COMINCO LTD.

EXPLORATION

WESTERN DISTRICT
23 March 1977

GEOLOGICAL AND GEOCHEMICAL REPORT ON THE FISSURE CREEK PROJECT

FISSURE NUMBERS 1 & 2 (20 Units Each)

REVELSTOKE MINING DISTRICT, B.C.

6229

by

A.J. BORONOWSKI, BSc.

Under the Supervision of
D.W. Heddle, P.Eng.

AUGUST 15 - 24, 1976

Latitude 51° 32' N
Longitude 118° 38' W

N.T.S.

82M/10E

CONTENTS

ATTACHMENTS

1. Appendix "A": "Exhibit A" - Statment of Expenditures
2. Appendix "B": Statutory Declaration in Support of Expenditures
3. Appendix "C": Statement of Qualifications
4. Location Map - Index 1 in. = 4 miles
5. Geochemistry and Assay Plan 1:5000 #1
6. Section #1 1:2000

COMINCO LTD.

EXPLORATION

WESTERN DISTRICT
23 March 1977

ASSESSMENT REPORT

ON THE

FISSURE CREEK PROJECT

I SUMMARY

The Fissure Creek Project was designed to assess a stratiform Zn/Pb showing located 20 miles south southeast of the Ruddock Creek property.

The mineralized horizon lies within metasedimentary rocks of the Shuswap Metamorphic Complex. The horizon was sampled intermittently over a strike of 1100 meters of continuous mineralization. Interesting grades (3.8 oz/ton Ag., 7.2% Pb., 2.46% Zn) were encountered over narrow widths (< 0.7 meters). The centre of a dome where a structural thickening of the mineralized horizon appears plausible has been eroded by Fissure Creek.

II INTRODUCTION

The Fissure Creek Group lies within the Shuswap Metamorphic Complex on the northeast flank of a gneiss dome centered near Frenchman Cap.

The property consists of two, twenty unit claims situated forty miles northeast of Revelstoke on the headwaters of the northern branch of Fissure Creek. The two claims, 100% owned by Cominco Ltd., are due on April 28, 1977.

Interest in the area developed in the early 1900's, with exploration on such properties as the Cottonbelt and Wigwam. The Fissure Creek showing was located during the Shuswap-Lardeau Study in 1966. Recent developments in the area, such as Noranda's Goldstream property and Cominco's option of the Ruddock Creek property has resulted in a renewed interest in the Fissure Creek area.

The property, located 4 miles west of the Columbia River, is accessible by helicopter from Highland Helicopter's base at Downie Creek or Okanagan's base at Mica Creek.

The area is exceptionally rugged, with thick vegetation below 6500 feet. Numerous, extensive glaciers cap the mountain tops. The 1976 season was particularly wet with an unusually late thawing period. Climatic conditions can be classified as Sub-Arctic--late August snow storms.

III EXPLORATION AND DEVELOPMENT

The 1976 program was designed to evaluate the stratiform Zn/Pb showing for continuity and grade, and to test for possible structural thickening.

A chain and compass traverse, combined with altimeter, and airphoto coverage controlled the chip sample locations from the mineralized horizon. The traverse was tied into the geochemical grid. Soil samples were analyzed for Pb, Zn and rock chip samples for Ag. Pb. Zn.

A. GEOCHEMISTRY

The area covered by the soil survey lies at the headwaters of Fissure Creek. Survey control was by chain and compass from two cut base lines. A cut line was established along the mineralized horizon with turning stations erected where the line direction changed. Rock sample locations were flagged and picketted. B horizon soils were sampled at 50 m. intervals on lines spaced 100 m. apart. The -80 mesh fraction was analyzed for Pb. and Zn. at Cominco's Vancouver laboratory using a hot 20% nitric acid leach and atomic absorption analysis. Separation of background and anomalous population was achieved through the use of cumulative frequency plots. This method indicated that Pb values $>$ 140ppm and Zn values $>$ 230ppm are anomalous.

