements located in a bird towed some 15 metres below the aircraft. All data was recorded on a analog strip recorder.

The aerial platform was a 206 Bell Jet Ranger helicopter owned by Frontier Helicopters Ltd., piloted by J. Saunders.

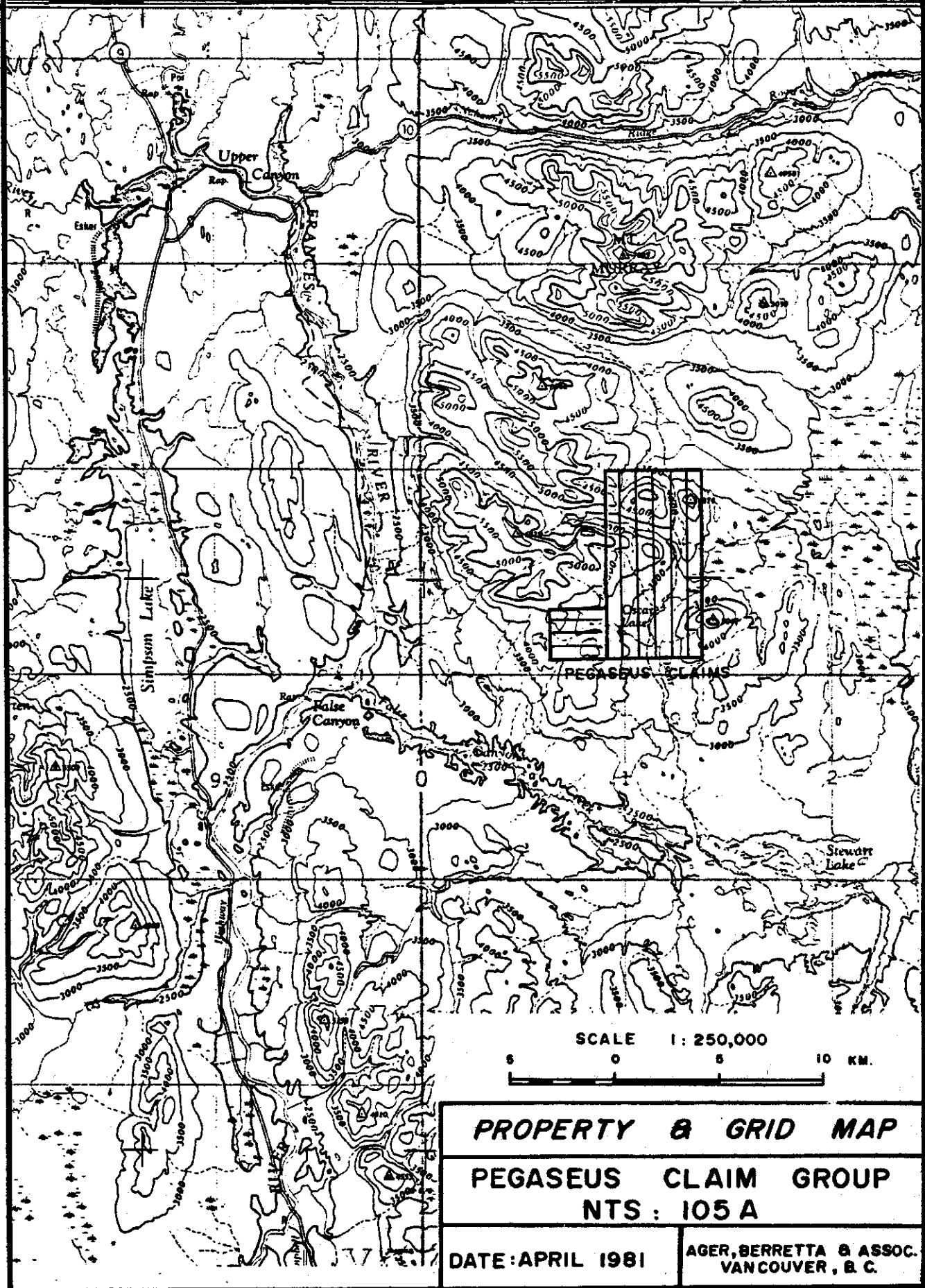


0 100 200 300 Mi

0 200 400 Km

<b>LOCATION MAP</b>	
<b>PEGASEUS CLAIM GROUP</b>	
<b>NTS : 105 A</b>	
<b>DATE: APRIL 1981</b>	<b>AGER, BERRETTA &amp; ASSOC. VAN COUVER, B.C.</b>

