

GEOLOGICAL AND GEOPHYSICAL REPORT  
ON THE 82L/14 BLUENOSE GROUP  
OF N. BASARABA  
AT SICAMOUS, B.C. 50° 119° NE  
By N.B. VOLLO, P.ENG., SEPT.28/68

1635

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GEOLOGICAL AND GEOPHYSICAL REPORT

ON

THE 82L/14 BLUENOSE GROUP

OF

N. BASARABA

FOR

ROYAL CANADIAN VENTURES LTD.

AT

SICAMOUS, B.C.

50° 119° NE

BY

N.B. VOLLO, P.ENG.

Sept. 28th, 1968

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Maps in Pocket

Location Map, 1"= 2640', #1	
Geological Plan, North Zone, 1"= 200' #2a	
"    "    , South "    "    "    "    "    "    "	"2b
"    "    , Upper "    "    "    "    "    "    "	"2c
Magnetic Survey, North Zone, "    "    "    "    "    "    "	"3a
"    "    , South "    "    "    "    "    "    "	"3b
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EM-16 Survey    , North "    "    "    "    "    "    "	"4a
"    "    , South "    "    "    "    "    "    "	"4b
"    "    , Upper "    "    "    "    "    "    "	"4c

### Summary

Approximately five miles of grid was blazed and chained and geological mapping, magnetic and eletromagnet-ic surveys done on three copper showings on the Bluenose group. In no case were the showings appreciably extended by this work and it appears likely that they are small isolated pods only.

### Location and Access

The Bluenose Group is located on the east side of Shuswap Lake, just north of Hungry Cove and about five miles north of Sicamous. It can be reached by boat only. Rental boats are readily available from several marinas at Sicamous. A good trail leads from the South showing at lake level to the Upper showing, 1500 feet higher.

### Claims

The group consists of 24 claims, held by N. Basaraba of North Vancouver, as follows:

Bluenose 1 to 14 inc.,	Rec. Nos. 66311-324
" 19 to 26 " .,	" " 67141-148
" 27 to 30 " .,	" " 67027-030

The group is located in the Kamloops Mining Division.

### Topography and Climate

The group is located on a moderate to steep west slope, rising from 1130 feet above sea level at Shuswap Lake to more than 3500 feet at the east boundary. This slope is a fairly uniform 30 to 35 degrees, but is interrupted by cliffs several hundred feet high in the center of the group.

Forest cover is fairly heavy with fir and cedar dominant near the lake, fir and lodgepole pine at higher elevations. Very little water is available above the lake during July and August but two small streams, one at the north end, one at the south end of the group, appear to flow year around.

Shuswap lake is normally ice free in the winter at this point. Snowfall and rainfall are moderate at lake level but snowfall is reputedly heavy at higher elevations.

### Previous Work

Much work in the form of pits, shafts, trenches and adits was done at the turn of the century (BCDM 1901, 1902) when the South showing was called the Iron Mask. A total of more than 700 feet of adit were driven and two small shafts were sunk. A complete steam drill was found at the face of the Upper Adit. To the writers knowledge no significant work has been done since that time with the exception of sporadic trenching and pitting by local people.

The area was mapped by Rice and Jones from 1945 to 1951 and a map on the scale of 1" = 4 miles published as part of GSC Memoir 296.

### Field Work

Approximately five miles of line were blazed and chained, divided over the three zones. Correction for slope was made while chaining, using an inclinometer.

A magnetic survey was done using a Sharpe MF-1 fluxgate magnetometer. The instrument was arbitrarily set at 500 gammas on the lake shore near the south showing and this setting left unchanged for the other two zones. Sub base stations were established along the base lines, all traverses were looped and correction made for diurnal variation.

An electromagnetic survey of each zone was made using the Ronka EM-16 method. This method is a fairly recent development based on the use of VLF radio stations as transmitters. The VLF stations used by the US Navy for communication with submarines have vertical antennae and set up a concentric horizontal field. The EM-16 field unit is a sensitive receiver which can be tuned to certain VLF stations and contains two coils with mutually perpendicular axes, one horizontal, one vertical.

The primary field will induce a current in a conducting body, which current will induce in turn a secondary field. The vertical components of this secondary field are measured. The vertical coil is first tilted until a null is reached and the angle of tilt recorded as per cent. A measured portion of the signal from the horizontal coil, whose axis is now parallel to the primary field, after a phase shift of  $90^{\circ}$ , is used to balance out the remaining signal from the vertical coil. The tilt angle measurement is then a measure of the vertical

real component and the compensation a measure of the Quadrature component.

The station used for this survey was NPG, located near Seattle. Its field at about  $310^{\circ}$  was at a considerable angle to the lines, but no satisfactory station with an east-west field is available at this point. Readings were taken at 100 foot intervals and elevations recorded using a pocket altimeter. All readings were taken facing westerly. Due to the steep slopes encountered readings are considerably biased in one direction and an allowance for this must be made in interpretation.

The showings were geologically mapped by pace and compass and located on the grid systems. All but one of the adits found were entered and examined.

Field work was done between September 14th and 26th, 1968.

### Geology

The Bluenose Group is underlain by metamorphic rocks of the Monashee group. These vary from quartzite, marble and hornblende rich skarn to pink and grey paragneisses. In general, bedding or gneissosity dips at low angles to the east. The rocks are highly deformed, however, and minor tight folds are very abundant. In general quartzite and marble near the lake level are succeeded by paragneisses at higher elevations.

The North Zone is about 300 feet above the lake and is poorly exposed over a length of 300 feet by several pits, cuts and trenches. It occurs in a hornblende - garnet(?) skarn with limy sections. Pyrrhotite and chalcopyrite are irregularly distributed over a width of at least 20 feet, with some fairly massive sections. A pit about 100 feet southwest of the main line of workings contains abundant malachite, a little chalcopyrite in a hornblende rich skarn. Coarsely porphyritic dikes trending slightly east of north and dipping steeply cut paragneiss about 200 feet above this showing.

The South Zone, about 200 feet above the lake, is exposed by two cuts, a shaft and an adit reputed to be about 250 feet long. The mouth of this adit is badly caved and was not entered but is said to contain about 10 feet of highly oxidized sulphide approximately below the shaft. Mineralization exposed on surface consists of pyrite, pyrrhotite, chalcopyrite and sphalerite in brecciated hornblende rich skarn, over a width of about 25 feet.

