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GEOCHEMICAL SURVEY

JD - PAN GROUPS

OWNER: Marshall Creek Copper Mining Co. Ltd.

CLAIMS: JD, JD Nos. 1 to 19, 21, 23, 24 & 25;  
Mar C 3 to 8; Pan 1 to 8, 10 to 21;  
Easy 29 to 36

LATITUDE: 48°

LONGITUDE: 124° NW

VICTORIA MINING DIVISION

AUTHOR: D.C. MALCOLM, B.A.Sc., P. Eng., 2568

DATES OF WORK: July 1, 1971 to May 20, 1972

Department of  
Mines and Technical Resources  
ASSESSMENT REPORT  
NO. 3671 MAP

## GEOCHEMICAL SURVEY

### JD - PAN GROUPS

#### SUMMARY

Grid lines were cut and a detailed geochemical soil survey was made on Marshall Creek Copper Co. Ltd.'s property. The claims are north of the Caycuse River four miles east of Nitinat Lake in the Victoria Mining Division.

The claims are underlain by Bonanza volcanics intruded by quartz feldspar porphyry and mineralized by pyrite, bornite and chalcopyrite.

The geochemical survey reflects this mineralization with high anomalous copper bearing soils about mineralized outcrop areas.

#### LOCATION

Latitude: 48°48' North  
Longitude: 124°38' West  
Elevation: 50 to 2,500 Feet

The claims are north of the Caycuse River four miles east of its mouth at the north end of Nitinat Lake on the west coast of Vancouver Island.

They are reached by 20 miles of paved and gravel road from Cowichan Lake to Caycuse, then by 12 miles of main haulage logging roads via Nixon Creek and along the north side of the Caycuse River. This B.C. Forest Product road crosses the claims but access is restricted.

CLAIMS

Fifty-five located claims.

<u>Claim</u>	<u>Record No.</u>	<u>Due Date</u>
JD	16,504	May 21, 1973
JD 1	16,505	" " "
JD 2	16,506	" " "
JD 3	16,507	" " "
JD 4	16,596	June 4, 1973
JD 5	16,597	" " "
JD 6	16,608	June 9, 1973
JD 7	16,609	" " "
JD 8	16,610	" " "
JD 9	16,611	" " "
JD 10	16,630	June 16, 1972
JD 11	16,631	" " "
JD 12	16,632	" " "
JD 13	16,633	" " "
JD 14	16,634	" " "
JD 15	16,635	" " "
JD 16	16,636	" " "
JD 17	16,637	" " "
JD 18	16,638	" " "
JD 19	16,639	" " "

<u>Claim</u>	<u>Record No.</u>	<u>Due Date</u>
JD 21	16,688	July 2, 1972
JD 23	16,690	July 2, 1972
JD 24	16,691	" " "
JD 25	16,692	" " "
Mar C .3	16,956	June 28, 1972
" " 4	16,957	" " "
" " 5	16,958	" " "
" " 6	16,959	" " "
" " 7	16,960	" " "
" " 8	16,961	" " "
Pan 1	16,666	June 26, 1972
" 2	16,667	" " "
" 3	16,668	" " "
" 4	16,669	" " "
" 5	16,670	" " "
" 6	16,671	" " "
" 7	16,672	" " "
" 8	16,673	" " "
" 10	16,675	" " "
" 12	16,677	" " "
" 14	16,679	" " "
" 15	16,680	" " "
" 16	16,681	" " "
" 17	16,682	" " "
" 18	16,683	" " "
" 19	16,684	" " "
" 20	16,685	" " "
" 21	16,686	" " "

<u>Claim</u>	<u>Record No.</u>	<u>Due Date</u>
Easy 29	16,640	June 19, 1972
" 30	16,641	" " "
" 31	16,642	" " "
" 32	16,643	" " "
" 33	16,644	" " "
" 34	16,645	" " "
" 35	16,646	" " "
" 36	16,647	" " "

### TOPOGRAPHY

The claims are on the south facing timbered slope of the Caycuse River; a fairly steep slope. They cover the lower slopes and canyon of 4 Mile Creek.

