

1739

REPORT ON
MAGNETOMETER AND GEOCHEMICAL SURVEYS

ON
CENTURA GROUP
OF
CENTURA MINES LTD.

LOCATED IN THE HIGHLAND VALLEY
5 MILES WEST OF QUINTANTON LAKE

50° 121' S.E.

KAMLOOPS MINING DIVISION

BY
J. W. MacLEOD, P. Eng.

FOR
McINTYRE PORCUPINE MINES LTD.

REPORT COMPLETED-----JANUARY 13, 1969

FIELD WORK CARRIED OUT -----NOVEMBER 14 - DECEMBER 17, 1968

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INTRODUCTION:

Available geologic data suggest that contacts between phases of the Guichon Batholith probably occur on the generally overburdened ground held by Centura Mines Ltd.

Since these contact zones are considered fair prospecting bets in the Highland Valley area, the property was optioned by McIntyre Porcupine Mines Ltd. and a program of geophysical and geochemical investigation instituted.

The following report on the work completed to date has been prepared to fulfill the requirements of the Mineral Act governing the acceptance of geochemical and geophysical surveys for assessment work.

The following personnel were employed on the project:

J. W. MacLeod -----B.Sc., Mining, U. of A., 1946

T. G. Mersereau ----B.Sc., Geology, St. Francis Xavier, N.S., 1965

D. G. Wahl -----Eng. of Mines, Colorado, 1968

CONCLUSIONS:

Anomalous copper values in soils are indicated from a population count for the small area covered, but in practically every instance the indications of above normal copper content can be attributed to low ground. In general the numerical value in p.p.m. is low for the Highland Valley area.

CONCLUSIONS: (continued)

The magnetic variation is for the most part less than 1,000 gammas, but this is sufficient to indicate zones of alteration and two of these are suggested, one, in the southeast corner of the property, and another trending north 60 west in the southwest corner.

The geochem and magnetometer anomalies are too vague to warrant further work in themselves, but an induced polarization survey is justified for indications of sulfides in association with these anomalies.

PROPERTY:

The Centura Group consists of the following 32 claims:

<u>Claim</u>	<u>Record No.</u>	<u>Anniversary Date</u>
JAN #1	67984	Jan. 29/69
JAN #2	67985	Jan. 29/69
JAN #3	67986	Jan. 29/69
JAN #4	67987	Jan. 29/69
JAN #5	67988	Jan. 29/69
JAN #6	67989	Jan. 29/69
JAN #7	67990	Jan. 29/69
JAN #8	67991	Jan. 29/69
JAN #9	67992	Jan. 29/69

PROPERTY: (continued)

<u>Claim</u>	<u>Record No.</u>	<u>Anniversary Date</u>
JAN #10	67993	Jan. 29/69
JAN #11	67994	Jan. 29/69
JAN #12	67995	Jan. 29/69
JAN #13	67996	Jan. 29/69
JAN #14	67997	Jan. 29/69
JAN #15	67998	Jan. 29/69
JAN #16	67999	Jan. 29/69
JAN #17	68000	Jan. 30/69
JAN #18	68001	Jan. 30/69
JAN #19	68002	Jan. 30/69
JAN #20	68003	Jan. 30/69
JAN #21	68004	Jan. 30/69
JAN #22	68005	Jan. 30/69
JAN #23	68006	Jan. 30/69
JAN #24	68007	Jan. 30/69
JAN #25	68008	Jan. 30/69
JAN #26	68009	Jan. 30/69
JAN #27	68010	Jan. 30/69
JAN #28	68011	Jan. 30/69
HI #1	74622	Nov. 15/69
HI #2	74623	Nov. 15/69
HI #3	74624	Nov. 15/69
HI #4	74625	Nov. 15/69

PROPERTY: (Continued)

A plan of the group is shown on the accompanying Map No. 2.

LOCATION & ACCESS:

The claims are located 5 miles west of Quintanton Lake in the Highland Valley and are reached by rough access roads from the road to the Alwin property. The Alwin adit is collared 1.5 miles east of the east boundary of the property.

HISTORY:

This ground was staked a number of times between 1955 and the present but there is no evidence that any work was done on the claims.

GEOLOGY:

Although there is very little outcrop, the property is believed to be entirely underlain by phases of the Guichon Batholith.

Mapping by K. Northcote shows the property underlain by the hybrid phase and the Chataway and Guichon varieties of the Highland

GEOLOGY: (Continued)

Valley phase. The contacts between these units are considered favourable prospecting ground.

TOPOGRAPHY:

The claims cover the gentle, uniform south slope to Inkikuk Creek which drains to the west along the south boundary of the property.

Elevation range is from 4700 at the creek to about 5000 feet at the north boundary of the property.

