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TILLICUM AREA

CLAIMS.

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Geological Evaluation Report

on the

# WESTERN EX 10 MINERAL CLAIM

Slocan M.D.

NTS 82K 4W

for

CRUISER MINERALS LTD.

May 5, 1983 Vancouver, B.C. L. Sookochoff, P. Eng. Consulting Geologist

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#### PART A

# SUMMARY

The Western Ex 10 mineral claim is located in the area of the former Burton gold mining camp in central southern British Columbia.

A recent significant gold find on the La Teko-Esperanza Tillicum property, 15 km to the southeast with representative gold values of 2.3 oz. Au/ton from a 64 ton shipment; the delineation of a widespread gold bearing zone; and assays of up to 1.104 oz. Au across 3.4 meters in recent diamond drill results has regenerated interest and activity in the area.

The property is located on the west side and adjacent to Columbia River, 19 km southwest of Nakusp.

Mosquito Creek is indicated as a major northerly structure is within one km north of the claim group which is underlain by an undivided sequence of the Shuswap Metamorphic Complex.

The Shuswap terrain "consists of highly metamorphosed rocks commonly including schists, quartzites and calcerous gneiss" of probably Pre Cambrian age. Although gneiss forms the bulk of the assemblage, slates, phyllites and quartzites occur grading through zones of increasing metamorphism".

Pegmatites as variable lithological occurrences vary greately from place to place with granite to quartz monzonite plugs in evidence.

#### CONCLUSIONS

The Western Ex -10 olaim is located in a geological environment where gold silver and/or lead zinc mineralization can occur.

Favorable geological features for controlling potential mineral zones on the property are:

- 1. the major fault zone along Mosquito Creek to the north;
- the potential for inclusive plugs or stocks within the Shuwsap rocks that are known to occur in the immediate area;
- the underlying-mixed Shuswap assemblage that may include favorable calc-silicate horizons;
- 4. the potential significance of the pelitic-volcanic which is of the Shuswap rocks masked by regional metamorphism;
- 5. and the intrusive Shuswap contact zone which could indicate a major structural control.

Thus the Western Ex 10 mineral claim warrants a systematic exploration- program to locate and to test zones of potential economic mineralization.

#### RECOMMENDATIONS

A three stage exploration program estimated to cost \$114,900 is recommended on the Western Ex 10 mineral claim. The exploration program is to be carried out from reconnaissance to detailed geological surveys followed by geochemical surveys, trenching and diamond drilling.

It is also recommended that Cruiser Minerals Ltd. allocate \$19,900 to complete the first stage of the recommended exploration program. Stages II and III would only be initiated upon the successful completion of and encouraging results of the previously completed stages.

Respectfully submitted

Laurence Sook choff Consulting Geologis

May 5,-1983 Vancouver, B.C. Geological Evaluation Report

on the

WESTERN EX 10 MINERAL CLAIM

for

CRUISER MINERALS LTD.

#### PART B

#### INTRODUCTION

At the request of officials of Cruiser Minerals Ltd., the writer has prepared the following report on the geological potential of the Western Ex 10 claim for the occurrence of economic gold-silver and/or lead-zinc zones.

The property is located in the general area of the recent La Teko-Esperanza significant gold discoveries on Tillicum Mountain, 15 km to the southeast.

As a result of the Tillicum find, the mining activity in the area has been regenerated from the initial placer gold mining of 1895 and subsequent hard rock mining at the turn of the century.

The writer obtained the information for this report from pertinent government publications in addition to assessment reports submitted on work done in the area.

#### PROPERTY

The property is comprised of one located mineral claim of 20 units. Particulars are as follows:

Claim			Units	Record No	Ex	piry	
	*						
Western	Eχ	10	20	3579	February	16,	1984

Any legal aspects pertaining to the claim is beyond the scope of this report.

# LOCATION AND ACCESS

The common legal corner post is located within 500 meters east of Columbia River and 800 meters southwest of the mouth of the southerly flowing Mosquito Creek within NTS mineral claim map 82 K 4W.

