NTS 0924/7

## BRENDA EXPLORATION

A Division of

Brenda Mines Ltd.

2281 Hunter Road Kelowna, B.C. V1X 7C5 Phone (604) 861-5501 Fax (604) 861-5210

820975



October 29, 1990

File: 108-78-00M 107-70-00

Alex J. Davidson Minnova Inc. 4th Floor, 311 Water St. Vancouver, B.C. V6B 1B8

#### RE: CHARLES MARTIN'S WHIPSAW CREEK PROPERTY

I had Ken Daughtry look over this property for me but Discovery do not have an interest in the project.

Would you please look over Ken's report and see what you think of it. Let me 1) Role viside 2) Solw CP 3) Skan zone 4) otherse know your thoughts and we can follow up from there.

Yours truly,

ROSS M. WEEKS Manager Brenda Exploration

RMW/lj

P.S. I also want to talk to you or Ian regarding Nathan Bahre's property in ¿ Washington State.

Nov 23th Varcouse Charl Mate. 7812 374 7812 683 0035.

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brenda noranda group

# DISCOVERY

HOV 1 1990

201–2928 29th Street Vernon, B.C. V1T 5A6 Telephone: (604) 542-8960 Fax: (604) 542-4867

> Mail: P.O. Box 933 Vernon, B.C. V1T 6M8

Consultants Ansid.

October 22, 1990

Mr. Ross Weeks Brenda Mines Ltd. 2281 Hunter Road Kelowna, BC V1X 7C5 DATE RECEIVED RECD OCT 24

FILE NO. 108-78-00 M

Dear Ross,

Charlie Marlin

Re: Whipsaw Creek Property Examination

I examined the Whipsaw Creek property in the company of Paul Richardson on October 12, 1990. The higher elevations were snow-covered but we were able to see most of the pertinent areas. The core is stored on the property and is easily examined.

The property hosts a large porphyry system with varying styles of mineralization in different areas. A large volume of data from a long history of exploration has been compiled by Mr. Richardson and is available for evaluation.

No ore has been discovered to date, and no ore-grade drill intersections have been encountered. However, the mineralization discovered in previous exploration is typical of the peripheral areas around large porphyry deposits, and the potential of the Whipsaw property has not been fully tested.

I recommend that a thorough review of the available data be made. If this study yields positive results, then a programme of limited drill testing of several target areas is warranted.

Please contact me if you wish to review the data I have on hand in Vernon.

Yours truly,

DISCOVERY/CONSULTANTS

K.L. Daughtry

#### Whipsaw Creek Porphyry Copper-Molybdenum-Gold Prospect

<u>Location:</u>

On upper Whipsaw Creek 16 km WSW of Copper Mountain Mine and 27 km SW of Princeton. The main mineralized areas are north of Whipsaw Creek between 47-Mile and 43-Mile Creeks.

Access:

Excellent access is available to all parts of the property by logging and mining roads. From Princeton, the property is reached by traveling 13 km south on Highway 3 to Whipsaw Creek, thence 18 km southwesterly on a main logging road along the creek to the camp.

Topography:

The topography is moderate with some deeply incised valleys. Elevations range from 1385 to 1660 metres a.s.l. The original commercial evergreen forest is being actively logged. Outcrop is scarce, but overburden is generally thin.

Property:

The Whipsaw property comprises a total of 196 contiguous claim-units, including 9 Crown-granted claims which have been grouped in a Mineral Lease. All claims are owned by World Wide Minerals Ltd.

History:

Early exploration in the area of the property was concentrated on placer gold and platinum in Whipsaw Creek and on quartz vein occurrences with silver, gold, and base metal values along the lower slopes of Whipsaw Creek valley near the current camp. In 1959, Texas Gulf Sulphur and Kennco discovered strong copper anomalies in creek sediments draining the northern part of the property. These anomalies were found to be related to widespread copper-molybdenum porphyry mineralization surrounding the Whipsaw Porphyry stock. Between 1960 and 1974, the property was extensively explored by Texas Gulf, Dome, Moneta Porcupine, Amax, Newmont and Newconex. Despite the level of activity, relatively little drilling was done - apparently only about 14 holes were drilled in three areas.

