848
PART 1
OF 2

Geological Report

on

the Royal Group

of

ROYAL CANADIAN VENTURES LTD.

at Calling Lake, Highland Valley, 50° 121° SE

by

N.B. Vollo, P.Eng.

November 17th, 1966

CONTENTS

GEOLOGICAL REPORT ON THE 92 I/6 ROYAL GROUP

Location

The Royal group is located at Calling Lake, in the Highland Valley area of B.C, N.T.S. designation 92 I/6. The east boundary of the group is located one mile due west of the Lornex copper deposit.

Access

The Highland Valley can be reached by paved road from Ashcroft. The claim group can be reached by either of two roadds starting at Quiltanton Lake. One, a jeep road, runs along the east boundary of the property: the other, the old OK mine road, passable by car, reaches the west end of Calling Lake.

Field Work

The group was mapped by the writer during July and August, 1966. Traverses were made along chained picket lines spaced at 400 foot intervals. Outcrops between lines were located by pace and compass.

Topography

The area is one of rather subdued relief, rising to a maximum of 600 feet above Calling Lake at 5100 feet above sea level. A broad valley trends southeasterly from Calling Lake, crosses the group diagonally, and forms

part of a lineament that can be traced for several miles on aireal photographs.

Rock outcrops are abundant in the upland areas but very sparse in the broad central valley. Overburden is mostly boulder till with a high proportion of boulders to clay.

The area is covered with an open, mature lodgepole pine forest which becomes more dense, with a little spruce, on north slopes.

Geology

The group lies completely within the Guichon batholith and all exposures are of intrusive rocks.

Petrology

The granodiorite forms more than 90% of the outcrop on the group. It is a white, coarse grained, massive rock with composition visually estimated to be approximately:

plagioclase ------50%
Orthoclase -------10%
quartz -----------20%
biotite ----------20%

Quartz tends to occur as rounded phenocrysts 2 to 10 mm in diameter. Biotite occurs as euhedral equidimensional prisms up to 15 mm in diameter and is the most distinctive feature of this rock.

Quartz porphyry is pinkish in colour with abundant phenocrysts of clear quartz, up to 10 mm in diameter, in a fine grained matrix of orthoclase, quartz, minor biotite and very sparse pyrite. Quartz forms 40% to 50% of the rock. Quartz porphyry was not seen in actual contact with the granodiorite, but is probably intrusive into it. The only exposures were found on the Cana 9 claim.

One outcrop of biotite granite occurs immediately south of the base line at about 55 + 00E (see map). It is medium grained, massive, composed mostly of feldspar and quartz, with 20% flaky black biotite. This outcrop is isolated in a large drift covered area and could be a very large erratic. It could also, however, represent in part the rock underlying the broad central valley.

Aplite dikes are pink, fine grained, sugary, composed of roughly equal amounts of orthoclase, plagioclase and quartz. They are commonly leass than six inches wide wnd were observed only in the granodiorite. Most strike northerly, dip steeply west, and are too small to show on the accompanying map.

Structure

A pronounced topographic lineation strikes about N 40° W and is clearly defined on aireal photographs. The central valley is probably the topographic expression of an underlying fault zone,but due to the complete lack of outcrop in this area no evidence for this was observed in the field.

The long trench on the Cana 9 claim (see map) exposes a series of weak shear zones trending N 40° W and dipping steeply, separated by bands of unaltered massive granodiorite. The material in the shear zones is oxidized to a depth of at least ten feet below the suboutcrop.

Alteration and mineralization

Strong sericitization is associated with the shear zones exposed on the Cana 9 mineral claim. Minor malachite, chalcopyrite and bornite were also noted.

An old pit north of the above trench exposes abundant malachite, some chalcopyrite and bornite, in a strongly silicified zone. The pit is too badly caved to determine the trend of the mineralization.

Minor brick red oxidation and alteration were noted in a few outcrops in the extreme northeast corner of the property.

Recommendations

In view of the close proximity to the Lornex copper deposit, the royal group should be thoroughly tested:

1. On the basis of field mapping a geochemical soil survey for copper and molybdenum was recommended over the drift covered areas, particularly the central valley. This has been completed.

2. An induced polarization survey was recommended over the drift covered area, guided to some extent by results of the geochemical soil survey. This has been completed.

3. A trench should be bulldozed and ripped into rock in a northeasterly direction, starting approximately at the mid point of the trench on the Cana 9 claim, across the old pit, for a total distance of about 600 feet.

