520608

THE LIKELY PROJECT

# CARIBOO MINING DIVISION

NTS 93A/11W AND 12E

GEOLOGICAL EVALUATION

JULY, 1980

FOR

CAROLIN MINES LTD.

prepared by R. A. HRKAC

# LIKELY PROJECT - CARIBOO MINING DIVISION - JULY, 1980

#### SUMMARY :

### (A) JUNE, DUG, EASY 4, 6 & 7 MINERAL CLAIMS :

On these claims, olivine/augite basalts and agglomerates are cut by northeasterly-trending rhyolite dykes. Anomalous gold values are related to the dykes and their contained quartz veinlets. To date, no significant portions of the dykes have proven to be economic. Continued exploration on the premise that such zones may exist eannot be justified in terms of cost and economic potential.

# (B) EASY 1 - GOLD CREEK AREA :

In this area, the work performed by Silver Standard has pinpointed the zone of economic potential. Diamond drill hole 79-1 has partly explored this zone with negative results.

A major north-striking fault has intersected gold-bearing rhyolite dykes. At surface, economic values are confined to the intensely weathered and rusty gouge and contained quartz veinlets. These values must be suspect due to the possibility of surface enrichment within the zone of oxidization.

With the risk of surface accumulation in mind, the zone may still have economic potential that could be tested by a diamond drill hole collared east of D.D.H. 79-1 and drilled SSE at minus forty-five degrees. It should be noted that access to the proposed drill site is through private land containing an occupied dwelling.

- (C) <u>PESO B</u>: The geochemical gold anomaly on the Peso B mineral claim warrants additional exploration. Lack of outcrop in the area makes evaluation of the anomaly difficult. Bulldozer trenching to obtain bedrock data is suggested as the next exploration stage.
- (D) OCCURENCE OF FLOAT : The propylitized float found on the Lake claim, held by other interests, and on the Easy 1 claim, is a result of hydrothermal activity, at times associated with alkalic porphyry copper - gold deposits. Exploration to locate the source of the float is a high risk venture involving an airborne magnetic survey of approximately 200 metre line spacing and a total of some 800 line kilometres. The purpose of the survey would be to locate the intrusive source of hydrothermal activity. Anomalous areas indicating such sources would then be subjected to a copper and gold soil survey extending beyond the margins of the anomaly. Geochemical anomalies would require trenching and/or diamond drilling.

Should the above program be implemented, adding an EM unit to the airborne survey should be considered.

submitted by

Ray Hrkac

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#### **INTRODUCTION** :

The geology and mineral occurrences on the JUNE, DUG, EASY 1, 4, 6, & 7, and the PESO B mineral claims were examined during the period July 9th to July 20th, 1980. The claims examined comprise a portion of the Likely Project in the Cariboo Mining Division.

Dan Cardinal of Aquarius Resources Ltd. acted as field guide to areas of specific interest; this preliminary examination on July 9th and 10th is gratefully acknowledged.

P. W. Richardson P. Eng. examined portions of the area on July 19th, and commented and advised on the work to date.

LOCATION AND ACCESS : NTS 93A/11W-12E; Lat. 52° 38'N, Long. 125° 35'W.

The claims are located at Likely, B.C. within the area from Quesnel Forks southeasterly to Spanish Lake and from the Cariboo River south to the Quesnel River and Lake.

Access from Likely is by all weather roads to Quesnel Forks and Keithley Creek. Numerous branch logging roads give access to the claims and vary from good two-wheel-drive roads to overgrown walking paths.

#### CONDITIONS OF EXAMINATION :

Approximately ninety percent of the claim area is covered by overburden. Bedrock is best exposed along road cuts, along the steep valley walls of the Cariboo and Quesnel Rivers and the valley of Poquette Lake and Creek, and the nature of bedrock is often indicated by angular rock rubble along ridges and hill tops. Recently logged areas provide excellent road access and easily traversed open areas while older logged areas contain overgrown roads and dense second growth. Coastal type rain forest predominates in unlogged areas.

