

2127

GEOLOGICAL, GEOCHEMICAL & GEOPHYSICAL

REPORT ON THE

92 0/10 ML GROUPS

AT

BIG CREEK, B.C.

51°122° N.W.

BY

N.B. VOLLO, P. Eng.

December 16th, 1969

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT

NO. 2127 MAP

TABLE OF CONTENTS

	<u>Page</u>
SUMMARY	1
LOCATION & ACCESS	1
TOPOGRAPHY & CLIMATE	1
CLAIMS	2
HISTORY & PREVIOUS WORK	2
REGIONAL GEOLOGY	3
FIELD WORK	3
GEOLOGY	4
MAGNETIC SURVEY	5
VLF-EM SURVEY	6
GEOCHEMICAL SURVEY	7
CONCLUSIONS AND RECOMMENDATIONS	9

MAPS IN POCKET

# 1	Geological Map	1" = 1,000'
# 2	Magnetic Survey	1" = 1,000'
# 3	EM-16 Survey	1" = 1,000'
# 4	Geochemical Survey Total MO, Cu.	1" = 1,000'
# 5	Geochemical Survey Total Zn, Ag.	1" = 1,000'

SUMMARY

Magnetic, electromagnetic (VLF) and geochemical surveys were completed over approximately 100 miles of grid, to explore a stream sediment anomaly in an area of intrusive rock south of Big Creek. A moderate copper geochemical anomaly was located and further work is recommended.

LOCATION & ACCESS

The ML Groups are located on Willan Creek, approximately 10 miles south east of the post office of Big Creek. Forestry and logging roads from Williams Lake provide access to within two miles of the groups. A trail has been cut from this point to the central part of the property, but helicopters remain the most practical way of placing camps.

TOPOGRAPHY & CLIMATE

The groups are located on the Chilcotin Plateau at elevations ranging from 4900' to 5700' above sea level. Local relief is low; most of the property being rolling upland.

The area has a fairly low rainfall and snow cover probably does not exceed three feet. A mature open growth of lodgepole pine covers most of the property, except for the north-east corner, which is covered by a dense second growth.

CLAIMS

The four groups consist of 174 claims, all held by Royal Canadian Ventures Ltd., as follows:

ML 1 & 2, 25 to 34, 45 to 56, Record Nos. 17474 - 17497

ML 3 to 24, 35 to 44, 57 to 174, Record Nos. 17568 - 17717

They are all located in the Clinton Mining Division.

HISTORY & PREVIOUS WORK

A geochemical stream sampling programme was carried out in the general area in 1968 by Royal Canadian Ventures Ltd. Two creeks, draining east and west from the height of land, were found to contain moderately anomalous contents of copper and molybdenum. The ML Groups were subsequently staked to cover the anomalous

area. To the writers knowledge no mineral claims have been held within the present ML Groups.

The area was mapped in 1961 - 62 by H.W. Tipper, and a preliminary geological map published by the Geological Survey of Canada in 1963 as Map 29 - 1963, Taseko Lakes.

REGIONAL GEOLOGY

The groups are located within a jurassic intrusive stock forming a fenster in the tertiary Chilcotin plateau basalts. The stock is intrusive into triassic sediments (Tipper 1963). The stock is very similarly situated with regard to the coast batholith as is the Guichon batholith farther south.

FIELD WORK

Approximately 100 miles of grid were chained and blazed from a central picket base line. Lines were spaced at 800' intervals. Magnetic, VLF-EM and Geochemical surveys were completed between May 20th and August 12th, 1969.

GEOLOGY

Outcrop is extremely sparse. Records were kept by the geophysical and geochemical crews noting outcrop areas. Most of these were visited over a period of three days by the writer and mapped on enlarged air photos.

The western and northern portions of the property appear to be underlain by a medium grained hornblende granodiorite of monotonous appearance and composition. It consists of approximately 30 per cent quartz, 45 per cent feldspar and 25 per cent hornblende. In the vicinity of line 40+00 S, coarse grained hornblende monzonite is intimately mixed with the granodiorite and is apparently intrusive into it. It consists of approximately equal parts of coarse acicular hornblende and feldspar with little quartz, and xenocrysts of fine grained hornblende granodiorite.

A single outcrop of biotite granodiorite was found in the extreme south east part of the mapped area. It is medium to coarse grained, white to buff coloured, and is composed of approximately 40 per cent quartz, 40 per cent feldspar and 20 per cent biotite. The quartz occurs mostly as coarse phenocrysts, feldspar is interstitial and biotite occurs as small euhedral books or flakes.

A small area of plateau basalts forms a prominent mesa in the north central part of the group.

The hornblende granodiorite, monzonite and plateau basalts are markedly and approximately equally magnetic. The single specimen of biotite granodiorite is non-magnetic.