Access is provided to the property by an all weather secondary road along the west side of Columbia River. The road passes northerly through the eastern portion of the property.

SHARRIST

#### PHYSIOGRAPHY

The property is located within the Monashee Mountain Range and covering the western slopes of the Columbia River Valley. Elevations on the property range from 400 meters along Columbia River in the southeast to 750 meters in the southwestern portion near the headwaters of Mauchline Creek.

The general climate of the area considering the elevations on the property should allow surface exploration work for up to eight months of the year.

# WATER AND POWER

Water should be in abundant supply year round from the many variable water courses through the property.

Diesel-electric power would be required in the initial stages of exploration and development.

#### HISTORY

The Burton area was a gold mining camp founded around 1895 when gold mining was originally confined to placer production. Burton and Mineral City at Caribou Creek flourished upon the working on the placers and upon the location of gold in outcroppings at the turn of the century. Some of the old mines which were found included the Millie Mac, Mountain Meadows, Kincardin, Tillicum and many others. Since the depression of the 1930's, there was little activity in the old mines and it was not until 1979 when the activity in the area regenerated through a gold discovery made by Arnie Gustafson. Work carried out from the discovery to date and presently under exploration by La Teko and Esperanza resulted in the recent reporting of a significant zone of substantial gold mineralization.

On the Millie Mac, 15 km southeast of the property, 800 meters of underground work was completed with 300 tons of ore shipped to 1933.

From 1960 to 1979 production was reported at 119 tons which included some concentration.

On the Skylark, a group of Crown Grants eight km east of the Western Ex 10 claim reported work includes a shaft exploring a zone of "rich ore"

To the east of the Skylark on Blue Grass Mountain, Mar Gold reportedly plans to continue exploring a molybdenite-gold zone on which Brenda had earlier worked. "Two hundred pounds" of material averaging 0.70 oz. Au/ton was shipped from this zone in 1974.

The writer is not aware of any previous mineral exploration on the Western Ex  $10\,$  mineral claim.

### GEOLOGY AND MINERALIZATION

The general geology of the area is of predominantly Jurassic and/or Cretaceous intrusives enveloping the Slocan group of volcanics and sediments on the east side of Columbia River with the Shuswap Metamorphic Complex comprised of regionally metamorphosed sedimentary and volcanic rocks to the west.

To a limited extent the Slocan rocks also are located on the west side, however the Shuswap Complex and intrusives predominate.

Mineralization to the east of Columbia River consists of gold-silver-lead-zinc values within quartz veins or within silicified meta sediments and/or meta volcanics. Gold values are also reported in association with skarn zones as well as in association with dacitic volcanics.

On the <u>Millie mac</u>, gold, silver values occur in block or crushed quartz veining within or close to a graphitic schist. The best values reportedly "occur within the lower 5 to 7 meters of schist". The adjacent andesites and argillites are void of mineralization postulated as being due to the deficiency of contained sulphur therein, thereby not precipating mineral bearing hydrothermal fluids.

Clarke reports an average of 41 uncut assays along a zone length of 58 meters in a trench returned 0.146 oz. Au and 7.57 oz. Ag/ton.

West of the Skylark, Mar-Gold has completed in 1982 and will be continuing a diamond drill program on a mineralized zone outlined by Brenda in 1980.

On the  $\underline{\text{Tillicum property}}$ , gold values reportedly occur within tuffaceous argillite and dark grey quartz biotite gneiss. Calc-silicate lenses and bands interfinger in an erratic manner, as do zones of silicification. Bulk sampling in 1981 of the Money Pit of the Tillicum yielded 64 tons averaging 2.3 oz. Au/ton.

More recent assays from Tillicum returned significant gold values within a zone extending for 100 meters along strike in addition to gold values over a large area. One of the zone gold values is reported as 26.27 oz. Au across 2.33 meters.

Diamond drill assay results returned gold values of up to 1.104 oz. Au/ton across 3.4 meters from four diamond drill holes completed in September 1982.

