

2821

GEOLOGICAL, GEOPHYSICAL AND GEOCHEMICAL

REPORT ON

92 I/9MR GROUP

of

ROYAL CANADIAN VENTURES LTD.

at

KNUTSFORD, B.C.

50° 120° N.E.

by

N.B. VOLLO, P. ENG.

January 17, 1971.

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT

NO. 2821 MAP

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Maps in Pocket

#1 Geological Plan	1" = 400'
#2 Magnetic Survey	1" = 400'
#3 Geochemical Survey	1" = 400'

SUMMARY

Geological mapping, a geochemical soil survey and a magnetometer survey were completed over approximately 24 miles of grid during the period October 20th, to November 6th, 1970. The southwest contact of the Iron Mask intrusion was defined and areas favourable for mineralization were located.

LOCATION & ACCESS

The group is approximately 2 miles southwest of Knutsford, or about 5 miles southwest of Kamloops, in the Kamloops Mining Division. Access is via good secondary roads.

TOPOGRAPHY & CLIMATE

The group is located within the interior dry belt, with low rainfall and snowfall. The area is mostly rolling grassland with elevations ranging from 2900 to 3400 feet above sea level. Scattered patches of douglas fir are present, mostly on north slopes.

CLAIMS

The group consists of 29 claims and fractions as follows:

MR 1 - 10	Record Nos.	87037-87046
MR 11 -	Record Nos.	87121
MR 12 - 19	Record Nos.	90528 - 90535
MR 20 - 22 Fr.	Record Nos.	90696 - 90698
MR 23 - 24 Fr.	Record Nos.	not available
MR 25 - 29	Record Nos.	not available

All are held by Royal Canadian Ventures Ltd.

HISTORY & PREVIOUS WORK

The property has been worked on intermittently since the turn of the century, and several old pits and trenches are present. Within the recent past geophysical work has been done by Rolling Hills Mines Ltd., but due to poor control, its location cannot be determined. At least one hole was drilled and some trenching done by Copper Lake Explorations Ltd., probably in 1968.

FIELD WORK

Four men worked from October 20th to November 6th . 24 miles of grid were picketed with lines spaced 400 feet apart. Geological mapping, geochemical soil survey and a magnetic survey were completed.

GEOLOGY

The group is located across the southwest contact of the Iron Mask intrusion. Flat[†] lying basalt of the Kamloops Group is present in the extreme south portion of the property. Outcrop is abundant in some areas, sparse in others. Mapping was done by air photographs enlarged to 1" - 400', with the chained grid as control. All known outcrops were visited.

Lithology

The basalt is fine grained, dark brownish black and vesicular. It is flat lying and probably part of the Kamloops group. The Iron Mask intrusion has been divided into three phases, pyroxenite, pyroxenite-gabbro intrusive breccia and microdiorite-micromonzonite. The pyroxenite may be equivalent to the porphyritic microdiorite described by Preto (BCDM, 1968) and is therefore probably not properly part of the Iron Mask Rocks. It is medium to coarse grained, dark green to black, and usually distinctly porphyritic, with euhedral phenocrysts of black pyroxene in a greenish matrix which probably consists mostly of altered calcic plagioclase and serpentine. Fragments of basalt, andesite, and intrusive rocks are common near the contact with Nicola Rocks.

The pyroxenite-gabbro intrusive breccia consists of blocks and fragments of pyroxenite in medium to coarse grained dark gray gabbro. The amount of pyroxenite in general decreases eastward, but no gabbro completely devoid of pyroxenite fragments were found.

The microdiorite is a fine grained, dark grey equigranular rock, composed of plagioclase and hornblende. It is in places brecciated and invaded by fine to medium grained pink micromonzonite.

The Nicola volcanics are fine grained, dark grey, grey-green or purplish massive andesites.

Structure

The volcanic rocks are massive and featureless, as is the pyroxenite, and no attitude determinations could be made. The gabbro and microdiorite appear to be intrusive breccias in almost every outcrop. From the southwest to northeast, gabbro with extremely abundant blocks and fragments of pyroxenite becomes in turn invaded by microdiorite, in turn invaded by micromonzonite. Indeed, in one outcrop all four rock types may be present.

Contacts on the accompanying map (in pocket) have been inferred from outcrops and the magnetic data. The gabbro phase in particular is strongly magnetic.

Mineralization

A small area of microdiorite in the extreme southeast portion of the group contains several trenches which expose weak pyrite-chalcopyrite mineralization, disseminated and as fracture coatings. A trench in gabbro on the MR - 12 claim also exposes pyrite-chalcopyrite mineralization in a narrow fracture zone, accompanied by silicification and potash feldspar alteration.

