

GEOCHEMICAL REPORT
on the
MARGE MINERAL CLAIMS
NICCLA MINING DIVISION
for
HIGHLAND MERCURY MINES LTD.

by
Joan R. Poloni, B. Sc., P. Eng.

November 15, 1972
49°54'N, 120°38'W 92H/15E

440889

GEOCHEMICAL REPORT

on the

MARGE MINERAL CLAIMS

NICOLA MINING DIVISION

for

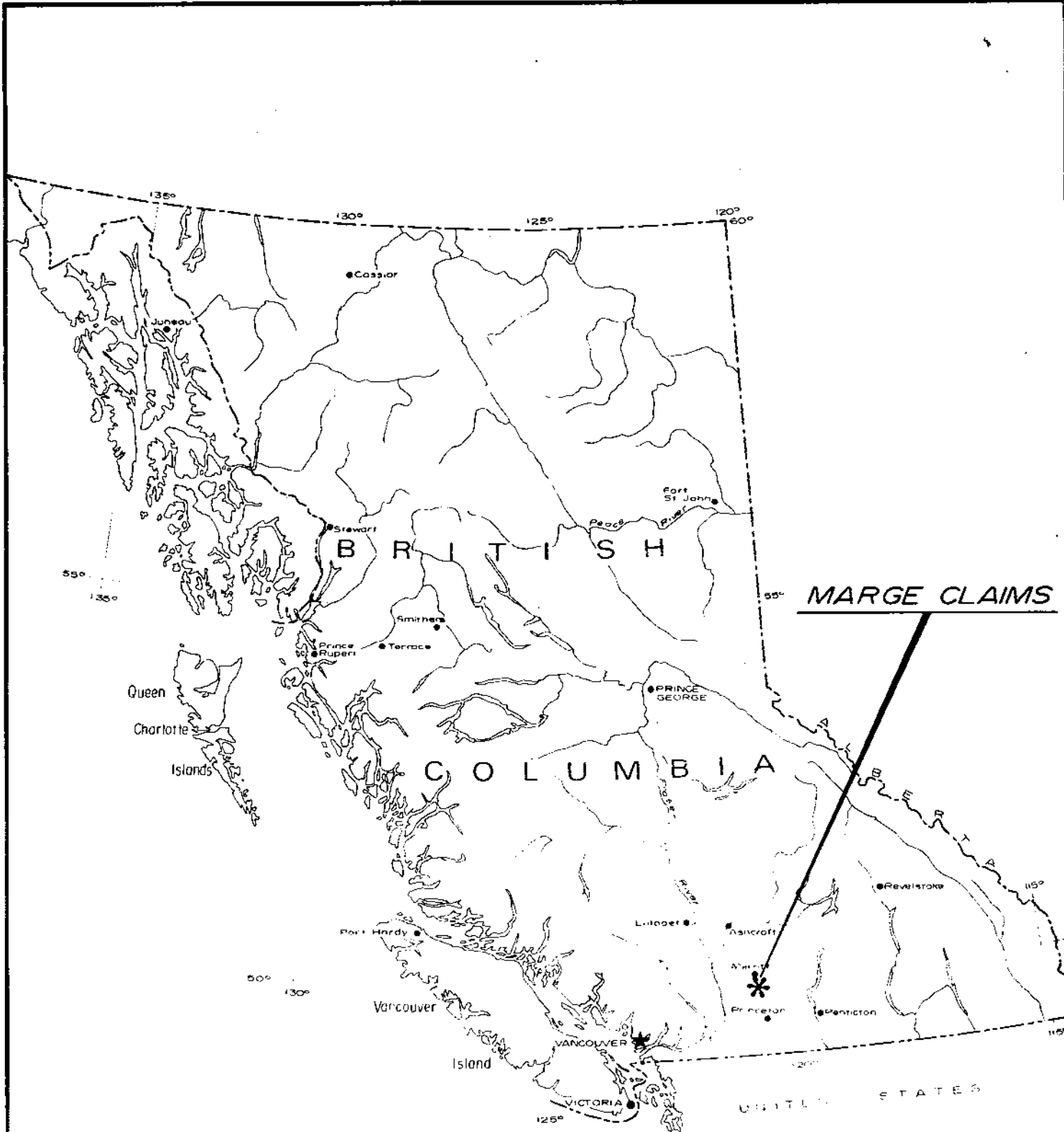
HIGHLAND MERCURY MINES LTD.

by

John R. Poloni, B. Sc., P. Eng.

November 15, 1972.

| | |
|-------------------------------|-----------|
| Department of | |
| Mines and Petroleum Resources | |
| ASSESSMENT REPORT | |
| NO. 40889 | MAP _____ |



Department of
 Mines and Petroleum Resources
 ASSESSMENT REPORT
 NO. **4089** MAP # **6**

| | |
|--------------------------------------|---------------|
| HIGHLAND MERCURY MINES LTD. | |
| MARGE (5-24) | |
| PROPERTY LOCATION MAP NICOLA M.D. | |
| JOHN R. POLONI B. Sc., P. Eng. | |
| SCALE: 1" = 3000' | NOV. 15, 1972 |

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SUMMARY AND CONCLUSIONS

A preliminary geochemical soil survey was undertaken over part of the Marge (5-24) mineral claims located near Aspen Grove B.C. This survey was conducted during the period October (20 - 28) 1972, but was terminated because of frozen ground and adverse weather conditions.

