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Geological and Geochemical Assessment Report

on the

LIKELY GROUP

(Peso B and Peso E Mineral Claims)

Located

8 kilometres southeast of Likely, B.C.

Cariboo Mining Division

Latitude 52°35'N

Longitude 121°29'W

(Field Work between August 15th and September 15th, 1983)

for

AQUARIUS RESOURCES LTD.

Report by:

Mr. D.G. Cardinal, P.Geol. Hope, B.C.

November 4, 1983.

AQUARIUS RESOURCES LTD



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## INTRODUCTION

During part of August and September, 1983, Aquarius Resources

Ltd. conducted a limited geochemical survey and trenching program

on the Peso B claims. The work was carried out in an attempt to

define the cause of a coincidental airborne mag high and ground

geochem gold high.

This report describes work done, results obtained, and was prepared for assessment work credits.



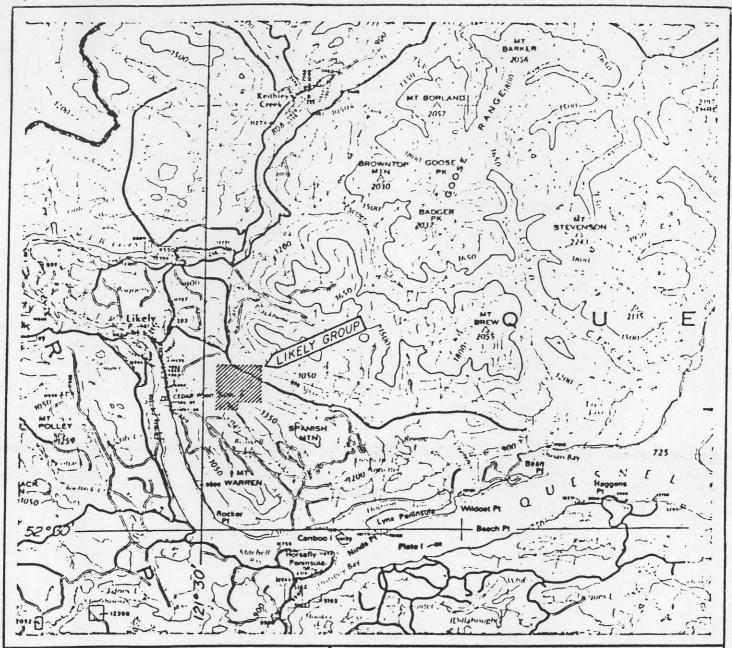
## LOCATION AND ACCESS

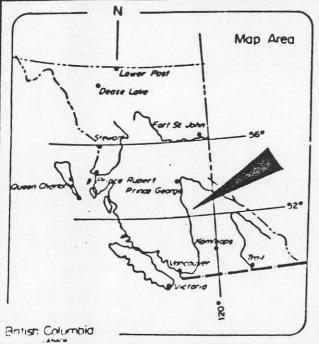
The Likely Group is situated on the northwest flank of Spanish Mountain, between Cedar Creek and Spanish Creek, approximately 8 km east of Likely, in the historic Cariboo area of central British Columbia.

Good access is by truck from highway 97, and 150 Mile House, thence 75 km north northwest along a good gravel road to Likely. The property is then 8 km east on a good logging road.

The N.T.S. reference for the area is 93A/11W., latitude 52°35'N, longitude 121°29'W.







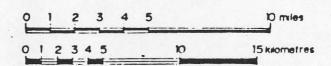


# AQUARIUS RESOURCES LTD.

Likely Group Spanish Mtn. Cariboo Mining Division Peso Claims Near Likely, B.C. N.T.S.93A/11 8-12

Figure 1 Location Map \_

Scale: 1 to 250,000 or 1 inch equals approx. 4 miles.





Cochrane Consultante Limited

## CLAIMS INFORMATION

The Peso B and Peso E mineral claims are held by Aquarius Resources
Ltd. of Vancouver, B.C. The claims are located in the Cariboo
Mining Division.

# Details are listed in the following table:

Claim Name	No. of Units	Record No.	Anniversary Date	Expiry * Date	
Peso B	18	488	September 21	1982	
Peso E	6	481	September 21	1982	

<sup>\*</sup> Prior to the 1983 assessment work



#### BACKGROUND AND HISTORY

Small placer operations were carried out in this area during the 1860's but no large scale mining was done. Interest revived in the 1920's with production from Spanish Creek to the north and Cedar Creek to the south. Desultory placer work has continued to the present, including some working on Spanish Mountain.

