

2564

COMINCO LTD.

EXPLORATION
92 I/1

WESTERN DISTRICT
50° 120° NW

GEOCHEMICAL SURVEY ON THE
MAG GROUP, NIC PROPERTY, MERRITT AREA
NICOLA MINING DISTRICT, BRITISH COLUMBIA

Report by
Nicholas L. Szabo, M.Sc.
under Supervision of
J. Richardson, P. Eng.

September 10th, 1970

Work was performed on the Nic property of the Mag Group during the period August 22nd to September 2nd, 1970.

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Statutory Declaration of Expenditures

Statement of Expenditures

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#2 Plate 2: Claim Location Sketch 1" = 1,000' *Lead*

#3 Plates 3 - 5: Geochemical Data, Plans 1" = 500' *Lead*

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 2564 MAP.....

COMINCO LTD.

EXPLORATION

WESTERN DISTRICT
September 10th, 1970

GEOCHEMICAL SURVEY ON THE
MAG GROUP, NIC PROPERTY, MERRITT AREA
NICOLA MINING DISTRICT, BRITISH COLUMBIA

SUMMARY

A total of 556 soil samples were taken along E - W grid lines in the western third of the claim group. The spacing of the grid lines was at 400' with the sample interval along the lines being 100'. The samples were analyzed for copper, zinc, and molybdenum in Cominco's Vancouver laboratory.

INTRODUCTION

The Mag group, known to Cominco as the Nic Property, consists of 53 contiguous mineral claims, and was staked by Cominco in the later summer of 1969 to cover a soil copper anomaly located during a reconnaissance geochemical program. Work in 1970 includes establishing a picket-line grid, detailed soil geochemical survey, geological mapping, and magnetometer surveys on the western third of the property, which is located on the property of the Quilchena Cattle Company and for which Cominco holds all metal rights. The eastern two-thirds of the property are located on the Douglas Lake Ranch; and in this area Cominco holds precious metal rights only, as base metal rights are presently optioned to Craigmont Mines Ltd. This report discussed results obtained on the geochemical survey.

GEOLOGY

The western portion of the Mag Group is largely underlain by Upper Triassic Nicola Group rocks which locally consist largely of fine-grained green and grey andesite flows and tuffs; with minor pyroxene basalts and black, fine-grained biotitic volcanics or sediments. The extreme western portion of the surveyed area is underlain by quartz monzonite of the Nicola Batholith. The centre of the claim group, not covered by the magnetic survey, is underlain by hornblende metadiorite, which could be a highly metamorphosed equivalent of Nicola volcanics. Locally, amphibolitic volcanics and diorite are present, again suggesting regional metamorphism of the Nicola volcanics.

Minor amounts of chalcopyrite and bornite occur in the diorite; with amphibolite chiefly as fracture fillings, irregular pods, and occasionally as quartz veins.

GEOCHEMICAL SURVEY

METHOD:

The survey was performed under the supervision of R. U. Bruaset. Data on procedures is as follows.

Soil Survey:

A total of 556 samples were collected at 100' intervals along lines spaced at 400'. The base line for the east - west sample lines was chained and tied to roads and other topographic features by chain and compass. The east - west lines were by pacing and compass. Samples were taken from depths of 6" to 12"; that is, from the B₁ horizon.

Sample Preparation and Analysis:

All samples were air dried and then sieved. The -80 mesh fraction was then analyzed for copper, zinc, and molybdenum. Analysis for copper and zinc was by atomic absorption using a hot nitric acid attack to bring ions into solution. Molybdenum was determined colourimetrically (see Appendix 1). The results for zinc and molybdenum were low and did not warrant statistical analysis of the data aside from determination of the median. Cumulative tabulation of copper values indicated that 190 ppm or more is definitely anomalous, 140 ppm to 189 ppm is probably anomalous, with a background of 100 ppm.

DATA PRESENTATION:

The following data plans accompany this report:

- Plate 1: Mag Group - Location Map; scale 1" = 4 miles.
- Plate 2: Claim Location Sketch; scale 1" = 1,000'.
- Plate 3: Copper Geochemistry; scale 1" = 500'.
- Plate 4: Molybdenum Geochemistry; scale 1" = 500'.
- Plate 5: Zinc Geochemistry; scale 1" = 500'.