Only low values for copper, zinc and molybdenum were obtained in the 7.6 line miles of survey.

INTRODUCTION

Highland Mercury Mines Ltd. currently controls, under option by a letter of agreement with Mr. E. Smith dated June 23, 1972, 20 contiguous mineral claims located near Aspen Grove B.C.

This report is prepared as a summary of the preliminary geochemical soil survey conducted by a field crew under supervision of the author during the period October (20 - 28) 1972. Adverse weather conditions hampered progress during the latter stages of the survey.

LOCATION MAP

Fig. #1

MARGE
CLAIMS

| | | | |
|----|----|----|----|
| 23 | 24 | | |
| 21 | 22 | | |
| 19 | 20 | 6 | 5 |
| 17 | 18 | 8 | 7 |
| 15 | 16 | 10 | 9 |
| 13 | 14 | 12 | 11 |

ASPEN
GROVE



John R. Poloni

FIG. 1

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 4089 MAP # 1

| | |
|---|---------------|
| HIGHLAND MERCURY MINES LTD. | |
| MARGE (5-24) LOCATION MAP NICOLA M.D. | |
| JOHN R. POLONI, B. Sc., P. Eng. | |
| SCALE: 1" = 3000' | NOV. 15, 1972 |

PROPERTY

The property consists of 20 contiguous mineral claims located near Aspen Grove B.C., generally west of Highway #5 at Latitude 49° 47' N., and Longitude 120° 37' W. The property is held by Highland Mercury Mines Ltd. under an option agreement with Mr. E. Smith.

Claims data supplied by Dr. M. Carr is as follows:

| <u>Claim Name</u> | <u>Tag No.</u> | <u>Record No.</u> | <u>Expiry Date</u> |
|-------------------|---------------------|-------------------|--------------------|
| Marge (5-24) | 153530M -153557M | 50928-47 | December 10, 1972 |

LOCATION AND ACCESS

Located at Aspen Grove B.C. and principally west of Highway #5 the claims are easily reached via highway from Vancouver. Access is provided by old logging roads branching from the main Princeton - Merritt highway.

Hydro electric power, natural gas and railway facilities are readily available in the Princeton and Merritt areas. The main Princeton Merritt highway #5 crosses the east corner of Marge #5 and most of the claim group lies west of that highway.

PHYSIOGRAPHY

The claims lie within the Interior Plateau of Central British Columbia, where level surfaces have been to a great extent obscured by stream dissection.

A north south trending fault zone has been traced along highway #5 in the vicinity of the property. Immediately to the east the Alleyne Lake - Kentucky Lake valley which has been scoured by moving ice appears to be a parallel fault system.

Elevations on the claims range from 3,400' to 3,990 feet above sea level.

Fir, spruce, aspen and alder are distributed on the claims surveyed. Sections of open ranch land were encountered. Most of the merchantable timber has been removed by past logging operations.

GLACIATION

The Continental Ice Sheet covered all of the map-area during Pleistocene Time. North-south trending valleys were scoured by moving ice. A mantle of glacial detritus a few 10's of feet thick presently covers most of the area as remnant feature of the glacial period.

CLIMATE

Long arid summers, moderate winters and generally moderate precipitation characterize the Interior Plateau of Central British Columbia. Snowfall is generally light but accumulations of up to 10 or 12 feet can occur during more severe winters.

HISTORY

The Marge claims are located in the Aspen Grove Copper Camp, an area some 8 miles long extending northerly from Missezula Lake. The camp is parallel with Highway #5 and extends easterly from the highway for 2 miles.

Copper was initially found on the Big Sioux claim in 1899. Several properties have been examined by diamond drilling, via shafts and adits, and by extensive surface trenching, but none has reached successful production.

GEOLOGY

No geological reconnaissance was undertaken by the author on the Marge claims. G.S.C. map 888A shows the Aspen Grove area to be underlain principally with Nicola Group rocks consisting of lava, argillite, tuff, limestone; chlorite and sericite schist. Two small plugs of Coast Intrusive

granites are mapped to the west of Highway #5 near the claim group.

A regional fault zone, part of the Otter Creek fault system appears to cross the Marge claims in a north-south direction.

Chalcopyrite, bornite, chalcocite, pyrite and hematite mineralization occurs in shear zones in volcanic rocks in the Aspen Grove Camp. These shear zones have not been found to be extensive.

Better grade mineralization has been found in restricted shoots in these shears.

Copper mineralization found disseminated through the lava in the interstices between fragments of flow breccias has been investigated but grades to date generally tend to be non commercial in nature.

GEOCHEMICAL PROGRAM

A geochemical soil sampling program was undertaken during the period October (20-28) 1972 by a two man field crew supervised by the Author.

A north-south base line 8,800 feet long was cut, chained and flagged. Chain and compass grid lines at 400 foot intervals were run with soil sampling stations being established at 200 foot intervals. A total of 7.6 line miles of survey was completed.

B-horizon material collected at the sample locations was analyzed for copper, zinc and molybdenum using the following parameters:

| | |
|--------------------|--------------------------------------|
| Mesh size | -80 |
| Analytical method: | atomic absorption |
| Digestion method: | HClO ₄ + HNO ₃ |

A copy of the analytical data is included in appendix C.

RESULTS OF THE GEOCHEMICAL PROGRAM

An examination of the results of the analytical data indicates generally only background values for copper, zinc, and molybdenum. Sample R 85 gave 8 P.P.M. Mo, 110 P.P.M. Cu, and 180 P.P.M. zinc. Sample R 86 gave 2 P.P.M. Mo, 42 P.P.M. Cu and 140 P.P.M. zinc. The sample R 85 is anomalous for copper and molybdenum but is located east of the boundary of Marge 5.

