

D. L. COOKE AND ASSOCIATES LTD.  
MINERAL EXPLORATION CONSULTANTS

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16331 BELL ROAD  
SURREY, B. C.,  
CANADA

# 4582

GEOCHEMICAL REPORT  
ON THE NORTH AND NORTHWEST PARTS  
OF THE RINGO CLAIM GROUP  
FIFTEEN MILES S.E. OF SUSTUT LAKE  
OMINECA MINING DIVISION, 56° 126° SE.

for

STELLAC EXPLORATION LTD.  
GERMANSEN LANDING, B.C.

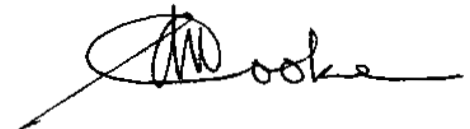
by

D. L. Cooke, Ph. D., P. Eng.  
CONSULTING GEOLOGIST

Department of Mines and Petroleum Resources ASSESSMENT REPORT NO. <b>4582</b> M.P.
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September 12, 1973

Mining Recorder's Office RECORDED SEP 17 1973 AT..... SMITHERS, B.C.
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GEOCHEMICAL REPORT  
 ON THE NORTH AND NORTHWEST PARTS  
 OF THE RINGO CLAIM GROUP  
 FIFTEEN MILES SE. OF SUSTUT LAKE  
ONINECA MINING DIVISION, 56° 126° SE.

The located claims on which assessment credits are requested are as follows:

<u>Name of Claim</u>	<u>Credit Requested</u>
Ringo #1 - 12 inclusive	1 year each
Ringo #13 - 15 "	1 year each
Ringo #23 & 24 Frs.	1 year each
Tumble #3 & 4	<u>1 year each</u>
Total	<u>19 years</u>

The soil sampling survey was done on the Ringo Claim Group from August 7 to 13, 1973. This work was performed by Douglas Stelling and Bud Aleric of Germansen Landing, B.C. The geochemical analysis was done by Douglas Stelling.

Total expenditures on the Ringo Claim Group amount to \$1,919.00, and the assessment credits which are requested total \$1,900.00.

The geochemical survey is interpreted and reported on by D. L. Cooke, Ph.D., P.Eng., Consulting Geologist.

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APPENDICES:

Appendix A - Statement of Expenditures.

Appendix B - Statutory Declaration in Support of Expenditures.

Appendix C - Certificate.

#1 Appendix D - Figure 1: Claim Location, Ringo Claim Group,  
1" = 4,500 ft. (approx.).

#2 Figure 2: Molybdenum Geochemistry, BL Series, Ringo  
Claim Group, 1" = 400 ft.

#3 Figure 3: Molybdenum Geochemistry, M. Series, Ringo  
Claim Group, 1" = 200 ft.

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CONCLUSIONS

1. The anomalous soils which occur on the Tumble and on the Norlen claims indicate that further exploratory work is warranted on the Ringo Claim Group.
2. The molybdenum anomalies on the Tumble claims may be derived from underlying mineralized bedrock, or transported from the mineralized source on the Ringo #6 claim.
3. The molybdenum anomalies on the Norlen claims appear to be derived from a mineralized source beneath the overburden.
4. Further work should be directed towards determining the source and tenor of the underlying mineralization on these claims.

RECOMMENDATIONS

A programme of trenching, blasting and bedrock sampling is recommended in the anomalous areas which contain more than 15 ppm. molybdenum. Additional soil sampling should also be done to determine the limits of the anomalous zones which are only partially defined. Pack-sack drilling may be considered as an alternative to trenching in areas where overburden depth is excessive.

### INTRODUCTION

This geochemical report describes the results of a soil survey which was done on the Ringo Claim Group during the period August 7 to August 13, 1973. The survey was confined to the Tumble and Norlen claims which are located at the northwestern and western sections respectively, of the claim group (Figure 1). The areas surveyed were done as extensions of the zones previously soil-sampled and reported on in two earlier reports (Cooke, 1972a, 1972b).

The field work was carried out by Douglas Stelling and Bud Aleric of Germansen Landing, B.C. The soil samples were prepared and analysed by Douglas Stelling, who provided the writer with the results in map form (Figures 2 and 3).