FIGURE 1



SCALE 1 : 250,000



**PROPERTY & GRID MAP**

**PEGASEUS CLAIM GROUP  
NTS : 105 A**

**DATE : APRIL 1981**

**AGER, BERRETTA & ASSOC.  
VANCOUVER, B. C.**

**FIGURE 2**

Mobilization for the survey work was out of Watson Lake, Y.T. Flight navigation was visual using a 1:25,000 topographic base map prepared by Strato Geological Ltd. Lakes, creeks and mountain peaks were used as flight tie points. Magnetic and V.L.F data were prorated between these fiducial points to account for variances of true ground speed and plotted accordingly.

The aerial survey crew consisted of R.J. England, geophysicist and H. Leis, Strato Geological Ltd., navigator and coordinator. Data reduction and interpretation were done by the writer.

#### THE MAGNETIC MAPS

The Sabre Electronics magnetometer measures the absolute value of the total field strength with a sensitivity of  $\pm 1$  gamma. However, due to moderately steep topography in some areas it was difficult to maintain constant terrain clearances. This implies that there are some terrain clearance induced anomalies in the data. The magnetic data is considered accurate to about  $\pm 10$  gammas, and is presented on Figure 3 with magnetic contours presented on Figure 4. The magnetic datum is 59,000 gammas.

#### THE VLF ELECTROMAGNETIC MAP

The Sabre VLF-EM receiver is designed to measure the horizontal field strength of the very low frequency electromagnetic fields transmitted from radio stations in the 15-25 KHz range. The signals are propagated with the magnetic field being horizontal in undisturbed areas. Conductively contrasts in the earth create secondary fields, producing a vertical component and changes in the field strength or amplitude. It is these field strength variations which are mapped by the airborne VLF system.

The VLF receiver was tuned to both 18.6 KHz, Seattle, Washington and 21.4 KHz, Annapolis, Md. The receiver is

omnidirectional and allows for flight line direction to be independent of geological directions.

#### INTERPRETATION OF RESULTS


In general, the entire property is underlain by rocks of little magnetic relief. The magnetic gradient is north-south, increasing to the east.

The VLF EM contour map, Figure 5, readily pinpoints a number of conductive zones within the survey area. Many of these anomalies are associated with creeks in the area. Other anomalies, especially in the central portion of the claims, north-west Oscar Lake, have a low amplitude magnetic anomaly or perturbation associated with them and should be investigated further by ground follow-up.

#### CONCLUSIONS AND RECOMMENDATIONS

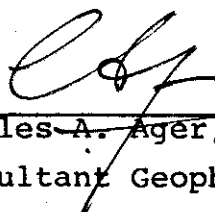
The aeromagnetic and VLF data provide a good overview showing a number of low amplitude targets which will provide a good basis for future ground survey work. Ground follow-up will be required before comments regarding the economic nature of the targets can be determined.

Respectfully submitted,

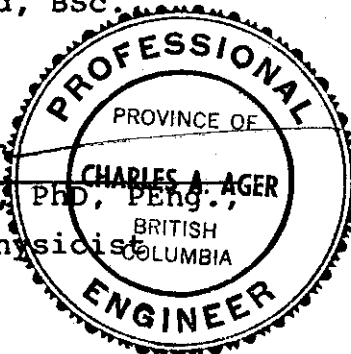


Ralph J. England, BSc.