Following are the calculated geochemical parameters:

| | <u>Cu</u> | <u>Zn</u> |
|--------------------|------------|------------|
| Mean | 32 P.P.M. | 73 P.P.M. |
| Threshold | 64 P.P.M. | 146 P.P.M. |
| Possible Anomalous | 96 P.P.M. | 220 P.P.M. |
| Probably Anomalous | 118 P.P.M. | 292 P.P.M. |

RECOMMENDATIONS

It is recommended that this preliminary program be continued to complete the remainder of the area covered by the claim group. The anomalous condition obtained in R 85 near the eastern boundary of Marge 5 should be investigated.

APPENDIX A

References

COST OF SURVEY

Period: October (20 - 28) 1972

Personnel: D. Blanchat Field crew
P. Wallace Field crew
J. Poloni Supervision

Costs:

| | |
|--------------------------------|---------------|
| Assays | \$ 247.75 |
| Auto 8 days @ \$7.00 | 56.00 |
| Mileage @ \$.07 | 50.00 |
| Meals, food supplies | 110.00 |
| Skye Blue Lodge | 178.00 |
| Wages (2 men, 8 days @ \$90.00 | 720.00 |
| Supervision and Report | <u>400.00</u> |
| Total Cost | \$1,761.75 |

John R. Poloni

John R. Poloni,
B. Sc., P. Eng.

Declared before me at the *City*
of *Nanaimo*, in the
Province of British Columbia, this *8*
day of *Dec* 1972, A.D.

[Signature]

[Signature]

A Commissioner for taking Affidavits within British Columbia or
A Notary Public

Sub-mining Recorder

REFERENCES

1. Cockfield, W.E. (1961) G.S.C. Memoir 249, Geology and Mineral Deposits of the Nicola Map Area, British Columbia.
2. Rice, H.M.A. (1960) G.S.C. Memoir 243, Geology and Mineral Deposits of the Princeton Map Area, British Columbia.
3. Geology Exploration and Mining in British Columbia 1969, 1970. British Columbia Department of Mines and Petroleum Resources.

APPENDIX B

Writer's Certificate

CERTIFICATE

I, John R. Poloni, of 5502 - 8B Avenue, in Delta,
in the Province of British Columbia

DO HEREBY CERTIFY THAT:

1. I am a Consulting Geologist.
2. I am a graduate of McGill University of Montreal, Quebec, where I obtained a B. Sc. degree in Geology in 1964.
3. I am a registered Professional Engineer in the Geological Section of the Association of Professional Engineers of the Province of British Columbia.
4. I have practiced my profession since 1964.
5. I am a Fellow of the Geological Association of Canada and a member of the Canadian Institute of Mining and Metallurgy.
6. I am a member of the Association of Geologists of Quebec.
7. I have supervised the geochemical program reported on in this report.

CERTIFICATE con't.

8. I have no interest in the properties or securities of Highland Mercury Mines Ltd., nor do I expect to receive or acquire any.

Dated this 15th Day of November 1972.

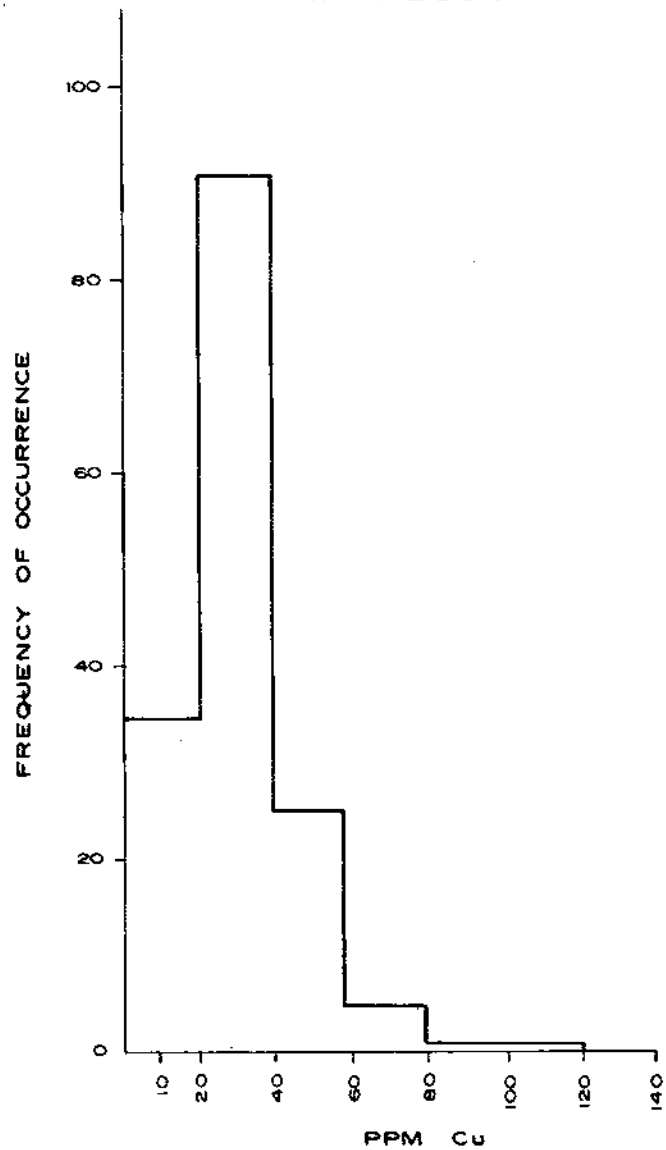
A handwritten signature in cursive script that reads "John R. Poloni". The signature is written in dark ink and is positioned to the right of the typed name.

