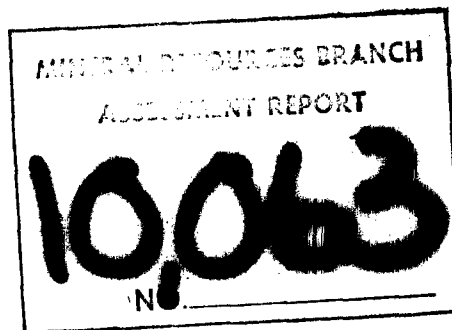


81-1263

REPORT ON THE GEOCHEMICAL SURVEY OF
GRASSHOPPER 1&2 MINERAL CLAIMS

- SIMILKAMEEN MINING DIVISION
- NTS LOCATION: 92H/10W.
- LONG. 49° 33' LAT. 120° 50'
- OWNER/OPERATOR: RON BILQUIST



-AUTHOR - RON BILQUIST, prospector
and R.R. CULBERT, Ph.D., P. Eng.

MARCH 1982.

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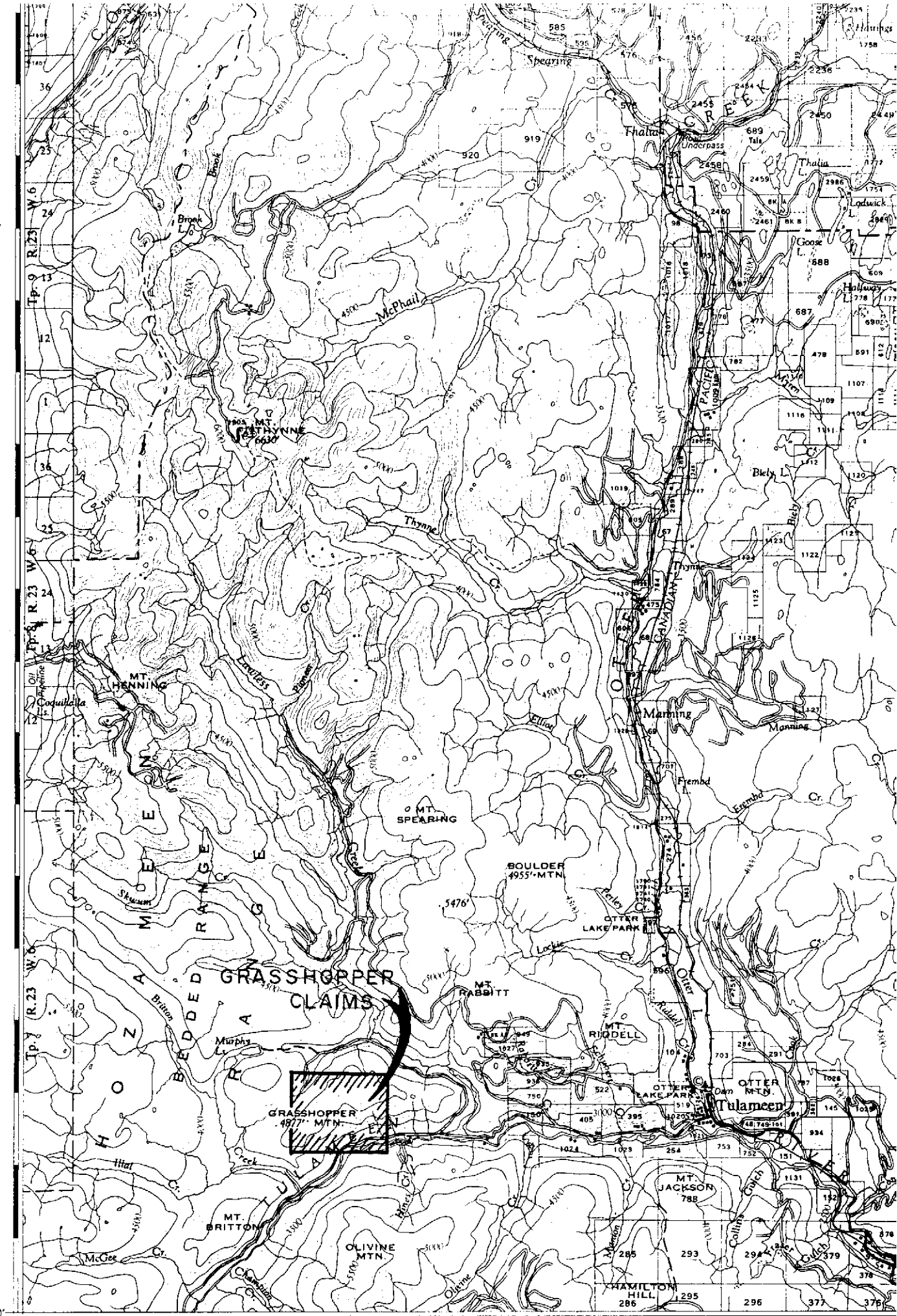
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45'