Geophysicist



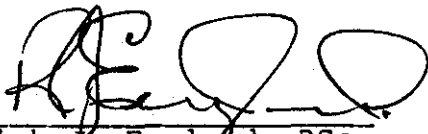
Charles A. Ager, PhD, P.Eng.,  
Consultant Geophysicist



CERTIFICATE OF QUALIFICATIONS

I, Ralph Englund, do hereby certify that:

1. I am a practising geophysicist with offices at # 206 - 595 Howe St., Vancouver, B.C. Canada V6C 2T5.
2. I am a graduate of U.B.C. where I obtained my BSc. (Physics) in 1971.
3. I am a member in good standing of the following professional organization:
  - a) B.C. Geophysical Society
4. I have been engaged in the study, teaching, and practice of exploration geophysics continuously for 9 years. I have worked as a geophysical consultant on numerous projects in Western North America.
5. The geophysical field work and the interpretation of the results in this report were done under my direct supervision.



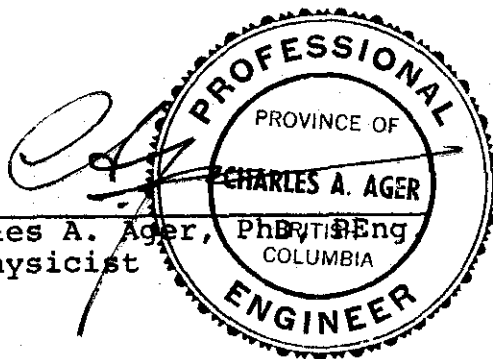
Ralph J. Englund, BSc.,  
Geophysicist

CERTIFICATE OF QUALIFICATIONS

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

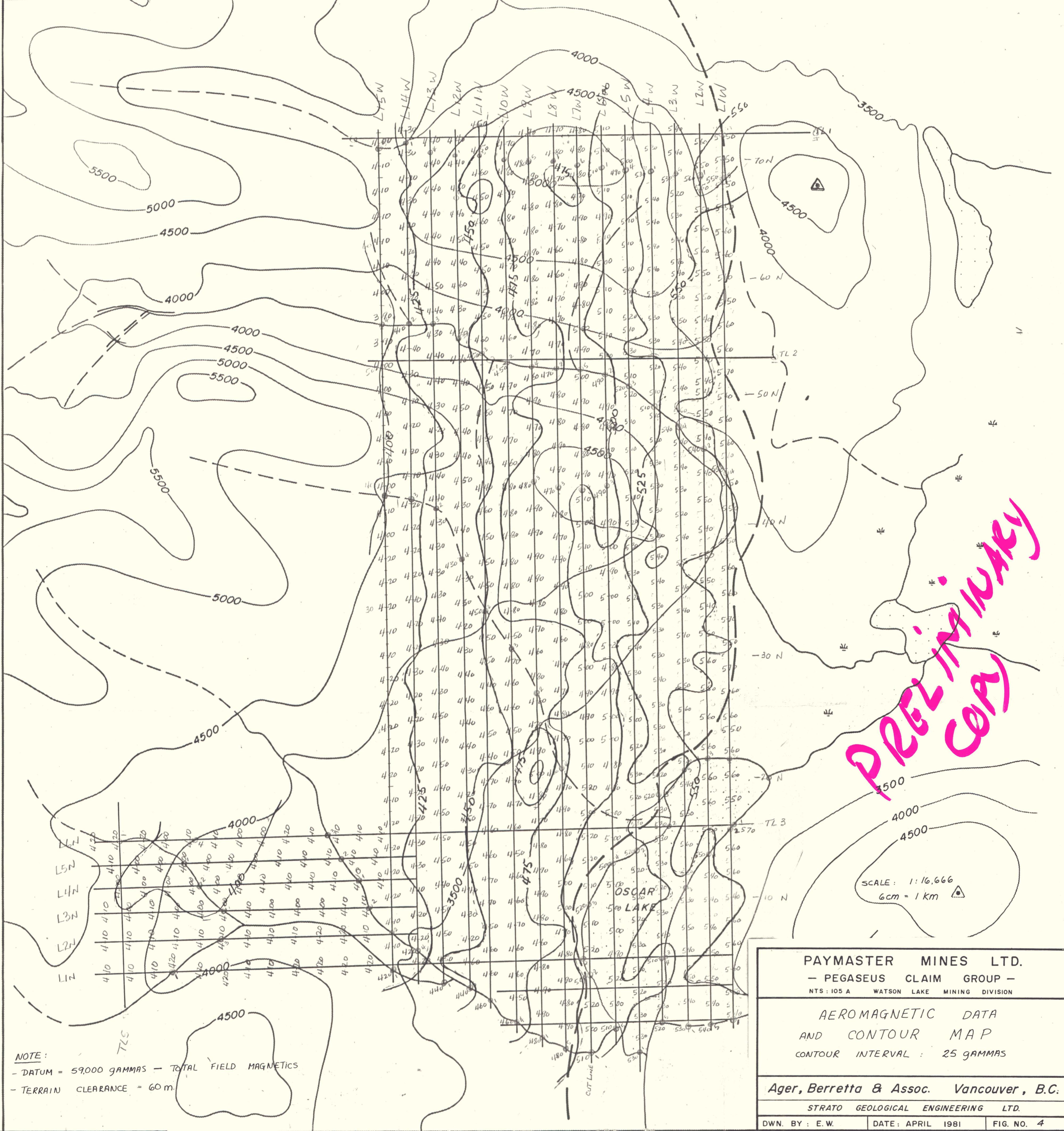
1. I am a practising geophysicist with offices at #206-595 Howe St., Vancouver, B.C. Canada V6C 2T5.
2. I have received the following university degrees:
  - (a) 1968 BA (Honours Math/Physics)
  - (b) 1972 MSc (Applied Geophysics)  
University of B.C., Vancouver, B.C. Canada
  - (c) 1975 PhD (Applied Geophysics)  
University of B.C., Vancouver, B.C. Canada
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.