MAGNETIC SURVEY

Readings were taken at 100 foot intervals along lines 400' apart using a Sharpe MF-1 Fluxgate magnetometer. The instrument was set at 500 gammas at a base station previously established for an adjoining property. 1000 gammas was added to all readings to eliminate most negatives and to conform with the previous survey. Sub-bases were established along the 70+00 W base line, traverses were looped and correction made for diurnal variation where necessary. Results are shown on the accompanying map (in pocket) contoured at 1000 gamma intervals.

A zone 2000 to 3000 feet wide along the eastern boundary has magnetic relief of more than 10,000 gammas, and appears to be underlain mainly by gabbro. To the east a pronounced low is present within the microdiorite-micromonzonite. The Nicola

volcanics and pyroxenite underlying the western portion of the group have low relief and can be distinguished only poorly by magnetics alone.

GEOCHEMICAL SURVEY

Samples were taken at 200' intervals along the lines and base lines using soil augers. They were placed in kraft paper envelopes and analyzed by TSL Laboratories in Vancouver for total copper, using hot aqua regia extraction and the atomic absorption method.

The area has a fairly well developed chernozen type soil profile, with a few inches to a foot or more of black humus rich soil overlying relatively unweathered till. The "B" zone is usually absent or very indistinct. One or more caliche zones may be present below the "A" zone. Samples were taken below the caliche zone where present and are probably almost entirely from the "C" zone.

Background copper content is relatively high, about 100 ppm. A series of small highs above 200 ppm occur along the gabbro microdiorite contact. The strongest anomaly, with readings above 1,000 ppm, contains small areas of outcropping pyroxenite, and

warrants closer examination on the ground. A single 3,000 ppm reading on line 72+00 north probably represents contamination from the old Buda shaft nearby.

CONCLUSIONS & RECOMMENDATIONS

Facies of iron mask rocks, known to be favourable host rocks for copper mineralization in the area, have been defined. Due to the nature of the soil formation, particularly where caliche is present, geochemical soil sampling may have failed to detect possible mineralized zones. Approximately 10 miles of induced polarization survey should be done over the gabbro and microdiorite areas to check for possible sulphide mineralization.

N.B. Vollo

P. Eng.

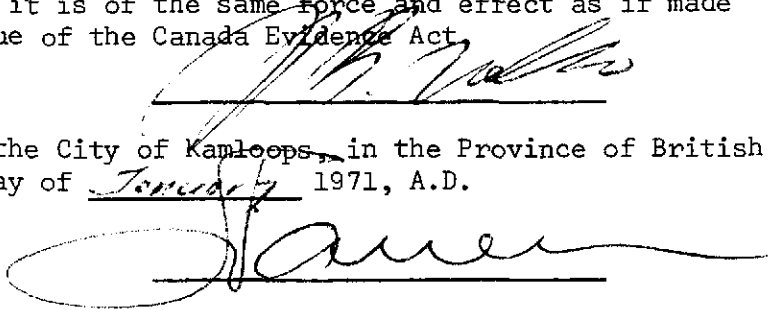
January 17, 1971

AFFIDAVIT ON EXPENDITURES

N.B. VOLLO, P. Eng., Geologist	
Mapping, October 19th to November 6th, 1970	\$ 375.00
5 days @ \$75.00	
Interpretation & Report	300.00
4 days @ \$75.00	
M. HJELT	
Magnetic Survey, October 28th to	
November 8rd, 1970	360.00
8 days @ \$45.00	
L. LORANGER	
Field Work, October 19th to November 6th, 1970	630.00
14 days @ \$45.00	
M. FENNEL	
Field Work, October 20th to November 6th, 1970	420.00
14 days @ \$30.00	
Drafting - 5 days @ \$30.00	150.00
Analysis, T.S.L. Laboratories	781.25
625 samples @ \$1.25	
Company vehicles - 320 miles @ 12¢	38.40
Air photos, prints, pickets, flagging, miscellaneous	<u>168.97</u>
TOTAL	\$ <u>3404.12</u>

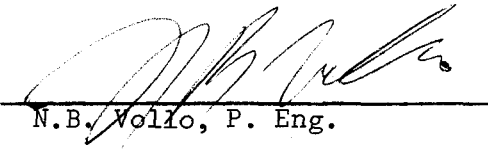
I, Nels B. Vollo, of the City of Kamloops, in the Province of British Columbia, make the above declaration, conscientiously believing it to be true and knowing it is of the same force and effect as if made under oath and by virtue of the Canada Evidence Act.

Declared before me at the City of Kamloops, in the Province of British Columbia this 22 day of January 1971, A.D.