49°30'



121°00'

45'

INTRODUCTION: This report concerns the geochemical survey carried out over the Grasshopper 1 and 2 mineral claims, record numbers 500 and 501. These claims are situated 8.9 km. west of Tulameen. Apart from one corner of the claims which straddles and lies south of the Tulameen River the greater portion of the claim lies north of the river. The summit of Grasshopper Mountain is near the south boundary of Grasshopper 2. The elevation varies from 861.5 meters at the Tulameen River to 1500.5 meters at the summit of Grasshopper Mountain. The majority of the claims cover an extremely steep south slope which in 1000 meters has a vertical rise of 523 meters. The map pertinent to this area is 92H/10, the 1 : 50,000 Tulameen map sheet.

Access to the claims is by road following the Tulameen River a distance of 31 kilometers northwest of Princeton.

The Grasshopper claims consist of two ten unit mineral claims located by Ron Bilquist on the 25 November 1978 and recorded on the 12 December 1978. The current owner is Ron Bilquist.

Previous work by the owner has consisted of line cutting, prospecting, trenching and some rock chip sampling. Prior to present ownership the area has been held off and on by numerous individuals and groups since the turn of the century.

Included within the claim boundary is the northern portion of the Tulameen Ultrabasic complex and surrounding metamorphosed lavas and sediments of the Nicola Group. Protrusions of the Eagle Granodiorite also enter the claim group.

A great deal has been written about the gold and platinum of the Tulameen River area and it seems to be a common consensus that the gold originated from gold bearing veins found in the Nicola Group rocks near Grasshopper Mountain and that the platinum metals are a result of the erosion of

the ultrabasic rocks of the Tulameen Complex.

The Tulameen Ultrabasic Complex comprises one of the rare "zoned dunites" which are usually associated with chromite and platinum in the few localities in which they have been recognized. Their most famous location is in the Ural Mountains of Russia. Two points of importance arise from literature of the Ural hard rock deposits. The first of these is that platinum concentrations are almost always associated with aggregations of chromite in or near the dunite core of the intrusion. Chromite occurs as bands, pod systems, "schlieren" or irregular masses in the Urals, and such occurrences are common in the Grasshopper dunite also. Magnetite concentrations and serpentized zones are occasionally platinum hosts, and these are also observed in the claim area. The second observation of importance from the Urals is that only some of the chromite aggregations are platinum bearing, others being almost devoid of the metal. A similarly wide variation in platinum assays is reported in the literature for Tulameen chromites.

Exploration for viable platinum deposits in the Grasshopper area therefore hinges on being able to find chromite concentrations of the platinum-bearing type and of sufficient size.

The Grasshopper claims also appear to have substantial potential for gold veins occurring in the Nicola volcanic rocks and other metamorphic series (Tulameen Group) adjacent to the ultrabasic intrusion and the Eagle Granodiorite. Gold in this vicinity has tended to be associated with quartz-carbonate veining or skarns and accompanied by copious sulphides, including those of copper, lead and zinc, as well as pyrite. The old Laws Camp mine immediately east of the Grasshopper property and the Britton Mountain workings to the west were the best known examples. Gold Tellurides are also reported.

A total of 118 rock chip samples were taken from various locations within the grid controlled area of the claims.

