

ARIS SUMMARY SHEET

District Geologist, Nelson

Off Confidential: 90.12.29

ASSESSMENT REPORT 19855

MINING DIVISION: Nelson

PROPERTY: Val
LOCATION: LAT 49 05 55 LONG 117 13 12
UTM 11 5438222 483939
NTS 082F03E

CAMP: 003 Salmo - Sheep Creek Area

CLAIM(S): Val 2-3
OPERATOR(S): Nugget Mines
AUTHOR(S): Sykes, E.
REPORT YEAR: 1990, 14 Pages
KEYWORDS: Cambrian, Liab Formation, Phyllites, Schists, Quartzites, Limestones
WORK
DONE: Geophysical, Geological
EMGR 6.5 km; VLF

LOG NO:	0405	RO
ACTION:		
FILE NO:		

GEOPHYSICAL REPORT

ON THE

VAL PROPERTY

Nelson Mining Division - British Columbia

Lat. 49° 05' 55 N.

Long. 117° 13' 12 W.

N.T.S. 82F/3E

FILMED

for

NUGGET MINES LTD.

by

E. Sykes (B.A.Sc.)

SUBMITTED
 RECEIVED
 MAR 29 1990
 VANCOUVER, B.C.

GEOLOGICAL BRANCH
ASSESSMENT REPORT

19,855

March 29, 1990

Vancouver, B.C.

INTRODUCTION

Gary Allen holds the Val claim group in the Nelson Mining Division of southeastern British Columbia. The claims lie immediately west of the Crown Grant claims of the Emerald Tungsten and Jersey mines. These mines have a recorded production of 7.6 million tonnes of ore with 22.2 million grams of silver as well as significant tungsten, lead, zinc and cadmium.

This report summarizes results of VLF-electromagnetic surveys conducted by F. Critchlow on the behalf of Nugget Mines Ltd. during the period November 29 to December 5, 1989. The purpose of this work was to test the value of the VLF-electromagnetic surveys on this property and to locate conductors for later investigation within the claims. Due to rough terrain the survey grid follows roads or skid trails where possible creating a somewhat erratic grid. A total of 6.5 kilometres of VLF-electromagnetic surveying was completed. Also summarized in this report is the general geology of the Emerald Tungsten/Jersey Mine area.

LOCATION, ACCESS, PHYSIOGRAPHY

The Val claim group is situated 5 kilometres south southeast of Salmo. The property is accessible via Highway 6 between Salmo and the Highway 3 turnoff. A road leads into the property approximately 60 kilometres south of Salmo.

The Val claims cover the west side of Nevada mountain immediately south of Sheep Creek and east of Salmo River. Elevation on the property ranges from 2500 to 4500 metres. Slopes are covered with a forest cover of larch and balsam fir.