GROUND CONTROL:

A base line was laid out bearing E - W, cleared, and picketed at 100 foot intervals.

Compass lines were then run N - S every 400 feet along this base line and each 100 foot chainage flagged on these cross lines.

GEOCHEMICAL SURVEY:

Due to snow and freezing ground conditions, only the southern

GEOCHEMICAL SURVEY: (continued)

half of the property was sampled before sample collection became too difficult.

Except for a few small outcrops in the southwest corner, the area sampled is void of outcrop and depth of overburden is unknown.

The A horizon varies from an inch of plant litter to 4 feet of humus in the small areas of low swampy ground.

The B horizon is generally a weak iron accumulation from 1 to 8 inches thick.

Samples were collected in the B horizon at the A - B interface. When dictated by the depth of the A horizon, samples were taken by auger, otherwise by trail shovel at 100 foot intervals on the flagged lines.

Samples were analysed for copper and molybdenum according to the procedures outlined in APPENDIX I. Results are plotted on the accompanying Map No. 4.

A statistical analysis of the copper results suggest the background to be about 20 p.p.m., the plateau to be 75 and any values above 110 to be anomalous. Most of the "highs" are isolated and of no significance. On the southern part of claims JAN 15 and 18, there are vague indications of an anomaly, but strategic samples could not be collected due to water cover created by recent beaver dams. Further investigation of these indications would only be justified if confirmed by other measures such as an I.P. survey.

Molybdenum values obtained are of no consequence.

MAGNETOMETER SURVEY:

The gridded area was covered with an Askania Torsion Magnetometer Model Gfz at 100 foot station intervals. This instrument measures the vertical component of the earth's magnetic field. Reading values are in gammas. Magnetic ties were made every hour, thus ensuring a station value accuracy of ± 10 gammas.

The results, contoured at 100 gamma interval, are shown on accompanying Map No. 5.

The principal object of magnetometer surveys in this area is to locate zones of alteration which may be expressed as magnetic lows in the range of 1000 gammas over areas of hydrothermal alteration. These zones may be mineralized, but they can also represent fault and contact zones.

In the area surveyed, three low trends are indicated, N20E, N55W and E-W. The N20E low crosses the southeast corner of the property and is confirmed by work filed on the adjoining BL group of Valley Copper. Two parallel trends bearing N55W cross the southwest part of the property which could represent contacts. One interesting feature is the E-W trend through JAN 15, 18 and 17 between the N55W strike.

Investigation by other means will be required of these magnetic lows.

COSTS APPLICABLE TO ASSESSMENT WORK:

D. Wahl	- lines and magnetometer survey	
	November 14 - December 17	- 25 days @ \$40 = \$1,000.00
	- map preparation and contouring	
	December 18 - December 31	- 8 days @ \$40 = \$ 320.00
T. G. Mersereau	- lines and sample collection	
	November 14 - December 2	- 19 days @ \$40 = \$ 760.00
J. W. MacLeod	- supervision and report preparation	
	November 14 - January 10	- 8 days @ \$50 = \$ 400.00
N. Hriskow	- colouring and typing	- 3 days @ \$20 = \$ 60.00
		<u>\$2,540.00</u>
Sample Analyses - Coranex Ltd. #68057	- \$700.00	
Coranex Ltd. #68058	- \$393.75	
Coranex Ltd. #68059	- \$ <u>45.50</u>	
		<u>\$1,139.25</u>
Total costs re assessment work		<u><u>\$3,679.25</u></u>

Respectfully submitted,



J. W. MacLeod, P. Eng.

Vancouver, B. C.

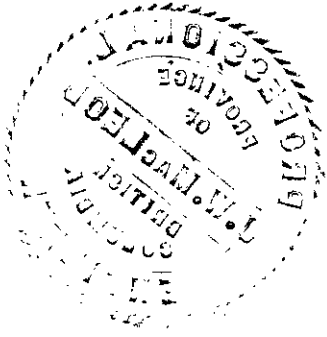
January 13, 1969

Declared before me at the *City*
of *Vancouver*, in the
Province of British Columbia, this *23*
day of *January*, 19*69*, A.D.

W. H. ...

L. Jeanotte
A Commissioner for taking Affidavits within British Columbia or
A Notary Public in and for the Province of British Columbia.

SUB-MINING RECORDER



STATEMENT OF QUALIFICATIONS:

I, J. W. MacLeod of the City of Vancouver, in the Province of British Columbia, do hereby certify as follows:

1. That I am a Mining Engineer.
2. That I am a graduate of the University of Alberta (B.Sc. 1946).
3. That I am a member of the Association of Professional Engineers of British Columbia.
4. That T. G. Mersereau, who was in charge of the soil sampling program, is a graduate of St. Francis Xavier University and has recently completed a thesis on geochemistry for a Masters degree at the University of New Brunswick; and that D. G. Wahl, who carried out the magnetometer work, is a graduate of the Colorado School of Mines and has had at least 6 seasons on various types of magnetometers.



