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4273

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

16331 BELL ROAD
SURREY, B. C.,
CANADA

93N/14W

GEOCHEMICAL REPORT

ON THE

JO ANN CLAIMS

FIFTEEN MILES NORTH OF OLD HOGEM

OMINECA MINING DIVISION, 55° 125° NE

for

DOUGLAS STELLING

GERMANSEN LANDING, B.C.

by

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

Consulting Geologist.

April 2, 1973

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 4273 MAP _____

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GEOCHEMICAL REPORT
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JO ANN CLAIMS

FIFTEEN MILES NORTH OF OLD HOGEM
OMINECA MINING DIVISION, 55° 125° N.E.

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

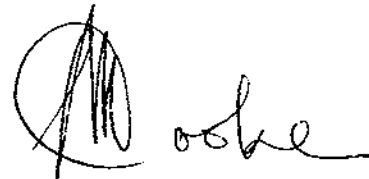
<u>Name of Claim</u>	<u>Credit Requested</u>
Jo Ann #1 - 10 inclusive	1 year each
Jo Ann #18	1 year
Jo Ann #20 - 25 inclusive	1 year each
Jo Ann #26	1 year
Total	18 years

Work was done on the Jo Ann claims during the period May 4, 1972 and October 31, 1972.

The field and laboratory work was performed by Douglas Stelling and Terry O'Connell, Germansen Landing, B.C.

The results are interpreted and reported on by:

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



April 2, 1973.

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SURREY, B. C.,
CANADA

SUMMARY

The Jo Ann claims are located within the Hogem batholith approximately 30 miles west northwest of Germansen Landing, B.C. Access is by way of forty miles of secondary gravel road to within three miles of the property, or by helicopter directly from Germansen Landing.

A programme of soil sampling on a 400 ft. x 200 ft. grid was undertaken in 1972. Analyses were done for copper and zinc. The results outline large anomalous areas which exceed 110 ppm. copper. The most attractive anomaly contains a zone of +200 ppm. copper, measuring 1,200 ft. x 2,600 ft.

The Jo Ann claims lie within the syenite complex of the Hogem intrusions. This complex contains significant amounts of copper mineralization elsewhere in the vicinity. A similar type of mineralization is believed to occur on the Jo Ann claims.

INTRODUCTION

This report describes the results of a soil survey which was done on the Jo Ann claims during the summer of 1972. The work was undertaken on the recommendations of the writer, and it was carried out by Douglas Stelling and an assistant, Terry O'Connell. The soil samples were prepared and analysed by Douglas Stelling in a geochemical laboratory at Germansen Landing.

The writer was presented with the results and sample locations for interpretation. These geochemical results are shown on the accompanying map (Figure 1).

As a result of the geochemical work completed during the period, it is requested that assessment credits be applied to the Jo Ann claim group as follows:

<u>Name of Claims</u>	<u>Record Numbers</u>	<u>Date Recorded</u>	<u>Credits Requested</u>
Jo Ann #1 - 10	111062 - 111071	May 4, 1972	1 year each
Jo Ann #18	111079	May 4, 1972	1 year
Jo Ann #20 - 25	111081 - 111086	May 4, 1972	1 year each
Jo Ann #26	111087	May 4, 1972	<u>1 year</u>
		TOTAL	<u>18 years</u>

The value of assessment work done on the Jo Ann claims since May 4, 1972 amounts to \$1,375.00, and the assessment credits requested are valued at \$1,800.00.

PROPERTY AND OWNERSHIP

The twenty-six Jo Ann claims were staked and recorded in the name of Douglas Stelling of Germansen Landing, B.C. As some of the claims appear to have been inadvertently overstaked on others in the area, only the following are believed to be valid:

<u>Name of Claim</u>	<u>Record Number</u>
Jo Ann #1 - 10	111062 - 111071
Jo Ann #18	111079
Jo Ann #20 - 25	111081 - 111086
Jo Ann #26	111087

The claims have not been surveyed.

LOCATION AND ACCESS

Latitude: 55° 33' N.

Longitude: 125° 29' W.

Elevation: 3,000 ft. - 4,000 ft.

Mining Division: Omineca

The claims are located fifteen miles north of Old Hogem. A secondary gravel road from Germansen Landing comes to within three miles of the claims, and terminates at Kennco's Lorraine deposit to the southeast.

GENERAL GEOLOGY

No previous work is evident on the ground covered by these claims, and no geological mapping is recorded. However, the claims lie within the syenite complex of the Hogem batholith (Garnett, 1972). The claims may also be in part underlain by hybrid monzonite and foliated phases as it lies along the strike of these units and about halfway between the Lorraine and Tam properties.