LOCATION MAP

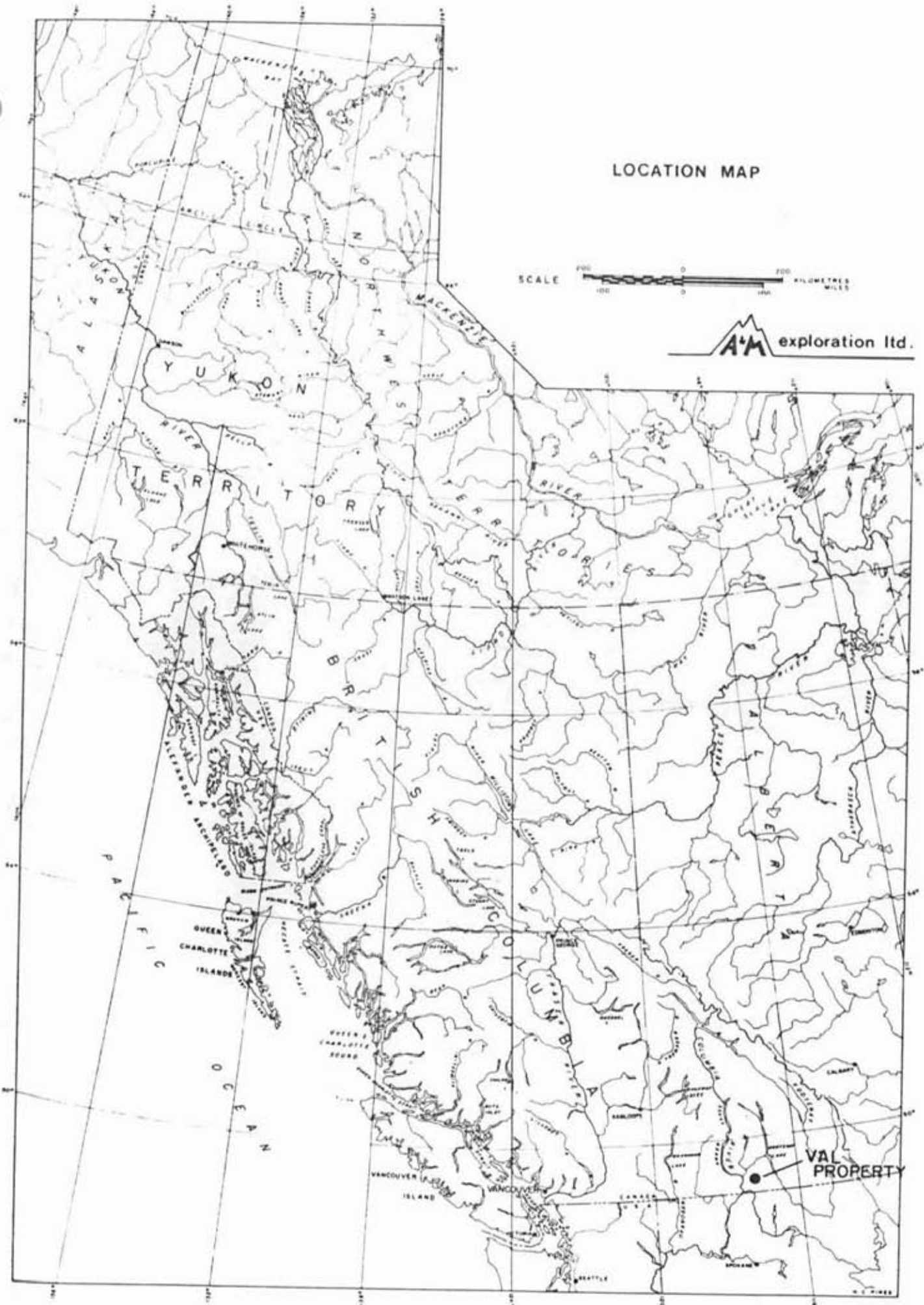
