A REPORT

ON

THE RACING RIVER PROSPECTING PROJECT

1971

Tuchodi Lakes Area N.T.S. 94 - K

FOR

CANADIAN SUPERIOR EXPLORATION LIMITED

Suite 2201 - 1177 West Hastings Street

Vancouver 1, B. C.

BY

L. P. Duquette

NOVEMBER, 1971

TABLE OF CONTENTS

	PAGE
INTRODUCTION	1
PROJECT REGION	1
GeographyGeology	1 2
PURPOSE AND SCOPE	3
FIELD OPERATIONS	4
RESULTS	5
Location Map, Fig.8; 1"=2 mi.	
Ewen Creek Area	5
Chischa Creek Area	7
East Tuchodi Lake Area	9
Lewis Creek Area	10
Margison Creek Area	10
William Creek Area	11
Henry Creek Area	12
SUMMARY AND CONCLUSIONS	13
PECOMMENDATIONS	1.5

INTRODUCTION

This report has been prepared for Canadian Superior Exploration Ltd. at the request of Mr. T. I. Sharpes, Project Manager. It describes the results of a prospecting program undertaken near Tuchodi Lakes in Northeastern British Columbia. Maps showing mineralized locations, prospecting camps and geological features are enclosed. Further work is recommended.

PROJECT REGION

GEOGRAPHY:

The area covered by prospecting (150 sq. mi.) is centred at approximately 58°20'N latitude and 124°30'W longitude; 23 miles south of the Alaska Highway and 80 miles southwest of Fort Nelson, B.C. (See Fig. 8). It is on the eastern flank of the Rocky Mountain Ranges and consists principally of sharp barren ridges. Elevations range from 2,800 feet in the main valleys to 8,600 feet ASL.

PROJECT REGION (cont'd)

GEOLOGY:

The area of interest is underlain by sedimentary rocks of Late Precambrian Age. Locally these have been divided in two units. The <u>Tuchodi Formation</u> (Taylor, Bell) is a sequence of cross-bedded quartzites with intercalations of argillaceous dolomite and siltstone. It is estimated to be about 5,000' thick and dips gently southwestward. Pre-Tuchodi sediments (<u>Henry Creek Formation</u> of Taylor and Bell) consist of dolomitic and calcareous sandstones and siltstones. They are exposed beneath the Tuchodi in the deepest valley bottoms (Tuchodi Lake, Margison Creek and Chischa Creek). A series of steeply inclined north to NW trending basalt dikes cut these Precambrian sediments.

Chalcopyrite occurs at several locations in quartz carbonate veins which cut the Tuchodi and Pre-Tuchodi rocks. Disseminations and fracture fillings of pyrite, chalcopyrite, chalcocite and copper carbonates occur in at least three quartzite beds near the base of the Tuchodi Formation. The copper minerals occupy fractures and joint planes which are more or less normal to the bedding. The fillings range from hairline to about 1/4" in thickness.

PROJECT REGION - Geology (cont'd)

Sulphides are disseminated near the walls of fractures and joints but decrease sharply in unbroken parts of the bed.

Paleozoic carbonate strata lie to the east and south of the prespecting area and later Proterozoic sediments to the west.

PURPOSE AND SCOPE

The objective of the program was to investigate geochemical and geological targets developed from reconnaissance work carried out by Windermere Exploration Ltd. (NPL) in 1969 and 1970. Prospecting activities were directed exclusively toward copper-bearing quertzite beds in the immediate vicinity of Tuchodi Lakes. The mineralized units were identified and traced on the ground by prospecting outcrops and slide rock. Mineralized locations and geological observations were recorded in the field on air photographs. This information appears on sketch maps (Figures 1 to 7) accompanied by brief written descriptions.

PURPOSE AND SCOPE (cont'd)

Fifty-eight claims were staked (PE group) to cover mineralization in the Chischa Creek area (See Fig. 9).

FIELD OPERATIONS

Prospecting activities were undertaken by
two 2-man field crews operating from a base camp located
on the NW shore of East Tuchodi Lake during the period of
June 16th to August 13, 1971. Helicopter support was
provided by a Bell G3B-l aircraft based at the Canadian
Superior drilling camp 34 miles west of Tuchodi. Nine fly
campsites were occupied. The locations are shown on Figures
1 to 8.

RESULTS

Field data from prospecting traverses is summarized in this section. The general geology and mineral occurrences in the project area are shown on the Location Map, Fig 8 at 1" = 2 mile scale. Seven prospecting data sketches (Fig's 1-7) at 1" = 1/2 mile are included; these are keyed to the Location Map by campsite positions and are named geographically.

It should be noted that for the purposes of reference, arbitrarily chosen names have been given to three creeks north of Tuchodi Lakes (William, Ewen and Lewis).

