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Gold River Mines Ltd. (NPL)

210-660 Howe St.

Vancouver, B. C.

Geochemical Report

Cousin Jack Group

Similkameen Mining Division

by

J. A. Mitchell (P.Eng.)

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Geochemical Report on the Cousin Jack Group
of Gold River Mines Ltd. N.P.L.

Introduction:

This report is written to record the work done on the Cousin Jack and other claims near Tulameen B. C. during August 1971. This work consisted of soil sampling over an area equal to about one square mile, involving 16.25 miles of line cutting. Subsequently, additional samples were taken to extend both ends of the initial survey which is covered by this report and is shown on attached maps.

- 1 Cu in ppm
- 2 Pb in ppm
- 3 Zn in ppm
- 4 Reconnaissance Map

Property and Ownership:

The property under discussion includes the following claims:

A. Leased Claims

<u>Claim Name</u>	<u>Lot Number</u>	<u>Lease Number</u>
<u>Cousin Jack</u>	263	82
Ymir	264	
Morning	265	
OshKosh	266	
Winnibego	267	
Black Bird	268	83
Berlin Fraction	269	
Anaconda	373	
Freddie Burn	270	84
Constitution	282	87
International	283	

B. Staked Claims:

<u>Claim Name</u>	<u>Record Number and Date of Record</u>	
J.M. 1 and 2	28204 and 28205	Sept. 1/1970
I.T. 1 to 4	29013 and 29016	Oct. 15/1970
Hope 1 and 2	29022 and 29023	Oct. 21/1970
Pit 1 and 2	29024 and 29025	Oct. 21/1970
Hawk 1 to 4	29026 to 29029	Oct. 21/1970
Ken 1 and 2	29030 and 29031	Oct. 21/1970
Tex 1 to 10	29194 to 29203	Oct. 22/1970
Hope 3 to 21	33754 to 33775	June 18/1971

The soil sampling was done over the leased claims and J.M., Hope 1, 2, 11, 21, Pit group, Hawk group, Ken group, and Tex group or portions thereof. Work for one year has been claimed on the Pit 1 and 2, Hope 1 and 2, Ken 1 and 2, Hawk 1 to 4, and Ken 1 to 10. The amount claimed totals \$2109.00.

Statement of Cost:

Line Cutting Contract	\$1787.75
Soil Sampling	800.00
Engineering and Supervision	100.00
Report Preparation (includes maps)	300.65
Geochemical Analyses	1499.40
Transportation	<u>247.25</u>
Total Cost of Program	\$4735.05

Field Personnel

Amount Paid

Supervision and Sampling

J. A. Mitchell P.Eng.

\$ 700.00

M. Thomson

200.00

Line Cutting

W. Samsin, Contractor

\$1787.75

Qualifications:

J. A. Mitchell P. Eng. has had considerable field experience, including in the last 6 years experience on other geochemical surveys. He supervised the line cutting and took the majority of the soil samples, assisted on four days by M. Thomson who was instructed in the field on how to take them. Additional sampling beyond that shown on the attached maps was not done under the supervision of J. A. Mitchell. No significant anomalies were found by this fringe sampling. All the others were employed on line cutting.

Survey:

Using the number one post of the Cousin Jack Crown Granted claim Lot #263 as the origin, a base line was run 3600 feet North Thirty degrees west and 1600 feet South Thirty degrees east. Cross lines at 400 foot intervals were then cut at right angles to this baseline and extended 2000 feet west and 1000 to 1400 feet east. A 2nd base line was then cut 2000 feet southwest of the first baseline. It extended from 2000 North to 1600 South. The 1600 South line was extended to 4800 West and the balance north of this line to 1600 west. Using the 1600 S line as a base line, lines 3200 W to 4800 W were cut to 3200 South. Subsequently lines 2000 S, 2400 S, 2800 S, and 3200 S were cut between 2000 West and 2800 W after necessary extensions of the baselines. Similarly, lines 4000 N, 4400 N, 4800 N and 5200 N were cut between 1200 E and 600 W. These extensions have not been mapped and work on them is not included in this report and no credit is claimed.

Sampling:

A total of about 800 soil samples were taken over the cut grid during the period August 7 to August 12 1971.

These were taken over an area where ground conditions were generally uniform consisting of a shallow mantle of residual soil over metamorphosed volcanics and sediments on fairly gentle slopes. However there was some swamp, some bare rock, some underlying remnants of glacial clay, and on the eastern margin, steep bluffs underlain by granitic rocks.