J. W. MacLeod, P. Eng.

Vancouver, B.C.

January 13, 1969

EXPLORATION
CORANEX/LIMITED

1521 PEMBERTON AVENUE,
NORTH VANCOUVER, B.C.
988-2171

December 31, 1968

TO: Mr. J. MacLeod
McIntyre Porcupine Mines Ltd.
#1004 - 409 Granville Street
Vancouver 2, British Columbia

FROM: Mr. Conway Chun
Coranex Exploration Limited
1521 Pemberton Avenue
North Vancouver, British Columbia

SUBJECT: Geochemical analytical methods used to analyze acid soluble molybdenum and copper.

(1) Sample Preparation:

- a) Geochemical soil and silt samples were collected and stored in the wet-strength 3½ by 6½ brown Kraft paper bags and shipped to the laboratory.
- b) The wet samples were dried in a ventilated oven.
- c) The dried samples were sifted by using an 80-mesh stainless steel sieve. The plus 80-mesh fraction were rejected; and the minus 80-mesh fraction were transferred into a new bag for analysis later.

(2) Methods of Digestion:

- a) 1.00 gram of the minus 80-mesh samples.
- b) Samples were heated in a sand bath with nitric and perchloric acids, later with diluted hydrochloric acid.
- c) The digested samples were diluted with demineralized water to a fixed volume and shaken.

(3) Methods of Analyses:

a) Copper analyses:

Copper analyses were determined by using a Techtron Atomic Absorption Spectrophotometer Model AA4 with a copper hollow cathode lamp. The digested samples were aspirated

APPENDIX I

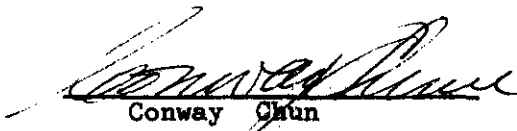
GEOCHEMICAL ANALYTICAL METHODS

directly into the flame. The copper results in parts per million were calculated by comparing a set of copper standards to calibrate the atomic absorption unit.

b) Molybdenum analyses:

5 ml of thiocyanate and 2 ml of tannous chloride were added to the 5 ml aliquot of the digested solution. 2 ml of iso-propyl ether was used for extraction. A Bausch & Lomb Spectronic 20 Colourimeter was used to read molybdenum concentration. Parts per million of molybdenum were calculated by comparing a set of molybdenum standards.

- (4) The analyses were determined by Mr. Conway Chun and his laboratory staff.


Conway Chun

North Vancouver, B. C.

REFERENCES:

- (a) J. W. Robinson: Atomic Absorption Spectroscopy.
- (b) N. H. Furman: Standard Methods of Chemical Analysis. 6th Ed.
- (c) Sydney Abbey: Analysis of Rock and Minerals by Atomic Absorption Spectroscopy. Geological Survey of Canada, Paper 67-37.
- (d) The Manual of Analytical Methods for Atomic Absorption Spectrophotometer. Perkin-Elmer Corp.
- (e) Atomic Absorption Newsletters. Perkin-Elmer Corp.
- (f) R. E. Stanton: Rapid Methods of Trace Analysis for Geochemical Application.
- (g) Sandell: Colourimetric Metal Analysis. 3rd. Ed.
- (h) Feigl: Spot Tests in Inorganic Analysis.
- (i) Ward et al: Analytical Methods used in Geochemical Exploration by U. S. Geological Survey. Bulletin 1152.

MCINTYRE PORCUPINE MINES LIMITED

TORONTO 1, ONTARIO

EXECUTIVE OFFICES
SUITE 1200
55 YONGE STREET
TELEPHONE 362-4751-TELEX 02-29079

January,
Fifteenth,
1969.

To Whom it May Concern:

This is to verify that McIntyre Porcupine Mines Limited expended \$2,540.00 on salaries, concerning the Magnetometer and Geochemical survey (carried out on the Centura claims) as outlined on the last page of J. W. MacLeods' report dated January 13, 1969.



O. J. Shore,
Treasurer.

OJS/po

CORANEX PROJECT

1521 PEMBERTON AVE.
NORTH VANCOUVER, B.C.
Telephone: 988-2171

INVOICE NO.: 68-059

DATE: Dec. 13, 1968

INVOICE TO: McIntyre Porcupine Mines Ltd.

REQUESTED BY: Mr. J. MacLeod

1004 - 409 Granville St.

Vancouver 2, B. C.