Significant mineral occurrences in the Shuswap Complex and to the west of the Western Ex 10 claim are reported as:

- 1. Concordant silver-lead-zinc deposits associated with carbonate horizons in the Mabel Lake area.
- 2. A concordant gold occurrence in marble at Casen Bay of Kalamalka Lake.

The Western Ex 10 claim is indicated to be predominantly underlain by a mixed or undivided assemblage of the Shuswap Metamorphic complex in contact along the south with intrusives of granites and quartz monzonites. These intrusives can be related to the Nelson Intrusives which are common to the east of Columbia River.

The "Shuswap" terrain is applied to a series of highly metamorphosed rocks which are divided into three groups whose stratigraphic relations to one another is uncertain. Each group is comprised of sedimentary and probable volcanic rocks and each has undergone regional metamorphism. The three groups are similar in metamorphism and structure and are distinguished from neighboring formations by a marked and abrupt contrast in stratigraphy, lithology, metamorphism and structure.

Gneiss forms the bulk of the assemblage but schist, quartzite, calcerous gneiss are common and locally abundant. Pegmatites in wisps, lenses, discontinuous layers, small sills and dykes vary greately from place to place.

Where the strata is least metamorphosed, the rocks are slate, phyllite and quartzite and these grade through zones of increasing metamorphism into gneiss. The age of the Shuswap rocks is not definite, however a correllation may be present with the Lower Cambrian strata to the east in the Kootenay Area as being mid-Proterozoic and older.

The-Nelson intrusive is comprised of a porphyritic to non-porphyritic granite to granodiorite and described in Memoir 308 as:

"predominantly porphyritic granite with other phases having been identified. The phases include quartz diorite, quartz monzonite, diorite, monzonite and syenite which are all also present in the satellites but in different degrees of abundance."

The presence of non-porphyritic phases within the large areas of porphyritic granite were largely formed after emplacement of the batholith either by orystallization from a cooling magma or by later metasomatism by deep seated alkaline solutions.

The <u>Slocan group</u> consists of slates, argillites, quartzites, limestone, conglomerate, tuff and may include some volcanic rocks.

Although the Western Ex 10 claim is indicated to be underlain by a mixed assemblage of the Shuswap Complex. more def-initive zones of carbonate diopside quartzite and calc-silicate gneiss occur within three km north.

A significant northwesterly fault zone is indicated as occurring along Mosquito Creek which is within one  $\mbox{\tt km}$  north of the property.

There is no known mineralization on the Western Ex 10 mineral claim.

#### RECOMMENDED EXPLORATION PROGRAM

It is recommended that an exploration program designed to initially delineate prime exploration areas which would subsequently be explored in detail to locate prime anomalous target areas to test for economic gold-silver and/or lead-zinc zones be carried out on the Western Ex 10 claim.

The exploration program should consist of three stages with the initial stage comprised of a reconnaissance geochemical survey in association with geological mapping and sampling. The non-sifted samples would be tested for gold, silver, lead and zinc — which in this area appear to correllate with mineralized zones — to establish potential mineral bearing localities.

Stage II would essentially be comprised of detailed or fill-in geochemical surveys which would be followed up by trenching over anomalous areas to establish geological aspects of or trend of indicated mineralization.

A third stage of diamond drilling to test the prime anomalous zones would follow.

#### ESTIMATED COST OF THE RECOMMENDED EXPLORATION PROGRAM

# Stage I (Reconnaissance)

Geochemical Survey 700 samples @ \$17	\$11,900
Geology and sampling	3,000
Associated field costs	2,000
Engineering, supervision and reports	2,000
Contingencies	1.000

\$19,900

# Stage II

Geochemical Survey	allow	\$10,000
Trenching	allow	10,000
Geology		2,000
Associated field costs		2,000
Engineering, supervision an		4,000
Contingencies (for road construction)		2,000
		\$30.000

# Stage III

Test diamond drilling	
- allowance of 500 meters @ \$100	\$50,000
Support eosts	15.000
	\$65,000

Upon the completion of Stage I, each successive stage would only be initiated contingent on the favorable results of the preceding stage of the exploration program.