The mineralization on these properties consists of chalcopyrite, bornite, and pyrite, which occur as disseminations and fracture fillings.

GEOCHEMISTRY

The area is covered by timber, and there is uniform development of soil horizons. Approximately 300 samples were therefore collected during the survey.

values exceed -110 ppm. copper. The reason for a second frequency distribution peak at 150 ppm. is not fully understood. The amounts of zinc in the soils appear lower than the amounts of copper. However, there ~~are~~ also seems to be a general correlation between anomalous copper and anomalous zinc (+30 ppm.).

An examination of Figure 1 shows that there are large areas in which the soils are anomalous (+110 ppm. Cu). Within these broad areas there is a zone of +200 ppm. copper which measures 1,200 ft. x 2,600 ft.

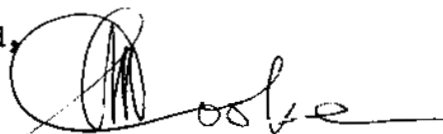
CONCLUSIONS

The results of the geochemical soil survey suggest the presence of copper mineralization in the intrusive rocks underlying the Jo Ann claims. It is believed that significant amounts of copper sulphides occur below the areas which contain more than 200 ppm. copper in the soils. Further exploratory work is warranted on these claims.

RECOMMENDATIONS

1. The next stage of exploration proposed should consist of bulldozer trenching to uncover the bedrock source of the copper anomalies.
2. Geological mapping is also recommended in conjunction with this trenching.
3. An induced polarization survey is optional at this time, but would help in defining targets for drilling.

Respectfully submitted,



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

April 2, 1973.

REFERENCES

1. Garnett, J.A., 1972, Preliminary Geological Map of Part of the
Hogem Batholith, Duckling Creek Area, B.C.Dept. Mines,
Map No.9.
2. Stelling, D., 1972, Geochemical Results, Field Notes and Maps,
Jo Ann Claims.

STATEMENT OF EXPENDITURES

ON THE

JO ANN CLAIMS

FIFTEEN MILES NORTH OF OLD HOGEM

OMINECA MINING DIVISION, 55° 125° NEGEOCHEMISTRYSample Collection - October 4 - 6, 1972

Douglas Stelling - Field Operator

B. O'Connell and Brian Fletcher - Field Assistants

Collection of Samples \$480.00

Sample Preparation - November 18 - 26, 1972

Douglas Stelling - Laboratory Operator

G. Brovchenko and Dennis Jones - Laboratory Assistants

Preparation - 300 samples \$60.00

Analyses - 300 Cu @ \$1.00 ea..... \$300.00

Analyses - 300 Zn @ .50¢ ea..... \$150.00 \$510.00CAMP \$120.00TRANSPORTATION

Helicopter \$390.00

INTERPRETATION AND REPORT

D. L. Cooke, Consulting Geologist

March 29 - 31, 1973. 3 days @ \$125.00/day \$375.00TOTAL EXPENDITURES \$1,875.00

May 4, 1972 to

March 31, 1973.

April 2, 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 Jo Ann Mineral Claims in the
) Omineca Mining Division.
TO WIT)

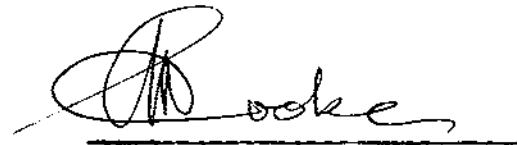
I, DAVID LAWRENCE COOKE, Consulting Geologist of 16331 Bell Road,
Surrey, in the Province of British Columbia, DO SOLEMNLY DECLARE:-


1. THAT the Geochemical Investigation of the Jo Ann claims was recommended by me, and I concur with the manner in which the soil sampling and analyses were done.
2. THAT the Statement of Expenditures set out in Appendix A of my report "Geochemical Report on the Jo Ann Claims", dated April 2, 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 27th day of)
A.D. 1973.)




A Commissioner for taking
Affidavits for British Columbia.

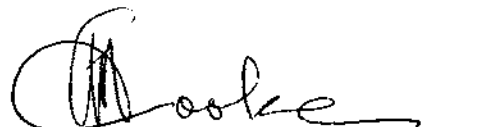
C E R T I F I C A T E

I, 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 a M.A. and Ph.D. degree 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 Jo Ann claims 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 2nd day of April, 1973, at Surrey, B.C.