This report was prepared at the request of Mr. Stelling on behalf of Stellac Exploration Ltd. The interpretation of these results, and the conclusions and recommendations expressed herein, are the responsibility solely of the writer.

### PROPERTY AND OWNERSHIP

The Ringo Claim Group consists of the following thirty two contiguous claims, recorded in the name of Douglas Stelling of Germansen Landing, B.C.

<u>Name of Claim</u>	<u>Record No.</u>
Ringo #1 - 12 inclusive	102393 - 102404
Ringo #13 & 15	104153 & 104155
Ringo #17 - 22 inclusive	115647 - 115652
Ringo #23 & 24 Frs.	115653 & 115654
Norlen #7 - 14 inclusive	104157 - 104164
Tumble #3 & 4	102073 & 102074

LOCATION AND ACCESS

Latitude: 56° 24' N.

Longitude: 126° 07' W.

Elevation: 5,000' - 7,500'

Mining Division: Omineca

NTS: 94D/8

The Ringo Claim Group is located 12 miles west of Aiken Lake and 15 miles southeast of Sustut Lake, at the head of Dortatelle and Kliyul Creeks. Access is partly by road as far as Aiken Lake via Germansen Landing, and then by helicopter west from Aiken Lake. The showings occur above timberline and are shown as MoS<sub>2</sub> prospects on Map 962A of the McConnell Creek Area (Lord, 1948).

PREVIOUS WORK

No work is known to be recorded prior to 1972 for the ground now covered by the Ringo Group. The claims were staked in 1971 and the first geological and geochemical survey was done in September of the same year. Further soil sampling and mapping was carried out during August and September 1972. The writer was directly involved with the planning and execution of the two earliest surveys. The results of these surveys appear in two previous reports (Cooke, 1972a and 1972b).

The early surveys indicated the presence of anomalous amounts of copper and molybdenum in some of the soil samples taken on the Ringo #1, 3 and 5 claims. Molybdenum anomalies were also indicated on the Ringo #19 and 20, and on the Norlen #10 and 12 claims. Additional soil sampling was recommended to fully define the anomalies which were then only partially outlined.

### GEOLOGY

The claims are located over the contact area along the northern margin of the Hogem batholith. A small ultrabasic intrusion and Takla rocks underlie the eastern portion of the property (Cooke, 1972a). The western section is underlain by Takla volcanic rocks in contact with acid phases of the Hogem batholith (Roots, 1954). This western section is substantially covered by glacial debris and unconsolidated material (Stelling, Personal Communication).

The Takla formations in the area consist mainly of foliated intermediate flows and tuffs, interbedded with minor amounts of calcareous fragmental and clastic sedimentary rocks. The Hogem batholith, in this area, is essentially a coarse grained granite. Within the contact areas, both volcanic and intrusive rocks are cut by pegmatite and splite dikes, and quartz veins.

### MINERALIZATION

Coarse molybdenite rosetts occur in felsite dikes and calcareous amphibolite patches along the contacts of the ultrabasic intrusion in the eastern section of the property. Fine grained molybdenite has also been found in felsite and quartz float on the Norlan claims (Figure 3), in the western part of the property. Minor amounts of pyrite and chalcopyrite also are found within quartz veins which occur in the Takla sequence of rocks.

### GEOCHEMISTRY

The soil cover on the western and northern portions of the property, in the vicinity of the Norlen and Tumble claims, is better developed than on the Ringo #1 - 12 claims. These peripheral areas are covered by moss, shrubs, and small evergreen trees.

#### Soil Sampling

The soil samples were collected on a 200' grid, and a total of 290 samples were taken during this survey. Samples were collected from the B soil horizon, which is developed at a depth of from six to eighteen inches. Each sample was placed in a high wet strength kraft paper bag, and taken for analysis to the laboratory of Steltec Exploration Ltd. at Germansen Landing, B.C.

#### Sample Preparation and Analysis

A sulphuric acid-nitric acid digestion is employed in the analysis for molybdenum. After drying at temperatures below 100° C., the samples are sifted through an 80 mesh stainless steel sieve. A 200 milligram portion of the minus 80 mesh fraction is digested with a sulphuric-nitric acid mixture over low heat for 45 seconds. The digested solution is then extracted into one millilitre of isoamyl alcohol, which forms an immiscible layer. This organic layer is transferred to a test tube containing a buffering solution, stannous chloride and ammonium thiocyanate. The mixture is shaken for ten seconds and the colour of the organic layer is then compared with previously prepared molybdenum standards. The standards range from 0 to 40 ppm, in steps of 5 ppm.



