

93-L

811853

GEOLOGICAL, GEOCHEMICAL REPORT

STARR CREEK PROPERTY

TELKWA MOUNTAIN MINES LTD.

OMINECA MINING DIVISION, B.C.

FOR

TELKWA MOUNTAIN MINES LTD. (N.P.L.)

Toru Kikuchi, Ph.D., P. Eng.

Consulting Geological Engineer.

November 18, 1969.

No 7-2

Vancouver, B.C.

C O N T E N T S
= = = = =

I.	INTRODUCTION AND GENERAL STATEMENT	1
II.	GEOLOGY, MINERALIZATION AND COPPER-DEPOSIT	2
III.	CONCLUSION AND RECOMMENDATIONS	6
	STATEMENT OF QUALIFICATIONS	8

with 4 illustrations.

GEOLOGICAL, GEOCHEMICAL REPORT
STARR CREEK PROPERTY
TELKWA MOUNTAIN MINES LTD.
OMINECA MINING DIVISION, B.C.

I. INTRODUCTION AND GENERAL STATEMENT

At the request of Mr. Edward Greer, President, Telkwa Mountain Mines Ltd. (N.P.L.), the writer has been on the property, in the company of Mr. Greer, Mr. Hans Kneteman (one of the Directors of the company) and Mr. Rex Bosson (Mining Engineer), on July 21 - 23, 1969 to make a preliminary investigation as to its further consideration, and on August 23 - 24, 1969 to supervise the geological/geochemical work being carried on at the site by Motomu Kiyokawa (a partner geologist of the writer) and Tetsuo Nishiuchi (an assistant geologist) during the period August 15 - 31, 1969.

The following references are to be used:-

Toru Kikuchi: Preliminary Geological Report,
Starr Creek Property,
Telkwa Mountain Mines Ltd.
Omineca Mining Division, B.C.
August 5th, 1969.

The Company's Prospectus (January 29, 1969)

E.D. Kindle: Mineral Resources, Hazelton and Smithers Areas,
Cassiar and Coast District, B.C. G.S.C. Memoir
223, 1954.

Preliminary Map 44 - 23, Smithers Coast District, B.C. G.S.C.
1944.

V. Dolmage: Telkwa District, B.C., G.S.C., 1918.

W.W. Leach: Telkwa River and Vicinity, G.S.C., 1907.

The copper showings of this area have been known from the beginning of this century, and some mineral claims were staked intermittently until recent years. Mr. E. Greer, prospector and president of this company, has staked and owned the property from 1967. More detailed historical information was given in the company's Prospectus (January, 1969).

The Mineral claims owned by the company and described in this report are:-

BL 1 - 24 inclusive
PG 1 - 32 inclusive
SC 3 - 8 inclusive and 12, 13 and 14
RB 1 - 18 inclusive
HK 1 - 5 inclusive
SR 11 and 13
TK 1 - 6 inclusive

All these 96 claims are adjacent as shown in Fig. 2.

The property is located at approximately $54^{\circ} 30' N$, $127^{\circ} 30' W$, about 21 air-miles southwest of Smithers, B.C., between 4,500' and 6,500' elevation. The access road from Telkwa, along Telkwa River and Howson Creek, via Norcan camp, has been completed for a distance of about 25 road miles. Some parts of the road are not good enough yet. Convenient means of access for visitors at the moment is by helicopter from Smithers. (See Fig. 1.)

II. GEOLOGY, MINERALIZATION AND COPPER-DEPOSIT

The so-called "Hazelton Group" of Upper Jurassic as the underlying formation, granitic intrusion of Upper Cretaceous, and the contact ("Hybrid") zone of both rocks appear in the area.

Hazelton Group of the area mainly consists of andesite, dacite, rhyolite, tuff and breccia. General strike is E - W, gently dipping to the north. The intrusive rocks are granite, syenite, monzonite, diorite and some more basic ones, and their porphyritic facies.

The property (see Fig. 2) is divided into two parts, northeast and southwest, by Starr Creek which runs through the property to the southeast. The northeast part is called "Sunrise Range" and the southwest is named "Wolverine Range". The granitic intrusive is located mainly at the west half of the property and andesitic volcanics are at the north-northeast, east, southeast and south parts of it.