John R. Poloni,
B. Sc., P. Eng.

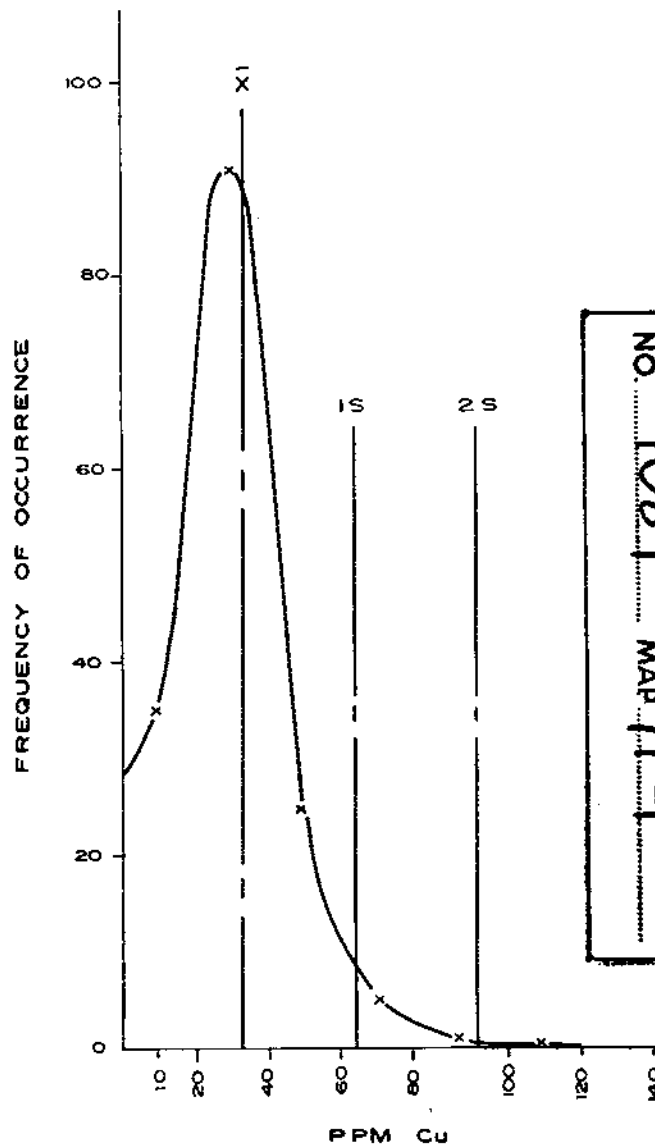
APPENDIX C

Geochemical Data

HISTOGRAM OF COPPER
PPM FREQUENCY



CURVE FITTED TO % FREQUENCY



Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 4089 MAP #4

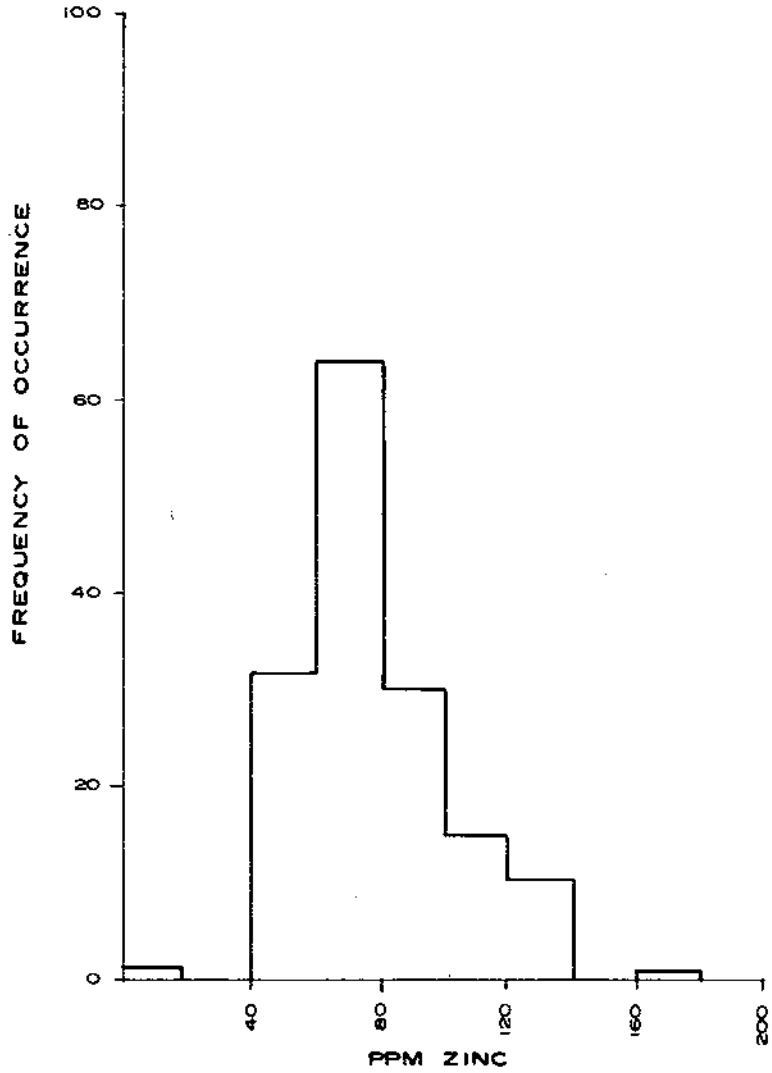
John R. Poloni

FIG. 4

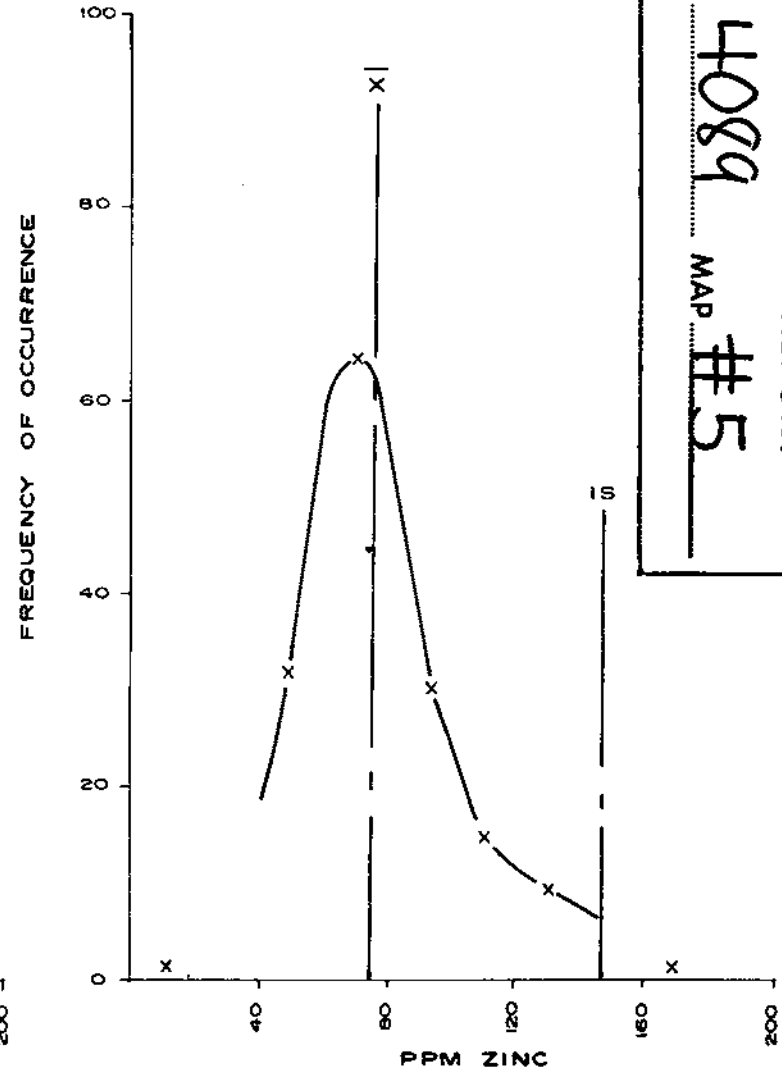
MARGE CLAIMS

JOHN R. POLONI, B.Sc., P.Eng.

HISTOGRAM OF ZINC
PPM FREQUENCY



CURVE FITTED TO % FREQUENCY



Presentation of
Mine and Millium Resources
ASSESSMENT REPORT
 NO. **4089** MAP # **5**

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FIG. 5

MARGE CLAIMS

JOHN R. POLONI, B. Sc., P. Eng.

CREST LABORATORIES (B.C.) LTD.B.C. REGISTERED ASSAYERS
GEOCHEMISTS1068 HOMER STREET,
VANCOUVER 3, B.C.

November 9, 1972

Mr. John Poloni,
5502 8B Avenue,
DELTA, B.C.Lab 951GGeochemical analysis for molybdenum, copper and zinc

Mesh Size:

- 80

Analytical Method:

Atomic Absorption

Digestion Method:

 $\text{HClO}_4 + \text{HNO}_3$

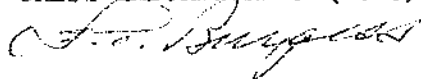
| Sample Marked: | Moly ppm | Copper ppm | Zinc ppm | Sample Marked: | Moly ppm | Copper ppm | Zinc ppm |