Small quartz veins up to a few inches wide, carrying coarse blebs of chalcopyrite in minor amounts, were observed at approximately 128+00 S on the 0+00 base line. Geological features are shown on the accompanying map (in pocket).

MAGNETIC SURVEY

Readings were taken at 100 foot or closer intervals along lines spaced 800 feet apart, using a Sharpe MF-1 Fluxgate Magnetometer. A base station was established on the 0+00 base line where the instrument was set at 500 gammas. Sub-stations were established progressively along the 0 base line from this. Traverses were looped and corrections made for diurnal variations. Results are shown contoured at 200 gamma intervals on the accompanying map, (in pocket).

Moderate magnetic relief with a north westerly trend is present over most of the property, probably reflecting areas underlain by hornblende granodiorite. Very sharp lows in the central part are due to "edge" effects from the basalt mesa. It is not possible to outline the basalt area from the magnetics. Very low magnetic relief in the south eastern portion possibly outlines the extent of the biotite granodiorite.

VLF-EM SURVEY

Readings were taken at 100 foot intervals along the lines using a Ronka EM-16 unit. Primary source was NPG Seattle, Washington, whose field direction in this area is approximately east west. All readings were taken facing easterly. Vertical control was maintained using a Thommen pocket altimeter. In phase and quadrature readings were plotted as profiles using a vertical scale of 1" = 50%, and are shown on the accompanying map (in pocket). Because of the generally low local relief, topography is not shown.

The in-phase profile over most of the area is moderately "rough", probably indicating fairly shallow overburden. Myriads of minor cross-overs are present; a few weak to moderate ones have northerly or north westerly trends.

trends. Northerly trending structures would tend to be accentuated over others using the east-west field.

A broad area of smooth profiles is present in the south east part of the property conforming fairly closely with the area of low magnetics. The sharp cross-over to the extreme south-east is at least in part due to topography as it parallels a sharp, deep gully.

GEOCHEMICAL SURVEY

Soil samples were taken at 200 foot intervals along the lines using narrow spades. Samples were placed in kraft paper envelopes and sent to TSL Laboratories in Vancouver. Analysis were made for hot acid extractable Cu, Zn, Mo, and Ag. Determinations were made by atomic absorption for copper, zinc and silver, by the Zn-dithiol method for Mo.

The area has a moderately well developed podzol type soil profile. Samples were taken from the "B" horizon, usually present within 8 to 12 inches of surface.

Copper has a background value of about 20 parts per million. A fairly consistent anomaly with readings to 1500 ppm is present in the vicinity of line 120+00 S. It is more than a mile long, about 800 feet wide and trends nearly parallel to the lines. It lies approximately in the direction of glacial movement and drainage and its shape may be due to dispersion from a point near the 0+00 base line.

Occasional readings above 100 ppm are present in the central part of the area, and a few very weak anomalies can be outlined. They are the only expression of previous sediment anomalies in the adjacent streams, and are of very much lower magnitude.

Molybdenum background content is less than 0.5 ppm, with very few readings above 1 ppm. A weak anomaly on lines 8+00 N and 16+00 N corresponds with moderate readings from the small stream draining this area.

Silver background is less than 1 ppm. A weak, erratic silver anomaly is associated with the copper anomaly on line 120+00 S. A second weak anomaly on line 56+00 S correlates with a weak copper anomaly.

Zinc background is about 35 ppm, with very little variation, and only a few isolated analysis above 100 ppm.

CONCLUSIONS AND RECOMMENDATIONS

The following conclusions can be drawn.

1. The area of low magnetic and electro-magnetic relief probably outlines an area of biotite granodiorite.
2. The copper anomaly on line 120+00 S lies within the biotite granodiorite and appears to originate near the contact with hornblende granodiorite. The very minor quartz-chalcopyrite veins noted do not seem adequate to cause the anomaly.
3. The weak copper silver anomaly at line 48+00 S correlates with the magnetic low, and may be associated with a tongue of biotite granodiorite.

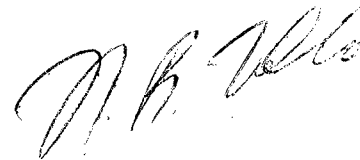
The following work is recommended.

1. A detailed soil survey should be done over the 120 S copper anomaly, with samples taken at 100 foot intervals along lines spaced 400 feet apart and perpendicular to the present grid. Magnetic and EM-16 surveys should be done at the same time. Approximately 15 miles of new grid will be required.

2. An induced polarization survey should be done over the anomalous area as outlined by the check survey. At least 10 miles of I.P. Lines will be required. The weak anomaly at line 48 S should also be surveyed at this time.

3. Anomalies resulting from the I.P. survey should be checked by test pits or holes.

N.B. Vollo, P. Eng.