Two anomalous samples, FS 97 and FS 125 are not obviously related to the mineralized horizon, which is coloured red on the plan. FS 97 is located at the confluence of a subsidiary creek and Fissure Creek and therefore the anomalous values may be due to material washed down from the mineralized horizon. FS 125 may represent the overburden covered eastward extension of the mineralized horizon.

IV GEOLOGY

The Fissure Creek area has been mapped at a 4 mile scale by the Geological Survey of Canada on Map 12-1964 contained in the "Big Bend Map-Area, British Columbia" by J.O. Wheeler.

> " "The Shuswap Metamorphic Complex in the map-area is featured by a gneiss dome having culminations near Frenchman Cap and upper Ratchford Creek. The core of the dome is composed mainly of mixed gneisses and subordinately of more or less homogeneous, discontinuously layered granitic gneiss and swirled gneissic granite. The core is surrounded by successive envelopes; an inner zone of paragneiss with quartzite and marble and relatively little associated pegmatite, a central zone of paragneiss with abundant pegmatite, and an outermost zone of granitic gneisses with abundant pegmatite and minor paragneiss." "
>
> J.O. Wheeler

The Fissure Creek property lies within the inner zone of schists, approximately 8 miles northeast of Frenchman's Cap. Section Number 1 is a representative description of the rock types exposed on the property. The calcareous sandstone to dolomite bed and the marble bed are continuous, with uniform thickness over several hundreds of meters. Pyrite, sphalerite and galena in varying concentrations occur immediately above the marble unit within greywacke. Minor, thin ($<$ 1 cm) bands of sulphides were observed in the marble. Disseminated pyrite ($<$ 1%) and an occasional speck of chalcopyrite occur in the footwall greywackes.

Although the Shuswap Metamorphic Complex is typically strongly deformed. Stratigraphy in the Fissure Creek area appears to be only mildly deformed into a dome. Fissure Creek has eroded the central portion of the dome. Analogies suggest that central portion of the dome would have had the greatest potential for structural thickening.

V MINERALIZATION (Geochemistry and Rock Sampling Plan)

Base metal mineralization was observed only along the northern half of the structural dome (see Geology above) over a strike length of 1100 meters.

Narrow stratiform bands of sphalerite, galena and pyrite occur primarily at and above the marble unit within an impure metaquartzite. The grade and thickness of mineralization varies but the high grade zone rarely exceeds 70.0 cm. Assay results from two consecutive samples over the best exposure returned 3.8 oz/ton Ag., 7.2% Pb, 24.6% Zn over 55.0 cm. from immediately above the marble unit. The next 4.7 meters above this returned 0.28 oz/ton Ag., 0.57% Pb., 1.10% Zn.

Mineralization does not attain an economical width and potential for structural thickening appears remote.

VI CONCLUSIONS

The Fissure Creek property contains stratiform Zn/Pb mineralization over an observable strike length of 1100 meters in the north half of a structural dome.

Potential for structural thickening of the mineralized horizon is remote owing to erosion by Fissure Creek of the central portion of the structural dome.

Interesting Zn/Pb grades were encountered; however thicknesses rarely exceed 70.0 cm.

Geochemical results indicating anomalous values are related to the sampled mineralized horizon. No other mineralized horizons or extensions to the previously known mineralized horizon were discovered.

VII RECOMMENDATIONS

No further work is warranted on the Fissure Creek group, owing to the narrowness (< 0.7 m) of the mineralized horizon, remote possibility of structural thickening, and negative geochemical results in untested areas.

The mineralized horizon has been tested intermittently over a strike length of 1100 meters on the Fissure No. 1 claim. The horizon appears to be continuous over the tested strike length, but was not traceable onto the Fissure No. 2 claim.