CLAIMS AND OWNERSHIP : See Appendix for claim list.

On July 11th, Dan Cardinal and the writer examined the claim records at the office of the Mining Recorder, Quesnel, B.C. Documentation at the Quesnel office was not up to date, and the status of claims listed in the appendix to this report should be rechecked as required.

REGIONAL GEOLOGY : Reference: OPEN FILE No. 574, compiled by R. B. Campbell, 1978.

Triassic and Jurassic basalts, andesites, tuffs, argillites and the metamorphic equivalents of these rocks underlie the Likely Project area.

#### DETAILED GEOLOGY AND MINERALIZATION :

### (A) JUNE, DUG, EASY 4, 6 & 7 MINERAL CLAIMS :

# **GEOLOGY:**

The claims are underlain by olivine - augite basalts and agglomerates, and the volcanics are cut by rhyolite dykes.

The basalts are dark green, fine-to medium-grained, and at times porphyritic containing tabular augite phenocrysts. Calcite amygdules and fine calcite veinlets are common. Fine disseminated pyrite is present in amounts much less than one percent.

The agglomerates, with fragments up to 8x10 cm., are composed of the basalts described above.

When tested with HCl a moderate to strong reaction occurs in both the basalts and agglomerates.

On the EASY 4 mineral claim the basalts contain epidote alteration as patches, veinlets and replacement of augite; here also calcite veinlets are more numerous and up to 2 cm. in thickness. Despite the increase in alteration, pyrite remains a minor constituent.

The basalts are intruded by vertical-to steeply-dipping rhyolite dykes striking from N25°E to N80°E; most are one to two metres wide. On the EASY 7 claim, the attitude of a dyke was N  $85^{\circ}$ W/  $75^{\circ}$ S while on the JUNE claim opposite Kangaroo Creek a rhyolite dyke or dykes are seen over a width of 120 metres.

The rhylite is pale grey-green, fine grained, and contains white and clear quartz grains and green feldspar. It weathers a prominent rusty-orange color that penetrates one to three cm. into the rock, both at surface and along joints and fractures. Approximately one percent pyrite is present as cubes and finely disseminated grains. Quartz veinlets from one to five mm. wide are common; most are vertical and strike at right angles to the strike of the dykes, but others have various attitudes. The weathered surface react with HCl, but little or no reaction takes place on fresh rhyolite.

The basalts adjacent to the dykes are altered to a medium green, fine-grained rock.

#### MINERALIZATION :

Area of soil sampling, rock geochemistry and chip samples taken by prospector R. E. Mickle, geologist John D. Godfrey and personnel of Dupont

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and Silver Standard, were examined. Anomalous gold values were invariably at or near rhyolite dykes.

On the JUNE claim south of Kangaroo Creek a vertical dipping shear zone strikes: north-south across a rhyolite dyke. The shear is 1 metre wide, and contains 0.3 metres of semi-massive pyrite. The writer cut three samples across this zone during an examination in 1977; the best assay returned less than 0.003 oz. Au and 0.04 oz. Ag.

Minor amounts of Galena, tetrahedrite and chalcopyrite are seen rarely in some of the quartz veinlets associated with the rhyolite.

### SAMPLING:

The following two continuous chip samples were taken across rhyolite dykes;

SAMPLE No.	LENGTH	Au oz/ton	Ag oz/ton	LOCATION	REMARKS
012505	1 metre	.01	.002	JUNE claim Mickle pit	North contact not exposed
012506	1.4 metres	.03	.001	road cut south of DUG LCP	full width of dike

# (B) EASY 1 - GOLD CREEK AREA:

This area has been subjected to a thorough exploration program by Silver Standard Mines Ltd. Their work included soil sampling, rock geochemistry, channel sampling and four diamond drill holes.