A Commissioner for taking affidavits for British Columbia.

QUALIFICATIONS OF OPERATORS

Mauri Hjelt, is 29 years of age and completed Grade 12 at Pemberton, B.C. He graduated from the University of British Columbia in physical education in 1965. He was employed for four summers by Mining Corporation Ltd. as a prospector and has been employed for 3½ years by Royal Canadian Ventures Ltd. as a prospector and instrument operator. He has been carefully instructed in the operation of the Sharp MF-1 Fluxgate Magnetometer by the undersigned, who knows his work to be carefully and reliably done.



N.B. Vollo, P. Eng.

January 17th, 1971.

INVOICE

T S L

Laboratories Limited

325 HOWE STREET - VANCOUVER 1, B.C.

TELEPHONE 688-3504

ASSAYERS
CHEMISTS
GEOCHEMISTS

CHARGE TO

Royal Canadian Ventures Ltd.
270 - 180 Seymour Street
Vancouver, B.C.

INVOICE NUMBER

9568

SHIPPED TO:

DATE:	REFERENCE NO: V 8388			YOUR ORDER NO.:	
Nov 20, 1970	SHIPPED:	VIA:	TERMS: NET 30 DAYS	UNIT PRICE	TOTAL
	189 Soils for Cu + Sample prep			\$1.25	\$236.25
	<i>9/16/70 92/14 MR</i>				

INVOICE

T

S

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Laboratories Limited

325 HOWE STREET - VANCOUVER 1, B.C.

TELEPHONE 688-3504

ASSAYERS
CHEMISTS
GEOCHEMISTSC
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T
OROYAL CANADIAN VENTURES LTD.
270 - 180 Seymour Street
Kamloops, B.C.

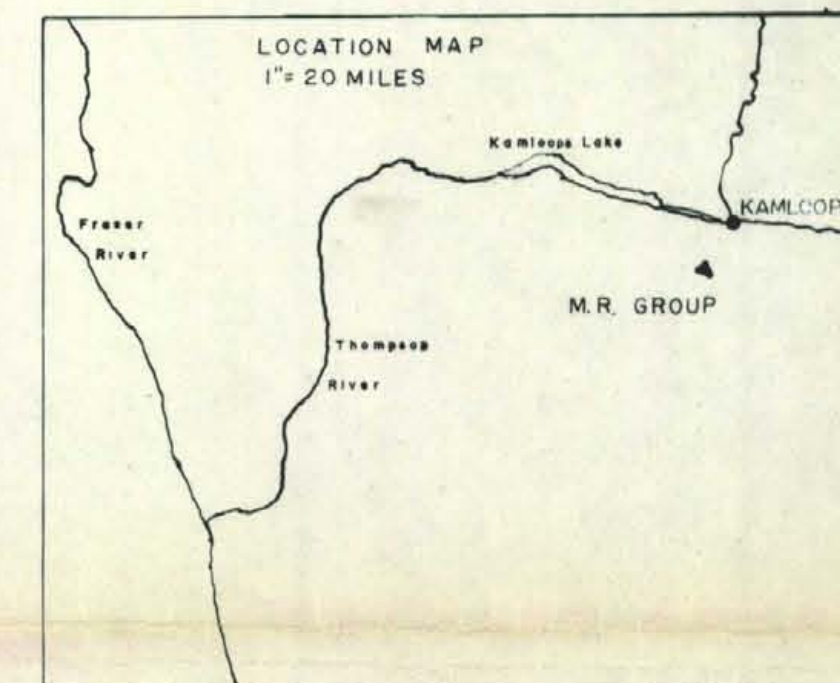
INVOICE NUMBER

9569

SHIPPED TO:

DATE:	REFERENCE NO.:	YOUR ORDER NO.:		
Nov. 20, 1970.	V8391			
SHIPPED:	VIA:	TERMS:	UNIT PRICE	TOTAL
		NET 30 DAYS		
156 Soils for Cu + Sampleprep			\$1.25	\$195.00
<i>156 Soils for Cu + Sampleprep</i> <i>721/9 FR</i>				

INVOICE



LEGEND

- TERTIARY**
- 6 Felsite dikes
 - 5 Basalt
- IRON MASK INTRUSIONS**
- 4 Micromonzonite, microdiortite
 - 3 Gabbro - Pyroxenite infr. breccia
 - 2 Pyroxenite
- NICOLA VOLCANICS**
- 1 Andesite
- Inferred contact
- + Swamp
- Trench
- Drill hole
- Outcrop
- ⊙ Specimen location
- Claim post, current
- Claim post, expired