The slopes are covered by generally shallow overburden.

### GENERAL GEOLOGY

The Nitinat area is underlain by Triassic Vancouver Group volcanics and sediments intruded by Jurassic granodiorite and by plugs and dike swarms of quartz feldspar porphyry.

These rocks, especially the limestones and younger Bonanza sediments and volcanics, are extensively mineralized by chalcopyrite, pyrite magnetite and some molybdenite.

### CLAIM GEOLOGY

The claims are underlain by Bonanza siliceous andesites, basic andesites and by tuffs.

A granodiorite batholyth and the Quatsino limestone band lie south of the Caycuse River and a large feldspar porphyry plug lies immediately east of the property. A swarm of quartz feldspar porphyry dikes trending northwest intrudes the volcanics northeast of the area.

The quartz feldspar porphyry plug east of the property contains between 5 and 25% pyrite. Pyrite occurs in all the volcanics and chalcopryite was found in siliceous andesite.

### GEOCHEMICAL SURVEY

A base line was cut using a chain and compass survey in a north direction across the claims. East west lines at 200 foot intervals were cut. These total 25 line miles.

Soil samples were taken from the B soil horizon which generally is well developed beneath a shallow humus cover. These samples were taken every 100 feet along the base line and on the cross lines.

A total of 1,400 samples were collected and the sample locations were marked by flagging. The sample was collected in a standard soil sample envelope marked with the line and sample number.

The samples were <sup>screened??</sup> crushed to minus 80 mesh and analyzed for total copper in parts per million by Chemex Laboratories Limited by the atomic absorption method after hot acid digestion.

#### DISCUSSION OF GEOCHEMICAL RESULTS

The Marshall Creek Copper Co. Ltd.'s JD and Pan groups cover a pyritized porphyry deposit which has a background of copper soils of 50 parts per million. Basic andesites show background copper soils. Siliceous andesites show appreciable sized areas of anomalous copper bearing soils 2 to 10 times the background as shown on the attached plan.

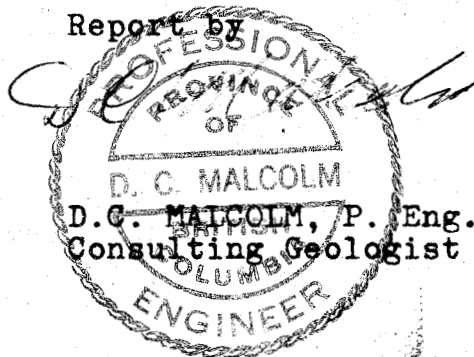
Massive and disseminated pyrite and chalcopyrite have been found and trenched in siliceous andesite in areas which show anomalous soils. (See attached plan)



RECOMMENDATIONS

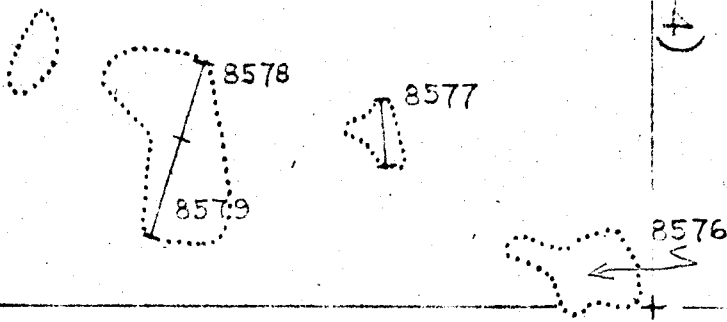
The anomalous areas should be diamond drilled as they probably represent areas of copper mineralization similar to that trenched.

Report by



May 22, 1972  
Vancouver, B.C.