Respectfully submitted,

Laurence Sookochtf, P. Eng Consulting Geologist

May 5, 1983 Vancouver, B.C.

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- Economic Geology, Seventy-Fifth Anniversary Volume 1905-1980, Economic Geology Publishing Company 1981

#### CERTIFICATE

I, Laurence Sookochoff, of the City of Vancouver, in the Province of British Columbia, do hereby certify:

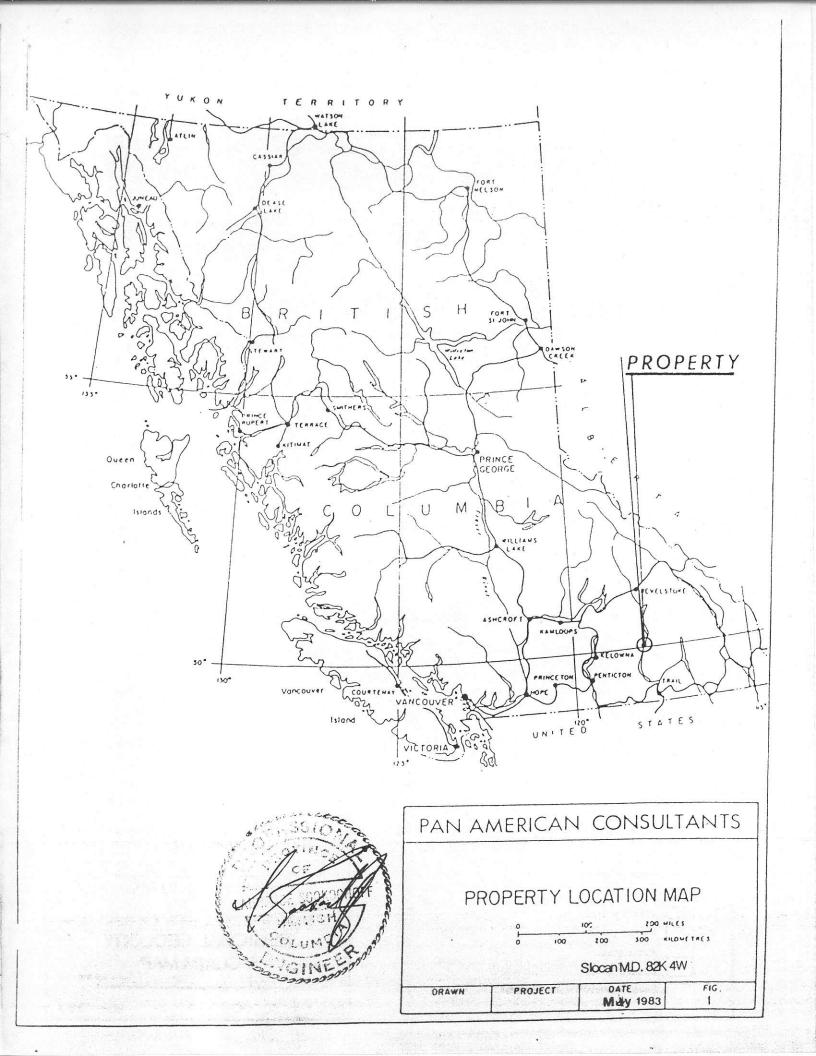
That I am a Consulting Geologist with the firm of Pan-American Consultants Ltd. of 1406-1055 West Georgia Street, Vancouver, B.C.