SUBMITTED BY: C. Chun

DATE	DESCRIPTION	RATE	AMOUNT
Dec. 10, 1968	Report No. MP-038 Prepared and analyzed 26 geochem samples for Mo, Cu @ \$1.75		\$45.50
APPROVED FOR PAYMENT <i>[Signature]</i> C. Chun			
6628-10017			
TOTAL PER INVOICE			\$45.50

NOTES: This is a professional service bill.
Please make cheque payable to MR. J. J. RANKIN — CORANEX PROJECT
Submit payment to 1521 PEMBERTON AVE.,
NORTH VANCOUVER, B.C.

CORANEX PROJECT

1521 PEMBERTON AVE.
NORTH VANCOUVER, B.C.
Telephone: 988-2171

INVOICE NO.: 68-057

DATE: Dec. 9, 1968

INVOICE TO: McIntyre Porcupine Mines Ltd
1004 - 409 Granville St.
Vancouver 2, B. C.

REQUESTED BY: Mr. J. MacLeod

SUBMITTED BY: Mr. C. Chun

DATE	DESCRIPTION	RATE	AMOUNT
Dec. 9, 1968	Report No. MP-036 Prepared and analyzed 400 geochem samples for Mo, Cu	@ \$1.75	\$700.00
APPROVED FOR PAYMENT <i>[Signature]</i> 6628-10017			
TOTAL PER INVOICE			\$700.00

NOTES: This is a professional service bill.
Please make cheque payable to MR. J. J. RANKIN — CORANEX PROJECT
Submit payment to 1521 PEMBERTON AVE.,
NORTH VANCOUVER, B.C.

CORANEX PROJECT

1521 PEMBERTON AVE.
NORTH VANCOUVER, B.C.
Telephone: 988-2171

INVOICE NO.: MP-058

DATE: December 10, 1968

INVOICE TO: MacIntyre Porcupine Mines Ltd.