<u>SAMPLE NO.</u>	<u>SAMPLE NO.</u>	<u>SAMPLE NO.</u>
B81 G1	B81 G26	B81 G50
" G2	" G27	" G51
" G3	" G28A	" G52
" G4	" G28B	" G53
" G5	" G29	" G54
" G6	" G30	" G55
" G7	" G31	" G56
" G8	" G32	" G57
" G9	" G33	" G58
" G10	" G34	" G59
" G11	" G35	" G60
" G12	" G36	" G61
" G13	" G37	" G62
" G14	" G38	" G63
" G14B	" G39	" G64
" G15	" G40	" G65
" G16	" G41	" G66
" G17	" G42	" G67
" G18	" G43	GPR 1
" G19	" G44	" 2
" G20	" G45	" 3
" G21	" G46	" 4
" G23	" G47	" 5
" G24	" G48	" 6
" G25	" G49	" 7

<u>SAMPLE NO.</u>	<u>SAMPLE NO.</u>	<u>SAMPLE NO.</u>
GPR 8	GPR 22	AGPR 36
" 9	" 23	" 37
" 10	" 24	" 38
" 11	" 25	" 39
" 12	" 26	" 40
" 13	AGPR 27	" 41
" 14	" 28	" 42
" 15	" 29	" 43
" 16	" 30	" 44
" 17	" 31	" 45
" 18	" 32	" 46
" 19	" 33	" 47
" 20	" 34	" 48
" 21	" 35	" 49

GEOCHEMICAL SURVEY

Sample Collection and Analysis: A total of 118 rock chip samples were collected from the claim area. Each sample was identified and the location noted. Of the 118 samples 100 were selected for analysis. The samples were delivered to Bondar-Clegg and Company Ltd. where they were analysed for platinum/palladium, chromium and titanium. A few were analysed for gold. To offset the high cost of analysis the majority of the samples were arranged in composit groups of two to four samples after first being crushed to -100size fraction. The methods utilized by the laboratory are listed below.

1. Cr Atomic absorption and extraction by peroxide

- fusion. A lower detection limit of .001 Pct.
2. TiO_2 Colourimetric using multiacid total digestion extraction. A lower detection limit of .05 Pct.
 3. Pt Fire Assay AA and extraction with aqua regia. A lower detection limit of 50 ppb.
 4. Pd Fire Assay AA and extraction with aqua regia. A lower detection limit of 5 ppb.

Results:

Titanium - Thirty one composit samples were analysed for titanium. Results ranged from "not detected" to 1.15 per cent TiO_2 with the average being 0.34%. Higher values seem to be related to the pyroxenite and gabbroic rocks.

Chromium - Thirty six composit samples were analysed for chromium. Results ranged from "not detected" to >02.000% with the average being 0.17%. High values were found to be in the dunite and peridotite while lower values were in the pyroxenite and gabbroic rocks.

Platinum/Palladium - Of 36 composit samples analysed for platinum and palladium only 18 produced platinum values above the lower detection limit and 19 produced palladium values above the lower detection limit. The results indicated two areas of interest. The first is west of the summit of Grasshopper Mountain where a composit sample had 720ppb platinum. Palladium was not detected. Chromium was also high here yielding >02.000%. The rock here is predominantly dunite and peridotite which displays evenly disseminated chromite blebs as well as irregular bands and pods of chromite. Small veinlets of serpentine were also noted. It was not common here to have high palladium results with corresponding high platinum results. In fact the reverse seems to be true with palladium being

for the most part non-existent.

Another point of interest here is that all high platinum values in the Grasshopper Mountain anomaly are within an area of higher than average chromium values.

The second area of interest is found on the north bank of the Tulameen River near the east boundary of Grasshopper 1. Two SW./NE. trending shears carrying chalcopyrites and iron pyrites were found. The host rock is an ultrabasic gabbro. Three composit samples involving six individual samples were analysed from here. The main showing resulted in 825 ppb platinum and 345 ppb palladium from one composit sample and 165 ppb platinum and 140 ppb palladium from another composit sample. The other shear carried 95 ppb platinum and 120 ppb palladium. Chromium values were low here and TiO_2 was not detected.

Interpretation: Analysis for TiO_2 proved interesting in that the results seemed more or less define the general outline of the pyroxenite and gabbroic rocks. It was also interesting to find that the average value was 0.34%. This is considerable higher than values mentioned in any other literature pertaining to the Grasshopper Mountain area.

Results for Chromium and Platinum/Palladium were interesting though there were few surprises. The area west and south west of the summit of Grasshopper Mountain was expected to produce good results and it did. This area produced the best results in chromium and as expected the platinum values were high there as well. Palladium for the most part was not detected. The highest values in platinum/palladium were found on the north bank of the Tulameen River near the east boundary. This is the one surprise as the rock here is a gabbro and chromium values were low. The showing for now at least appears to be totally unrelated to the Grasshopper Mountain anomaly. Further work is recommended here.