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 2821 MAP #1

to accompany report by N.B. Vollo,
P.Eng., dated January 17th, 1971

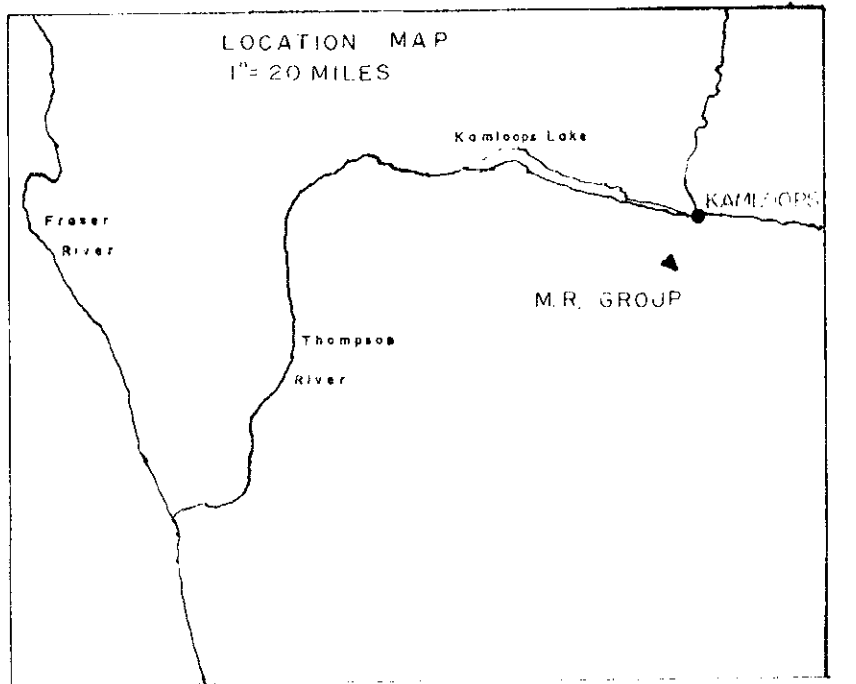
2821

ROYAL CANADIAN VENTURES LTD.
KAMLOOPS, BC.

921/9 MR GROUP
GEOLOGICAL PLAN

M-1

Drawn by: M.F. Scale: 1"=400' Date: NOV. 25/70 Approved by:



LEGEND

READINGS IN GAMMAS

MRST. SHARPE M.F. 1

OPERATOR: H. WELT

CORRECTED FOR DIURNAL

COUNT RATE INTERVAL 1000 GAMMAS

to accompany report by N.B. Vello,
P.Eng., on the MR Group, dated
January 17th, 1971

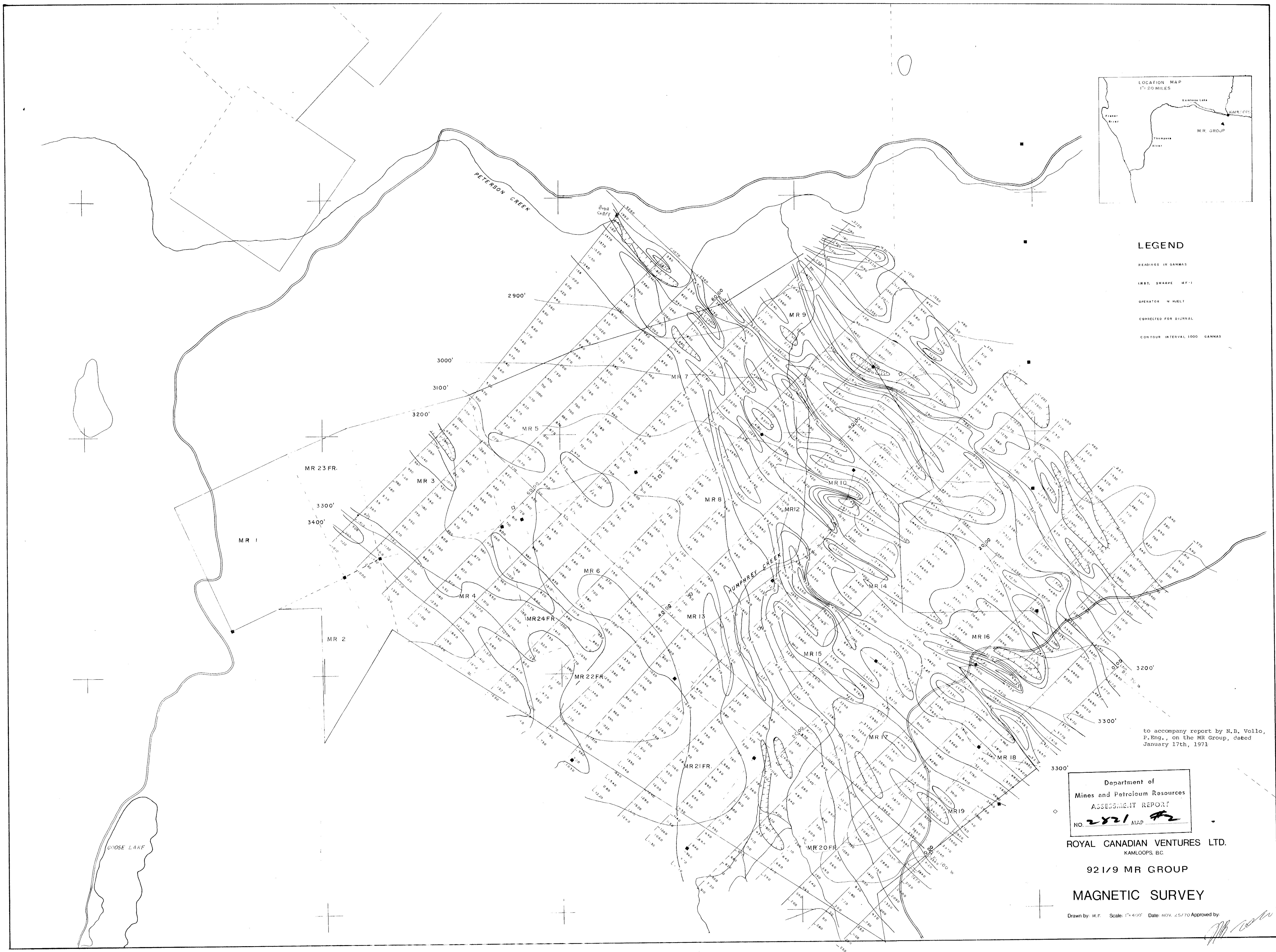
Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 2821 MAP 42