N.B. Vollo, P.Eng.

Kamloops, B.C.
Nov. 17th, 1966

ASSESSMENT DATA

Personnel

N.B. Vollo, P.Eng, Geologist.

Field mapping ----------	July 18 - 22,	1966
	Aug. 1 - 5,	"
	Aug. 17 - 20,	"
Report preparation	Nov. 15, 16	"

R. Zimmerman,

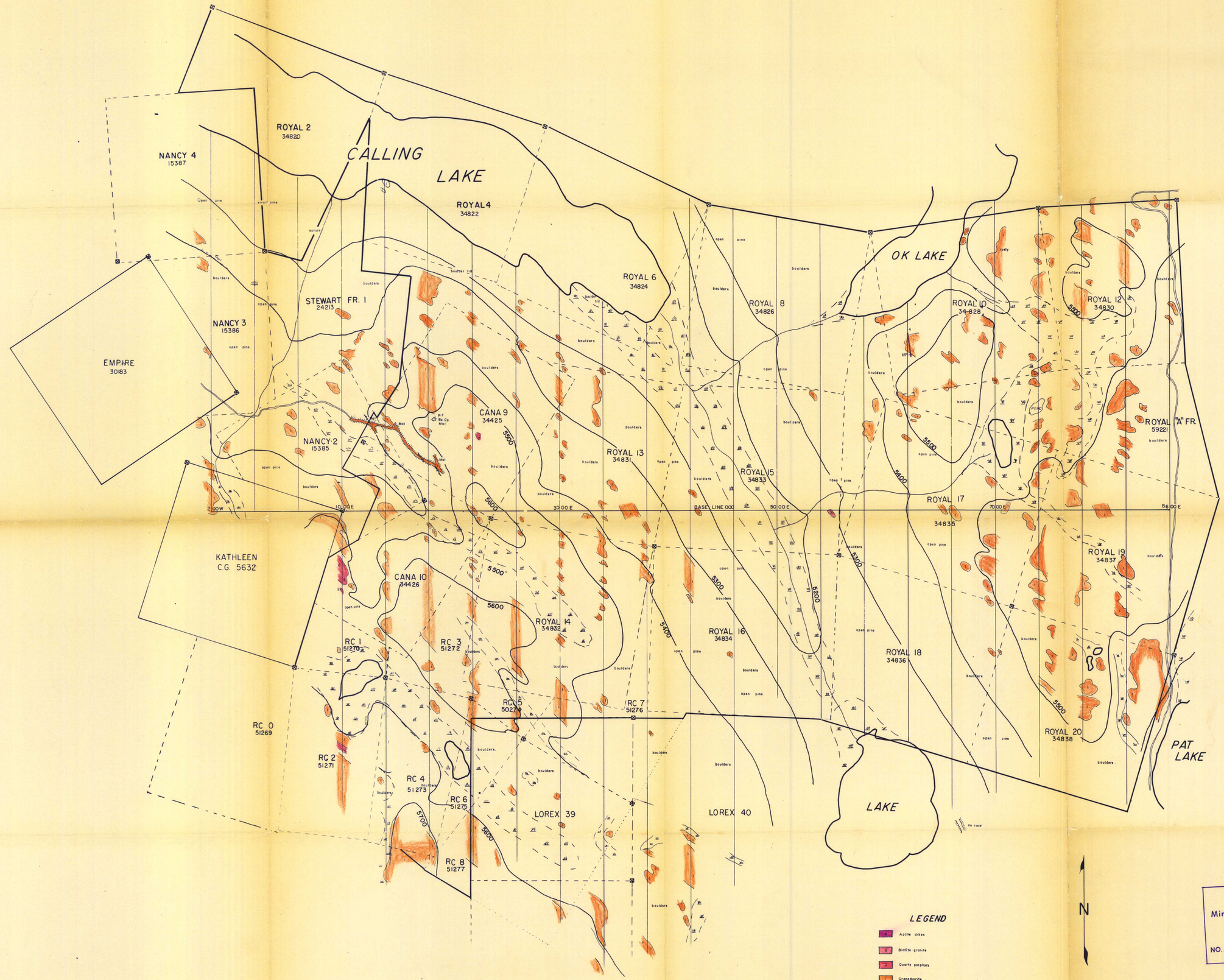
Field assistance --------	Aug. 4, 16-18,	"
	Oct. 25, 26,	"
Draughting ----------	Oct. 2,4,	"
	Nov. 15,	"

Transporation

Company owned truck, rented personal car.