|----------------|-------------|---------------|-------------|----------------|-------------|---------------|-------------|
| R 1 | -2 | 30 | 90 | R 26 | -2 | 38 | 135 |
| 2 | -2 | 36 | 88 | 27 | -2 | 34 | 120 |
| 3 | -2 | 20 | 72 | 28 | -2 | 20 | 47 |
| 4 | -2 | 20 | 83 | 29 | -2 | 28 | 75 |
| 5 | -2 | 19 | 70 | 30 | -2 | 20 | 95 |
| 6 | -2 | 17 | 90 | 31 | -2 | 34 | 65 |
| 7 | -2 | 42 | 83 | 32 | -2 | 18 | 60 |
| 8 | -2 | 22 | 125 | 33 | -2 | 18 | 68 |
| 9 | -2 | 22 | 95 | 34 | -2 | 26 | 60 |
| 10 | -2 | 26 | 100 | 35 | -2 | 22 | 55 |
| 11 | -2 | 24 | 95 | 36 | -2 | 28 | 70 |
| 12 | -2 | 26 | 75 | 37 | -2 | 20 | 75 |
| 13 | -2 | 30 | 67 | 38 | -2 | 12 | 65 |
| 14 | -2 | 18 | 90 | 39 | -2 | 15 | 17 |
| 15 | -2 | 22 | 70 | 40 | -2 | 38 | 60 |
| 16 | -2 | 28 | 75 | 41 | -2 | 28 | 42 |
| 17 | -2 | 32 | 72 | 42 | -2 | 32 | 42 |
| 18 | -2 | 28 | 170 | 43 | -2 | 32 | 85 |
| 19 | -2 | 25 | 80 | 44 | -2 | 12 | 20 |
| 20 | -2 | 26 | 70 | 45 | -2 | 22 | 62 |
| 21 | -2 | 32 | 80 | 46 | -2 | 16 | 72 |
| 22 | -2 | 18 | 63 | 47 | -2 | 16 | 70 |
| 23 | -2 | 20 | 75 | 48 | -2 | 15 | 80 |
| 24 | -2 | 28 | 60 | 49 | -2 | 18 | 75 |
| R 25 | -2 | 26 | 57 | R 50 | -2 | 20 | 80 |