EWEN CREEK AREA:

Field Crew: L.P.Duquette

E. Ewen

Camp No:

PE 1

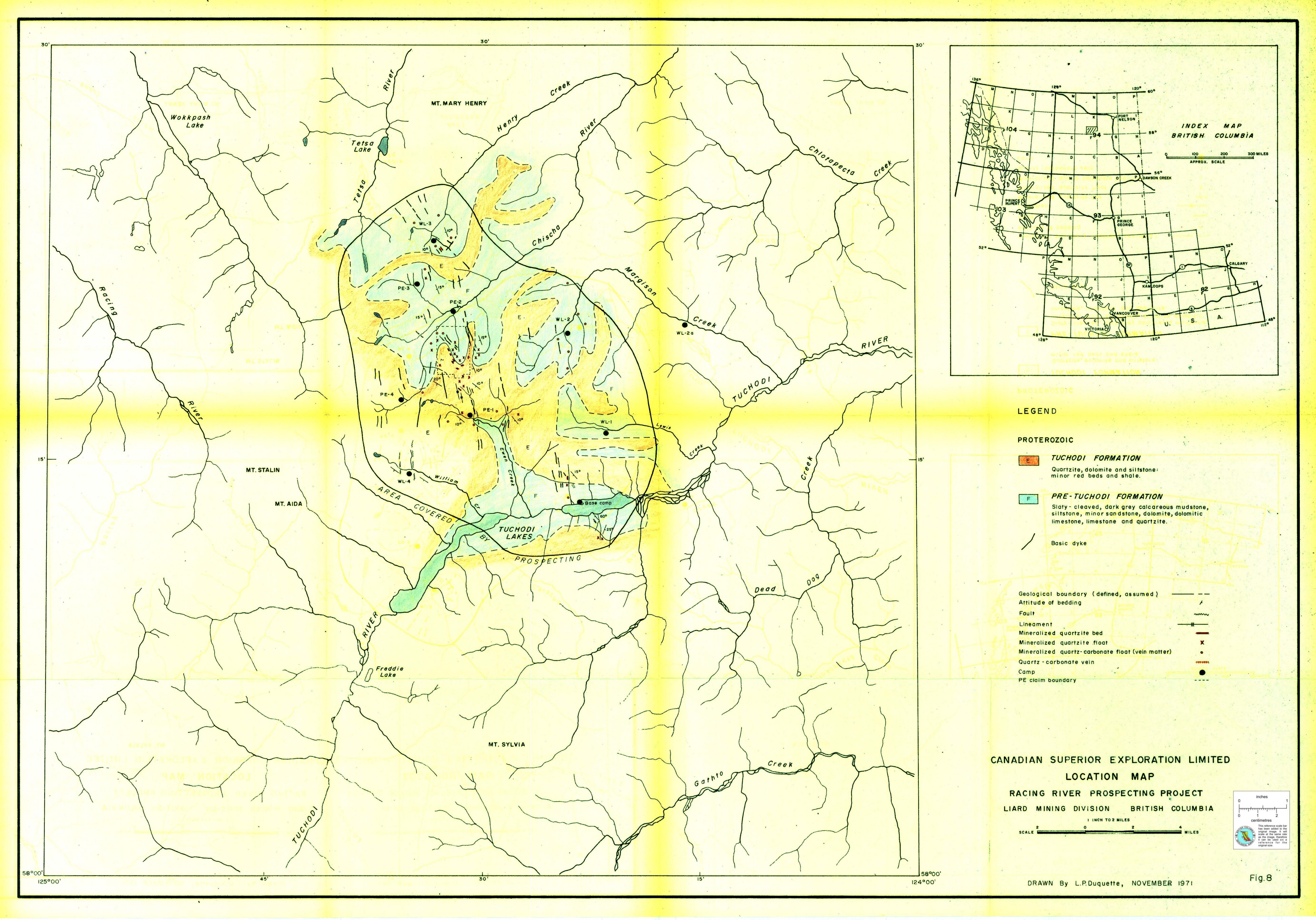
Dates:

June 22 to 27th

July 29 to July 4th

Reference:

Figure 1.



RESULTS - Ewen Creek Area (cont'd)

About two miles NNW of the campsite at 6,550'