The area was inactive from 1974 until the various properties were consolidated by C. Martin of World Wide Minerals in the 1980's. From 1982 to the present World wide has carried out soil sampling, airborne magnetic and VLF surveys, trenching and drilling.

In 1989 and 1990, Paul Richardson, director and consultant to World Wide, completed an exhaustive compilation of data on previous work from all sources. On the basis of this compilation he proposed a 31-hole diamond drill programme, totalling 3700 metres, to test 14 different targets. To date 6 of these holes have been drilled.

Geology:

Excerpt from Paul Richardson's report of March 19, 1990

"The Property covers 10 km of the regionally mineralized contact zone between the Upper Triassic Nicola Group and the Eagle Granodiorite. In the north-central part of the Property, the contact zone is intruded by the Whipsaw Porphyry. Copper-molybdenum-gold mineralization is related to the perimeter of the porphyry stock. Dykes of feldspar and quartz-feldspar porphyry extend north and south of the stock near and parallel to the Nicola-Eagle Granodiorite contact.

The Whipsaw Porphyry is the source of a large hydrothermal system with which at least two types of mineral deposits are related. Porphyry copper-molybdenum-gold mineralization occurs disseminated and in veinlets within the Whipsaw Porphyry and in Nicola rocks bordering the To the south, the porphyry copperporphyry. molybdenum-gold mineralization decreases abruptly, probably being cut off by E-W faulting, beyond which gold-silver-zinc mineralization occurs in veins and associated disseminated deposits. An area in which skarns are reported occurs just north of Whipsaw Creek near the This area coincides with Nicola-Eagle contact. the area of the best gold geochemical anomalies on the Property". (Note: KLD suspects a second cupola of the porphyry stock may occur in this area).

"An intense magnetic anomaly in the southeast portion of the Property is probably caused by a body of ultrabasic rocks. If so, this could be the source of the platinum in placer deposits in Whipsaw Creek east of the Whipsaw Property. A second possible source of platinum group elements (PGEs) is the mineralization associated with the Whipsaw Porphyry. At nearby Copper Mountain, PGEs have been reported as being associated with the copper-gold mineralization".

Geophysics:

Excerpt from Paul Richardson's report of March 19, 1990.

"Several geophysical surveys have been done on various areas of the present Property by the owners of the smaller properties which have now been consolidated. In 1960, Texas Gulf Sulphur did an Induced Polarization (IP) survey in the apparent source area of their geochemical anomalies (Bacon, 1960). In 1961, they did a vertical loop electromagnetic survey and a magnetic survey to obtain specific drilling targets (Bacon, 1961). A 400  $\delta$  magnetic anomaly coincided with an EM anomaly which, in turn, partly coincided with an IP anomaly. Three diamond drill holes, W-1 to W-3, totalling 208 m were drilled to test the geophysical results.

In 1963, the writer, on behalf of the Dome-Moneta joint venture, drilled deeper holes, W4 and W5, on the Texas Gulf IP anomalies south of the Whipsaw Porphyry and, in 1964, extended the IP survey area and did bulldozer trenching. Targets were not specific enough to continue at that time.

In 1971, Newmont Mining Ltd. did IP and Resistivity work extending the Texas Gulf coverage to the Nicola volcanics beyond the north border of the Whipsaw Porphyry (Ballantyne, 1971; Figure 4).

In 1987, World Wide Minerals did an airborne combined magnetometer and very low frequency electromagnetometer (VLF-EM) survey over the southern part of the Property. Several VLF-EM anomalies have yet to be examined in the field. An intense magnetic anomaly in the SW portion of the Property could be caused by an ultrabasic intrusion".