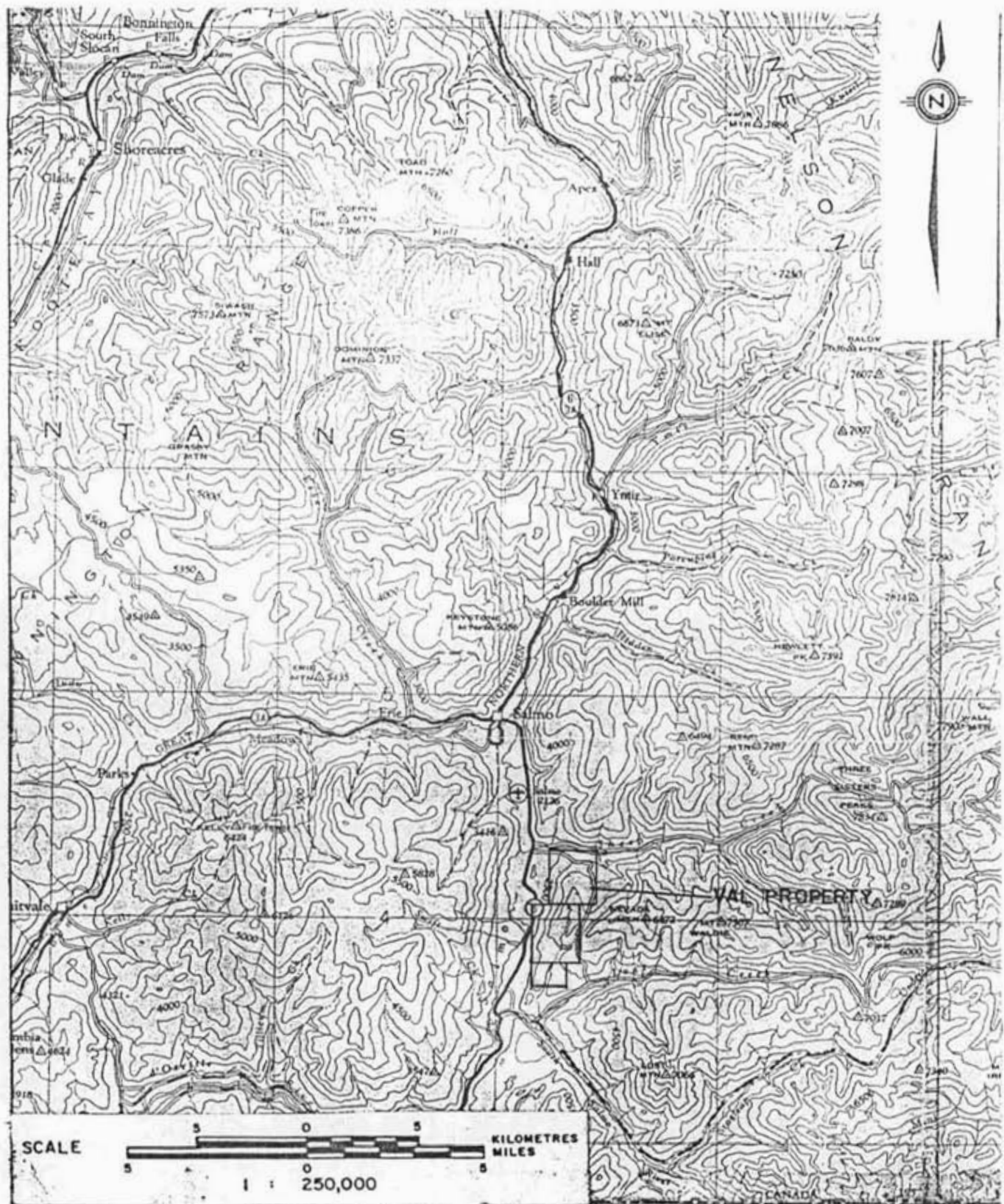