Charles A. Ager,  
Geophysicist



STATEMENT OF COST

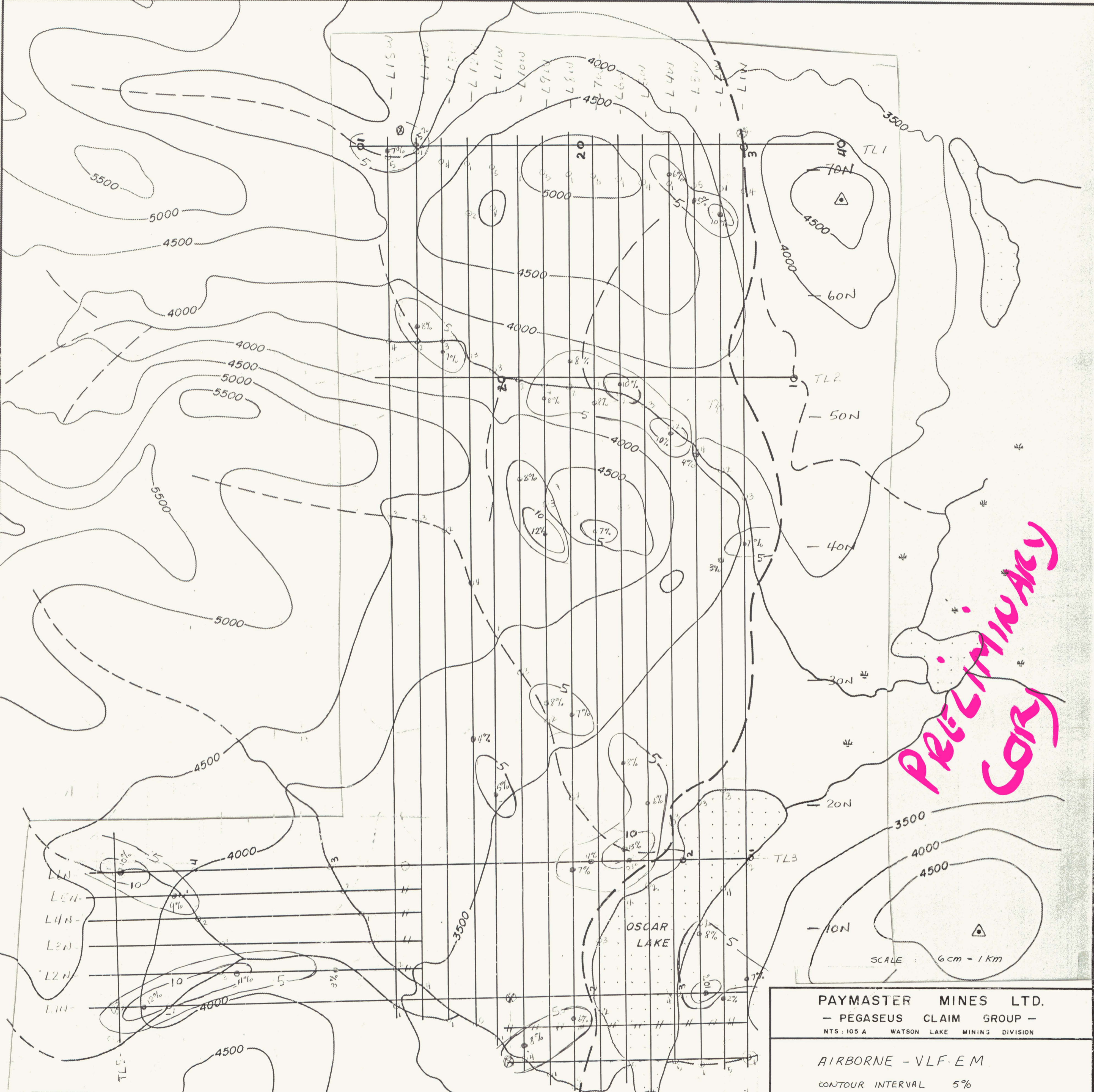
Airborne EM & Magnetic Survey.....	
134Km at \$40.00 .....	\$5,360.00
Transportation.....	\$1,377.11
Helicopter.....	\$3,194.00
Room & Board.....	\$ 426.75
Maps.....	\$ 445.63
Misc. Expenses.....	\$ 76.30
	<hr/>
Total.....	\$10,879.79



PRELIMINARY COPY

**NOTE:**  
 - DATUM = 59000 GAMMAS - TOTAL FIELD MAGNETICS  
 - TERRAIN CLEARANCE = 60 m.

<b>PAYMASTER MINES LTD.</b> - PEGASEUS CLAIM GROUP - <small>NTS: 105 A WATSON LAKE MINING DIVISION</small>		
<b>AEROMAGNETIC DATA          AND CONTOUR MAP</b> <small>CONTOUR INTERVAL: 25 GAMMAS</small>		
<b>Ager, Berretta &amp; Assoc. Vancouver, B.C.</b>		
<small>STRATO GEOLOGICAL ENGINEERING LTD.</small>		
<small>DWN. BY: E. W.</small>	<small>DATE: APRIL 1981</small>	<small>FIG. NO. 4</small>



PRELIMINARY COPY

NOTE: - CABRE ELECTRONICS: OMNI-DIRECTIONAL VERTICAL COIL RECEIVER.  
 - TRANSMITTERS: SEATTLE 18.6 KHz ANNAPOLIS 21.4 KHz  
 - HORIZONTAL FIELD STRENGTH IN PERCENT (%).  
 - ARBITRARY REFERENCE DATUM.

PAYMASTER MINES LTD.	
- PEGASEUS CLAIM GROUP -	
NTS: 105 A WATSON LAKE MINING DIVISION	
AIRBORNE - VLF-EM	
CONTOUR INTERVAL 5%	
Ager, Berreita & Assoc. Vancouver, B.C.	
STRATO GEOLOGICAL ENGINEERING LTD.	
DWN. BY: E.W.	DATE: APRIL 1981
FIG. NO. 5	

SCALE: 6cm = 1km

OSCAR LAKE