### Discussion of Results

The results for molybdenum are presented in Figures 2 and 3. Frequency distribution analysis of these results indicates a background value of 8 ppm. and anomalous conditions to be in excess of 15 ppm. molybdenum.

The anomaly outlined between the Tumble #3 and Ringo #3 and 5 claims (Figure 2) may be the result of down-slope migration of molybdenum from mineralization which occurs on the Ringo #3, 5 and 6 claims. On the other hand, this anomaly may reflect the presence of underlying mineralization. The source of the anomalies on the Tumble #4 claim and to the west of this claim is not exposed.

The better soil anomalies which are outlined on the Norlen claims (Figure 3), occur in the vicinity of mineralized float material. This suggests that both the float and the soil anomalies are close to, if not directly above, mineralized bedrock. Since in all anomalous instances there are no bedrock exposures, it will be necessary to do some trenching or exploratory drilling to locate and test the source of these anomalies.

### SUMMARY

The Ringo Claim Group covers two molybdenite prospects at the north end of the Hogem batholith, about 12 miles west of Aiken Lake. Previous work consisted of geological mapping and geochemical sampling and analysis for copper, zinc and molybdenum. Recent soil sampling was done in two additional areas, and the samples were analysed for molybdenum using the standard sulphuric-nitric acid extraction and thiocyanate detection method.

The results from this survey indicate the presence of several new anomalous zones. Some of these may in part be due to down-slope migration from areas of known mineralization. Other anomalous zones are believed to be due to underlying or nearby unexposed molybdenite mineralization. Further exploration is warranted and trenching or pack-sack drilling is recommended to further explore the claims.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "D. L. Cooke", written over a horizontal line.

D. L. Cooke, Ph.D., P.Eng.  
Consulting Geologist.

September 12, 1973.

REFERENCES

1. Cooke, D. L., 1972a, Geological and Geochemical Report on the Ringo Claim Group, Omineca M.D., 10 pages.
2. Cooke, D. L., 1972b, Geochemical Report on the Ringo and Norlen Claims, Omineca M.D., 7 pages.
3. Lord, C. S., 1948, McConnell Creek Map-Area, Cassiar District, British Columbia, G.S.C. Mem. 251, 72 pages.
4. Roots, E. F., 1954, Geology and Mineral Deposits of Aiken Lake Map-Area, British Columbia, G.S.C. Mem. 274, 246 pages.
5. Stelling, D., 1973, Geochemical Results, notes and maps, BL and M Series, Ringo Group.

STATEMENT OF EXPENDITURES  
ON THE RINGO CLAIM GROUP  
FIFTEEN MILES SE. OF SUSTUT LAKE  
OMINECA MINING DIVISION, 56° 126° SE.

GEOCHEMISTRYSoil Sampling - August 7 - 13, 1973

D. Stelling, Field Manager, 6 days @ \$60.00	\$360.00	
B. Aleric, Field Assistant, 6 days @ \$40.00	<u>240.00</u>	\$600.00

Analysis

Sample preparation .....	60.00	
Sample analysis: 290 @ \$1.50 ea. ....	<u>435.00</u>	495.00

<u>CAMP AND DOMICILE</u> .....		120.00
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TRANSPORTATION

Fixed wing and Helicopter, Aug 7 & 13, 1973 .....		404.00
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INTERPRETATION AND REPORT

D. L. Cooke, Consulting Geologist, 2 days @ \$150.00		<u>300.00</u>
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TOTAL EXPENDITURES		<u><u>\$1,919.00</u></u>
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September 12, 1973.