Wherever possible, the samples were taken from the "B" horizon. It was usually possible to do this, but it was sometimes necessary to take samples of rock flour or of black muck from the swamp areas, in the "C" zone. These posed no problems however, as the anomalies of interest were all in areas where residual soil with a well established "B" horizon was present. Underlying clay in a few low areas did not appear to affect the results.

Samples were taken by mattock at 100 foot intervals along the cut lines. They were placed in water resistant Kraft envelopes designed for the purpose and were submitted to Crest Laboratories (B. C.) Ltd. , 1068 Homer St., Vancouver 3, B.C. for copper, lead and zinc determinations.

At the laboratory the samples were dried, screened in neutral screens, and the -80 mesh fraction retained for analysis. A half-grain portion of each samples was then digested in hot HNO_3 and HClO_4 and analyzed for metal content by atomic absorption.

The results were plotted at a scale of 1" = 400 feet. By inspection threshold values were determined and anomalous areas were contoured at suitable p.p.m. intervals. The abbreviation p.p.m. refers to the number of micrograms or parts of a specific mineral per million parts of other material in the sample. There is usually a low background count for most metals but values appreciably higher relate to ions from metallic concentrations which percolate through the soil

in the ground water and carried to the surface by the rise and fall of the water table and capillary action. High readings in groups which can be contoured indicate the possibility of economic mineralization in the immediate area, generally uphill on the steeper slopes. Of the metals tested zinc is the most mobile and lead the least mobile.

Interpretation of Results:

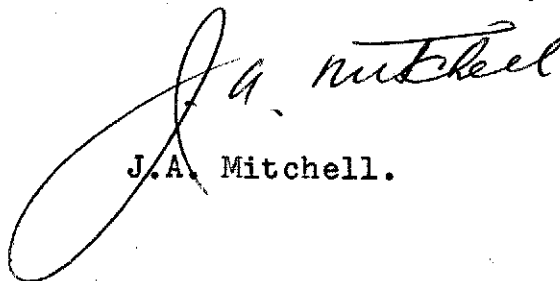
By inspection anything over 100 parts per million was considered anomalous for lead. Normally this would be definitely anomalous. Anything over 300 ppm was considered anomalous for the more mobile zinc and 50 ppm for copper. Values above these were contoured at suitable intervals as shown on the colored maps in the packet of this report.

A very pronounced lead anomaly with readings up to 1500 ppm lead was obtained from station 20N-6E to 16S-18W, a length of 4600 feet. The average width is about 400 feet.

This anomaly was surrounded by a more extensive zinc anomaly and there were several other zinc anomalies on the property, some associated with weak copper anomalies. Some zinc readings were in excess of 2000 ppm. Within the limits of the zinc anomaly there is a weaker copper anomaly and still smaller anomalies were indicated elsewhere on the property.

These anomalies, particularly the main lead-zinc anomaly, are now being investigated by bulldozing and by diamond drilling. This work and the soil sampling has indicated a greater area of mineralization than was indicated by old workings now partially caved. The results of the bulldozing and diamond drilling will be the subject of a further report when the work is completed.

Respectfully Submitted,



J.A. Mitchell.

Vancouver, B.C.

November 12, 1971



Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 3378 MAP #1

LEGEND

• 50 COPPER VALUE IN PPM
— COPPER CONTOUR - Interval 50 ppm

M-1
3398

GOLD RIVER MINES LTD.

TULAMEEN PROPERTY
COPPER IN PPM
PRINCETON AREA, B.C.

SCALE
FEET 400 800 1200

DATE: SEPTEMBER 1971

DRAWN: ALTAIR



LEGEND

[Light Orange Box]	50-99 ppm
[Orange Box]	100-199 ppm
[Red-Orange Box]	200-299 ppm
[Red Box]	Above 300 ppm