RESULTS:

The molybdenum content of the samples ranges from non-detectable to 12 ppm with a median of 2 ppm. No anomalous trend of any significance is discernable in the area.

The zinc content of the samples ranges from 14 ppm to 140 ppm with a median value of 72 ppm. No significantly anomalous pattern was discernable in the area.

The distribution of copper values indicated the presence of at least two distinct populations. As a result of this, rigorous statistical treatment of the data was impossible. Anomalous values for copper were obtained by plotting a cumulative curve for the data and assuming the top 10% of the population of (>190 ppm) as anomalous. ^{N/A} 189 to 190 ppm can be considered as possibly anomalous. ^{10%} Significant anomalies occur on lines 32N to 12N and 8N to 4S.

Submitted by: N. L. Szabo
N. L. Szabo

Endorsed by: J. Richardson
J. Richardson, P. Eng.

NLSzabo: jr
Vancouver Office
September 10th, 1970

Dist.: Director, Exploration
Mining Recorder (2)
Western District
Geochemical File (2)

Attach.: Appendix 1
Statutory Declaration of Expenditures
Statement of Expenditures
Plate 1: Location Map 1" = 4 miles
Plate 2: Claim Location Sketch 1" = 1,000'
Plates 3 - 5: Geochemical Data, Plans 1" = 500'

APPENDIX 1

MOLYBDENUM ANALYSIS

REAGENTS:

1. Thiocyanate solution: Dissolve 5 g. of ammonium thiocyanate in 100 ml. water.
2. Stannous chloride solution: Dissolve 20 g. SnCl_2 in 34 ml. concentrated HCl. Heat if necessary. Add water to 200 ml. To insure stability, add a piece of metallic tin to the solution. Prepare daily.

PROCEDURE:

1. Weigh out 0.2 g. of sample into an 18 mm. x 150 mm. test tube.
2. Extract metal using a pyrosulphate fusion. Cool. Add 10 ml. of 10% HCl and place in a hot water bath to facilitate solution.
3. Transfer a 5 ml. aliquot to a 16 mm. x 150 mm. test tube.
4. Add 1 ml. thiocyanate solution. Shake.
5. Add 1 ml. stannous chloride solution. Shake until the red colour disappears.
6. Add water to the 10 ml. mark.
7. Add 0.5 ml. isopropyl ether.
8. Stopper the test tube and shake for 30 seconds.
9. Allow phases to settle and compare against standards.

Notes: If above top standard, additional isopropyl ether may be added.

Possible V interference. pH conditions prevent extraction of W.

PREPARATION OF STANDARDS:

1. To a series of 10 test tubes add the following amounts of 1 microgram/ml. standard molybdenum solution: 0, 0.2, 0.4, 0.8, 1.0, 1.5, 2.0, 3.0, 4.0 ml.
2. Add 0.5 ml. of 1% ferric chloride in 1 N HCl.
3. Follow steps 4 to 8 of the molybdenum procedure.

DOMINION OF CANADA:
PROVINCE OF BRITISH COLUMBIA.
To WIT:

In the Matter of

I, JAMES RICHARDSON, PROFESSIONAL ENGINEER

of THE CITY OF VANCOUVER

in the Province of British Columbia, do solemnly declare that

- 1. I did personally supervise N.L. Szabo who prepared the accompanying geochemical report as a result of a survey carried out on certain mineral claims situated in the Nicola Mining District, British Columbia, and owned by Cominco Ltd.
- 2. Copies of the said report are being filed with the Mining Recorder in Vancouver.
- 3. Attached hereto and marked with the letter "A" upon which I have signed my name at the time of declaring hereof, is a statement of expenditures incurred in connection with the geochemical survey of the said claims showing in addition the dates during which those making the said survey performed their work.

And I make this solemn declaration conscientiously believing it to be true, and knowing that 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
of Vancouver, in the
Province of British Columbia, this
day of September 1970, A.D.

James Richardson

[Signature]
A Commissioner for taking Affidavits within British Columbia or
A Notary Public in and for the Province of British Columbia.

COMINCO LTD.