The contact zone of both above mentioned rocks runs through the property, striking generally N 20° W, with a width of about 1,500' to 2,000' across Starr Creek. This zone, which is the host rock of the mineralization of the property, consists of mainly hybridized (physically and/or chemically) materials of both types of rock, that is some kind of porphyritic rock with a large amount of brecciated parts, being altered by the hydrothermal addendas, such as calcite, K-element, and a small amount of quartz.

The copper mineralization occurs in the hybrid zone, and many showings have been found. The modes of occurrence do not resemble each other, but they can be grouped into the following three types;

- (1) Dissemination in the granitic/dioritic intrusives.
- (2) Fissure-filling along the contact of andesitic volcanics and granitic/dioritic intrusives, with dissemination and/or network mainly in the granite/diorite side.

- (3) Fissure-filling along cracks of the hybrid rocks, with a general strike of N 20° W, the same as the strike of the contact zone.

These three types, genetically considered, seem to be of the same mineralization origin, and they appear, as showings, with different modes of occurrence.

The ore-forming mineral is mainly chalcopyrite, with some bornite and gray-coppers. Pyrite (a large amount) and magnetite (a small amount) are usually associated with them. No molybdenite can be seen, but some sphalerite and galena are recognized through a hand lens. Some assays reported some silver.

As gangues, calcite, quartz, K-spar, chlorite and some skarn-minerals are seen beside much of the altered rock.

The copper mineralization covers all through the property and copper showings and its floats have been found at many places as seen in Fig. 3 (in pocket). They are usually some combinations of the three types of mineralization above mentioned. The surface data we have had now suggests as follows, but it should be changed after some more drill data comes out;

- (A) Though the mineralization covers all the property, some concentrations are seen at (a) north of the camp, (b) Erica, Eddy and Dennis Creeks area, and (c) Wolverine Range.

- (B) The copper mineralization of (a) seems to be a combination of Type (1) and (2), along with the contact of tuff and acidic intrusive.
- (C) (b) seems to be mainly Type (1) in basic intrusive which is the different facies of the acidic intrusive.
- (D) (c) seems to be Type (1) in acidic intrusive.

The relationship and connection of these showings are not yet clear, and no tonnage estimate has been tried yet.

Twenty-two rock chip samples (fourteen of them have been reported in the writer's report dated August 5, 1969) were taken by the writer and assayed by T.S.L., Vancouver as follows:

<u>Location No.</u>	<u>Sample No.</u>	<u>Cut Direction</u>	<u>Cut Length</u>	<u>Cu %</u>	<u>Type of Showings</u>
1	TW-10	E-W	10'	2.15	2
2	TW-11	E-W	20	0.32	2
3	TW-12	E-W	100	0.03	2
4	R- 9	E-W	0.5	0.70	3
5	R- 8	E-W	20	0.05	1
6	TW- 6	N-S	25	1.62	2
7	R- 1	E-W	9	0.75	2
8	TW- 7	E-W	10	0.64	3
9	TW- 8	E-W	100	0.09	2
10	R- 3	E-W	2	0.15	2
11	TW- 9	E-W	30	0.25	2
12	R- 7	E-W	6	0.25	2
13	TW-14	E-W	15	0.35	2
14	R- 6	N-S	30	1.31	2
15	R- 4	NW-SE	20	0.30	2
16	R- 5	E-W	1	0.29	2
17	TW-13	N-S	150	0.37	1
18	TW- 5	NW-SE	30	trace	Average of falls
19	TW- 4	N-S	6	0.17	1
20	TW- 3	E-W	20	trace	Average of falls
21	TW--2	E-W	9	trace	1
22	TW- 1	E-W	6	0.10	1

(See Fig. 3 for location and number.)

(Refer T.S.L. Report No. V-6169 and T. Kikuchi's report dated August 5, 1969 for "TW", and T.S.L. Report No. V-6429 for "R".)