• 24 Lead value in ppm

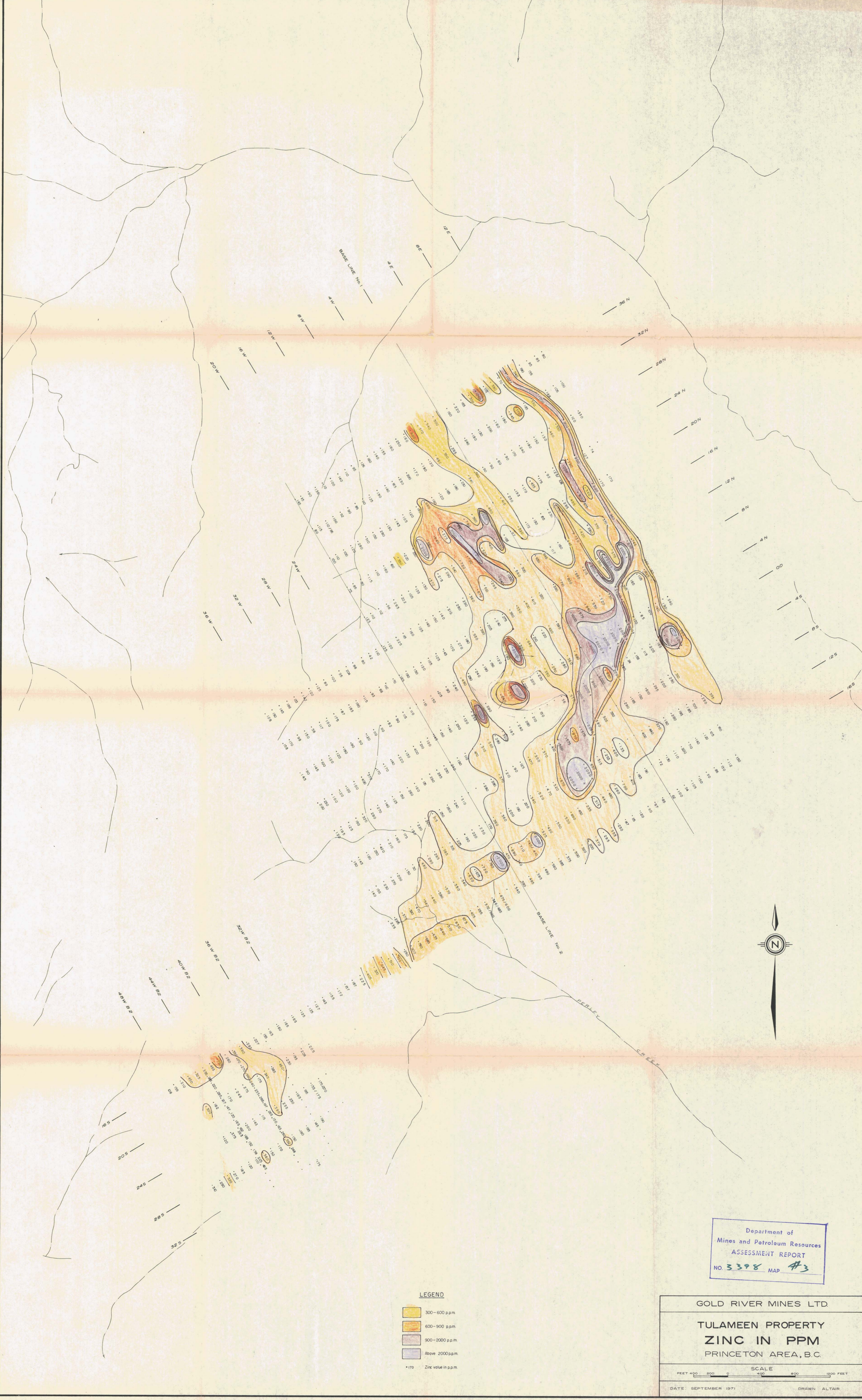
Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 3398 MAP #2