ASL a mineralized outcrop of quartzite (50' x 150') occurs

adjacent to a prominent airphoto lineament. It is weakly

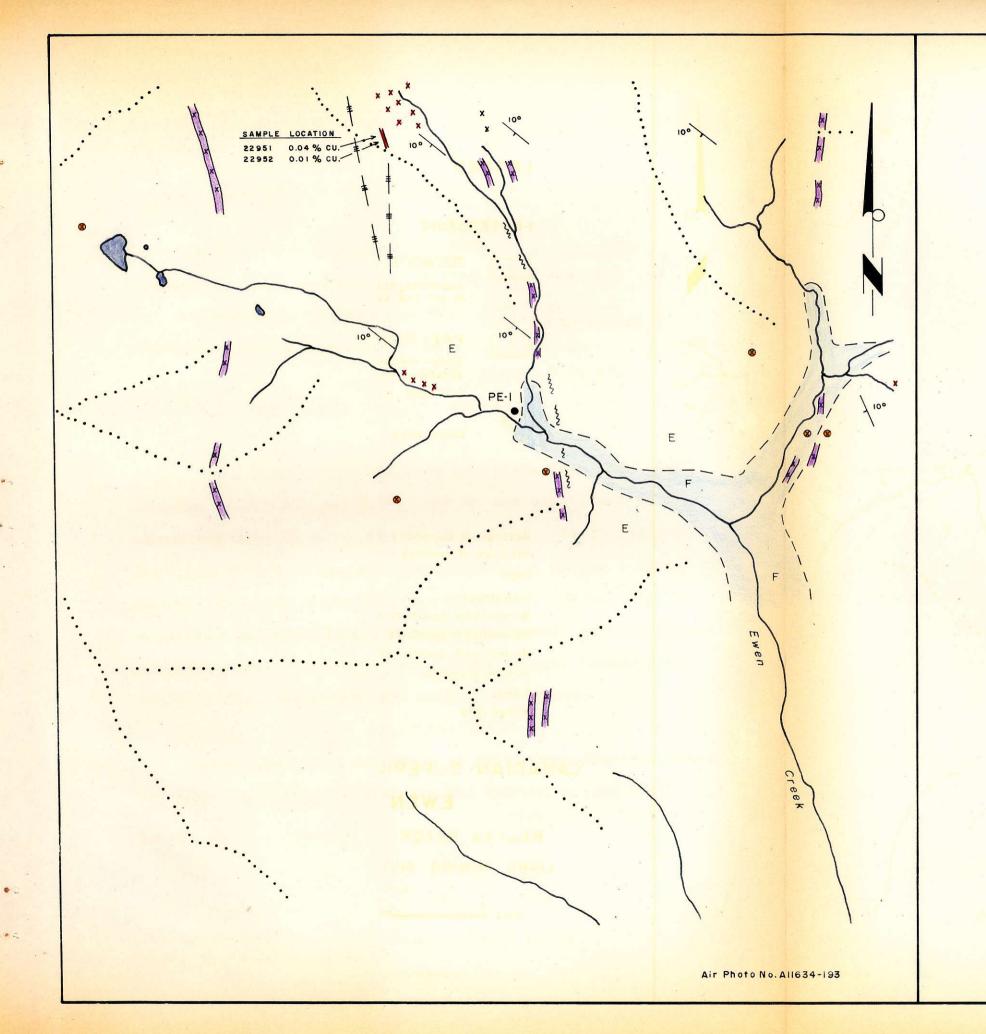
mineralized with chalcopyrite, chalcocite, malachite, azurite

and chrysocolla. Two chip samples taken across widely spaced

fractures returned the following results:

Sample No.	<u>Width</u>	% Cu	oz/ton Au	oz/ton <u>Ag</u>
22951	10'	0.04	.001	.02
22952	10'	0.01	.001	.01

The mineralized bed strikes NW and dips at about 10 degrees to the SW. Copper-bearing float similar in character was found in talus at the head of the cirque immediately to the NE. The writer believes that this mineralized bed is equivalent to those found to the north in the Chischa Creek area (Fig. 2).



LEGEND

PROTEROZOIC

E TUCHODI FORMATION

Quartzite, dolomite and siltstone: minor red beds and shale.

PRE-TUCHODI FORMATION

Slaty- cleaved, dark grey calcareous mudstone, siltstone, minor sandstone, dolomite, dolomitic limestone, limestone and quartzite.

Basic dyke

Geological boundary (defined, assumed)

Attitude of bedding

Fault

Lineament

Mineralized quartzite bed

Mineralized quartzite float

Mineralized quartz-carbonate float (vein matter)

Sample location

Camp

Ridge line

CANADIAN SUPERIOR EXPLORATION LIMITED EWEN CREEK AREA

RACING RIVER PROSPECTING PROJECT

LIARD MINING DIVISION BRITISH COLUMBIA

SCALE INCH TO 1/2 MILE APPROXIMATELY

DRAWN BY L.P. Duquette, November 1971

Fig. I

CHISCHA CREEK AREA:

Field Crew: L. P. Duquette

E. Ewen

Camp No's: # PE-2, PE-3 and PE-4

Dates: PE-2 July 7 to 13

July 28 to August 2

PE-3 August 3 to 7

PE-4 August 9 to 13.

Reference: Figure 2

Three copper-bearing quartzite beds were found between 6,500' ASL and 7,100' ASL on the east flank of a north trending ridge, south of camp #PE-2. Seven outcrops were identified in an area approximately 1 1/2 by 1 mile. The mineralized beds trend NNW, dip at about 10 degrees to the southwest and are clearly located immediately above the base of the Tuchodi Formation. The mineralization consists of chalcopyrite, chalcocite and copper carbonates.

Rock chip samples were taken from fracture zones on three separate outcrops with the following results:

Sample No.	Length	% Cu	oz/ton <u>Au</u>	oz/ton <u>Ag</u>	
22953	10'	.13	.001	.01	
22954	20'	.11	.001	.01	
*22955		.68	.001	.03	

^{*}Character sample, 10# of selected rock chips from an outcrop 40' wide.

RESULTS - Chischa Creek Area (cont'd)

High, persistent copper values occur in stream sediment samples (Windermere, 1970) taken from the drainage basin in which the mineralized quartzite occurs. The area of interest is steep and rugged so that it is difficult to trace each horizon continuously; however, the occurrence of copper minerals in slide rock suggests that the copper-bearing sequence has a strike length of at least two miles.

Fifty-eight claims called the "PE Group" were staked on July 29th (Ref: Fig, 9, overlay).

A number of occurrences of quartz-carbonatechalcopyrite vein material were also noted in this area (see Fig. 2).

MINERAL CLAIMS - CHISCHA CREEK AREA Reference: Figure 9, overlay

Names: PE#1 to PE#58

Record Numbers: 54919 to 54976 inclusive

Tag Numbers: PE # 1-16 250213M to 250228M incl.

PE #17-58 250236M to 250277M incl.