| Sample Marked: | | Moly ppm | Copper ppm | Zinc ppm | Sample Marked: | | Moly ppm | Copper ppm | Zinc ppm |
|----------------|----|-------------|---------------|-------------|----------------|-----|-------------|---------------|-------------|
| R | 51 | -2 | 22 | 60 | R | 89 | -2 | 42 | 125 |
| | 52 | -2 | 24 | 90 | | 90 | -2 | 48 | 130 |
| | 53 | -2 | 14 | 110 | | 91 | -2 | 32 | 90 |
| | 54 | -2 | 13 | 65 | | 92 | -2 | 50 | 70 |
| | 55 | -2 | 12 | 68 | | 93 | -2 | 46 | 75 |
| | 56 | -2 | 19 | 75 | | 94 | -2 | 36 | 65 |
| | 57 | -2 | 20 | 75 | | 95 | -2 | 52 | 60 |
| | 58 | -2 | 21 | 85 | | 96 | -2 | 28 | 55 |
| | 59 | -2 | 42 | 65 | | 97 | -2 | 29 | 60 |
| | 60 | -2 | 23 | 45 | | 98 | -2 | 21 | 58 |
| | 61 | -2 | 30 | 125 | | 99 | -2 | 20 | 65 |
| | 62 | -2 | 16 | 105 | | 100 | -2 | 28 | 85 |
| | 63 | -2 | 28 | 120 | | 101 | -2 | 24 | 80 |
| | 64 | -2 | 30 | 55 | | 102 | -2 | 20 | 115 |
| | 65 | -2 | 52 | 65 | | 103 | -2 | 20 | 80 |
| | 66 | -2 | 42 | 55 | | 104 | -2 | 24 | 75 |
| | 67 | -2 | 22 | 65 | | 105 | -2 | 14 | 70 |
| | 68 | -2 | 22 | 75 | | 106 | -2 | 30 | 85 |
| | 69 | -2 | 24 | 55 | | 107 | -2 | 26 | 90 |
| | 70 | -2 | 22 | 65 | | 108 | -2 | 40 | 80 |
| | 71 | -2 | 23 | 60 | | 109 | -2 | 34 | 70 |
| | 72 | -2 | 34 | 63 | | 110 | -2 | 54 | 73 |
| | 73 | -2 | 36 | 85 | | 111 | -2 | 24 | 68 |
| | 74 | -2 | 34 | 65 | | 112 | -2 | 16 | 60 |
| | 75 | -2 | 58 | 70 | | 113 | -2 | 32 | 70 |
| | 76 | -2 | 30 | 90 | | 114 | -2 | 22 | 65 |
| | 77 | -2 | 40 | 135 | | 115 | -2 | 32 | 85 |
| | 78 | -2 | 42 | 130 | | 116 | -2 | 22 | 80 |
| | 79 | -2 | 66 | 115 | | 117 | -2 | 32 | 70 |
| | 80 | -2 | 50 | 110 | | 118 | -2 | 36 | 65 |
| | 81 | -2 | 52 | 120 | | 119 | -2 | 48 | 80 |
| | 82 | -2 | 38 | 95 | | 120 | -2 | 24 | 70 |
| | 83 | -2 | 38 | 105 | | 121 | -2 | 32 | 77 |
| | 84 | -2 | 48 | 110 | | 122 | -2 | 28 | 65 |
| | 85 | 8 | 110 | 180 | | 123 | -2 | 42 | 75 |
| | 86 | 2 | 42 | 140 | | 124 | -2 | 36 | 83 |
| | 87 | -2 | 56 | 115 | | 125 | -2 | 66 | 65 |
| R | 88 | -2 | 66 | 55 | R | 126 | -2 | 40 | 115 |