REQUESTED BY: Mr. J. MacLeod

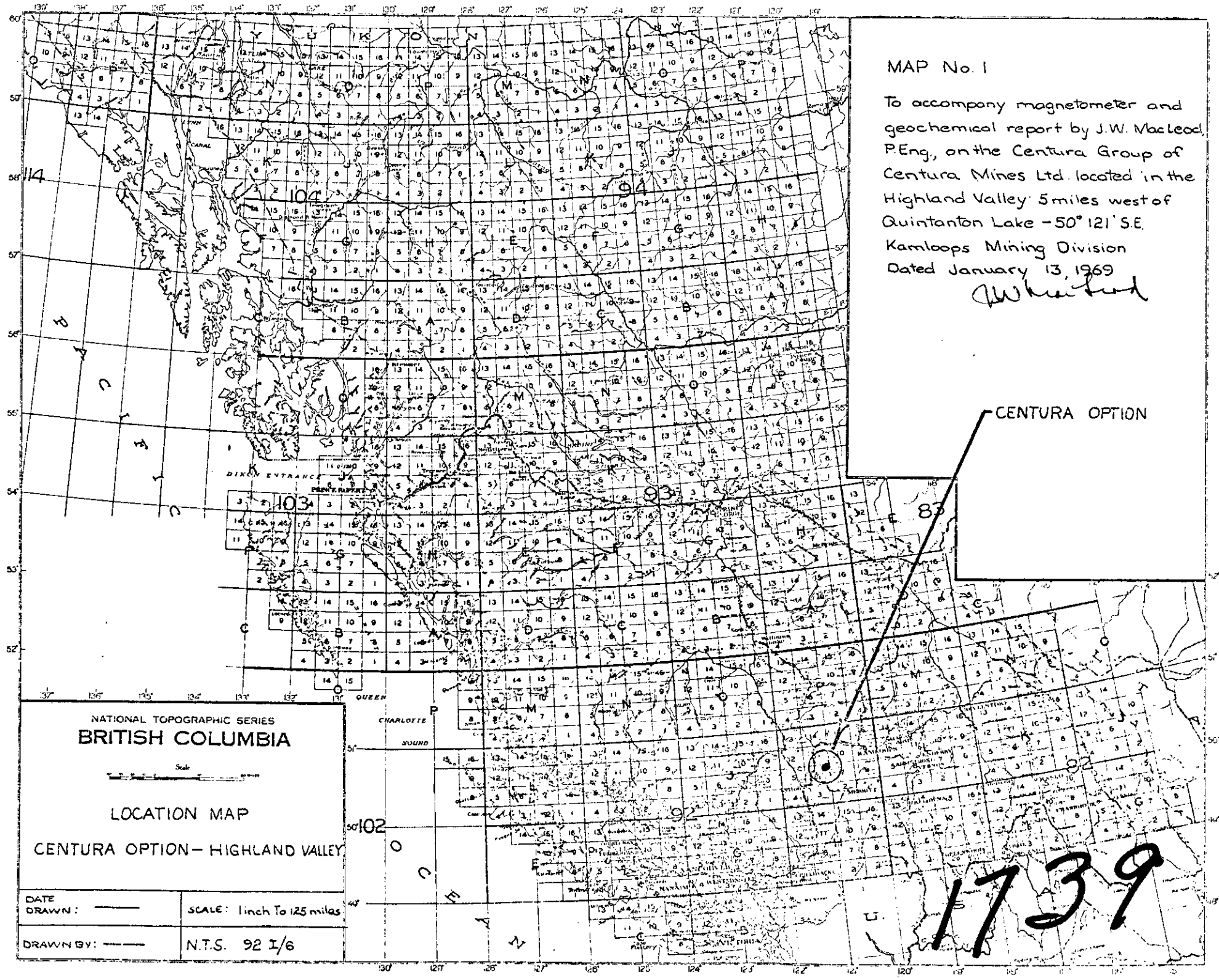
1009 - 409 Granville Street

Vancouver, B.C.

SUBMITTED BY: Mr. C. Chun

DATE	DESCRIPTION	RATE	AMOUNT
Dec. 10, 1968	Report No. MP-037 Prepared and analyzed 225 geochem samples for Mo & Cu.....	@ \$1.75	\$393.75
APPROVED FOR PAYMENT <i>J. Rankin</i> Controller			
6628 - 10017			
TOTAL PER INVOICE			\$393.75

NOTES: This is a professional service bill.
Please make cheque payable to MR. J. J. RANKIN — CORANEX PROJECT
Submit payment to 1521 PEMBERTON AVE.,
NORTH VANCOUVER, B.C.



MAP No. 1

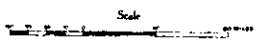
To accompany magnetometer and
 geochemical report by J.W. Macleod,
 P.Eng., on the Centura Group of
 Centura Mines Ltd. located in the
 Highland Valley 5 miles west of
 Quintanton Lake - 50° 12' S.E.
 Kamloops Mining Division
 Dated January 13, 1969

Whitford

CENTURA OPTION

1739

NATIONAL TOPOGRAPHIC SERIES
BRITISH COLUMBIA



LOCATION MAP

CENTURA OPTION - HIGHLAND VALLEY

DATE DRAWN: _____

SCALE: 1 inch To 125 miles

DRAWN BY: _____

N.T.S. 92 I/6

MAP No. 2

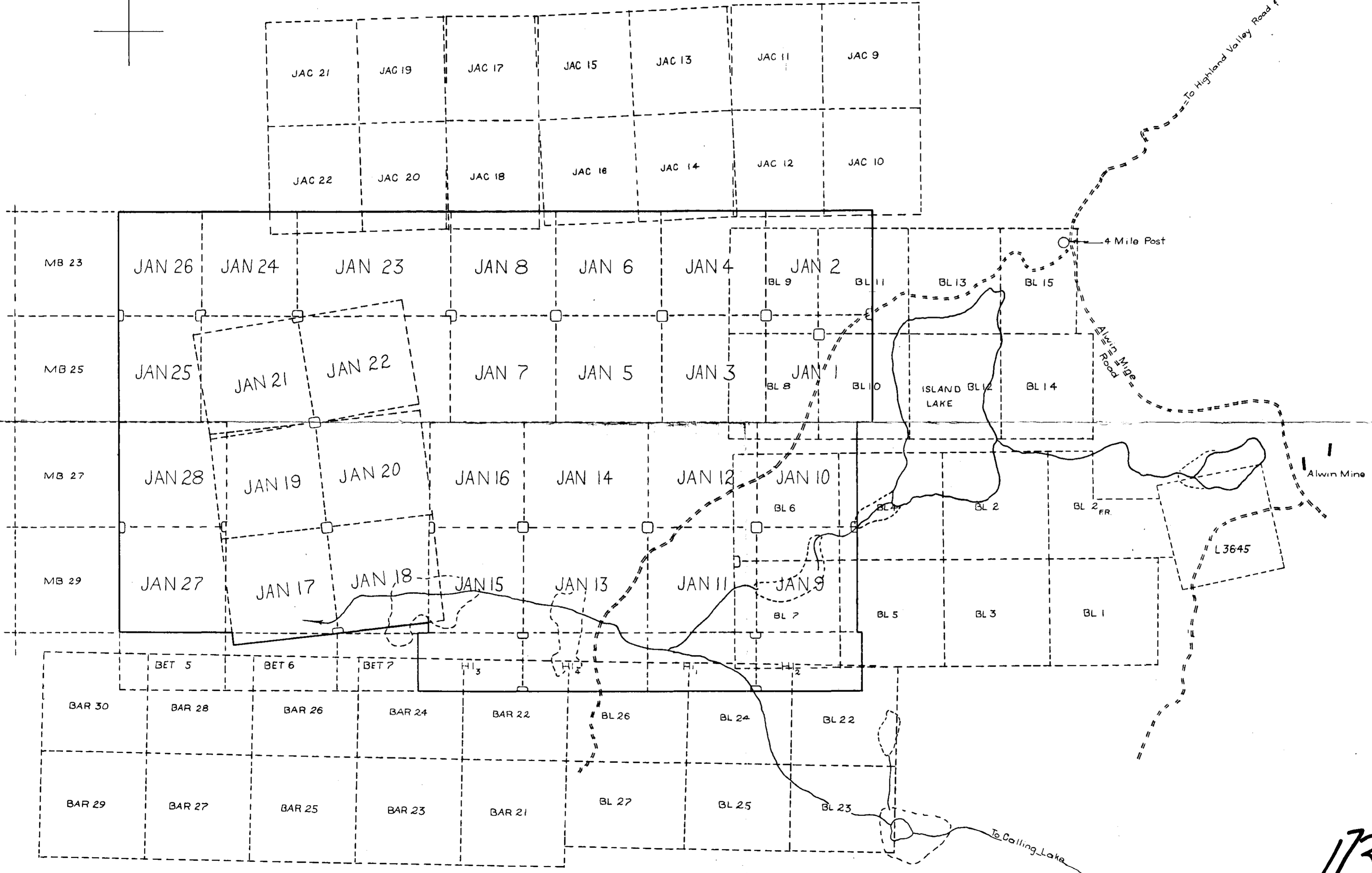
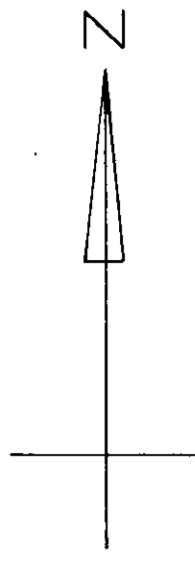
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 Mines Ltd located in the Highland Valley 5 miles west of
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 Dated January 13, 1969 *J.W. MacLeod*



