

4046

ELECTROMAGNETIC SURVEY

AND

92I/7E

GEOCHEMICAL SURVEY

KR&K 58-~~65~~⁵⁹, 67, 69, 71, 73

KAMLOOPS M.D.

120-51 SE 10-10-72 : 20-10-72

Department of Mines and Petroleum Resources ASSESSMENT REPORT NO. 4046 M/P
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For:

NICOLA COPPER MINES LTD. (N.P.L.)

9897 138 A Street
Surrey, B.C.



By:

ALLEN GEOLOGICAL ENGINEERING LTD.

601 - 325 Howe Street
Vancouver, B.C.

November 25, 1972.

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ELECTROMAGNETIC AND GEOCHEMICAL

SURVEYS

KR & K 58-65, 67, 69, 71, 73

INTRODUCTION

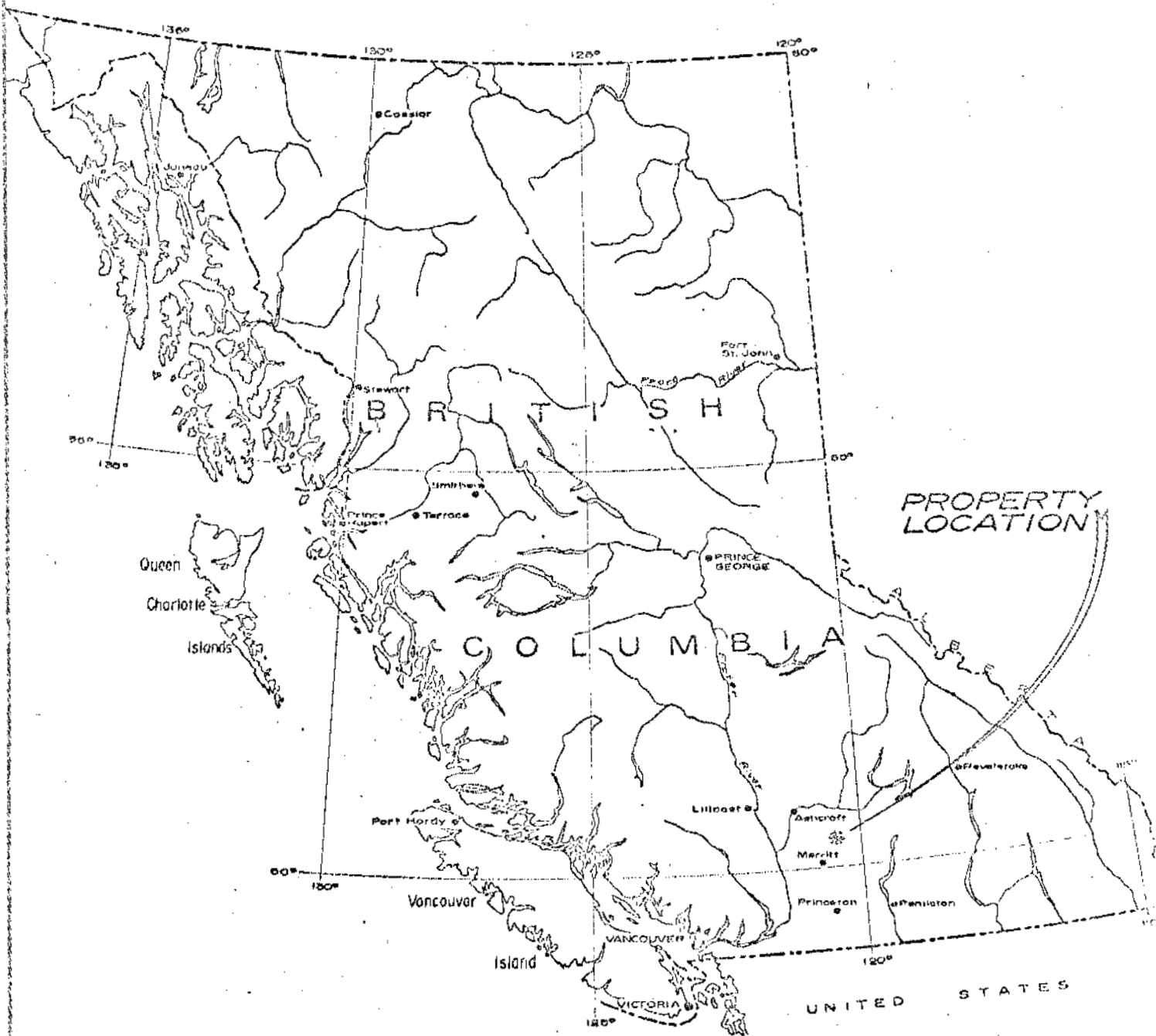
Geochemical and VLF Electromagnetic surveys were conducted over the KR & K 58 and 59 claims on a 500 by 250 foot surveyed grid.

