

A Report On  
A GEOCHEMICAL SURVEY

of the  
JON CLAIMS

Chilliwack Lake  
New Westminster Mining Division, B. C.

Co-ordinates <sup>7243</sup> 49° 121° SE

Owned by John M. Macandrew

Report by Kenneth C. Rose, P. Eng.

May 1 to June 21, 1968

1604

1604

NTS: 92 H 3

A Report On

A G E O C H E M I C A L S U R V E Y

of the

J O N C L A I M S

Chilliwack Lake, B. C.

Kenneth C. Rose, P.Eng

Gunnex Limited  
Vancouver, B.C.

July 17, 1968

TABLE OF CONTENTS

	<u>Page</u>
SUMMARY	1 B
INTRODUCTION	2
GEOLOGY	2
GEOCHEMISTRY	3
CONCLUSIONS	5
STATEMENT OF QUALIFICATIONS	6
STATEMENT OF COSTS	7
 Geochemical Sketch Plan, MacAndrews Copper-Molybdenum Prospect, Chilliwack Lake (1" = 400')	 at back of report

SUMMARY

A geochemical reconnaissance of the stream silts in the Chilliwack Lake area indicated anomalous amounts of copper and molybdenum on the Jon claims. More detailed soil sampling confirmed the presence of the anomalies, but their sources were not determined. The claims are underlain by granitic rocks sparsely mineralized with pyrite, chalcopyrite and molybdenite.

## INTRODUCTION

The 16 Jon claims record numbers 16223 - 16234 and 16478 - 16481, are owned by John Macandrew of 12225 Beecher Street in Crescent Beach, B.C. They are located on the southwest side of Chilliwack Lake at 49° 02' N latitude and 121° 25' W longitude. Access is from Vedder Crossing on Highway 401 via 30 miles of gravel road to the north end of Chilliwack Lake from whence a half hour boat trip is required to reach the claims.

Geochemical sampling and prospecting was done on the Jon claims by personnel employed by Gunnex Limited in conjunction with a reconnaissance exploration of the whole of the Chilliwack Lake watershed during the period May 1 to June 22, 1968. A total of 80 man-days was spent in the area and 28 of these were worked on the Jon claims.

## GEOLOGY

The Jon claims cover a small portion of the complex Chilliwack Batholith which extends from the Skagit River in Washington to Yale in British Columbia. The Chilliwack Batholith incorporates at least four intrusive phases:

1. An early stage of diorite and subordinate gabbro occurring as stocks in scattered localities within the batholith.
2. The main or Eocene phase of quartz diorite and granodiorite which occurs chiefly in the Washington areas.
3. Leucogranitic stocks intrusive into the main phase.
4. A late or Oligocene phase of quartz diorite and granodiorite which predominates in British Columbia.

Gneissic granite of Jurassic age is associated with the fringes of the batholith.

One of the faults which comprise the Fraser River fault system is thought to occur in the vicinity.

The local geology of the Jon claims was not mapped in detail. The rocks are a mixture of medium- to coarse-grained biotite granodiorite and fine- to medium-grained aplite. Small quartz veins sparingly mineralized with pyrite, chalcopyrite and molybdenite occur in fractures in both rock types. In a creek bed in Jon 13, thin mineralized quartz-filled fractures occur in silicified and kaolinized granodiorite which is sparsely mineralized with pyrite, chalcopyrite and molybdenite. This altered and mineralized ground may be a shear zone whose width was not determined because of cover.

#### GEOCHEMISTRY

The initial reconnaissance geochemical survey consisted of a systematic sampling between the lake and snow line of all creeks flowing into Chilliwack lake. Many samples were difficult to obtain because the creeks were precipitous and were in flood. Anomalous conditions were indicated on claims Jon 2, 4, 9 and 11 and these anomalies were further investigated by soil sampling "along the contour" at elevation differences of 200 feet. Soil samples were obtained from material considered to be the "B layer" and which occurred immediately beneath the dark coloured organic podzol. A total of 55 silt samples and 101 soil samples were collected; the locations of all samples are plotted on the accompanying sketch plan.

The soil sampling indicated two probable Cu-Mo anomalies and one possible one. These were investigated by prospecting and by thorough checking of all outcrops plus a minor amount of trenching. No significant mineralization was discovered and no reason for the occurrence of the anomalies was found.