53056-R	68009A	68007A	68006A	67991A	67989A	67987A	67985A		
MB 23	Jan 26	Jan 24	Jan 23	Jan 8	Jan 6	Jan 4	Jan 2	41799-0	41801-0
53058-R	68008A	68004A	68005A	67990A	67988A	67986A	67984A	BL 9	BL 11
MB 25	Jan 25	Jan 21	Jan 22	Jan 7	Jan 5	Jan 3	Jan 1	41798-0	41800-0
53060-R	68017A	68002A	68003A	67999A	67997A	67995A	67993A	BL 8	BL 10
MB 27	Jan 28	Jan 19	Jan 20	Jan 15	Jan 14	Jan 12	Jan 10	41796-0	41794-0
53062-R	68010A	68000A	68001A	67998A	67996A	67994A	67992A	BL 6	BL 4
MB 29	Jan 27	Jan 17	Jan 18	Jan 15	Jan 13	Jan 11	Jan 9	41797-0	41795-0
53064-R	68015A	68011A	68012A	67994A	67992A	67990A	67988A	BL 7	BL 5
MB 31				HI-3	HI-4	HI-1	HI-2		
52675-P	52673-P	52671-P	52669-P	52667-P	52665-P	52663-P	52661-P	41814-0	41812-0
Bar 32	Bar 30	Bar 28	Bar 26	Bar 24	Bar 22	BL 26	BL 24	BL 22	BL 20

1739

McINTYRE PORCUPINE MINES LIMITED	
CLAIM MAP	
CENTURA OPTION - HIGHLAND VALLEY AREA - BC	
DATE DRAWN: JANUARY 13 1969	SCALE: 1 inch To 1/2 mile
DRAWN BY: D.G. WAHL	N.T.S. 92 I/6



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Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 139 MAP 3

MAP No. 3
To accompany magnetometer and geochemical report
by J.W. MacLeod, P.Eng., on the Centura Group of Centura
Mines Ltd. located in the Highland Valley 5 miles west of
Quintanton Lake - 50° 121' SE Kamloops Mining Division
Dated January 13, 1969. *J.W. MacLeod*

McINTYRE PORCUPINE MINES LIMITED	
PROPERTY MAP	
CENTURA OPTION - HIGHLAND VALLEY AREA B.C.	
DATE DRAWN	JANUARY 13, 1969
SCALE	1 inch To 1000 feet
DRAWN BY	DG WAHL
NTS	92 I/6 ①