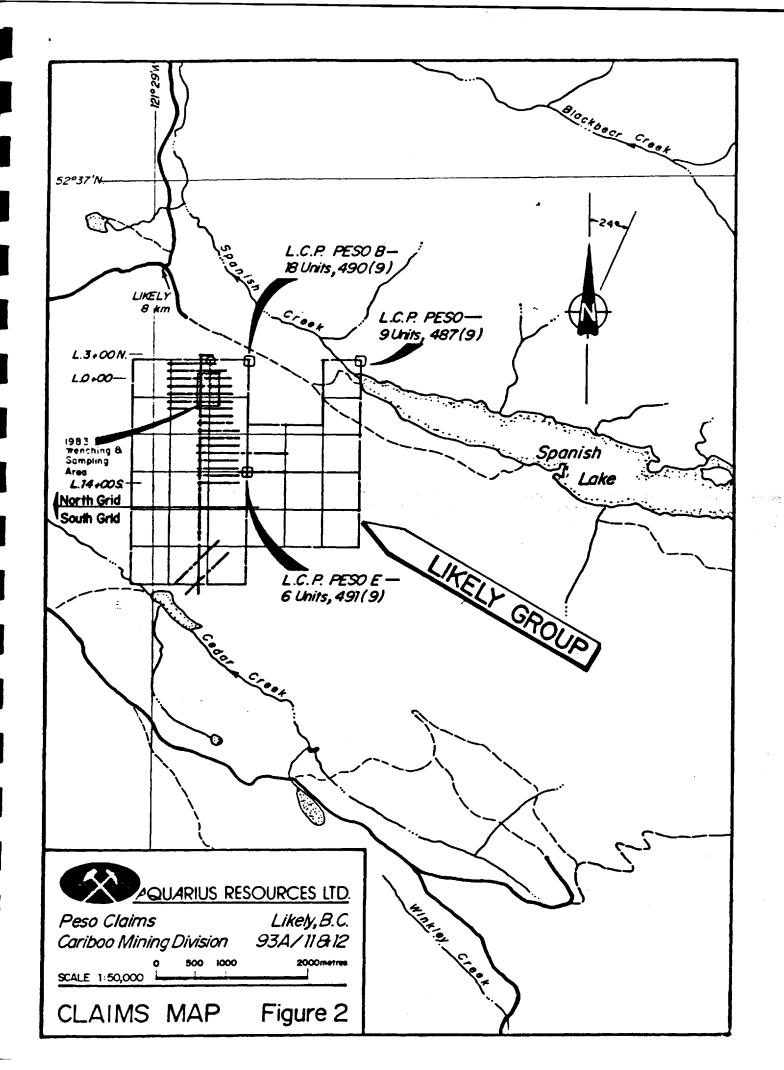
Gold-bearing quartz veins were discovered on the northeast side of Spanish Mountain in 1933. The veins vary from a few centimetres up to 0.8 metres in width. One sample from a vein 20 centimetres wide was reported to carry 0.10 oz. per ton in gold and 1.4 oz. per ton in silver.

Fairly extensive work has been done on this area since 1933.

Two adits were driven into sparsely mineralized quartz veins which are 2-5 metres thick. Up to 1947 several hundred feet of diamond drilling had been carried out in the area in search of mineralized quartz veins.

No significant work has been carried out since 1947.





#### REGIONAL GEOLOGY

The main feature of this area is a major fault trending NW-SE, parallel to the main fold axis. At the west end of Spanish Lake this fault swings to a WNW-ESE trend and parallels the lake along the northeast flank of Spanish Mountain. A number of smaller faults are parallel to the latter section of the major fault on its northeast side.

The fault separates Middle Jurassic or Cretaceous andesitic tuff, argillite, chert and conglomerate from Cambrian phyllite, slate and argillite. The latter lie on the north side of the fault and form part of the Cariboo Group which underlies the goldfields of the Yanks Peak area 30 km to the north.

The gold showings on Spanish Mountain are found in the area whre the major fault changes strike.



#### LOCAL GEOLOGY

An excellent description of the local geology is given by A.L. Littlejohn, Geologist, in an assessment report dated September 30, 1977, on behalf of Aquarius Resources Ltd., and is reproduced in full below:

"The main rock type on Spanish Mountain is a dark grey, fine grained phyllite which is interbedded with impure quartzite horizons of varying thickness and extent. The strike is parallel to the major fault and the rocks dip moderately to the south. Dolomite occurs towards the crest of Spanish Mountain ridge. A medium-grained quartz-felspar dyke, striking NE - SW across the phyllites, was observed in a trench at 4,000 ft. elevation.