GOLD RIVER MINES LTD

**TULAMEEN PROPERTY
LEAD IN PPM
PRINCETON AREA, B.C.**

SCALE
FEET 400 200 0 400 800 1200

DATE: SEPTEMBER 1971 DRAWN: ALTAIR



LEGEND

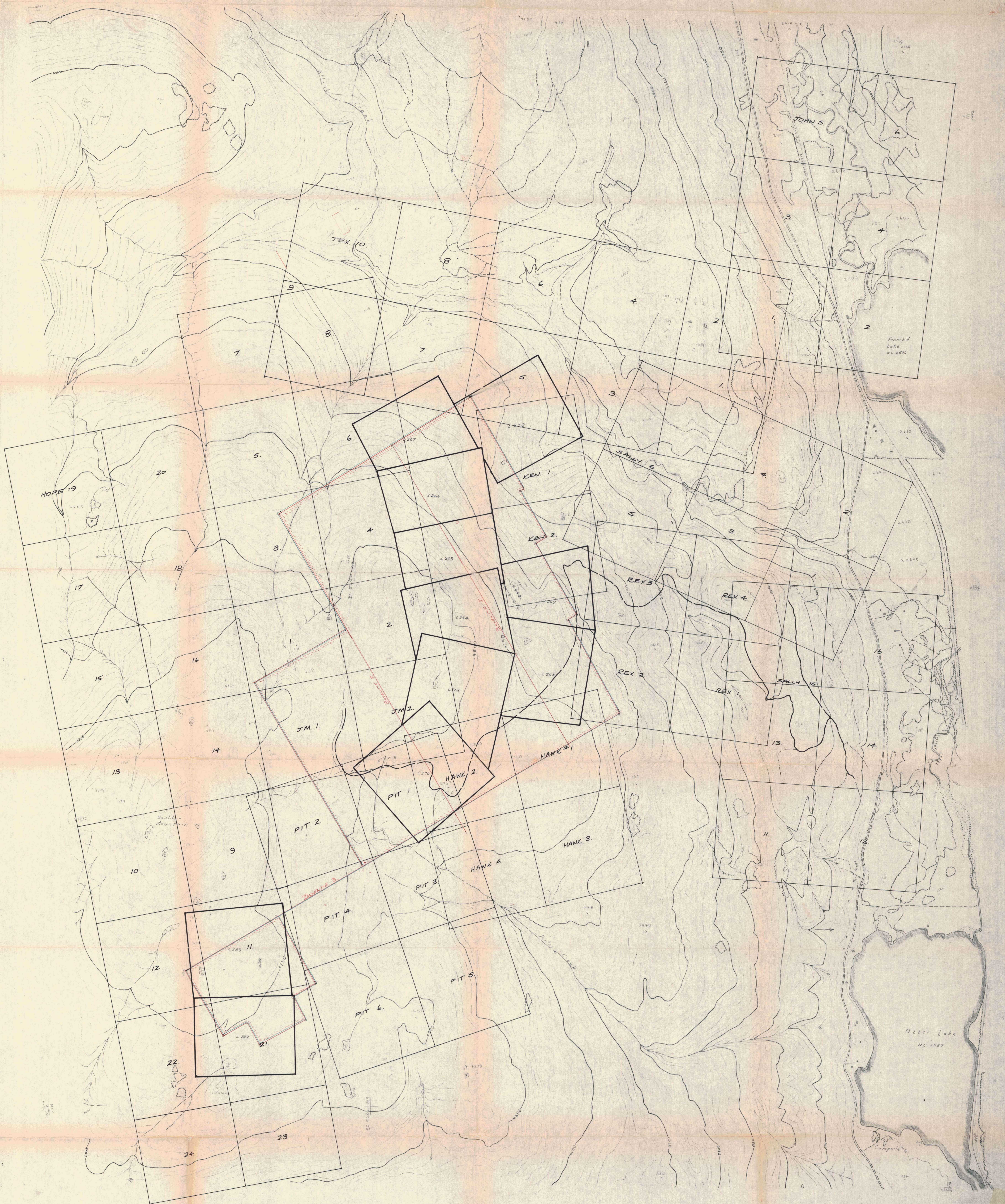
- 300-600 ppm
- 600-900 ppm
- 900-2000 ppm
- Above 2000 ppm
- 170 Zinc value in ppm

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 3398 MAP #3

GOLD RIVER MINES LTD.
TULAMEEN PROPERTY
ZINC IN PPM
PRINCETON AREA, B.C.

SCALE
FEET 400 800 0 400 800 1200 FEET

DATE: SEPTEMBER 1971 DRAWN: ALTAIR



AREA MAPPED GEOMETRICALLY

Department of
Mines and Petroleum Resources
ASSISTANT REGISTRAR
NO. 398 Map
M.P.

GOLD RIVER MINES LTD.		
TULAMEEN B.C.		
SCALE 1" = 200'	CONTOUR 25' & 50'	MAP REFERENCE 98A/10W
DATE OF PHOTOGRAPHY 1954	DATE OF SURVEY 1954	
BY G.S.C. (APPROX.)	DRAWN BY	
RECONNAISSANCE MAP - PENCIL MANUSCRIPT		
Lithographed by the Department of Mines and Petroleum Resources		71-14