SUMMARY AND CONCLUSIONS

The Grasshopper claims cover much of a zoned ultrabasic of the type which has elsewhere produced viable platinum deposits. Platinum is furthermore found in derived placers, in magnetite and chromite veins and in some phases of the rock. In addition, important gold deposits of both vein and placer types have been derived from the host rocks near this ultrabasic intrusion, the margins of which lie partly within the claims. In view of this, more work seems warranted on two fronts. One is to discover if there are any sizable areas of Pt/Pd concentration in the ultrabasic, and the other to detect any gold-rich veins in that part of the property adjacent to the intrusion.

RECOMMENDATIONS

In view of the lack of outcrop in some areas, the typically erratic nature of platinum distribution and the cost of its analysis, some method must be found to test fairly large areas of bedrock with each sample if a systematic search for platinum concentrations is to be made. The area is fairly dry, and streams or even dry washes rather rare. The recommended technique therefore involves systematic sampling of the heavy mineral fractions of gully mineral soils and talus fines. (It may well prove possible to isolate a platinum-rich fraction quickly from these with a Franz magnetic separator.) Anomalies would be followed up by further sampling, magnetometer survey and rock geochemistry.

Gully mineral soil heavy-mineral sampling might also be useful peripheral to the ultrabasic intrusive in searching for gold veins. The area has been heavily prospected for many years, and it seems likely that any vein systems with clear surface indications would have been found. Overburden is extensive in some of this area, however, and in view of the known gold deposits nearby, this further work seems warranted.

STATEMENT OF COSTS

<u>Description</u>	<u>Cost</u>
<u>Wages:</u> R.J. Bilquist 10 days @ \$125.00/Day	\$1250.00
L.O. Allen 10 days @ \$85.00/Day	850.00
R.R. Culbert, PhD. 1 day @ \$250/Day	250.00
 <u>Room and Board (Camp Costs):</u>	
10 days @ \$25.00/man day	500.00
 <u>Transportation (Truck Rental):</u>	
10 days @ \$35.00/day	350.00
 <u>Analysis:</u>	1022.00
 <u>Report Preparation:</u> 3 days @ \$70.00/day	210.00
	<hr/>
Total Cost	\$4222.00

March 1982

R. J. Bilquist

STATEMENT OF QUALIFICATIONS:

1. Have worked in the mining exploration business for a period of 13 years employed by:
 - (a) Stokes Exploration Management Company from 1969 to 1975 as field technician, party chief and prospector.
 - (b) D.G. Leighton & Assoc. from 1975 to 1981 as prospector.

2. Have written an exam to qualify for the Prospectors assistance grants. This took place at the Department of Mines and Petroleum resources office in Nanaimo in 1975 and was supervised by W.C. Robinson, P.Eng.
I, Ronald John Bilquist, prospector, hereby certify that the above is a true representation of my experience and education as a prospector, and submit the above as my statement of qualifications to the Department of Mines and Petroleum Resources of British Columbia.