4400 E (Line E44)



12,200 S

Sample	Width	Cu%	Au (oz)	Ag (oz)
8576	grab	5.10	tr.	0.06
7	3.5'	5.35	0.005	0.24
8	4.0'	0.98	0.005	0.10
9	5.0'	0.49	tr.	0.08

trail to camp and out to road.

200' to bleed off % w. minor py.

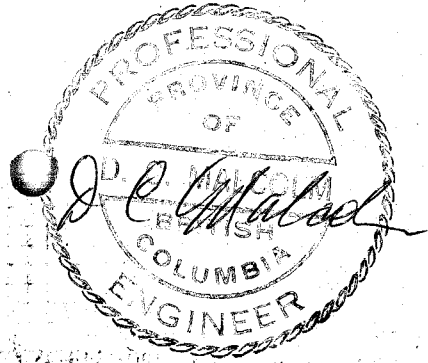
110' to % of Ag. gn. vol. with very minor py.

NITINAT PROPERTY  
MAIN SHOWING

1" = 10'

Dec 15, 1971

P.W.R.



ROBERTS  
DENSON  
HILL & CO.

Chartered Accountants  
759 Courtney Street  
Victoria, B.C.  
Telephone 385-8791

Dennis C. Roberts, C.A.  
R. W. Denson, B. Comm., C.A.  
Henning E. Norgaard, C.A.  
Charles F. Loveless, C.A.

Licensed Trustees:  
R. W. Denson, B. Comm., C.A.  
Henning E. Norgaard, C.A.

May 5, 1972

Mr. J. McNulty  
2838 Bryn Mawr Road  
Victoria, B.C.

Dear Sir:

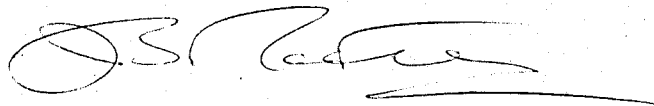
Re: Marshall Creek Copper Co. Ltd. (N.P.L.)

This is to certify that the following are expenses related to the J.D. and PAN group of claims situated in the Victoria Mining Division for the calendar year 1971. We have taken these figures from our audited financial statements of July 31, 1971 and February 29, 1972.

Wages and employee benefits	\$ 8,173
Equipment rentals	nil
Transportation	2,045
Camp operation	999
Engineering and prospecting supplies	2,043
Consulting fees	1,282
Assays	1,535