There are two systems of quartz veins. At 3,900 ft. elevation a vein varying in thickness from 1 to 5 m can be traced for 250 m along the strike. It strikes E-W and dips 60 degrees south. A second vein lies 30 ft. below this and may represent a faulted portion of the main vein, since both are highly fractured, have the same mineralogy and the country rock at the contacts is highly sheared."



"The veins contain scattered patches of cubic pyrite (often altered to limonite) in open spaces and muscovite.

Minor galena is also present. Most of the mineralization is at the contacts. Gold was panned from this vein system although none was observed. Two adits (now inaccessible) have been driven into these veins. At 4,200 ft. elevation there is another massive quartz vein exposed (partly by trenching) for 30 m. It is about 8 m thick and strikes NW - SE. Its attitude could not be determined. It is highly fractured and shattered and is sparsely mineralized with pyrite.

The second quartz vein system consists of a series of narrow (0.1 - 0.8 m) veins which strike NE - SW (approximately at right angles to the major fault) and dip 50-70 degrees to the west. Where exposed along road cuts and in trenches they are seen to be rather discontinuous, although one was traced over a length of 120 m. They are generally spaced several metres apart and the thicker ones are tens of metres apart. At least 15 such veins were found over a 40,000 square metre area. The veins appear to be gash veins, filling fractures in the country rock. Often they are highly fractured themselves."



"The veins are mineralized with gold, silver, pyrite, galena and tetrahedrite. Pyrite occurs in cubic and prismatic aggregates which have usually weathered out to produce a honeycomb structure. This feature is particularly evident at the contacts and extends into the wall rock for a few centimetres, especially if the rock is argillaceous. Many of the cavities are lined with quartz on which the pyrite striations have been Thin flakes of gold are found within these cavities imprinted. and occasionally gold can be seen embedded in limonite. Gold and silver can be panned from the quartz. Alteration in the area is pervasive and has affected all rock types. Pyrite cubes up to 3 cm in diameter give the rocks a mottled appearance, especially the lighter coloured quartzites. In the phyllites, pyrite also forms small pods and stringers. Pyrite mineralization does not appear to favour one particular rock type. This type of mineralization is widespread, being found in argillites on the north side and east end of Spanish Lake. The association of gold and pyrite is evident in the quartz veins and in the placer workings of Cedar Creek. Pyrite usually has a thin coating of red haematite and more often than not is completely oxidized to limonite. presence of quarts linings in the pyrite cavities suggests that some silicification has occurred in association with the quartz veining, but this appears to be local."



"A second type of alteration is carbonatization. Ankerite occurs as discrete, brown grains with oval or diamond-shaped cross-section in dolomite and quartzite and in the intrusive dyke. It adds to the already mottled appearance of the rocks. Carbonate minerals also occur in patches within the rock groundmass. It is suspected that rock noted as dolomite in the field, may in fact be highly altered quartzite or intrusive. A mariposite-like green mineral occurs in scattered patches, noticeable in the lighter coloured rocks."



#### WORK DONE AND RESULTS

The majority of work was carried out on the Peso B claims where trenching and limited geochem were conducted. A crew consisting of two field assistants and a geologist supervising the project performed the work.

The area trenched and sampled had been outlined by previous geochem programs as a possible target area and with recent airborne surveys a mag high was outlined over the same area.

A D-8 caterpillar was used to expose the bedrock and three trenches bulldozed. Due to the relatively thick boulder clay only two trenches exposed bedrock.

Sookochoff Consultants Inc. were requested to examine the trenches (refer to Appendix II) and described the findings as follows:

"Sampling of the various zones within the trenches returned background and slightly greater except for two samples of quartz from the trench at 2+00S 1+00E. One of the two samples returned 2.7 ppm Ag and 15 ppb Au of quartz adjacent to the basaltic dyke."



"The second sample was of galena pockets within a 5 cm quartz. vein. A sample of the vein with galena returned .05% Cu, 4.43% Pb, 1.47% Zn, .30 oz. Ag per ton and .001 oz. Au per ton."

It is believed that the gold geochem highs in the trenched area are of glacial origin and do not reflect the bedrock. The mag high which also occurs in the same area is probably caused by the mafic dyke exposed in the trenches.