Accomodation

Camp on Calling Lake.



LEGEND

- Aplite dikes
- Biotite granite
- Quartz porphyry
- Granodiorite
- Trench
- Jeep road
- Trail
- Muskeg

400' 0 400' 800'

SCALE

N

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 848 MAP # 1

ROYAL CANADIAN VENTURES LTD.

92 I/6 ROYAL, CANA, RC

GEOLOGICAL PLAN

DRAWN BY N.V. DATE 16-9-66 APPROVED BY N.V.

848

to accompany Geological Report on
the ROYAL GROUP, at Calling Lake,
Kamloops M.D., by N.B. Vollo, P.E
Dated November 17th, 1966

848
PART 2
OF 2

Geochemical Report

on

The Royal Group

of

ROYAL CANADIAN VENTURES LTD.

at Calling Lake, Highland Valley, 50^{0} 121^{o} SE

by

N.B. Vollo, P.Eng.

November 21st, 1966

CONTENTS

GEOCHEMICAL REPORT ON THE 92 I/6 ROYAL GROUP

Location and access

The Royal group is located at Calling Lake in the Highland Valley area of B.C., N.T.S. designation 92 I/6. The property can be reached by either of two jeep roads which leave the Highland Valley road at Quilt-anton Lake.

Topography

The group lies between 5100 and 5700 feet above sea level, has rather gentle relief and is covered with an open mature forest of lodgepole pine. A broad drift filled valley trends southeasterly across the group with a narrow swamp along its bottom. Upland areas have abundant rock outcrop.

Geology

The group is underlain almost completely by granodiorite, with small areas of quartz porphyry near the west boundary. The overburden is boulder till, probably averaging less than ten feet in the upland areas, thickening to an unknown depth in the central valley. A very high proportion of the boulders are identical to rock in adjacent oucrop and the till is probably fairly closely representative of the underlying bedrock.

Soil profiles generally poorly developed in the till and no attempt was made to sample a particular soil horizon. Excellent preglacial soil profiles have been developed on the underlying granodiorite, as exposed in trenches, but this horizon was reached with certainty in only three test holes.

Sampling method

Samples were collected at 200 foot intervals along chained picket lines spaced 400 feet apart. 100 foot spacings were used around the trench on Cana 9 M.C. Holes were drilled into the overburden with a one inch hand auger five feet long. Due to the high proportion of boulders in the till considerable difficulty was encountered in drilling some of the holes. Average depth of penetration was about three feet.

Analysis

Samples were collected in paper envelopes and sent to TSL laboratories in Vancouver for analysis. Hot HCl extraction was used; copper was determined by atomic absorption, molybdenum by the dithizone method.

Interpretation

Molybdenum content was found to be very low, less than 0.5 ppm, and of no significence.

The median background value for copper is about 30 ppm (fig. 1). A few values over 100 ppm are scattered more or less at random but three areas show consistant values above a threshold of about 60 ppm (see map).

Anomaly "A" on the Cana 9 claim is in an area of thin overburden and probably reflects above normal copper in the underlying rock. Sparse malachite, chalcopyrite and bornite were observed in the trench adjacent to the anomaly.

A broad zone of copper values consistantly above 50 ppm extends along both sides of the narrow swamp occupying the bottom of the central valley. Two areas on the east side of the swamp, labelled "B" and "C" on the map, have copper contents rising to about five times threshold. The overburden here is probably quite thick and may in part have been transported downslope from the northeast. The anomalies, however, could be hydrostatic anomalies above bedrock copper concentrations.