A total of 498 soil samples also were taken when geological mapping work was carried out. The sampling places were not on a systematic grid. These samples were tested by M. Kiyokawa under the writer's supervision at the laboratory of Britton Research Ltd., Vancouver, B.C. The results are plotted in Fig. 4.

III. CONCLUSION AND RECOMMENDATIONS

Some kind of disseminated copper deposit, that means low grade and huge tonnage, has been found in the property. There are a large number of copper-bearing veins and net-works associated with the copper disseminated rocks. Consideration should be given to mining them together. The copper mineralization is not weak and the mineralized zone is large enough to suggest a large potentiality for an economical copper deposit in the property.

The relationship and combination of these showings should be clarified to find the copper concentrated parts, with further systematic exploration work.

The following, therefore is recommended for the 1970 season:

(1) ROAD REPAIR AND CAMP SETUP

This should be completed ahead of the other programmes

\$ 5,000.00

(2) FURTHER PROSPECTING AND GEOLOGICAL MAPPING PROGRAMME

This should be carried on all through the season for further extension of consideration and control of exploration

10,000.00

(3) ELECTRO MAGNETIC SURVEY PROGRAM

The most suitable method should be selected. This should be carried out within the first two months, covering the known showings and other possible areas

\$10,000.00

(4) DIAMOND DRILLING PROGRAM

10 holes of BQ (wireline) size.
300' average footage.
3,000' total.

30,000.00

(5) OVERHEAD TRANSPORTATION AND CONSULTING.

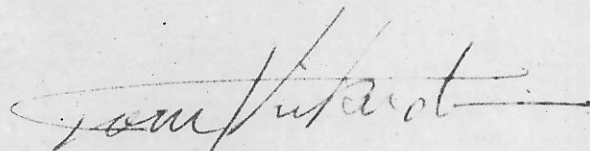
10,000.00

TOTAL

\$65,000.00

AMOUNT IN FIGURES SUBJECT TO
ELECTRO MAGNETIC SURVEY PROGRAM

Respectfully submitted,



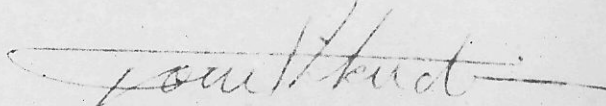
Toru Kikuchi, Ph. D., P. Eng.
Consulting Geological Engineer.

Vancouver, B.C.
November 18, 1969.

STATEMENT OF QUALIFICATIONS

I, Toru Kikuchi of the City of Vancouver, B.C., hereby certify that:-

1. I am a graduate of the Hokkaido University, Japan (B.Sc., Geology and Minerology, 1946) and of the Tohoku University, Japan (Ph.D., Economic Geology, 1963).
2. I am a "GIJUTSUSHI" (a qualification for a consulting engineer authorized by the Japanese Government) and a member in good standing of The Association of Professional Engineers of the Province of British Columbia and of the Yukon Territory.
3. I am a member of The Society of Mining Geologists of Japan, and of The Canadian Institute of Mining and Metallurgy and of The Engineering Institute of Canada.
4. I have been practising my profession continuously for the past twenty-three years, and am an independent Consulting Geological Engineer with my office at Room 702 - 402 West Pender Street, Vancouver 3, B.C.
5. I have no direct or indirect interest in the property, nor do I anticipate receiving any such interest.
6. This report is based on my personal study and work at the property during the periods July 21 - 23 and August 23 - 24, 1969.


Toru Kikuchi, P. Eng.

Vancouver, B.C.
November 18, 1969.

Fig. 1. LOCATION MAP



TEIKWA MOUNTAIN LINES LTD.