FIGURE - 1

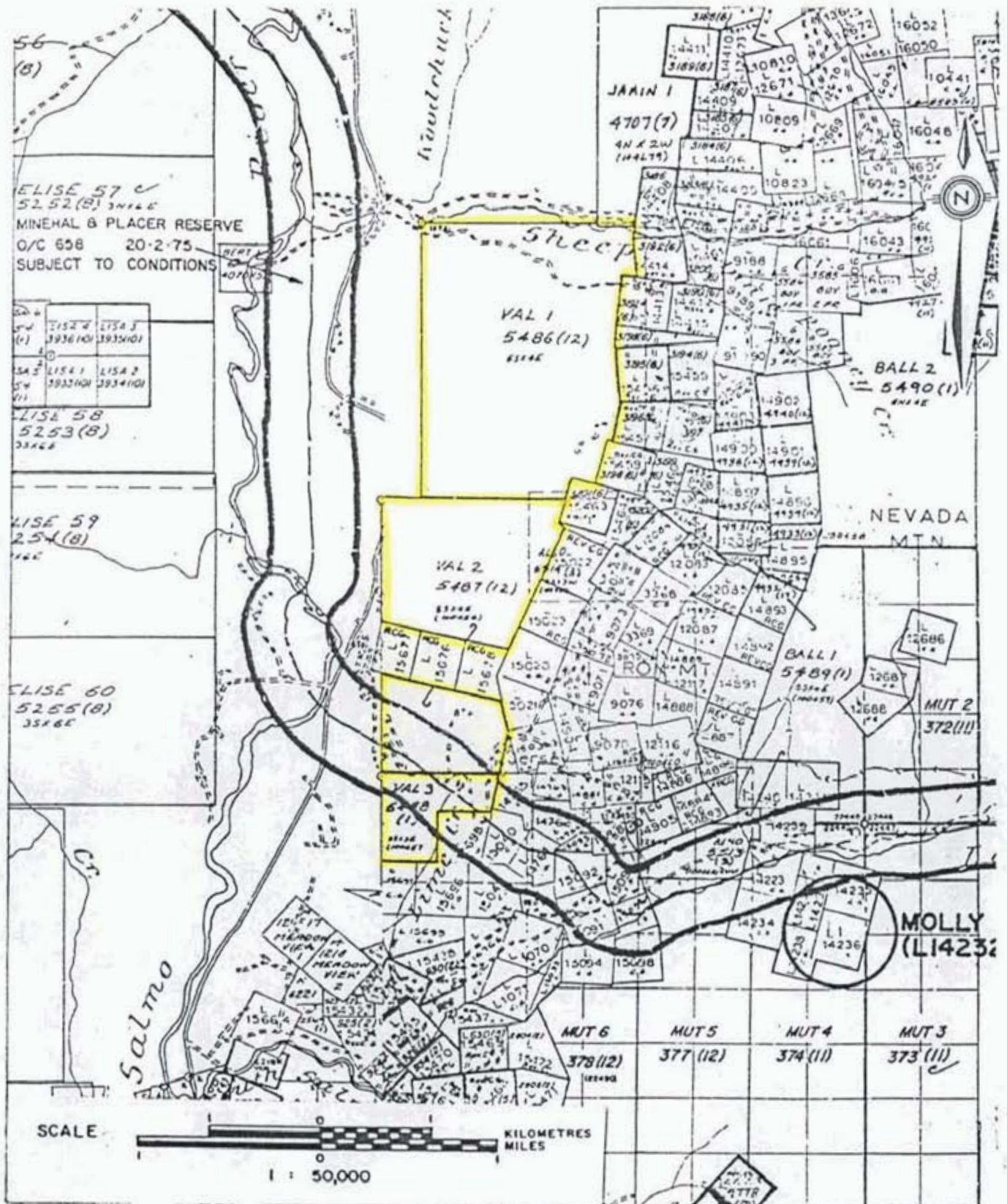


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N.T.S. 82F/3W, 3E

ACCESS MAP

NELSON MINING DIVISION, BRITISH COLUMBIA



NUGGET MINES LTD.

N.T.S. 82F/3W,3E

CLAIM MAP

NELSON MINING DIVISION, BRITISH COLUMBIA

CLAIM DATA

The Val group comprises 46 claim units as follows (see Figure 3):

<u>Claim Name</u>	<u>Type</u>	<u>No of Units</u>	<u>Record No.</u>	<u>Expiry Date*</u>
Val #1	Mod. Grid	20	5486	December 30, 1990
Val #2	Mod. Grid	20	5487	December 31, 1990
Val #3	Mod. Grid	6	5488	January 2, 1991

*Assuming that this report is accepted for assessment purposes.

HISTORY

There has been no significant recorded work done on the Val claims, however, the claims lie immediately to the west of the Emerald and Jersey mines.

The information on production from the Emerald mine has been included with the production of the Jersey mine. The Jersey mine opened in 1906 and mined 26 thousand tonnes of ore before closing in 1925. This ore was processed for silver and lead and in 1925 produced some zinc. During this period the Emerald/Jersey mines produced 705,292 grams of silver.

The mines reopened in 1944 and closed for the last time in 1972. During this period more than 7.6 million tons of ore was mined producing 21.48 million grams of silver as well as lead, zinc, tungsten and cadmium.

GEOLOGY

The Val claim group is in the Nelson map area, the geology of which has been described by Rice (1941). The geology of the property lies along the same structures which host the Emerald/Jersey mines.

The Jersey lead-zinc deposit lies at the base of the Reeves limestone of the Lower Cambrian Laib Formation. The deposit trends 015 degrees and dips to the south at about 10 degrees along the Jersey Anticline. Mineralization occurs most strongly along the secondary fold troughs. Ore mineralization consists of fine-grained sphalerite, galena, pyrite,

pyrrhotite and minor arsenopyrite. The silver was associated with the galena. The sediments have been intruded by Nelson granites which have formed a skarn zone beneath the ore horizon.

The Emerald Tungsten zone occurs along the contact of the Reeves limestone with the Emerald argillite as well as on the limestone contact with the Nelson granite. Mineralization consists of scheelite with minor powellite and rare wolframite. There is also trace molybdenite in a green and brown garnet-diopside skarn. The skarn contains augite, actinolite, epidote, pyrrhotite and quartz.