Report by A.J. Boronowski
A.J. Boronowski
Geologist

Endorsed by: D.W. Heddle
D.W. Heddle,
Assistant Manager
Western District

Approved for Release by: G. Harden per D.W. Heddle
G. Harden
Manager
Western District

AJB/aa
23 March 1977

Attachments

A P P E N D I X "B"

IN THE MATTER OF THE

B.C. MINERAL ACT

AND

IN THE MATTER OF A GEOLOGICAL AND GEOCHEMICAL PROGRAMME CARRIED

OUT ON THE FISSURE NUMBER 1 MINERAL CLAIMS

Located in the Revelstoke Mining Division

of the Province of British Columbia

More Particularly N.T.S. 82M/10E

A F F I D A V I T

I, ALEXANDER J. BORONOWSKI OF THE CITY OF VANCOUVER IN THE PROVINCE OF BRITISH COLUMBIA, MAKE OATH AND SAY:

1. THAT I AM EMPLOYED AS A GEOLOGIST BY COMINCO LTD., AND AS SUCH HAVE A PERSONAL KNOWLEDGE OF THE FACTS TO WHICH I HEREINAFTER DEPOSE;

2. THAT ANNEXED HERETO AND MARKED AS "EXHIBIT A" TO THIS MY AFFIDAVIT IS A TRUE COPY OF EXPENDITURES ON A GEOLOGICAL AND GEOCHEMICAL PROGRAMME CARRIED OUT ON THE FISSURE MINERAL CLAIMS;

3. THAT THE SAID EXPENDITURES WERE INCURRED BETWEEN THE 15TH DAY OF AUGUST AND THE 25TH DAY OF AUGUST, 1976 FOR THE PURPOSE OF MINERAL EXPLORATION ON THE ABOVE NOTED CLAIMS.

Sworn Before Me at the City of Vancouver in the Province of British Columbia this 24 day of March, 1977

A NOTARY PUBLIC IN AND FOR THE PROVINCE OF BRITISH COLUMBIA

Alexander J. Boronowski

ALEXANDER J. BORONOWSKI

APPENDIX "A"

EXHIBIT "A"

Statement of Expenditures on the
Fissure Number 1 claims for 1976

		$
Geology		
Salaries:		
A.J. BORONOWSKI	- August 15-24, 1976	
	8 days @ $100/day	800.00
	2 days report writing	200.00
D.G. LECKIE	- August 15-24, 1976	
	8 days @ $100/day	800.00
F.J. FERGUSON	- August 15-24, 1976	
	8 days @ $100/day	800.00
T. MARKS	- August 15-24, 1976	
	8 days @ $50/day	400.00
EXPENSE ACCOUNTS		
Accommodation and food - Vancouver-Revelstoke		200.00
GEOCHEMISTRY AND ASSAYS		550.00
TRANSPORTATION		
Helicopter (Bell 205A-206B) and Truck Rental		2,056.52
DOMICILE AND CAMP SERVICES		
Tents, food, radio and camp gear		400.00
Total Expenditures		$6,206.52 ~~$6,006.52~~

AJB MSB

A.J. Boronowski, BSc.

This is "Exhibit A" to the Statutory Declaration of Expenditures relating to the geological and geochemical program on the Fissure claim declared before me on the 24 Day of March , 1977 A.D.

A Notary Public in and for the
Province of British Columbia

A P P E N D I X "C"

COMINCO LTD.

EXPLORATION WESTERN DISTRICT

STATEMENT OF QUALIFICATIONS

I, ALEXANDER J. BORONOWSKI, OF THE CITY OF VANCOUVER, BRITISH COLUMBIA, HEREBY CERTIFY:

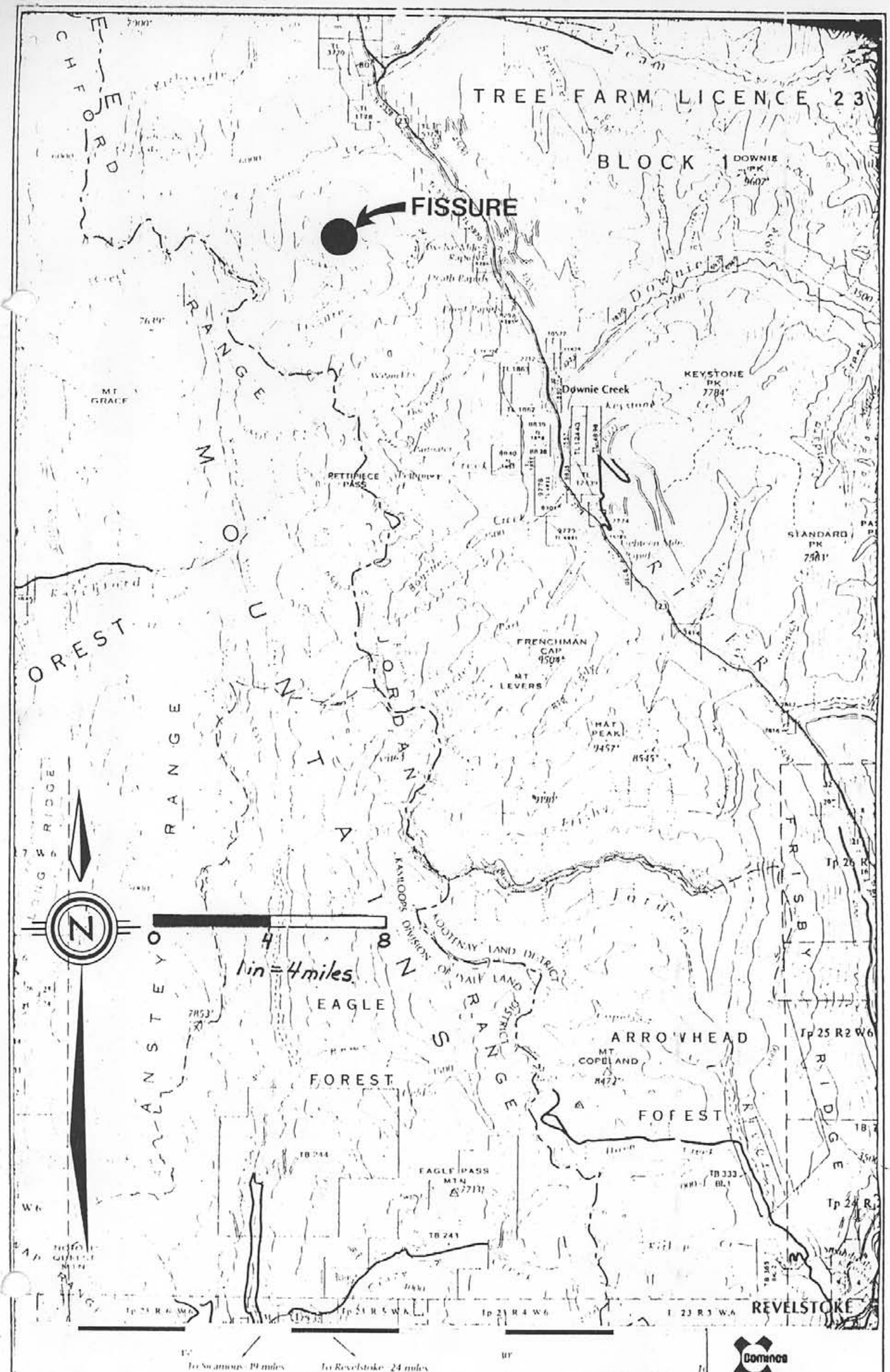
1. THAT I AM A GEOLOGIST, RESIDING AT 44 EAST 58 AVE., VANCOUVER, BRITISH COLUMBIA WITH A BUSINESS ADDRESS AT 2200-200 GRANVILLE SQUARE, VANCOUVER, BRITISH COLUMBIA.

2. THAT I GRADUATED WITH B.SC. DEGREE IN GEOLOGY FROM THE UNIVERSITY OF BRITISH COLUMBIA IN 1970.

3. THAT I HAVE PRACTISED GEOLOGY WITH COMINCO LTD. FROM 1970 TO 1977.

DATED this 24 Day of March 1977, at Vancouver, British Columbia.