The zone of brecciation appears to strike NNE, dips steeply east and visually appears to contain about 2% copper. Outcrop in this area is very sparse. About 400 feet south of the main showing two adits are driven into paragneiss and are both about 50 feet long. A little sphalerite, chalcopyrite and pyrite is exposed at the mouth of the most southerly of these.

The Upper Zone is at an elevation of 2500 feet on a relatively flat shelf above a series of high cliffs. The rock exposed along the cliffs is largely gently dipping paragneiss with sections of limy skarn and marble. The main showing is a shaft, partly collapsed and water filled. Material on the dump is heavily mineralized with pyrrhotite and chalcopyrite, mostly in a quartz breccia. An adit about 200 feet vertically below the shaft cuts paragneiss and marble dipping about  $10^{\circ}$  easterly, and is 300 feet in length. Very minor pyrite and pyrrhotite are present in several patches. A second adit at the same elevation as the shaft and about 200 feet south cuts entirely barren gneiss for 50 feet. A pit about 300 feet south of the shaft exposes light coloured quartz rich marble with abundant malachite, a little chalcopyrite.

### Interpretation

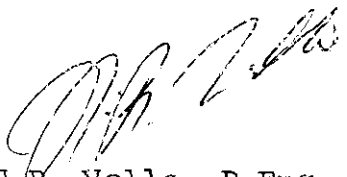
North Showing - the surface showings were not appreciably extended by the magnetic and electromagnetic surveys. Highly erratic magnetics over the showings die out within 200 feet to the north and south, but do suggest a northeasterly strike. Electromagnetic response is weak to insignificant and suggests very small dimensions for the mineralized bodies.

South Showing - a very weak northerly trending high is present over the showing, but with this exception, magnetics are quite flat. Electromagnetic response, even for a line directly over the showing, was nil, suggesting extremely limited dimensions.

Upper Showing - a sharp magnetic high was obtained directly over the showing and a weak ridge trends north-easterly from it. Due to the steep slope placing of the EM crossovers is difficult, but a weak conductor is close to and parallels the magnetic high. A second weak conductor parallels a weak magnetic trend near the south extremity of the surveyed area.

Conclusions

The three mineralized showings do not appear to have any greater extent than present exposures indicate. They do not therefore appear to have any economic potential and no further work can be recommended.



N.B. Vollo, P.Eng.

Sept. 28th, 1968



ASSESSMENT DATA

Personnel

N.B. Vollo, P.Eng., geologist.

Supervision, Sept. 14th, 17th

Field Mapping, Sept. 18th, 19th, 24th, 25th

Interp., report prep., Sept. 27th, 28th

L. Loranger, Magnetometer Operator,

Field Work, Sept. 16th to 25th inc.

Drafting, Sept. 26th, 27th

M. Hjelt, EM-16 Operator,

Field work, Sept. 16th to 25th, inc.

Drafting, Sept. 26th, 27th.

Transportation

Rented boat, Lazy Daze Marina, Sicamous, B.C.

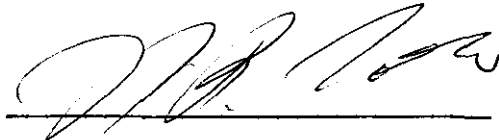
Accommodation

Lazy Daze Motel, Sicamous, B.C.

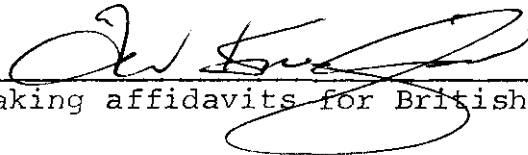
AFFIDAVIT ON EXPENDITURES

N.B. Vollo, 8 days @ \$70/day -----	\$560.00
L. Loranger, 12 days @ \$35/day -----	420.00
M. Hjelt, 12 days @ \$35.00/day -----	420.00
Boat and Motel rental, Lazy Daze Marina ---	203.37
Meals -----	102.67
Air Photos, printing, flagging, etc. -----	<u>33.95</u>
	\$1739.99

I, Nels B. Vollo, of the City of Kamloops, in the Province of British Columbia, make the above declaration, conscientiously believing it to be true and knowing it is of the same force and effect as if made under oath and by virtue of the "Canada Evidence Act".



Declared before me at the City of Kamloops, in the Province of British Columbia, this 30 day of Sept 1968, A.D.



A commissioner for taking affidavits for British Columbia

QUALIFICATIONS OF OPERATORS

LEO LORANGER is 39 years of age and completed Grade IX at Englehart, Ontario.

He was employed for four years, from 1962 to 1966, by the Noranda Exploration Co. at Matagami, Quebec, as a geophysical assistant and instrument operator.

He was employed for two years, from 1966 to 1968, by Scurry Rainbow Oils, Calgary, Alberta, as a geophysical assistant and instrument operator.

He has been carefully instructed in the operation of the Sharpe MF-1 Magnetometer by the undersigned, who knows his work to be carefully and reliably done.


Mauri HJELT is 27 years of age and completed Grade XII at Pemberton, B.C.