The work was under the supervision of the writer between October 10 and 20, 1972. The operator was G.S. Blacklaws and assistants were G.W. Halliwell and J. Ketteringham. Electromagnetic VLF readings were noted at each station. Simultaneously soil samples were taken from the B zone at each station.

All data was noted in field books and maps. The data was interpreted and finalized into report form by the writer.

The purpose of the surveys was to outline zones of mineralization and/or shearing, and higher than normal copper content in the overburden.

The object of this report is to describe briefly the property and to record and interpret the results of the VLF Electromagnetic and Geochemical surveys.



Department of
 Mines and Petroleum Resources
 ASSESSMENT REPORT
 NO. **4046** MAP **#1**

NICOLA COPPER MINES LTD. (NPL)

LOCATION MAP

SCALE: 1" = 136 Miles

Drawn by	Date
Checked by	Org no.

23/10/72
p-1

ALLEN GEOLOGICAL
ENGINEERING LTD.

LOCATION AND ACCESSIBILITY

The property, known as the Greenstone Group is located 6 miles by road east of Logan Lake, on the east side of Greenstone Creek.

Geographic location is $120^{\circ}-41'$ west longitude and $50^{\circ}-28'$ north latitude.

Access is via good roads from Ashcroft, Merritt or Kamloops.

TOPOGRAPHY

The area is one of upland low relief at about 4,000 feet above sea level. The claims lie on the north side of Meadow Creek Valley.

PROPERTY

The following adjoining claims are held by location, and are known as the Greenstone Group.

KR & K 58-65, 67, 69, 71 and 73

Record Numbers 84694 and 84695, 85278-85283, 85285, 85287, 85289, 85291.

The lines and posts are in accordance with the requirements of the B.C. Mineral Act. The key claims have been inspected by the writer.

GEOLOGY

The KR & K Greenstone group is underlain by Upper Triassic volcanic rocks of the Nicola Group.

Outcrops observed on and near the claims are dark green andesite. The Guichon Creek batholith is 6 miles to the west and the Nicola batholith 8 miles to the east.

ELECTROMAGNETIC SURVEY

An electromagnetic VLF survey was conducted over the KR & K 58 and 59 claims. Quadrature and tilt angle observations were recorded at 500-foot intervals along four east-west lines at 500-foot spacing.

A Geonics 16 VLF instrument was used.

Data were recorded in a field book at each station and later transferred to a field map.

The Field operator was G.A. Blacklaws and assistants were G.W. Halliwell and J. Ketteringham.

Survey data was mapped and interpreted in Vancouver by the writer.

SURVEY RESULTS

Quadrature and tilt angle results are shown on the map in the pocket of the report.

Three conductor zones are indicated at the following locations:

From 4-2+50 to 1-2A+150 on KR & K 58 at N 20 W

From 4-1A to 1-1+100 on KR & K 58 at N 5 E

From 4-2A+100 to 2-2A on KR & K 59 at N 5 W

The area is covered with overburden and it will be necessary to expose bedrock by stripping to check the conductor locations.