#### SUMMARY AND CONCLUSION.

The Peso B and Peso E claims were examined during the months of August and September, 1983 in order to carry out assessment and to define a mag and geochem anomaly outlined on the ground.

The claims are located in the Likely, B.C. area and are accessible by well maintained logging roads. The N.T.S. is 93A/11W; Lat. 52°35'N; Long. 121°29'W.

Historically the area has experienced intermittent mining activity both for placer and lode gold. The claims were explored for auriferous quartz veins with limited diamond carried out in 1947. Recent geochemical surveys in the area have outlined anomalous zones.

Geology consists of Mesozoic volcanics and Cambrian sediments which have latter been faulted and in turn intruded by quartz veins, with some carrying interesting gold values.

This (1983) field season three trenches were bulldozed and sampled and no encouraging results were encountered.

It is believed that the gold geochem highs in the trenched area are of glacial origin and mag highs caused by the mafic dyke encountered in the trenches.



## COST BREAKDOWN

Personnel:	
Geologist, Aug. 15 - Sept. 15, 1983 5 days @ \$350/day	\$1,750.00
Prospector, Aug. 15 - Sept. 15, 1983 16 days @ \$225/day	3,600.00
Field Assistant, Aug. 15 - Sept. 15, 1983 16 days @ \$150/day	2,400.00
Field Expense:	
Geochemical soils (analyzed for Au, Zn, Pb, Cu, As, Ag 54 samples @ \$10.60/sample	572.40
Backhoe	275.00
International TD25C Cat 28 hours @ \$95/hr	2,660.00 315.00
Explosives	140.00
Drill	306.00
Vehicle Expense:	
1 - 4x4 truck with camper 16 days @ \$70/day	1,120.00
1 - 4x4 truck 3 days @ \$52/day	156.00
Camp Expense:	
Supplies (groceries) \$30/man/day 37 days @ \$30/day	1,110.00





# COST BREAKDOWN (cont'd.)

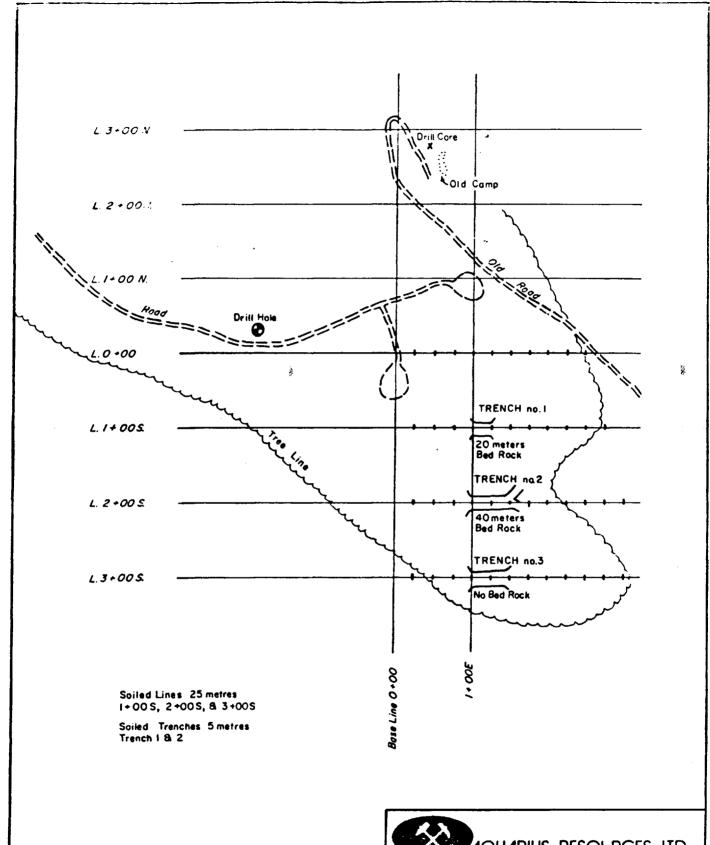
# Report Preparation:

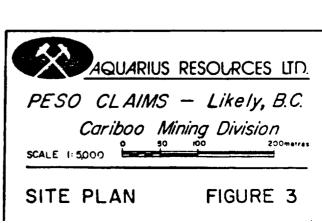
Report writing 1 day @ \$250/day	\$250.00
Typing and office 7½ hours @ \$17.50/hr	131.25
Drafting 4 hours @ \$22.50/hr	90.00
Letter report: Sookochoff Consultants Inc	1,213.85
	\$16,089.50

Respectfully submitted,

Daniel G. Cardinal, P.Geol. November 4, 1983







E MT CONSULTANTS LTD.