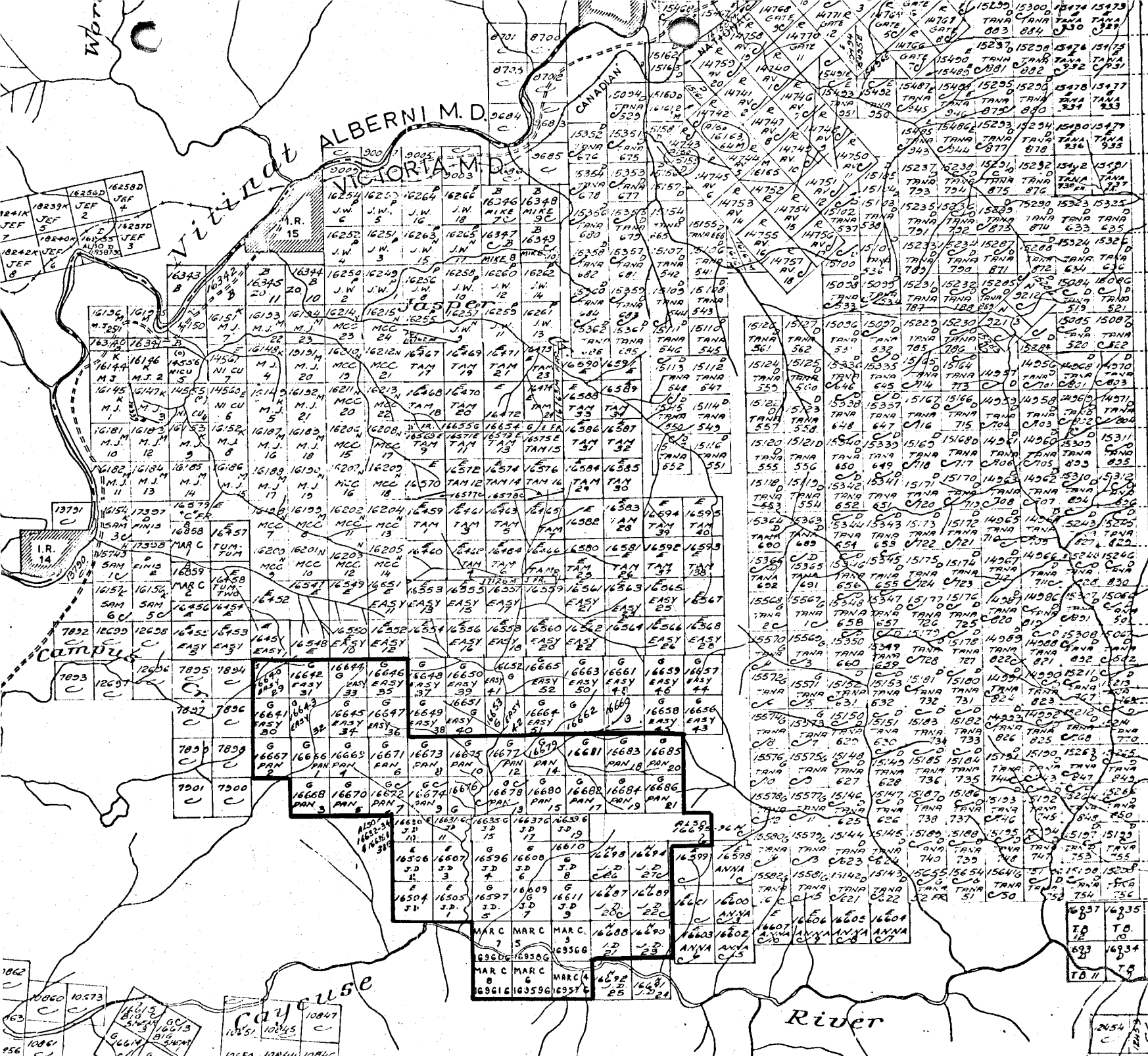
We trust this is the information you require.

Yours very truly,  
ROBERTS, DENSON, HILL & CO.