Beneath the ore zone there is a fine-grained black quartzose breccia. The black material is tourmaline and has been found within the granite north of the ore zone.

The Val claims lie directly on the Reeves limestone and contacts with the Emerald argillite and the Nelson granite exist on the property. The similar geology to the ore zones of the Emerald and Jersey mines indicate the property may contain similar ore zones.

VLF-ELECTROMAGNETIC SURVEY

Method and Instrumentation

A total of 6.5 kilometres of VLF-electromagnetic survey was conducted on the Val 2 and Val 3 claims. Measurements were taken at 25 metre intervals. The lines are shown on Figure 4. The survey was conducted using Annapolis, Maryland (21.4 kilohertz) as the transmitting station.


The VLF-electromagnetic method utilizes an electromagnetic field transmitted from radio stations, in the 12 to 14 kilohertz range (long range submarine communication signal). The magnetic field transmitted from the station will be horizontal when undisturbed. Conductive bodies (such as the presence of massive sulphides or fault structures) in the earth's crust will create a secondary magnetic field. By measuring various parameters of the vertical component of the secondary field, conductive zones can be located and to a degree evaluated.

An EM-16 VLF-electromagnetic instrument manufactured by Geonics Limited was used for the survey. This instrument measures the in-phase

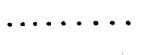


LEGEND

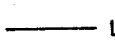
CONDUCTORS :