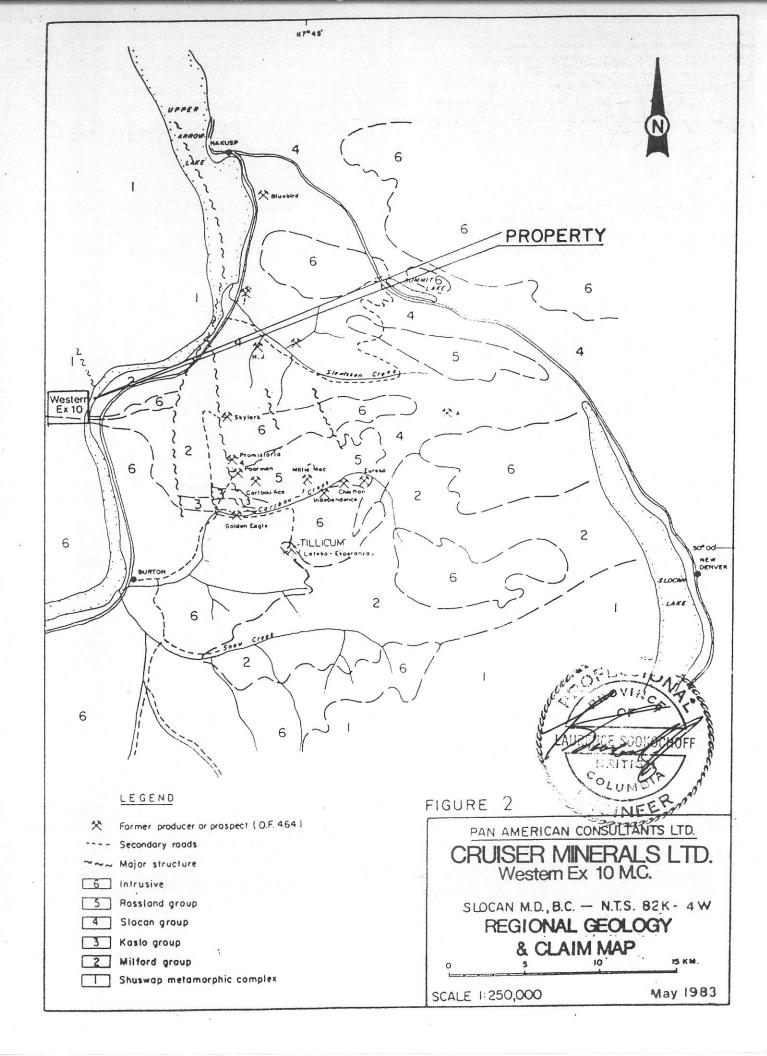
### I further certify that:

- 1. I am a graduate of the University of British Columbia (1966) and hold a B.Sc. degree in Geology.
- 2. I have been practising my profession for the past seventeen years.
- 3. I am registered with the Association of Professional Engineers of British Columbia.
- 4. The information for the accompanying report on the Western Ex 10 claim is based on pertinent material as cited under references and from a property examination carried out on March 16. 1983.
- Neither I or Pan-American has direct or indirect interest in the property described herein or in the securities of Cruiser Minerals Ltd.
- 6. This report may be utilized by Cruiser Minerals Ltd. for inclusion in a Prospectus to be filed with the regulatory authorities.

Laurence Sookooner, Eng Consulting Geologist

May 5, 1983 Vancouver, B.C.





#### CERTIFICATE OF THE COMPANY

The foregoing constitutes full, true and plain disclosure of all material facts relating to the securities being offered by this Prospectus as required under Part 7 of the Securities Act of the Province of British Columbia, and the regulations thereunder.

DATED at Vancouver, British Columbia, this 30th day of September 1983.

MIHKEL KANGRO

President/Director/Promoter

PREDERICK WILLIAM DAVIDSON

Secretary-Treasurer/ Director/Promoter

ARTHUR THOMPSON FISHER

Director

WILLIAM ROBERT McCONNELL

Director

GORDON CASSIE CUNNINGHAM

Promoter

#### CERTIFICATE OF THE UNDERWRITER

To the best of our knowledge, information and belief, the foregoing constitutes full true and plain disclosure of all material facts relating to the securities offered by this Prospectus as required under Part 7 of the Securities Act of the Province of British Columbia, and the regulations thereunder.

DATED at Vancouver, British Columbia, thi. 30th day of September 1983.

LOEWEN ONDALTUE MCCUTCHEON & COMPANY IMITED

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