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

JO ANN GROUP SOIL SAMPLE SURVEY

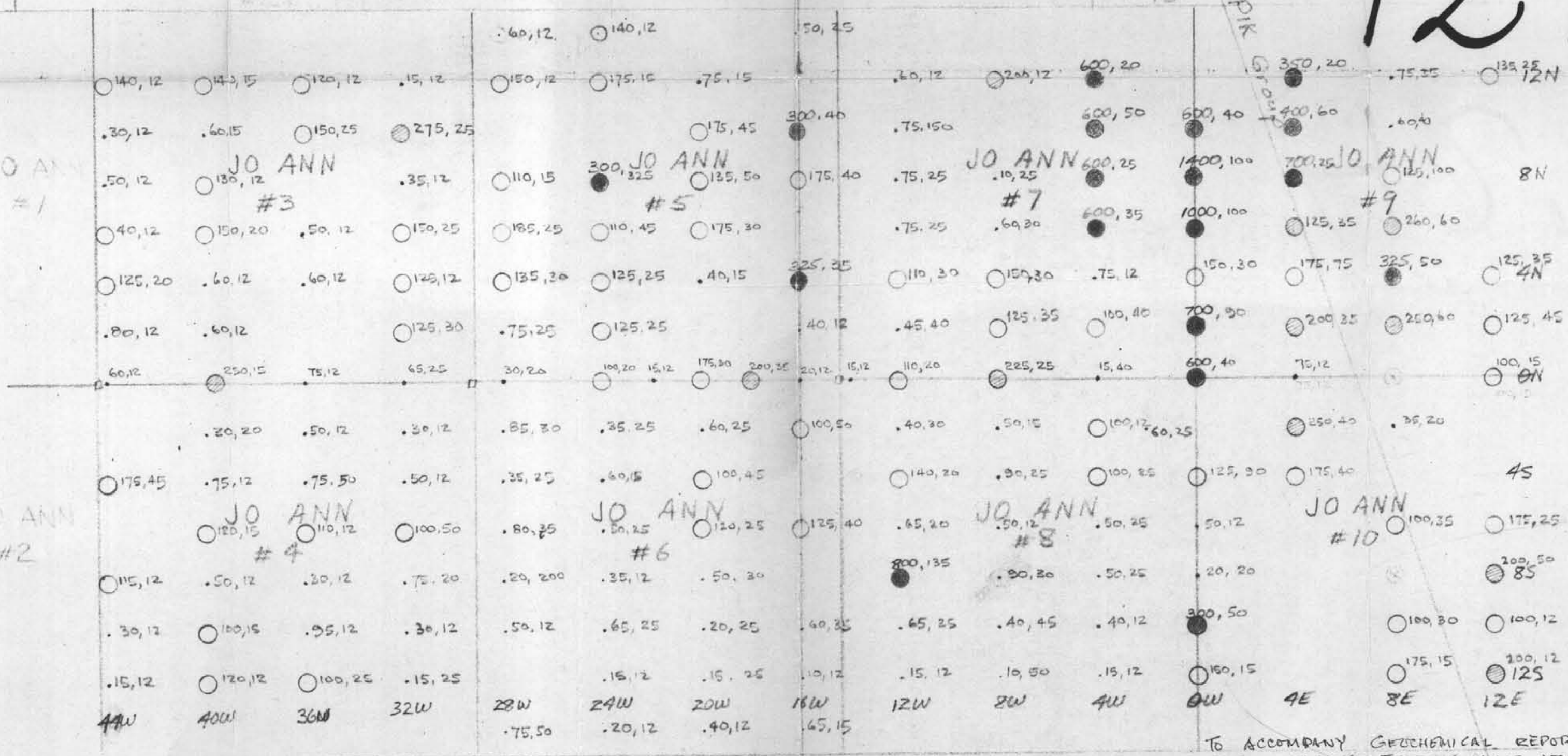
Samples were taken on a grid pattern of 200 feet by 400 feet using the claim lines as controlled center lines. The claim lines were controlled by chain and compass. The sample collection lines which were perpendicular to the claim lines, were controlled by pace and compass, with the sample sites marked appropriately with red flagging tape.

All samples were taken from the B Soil horizon which was relatively well developed from 8 inches to 24 inches below the surface. The -80 mesh portion was analyzed for Copper and Zinc, using the bisulfate fusion method of digestion and then standard colorimetric methods of detection.

JO ANN #26

JO ANN #1

JO ANN #2



LEGEND

- ≥ 300 PPM Cu
- 200 - < 300 PPM Cu
- 100 - < 200 PPM Cu
- < 100 PPM Cu

Scale: 1" = 400'



PIK GROUP
(NORANDA)

4273 M-1

TO ACCOMPANY GEOCHEMICAL REPORT ON THE JO ANN CLAIMS, FIFTEEN MILES NORTH OF OLD HOGETT, OMINEDA M.D. BY: D.L. COOKE, PH.D., P.E.C., DATED APRIL 2, 1973

D.L. Cooke

FIGURE 1.