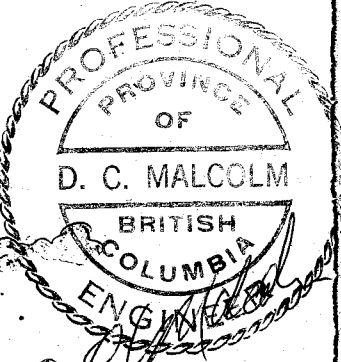


J.B. MANTELL

JBM:dr



TO EAST SEE MAP 92C/16W



1" = 1 Mile

PERSONNEL

J.D. McNulty

\$800/Mo. May to October 31, 1971 \$4,173.00

W. McNulty

\$600/Mo. May 1 to September 30, 1971 \$2,400.00

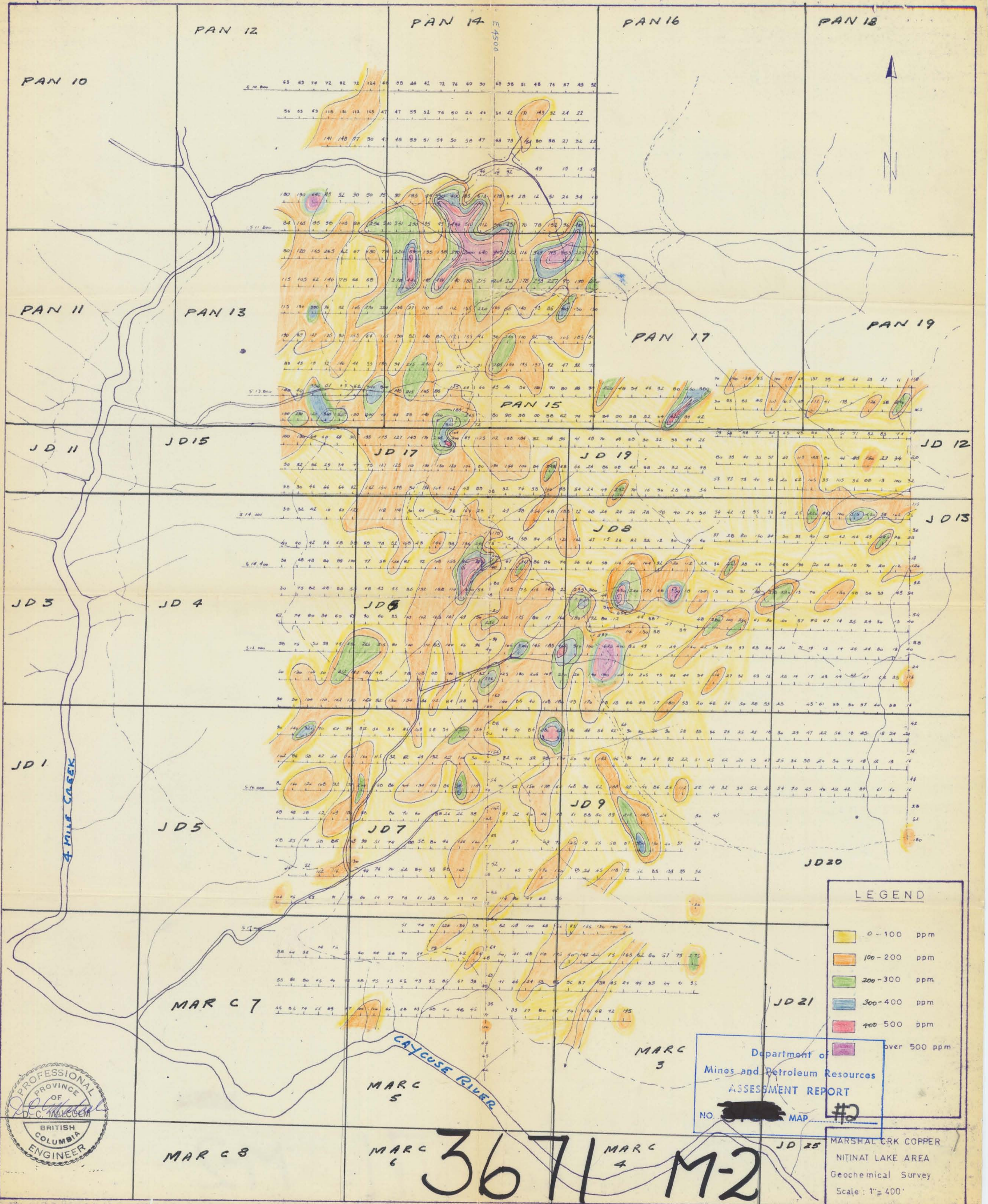
S.V. Henry

\$600/Mo. June 1 to August 31, 1971 \$1,800.00

D.C. Malcolm

\$100/Day October 1 to 6, 1971 \$600.00

" " May 15 to 20, 1972 \$600.00



LEGEND

- 0 - 100 ppm
- 100 - 200 ppm
- 200 - 300 ppm
- 300 - 400 ppm
- 400 - 500 ppm
- over 500 ppm

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. ~~3671~~ MAP #2

MARSHAL CRK COPPER  
NITINAT LAKE AREA  
Geochemical Survey  
Scale: 1" = 400'



3671 M-2