A handwritten signature in cursive script, appearing to read 'N.B. Vollo', is written in dark ink.

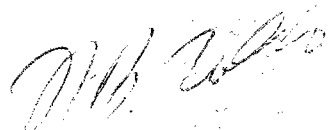
December 16, 1969.

QUALIFICATIONS OF INSTRUMENT OPERATOR

CHRIS MOHN is 22 years of age and completed Grade XII in the Province of Alberta. He has completed two years in Electrical Engineering at the University of Alberta at Calgary.

He was employed by Royal Canadian Ventures from May 1st to September 1st, 1968, as an assistant instrument operator.

He has been carefully instructed in the operation of the Sharpe MF-1 magnetometer and the Ronka EM - 16 electromagnetic unit by the undersigned, who knows his work to be carefully and reliably done.



N.B. Vollo, P.Eng.
Dec. 16th, 1969

ASSESSMENT DATA AND AFFIDAVIT ON EXPENDITURES

Personnel

N.B. Vollo, P. Eng.
Mapping, supervision, June 9 - Aug. 8
8½ days @ \$75 ----- \$ 637.50
Interpretation and Report
7 days @ \$75 ----- 525.00
L. Loranger, Field Man.
Supervision, May 20 - 28, 9 days @ \$40 360.00
Plotting, Sept. 9 - 12, 2 days @ \$40 - 80.00
M. Hjelt, Prospector.
Place and remove camps, 2 days @ \$40 - 80.00
Draughting, Sept. 9 - Dec. 16, 12½
days @ \$40 ----- 500.00
C. Mohn, Instrument Operator
Geophysical surveys, supervision, May
20th - Aug. 12, 75½
days @ \$30 ----- 2265.00
D. Barlow, Student Assistant.
Chaining, Soil Sampling, May 20 - Aug.
12, 75½ days @ \$25 ----- 1887.50
Plotting, Aug. 13 - Sept. 5, 5 @ \$25 = 125.00
W. Hanson, Student Assistant.
Chaining, Soil sampling, May 20th -
Aug. 8, 71½ days @ 25 ----- 1787.50

Analysis

TSL Laboratories, 2461 samples ----- 5039.10

Vehicle Expenses

Company vehicles, 4431 miles @ 12¢ ----- 531.72
Amphicat, 22 operating days @ \$30 ----- 660.00

Camp and Travel expenses ----- 1378.90

Prints, flagging, airphotos, etc. ----- 198.84

Helicopter

Okanagan Helicopters, 8 hours @ \$150 ----- 1200.00
\$17256.06

Total line miles, 89, cost per line mile ----- 193.89

I, Nels B. Vollo, of Kamloops, B.C., 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 15th day of Dec, 1969, A.D.

[Signature]
A commissioner for taking affidavits for British Columbia

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NO. 2127 MAP #3

LEGEND

- +50% —
- Direction faced
- In-phase
- Line
- Quad.
- • • Conductor: wk, med, strong
- -50% —