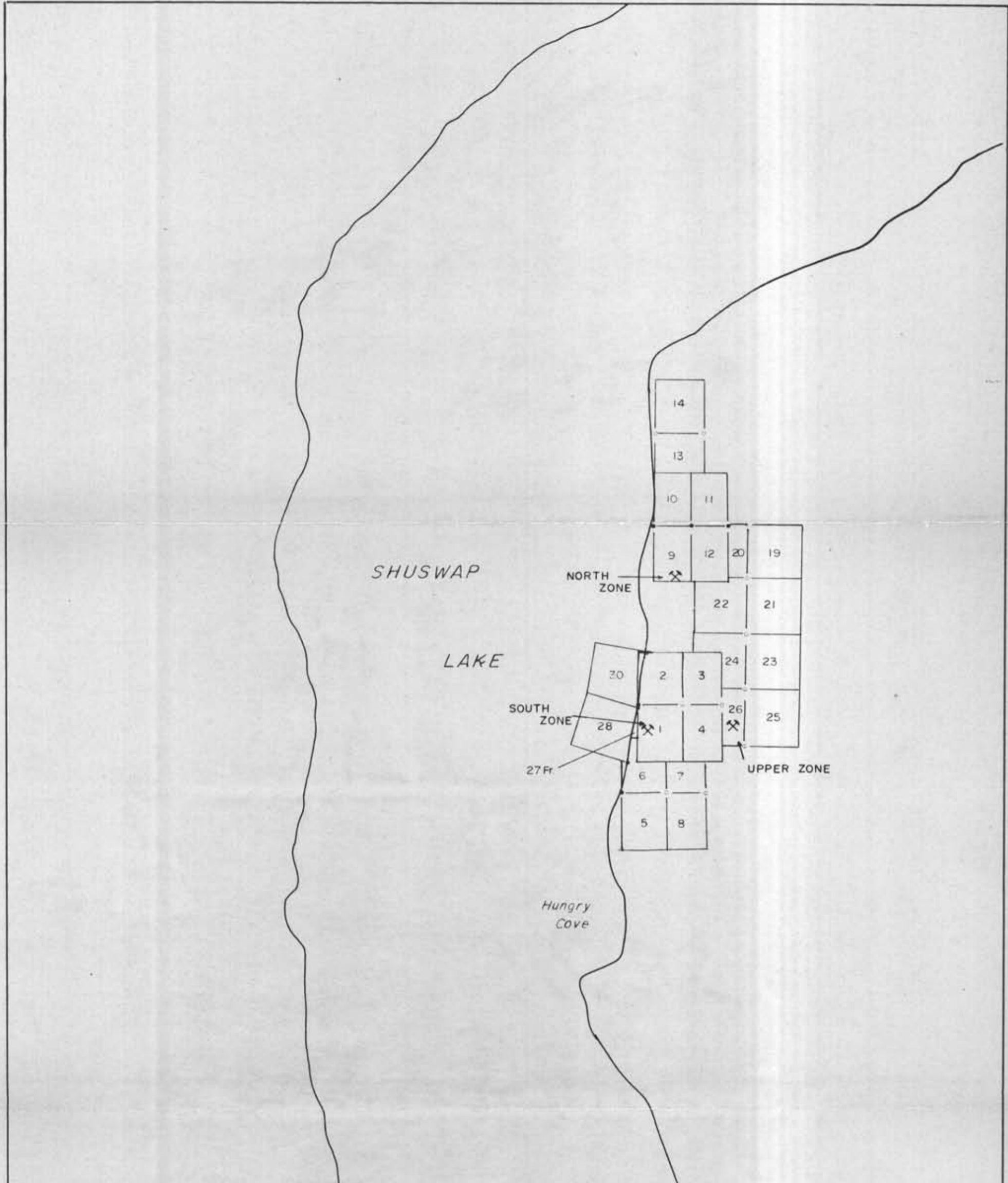
He graduated from the University of British Columbia in Physical Education on 1965

He was employed for four summers by Mining Corporation as a prospector.

He has been employed for one year by Royal Canadian Ventures as a prospector and instrument operator.

He has been carefully instructed in the operation of the EM-16 electromagnetic unit by the undersigned, who knows his work to be carefully and reliably done.

  
N.B. Vollo, P.Eng.  
Sept. 28th, 1968



Department of  
 Mines and Petroleum Resources  
 ASSESSMENT REPORT  
 NO. 1635 MAP 1

ROYAL CANADIAN VENTURES LTD.  
 KAMLOOPS, BC.

82L/14 BLUENOSE  
 LOCATION MAP

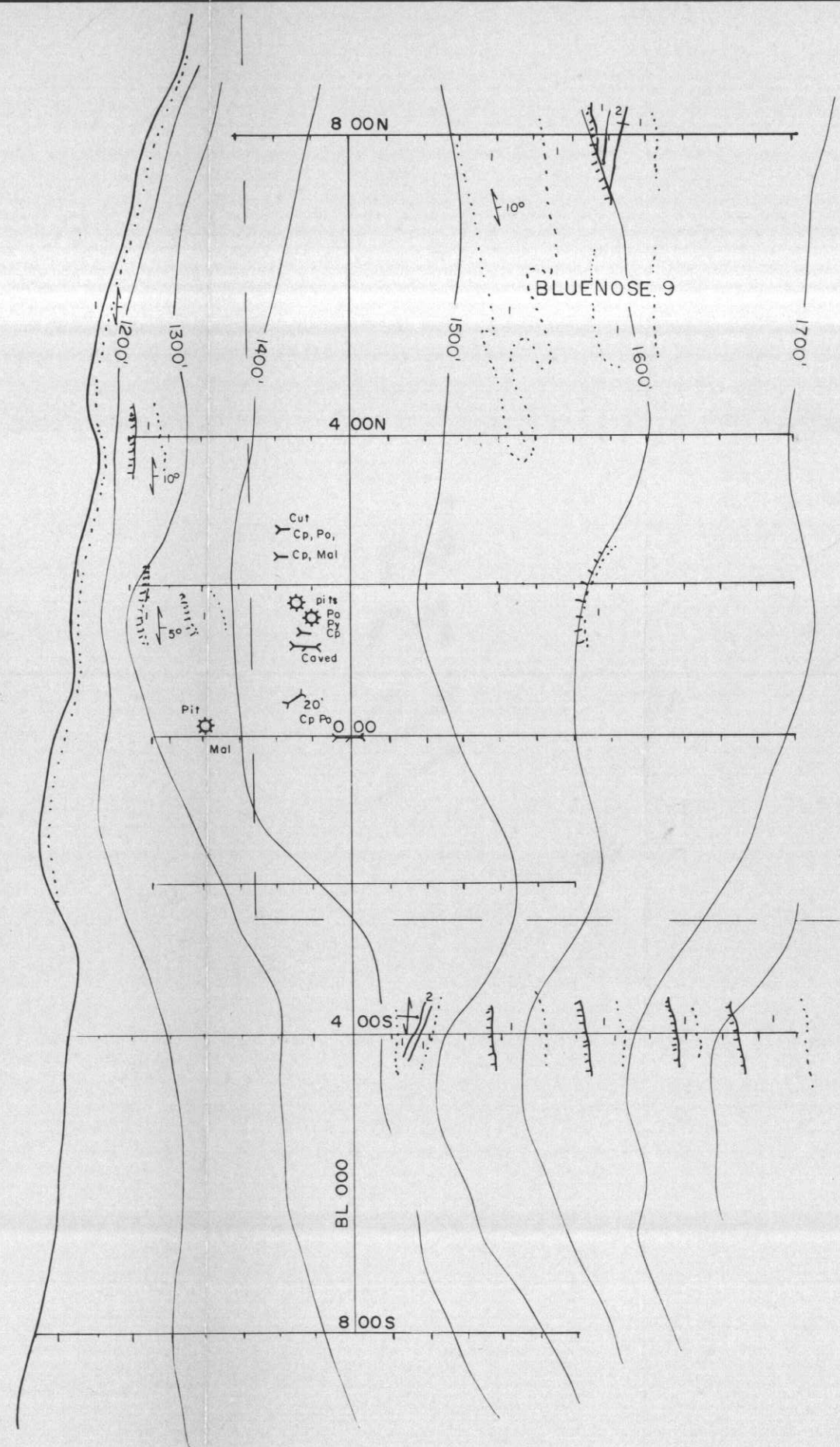
Sicamous  
 Narrows

to accompany geological and  
 geophysical report by N.B. Vollo,  
 P.Eng., dated Sept. 28th, 1968