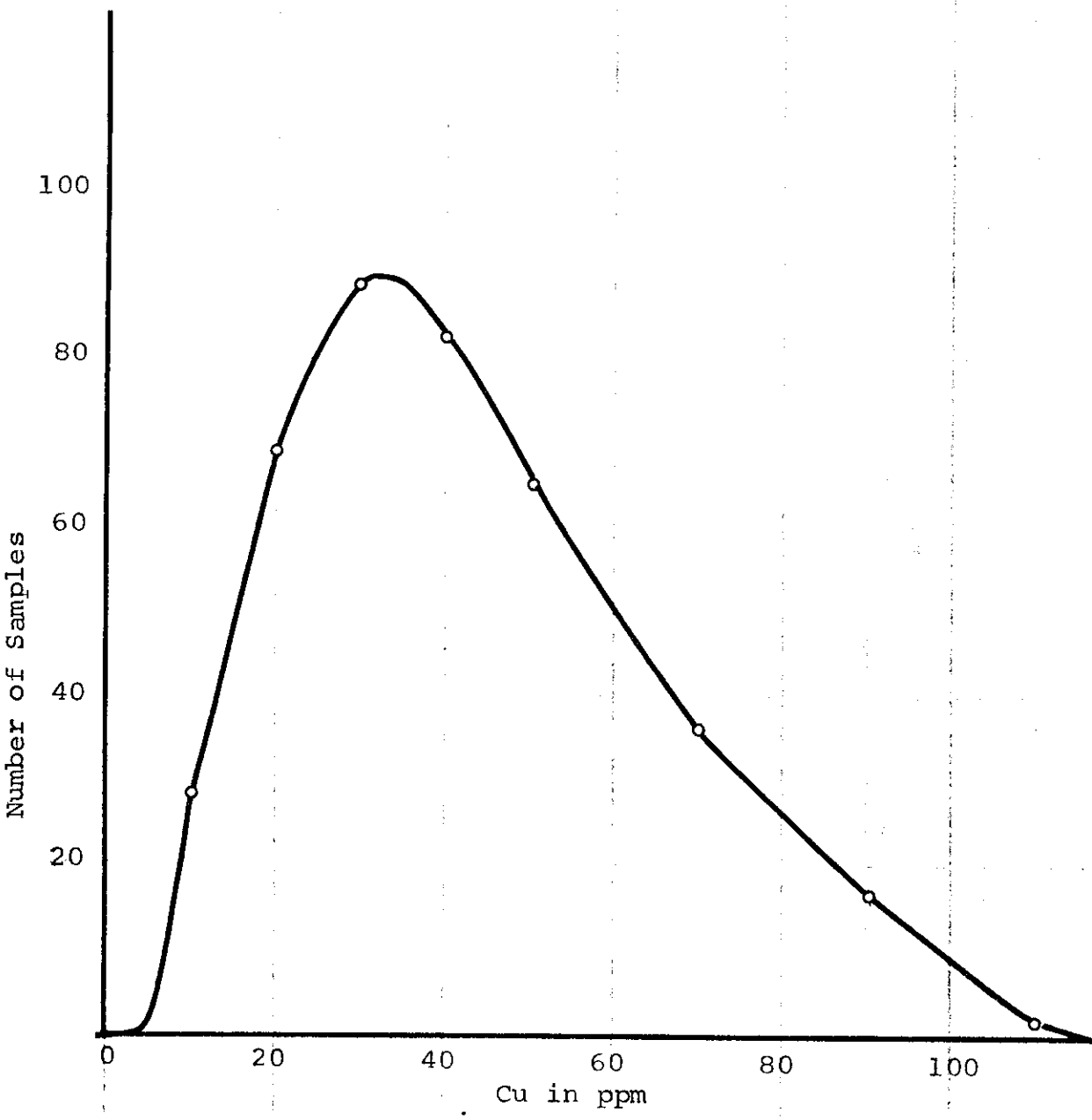
Recommendations

Anomaly "A" is probably adequately explained

by minor copper observed in the adjacent trench. The "B" and "C" anomalies were considered sufficiently interesting to warrant further investigation. An induced polarization survey was recommended over most of the area covered by the geochemical survey, and field work for this has been completed.

N.B. Vollo, P.Eng.

Kamloops, B.C.
Nov. 21st, 1966



DISTRIBUTION OF COPPER VALUES

Fig. 1

ASSESSMENT DATA

Personnel

N.B. Vollo, P.Eng., supervision -		Aug. 16, 1966
	Report preparation --	Nov. 21, 1966
R. Zimmerman, sample collection -		Aug. 18,19," Aug.25-28, " Sept. 1-4, "
	Draughting ----------	Nov. 16,17,21