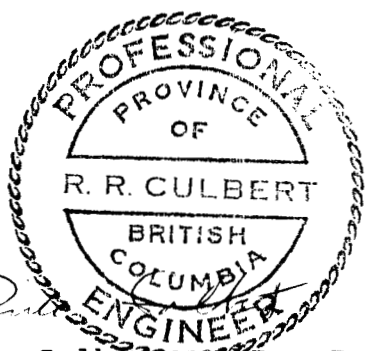
Ron Bilquist,

Prospector

GRASSHOPPER CLAIM
SIMILKAMEEN MINING DIVISION

STATEMENT

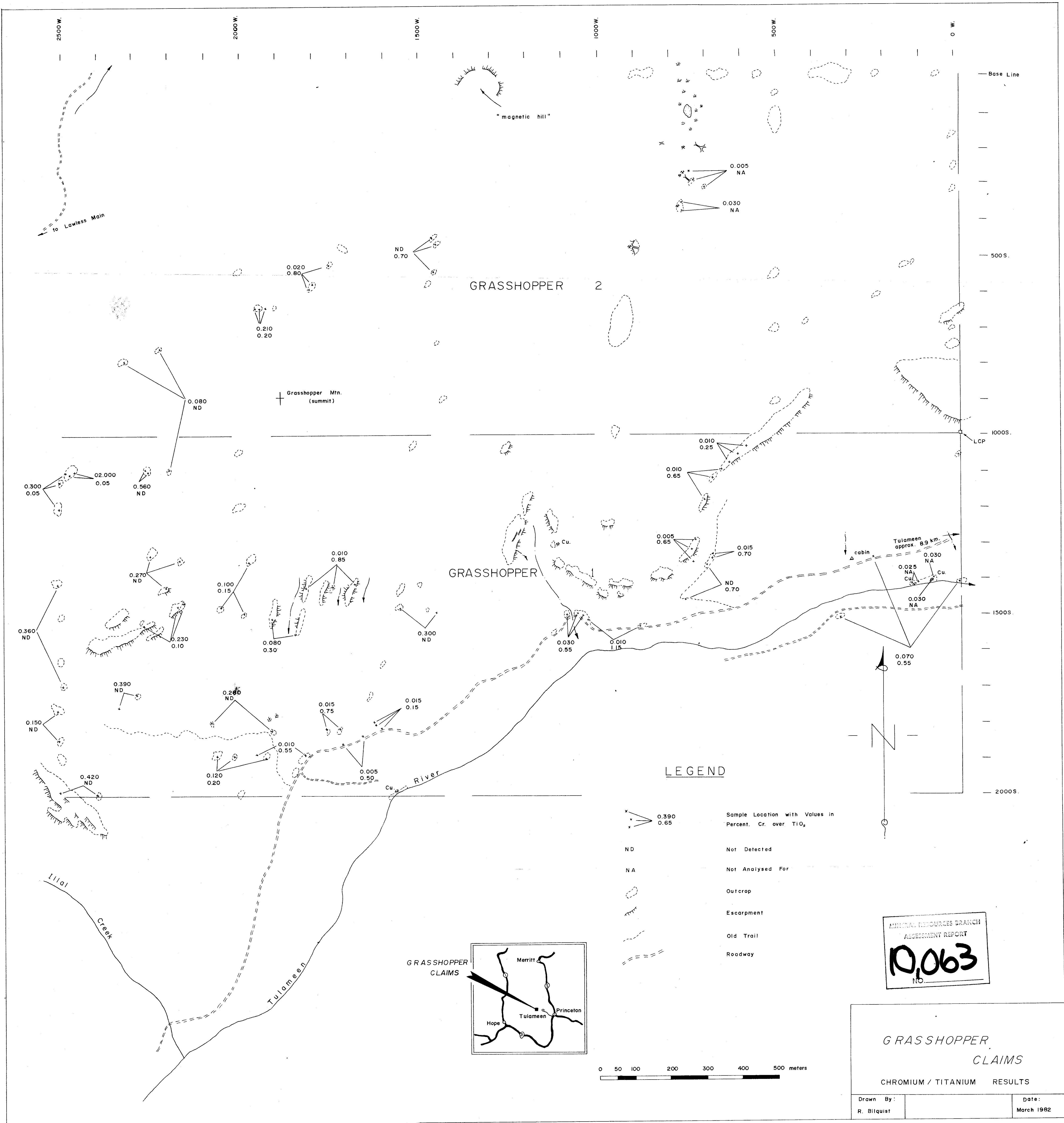
At the request of Ron Bilquist and in his company, I have spent a full day examining the Grasshopper 1 and 2 mineral claims. Furthermore, I have read what published material is available regarding the property and studied Mr. Bilquist's Report on Prospecting Survey (1979) and Report on Geochemical Survey (1982). I find that these reports fairly and amply represent the history and geology of the area and that the geochemical interpretations are reasonable. I will therefore confine my contribution to a brief summary and recommendations.



R.R. Culbert, P.Eng.

The seal is circular with a double-line border. The outer ring contains the text 'PROFESSIONAL ENGINEER' at the top and 'BRITISH COLUMBIA' at the bottom. The inner circle contains 'PROVINCE OF' at the top, 'R. R. CULBERT' in the center, and 'BRITISH COLUMBIA' at the bottom. A handwritten signature is written across the seal.