<u>Geochemistry:</u>

Excerpt from Paul Richardson's report of March 19, 1990

"The intense copper geochemical anomaly in 47 Mile Creek was discovered in 1959 by Dr. William Bacon while doing a regional exploration programme along the mineralized Nicola Group-Eagle Granodiorite contact for Texas Gulf Sulphur Ltd. The anomaly was probably found also by Kennco Explorations during their vast geochemical reconnaissance programme that year. T.G.S. did soil geochemical, geophysical, geological and drilling programmes on their small property which covered part of the Porphyry area. The results were inconclusive, and they then optioned their

property to a joint venture made up of Dome Exploration (Canada) Ltd., Moneta Porcupine Mines Ltd. and Tennessee Corporation. The writer supervised the joint venture's programme of detail stream and soil geochemistry, geophysics and two diamond drill holes on the TGS ground which, as stated above, covers only part of the Whipsaw Porphyry Area (Seraphim, 1963). Very intense copper stream sediment and soil anomalies ere found extending onto adjacent properties then owned by others but now part of World Wide Minerals Ltd.'s Whipsaw Property.

In 1968, Amax Exploration Inc. optioned the Texas Gulf Property and did geological and geochemical surveys over the TGS property. They repeated and added to much of the Texas Gulf Sulphur and Dome work, but did not continue the option. In 1969, Texas Gulf Sulphur, using the Amax data, drilled DDH's 69-W1 to 69-W4.

Newmont Mining Corp. of Canada Ltd. option ed the TGS claims in 1971. Some soil sampling was done by them in 1971 and 1971.

World-Wide Minerals Ltd. did soil sampling programmes in 1987 and 1988 ....".

A review of the available soil sampling data provided by Mr. Richardson permits the following summary:

- The highest copper values occur in near proximity to the margins of the main Porphyry stock, and also in an arcuate band which may be peripheral to a second smaller exposure of the Porphyry to the southwest of the main stock.
- 2. The molybdenum anomalies correlate well with the main copper anomalies.
- 3. The highest gold values generally do not correlate with the copper or molybdenum anomalies, but appear to be distributed near the southern cupola of the porphyry, or along linear zones possibly related to faulting.
- Anomalous silver values generally correlate with the gold anomalies.
- 5. Zinc anomalies occur in the southern part of the property (distal to the Porphyry?) and may be related to the gold-silver-base metal veins near Whipsaw Creek.

# Exploration Potential:

Two types of porphyry mineralization appear to be present:

- (a) copper-molybdenum mineralization in large zones in Nicola Group volcanic rocks peripheral to the Barren Whipsaw Porphyry stock. Precious metal values in these zones are insignificant. Copper grades range from 0.03% to 0.36% and seem to average between 0.1% and 0.3%. Molybdenum values are low ranging from 0.005% to 0.024% Mo. The best single intersections are 23.3m of 0.35% Cu and 0.024% Mo and 27.9m of 0.29% Cu and 0.015% Mo.
- (b) copper-gold-silver mineralization in Nicola volcanic rocks in areas peripheral to the copper-moly zones. Backhoe trenching discovered some attractive zones (e.g. 8.0m of 0.061 opt Au, 2.2 opt Ag and 0.101% Cu, and 18m of 0.029 opt Au, 1.2 opt Ag and 0.06% Cu). However, subsequent closely-spaced drilling in the area generally failed to intersect comparable values, the exception being a single 4.0m intersection grading 0.072 opt Au, 2.2 opt Ag, 3.4% Zn and 0.39% Cu.

The vein mineralization near Whipsaw Creek may be peripheral to but genetically part of the main porphyry system. Skarn mineralization in the southwest part of the target area may be related to a second cupola of the Whipsaw Porphyry."

#### Conclusions:

- The Whipsaw property hosts diverse styles of mineralization which, however, may all be part of a single large porphyry system.
- 2. Exploration activity to date has been extensive, but no ore-grade mineralization has been discovered.
- 3. A number of exploration targets for copper-molybdenum and copper-gold mineralization have been identified, but only a few of these have been incompletely explored.
- 4. The property is well situated with respect to access and infrastructure, and the topography is generally amenable to open pit development.

### Recommendations:

A comprehensive review and evaluation of the large volume of data compiled by Paul Richardson should be carried out before a final decision is made regarding acquisition.