STATUTORY DECLARATION IN  
SUPPORT OF EXPENDITURES

CANADA ) IN THE MATTER OF the Statement of  
 ) Expenditures for Geochemical work on  
 Province of British Columbia ) the Ringo Claim Group in the  
 ) Omineca Mining Division.  
 TO WIT )

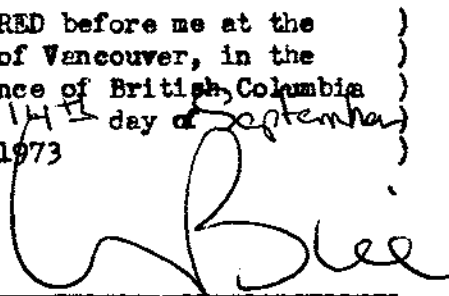
I, DAVID LAWRENCE COOKE, Consulting Geologist of 16331 Bell Road,  
 Surrey, in the Province of British Columbia, DO SOLEMNLY DECLARE:-

1. THAT the Geochemical Investigation of the Ringo Claim Group was undertaken on my recommendations, and I concur with the manner in which the sampling and analyses were done.
2. THAT the Statement of Expenditures set out in Appendix A of my Report "Geochemical Report on the North and Northwest Parts of the Ringo Claim Group", dated September 12, 1973, truly represents the amounts expended on the said claims.

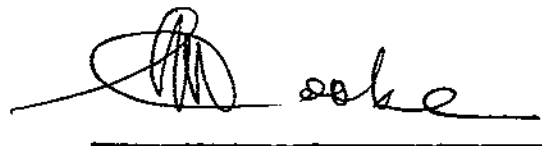
AND

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  
 City of Vancouver, in the  
 Province of British Columbia  
 this 14<sup>th</sup> day of September  
 A.D. 1973



A Commissioner for taking  
 Affidavits for British Columbia.



TELEPHONE:  
BUS. 576-8148  
RES. 576-8170

16331 BELL ROAD  
SURREY, B. C.,  
CANADA

CERTIFICATE

L, DAVID LAWRENCE COOKE, of the Municipality of Surrey, British  
Columbia, Canada,

HEREBY CERTIFY:

1. That I am a Consulting Geologist, residing at 16331 Bell Road,  
Surrey, B.C., with an office at the same address.
2. That I graduated with a B.Sc. degree in Geology from the  
University of New Brunswick in 1959, and obtained my M.A. and  
Ph.D. degrees in geology from the University of Toronto in 1961  
and 1966 respectively.
3. That since graduation I have practised my profession as a  
Geologist in Canada, Mexico and Jamaica.
4. That I am a certified member of the Association of Professional  
Engineers of the Province of British Columbia.
5. That the accompanying report on the Ringo Claim Group was prepared  
by me, and this report is based on personal knowledge of the  
area, and on work and results which I believe to be accurate.

DATED this 12th day of September, 1973, at Surrey, B.C.



