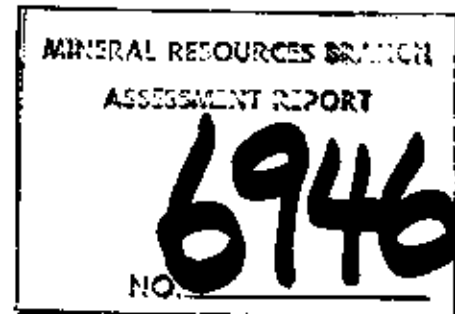


REPORT ON  
SHOOTBACK EM SURVEY  
ON THE KENA CLAIM GROUP  
NELSON MINING DIVISION, B.C.  
NTS 82F/186 8E

by  
S. SAYDAM  
for  
O. JANOUT



CLAIMS: 16 to 20 inclusive  
LATITUDE: 49° 25' N  
LONGITUDE: 117° 15' 30" W

October 23, 1978

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## 1. Introduction

During October 3 to 5, 1978, a Shootback EM survey has been carried out on Kena Claims which are currently held by O. Janout of Nelson, B.C.

The purpose of the EM survey was to evaluate whether any massive sulfide body of appreciable size exists in an area where a previous I.P. Survey by Phoenix Geophysics Ltd. in 1977 resulted in anomalously high IP values and low resistivities.

Kena Claims 1 - 15 were recorded on November 5, 1973 (Record Nos. 15323 - 15337 inclusive) and Claims 16 - 32 were recorded on November 5, 1974 (Record Nos. 15643 - 15659 inclusive) in the name of Mr. O. Janout.

## 2. Location and Access

The Kena Claim group is located in N.T.S. Sheet No. 82 F/6 and accessible via a rough logging road which leaves Highway No. 6 about six km South of Nelson. The claim group is positioned approximately on the Eastern flank of the Toad Mountain and elevations range from 1000 meters to 1600 meters within the claims.

A four-wheel drive vehicle is required to reach the claim group.