GEOCHEMICAL SURVEY

Soil samples were taken from the B zone at the 250 by 500 grid stations simultaneously with electromagnetic observations on the KR & K 58 and 59 claims.

The samples were placed in waterproof bags and station location marked on each.

The samples were assayed in Vancouver by Crest Laboratories. Samples were dried and screened to -80 mesh. Hot HNO_3 and HClO_4 and atomic absorption was used to dissolve and detect copper content which was reported in parts per million.

SURVEY RESULTS

The survey results are shown on the map in the pocket of this report.

Most of the area sampled contained 40 - 59 ppm copper.

Four anomalous areas, assaying higher than 60 ppm copper were outlined, as follows:

A,	SW	KR&K	58	range of 65 to 146 ppm copper		
B,	SE	KR&K	58	range of 60 to 78	"	"
C,	SE	KR&K	59	range of 64 to 96	"	"
D,	N central					
		KR&K	58	range of 62 to 70	"	"

SUMMARY AND CONCLUSIONS

The KR&K claims area was checked for possible copper mineral occurrences by a geochemical survey. Simultaneously an electromagnetic VLF survey was conducted over the same area in order to check for metallic mineralization and/or zones of shearing.

Control was established by a surveyed grid with four east-west lines spaced at 500 foot intervals. Along each line stations were established by marked pickets every 250 feet.

Three indicated conductor zones trend northerly across the area. Where the soil contains greater than 60 parts per million copper - the highest being 146 - there is an indicated correlation with the conductor zones.

It is concluded that the area should be investigated by additional exploratory work.

RECOMMENDATIONS

It is herewith recommended that the conductors and geochemical anomalies be investigated by stripping to bedrock at selected locations, and that the surveys be extended to the east to check the possibility of similar favourable zones.

Respectfully submitted,

ALLEN GEOLOGICAL ENGINEERING LTD.

Per Alfred R. Allen P.Eng.
Alfred R. Allen

ALFRED R. ALLEN

VLF ELECTROMAGNETIC AND GEOCHEMICAL SURVEYS

KAMLOOPS M.D.

KR&K 58-65, 67, 69, 71, 73

10-10-72 - 20-10-72

EXPENDITURES

Crew

Alfred R. Allen, P.Eng. Vancouver, Operator, July 18, Nov. 26	\$ 316.00
Gordon S. Blacklaws, Surrey, Operator, Oct. 10-20,	200.00
G.W. Halliwell, Surrey, Assistant, " "	175.00
J.J. Ketteringham, Surrey, Assistant, " "	175.00