#### GEOLOGY:

Intermittent exposures of andesite occur along the Keithley Creek road from Likely Gulch to the north end of Poquette Lake. The andesite is

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medium green, fine to medium-grained, with minor epidote and calcite alteration and little or no reaction with HCl; it contains less than one percent fine, disseminated pyrite.

South of Gold Creek, the andesites are cut by rhyolite dykes averaging one metre in width. The dykes strike northeasterly, and have vertical to steep southeasterly dips. They are identical to the rhyolites previously described.

A major fault zone is well exposed along the Spanish Lake road south of Gold Creek, near the mouth of Gold Creek and along a road cut north of Gold Creek and west of Poquette Creek. Within the fault, andesite and rhyolite are sheared into haphazard blocks, and numerous rust colored, earthy gouge zones occur from several mm. to 0.5 metres wide and are commonly occupied by quartz veinlets up to several cm. in width.

#### MINERALIZATION :

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At Gold Creek, the fault has cut a zone consisting of rhyolite with some andesite, and contains a series of vertical, east-west shears one to seven cm. wide consisting of reddish, earthy gouge flanking quartz veinlets. Channel sampling by Silver Standard across the shears and samples of the gouge and quartz taken by John Godfrey have shown that significant gold and silver values are present in the shears. The location and decomposed nature of the shears indicates a strong probability that the precious metal values are due to surface enrichment.

Diamond drill hole 79-1 was collared immediately west of Gold Creek below the above outcrop area, and drilled SE at -60 degrees to a

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total depth of 91.5 metres. The hole entered the fault zone but did not reach the east contact nor the area vertically below the mineralized shears. No significant assays were reported.

(C) PESO B

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No outcrop was seen in the area of the gold soil anomaly described in the 1979 report by D. R. Cochrane. Along the road in the northwest section of the grid several backhoe pits exposed rhyolitic rocks.

### (D) PROPYLITE FLOAT :

Two angular pieces of propylite float approximately 0.3 x 0.3 metres were found four metres apart on the Lake claim 220 metres south of the DUG claim. A similar piece of float was found at the mouth of Gold Creek. This type of material is a result of hydrothermal alteration at times associated with alkalic porphyry copper-gold deposits.

Approximately five pound samples were taken from each piece of float:

SAMPLE No.	Au oz/ton	Ag oz/ton	Cu X	LOCATION
012502	.01	.001	.01	Lake Claim 'L-1'
012503	.01	.001	.01	" 'L-2'
012504	.01	.001	.01	Gold Creek

CONCLUSIONS :

#### AREA A

Anomalous gold values are related to rhyolite dykes and their contained quartz veinlets. No significant portions of the dykes carry economic values, and continued exploration is not justified.

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#### AREA B

Surface sampling on the Gold Creek zone has returned significant gold and silver values. These values are suspect due to the probability of surface enrichment. However the zone has not been adequately explored at depth.

# AREA C

A strong geochemical gold anomaly has been outlined on the PESO B claim, and additional exploration is warranted.

# <u>(D)</u>

The propylite float most probably has a local source in the Likely Project area. Exploration to trace the source of the float must be considered a high risk venture.

#### **RECOMMENDATIONS** :

#### AREA A

No further exploration is recommended along the rhyolite dykes in this area.

#### AREA B

In the Gold Creek area consideration should be given to drilling a BQ or NQ diamond drill hole collared at the rock face east of hole 79-1 and drilled SSE at -45 degrees and continued to the east contact of the fault.

# AREA C

On the PESO B claim bulldozer trenching is recommended to obtain bedrock data in the area of the geochemical anomaly.

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If the high risk associated with an exploration program to locate the source of the propylitic float is acceptable then the following type of exploration is recommended:

- 1. A helicopter aeromagnetic, and possibly EM, survey at 200 metre line spacing and a total of approximately 800 line kilometers.
- 2. Soil geochemistry over the anomalies detected by the above survey.
- 3. Trenching and/or diamond drilling of positive geochemical anomalies.