EXPLORATION

WESTERN DISTRICT
September 10th, 1970

EXHIBIT "A"

COST PER GEOCHEMICAL SAMPLE

NIC GROUP, MERRITT AREA

NICOLA MINING DISTRICT

Cost for Cu, Zn, Mo, per sample: \$5.9807.

Total cost, 556 samples at \$5.9807 = \$3,325.32

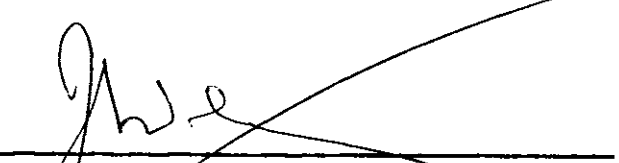
The sample costs include assaying charges for Cu, Zn, and Mo, cost of collection, and cost of preparation.

Sampling and sample analyses were done between August 22nd and September 2nd, 1970.

Signed:


J. Richardson, P. Eng.

This is Exhibit "A" to the Statutory Declaration of James Richardson declared before me this 14 day of September, 1970.


A Commissioner for taking Affidavits for British Columbia

COMINCO LTD.

EXPLORATION

WESTERN DISTRICT

STATEMENT OF QUALIFICATIONS

N. L. Szabo was responsible for conducting the geochemical survey described herein. Mr. Szabo has received his M.Sc. from the University of Connecticut and expects to receive his Ph.D. in the coming academic year from the University of New Brunswick. He has worked with the New Brunswick Mines Branch and the Geological Survey of Canada, and I consider him a competent and experienced geochemist.

Signed: 
J. Richardson, P. Eng.

120°30'E



50°5'

50°15'