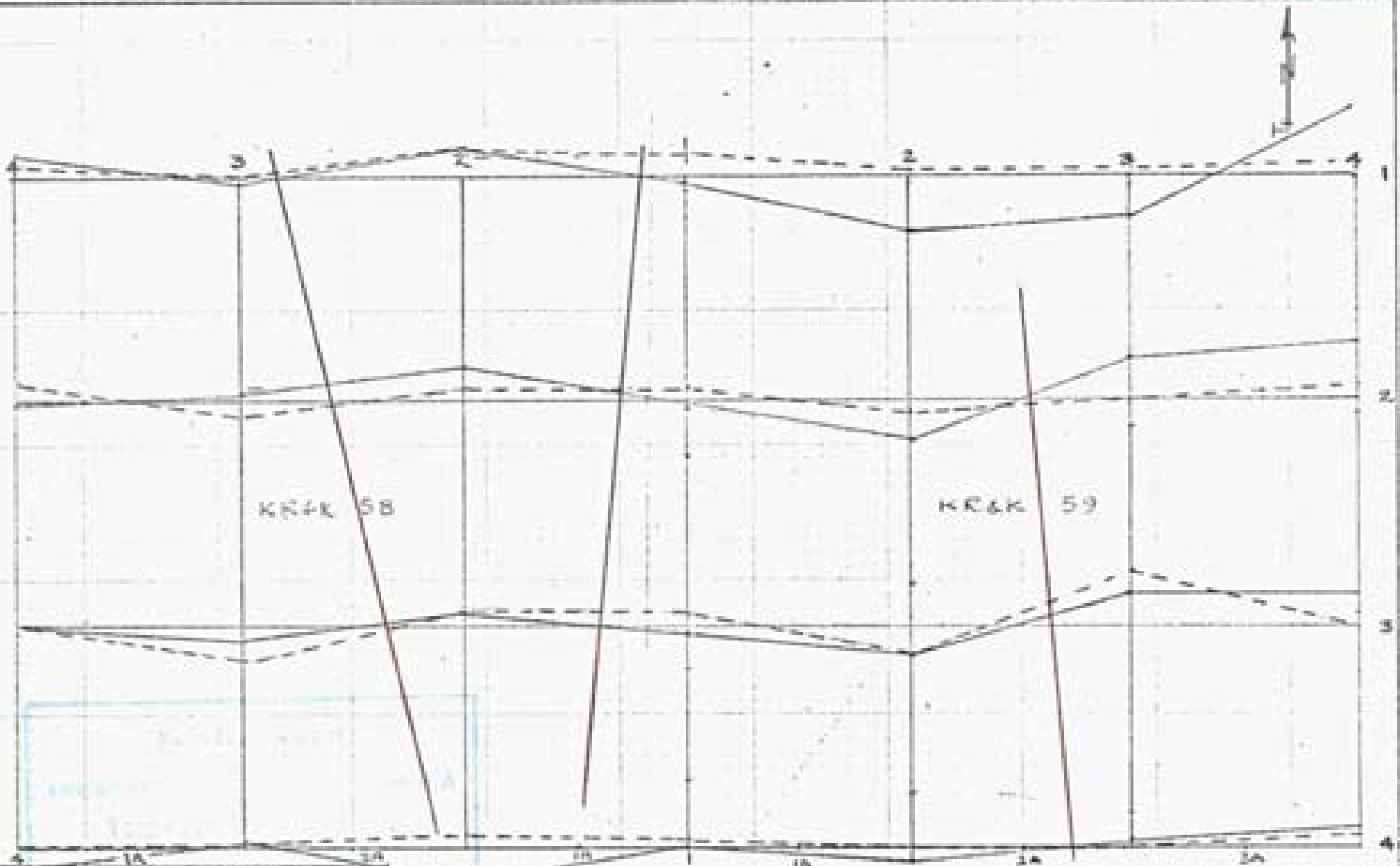
Expenses

Lodging and meals	120.00
Truck	34.00
Instrument rental	160.00
Assaying	66.00
	<hr/>
	\$1,246.00

Declared before me at the City
of Vancouver, in the
Province of British Columbia, this 15
day of Dec. 1972 A.D.

Alfred R. Allen

John J. ...