# APPENDIX

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LIKELY PROJECT CLAIM LIST AS OF JULY 11, 1980:						
CLAIM NAME	RECORD No.	UNITS	OWNERSHIP EXPIRY DATE			
JUNE	1050	20	R.E. MICKLE June 28, 1981			
DUG	999	12	Robert E. Mickle May 22, 1980 *			
EASY #1	877	20	" " Nov. 2, 1982			
EASY #2	878	6	" " " Nov. 2, 1981			
EASY #3	879	15	" " Nov. 2, 1982			
EASY #4	880	20	" " Nov. 2, 1980			
EASY #5	881	6	" " " Nov. 2, 1981			
EASY #6	923	20	" " " Dec. 7, 1981			
EASY #7	1007	20	" " May 23, 1980 *			
NOV. 1	1355	20	R.E. MICKLE Nov. 29, 1980 **			
NOV. 2	1356	20	Robert E. Mickle Nov. 29, 1980 **			
NOV. 3	1357	16	" " Nov. 29, 1980 **			
NOV. 4	1366	20	" " Dec. 6, 1980			
MARCH 1	1531	20	""" March 17, 1981			
MARCH 2	1532	4	""" March 17, 1981			
AUG 1	1149	6	" " " August 31, 1980			
* Notice to Group & Application of Work, Pending at Quesmel Records Office						
** Bill of S	ale to Willia	m Grayson	11 11 11 11 11			
CLAIMS HELD BY RELATED INTERESTS:						
PESO	487	9	Robert E. Mickle Sept. 21, 1981			
PESO B	488	18	Aquarius Resources Sept. 21, 1981			
PESO E	491	6	" " " Sept. 21, 1981			
MAY 1, 2, 3 &4 New Staking by R.E. Mickle						

LIKELY PROJECT CLAIM LIST AS OF JULY 11, 1980:

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APPENDIX Con't.

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CLAIMS HELD	BY INTEREST	S OTHER	THAN ABOVE:		
CLAIM NAME	RECORD No.	UNITS	OWNERSHIP	EXPIRY DATE	
LAKE new st	taking	20	S.G. Diakow	May 17, 1981	
BUC "	18	20	?		
TY	1051	20	Steve Wasylenko	June 29, 1981	
JUAN A	972	6	Stryker Resources Ltd.	May 2, 1981	
JUAN II	1278	8	John Ball	Oct. 12, 1980	
CARIBOO JR.	1052	16	Willard Hadley	June 29, 1980 (EXPIRED ?)	
CARIBOO GIAN	IT 557	20	Steve Wasylenko	Nov. 21, 1980	
MARINER II	257	4	Murray B. Neilson	Sept. 13, 1980	
TAM	1015	16	Merna A. Tattersall (B/S to Mundy McRae Pending)	June 6, 1980	
DEN	1298	20	Raymond A. Cook	Nov. 1, 1980	
CORTEZ	1237	20	P\$ 19 19	Oct. 3, 1980	
CLIONA	1238	20	<b>17 17 11</b>	Oct. 3, 1980 ***	
TWO POST CLA	IMS				
CEDAR CREEK	979		Raymond A. Cook	May 7, 1980 ***	
CEDAR CREEK	980		19 19 19	11 ×××	
CEDAR CREEK	981		98 88 89	<b>!! ★★★</b>	
CEDAR CREEK	982		P\$ 11 97	11 ***	
TOUCAN	1244		FF 1T 11	Oct. 3, 1980 ***	
NANCY	1243		TØ 70 10	***	
HARRIET	1242		28 88 88	n <del>***</del>	
ROCKY	1241		11 <b>11</b> 11	***	
DON 1,2,3 &4 1384 - 1386 Donald Stephensen Dec. 24, 1980					
GRINGO 1 new staking over former Inca - 12 units					
GRINGO 2 new staking over former Aztec - 18 units					
*** A Notice to Group these claims has been filed.					

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