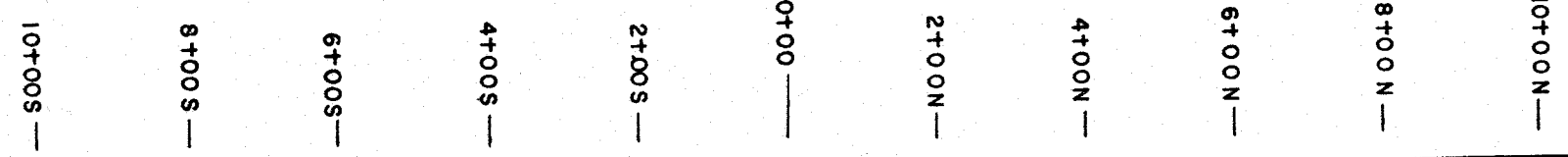
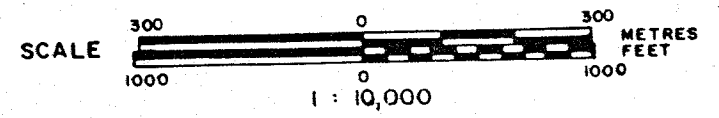
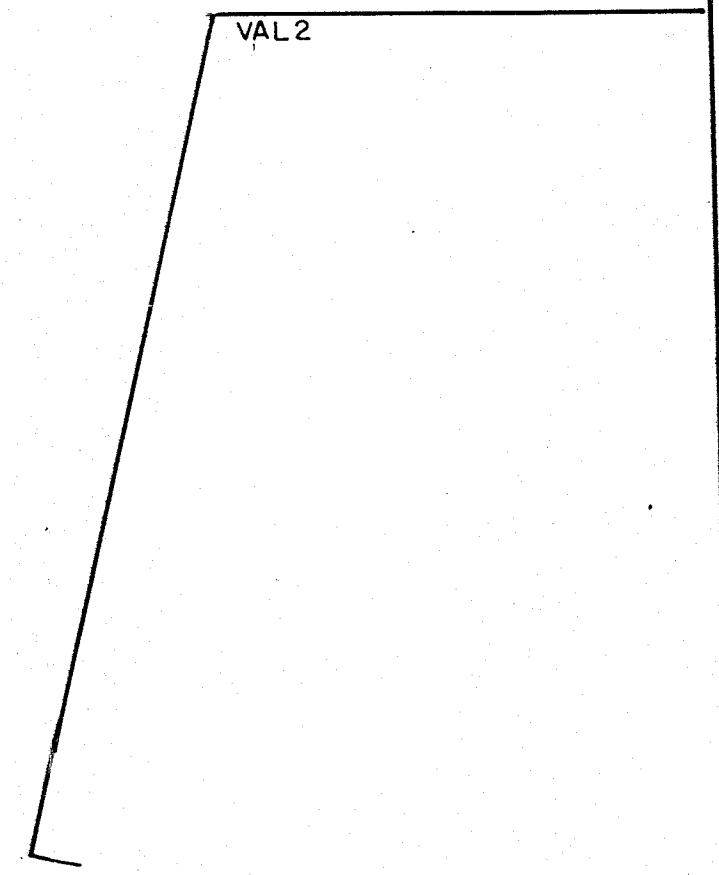
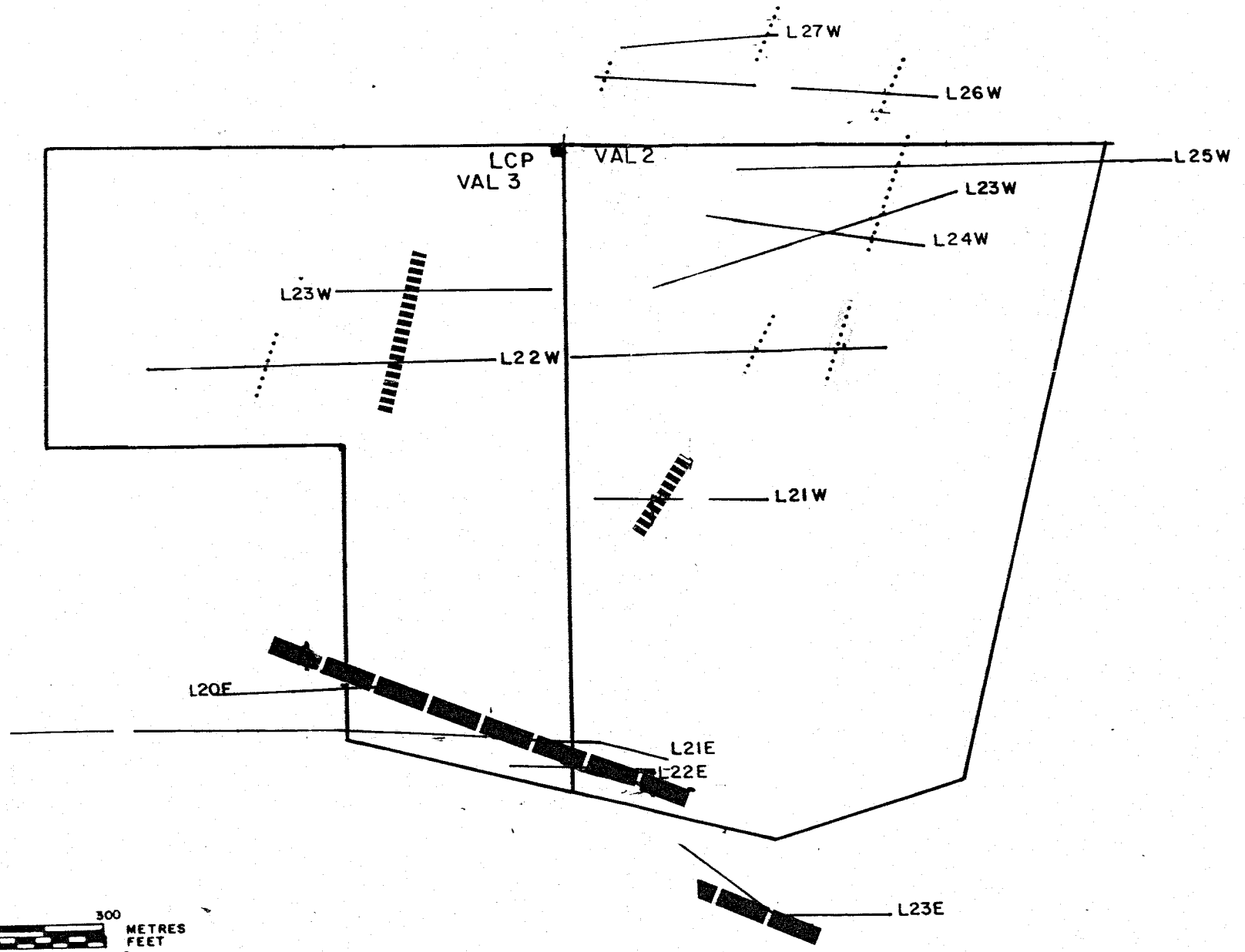
STRONG 