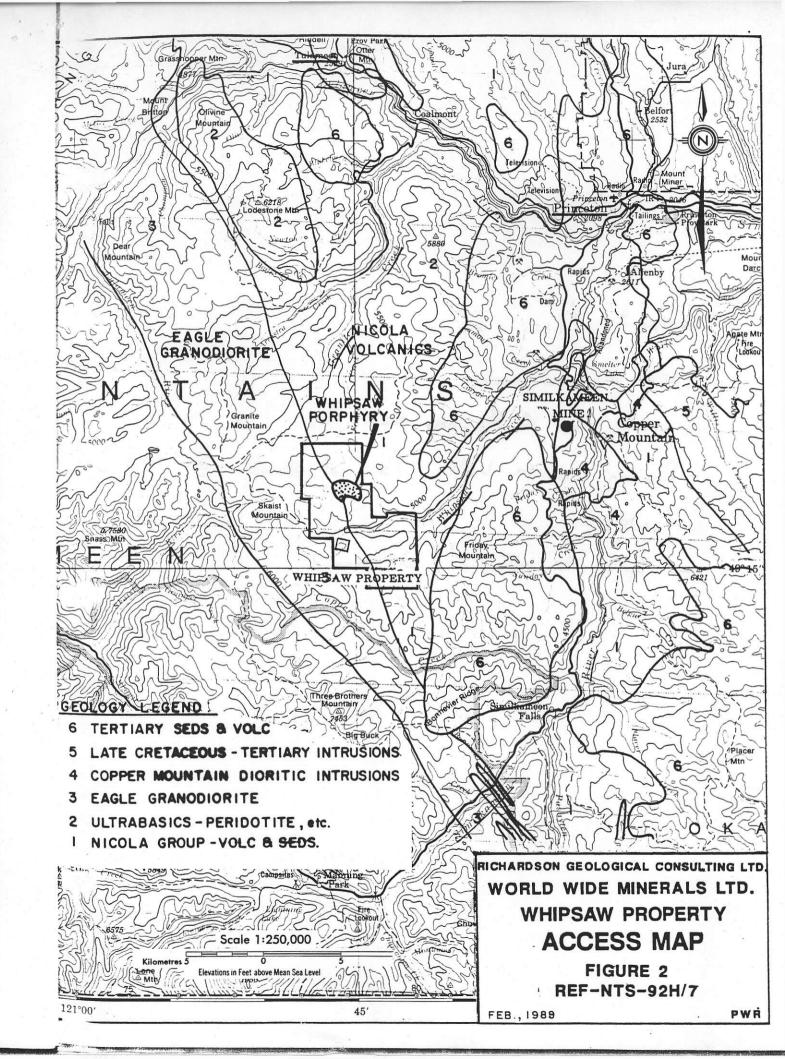
If the results of the above evaluation are positive then selective drill tests of some of Richardson's targets would be warranted.

Respectfully submitted,

DISCOVERY CONSULTANTS

K.L. Daughtry

October 22, 1990 Vernon, B.C.



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WORLD WIDE MINERALS LTD.
WHIRSAW PROPERTY
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TOTAL SECTION

Version of Market and monocural.

**MINNOVA** 

F.L. NTS.

MEMORANDUM

DATE:

February 14th, 1991

A TO:

AJD, R.WEEKS

COPIES À COPIES TO:

DRH

DE FROM: IDP

SWET SUBJECT:

Whipsaw Porphyry Prospect

### INTRODUCTION

The Whipsaw property lies 16km southwest of Princeton and is accessible by logging road. It is owned by World Wide Minerals Ltd. who propose to split the property into two groups of approximately 100 units each. They would then option off the northern group while retaining the southern claims for their own purposes.

The northern group covers a recognised porphyry system discovered by Texas Gulf in 1959. During the 60's and 70's it was explored by several major companies but no company ever had the entire system because of the property situation. The southern group contains only mineralized quartz veins with limited tonnage potential. It is the porphyry system which interests us.

#### GEOLOGY AND MINERALIZATION

The property is underlain by a NW trending intrusive contact between Triassic Nicola volcanics and Jurassic Eagle granodiorite. This contact has subsequently been intruded by a stock of Upper Cretaceous to Lower Tertiary prophyry known as the Whipsaw Porphyry.