| Sample Marked: | Moly ppm | Copper ppm | Zinc ppm |
|----------------|-------------|---------------|-------------|
| R 127 | -2 | 86 | 100 |
| 128 | -2 | 40 | 130 |
| 129 | -2 | 30 | 68 |
| 130 | -2 | 54 | 115 |
| 131 | -2 | 46 | 90 |
| 132 | -2 | 58 | 88 |
| 133 | -2 | 68 | 140 |
| 134 | -2 | 60 | 110 |
| 135 | -2 | 42 | 85 |
| 136 | -2 | 60 | 52 |
| 137 | -2 | 38 | 88 |
| 138 | -2 | 30 | 70 |
| 139 | -2 | 28 | 55 |
| 140 | -2 | 30 | 70 |
| 141 | -2 | 36 | 60 |
| 142 | -2 | 40 | 100 |
| 143 | -2 | 38 | 105 |
| 144 | -2 | 28 | 95 |
| 145 | -2 | 30 | 58 |
| 146 | -2 | 26 | 55 |
| 147 | -2 | 28 | 110 |
| 148 | -2 | 34 | 70 |
| 149 | -2 | 38 | 55 |
| 150 | -2 | 22 | 60 |
| 151 | -2 | 12 | 80 |
| 152 | -2 | 14 | 55 |
| 153 | -2 | 22 | 48 |
| 154 | -2 | 28 | 60 |
| 155 | -2 | 18 | 60 |
| 156 | -2 | 24 | 60 |
| R 157 | -2 | 40 | 85 |

Yours truly,

CREST LABORATORIES (B.C.) LTD.,



F.C. Burgess

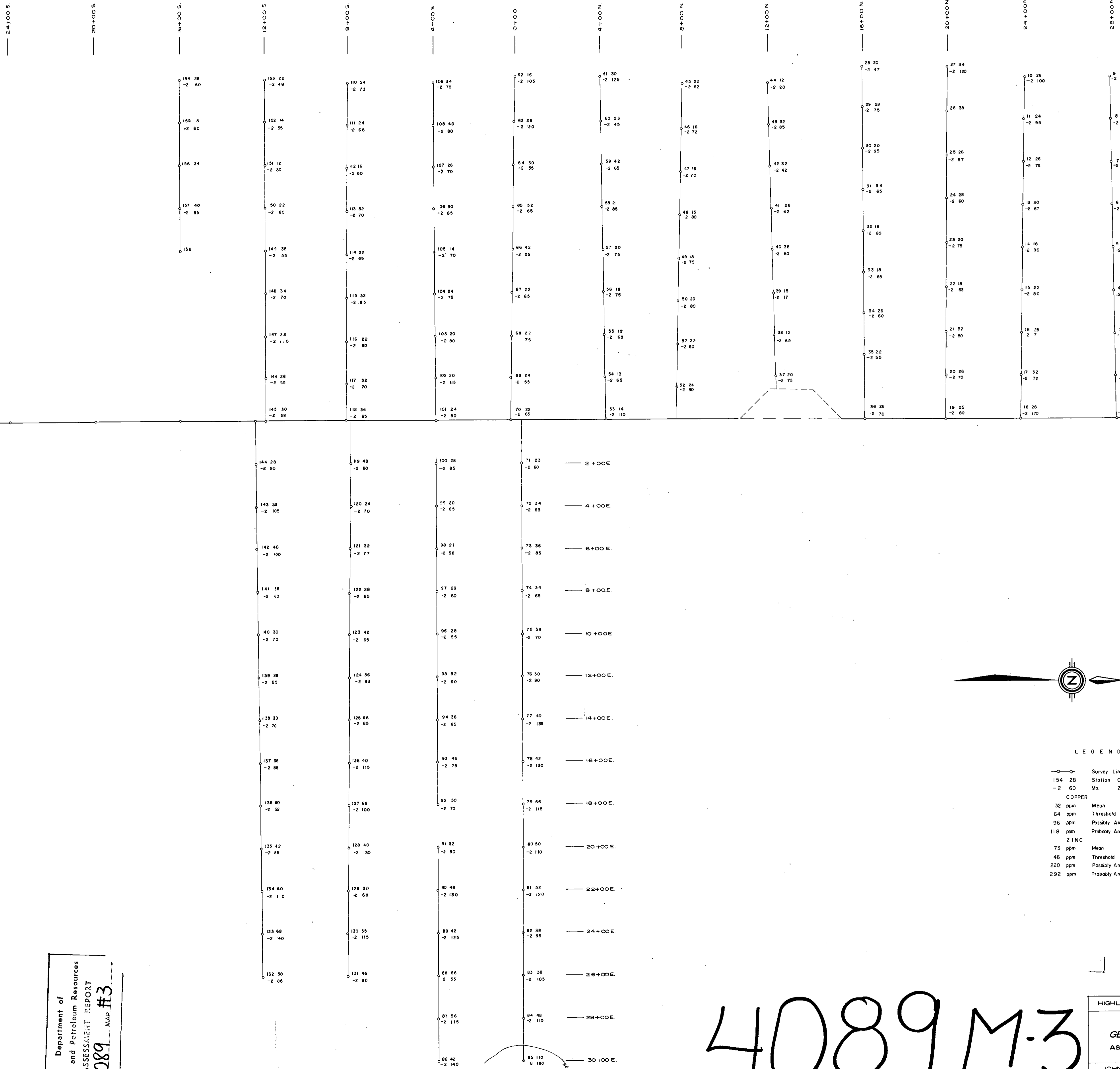
Chief Assayer

APPENDIX D

(In Pocket)