MODERATE 

WEAK 

CLAIM BOUNDARIES 

GRID LINES  L23W




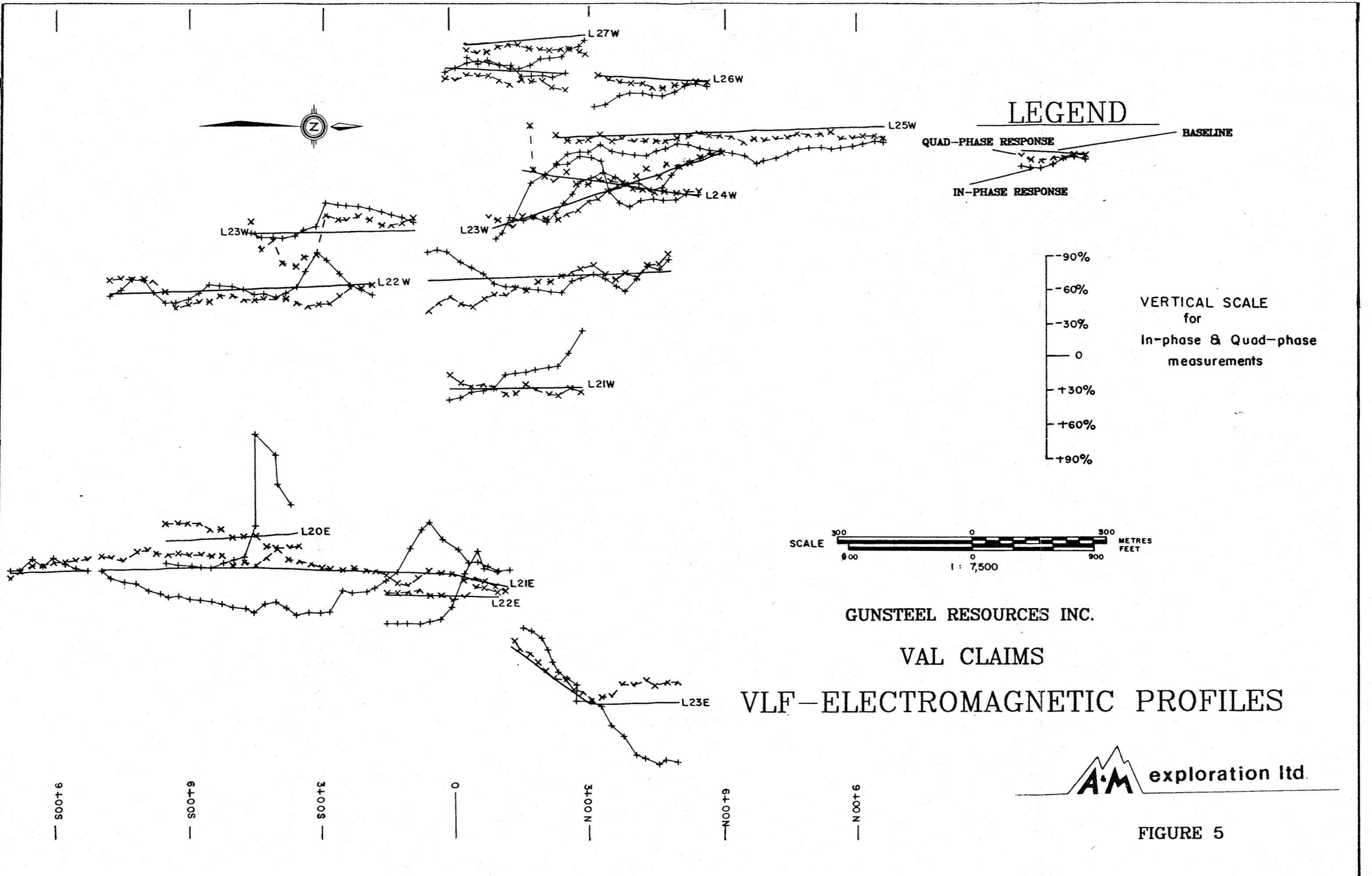
GUNSTEEL RESOURCES INC.
VAL CLAIMS
GRID MAP & CONDUCTORS
 exploration Ltd.