EAGLE PEAK
6867'

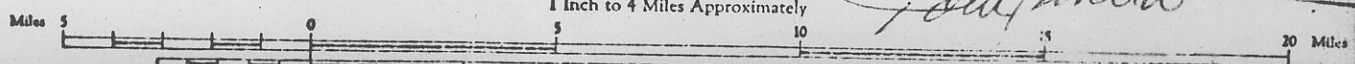
HOWSON PEAK

Scale 1:250,000

1 Inch to 4 Miles Approximately

Index to Adjoining Sheet

Southwest



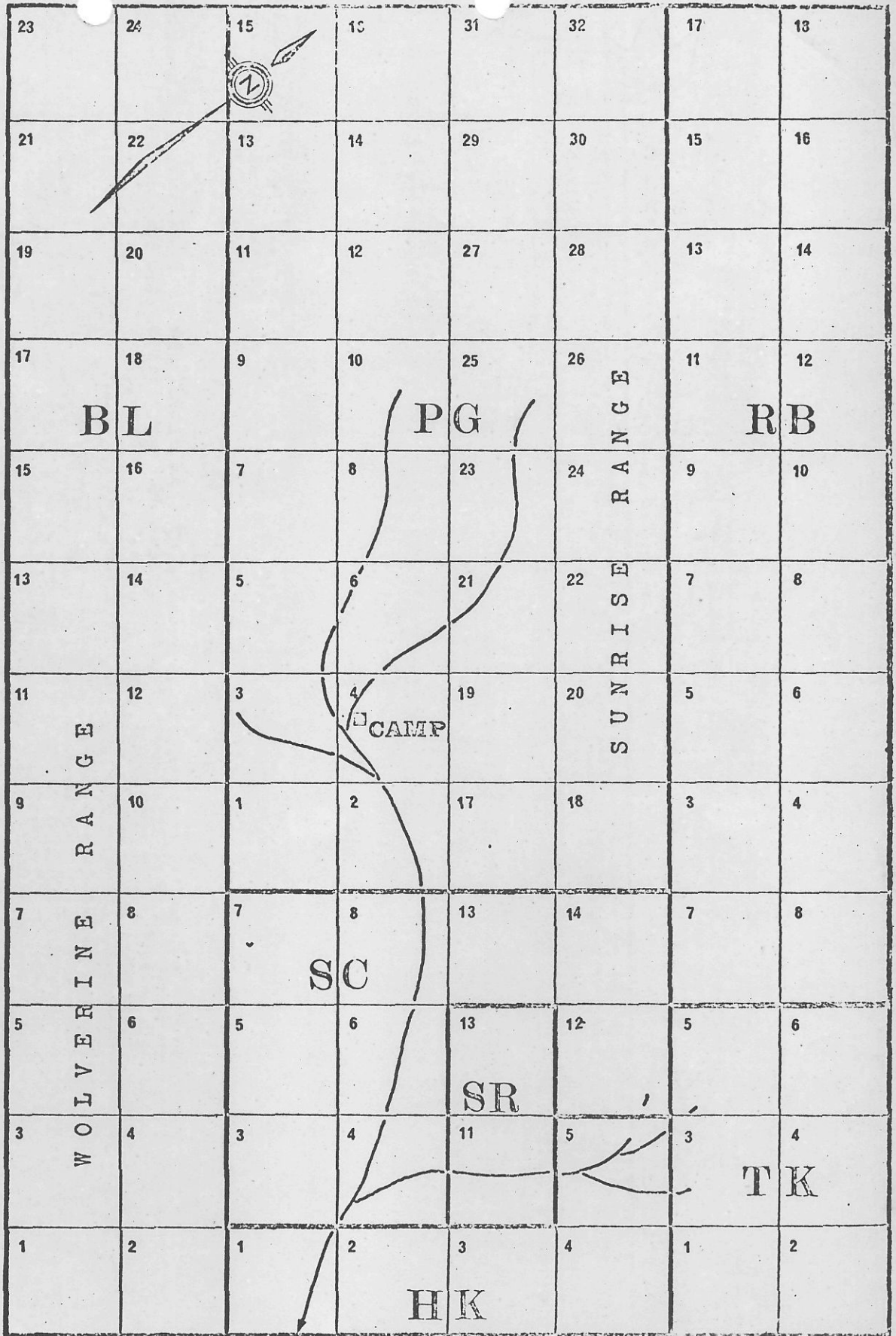


Fig.2 CLAIM SITUATION OF STARR CREEK PROPERTY,
TELKWA MOUNTAIN MINES LTD. (N.P.L.)

Toru Kikuchi
Toru Kikuchi, P.Eng.