Transportation

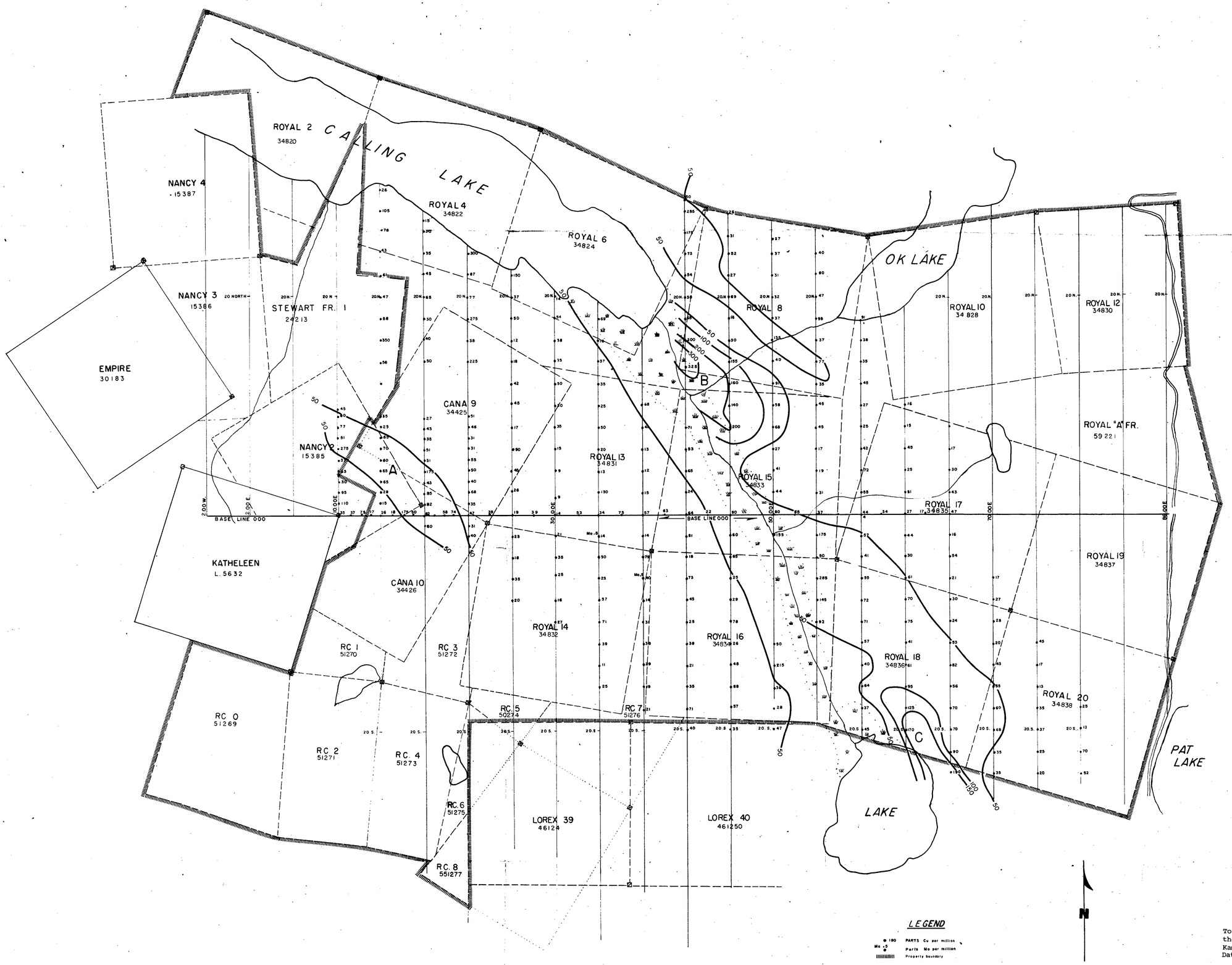
Company owned truck and rented car.

Accomodation

Camp on Calling Lake

Analyst

TSL Laboratories,
325 Howe St.
Vancouver, B.C.



LEGEND

180 PARTS Cu per million
Mo 3 Parts Mo per million
Property boundary

NOTE
Method - Hot Hcl extraction.
Cu determined by A-A
Mo determined by Dithizone Method

SCALE
400' 0 400' 800'

N

To accompany Geochemical Report on the ROYAL GROUP, at Calling Lake, Kamloops M.D., by N.B. Vollo, P.Eng., Dated November 21st, 1966

ROYAL CANADIAN VENTURES LTD.

92 I/6 ROYAL, CANA, RC

GEOCHEMICAL PLAN

DRAWN BY R.K.M.Z. DATE Nov. 17/66 APROVED BY

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Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 848 MAP # 2