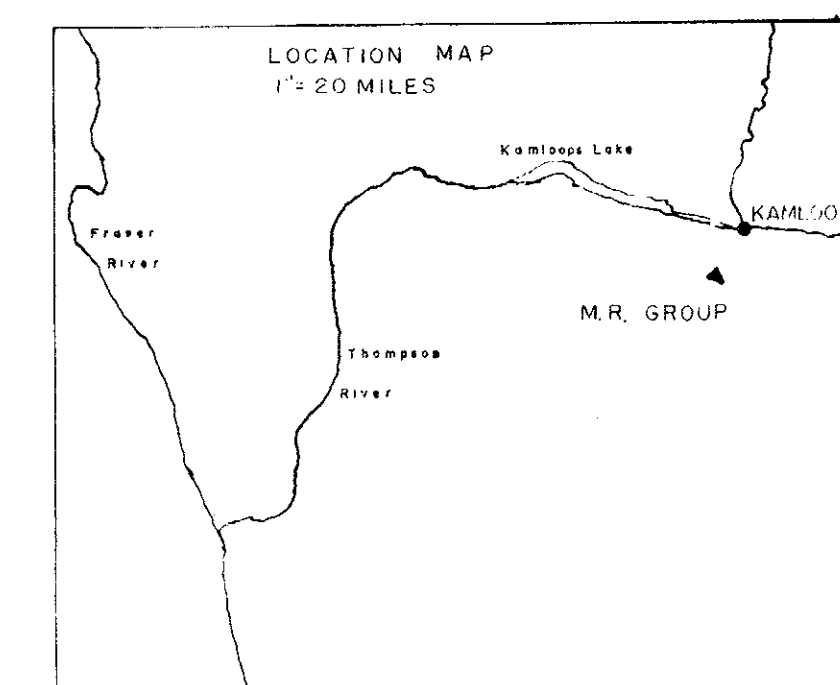
ROYAL CANADIAN VENTURES LTD.
KAMLOOPS, BC

921/9 MR GROUP

MAGNETIC SURVEY

Drawn by: M.F. Scale: 1"=400' Date: NOV. 25/70 Approved by:





LEGEND

HOT AQUA REGIA EXTRACTION

ANALYSIS BY A.A.

CONTOURS - 200, 500, 1000.

to accompany report by N.B. Vollo,
P.Eng., on the MR group, dated
January 17th, 1971

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 2821 MAP #3

ROYAL CANADIAN VENTURES LTD.
KAMLOOPS, B.C.

921/9 MR GROUP
GEOCHEMICAL PLAN
TOTAL CU.

Drawn by: M.F. Scale: 1"=400' Date: NOV. 25/70 Approved by: [Signature]