Drawn by: Scale: 1" = 2640' Date: 28/9/68 Approved by: *N.B. Vollo*

Department of  
 Mines and Petroleum Resources  
 ASSESSMENT REPORT  
 NO. 1635 MAP 2a

SHUSWAP  
 LAKE  
 1130'



BLUENOSE 12

BLUENOSE 22

LEGEND

- 2 Dikes; Qtz.felds. porp., Feld. porp.
- 1 Quartzite, skarn, paragneiss
- Y Rock cut
- Trench
- Pit
- Gneissosity

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 Dated September 28th, 1968.

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 KAMLOOPS, B.C.

82L/14 BLUENOSE  
 NORTH ZONE

GEOLOGICAL PLAN

Drawn by: Scale: 1" = 200' Date: 27/9/68 Approved by: *[Signature]*

BLUENOSE 30

BLUENOSE 2

22 00N

18 00N

NO OTC

BL 1000E

SHUSWAP

14 00N

LAKE

1200

1300

1400

NO OTC

10 00N

BLUENOSE 28

BLUENOSE 1

1500

Caved

250'

25' py, co, ps

60°

6 00N

Po, co  
py

50'

50°

50°

Troll

1600

BLUENOSE  
27 Fr.

2 00N

50°

60°

40°

Gneiss

50°

60°

40°

LEGEND

- Y Adit
- Y Rock cut
- 

1635

to accompany geological and geophysical report by N.B. Vollo, P.Eng., dated Sept. 28th, 1968

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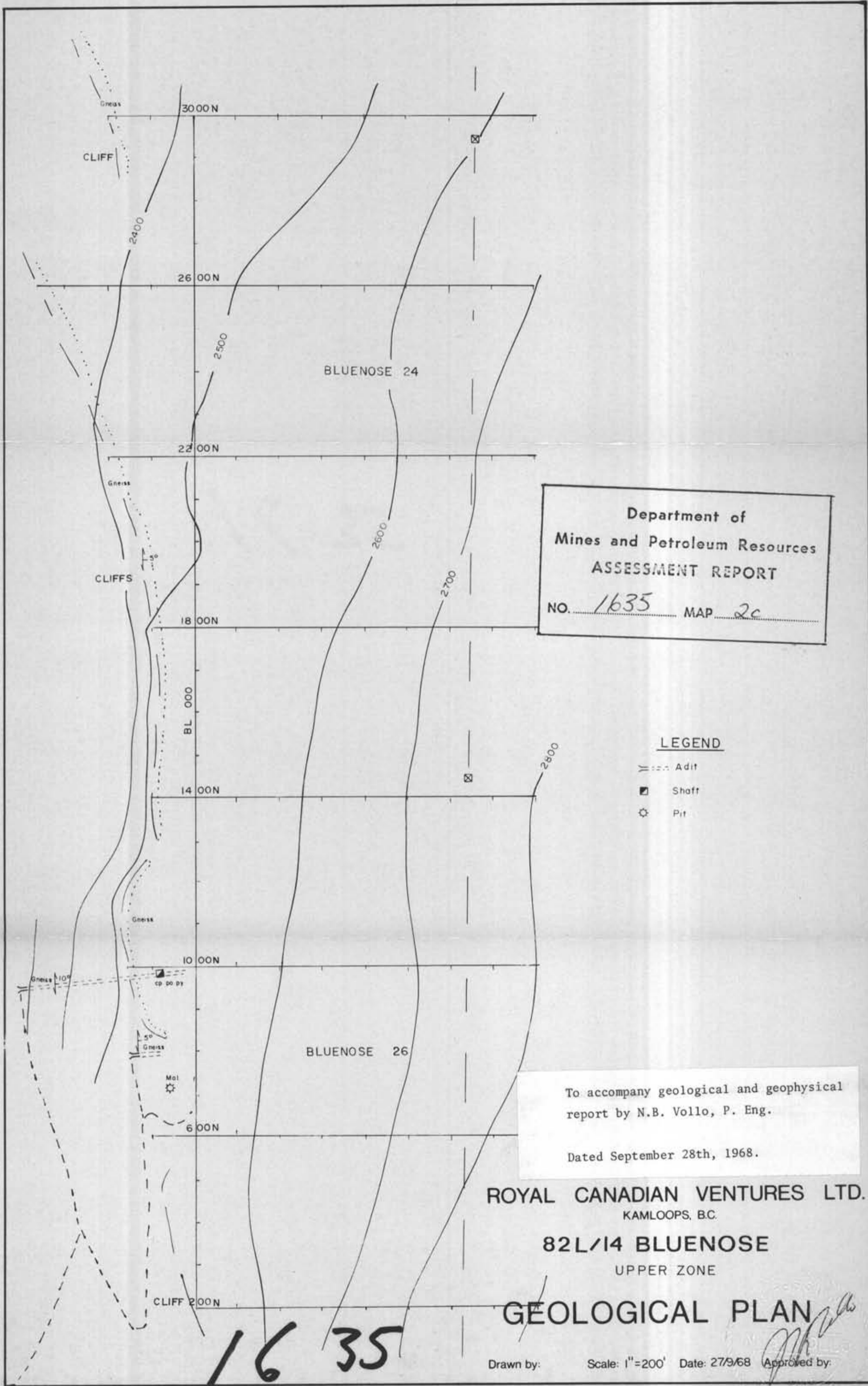
Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT

82L/14 BLUENOSE  
SOUTH ZONE

GEOLOGICAL PLAN

NO. 1635 MAP 26

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 NO. 1635 MAP 2c

**LEGEND**  
 --- Adit  
 ■ Shaft  
 ⊙ Pit

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 report by N.B. Vollo, P. Eng.  
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 KAMLOOPS, BC.  
 82L/14 BLUENOSE  
 UPPER ZONE

**GEOLOGICAL PLAN**

**16 35**

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BLUENOSE NO. 1635 MAP 3g

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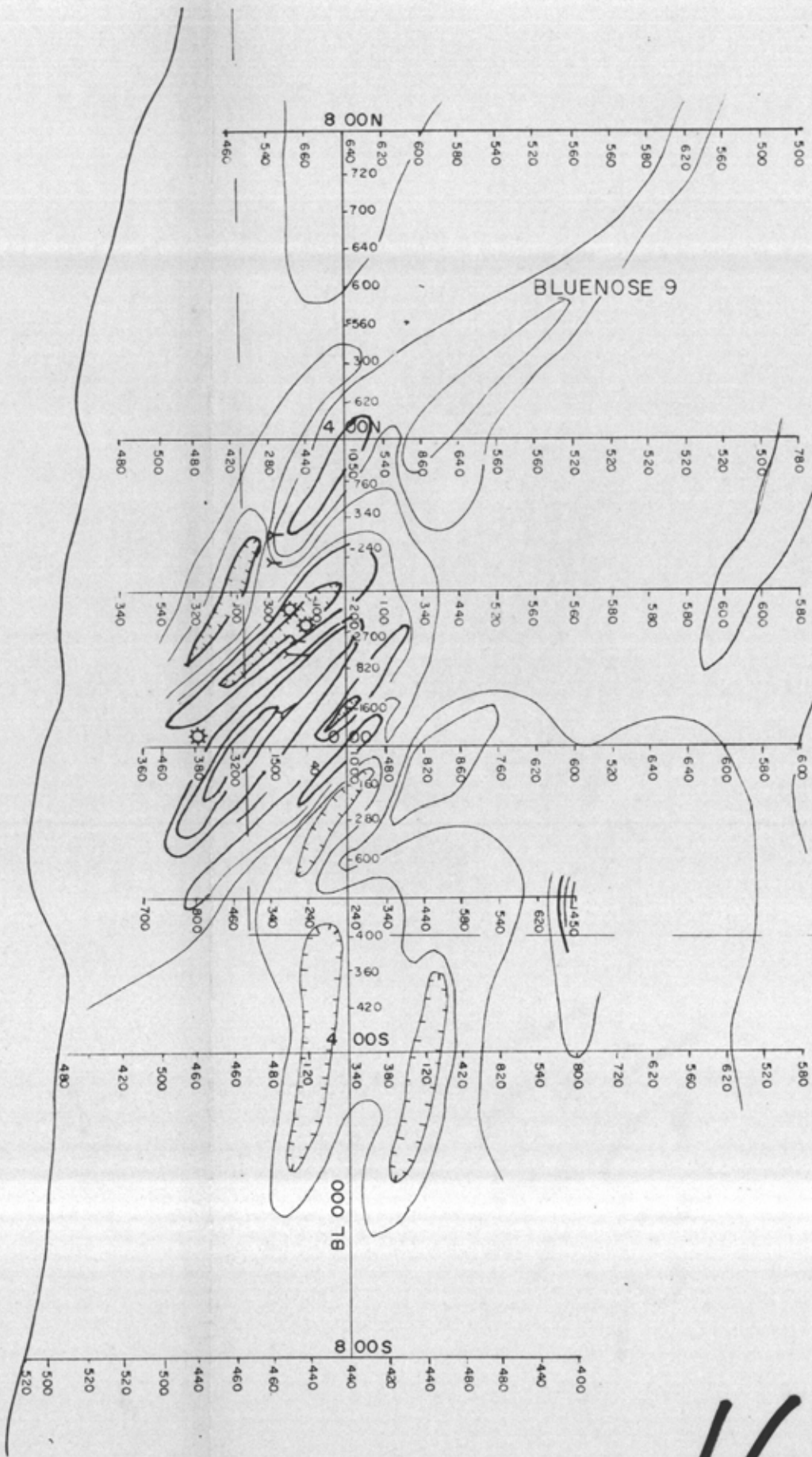
Dated September 28th, 1968.

LEGEND

Inst - Sharpe MF-1  
Readings in  $\gamma$   
Corrected for diurnal  
Contour interval - 200  $\gamma$   
Operator - L. Loranger

SHUSWAP

LAKE



BLUENOSE 22

ROYAL CANADIAN VENTURES LTD.  
KAMLOOPS, B.C.