JAN 26

JAN 24

JAN 23

JAN 8

JAN 25

JAN 21

JAN 22

JAN 7

JAN 28

JAN 19

JAN 20

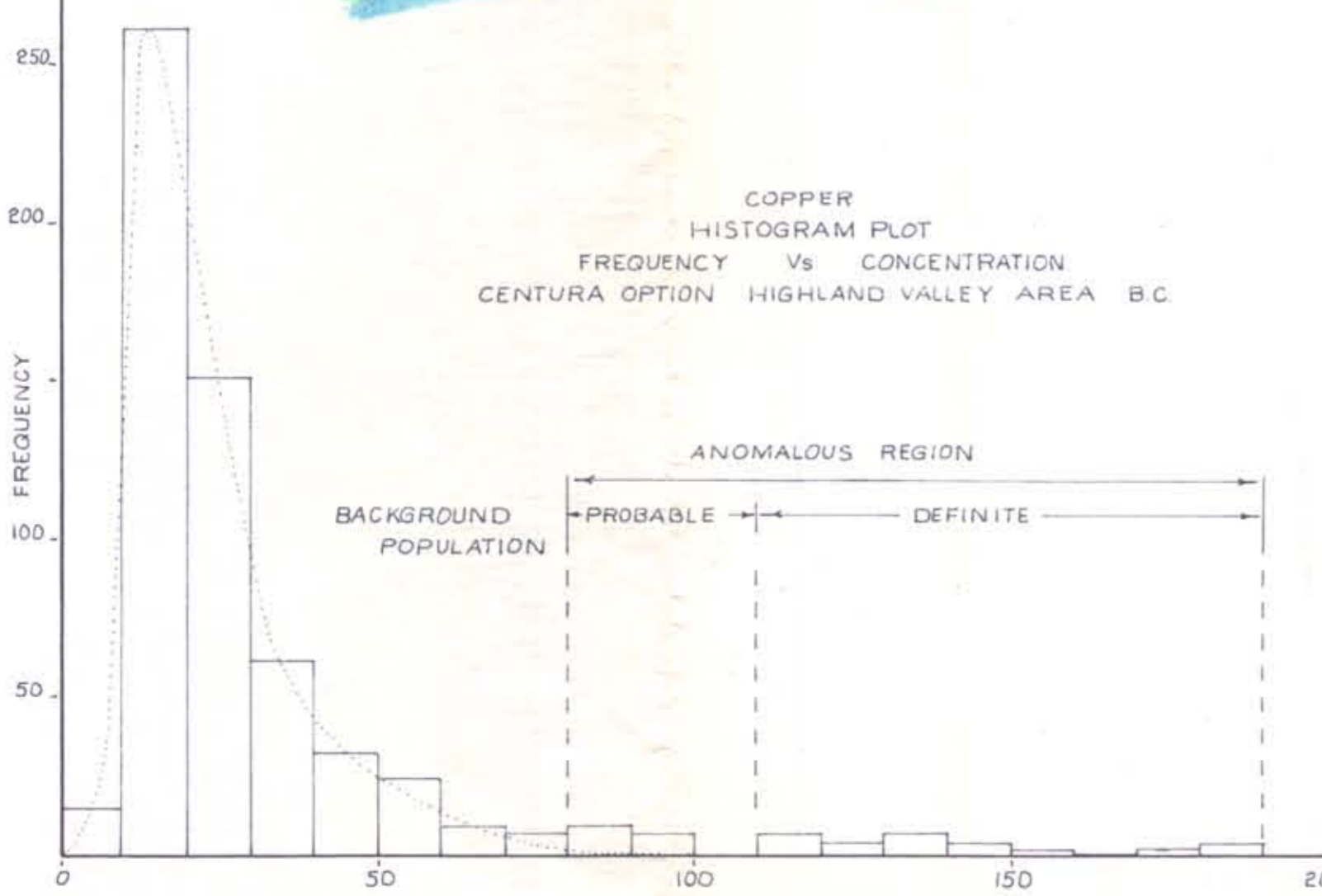
JAN 16

JAN 27

JAN 17

JAN 18

JAN 15



LEGEND

120	80 - 120 ppm
240	120 - 160 ppm
360	160 - 200 ppm
480	200 - 240 ppm
600	240 - 280 ppm
720	280 - 320 ppm
840	320 - 360 ppm
960	360 - 400 ppm

KEY

- CLAIM LINE
- CLAIM POST LOCATION
- 240
5 COPPER (ppm)
- 150 MOLYBDENUM (ppm)
- NO SAMPLE AVAILABLE
- CONTOUR INTERVAL 40ppm
- INFERRED CONTOUR LINE