All samples were dried and screened and the -80 mesh fractions were analyzed by Coranex Limited of 1521 Pemberton Avenue, North Vancouver, for both total copper and total molybdenum. One gram of each sample was digested in hot perchloric, nitric and hydrochloric acids and then diluted to 50 millilitres. The molybdenum content was determined colourimetrically and the copper content by atomic absorption using a Techtron AA4 instrument. Results were reported in parts per million.

The geochemical results were evaluated statistically and, although the number of samples was too small to be statistically reliable, the results obtained were similar to those which experience indicated should be found. Using the formula

$$\sigma = h \sqrt{\frac{\sum fd^2}{N} - \left(\frac{\sum fd}{N}\right)^2}$$

where	$\sigma$	=	standard deviation
	$h$	=	interval
	$f$	=	frequency
	$d$	=	difference
	$N$	=	number of samples

the standard deviation was calculated for both copper and molybdenum. A possible anomaly was considered to occur when the sample value exceeded the norm by two standard deviations and a probable anomaly was considered to occur when the sample value exceeded the norm by three standard deviations. Thus the possible and probable anomalous values for copper were 150 and 200 p.p.m. and for molybdenum were 10 and 14 p.p.m. The various anomalous samples are indicated on the accompanying sketch map by appropriate colours.

CONCLUSIONS

The Jon claims are located in an area favourable for the occurrence of "porphyry copper-type" orebodies and where copper and molybdenum mineralization has been found. Several geochemical anomalies for copper and molybdenum have been found but their source has not been determined. Additional prospecting is warranted.



STATEMENT OF QUALIFICATIONS:

I, Kenneth C. Rose of the District of North Vancouver in the Province of British Columbia, hereby certify that:

1. I am a graduate of Queen's University in Kingston, Ontario, and I received the degrees of B.Sc. (geology and mineralogy) in 1945 and M.Sc (economic geology) in 1947.
2. I am a registered Professional Engineer in the Provinces of Ontario and British Columbia.
3. I have practiced my profession for 25 years throughout North and Central America and am familiar with most aspects of exploration geology, geophysics and geochemistry.
4. I supervised the work carried out on the Jon claims by Gunnex Limited but I did not personally visit the property. The work was done by experienced and capable staff personnel whose abilities and judgements are well known to me.

Dated at Vancouver this 17th day of July, 1968.



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Kenneth C. Rose, P.Eng.

STATEMENT OF COSTS

	<u>Amount</u>	
<u>Salaries</u>		
Allan McGain (geologist) 5-666 West 12th Ave., Vancouver, B.C. April 6, May 1, May 28-30, June 21 - 6 days $\frac{6}{24}$ X \$850.00 =	212.50	
Sven Lofstrom (prospector), 1019-409 Granville St., Vancouver, B.C. May 1-4, May 28-30, June 18-21 11 days $\frac{11}{24}$ X \$600.00 =	275.00	
John Greenlees (prospector), 110-512 Tenth St., New Westminster, B.C. May 1-4, May 28-30, June 18-21 11 days $\frac{11}{24}$ X \$600.00 =	275.00	
Maps, reports and supervision	200.00	
	<u>962.50</u>	
Payroll burden at 15%	<u>144.37</u>	1,106.87
<u>Equipment Rentals</u>		
Truck (\$300.00/month) - $\frac{1}{2}$ x \$300.00 =	150.00	
Boat and motor (\$155.00/month) - $\frac{1}{2}$ x \$155.00 =	<u>77.50</u>	227.50
<u>Supplies, Equipment and Food</u> - $\frac{1}{2}$ x \$211.00 =		105.50
<u>Geochemical Analyses</u> - 156 x \$1.75 =		273.00
		<u>\$ 1,712.87</u>

I, Kenneth C. Rose, manager of the Western Division of Gunnex Limited, certify that the statement of expenditures on the Jon claims, as shown above, is a true and accurate statement of the costs incurred by Gunnex Limited.

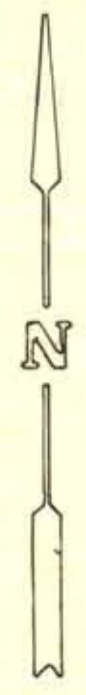
Dated at Vancouver this 17th day of July, 1968.

  
Kenneth C. Rose, P.Eng.