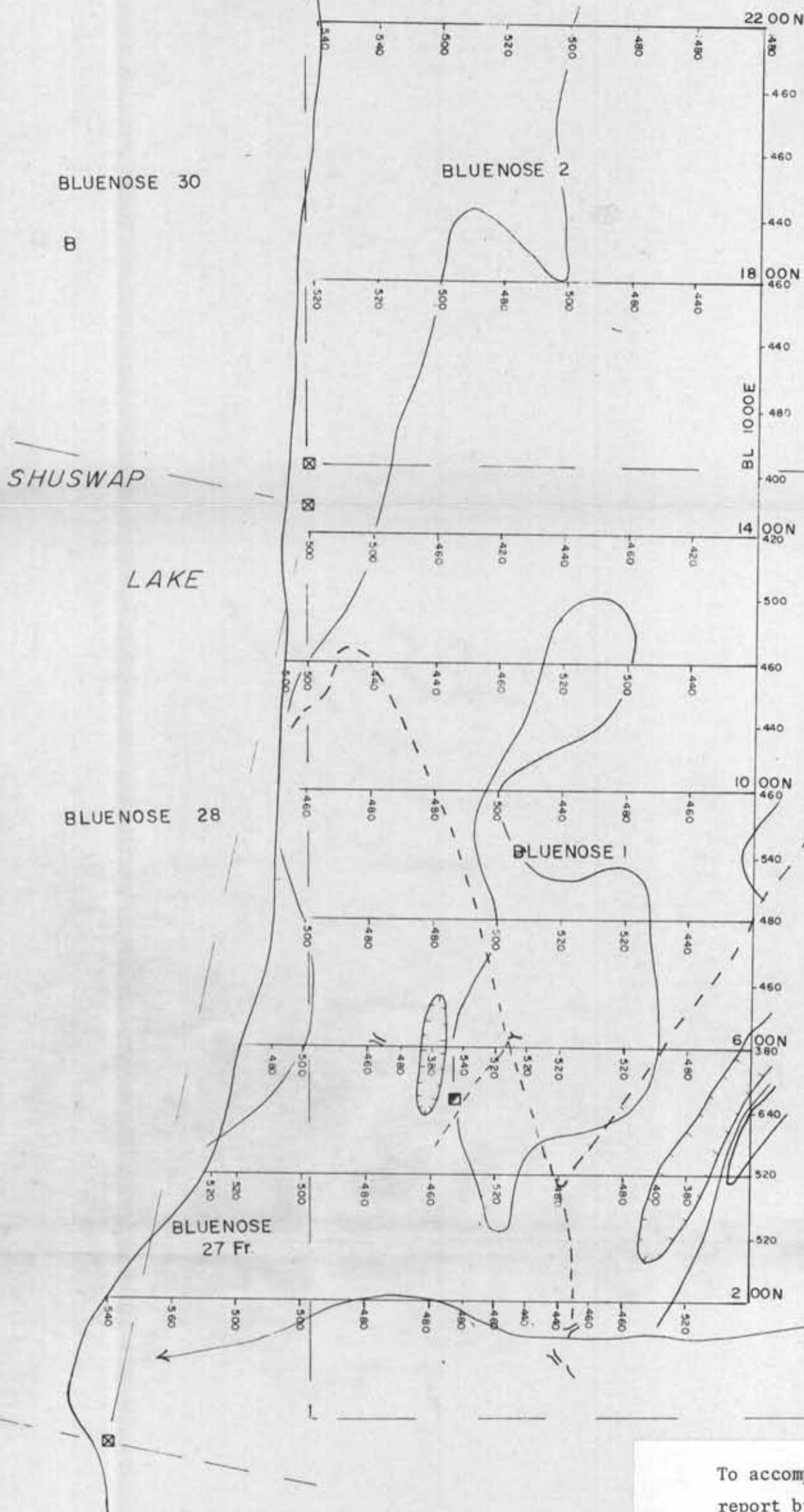
82L/14 BLUENOSE  
NORTH ZONE

MAGNETIC SURVEY

Drawn by: \_\_\_\_\_ Scale: 1" = 200' Date: 27/9/68 Approved by: *N.B. Vollo*

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NO. 1635 MAP 36

**LEGEND**

Inst. - Sharpe MF-1  
Readings in  $\nabla$   
Corrected for diurnal  
Contour interval - 100  $\nabla$   
Operator - L. Loranger

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Dated September 28th, 1968.

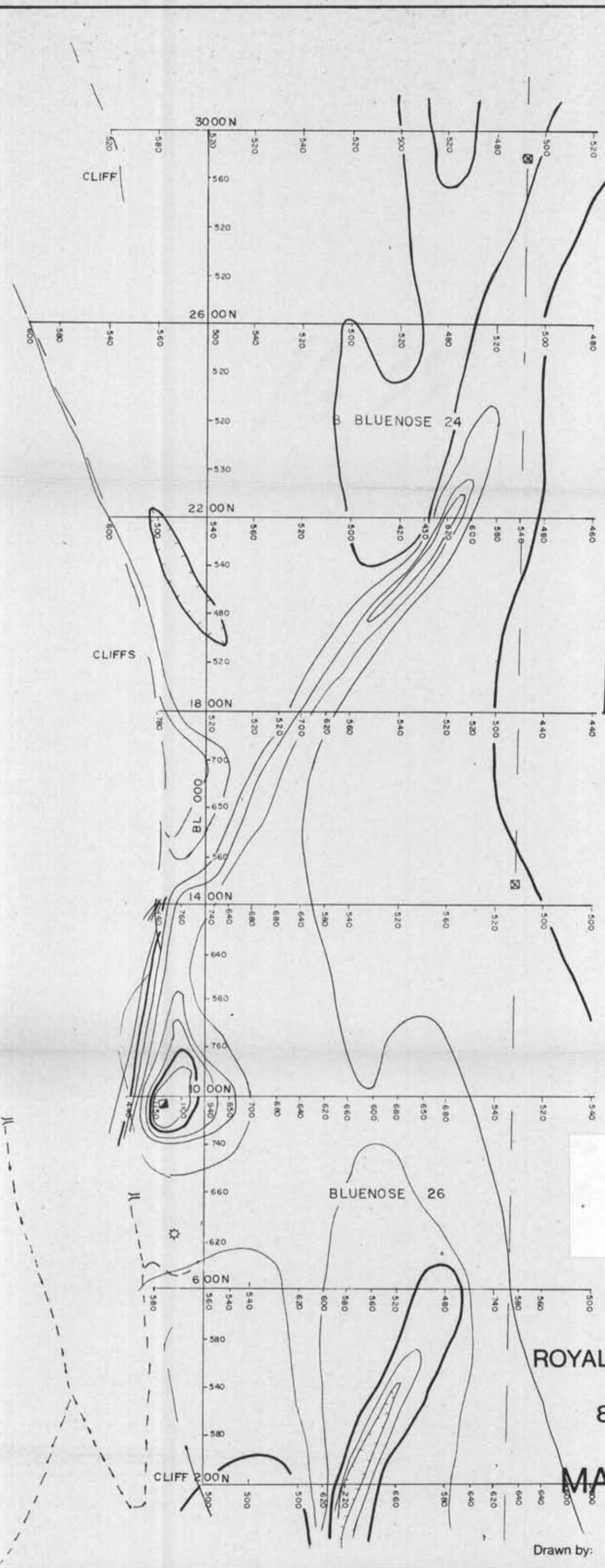
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**82L/14 BLUENOSE**  
SOUTH ZONE

**MAGNETIC SURVEY**

1635

Drawn by: Scale: 1" = 200' Date: 27/9/68 Approved by: *[Signature]*



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NO. 1635 MAP 3c

LEGEND  
Inst - Sharpe MF-1  
Readings in  $\gamma$   
Corrected for diurnal  
Contour interval - 100  $\gamma$   
Operator - L. Loranger

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Dated September 28th, 1968.