## APPENDIX I

## REFERENCES:

B.C. Minister of Mines Annual Reports

1923 pg 124-130

1924 pg 119-126

1933 pg 134-135

1947 pg 123-127

Campbell, R.B.

1961 Quesnel Lake Map Sheet (93A/W)

Littlejohn, A.L.

Sept. 1977 - Assessment Report on the Peso Claims

# APPENDIX II

Sookochoff Consultants Inc. - Letter Report



SOOKOCHOFF CONSULTANTS INC Suite 311 - 409 Granville Street Vancouver, B.C., V6C 1TZ

October 12, 1983

Board of Directors Aquarius Resources Ltd. 475 Howe Street Vancouver, B.C., V6C 2B3

Dear Sirs:

## Re: Peso Mineral Claims, Cariboo Mining Division

As a result of a property examination carried out by the writer on September 18-19, 1983 the following was noted.

Samples taken from two trenches which apparently were excavated on  $g_{0\perp}d$  geochemical sites exposed a dolomite which was variably altered with accompanying sheared zones. The dolomite is as described by Littlejohn who mapped the geology of the area.

Sampling of the various zones within the trenches returned background and slightly greater except for two samples of quartz from the trench at 2+00S 1+00E. One of the two samples returned 2.7 ppm Ag and 15 ppb Au of quartz adjacent to a basaltic dyke. The second sample was of galena pockets within a 5 cm quartz vein. A sample of the vein with galena returned .05% Cu, 4.43% Pb. 1.47% Zn. .30 oz Ag/ton and .001 oz Au/ton.

The trenching has not exposed any significant values or geological structures that may indicate gold bearing horizons. However this could be the result of not trenching within a specific anomalous gold zone as expressed in the Gold Geochemistry map accompanying Giroux's report on the Peso claims dated November 1981.

In addition to the property examination, the writer took selected samples from diamond drill core which was on the property. The location or date of drilling is not known however these drill holes could be from the location as indicated on Giroux's Gold Geochemistry map. The core consisted of dolemites as found in the trenches examined in addition to abundant pyrite bearing phyllites intercalated with felsic flows. The indicated geology is extremely encouraging for locating economic gold values within a synvolcanic environment in association with the phyllites. Anomalous values of 2.6 ppm Ag and 1980 ppb Au were obtained from a core sample of graphitic pelitic schist containing pyrite. Two

meters from the schist zone a sample of felsic volcanic with light serecitic alteration returned 55 ppb Au. It is interesting to note that a geochemical sample at L 10+00S 0+50 Cu returned 6000 ppb Au in an area of phyllitic rock containing pyrite.

It is recommended that detailed geological mapping be carried out to locate the phyllite - felsic volcanic contact zones. These areas should then be explored in detail for gold mineralization. A VLF - E.M. survey would be a minimal cost method of locating the contact zones followed by detailed geochemical survey. Trenching of selected anomalous areas would follow to verify and sample the zones. Diamond drilling would test the zones to establish the location and trend of the favourable mineralized contact areas.

Respectfully submitted,

L. Sookochoff, P. E

#### APPENDIX III

### CERTIFICATE

I, Daniel G. Cardinal of the Municipality of Hope, British Columbia, do hereby certify that:

- I am a professional geologist residing in Hope, B.C., mailing address, P.O. Box 594, Hope, British Columbia, VOX 1LO.
- 2. I am a graduate of the University of Alberta (1975) with a B.Sc. degree in Economic Geology and a graduate of the Northern Alberta Institute of Technology with a Geological Technologist diploma (1970).
- 3. I am a member in good standing with the Association of Professional Engineers, Geologists and Geophysicists of Alberta; and a member of the Canadian Institute of Mining and Metallurgy.
- 4. Since 1968, I have been actively involved in the Canadian mining industry both as a prospector and a professional geologist, and have assisted and instructed prospector's courses through the Department of Extension, University of Alberta.
- 5. I am presently employed by Aquarius Resources Ltd., as

  a permanent staff geologist to systematically carry out
  geological mapping, prospecting, geochemical, geophysical
  and diamond drilling programs.

Daniel G. Cardinal, P.Geol.



# APPENDIX IV

Geochemical Analysis Report



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L1109-050E	0	2	9	34	30	(5		
12005-1755	0	32	24	49	38	5		
L2995-190E	0	17	22	23	50			
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