Locator: L. P. Duquette

Registered Owner: Windermere Exploration Ltd. (N.P.L.)

Expiry Date: August 26, 1972.

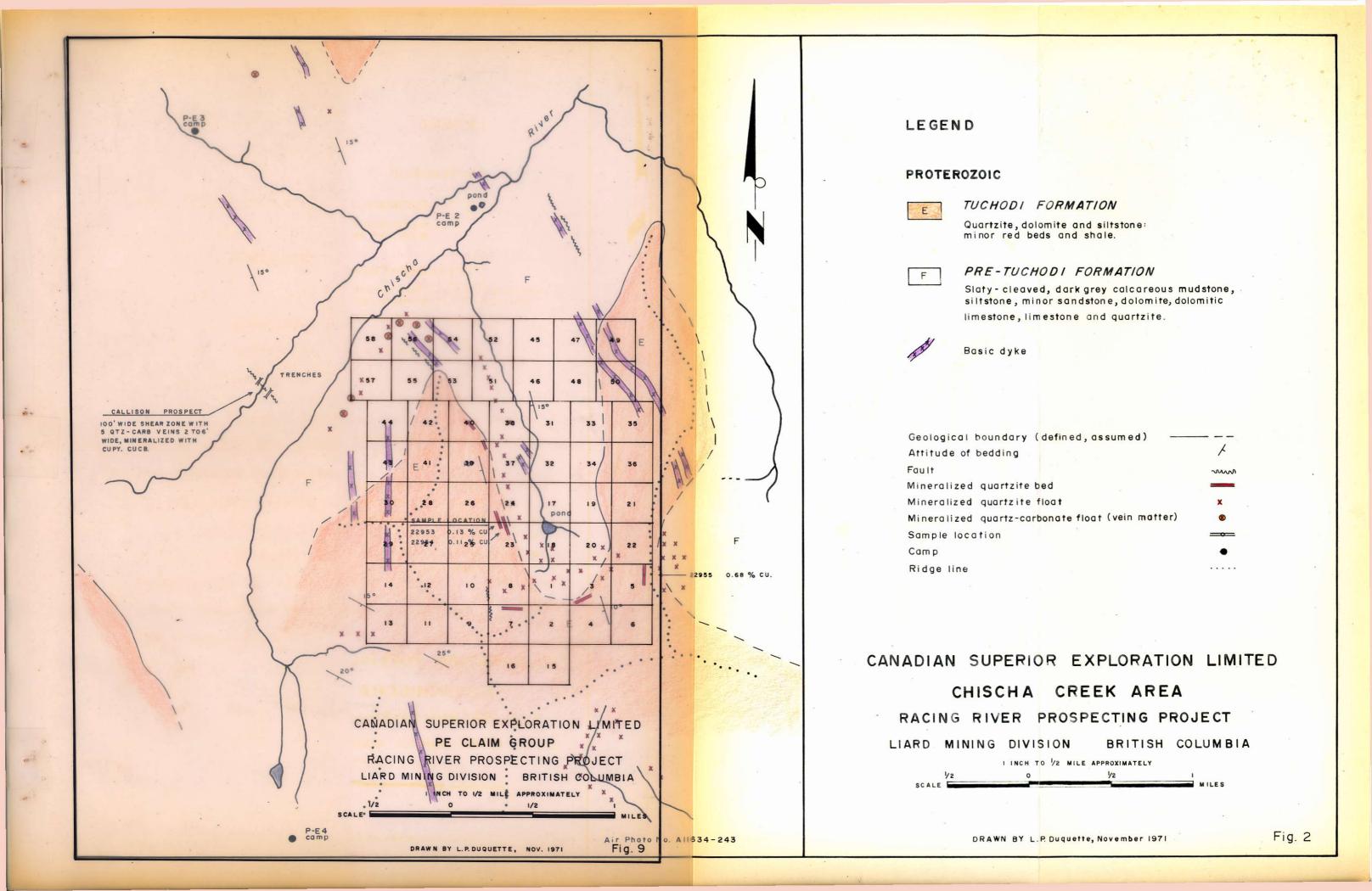
58	56	54	52	45	47	49
57	55	53	51	46	48	50
44	42	40	38	31	33	36
43	41	39	37	32	34	36
30	28	26	24	17	19	21
29	27	. 25	23	18	20	22
14	12	10	8	1	3	. 5
13	11	9	7	2	4	6
			16	15		