120°30'E

To accompany a report by N.L. SZABO, N.L. Szabo

Drawn by:		Traced by:	
Revised by	Date	Revised by	Date

F. Richardson, P. Eng.

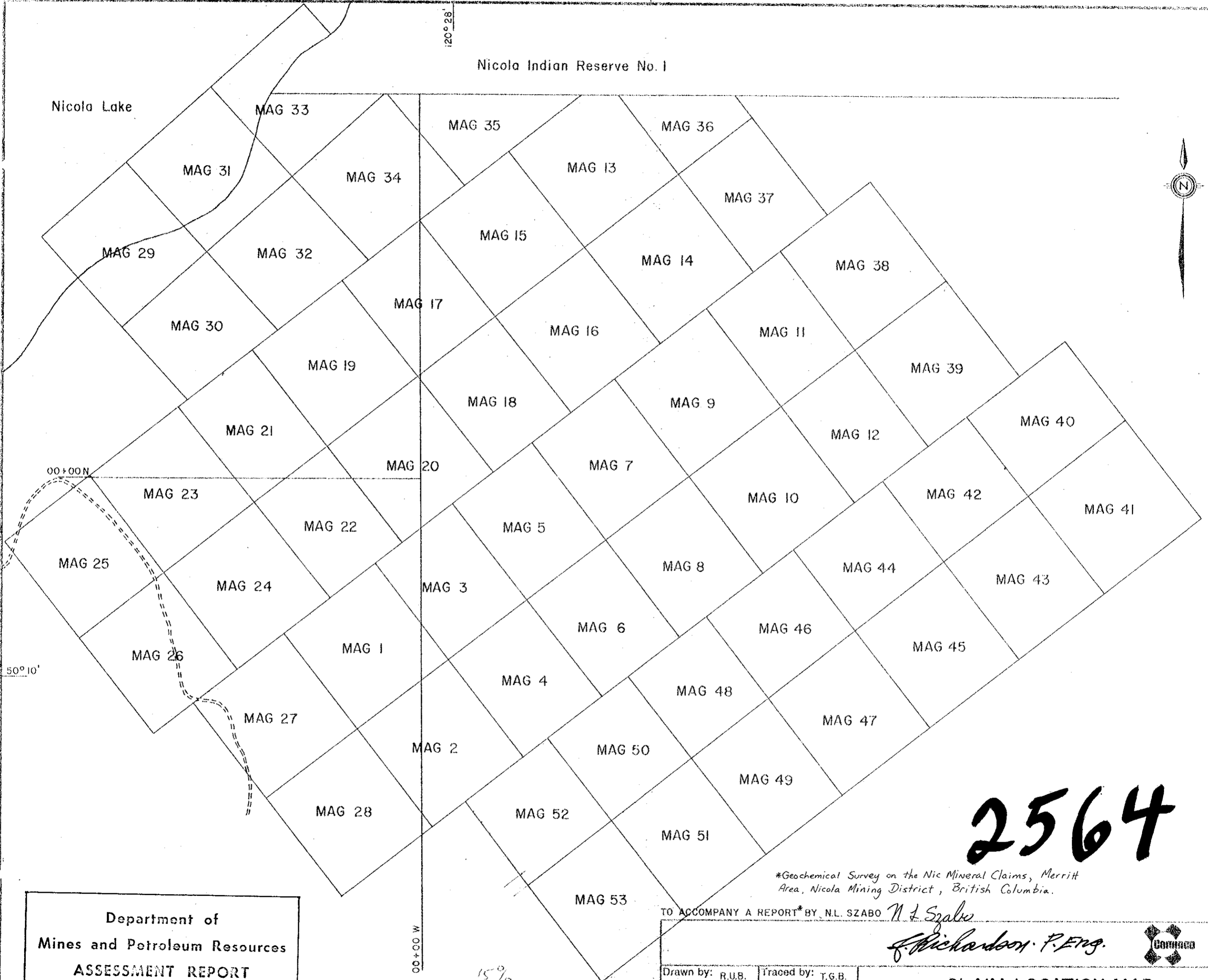
MAG GROUP - LOCATION MAP

Scale: 1" = 4 MILES Date: SEPTEMBER / 70 Plate: 1



Nicola Indian Reserve No. 1

Nicola Lake



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*Geochemical Survey on the Nic Mineral Claims, Merritt Area, Nicola Mining District, British Columbia.

