

1946

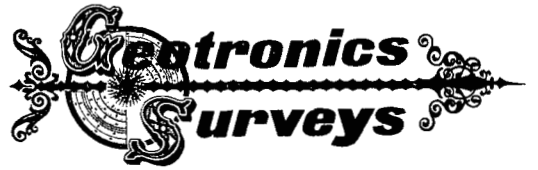
GEOCHEMICAL FIELD REPORT

AUGUST 1969

LARGO MINES LTD.

KOM #1 - #16 MINERAL CLAIMS

NICOLA MINING DIVISION



517 - 602 West Hastings Street, Vancouver, British Columbia, Canada \* Telephone 688-4342

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Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT

NO. 1946 MAP.....



LARGO MINES LTD.

August 1969

FIELD REPORT:

Geochemical survey conducted on KOM #1 to #16 mineral claims.

LOCATION:

The Largo Mines Ltd., Kom #1 to #16 mineral claims lie between Brenda and Pennask Lakes approximately 16 miles northwest of Peachland, B.C. Co-ordinates of the property are approximately 120 ° 03' west longitude, 49° 55' north latitude.

Access is by 25 miles of gravel road from Peachland, with roads traversing the length of the property. Peachland, located in the main Okanagan Valley lies 270 miles by road from Vancouver and 20 miles from Penticton, reached by regular commercial airline service.

PHYSIOGRAPHY:

Situated between approximately 4,800 and 5,800 feet elevation, the claims are in an area of low to moderate relief. Rock outcrop is abundant on a few low ridges but is poorly exposed throughout most of the property.

Jackpine with spruce and fir are common throughout most of the property except for a few low lying swampy area, thus timber is plentiful for exploration and mining purposes. Logging operations have been carried out on portions of the property.

Winter temperatures are moderate to low and snow hampers but does not prohibit surface operations. Summers are generally hot and dry.

GEOLOGY:

Reference: Memoir 243 1960.

Regional mapping by the Geological Survey of Canada shows the area



underlying the Kem #1 to #16 claims to be occupied mainly by Nicola Group volcanic and sedimentary rocks of Upper Triassic Age, with Jurassic intrusive rocks in the north and northeast and a small area of Miocene volcanics in the northwest.

#### SURVEY PROCEDURE AND METHOD:

##### CONTROL GRID:

The control grid was established previously in 1966 by the firm of Underhill and Underhill, land surveyors, using transit control. A north-south base line was established on the eastern boundary of the property, with cross-lines at 600 foot spacings, picketed at 100 foot intervals. Approximately 12 line miles of cross lines were cut.

##### GEOCHEMICAL SURVEY:

Soil samples were collected at 100 foot intervals along the grid lines. 'B' horizon was used for samples except where it was only possible to collect 'A' horizon and these are marked accordingly. All precautions were taken to eliminate possible soil sample contamination. Grub hoes and long blade shovels were used to cut through the roots and expose the 'B' horizon for sampling. These samples were collected and contained in standard paper soil sample bags supplied by T.S.L. Chemical Laboratories, Vancouver, B.C.

A total of 278 soil samples were collected.

##### GEOCHEMICAL TESTING:

Geochemical testing was carried out by T.S.L. Laboratories in Vancouver, B.C.; samples being tested for copper and molybdenum content, using hot hydrochloric acid extraction. The values are reported in parts per million (ppm.)



#### RESULTS OF GEOCHEMICAL SURVEY:

The geochemical results received from T.S.L. Geochemical Laboratories and copper values were plotted on a grid map scale of 1" = 300' and contoured at 10 ppm above background values. Values above 20 ppm are determined as anomalous in this situation, by using the plotted histogram (fig. 1) which shows that over 75% of the samples collected and analysed show resultant values of less than 20 ppm and less than 7% of the values lie above the 30 ppm range.

#### CONCLUSIONS:

##### (i) Copper:

From the results of the copper values plotted (map sheet 2), it can be noted that there are two major anomalous zones.

Zone A, a large anomalous zone extending from L 24 N, 17 W through L 48 N - 37 W on its western boundary and from L 24 N - 17 W through L 48 N - 19 W on its eastern boundary. This outlines an anomalous zone over 3500 feet long trending NW - SE and approximately 1900 feet in width on the northern end at line 48 N

Anomalous zone B, a small anomaly in the NE corner of the property. This zone extends 700 feet along L 48 N from 1 W to 8 W and could possibly extend to the SW to be a continuation of zone A. There is also a birdseye pattern of small anomalies on the SW corner of the property, but these are not of high enough values and do not show enough continuity to be assessed at this time.