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82L/14 BLUENOSE  
UPPER ZONE

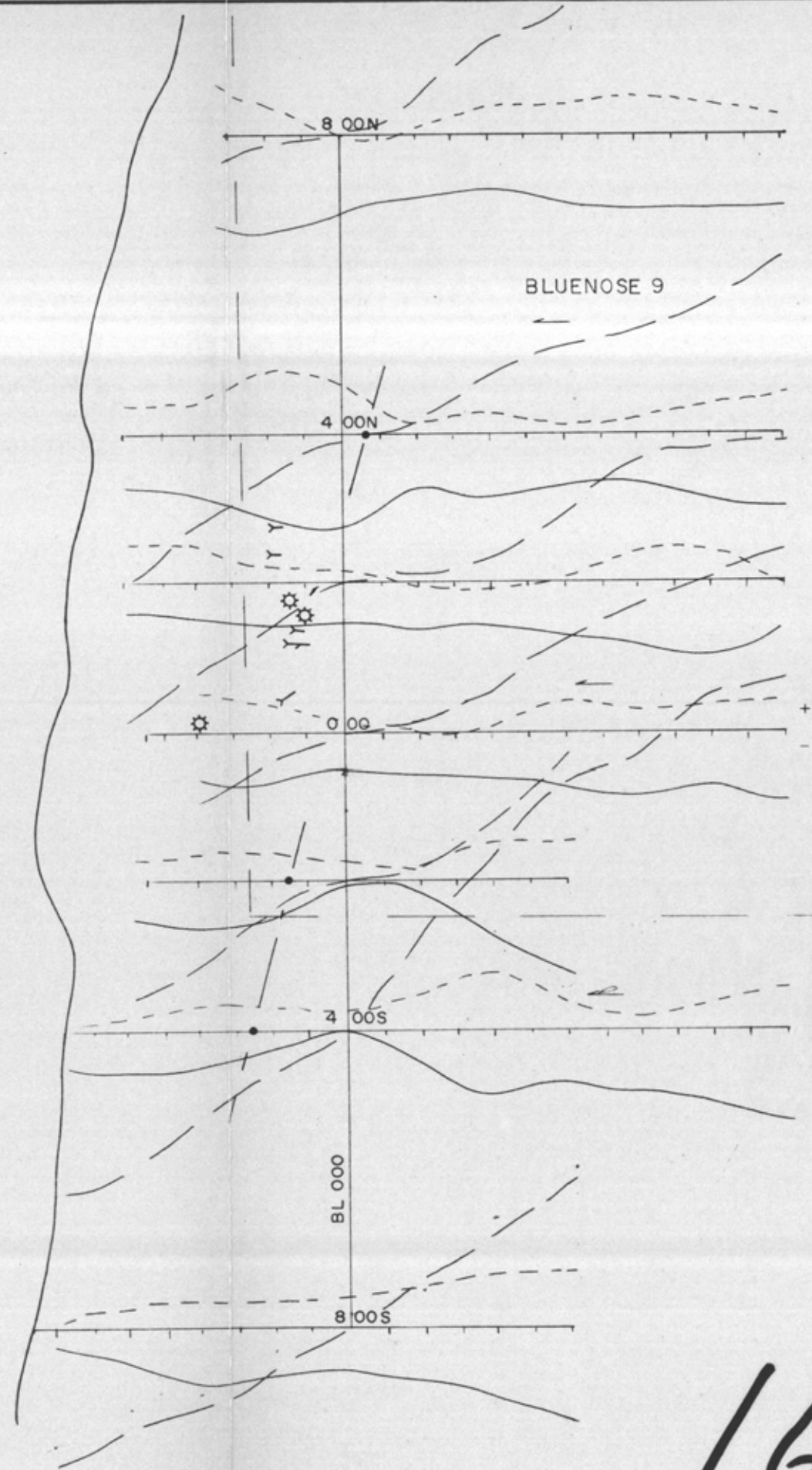
MAGNETIC SURVEY

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NO. 1635 MAP 4a

SHUSWAP  
LAKE



BLUENOSE 12

NPG Seattle

To accompany geological and geophysical  
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Dated September 28th, 1968.

LEGEND

- Conductor, Strong, Mod, Weak
  - In phase component
  - - - Quadrature "
  - ~ Topography (true scale)
- Vertical scale - 1" = 50 %  
Base elevation - Variable  
Operator - M Hjelt

BLUENOSE 22

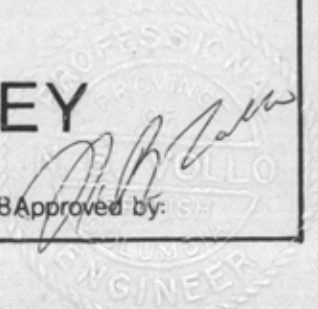
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KAMLOOPS, BC.