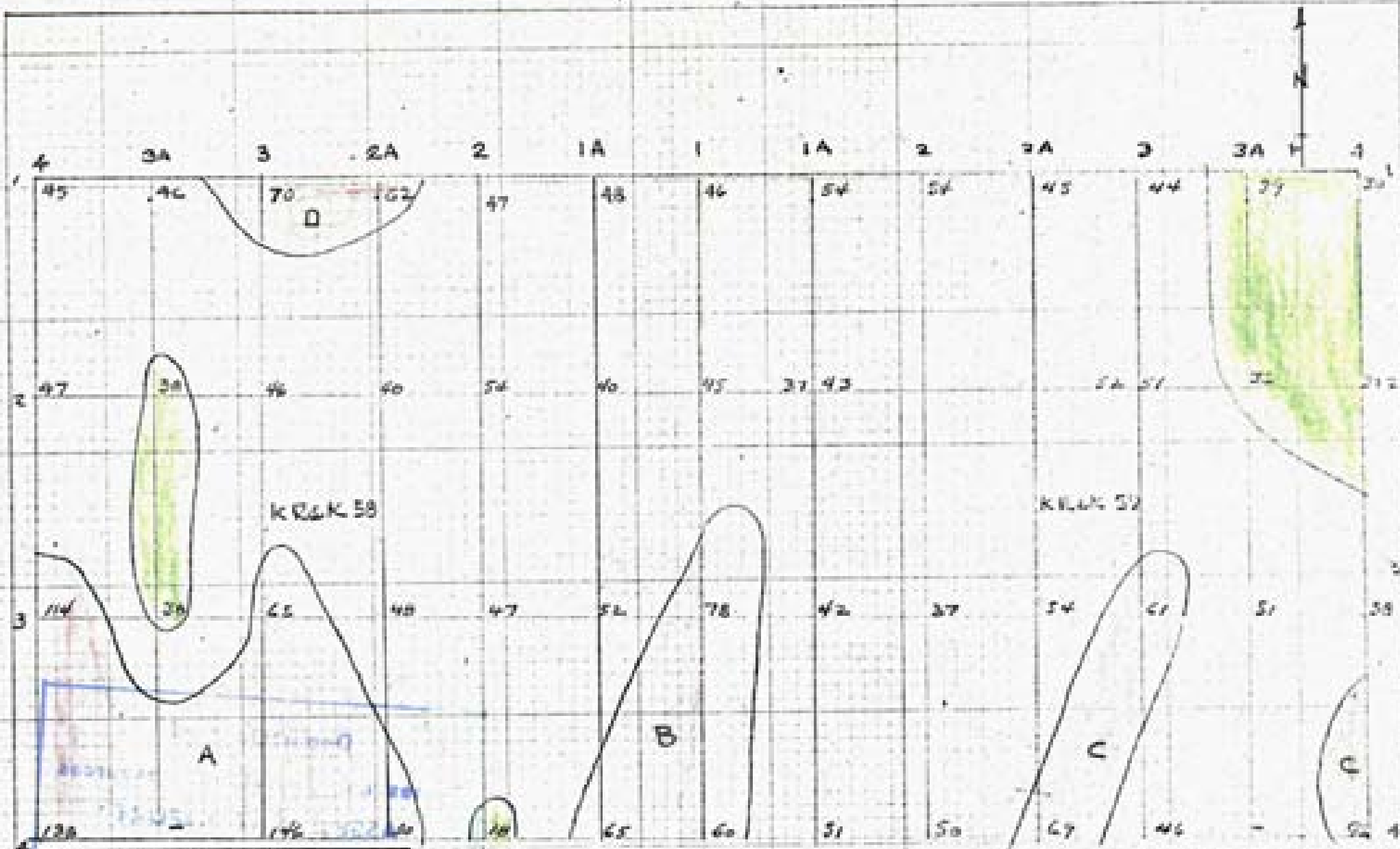
STATION: JIMCREEK 18.6 kHz
 VLF
 DIP ANGLE
 QUAD
 INSTRUMENT SERIALS 14M

4046 M-3

Nicola Copper Mines Ltd (INC)
 ELECTROMAGNETIC VLF SURVEY
 KELK GREENSTONE GROUP
 KAMILOOPS M.D.
 Scale - Feet
 NOV 1972

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 4046 M&P #3

FORM M-2



LEGEND

0 - 39 ppm Cu	
40 - 59	
60 +	

4046 M-4

NICOLA COPPER MINES LTD. (NPL)
 GEOCHEMICAL SURVEY
 KR&K GREENSTONE GRAVE
 KAMLOOPS M.D.
 Scale - Feet
 Nov 1972 *R. J. ...*

HM

3101

Department of
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ASSESSMENT REPORT
NO. 4046 MAP # 4

4046 M-2



John A. Allen

S-M d404

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ASSESSMENT REPORT
NO. **4046** MAP **#2**