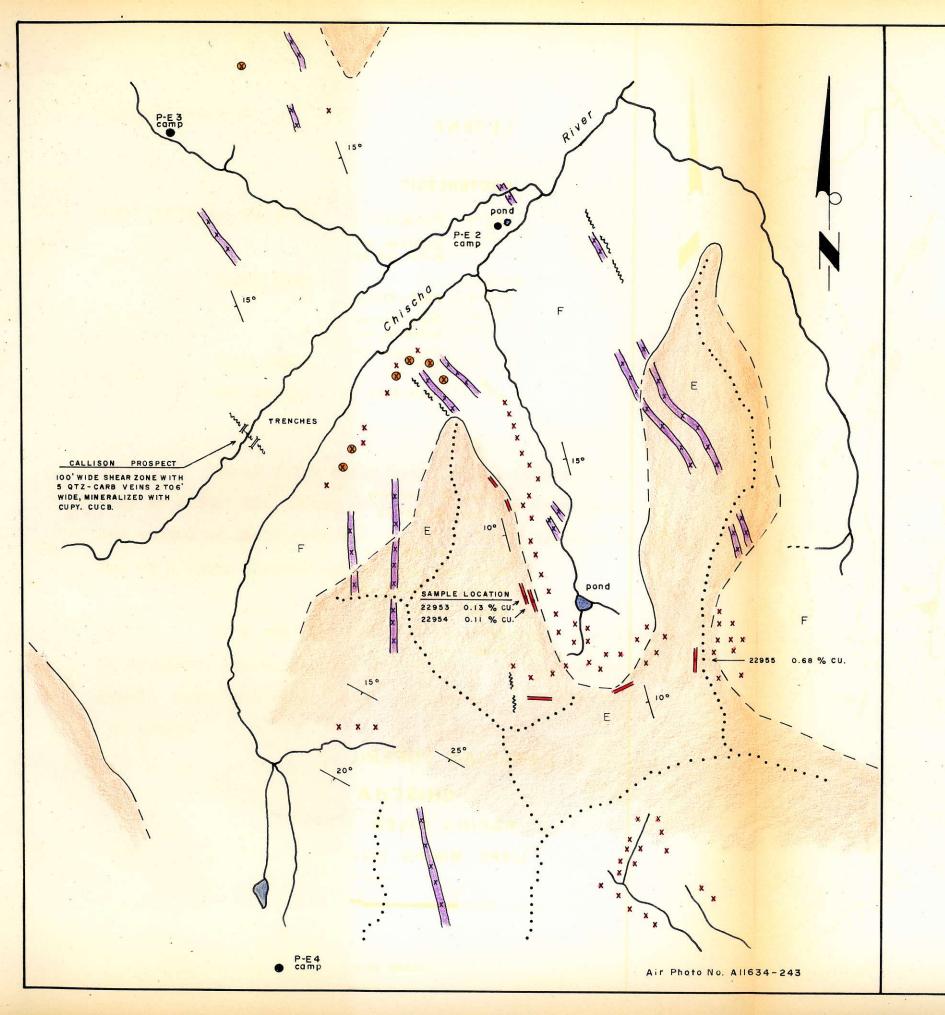
CANADIAN SUPERIOR EXPLORATION LIMITED
PE CLAIM GROUP

RACING RIVER PROSPECTING PROJECT
LIARD MINING DIVISION BRITISH COLUMBIA

I INCH TO 1/2 MILE APPROXIMATELY

SCALE MILE





LEGEND

PROTEROZOIC

E

TUCHODI FORMATION

Quartzite, dolomite and siltstone: minor red beds and shale.

F

PRE-TUCHODI FORMATION

Slaty-cleaved, dark grey calcareous mudstone, siltstone, minor sandstone, dolomite, dolomitic limestone, limestone and quartzite.



Basic dyke

Geological boundary (defined, assumed)

Attitude of bedding

Fault

Mineralized quartzite bed

Mineralized quartzite float

Mineralized quartz-carbonate float (vein matter)

Sample location

Camp

Ridge line

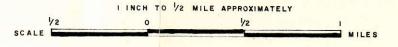
CANADIAN SUPERIOR EXPLORATION LIMITED

CHISCHA CREEK AREA

RACING RIVER PROSPECTING PROJECT

LIARD MINING DIVISION

BRITISH COLUMBIA



EAST TUCHODI LAKE AREA:

Field Crew: L. P. Duquette

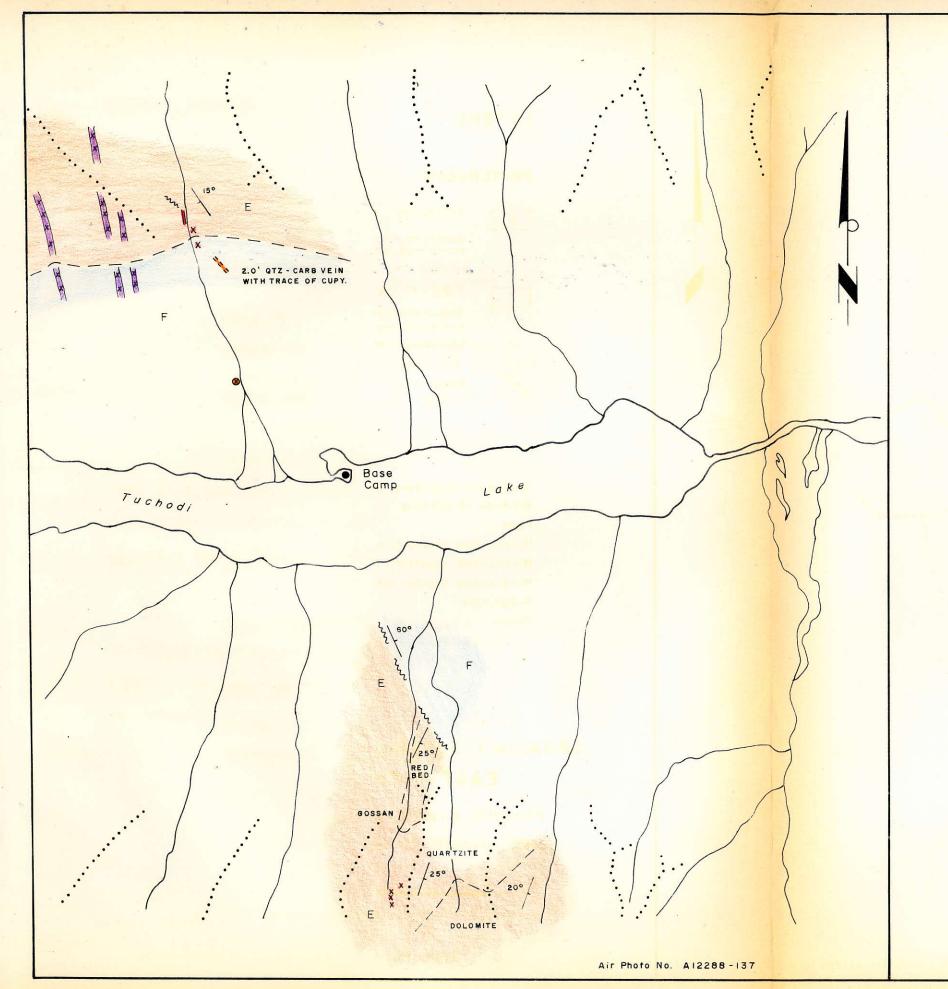
W. Lewis
E. Ewen
W. Mercredi

Base Camp: June 16 to 20.

Reference: Figure 3

About 1 1/2 miles north of the Tuchodi base camp at 4,300' ASL, minor chalcopyrite, malachite, azurite and specks of chalcocite occur in fractured quartzite in the bed of a south flowing creek.

At 6,300' ASL south of East Tuchodi Lake, fragments of dolomitic quartzite carrying coarse chalcopyrite were found. Late snow cover prevented tracing this material to its source.



LEGEND

PROTEROZOIC

E TUCHODI FORMATION

Quartzite, dolomite and siltstone: minor red beds and shale.

PRE-TUCHODI FORMATION

Slaty-cleaved, dark grey calcareous mudstone, siltstone, minor sandstone, dolomite, dolomitic limestone, limestone and quartzite.

X

Basic dyke

Geological boundary (defined, assumed)

Attitude of bedding

Fault

Mineralized quartzite bed

Mineralized quartzite float

Mineralized quartz-carbonate float (vein matter)

Ridge line

Camp

CANADIAN SUPERIOR EXPLORATION LIMITED EAST TUCHODI LAKE AREA

RACING RIVER PROSPECTING PROJECT

LIARD MINING DIVISION BRITISH COLUMBIA

1 INCH TO 1/2 MILE APPROXIMATELY

1/2

1/2

1/2

1/2

1/2

MILES

DRAWN BY L.P. Duquette, November 1971

Fig. 3

LEWIS CREEK AREA:

Field Crew: W. Lewis

W. Mercredi

Camp No: # WL-1

Dates: June 22 to 27

June 29 to July 4

Reference: Figure 4

MARGISON CREEK AREA:

Field Crew: W. Lewis

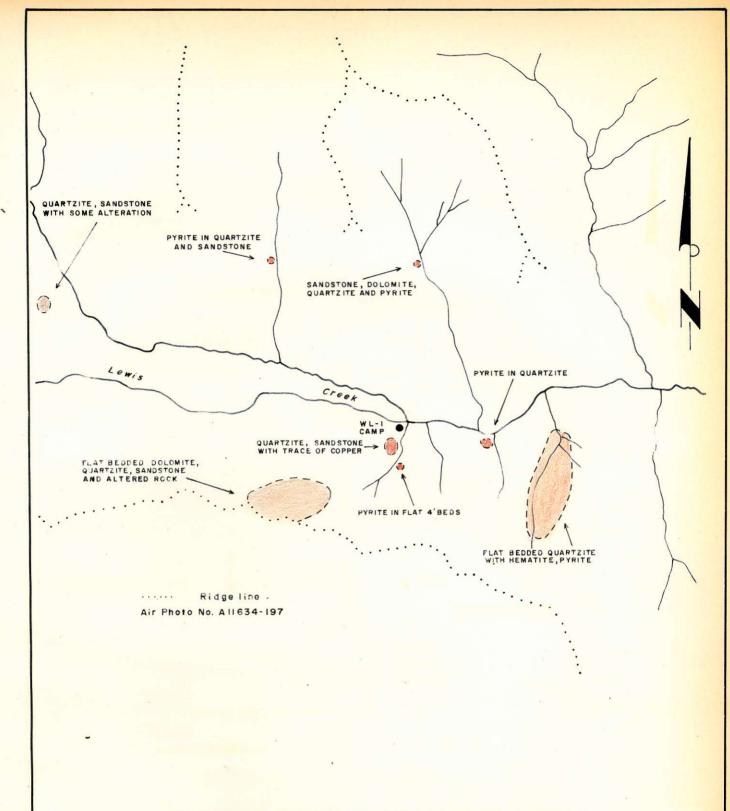
J. McKowski

E. Ewen

Camp No: # WL-2

Dates: July 15 to 21

Reference: Figure 5



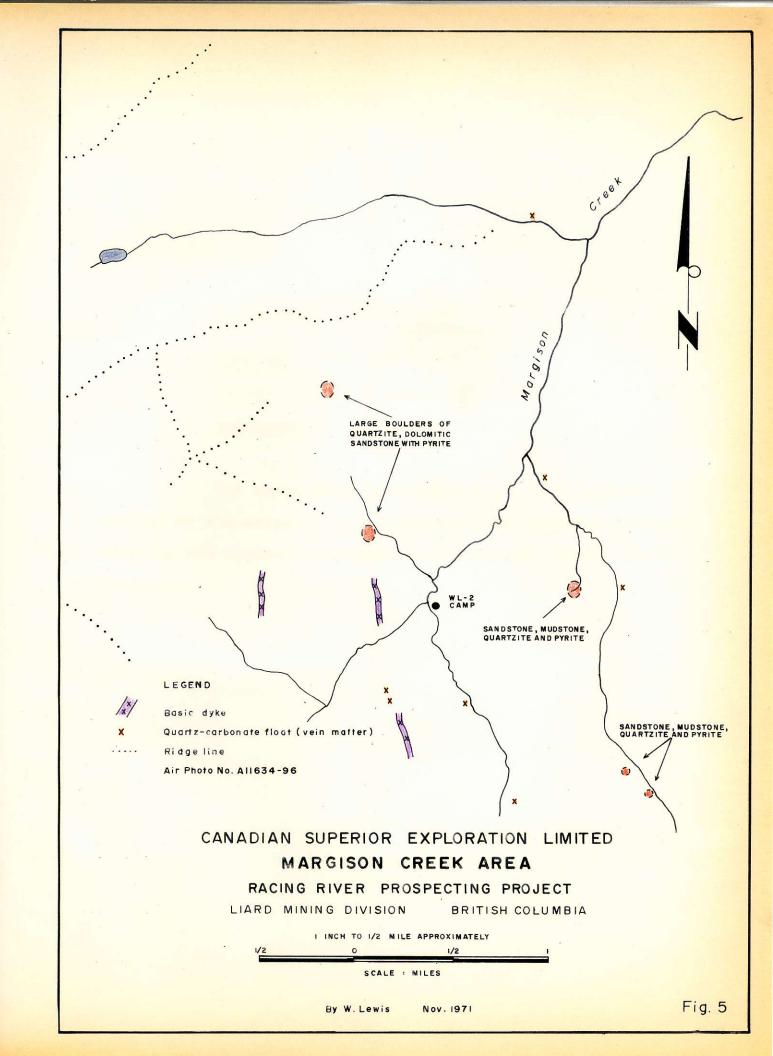
CANADIAN SUPERIOR EXPLORATION LIMITED LEWIS CREEK AREA

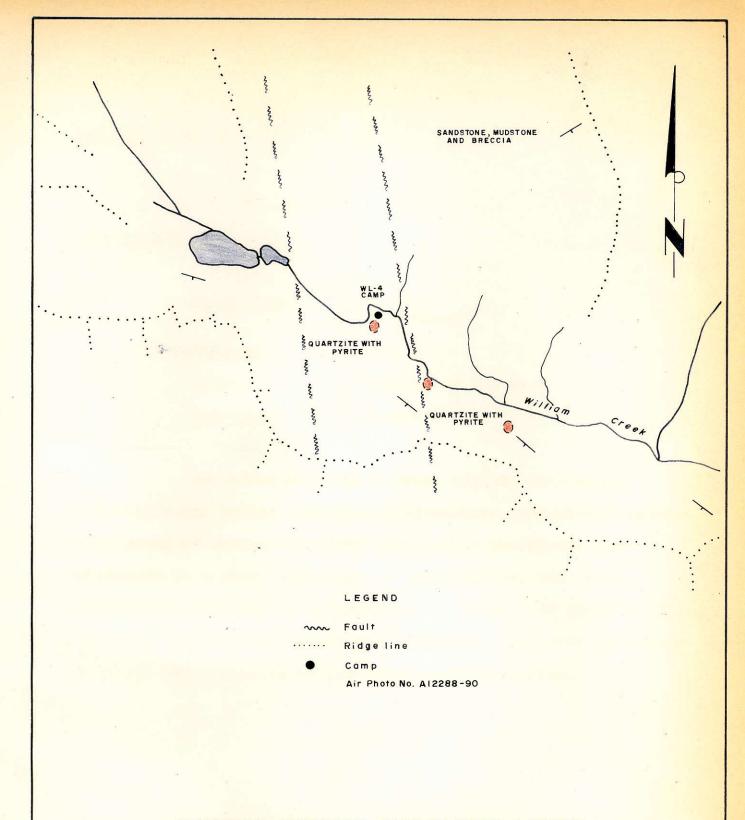
RACING RIVER PROSPECTING PROJECT
LIARD MINING DIVISION BRITISH COLUMBIA

SCALE : MILES

By W. Lewis Nov. 1971

Fig. 4



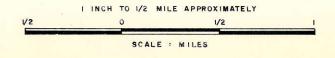


CANADIAN SUPERIOR EXPLORATION LIMITED WILLIAM CREEK AREA

RACING RIVER PROSPECTING PROJECT

LIARD MINING DIVISION

BRITISH COLUMBIA



WILLIAM CREEK AREA:

Field Crew:

W. Lewis

J. McKowski

Camp No:

WL-4

Dates:

August 9 - 13

Reference:

Figure 6

The areas shown on Figures 4, 5 and 6 were not visited by the writer. It is suspected that pyritic sediments noted on the sketches represent the lower part of the Tuchodi Formation.