General Compilation Plan

Geochemical Plan



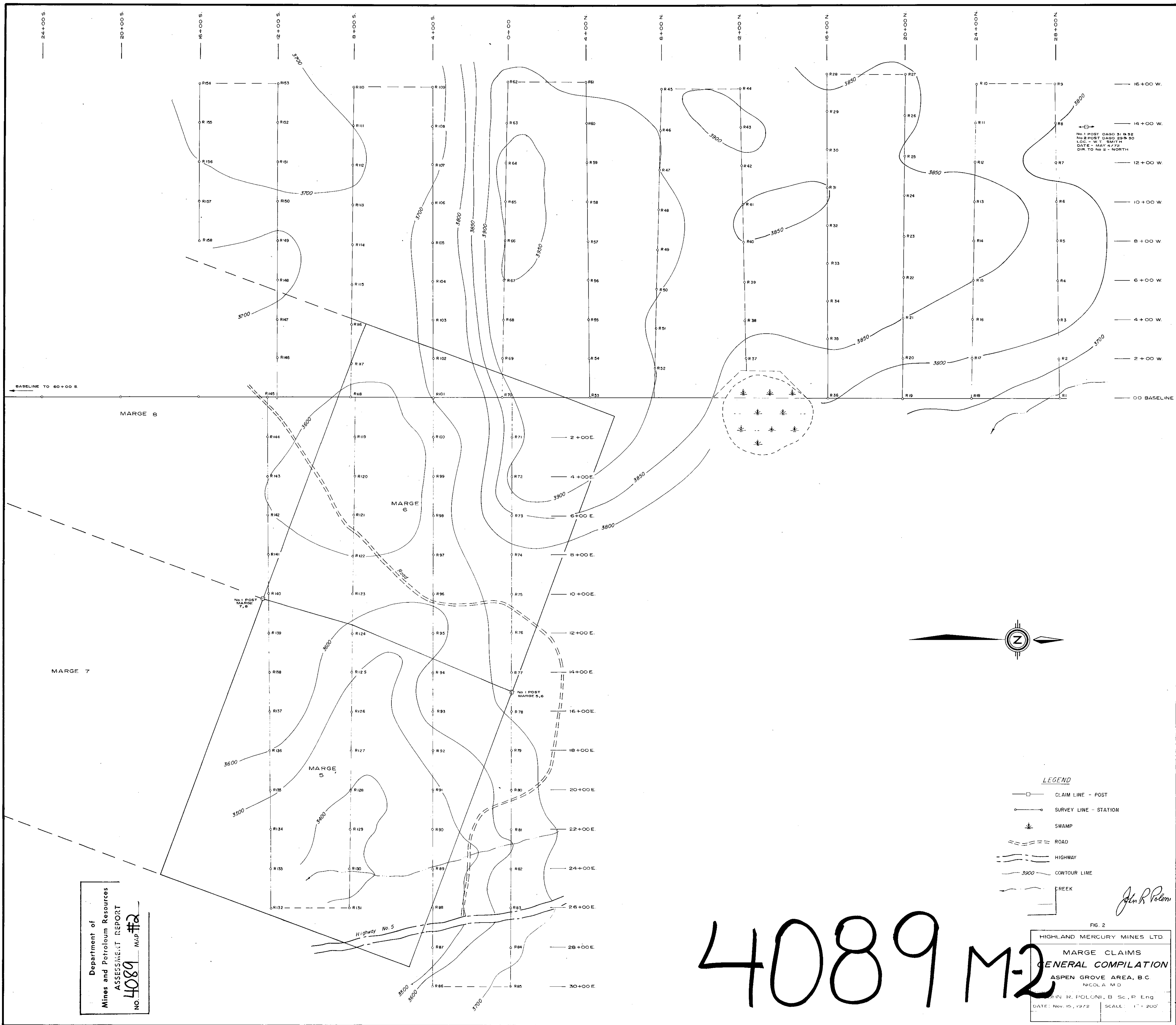
LEGEND

- Survey Line Station
- 154 28 Station Cu ppm
- 2 60 Mo Zn ppm
- COPPER
- 32 ppm Mean
- 64 ppm Threshold
- 96 ppm Possibly Anomalous
- 118 ppm Probably Anomalous
- ZINC
- 73 ppm Mean
- 46 ppm Threshold
- 220 ppm Possibly Anomalous
- 292 ppm Probably Anomalous

Department of
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ASSESSMENT REPORT
NO. 4089 MAP #3

4089 M-3

FIG. 3
HIGHLAND MERCURY MINES LTD.
MARGE CLAIMS
GEOCHEMICAL PLAN
ASPEN GROVE AREA, B.C.
NICOLA M.D.
JOHN R. POLONI, B. Sc., P. Eng.
DATE: Nov. 15, 1972 SCALE: 1" = 200'



No. 1 POST DAGO S 1 B 33
 No. 2 POST DAGO 29 B 30
 LOC. - W. T. SMITH
 DATE - MAY 4/72
 DIR. TO No 2 - NORTH

BASELINE TO 60+00 S.

MARGE 8

MARGE 6

MARGE 7

MARGE 5

No. 1 POST MARGE 7, 8

No. 1 POST MARGE 5, 6

Highway No. 5



LEGEND

- CLAIM LINE - POST
- SURVEY LINE - STATION
- *— SWAMP
- — — ROAD
- — — HIGHWAY
- 300 — CONTOUR LINE
- — — CREEK

John R. Poloni

FIG. 2

HIGHLAND MERCURY MINES LTD.
 MARGE CLAIMS
 GENERAL COMPILATION
 ASPEN GROVE AREA, B.C.
 NICOLA M.D.
 JOHN R. POLONI, B.Sc., P. Eng.
 DATE: Nov. 15, 1972 SCALE: 1" = 200'

40889 M-2

Department of
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 No. 4089 MAP #2