11 ~~April~~, 1982
MARCH



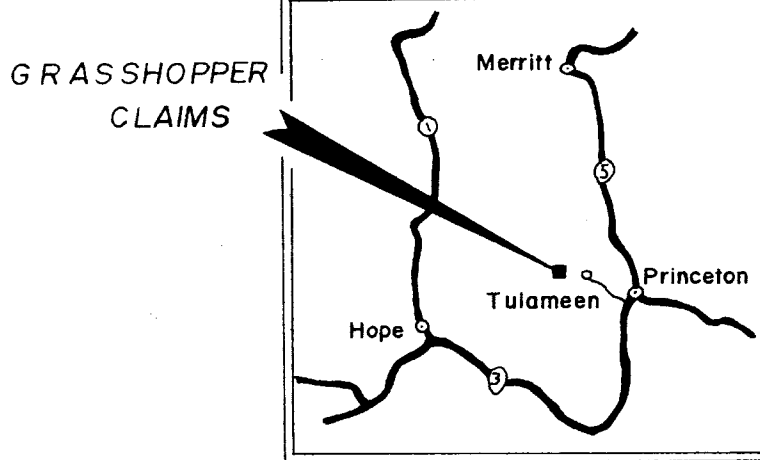
MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
10,063
NO.

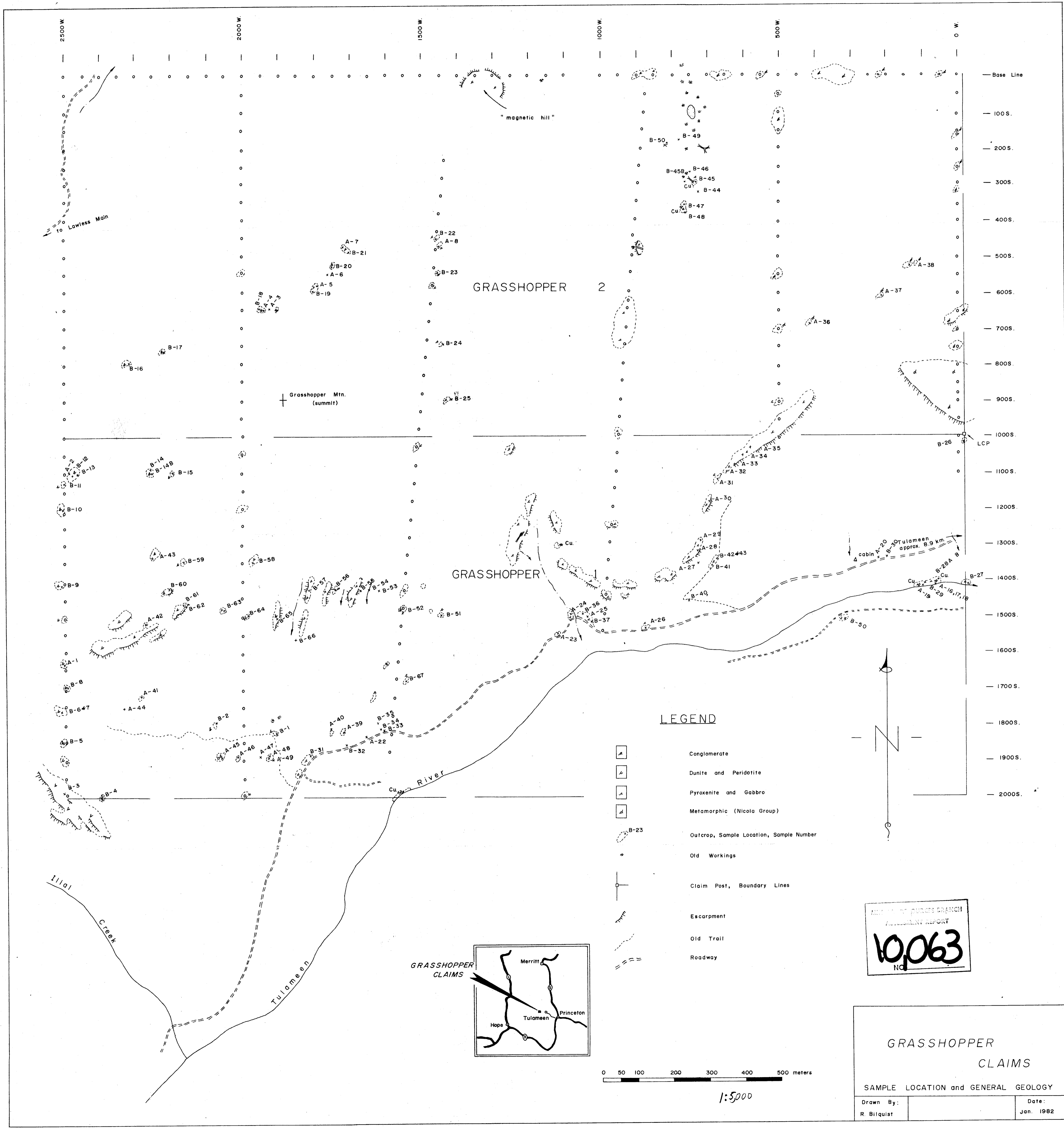
GRASSHOPPER CLAIMS
CHROMIUM / TITANIUM RESULTS