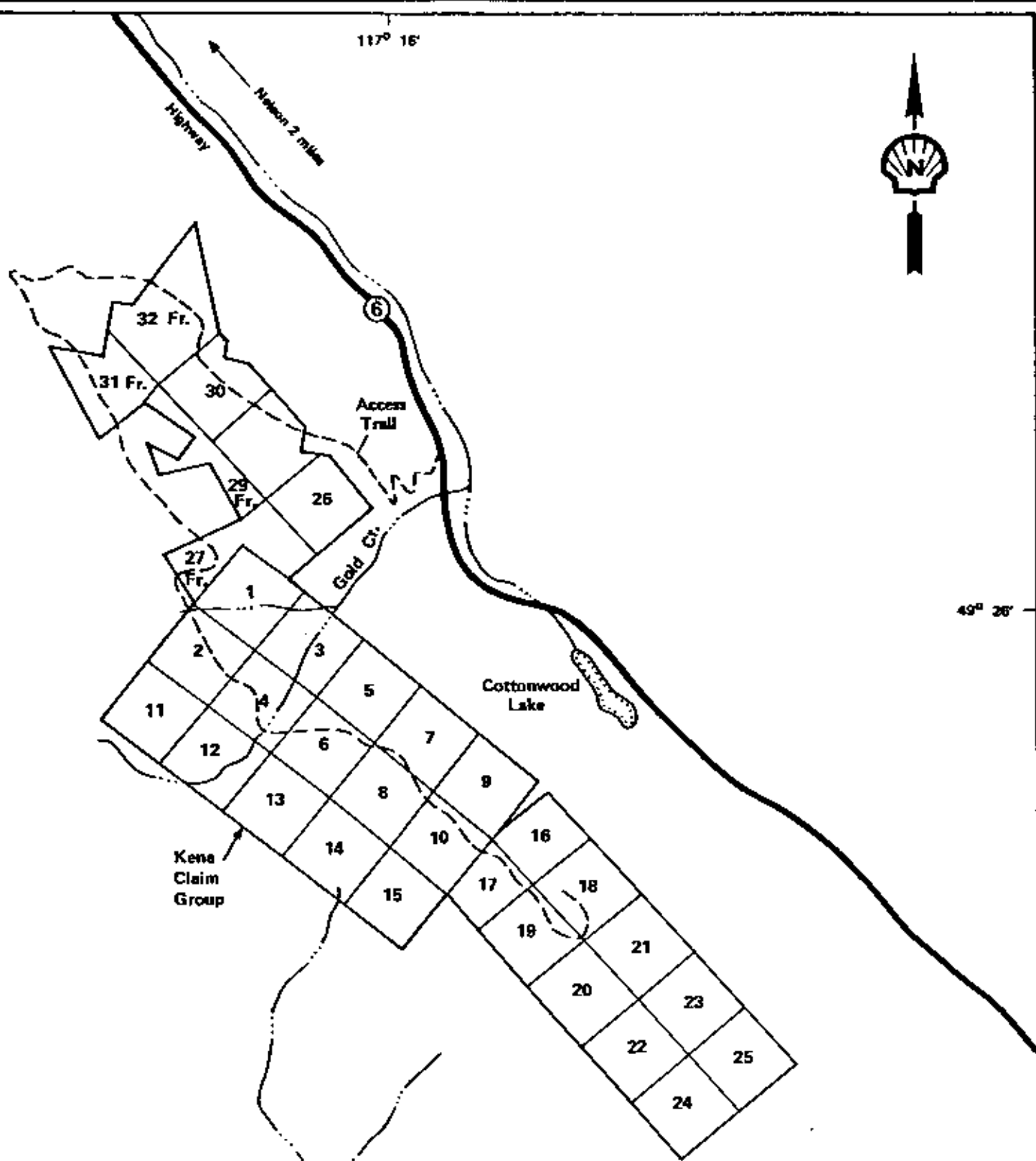
### 3. Geology

The Kena Claim group is underlain by metamorphosed medium coloured volcanic rocks of lower Jurassic age (Rosland Group). Nelson Batholith, which is of lower Cretaceous age intrudes the Rosland group of rocks in the area. Strike of the volcanic rocks within the claims is approximately  $310^{\circ}$  -  $320^{\circ}$  and dip is steeply to Southwest. A description of general geology of the area can be found in G.S.C. Memoir No. 308 by H.W. Little.

Finely disseminated pyrite and chalcopyrite (up to 10%) widespread in the volcanic rocks.

Overburden is generally shallow and abundant outcrops exist within the claim group.

117° 16'



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**KENA CLAIM GROUP FIG. 1  
LOCATION MAP  
NELSON MINING DIVISION, B.C.  
NTS 82 F/6**

SCALE  
0 1000 2000 Metres

AUTHOR: A.S. SAYDAM	SCALE:	DRAWING No.
DATE: OCT 1979	REVISED:	ENCLOSURE No.
To: Approver:		

#### 4. Survey

The Shootback EM survey was done along lines 40E, 44E, 48E and 56E. The former three lines are 400 feet apart and the line 56E is 800 feet east of the line 48E. Tilt angle (inphase) measurements were taken every 25 meters using the frequencies 1830 Hz and 5010 Hz. The line 48E was also surveyed using 390 Hz frequency. Coil separation was 100 meters. Total length of the lines surveyed was 2.1 kilometers. Horizontal coil configuration was used to survey the lines.

In horizontal loop Shootback mode of operation tilt of the primary EM field from vertical is measured by both coils and the two measurements are added to come up with the resultant inphase response. Both coils alternate as transmitter and receiver at every measurement position.

If there is no conductor present in the ground the primary field setup by the horizontal transmitting coil would be vertical and hence the tilt angle measured by the receiver would be zero. However, if there are conductors in the ground, the primary field would induce currents in ground conductors and in return ground conductors would set up a secondary field which would have a phase somewhat different than the primary field. Therefore the resultant field at receiver would be the summation of the primary field (due to transmitter) and the secondary field (due to ground conductors), and it would be tilted away from the vertical. The amount of tilt of the resultant field is a function of many variables such as, the location of receiver and transmitter with respect to ground conductor, conductivity and thickness of conductor, coil separation, frequency, etc. to name a few.