HENRY CREEK AREA:

Field Crew:

W. Lewis

J. McKowski

Camp No:

WL-3

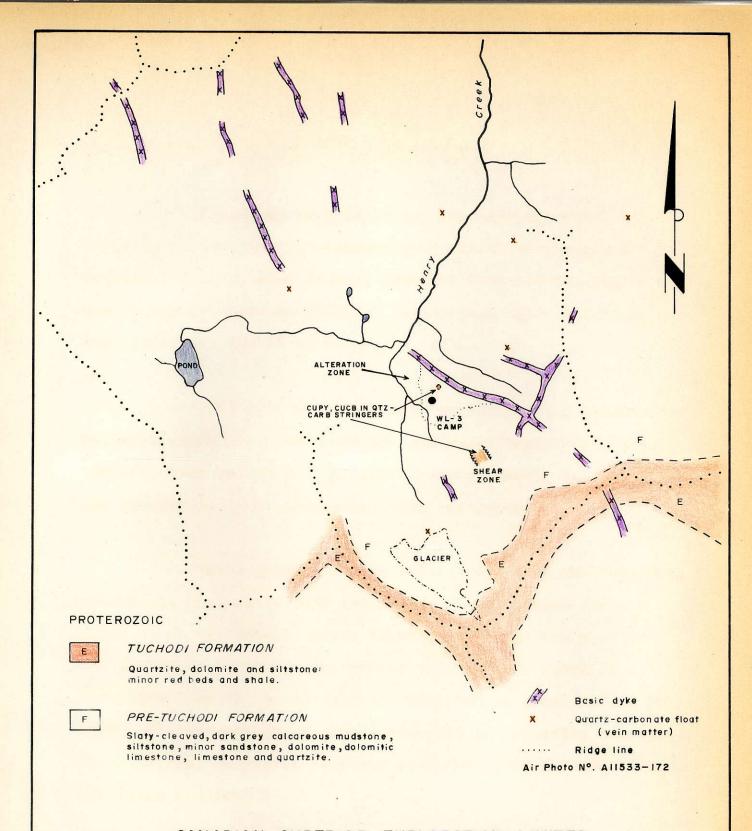
Dates:

July 26 to August 6

Reference:

Figure 7

At the head of Henry Creek (7,100' ASL) about 1/2 mile south of the campsite, chalcopyrite, malachite, azurite and traces of chalcocite occur with narrow quartz-calcite stringers in a shear zone that is approximately 400' wide. The richest material is estimated to be about 0.5% Cu to 1% Cu. The host rock is flat lying, slaty-cleaved, dark grey calcareous mudstone and siltstone of the Henry Creek Formation.



CANADIAN SUPERIOR EXPLORATION LIMITED HENRY CREEK AREA RACING RIVER PROSPECTING PROJECT

LIARD MINING DIVISION

BRITISH COLUMBIA



SUMMARY AND CONCLUSIONS

A program of prospecting for bedded-copper deposits in Proterozoic sedimentary rocks in Northeastern British Columbia, near Tuchodi Lakes (N.T.S. 94-K), was undertaken by Canadian Superior Exploration Limited during the period of June 16 to August 13, 1971.

This work was based upon geological and geochemical reconnaissance data developed by Windermere Exploration Ltd.

(NPL) in 1969 and 1970. An area of approximately 150 sq. miles was covered by four prospectors with helicopter support.

Three quartzite beds mineralized with chalcopyrite, pyrite and chalcocite were found near Chischa Creek about 8 miles north of Tuchodi Lakes, immediately above the base of the Tuchodi Formation. The copper-bearing beds range in thickness from 10' to 30' and are inclined at about 10° to the west. The occurrence of copper minerals is primarily controlled by individual quartzite beds and secondarily by internal fracture and joint systems.

Based upon the examination of about seven outcrops the average mineralized quartzite is lean (less than .5%).

However, the terrain is very rugged and it was not possible to

SUMMARY AND CONCLUSIONS (cont'd)

trace each zone of interest in detail in the time available.

Locally, the mineralized sequence has an apparent strike

length of at least two miles. The PE group of 58 claims

was staked in this area.

Sufficient copper mineralization, controlled primarily by sedimentary beds, has been found in this area to warrant further investigations. Preliminary indications of overall grade are not encouraging, however, there is volume potential and a well defined exploration target. It is possible that detailed prospecting and geological mapping of individual beds might produce sections of possible economic grade (1-2% Cu).

The general scope of the 1971 prospecting program was somewhat restricted. Considerable geological potential for bedded copper deposits, and quartz carbonate chalcopyrite veins remains untested.

RECOMMENDATIONS

It is suggested that geological mapping and spot sampling of the mineralized quartzite beds on the PE group and immediate surrounding area be undertaken in 1972.

This work could be done by a 4-man crew camped on Chischa Creek, serviced by helicopter from Fort Nelson, at an estimated cost of approximately \$25,000.

A detailed review of Windermere's regional geological and geochemical data is recommended; followed by field examination of favorable areas which have not been completely prospected. A minimum allowance of \$25,000 is suggested for this work in 1972.

Respectfully submitted

HA Draguetto

L. P. Duquette

Yeamb Atan
Soo Printe congl. * AUDA. cu stale. qtst Tuchodi En HENRY CR GEORGE. XTETSA. Cu pedded dissem Dought & EISEAA.