Drawn By: R. Blizquist	Date: March 1982
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LEGEND

- Sample Location with Values in Percent. Cr. over TiO_2
- ND Not Detected
- NA Not Analysed For
- Outcrop
- Escarpment
- Old Trail
- Roadway





"magnetic hill"

GRASSHOPPER 2

GRASSHOPPER 1

Grasshopper Mtn. (summit)

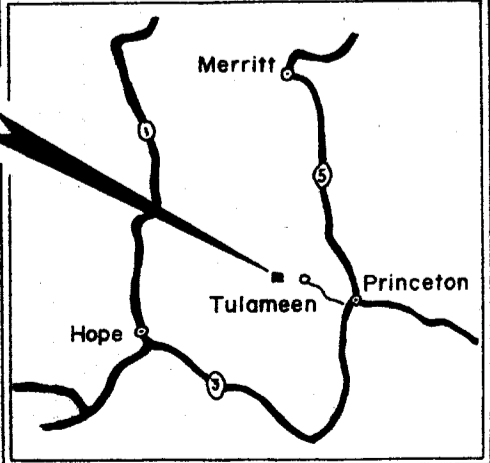
to Lawless Main

Lilal Creek

Tulameen

Copper River

GRASSHOPPER CLAIMS



LEGEND

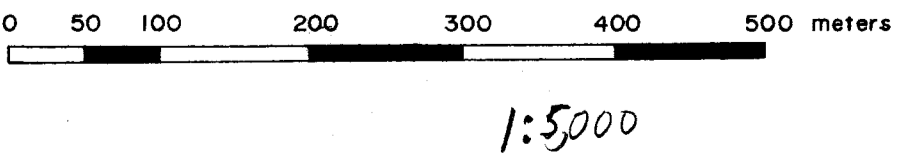
- Conglomerate
- Dunite and Peridotite
- Pyroxenite and Gabbro
- Metamorphic (Nicola Group)
- Outcrop, Sample Location, Sample Number
- Old Workings
- Claim Post, Boundary Lines
- Escarpment
- Old Trail
- Roadway