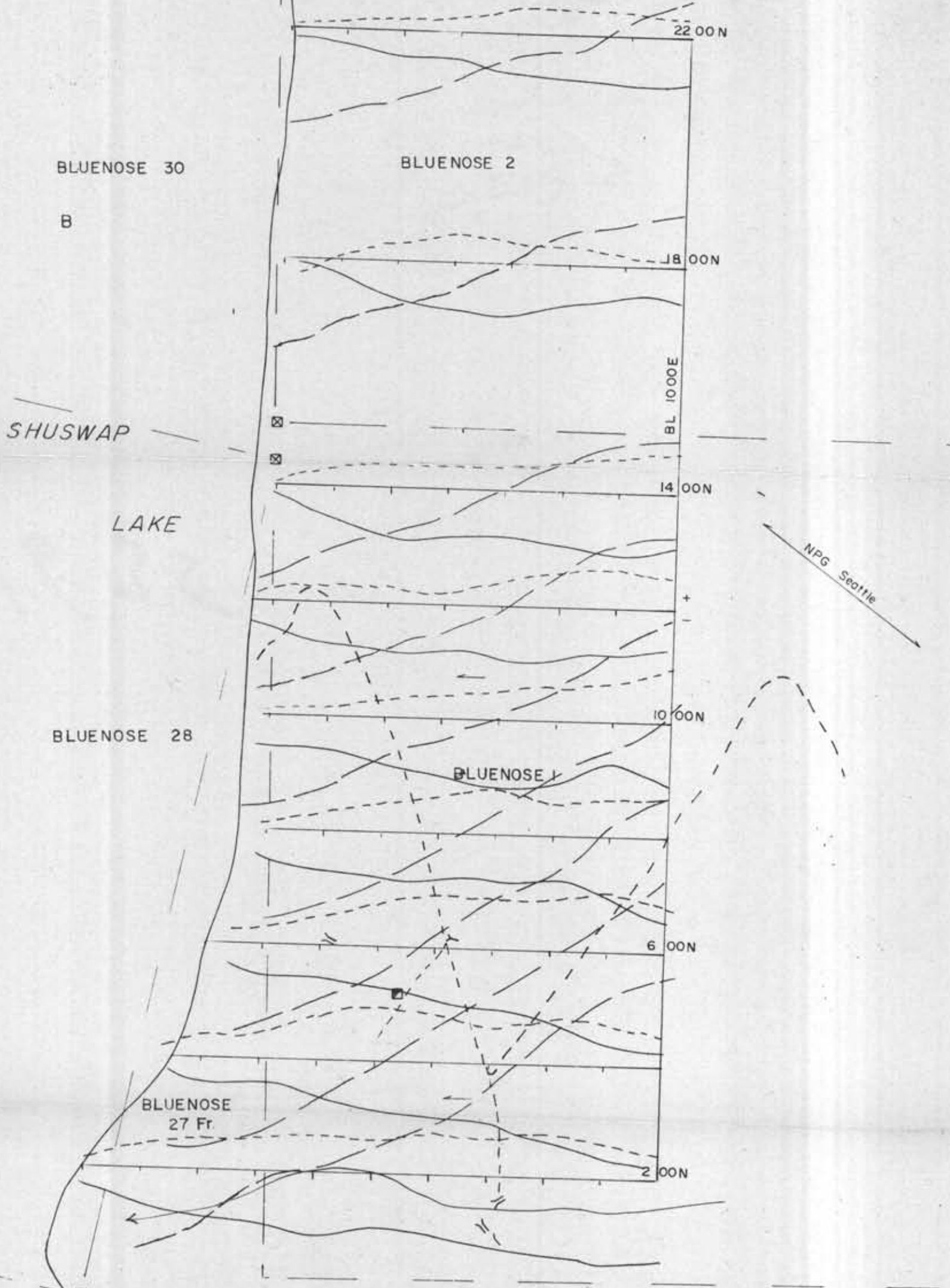
82L/14 BLUENOSE  
NORTH ZONE

EM-16 SURVEY

1635

Drawn by: Scale: 1" = 200' Date: 27/9/68 Approved by:





**LEGEND**

- ● ● Conductor, strong, mod, weak
  - In phase component
  - - - Quadrature
  - Topography (true scale)
- Vertical scale - 1" = 500'
- Base elevation - 1300'
- Operator - M. Hjelt

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 NO. 1635 MAP 46

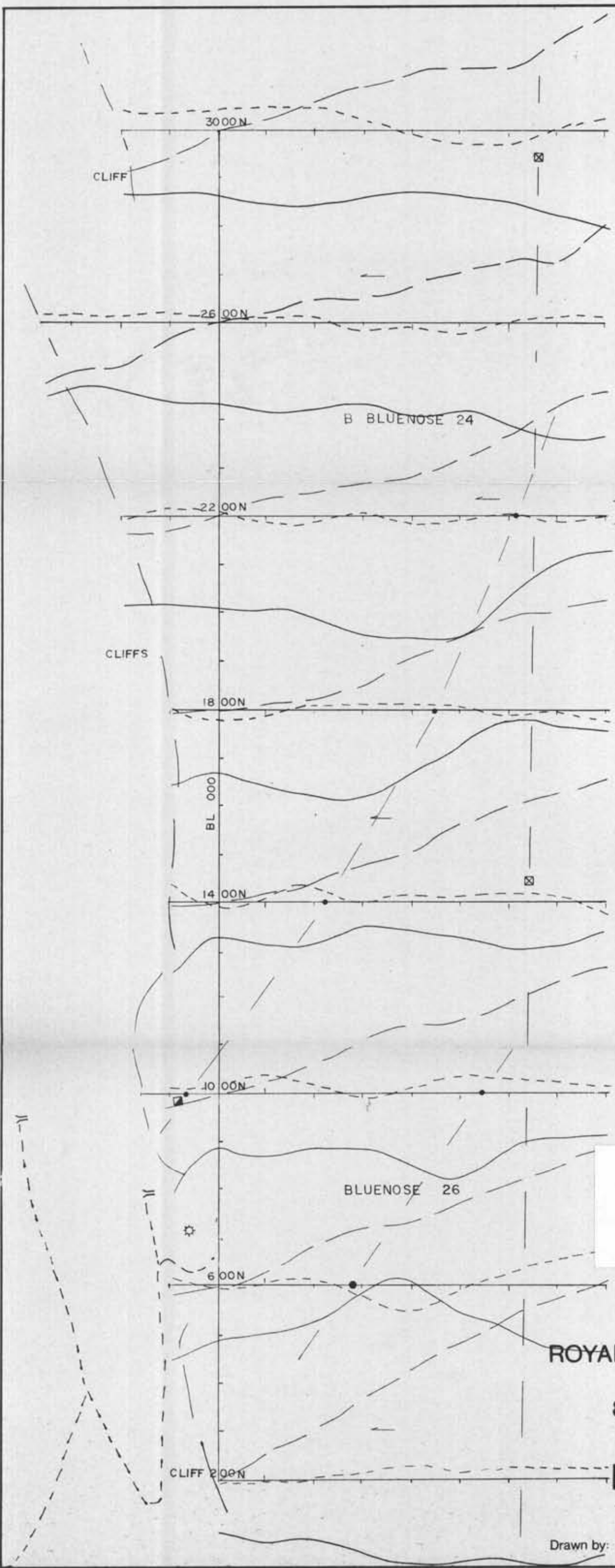
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**82L/14 BLUENOSE**  
 SOUTH ZONE  
**EM-16 SURVEY**

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 ASSESSMENT REPORT  
 NO. 1635  
 MAP  
 NPG Seattle

**LEGEND**

- ● ● Correlation (strong, mod, weak)
- in phase component
- - - Quadrature
- - - topography (true scale)

Vertical scale - 1"=50'  
 Base elevation - 2500'  
 Operator - M.Hjelt

To accompany geological and geophysical report by N.B. Vollo, P. Eng.

Dated September 28th, 1968.

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 KAMLOOPS, BC.

**82L/14 BLUENOSE**  
 UPPER ZONE

**EM-16 SURVEY**

Drawn by: \_\_\_\_\_ Scale: 1"=200' Date: 27/9/68 Approved by: *M.Hjelt*