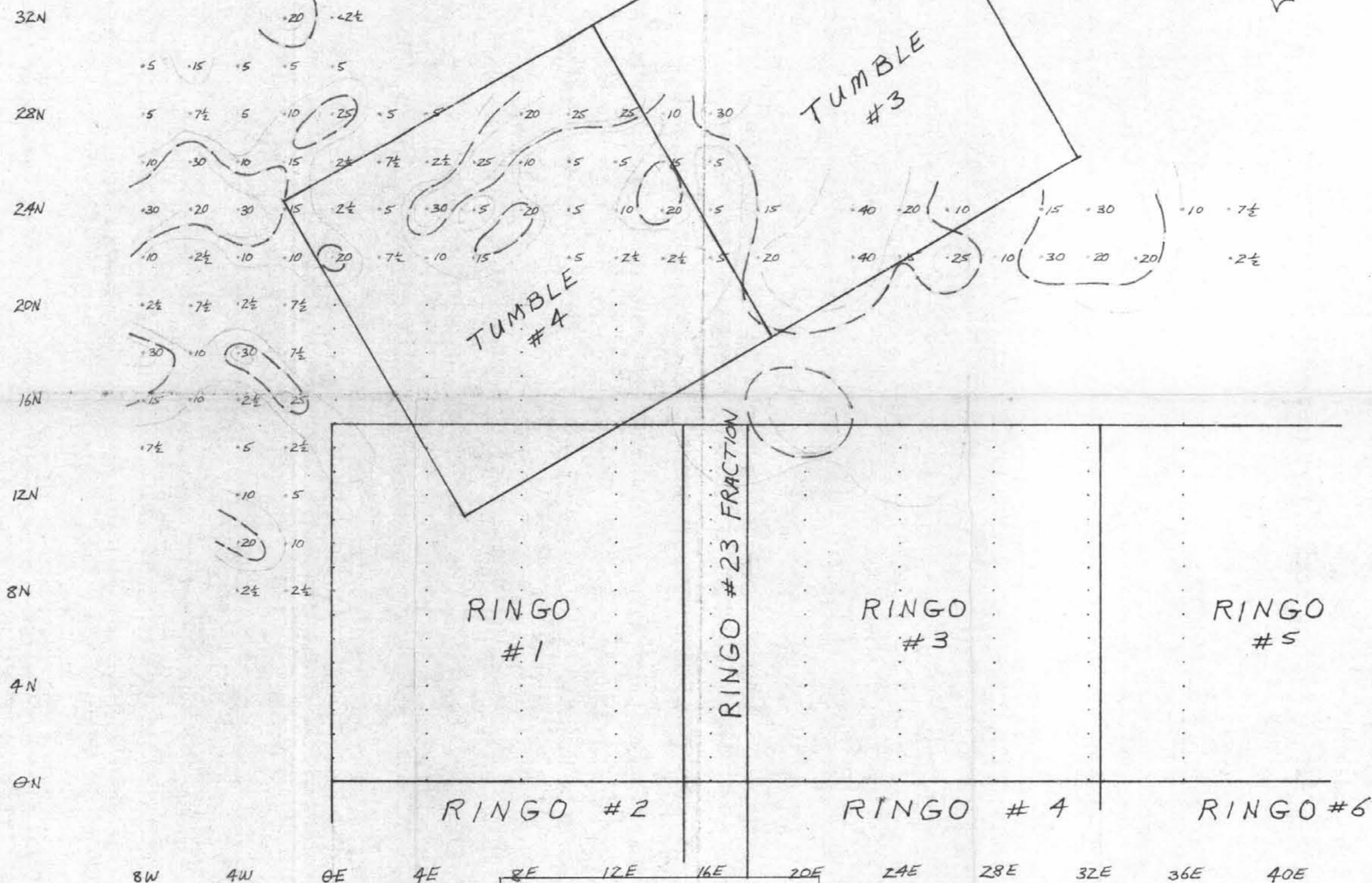
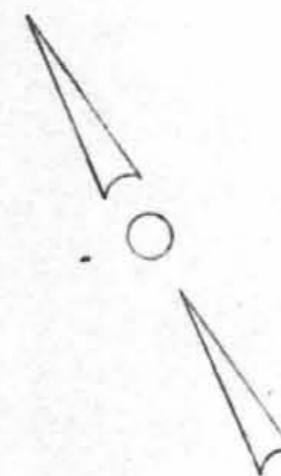
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D. L. Cooke, Ph.D., P.Eng.  
Consulting Geologist.

# MOLYBDENUM GEOCHEMISTRY

B Soil Horizon

— 15 PPM Mo CONTOUR  
 \* 25 SOIL SAMPLE LOCATION AND PPM Mo.



Department of  
 Mines and Petroleum Resources  
 ASSESSMENT REPORT  
 NO. 4582 MAP #2

**4582**  
**M2**

BL SERIES

RINGO CLAIM GROUP

SCALE 1" = 400 FT

OMINECA M.D.

N.T.S. 94D/B

SEPT 12, 1973.

TO ACCOMPANY GEOCHEMICAL REPORT ON THE N & NW PARTS  
 OF THE RINGO CLAIM GROUP, OMINICA M.D., BY D.L. COOKE, PH.D., P.ENG., DATED SEPT. 12, 1973.