TO ACCOMPANY A REPORT* BY N.L. SZABO *N.L. Szabo*

J. Richardson P. Eng.

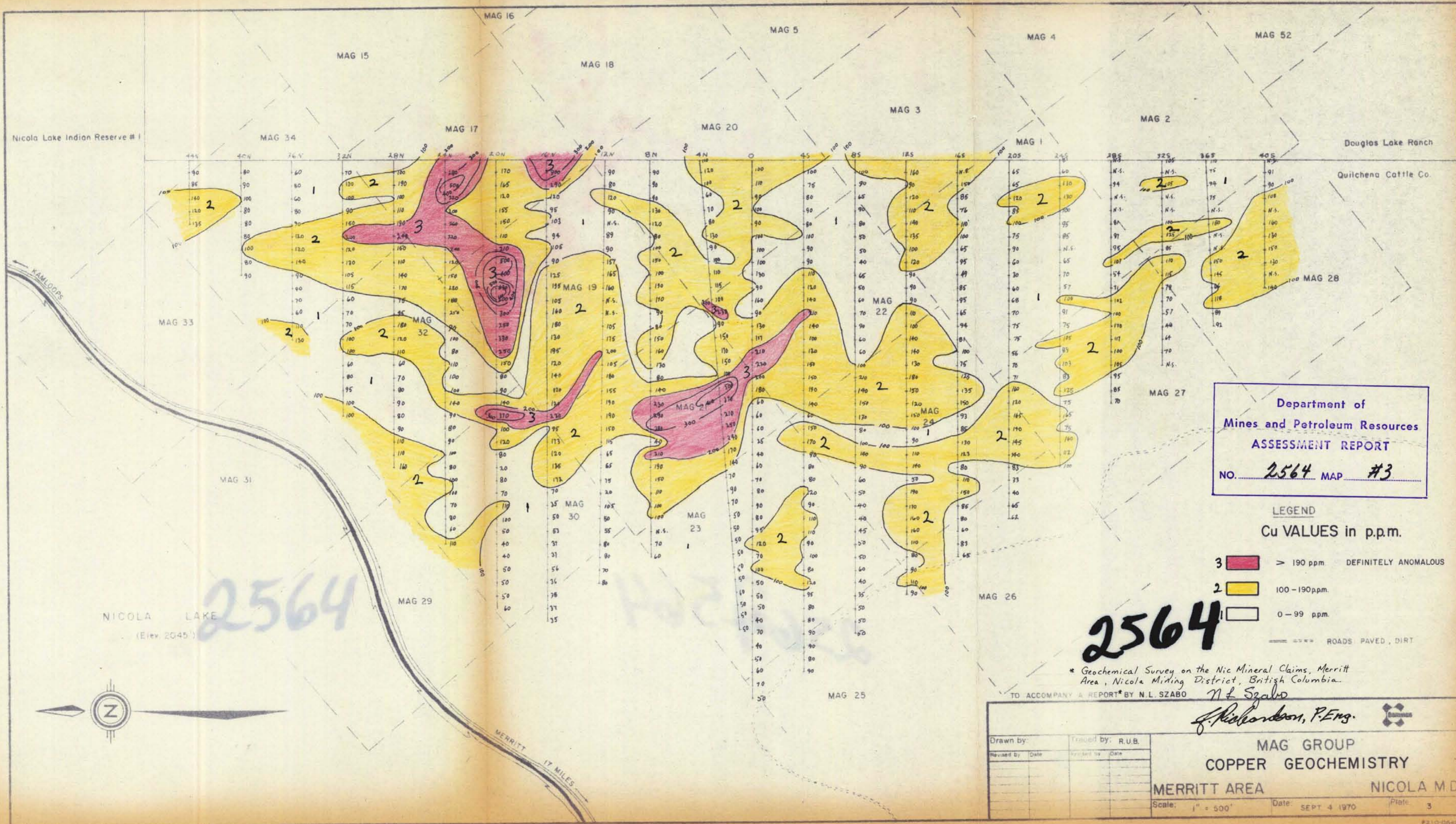


Department of
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ASSESSMENT REPORT
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Drawn by:	R.U.B.	Traced by:	T.G.B.
Revised by	Date	Revised by	Date

CLAIM LOCATION MAP
MAG GROUP, NIC PROPERTY
NICOLA LAKE AREA, NICOLA M.D., B.C.

Scale: 1" = 1000' Date: SEPT. 1970 Plate: 2



Department of
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LEGEND
Cu VALUES in ppm.

- 3 > 190 ppm. DEFINITELY ANOMALOUS
 - 2 100 - 190 ppm.
 - 1 0 - 99 ppm.
- ==== ROADS PAVED, DIRT

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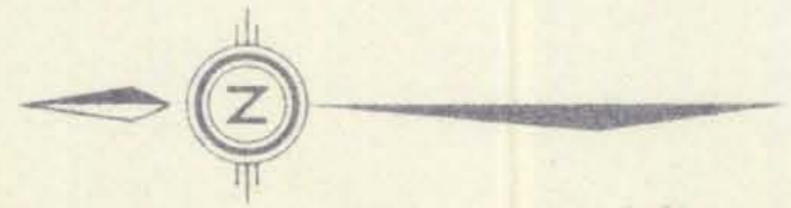
* Geochemical Survey on the Nic Mineral Claims, Merritt Area, Nicola Mining District, British Columbia.