Signed: Alexander J. Boronowski
Alexander J. Boronowski



Drawn by		Traced by:	
Revised by	Date	Revised by	Date

#6229

FISSURE PROPERTY
REVELSTOKE MINING DISTRICT
82 M 10E

Scale: 1 in = 4 miles | Date: Feb 1977 | Plate index

210 0610

	292.0-306.0	Quartzite
	276.0-292.0	Greywacke
	246.0-276.0	No Outcrop
	236.0-246.0	Shale to Greywacke
	216.0-236.0	Greywacke
	183.0-216	No Outcrop
	97.3-133.0	Greywacke
10cm min.	91.5-95.5	Marble
	51.0-91.5	Greywacke
	24.8-51	Greywacke - Non-Calcareous
	15.5-24.8	Calcareous Sandstone (Dolomite)
	0-15.5	Greywacke
		Overburden

#6229

Domenico N.T.S 82M

Drawn by: AJB	Traced by:		
Revised by / Date	Revised by / Date		
		FISSURE CREEK	
		SECTION NUMBER 1	
		Scale: 1:2000	Date: Feb. 1977	Plate:

210-0610

ASSAY RESULTS (oz Ag, % Pb, Zn) sample interval

A76-2A	0.11, 0.17, 0.22 / 10 cm.		
A76-2B	2.1, 3.0, 2.2 / 10 cm.		
A76-2C	0.10, 0.18, 0.22 / 2.3m.		
A76-2D	0.08, 0.26, 0.32 / 1m. (below marble)		
A76-2E	0.18, 0.24, 0.11 / 2 cm. 5m above A; 2 cm. 5m. below A		
A76-3	0.06, 0.06, 0.07 / select samples		
A76-5	3.0, 5.75, 14.30 / 1.2m.	A76-14	5.7, 11.00, 2.46 / 0.5m.
A76-6	0.93, 1.64, 1.90 / 1.2m.	A76-15	1.6, 2.6, 1.30 / 80 cm.
A76-7	2.10, 4.0, 16.25 / 21 cm.	A76-16	8.2, 15.0, 23.4 / 70 cm.
A76-8A	0.48, 0.66, 5.9 / 10 cm.	A76-17A	3.8, 7.2, 24.6 / 55 cm.
A76-8B	0.70, 0.10, 0.40 / 1.2m.	A76-17B	0.28, 0.57, 1.10 / 4.7m.
A76-9	0.02, 0.03, 3.4 / 1.3m.	A76-18	3.1, 6.0, 7.0 / 50 cm.
A76-10	0.14, 0.22, 0.23 / 1.0m.	A76-19	0.27, 0.41, 0.42 / 1.7m.
A76-11	0.14, 0.40, 0.42 / 1.5m.	A76-20	0.14, 0.15, 0.12 / 90 cm.
A76-12	>0.02, 0.12, 0.06 / 2.7m.	A76-21	0.07, 0.09, 0.10 / 3.0m.
A76-13	1.5, 2.0, 0.24 / 0.5m.	A76-22	8.4, 7.7, 8.8 / select float

4.82 % combined Pb, Zn / 5.25m.

FISSURE 1

FISSURE 2

FISSURE 2

FISSURE 1

Section No. 1

Baseline 1

Baseline 2

LEGEND

- St 3 — Turning point.
- A76-9 — Sample and station location.
- FS 1 / 1.80 — Soil sample (ppm Pb, Zn).
- 50 — Bedding.
- Creek.

Notes:
Elevations shown in feet.
Base map from Nat. Topog. Series – 1:50,000 scale map

0 100 200 300 400 500 Metres

FISSURE CREEK PROPERTY — 82 M/10 E

GEOCHEMICAL AND ASSAY PLAN

Drawn by: | Traced by:
Revised by | Date | Revised by | Date

Scale: 1:5000 | Date: FEB. 1977 | Plate:

Alex J. Baranowski

6229
M-1

BCTL-2401-C