FIGURE 2

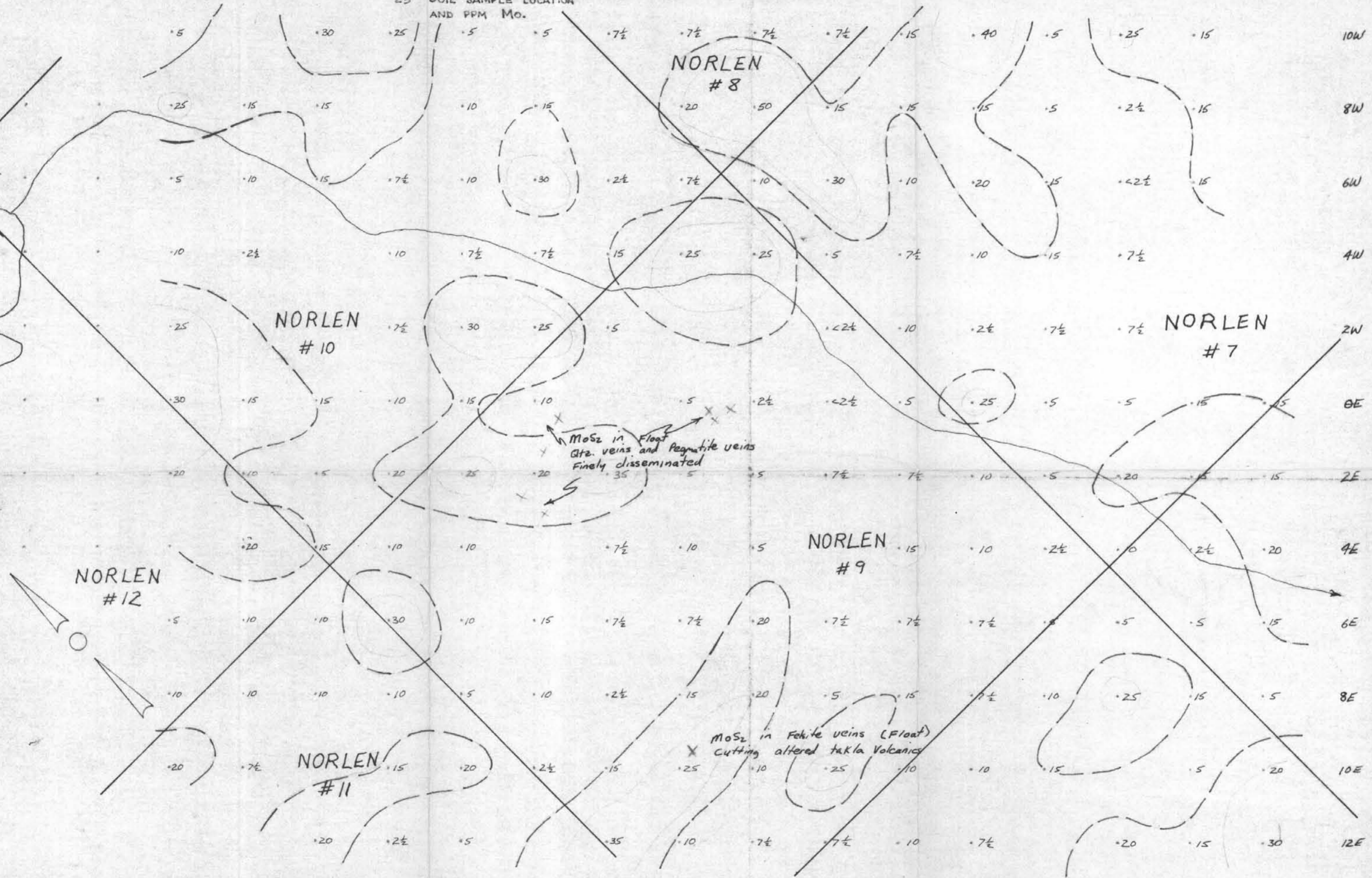
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# MOLYBDENUM GEOCHEMISTRY

B Soil Horizon

15 PPM Mo CONTOUR  
 •25 SOIL SAMPLE LOCATION AND PPM Mo.



Department of  
 Mines and Petroleum Resources  
 ASSESSMENT REPORT  
 NO. 4582 MAP #3

M SERIES

4582  
 RINGO GROUP  
 M3

TO ACCOMPANY GEOCHEMICAL REPORT ON THE N & NW PARTS  
 OF THE RINGO CLAIM GROUP, OMINECA M.D., BY D.L. COOKE, PH.D., P.E.G.  
 SEPT. 12, 1973.

SCALE 1" = 200 FT.

OMINECA M.D. N.T.S. 94D/8 SEPT. 12, 1973. FIGURE 3.