Alteration and mineralization is centered upon this Whipsaw Porphyry. Compilation of past data clearly shows an anular ring of copper and moly geochemistry most strongly developed on the north and south flanks of the porphyry. Nicola volcanics appear to be the favoured host rather than the porphyry itself or the Eagle granodiorite. There is no evidence to suggest that this is an alkaline system like the nearby Copper Mountain and Ingerbelle

operations.

Past operators have drilled only about 14 holes on the property and have carried out several hundred metres of trenching. The vast majority of the trenching was carried out for assessment purposes before results of a soil geochem survey were available and do a good job of not testing anomalous areas. All drilling has been done in summer or fall when swampy areas, which host some of the prime targets, were inaccessible. Nevertheless, the drilling does indicate a mineralized zone along the northern contact of the Whipsaw Porphyry which has dimensions of approximately 600m long by 75m wide with unknown depth and which averages 0.2-0.3% Cu. The system also hosts minor moly values, but the couple of holes which have been analysed for Au failed to return significant values.

Gold values have been reported, however, from the southern margin of the porphyry system. In one area trenching has returned values of up to 0.112 opt Au over 3 metres. Another hosts a broad area of Au soil anomalies with reported skarn alteration which has never been tested. So the presence of precious metals is indicated.

#### RECOMMENDATIONS

I recommend acquisition of this property for the following reasons:

- 1. This is a large porphyry system which has been insufficiently explored.
- 2. There is a large existing database to provide almost immediate drill targets.
- 3. Although drilling to date has not returned economic grades of copper (0.2-0.3%) many of the best targets remain to be tested.
- 4. The property is readily accessible.
- 5. There is evidence of the presence of gold on the southern margins of the porphyry system, possibly associated with skarning, which has not been followed up.
- 6. A large interest in the property is available (+80%) and

a reasonable deal appears obtainable.

#### PROGRAMME AND BUDGET

Any exploration to be carried out on the Whipsaw property should test the following:

- a. The potential for higher grade zones within the porphyry system.
- b. The possibility of extensions of mineralization to the north of previous work.
- c. The potential for precious metal rich zones, particularily on the southern margins of the system.

The attached preliminary Budget Forecast is for a \$400,000 programme which will achieve these objectives. A single option payment of \$25,000 is included with the aim of completing the programme within a one year period. This will, however, include two budget years - a 1991 summer/fall programme (\$200,000) and a 1992 winter programme (\$200,000).

Work budgeted includes 40 km of linecutting and geophysics (IP/mag) to look for northward extensions of the system and evaluate skarn potential to the south, geological mapping, limited geochemical sampling, trenching and 3000 m of diamond drilling on existing targets. It does not include the drilling of valid targets generated by the new surface work.

Also attached is a copy of the offer made to World Wide Minerals.

# PROJECT BUDGET FORECAST 1991

PROJECT NAME:	Whipsaw		PROJECT NO.	new	
<i>GEOLOGY</i>					
mapping and general		Salaries	\$50,000		
		Travel Expenses	\$5,000		
		Contract Payments	\$0		
		Field Expenses	\$3,750		
		Analyses	\$0	\$58,750	15%
GEOPHYSICS					
40km of IP/mag		Salaries	\$0		
		Travel Expenses	\$0		
		Contract Payments	\$44,000		
		Field Expenses	\$0	\$44,000	11%
GEOCHEMISTRY					
400 soils, 150 lithos		Salaries	\$3,000		
		Travel Expenses	\$0		
		Contract Payments	\$0		
		Field Expenses	\$500	<b>.</b>	
		Analyses	\$8,250	\$11,750	3%
DDU LING					
DRILLING 3000m @ \$60 +\$10	000	Salaries	\$12,000		
of road building	,000	Travel Expenses	\$1,000		
or road banding		Contract Payments	\$190,000		
		Field Expenses	\$3,000		
		Analyses	\$25,000	\$231,000	58%
	Line Cutting	(40km @ \$400)		\$16,000	4%
Trenching				\$5,000	1%
Hotels and Meals Option Payments			\$8,000	2%	
			\$25,000	6%	
	Property Maintenance			\$500	0%
	Other			\$0	0%
	TOTAL DIRECT EXPENDITURES			\$400,000	
	IOIAL DIRECT EXPENDITURES		₩ <del>7</del> 00,000		