##### (ii) Molybdenum:

Molybdenum values in the soil samples are very low throughout the area sampled with no values above 1 ppm and the majority less than .5 ppm, indicating no molybdenum values of significance.



**RECOMMENDATION:**

It is the opinion of the writer that the results of this geochemical survey and the results of the previous surveys conducted on this property during 1966 and 1967, should be turned over to a competent geophysicist and geologist to correlate all past pertinent data to outline targets for drill program.

Reference to reports to be used for drill program:

Geological Examination by Alrae Explorations Ltd., July 1966

Induced Polarization Survey by Canadian Aero Mineral Survey Ltd.,  
January 1967

Magnetometer Survey by Alrae Explorations Ltd., February 1967.

**References: Geology**

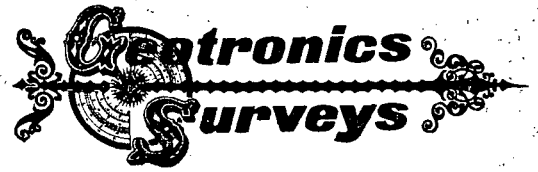
"Geological Survey of Canada Memoir 243, Geology and Mineral Deposits  
of the Princeton Map - Area, British Columbia"

**Respectfully submitted:**

*Tom Rolston*

Tom Rolston, Project Manager,

GEOTRONICS SURVEYS LTD.



517 - 602 West Hastings Street, Vancouver, British Columbia, Canada \* Telephone 688-4342

RESUME OF TECHNICAL AND FIELD EXPERIENCE OF TOM ROLSTON, PRESIDENT AND  
PROJECT MANAGER OF GEOTRONICS SURVEYS LTD.

1. Eleven years with R.C.A.F. as Instrument and Electronic Technician with crew supervisory capacity in various electronic and instrumentation systems.
2. Two years with Kerr-Addison Mines Ltd. as Electronic Technician, servicing, repair and maintenance of various types of geophysical instruments. Also, two seasons as Field Supervisor and geophysical instrument operator in mining exploration, including airborne and ground geophysical surveys, geochemical surveys, geophysical and geochemical drafting and mapping.
3. Three years Field Supervisor of geophysical and geochemical surveys, including instrument operator of various geophysical instruments; airborne and ground systems magnetometer, electro-magnetic, gravity meter, self potential meter, scintillometer, induced polarization.
4. Three years contracting geophysical - geochemical surveys with close association with mining engineers for various mining companies.
5. President and Manager of Geotronics Instruments Ltd., geophysical instrument design, manufacture and distribution.
6. President and Project Manager of Geotronics Surveys Ltd., mining exploration, geophysics and services.
7. Electronics Engineering understudy with Cleveland Institute of Electronics.
8. Member of B.C. Geophysical Society.

BRITISH COLUMBIA

ALBERTA

Ft. Nelson

Ft. St. John

Peace River

Dawson Creek

Grande Prairie

Hazelton

Prince Rupert

Terrace

Smithers

Burns Lake

Kitimat

Vanderhoop

Prince George

Sean Falls

Quesnel

Jasper

Williams Lake

Blue River

Alert Bay

Clinton

Revelstoke

Grand Forks

Lillooet

Kamloops

Powell R.