More information about the Crone Shootback EM method and instrument may be obtained from Mining Geophysics, Vol. 1, p. 151 (S.E.G. Publication), and also from the equipment manufacturer (Crone Geophysics Ltd.).

## 5. Results and Conclusions

Inphase (tilt angle) values are plotted to a scale of 1 cm = 10° on the enclosed plan map. There is very little change in inphase values along the lines within the range of frequencies used, suggesting that the area is underlain by generally moderate to highly resistive rocks and thin overburden. Minor changes in tilt angle values are believed to be caused by variation in moisture content in overburden and possible change in overburden thickness. One small anomaly along line 48E and approximately 8 + 00S, may perhaps be the result of minor sulfide concentration at that location. Aforesaid anomaly was detected using the medium frequency (1830 Hz) only, there is no recognizable anomalous response at frequencies of 390 Hz and 5010 Hz.

Even though sulfide dissemination appears to be quite widespread in the area, sulfide concentration apparently does not reach a level which may be considered "massive" and be detected by the Shootback EM system along the lines surveyed. Depth penetration of the system would be approximately 50 to 75 meters for the coil separation used and there is always possibility of massive sulfide occurrence beyond the detection limit of the EM system.

Respectfully Submitted



Sacit Saydam  
P. Geophysicist  
Minerals Exploration



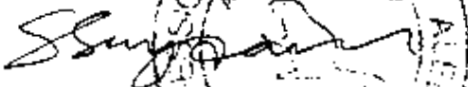
SS/bh  
October 1978



Certificate

I, A. Sacit Saydam hereby certify that:

1. I am a Professional Geophysicist residing at 94-4740 Dalton Dr. N.W., Calgary, Alberta.
2. I am a member of the Alberta Professional Engineers Geologists and Geophysicists Association of Alberta (APEGGA).
3. I received a B.Sc.(Hons.) degree in Geological Engineering in 1972 from The Middle East Technical University of Ankara, Turkey.
4. I received a M.Sc. degree in Geophysics from the University of Calgary in 1975. I have been practicing exploration geophysics since 1975.
5. I am a member of Society of Exploration Geophysicists (S.E.G.).
6. I have been employed by Shell Canada Resources Limited as a geophysicist since 1977.
7. I am the author of this report.

  
A. Sacit Saydam, B.Sc. (Hons.) M.Sc.  
P. Geophysicist



SS/bh

6. Statement of Expenditures

Personnel:

A. S. Saydam	\$83/day, Oct. 4 and 5 for two days in field	\$ 166.00
	\$75/day, Oct. 9 and 10 for two days report writing in office	150.00
A. Olney	\$65/day, Oct. 4 and 5 for two days in field	130.00
W.A. MacLeod	\$85/day, Oct. 9 for one day study of geology in office	85.00
S. Camping	\$60/day, Oct. 10 and 11 for two days data plotting and drafting	120.00
	Plus 25% Burden	162.75

Accommodation:

	\$45.00/day Oct. 4 and 5 for two days for two people	184.00
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Transportation:

	Return air fares from Calgary to Nelson and back and bus fares	220.00
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Vehicle Rental:

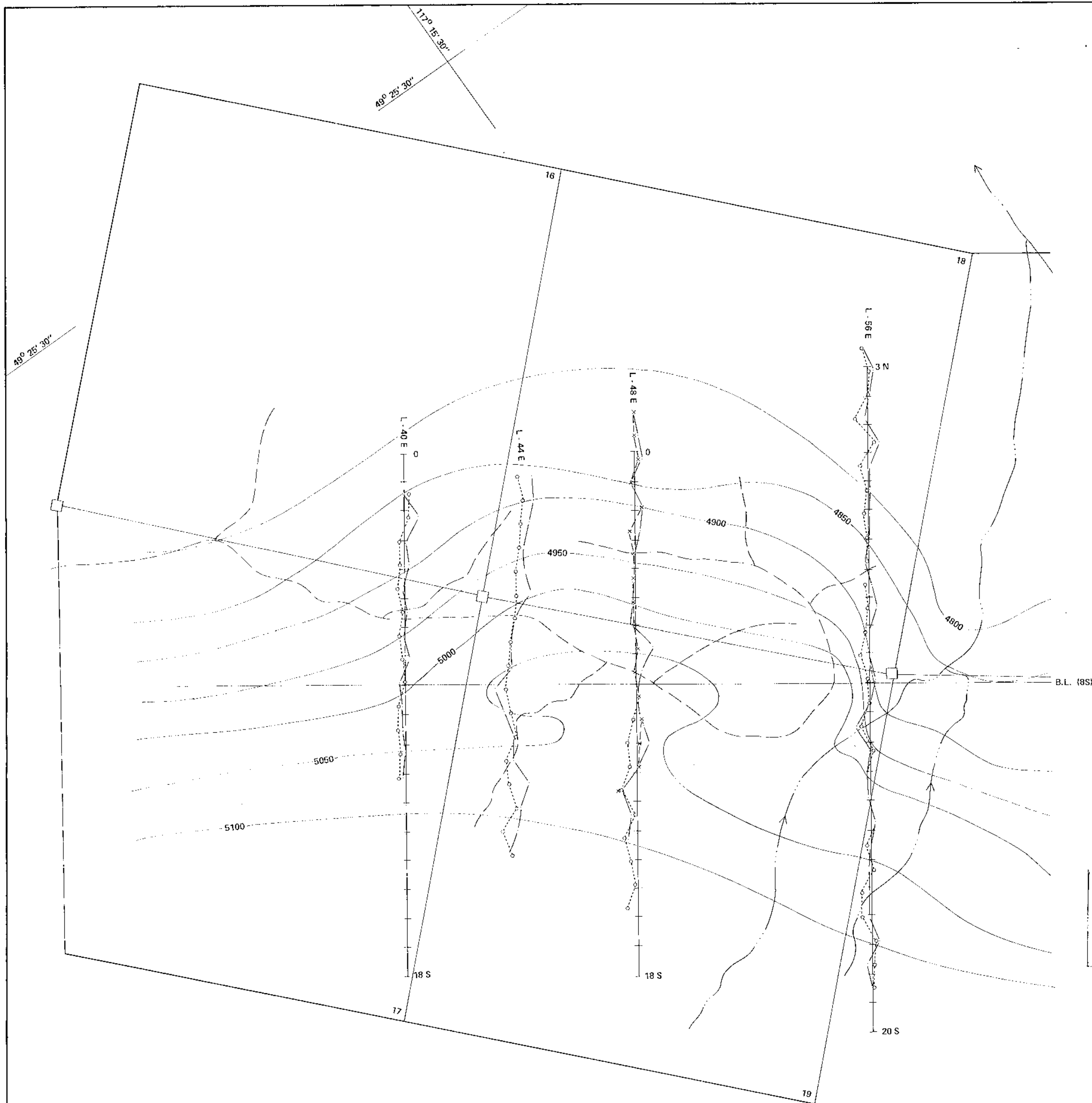
	\$40/day and 11¢/km, Oct. 4 and 5 for two days 97 km total	70.67
	\$8/day insurance plus gasoline and tax	27.53

Instrument Rental:

	\$25/day Oct. 4 and 5 for two days	<u>50.00</u>
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TOTAL

\$1,365.95



6946  
 NO.

**LEGEND**

- 5010 Hz
- 1830 Hz
- x-x-x-x-x- 390 Hz

+10°  
 0  
 -10°

**INPHASE SCALE**

SCALE 1:2500

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 EXPLORATION - MINERALS

KENA CLAIM GROUP  
 SHOOTBACK EM PROFILES  
 NELSON MINING DIVISION, B.C.  
 NTS 82 F/6

AUTHOR: A.S. SAYDAM    SCALE: 1:2500    DRAWING No.:  
 DATE: OCT 1978    REVISED:    ENCLOSURE No.:  
 To Accompany

NOTE: TO ACCOMPANY GEOPHYSICAL  
 REPORT FOR O. JANOUT BY  
 A. S. SAYDAM