FIGURE 4



and quad-phase of a vertical magnetic field as a percentage of the horizontal primary field. The instrument has a resolution of 1%.

The in-phase and quad-phase measurements are presented in profile form on Figure 5. Conductive zones are interpreted to underlie the point on a traverse line where sharp changes in the in-phase response occur. An accompanying negative quad-phase signal generally indicates the conductive zone is at depth.

Results

The VLF-electromagnetic survey shows a strong continuous anomaly crossing lines 20E, 21E and 22E (Figure 4). This anomaly coincides with the contact between the Reeves limestone and Emerald argillite units. The strong anomaly on line 23E is also likely due to this contact, however, the distance between lines 22E and 23E is too large to confirm the continuity of the anomaly. The moderate strength anomaly which crosses lines 22W and 23W also coincides with the argillite-limestone contact.

The weak anomalies found in the northeast corner of the survey (lines 22W to 27W) are likely due to shear zones which have been silica flooded. Narrow (0.2 to 1.0 metres) quartz veins were observed in this area by F. Critchlow.

The moderate anomaly on line 21W has an unknown source and warrants further investigation. Because of the random grid pattern and large distance between some of the lines the continuity and trend of the conductors is difficult to ascertain.

CONCLUSION

The VLF-electromagnetic survey method defines the contact between the Emerald argillite and the Reeves limestone very well. Because this contact is important to known mineralization in the Emerald mine a more thorough VLF-electromagnetic survey on a better defined grid would be warranted.

The survey would also be useful for defining the conductors found in the northwest corner of the survey area as well as locating new conductors.

REFERENCES

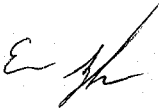
- Fyles, J.T. and Heulett, C.G. (1959). Stratigraphic and Structure of the Salmo Lead-Zinc Area. B.C. Department of Mines, Bulletin No. 4.
- Rice, H.M.A. (1941). Nelson Map-Area East Half. Geological Survey of Canada Memoir 228.

CERTIFICATE

I, Evan Sykes, certify that:

1. I am a geophysicist residing at 6331 Azure Road, Richmond, British Columbia.
2. I am a graduate of the University of British Columbia with a degree in Geological Engineering (B.A.Sc., 1988).
3. I have practised my profession in British Columbia since 1986.
4. This report is based on information received from Fred Critchlow and on information listed under References. I have not personally visited these claims but have worked in the area.
5. I have no interest, nor do I expect to receive any in the Val claims or in Nugget Mines Ltd.

March 29, 1990
Vancouver, B.C.


Evan Sykes,
Geophysicist

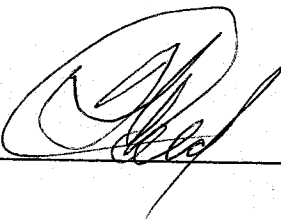
CERTIFICATE

I, Fredric H. Critchlow, certify that:

- (1) I am a prospector, free miners certificate #280908 (1989). #294865 (1990), and reside at 523-105th Street, Castlegar, B.C. V1N 3G7.
- (2) I have been practising my profession, including prospecting, geochem, and geophysics since 1963, largely by contract basis with various companies in British Columbia.
- (3) This work was carried out by myself with the help of Dennis Llewellyn.
- (4) I have no interests in any of the company properties.

*Instrument used for this survey was a VLF-EM, and the station used was Annapolis.

Dated at Salmo, B.C.
on March 29, 1990



AFFIDAVIT OF EXPENSES

This is to certify that VLF-electromagnetic surveys were carried out on the Val 1 to 3 claims, Nelson Mining Division, B.C., during the period November 29 to December 5, 1989 to the value of the following:

Field

Labour	7 days @ \$250/day	\$1,750.00
Labour	2 days @ \$250/day	500.00
Transportation	Truck Rental 7 days \$40/day	280.00
	Gas/Oil	55.00
Equipment Rental	VLF-EM unit 7 days @ \$20/day	140.00
Courier		30.00

Report

Geophysicist	5 days @ \$300/day	1,500.00
Drafting	Draftsman 30 hours @ \$20/hr	600.00
	Computer Processing 13 hours @ \$20/hr	260.00
	Maps	60.00
Typing/Compilation	18 hours @ \$18/hr	360.00
Supplies		50.00
	TOTAL	\$5,485.00