Lytton

Merritt

Vernon

Courtenay

Squamish

Kelowna

Nanaimo

VANCOUVER

Hope

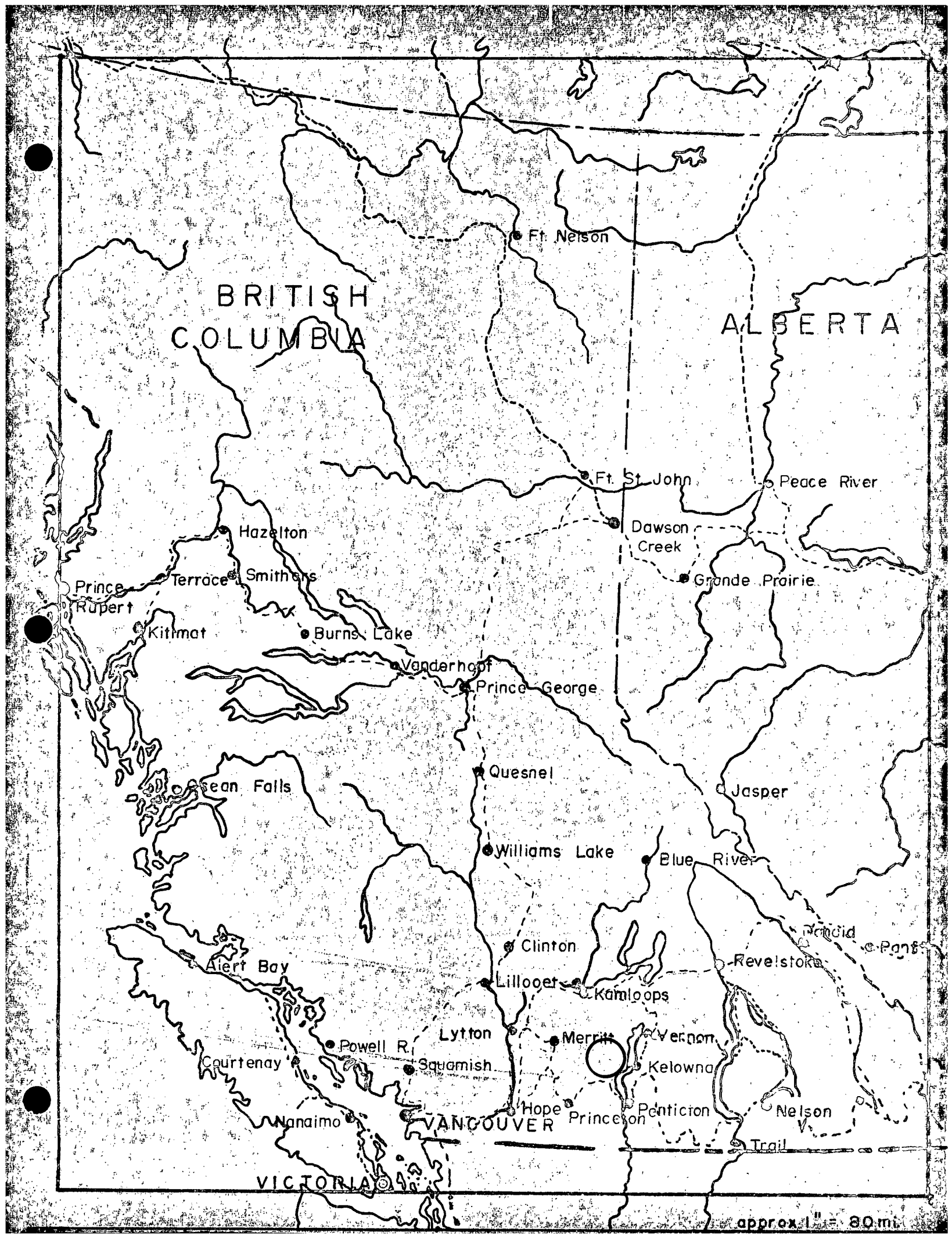
Princeton

Penticton

Nelson

VICTORIA

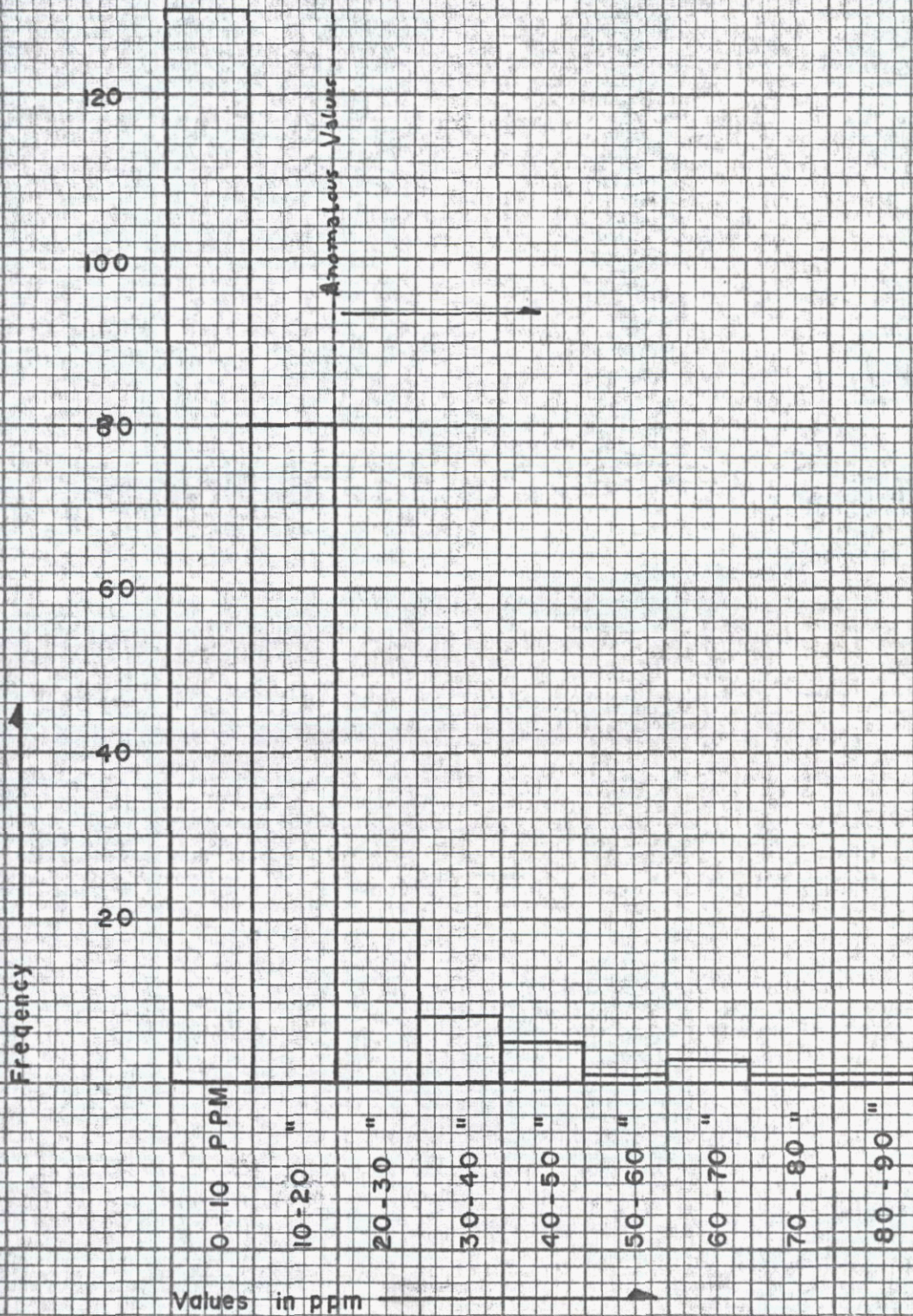
approx 1" = 80 mi





# GEOCHEMICAL SURVEY · HISTOGRAM

Hot acid extraction for copper value in P.P.M.





September 10, 1969.

Mr. Tom Rolston,  
Geotronics Surveys,  
517 - 602 West Hastings St.,  
Vancouver, B.C.

Dear Mr. Rolston;

You have asked me to review the reports listed in References below in order to evaluate the economic potential of the KOM claims, in the Nicola M.D., held by Largo Mines Ltd. The Location, Access, etc. for these claims is adequately described in the reports cited below. I have also read the report and examined the maps prepared by employees of your company on a recent soil sampling program for these claims.

The major reference for a geological evaluation of these claims is, of course, J.M. Carr's report in the B.C. Minister of Mines Annual Report for 1967. A rough plot of the location of these KOM claims on Carr's map indicates that only the northeastern corner of the 16 claim KOM group is in the favourable "Medium quartz diorite" and the "speckled quartz diorite" of the Brenda stock. These are the rock units (from Carr's mapping of the Brenda area) which are host rocks for the Brenda ore body. However, (without going into detail here), on geological grounds it must be pointed out that (using Carr's work) the structural conditions in the NE corner of the KOM property are not at all the same as in the area of the Brenda ore body.

The geochemical results of your soil sampling shown on Sheet No. 2 of your report outlined only one anomaly of interest, i.e., Anomaly B. The other large anomaly, "Anomaly A" is considered to be underlain by the Nicola sedimentary and volcanic sequence and unlikely to be of economic interest. It should be noted that the area within Anomaly A gives geochemical results (for copper) only

one or two times background. Another negative factor which must be noted is that the molybdenum content of all the soil samples taken by your men on KOM ground is essentially non-anomalous everywhere. This applies to Anomaly B also. However, in evaluating Anomaly B, given unknown depth of overburden in the area, this negative factor must be used with discretion. Deep overburden (which may overlay KOM claims bedrock) attenuates geochemical responses. Also the content of possible economic mineralization under or near Anomaly B may be copper rather than molybdenum.