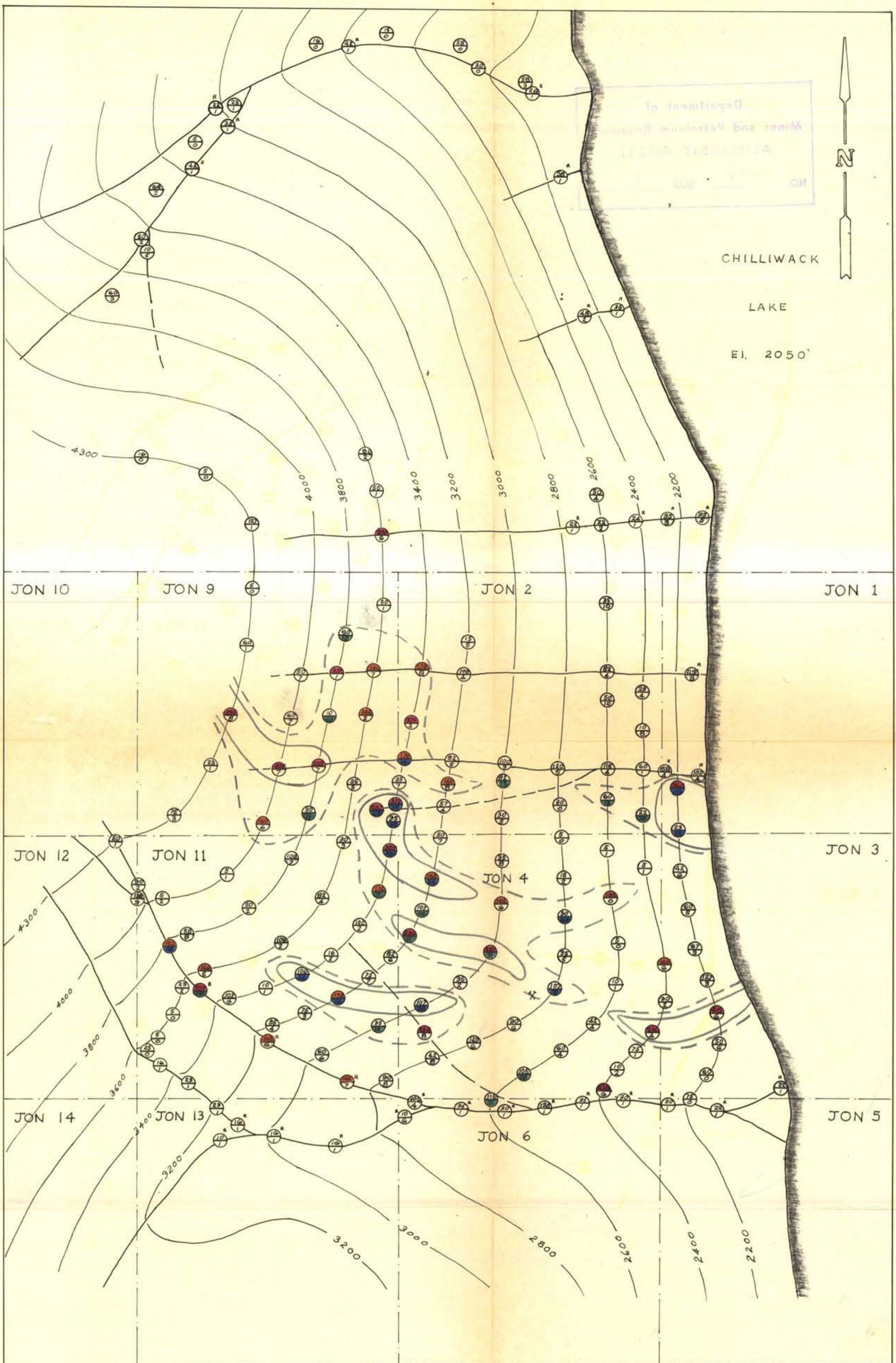
KCR/s



Department of  
Mines and Petroleum Resources  
ALBERTA  
NO. 1604



CHILLIWACK  
LAKE  
E1. 2050'



1604

JON 16      JON 15      JON 8      JON 7

**GUNNEX LTD.**  
 MACANDREWS COPPER-MOLYBDENUM PROSPECT  
 CHILLIWACK LAKE  
 GEOCHEMICAL SKETCH PLAN

PREPARED BY: A. MCGAIN  
 DATE: JUNE '68

SCALE: 1" = 400' approx.

- COPPER MOLYBDENUM
- ABOVE 200 PPM. Cu } PROBABLE ANOMALY  
 ● ABOVE 14 PPM. Mo }
- ABOVE 150 PPM. Cu } POSSIBLE ANOMALY  
 ● ABOVE 10 PPM. Mo }
- <sup>R</sup> SAMPLES FROM REGIONAL SURVEY

*Kenneth B. ...*