MERRITT PURCHASER BRANCH
 REVENUE REPORT
10,063
 NC

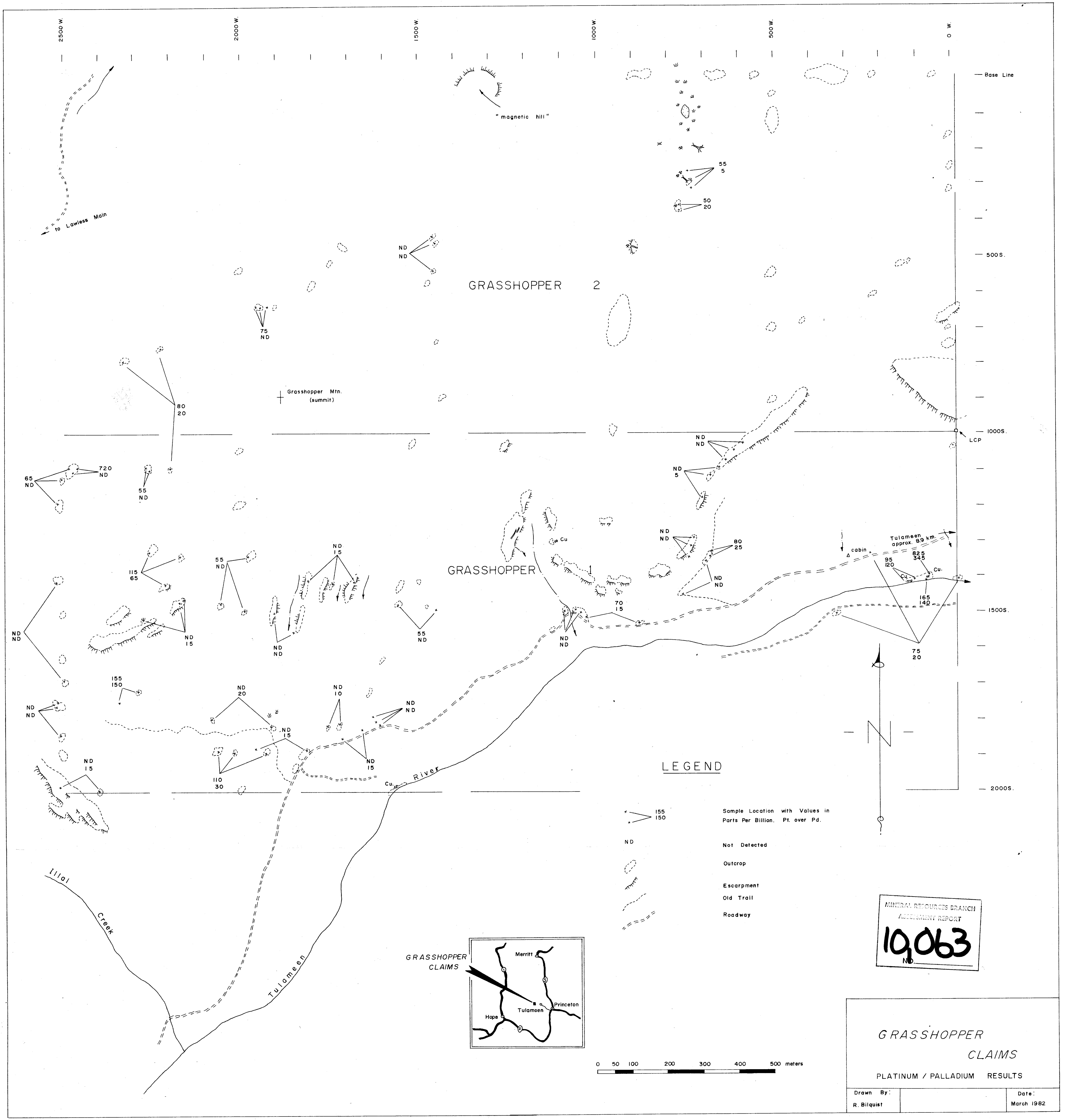
GRASSHOPPER CLAIMS

SAMPLE LOCATION and GENERAL GEOLOGY

Drawn By: R. Bilquist	Date: Jan. 1982
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- Base Line
- 100S.
- 200S.
- 300S.
- 400S.
- 500S.
- 600S.
- 700S.
- 800S.
- 900S.
- 1000S. LCP
- 1100S.
- 1200S.
- 1300S.
- 1400S.
- 1500S.
- 1600S.
- 1700S.
- 1800S.
- 1900S.
- 2000S.



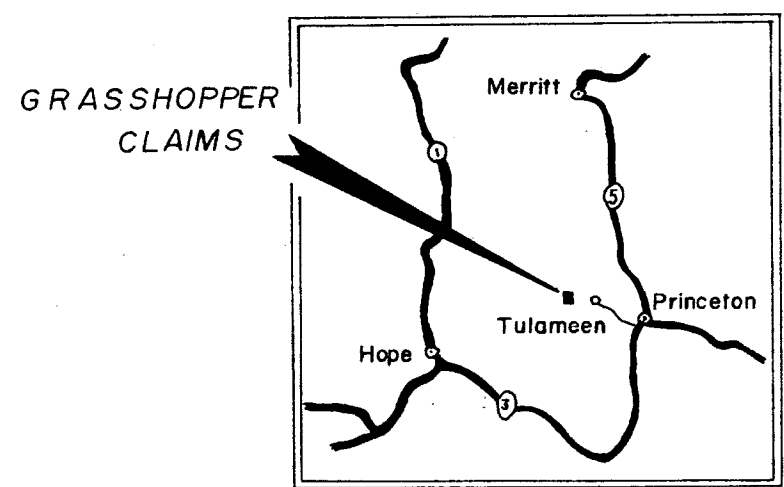
"magnetic hill"

GRASSHOPPER 2

GRASSHOPPER

LEGEND

- Sample Location with Values in Parts Per Billion. Pt. over Pd.
- Not Detected
- Outcrop
- Escarpment
- Old Trail
- Roadway



MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
19063
No.

GRASSHOPPER
CLAIMS

PLATINUM / PALLADIUM RESULTS

Drawn By: R. Bilquist	Date: March 1982
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