I have reviewed the induced polarization and magnetometer surveys conducted by Alrae Explorations Ltd. (6) and (7). The I.P. survey (without having access to a detailed geological map of the picket lines) essentially eliminates Anomaly A from economic consideration. This area is interpreted as being underlain by "Nicola", i.e., unfavourable rocks. On the other hand, there is clear indication from the report that the granitic areas (as interpreted) in the N.E. corner of the claim group, may contain zones of disseminated sulphide mineralization or graphitic rocks (only drilling can differentiate these sources of possible I.P. response).

The magnetometer survey apparently did differentiate between Nicola and granitic rocks (according to (7)). It is unfortunate for the purpose of this study that I was not supplied with the maps accompanying the Alrae geophysical reports. However, the descriptions of the various areas (using the line nomenclature of your Sheet No. 2) can be utilized quite well in the analysis of the reports cited. The magnetometer work agrees with my conclusion (based on Carr's map) that the N.E. corner of the property is underlain by Brenda stock rocks. We accept as valid the conclusion by R.H. Phelps (7) that the N.W. corner of the property is underlain by Nicola rocks. However the fact that the magnetometer work did not outline anomalies in the N.E. corner of the property is not necessarily a negative factor for disseminated chalcopyrite mineralization, of course, would not give a magnetic response. For that matter, it should be noted, that the magnetometer results need not be used in a negative way at all, for magnetic responses may not be found over economic chalcopyrite and molybdenum sulphide concentrations.

My recommendation based on a review of the available data is that additional soil samples on intermediate lines, and detailed geological mapping should be carried out over, and in the vicinity of, Anomaly B. Dependent on the result of this work detailed I.P. work could be carried out over and near this anomaly. Finally, depending on these results a

decision to drill (or not) can be made.

The geochemical field reports submitted by your company with the accompanying maps represents work of genuine value and is an aid to the accumulation of useful information on the geology and possible occurrence of mineral deposits of the claim group.

Furthermore, I have examined your resume of technical and field experience, and, taking into account your experience, and the knowledge I have of your operators performance and reliability on previous assignments, when your crews operated under my direct field supervision, I am satisfied that the report and maps are the result of competent field work done in a workmanlike manner.

Respectfully submitted,



M.D. Kierans, P. Eng.

MDK/jm

- REFERENCES: (1) J.M. Carr 1967 Annual Report B.C. Minister of Mines, pages 183-210 "Geology of the Brenda Lake Area."
- (2) Rolston, T.W., 1969 "Geochemical Field Report August 1969 Largo Mines Ltd. KOM 1-16 Mineral Claims Nicola Mining Division".
- (3) R.H.D. Phelps, P. Eng., 1966 "Report on the Brenda Lake Property of KOMO Explorations Ltd. "Alrae Explorations Ltd." July 20th, 1966."
- (4) R.H.D. Phelps, P. Eng., undated "Progress Report Brenda Lake Property of Komo Explorations Ltd."
- (5) R.H.D. Phelps, P. Eng., 1966 "Report on Geochemical Survey on the Brenda Lake Property of KOMO Explorations Ltd. "Alrae Exploration Ltd." Nov. 16, 1966".

REFERENCES CON'T.

- (6) R. Pederson & R.W. Stemp, 1967 "Report on Induced Polarization Survey of the Brenda Lake Property, Peachland, B.C. for Komo Explorations Ltd. by Can. Aero Services. Jan. 12, 1967"
- (7) R.H.D. Phelp, P. Eng. "Report on a Magnetometer Survey on the Brenda Lake Property of KOMO Explorations Ltd., "Alrae Explorations Ltd.", Feb. 27, 1967."

**LARGO MINES LTD.**  
**KOM CLAIM GROUP ... Brenda Lake area**  
**NICOLA M.D. British Columbia**

**GEOCHEMICAL ... soil sampling ... Hot HCL acid EXTRACTION**  
 Contour interval, 10 P.P.M.

Scale 1" = 300'	Date Aug 1969	Job no. 6938	Sheet no. 2	Drawn by T.W.R.
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**Geotronics Survey**  
 Certified Survey, Dress & Atlas  
 317 - 68 West Broughton Street, Vancouver, British Columbia

To Hatheume Lake Road

Note: values plotted, indicate copper in p.p.m.

Department of  
 Mines and Petroleum Resources  
**ASSESSMENT REPORT**  
 NO. 1946 MAP #1