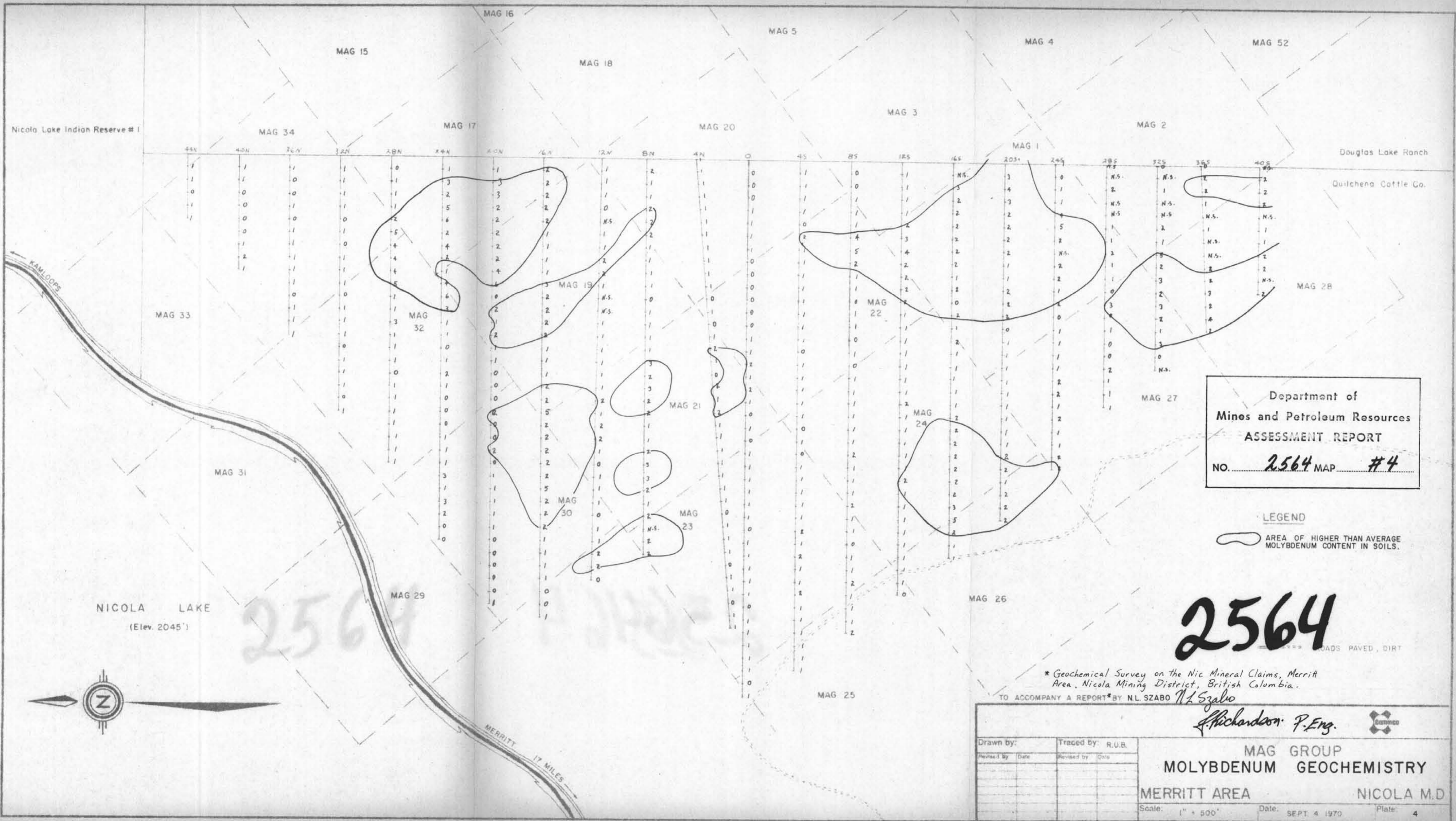
TO ACCOMPANY A REPORT BY N.L. SZABO
N.L. Szabo
J. Richardson, P. Eng.

Drawn by:		Traced by: R.U.B.	
Revised by:	Date:	Checked by:	Date:
MAG GROUP		NICOLA M.D.	
COPPER GEOCHEMISTRY		MERRITT AREA	
Scale: 1" = 500'	Date: SEPT 4 1970	Plate: 3	

NICOLA LAKE
(Elev. 2045)

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 NO. 2564 MAP # 4

LEGEND
 AREA OF HIGHER THAN AVERAGE MOLYBDENUM CONTENT IN SOILS.