H13



JAN 8

JAN 6

JAN 4

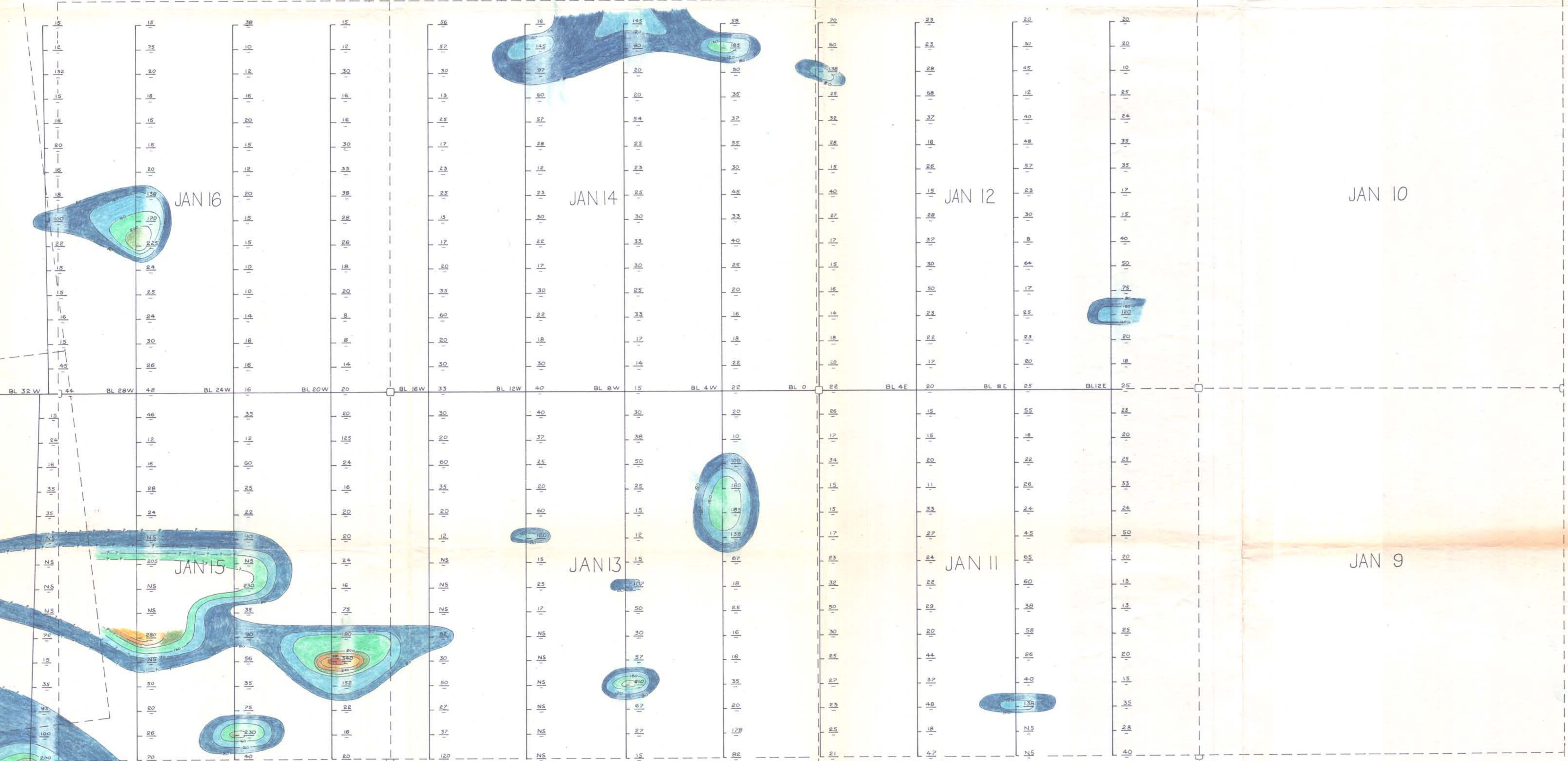
JAN 2

JAN 7

JAN 5

JAN 3

JAN 1



HI₃

HI₄

HI₁

HI₂

1739

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 1739 MAP 4

MAP No. 4
To accompany magnetometer and geochemical report
by J.W. MacLeod, P.Eng. on the Centura Group of Centura
Mines Ltd. located in the Highland Valley, Strathcona
Quintan Lake - 50° 12' SE Kamloops Mining Division
Dated January 13, 1969 *J. MacLeod*

McINTYRE PORCUPINE MINES LIMITED
GEOCHEMICAL SURVEY
Geochemical Values in (ppm)
CENTURA OPTION - HIGHLAND VALLEY AREA - B.C.
DATE: JANUARY 8, 1969 SCALE: 1 inch To 200 Feet
DRAWN BY: D.G. WAHL NTS: 92 1/6