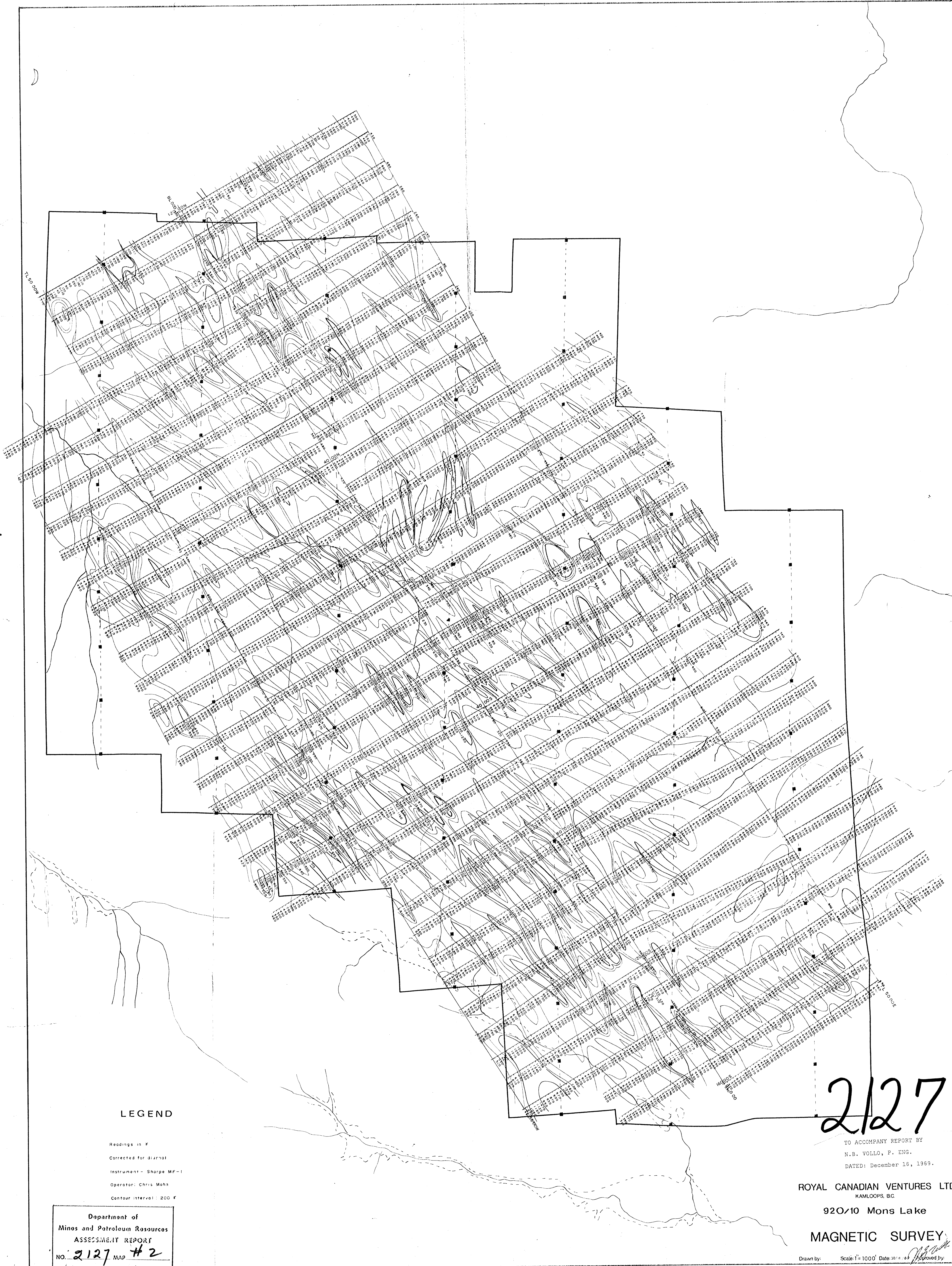
NPG - Seattle
18.6 kHz

2127

TO ACCOMPANY REPORT BY
N.B. VOLLO, P. ENG.
DATED: December 16, 1969.

ROYAL CANADIAN VENTURES LTD.
KAMLOOPS, BC.
920/10 Mons Lake
EM-16 SURVEY

Drawn by: Scale: 1" = 1000' Date: 12/17/69 Approved by:



LEGEND

Readings in γ
 Corrected for diurnal
 Instrument - Sharpe MF-1
 Operator: Chris Mohr
 Contour interval: 200 γ

Department of
 Mines and Petroleum Resources
 ASSESSMENT REPORT
 NO. 2127 MAP #2

2127

TO ACCOMPANY REPORT BY
 N.B. VOLLO, P. ENG.
 DATED: December 16, 1969.

ROYAL CANADIAN VENTURES LTD.
 KAMLOOPS, B.C.

920/10 Mons Lake

MAGNETIC SURVEY

Drawn by: *[Signature]* Scale: 1" = 1000' Date: 10/11/69 Approved by: *[Signature]*



2127

TO ACCOMPANY REPORT BY
N.B. VOLLO, P. ENG.
DATED: December 15, 1969.

ROYAL CANADIAN VENTURES LTD.
KAMLOOPS, B.C.

920/10 Mons Lake
GEOCHEMICAL SURVEY

Total Mo.-Cu. *Sh*

Drawn by: Scale 1"=1000' Date 10/11/69 Approved by:

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 2127 MAP #4



Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 2127 MAP #5

2127

TO ACCOMPANY REPORT BY
N.B. VOLLO, P. ENG.
DATED: December 16, 1969.
ROYAL CANADIAN VENTURES LTD.
KAMLOOPS, B.C.
920/10 Mons Lake
GEOCHEMICAL SURVEY
Total Zn.- Ag.
Drawn by: Scale: 1" = 1000' Date: 3/11/72. Approved by:



LEGEND

- 1 Basalt
- 2 Glaucophane Granodiorite
- 3 Hornblende Granodiorite
- ① Specimen location
- Outcrop area
- Assumed contact
- Contour interval - 100'
- Datum - Sea level

Department of
 Mines and Petroleum Resources
 ASSESSMENT REPORT
 NO. 2127 MAP #1

TO ACCOMPANY REPORT BY
 N.B. VOLLO, P. ENG.
 DATED: December 16, 1969.

ROYAL CANADIAN VENTURES LTD.
 KAMLOOPS, BC
 920/10 MONS LAKE
 GEOLOGICAL PLAN

Drawn by _____ Scale: 1"=1000' Date: DEC 16 1969 Approved by _____
 2127 #1