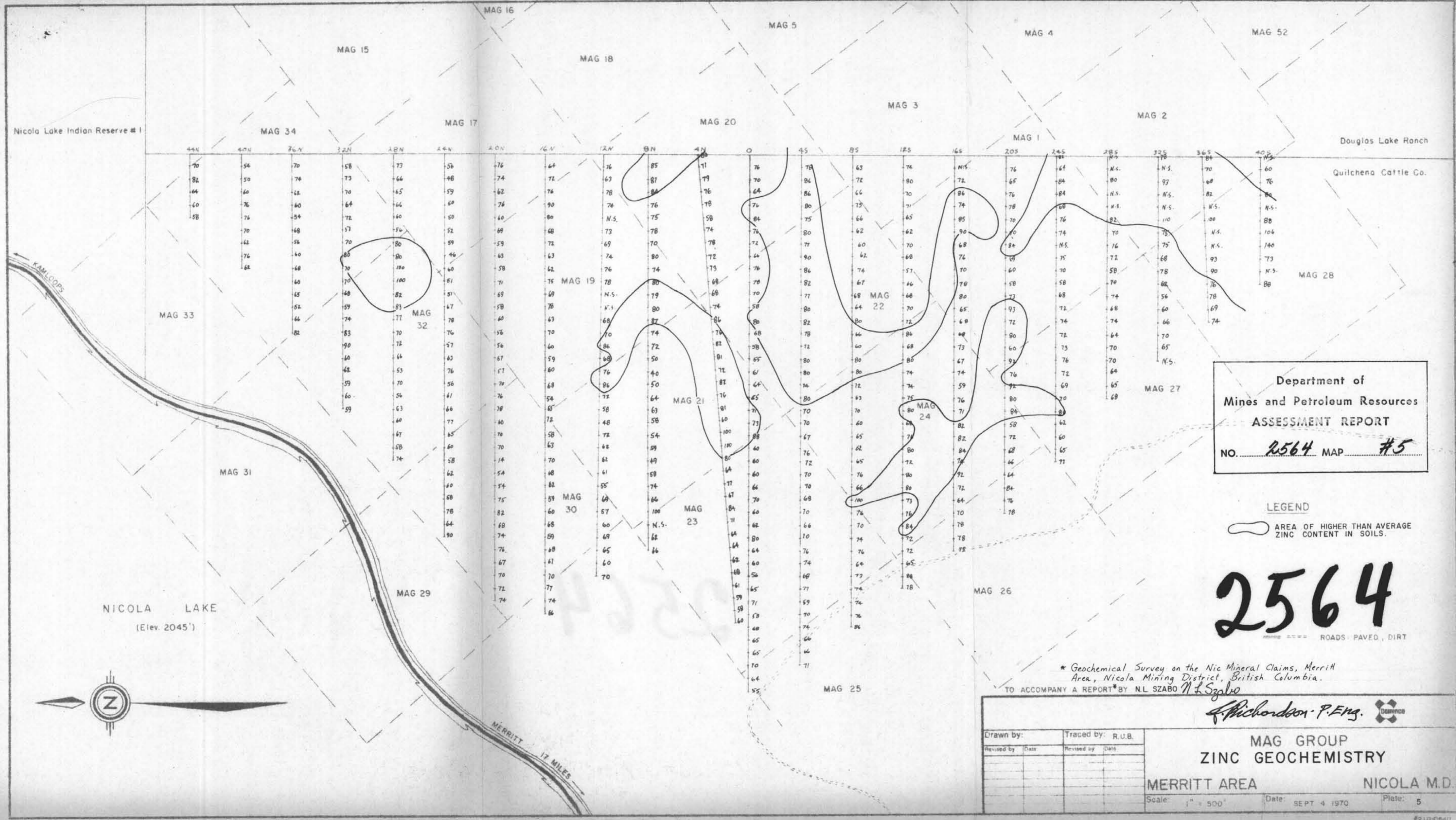
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* Geochemical Survey on the Nic Mineral Claims, Merritt Area, Nicola Mining District, British Columbia.


TO ACCOMPANY A REPORT BY N.L. SZABO *N.L. Szabo*

A. Richardson, P. Eng.

Drawn by:	Traced by: R.U.B.	MAG GROUP MOLYBDENUM GEOCHEMISTRY	MERRITT AREA	NICOLA M.D.
Revised by: Date:	Revised by: Date:			
Scale: 1" = 500'		Date: SEPT. 4 1970	Plate: 4	#210-06-40




Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 2564 MAP #5

LEGEND
 AREA OF HIGHER THAN AVERAGE ZINC CONTENT IN SOILS.

2564
 ROADS: PAVED, DIRT

* Geochemical Survey on the Nic Mineral Claims, Merritt Area, Nicola Mining District, British Columbia.
 TO ACCOMPANY A REPORT BY N.L. SZABO N.L. Szabo

F. Richardson P. Eng. 

Drawn by:	Traced by: R.U.B.	MAG GROUP ZINC GEOCHEMISTRY	MERRITT AREA	NICOLA M.D.
Revised by:	Revised by:			
		Scale: 1" = 500'	Date: SEPT 4 1970	Plate: 5