



PLACER DEVELOPMENT LIMITED

A GEOLOGICAL REPORT
ON THE
BOB AND SANTANNA MINERAL CLAIMS

Located in the Vancouver Mining Division
at 49°39'N; 123°00'W

NTS 92-G-10W and 92-G-11E

Owner - Maggie Mines Limited (N.P.L.)
Operator - Placer Development Limited

BY: W.S. Pentland
DATE: August 24th, 1978

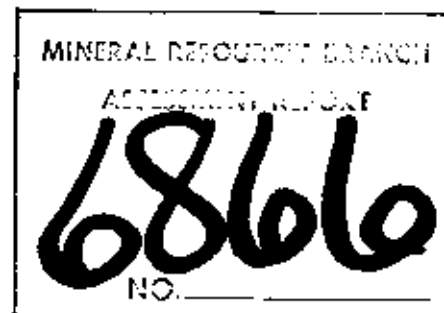


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Introduction:

The area being reported upon is covered by 24 units represented by the BOB and SANTANNA mineral claims. These claims lie approximately eight miles southeast of the town of Squamish, B.C. and twenty-five miles due north of Vancouver.

The headwaters of the Indian River cross the southwest corner of the property with Mt. Baldwin lying to the northwest.

Road access is by road from Squamish along Stawamus Creek to the headwater of the Indian River. From that point the road follows the Indian River providing access to the southern sector of the property. A helicopter is required to reach the northern and eastern parts of the Santanna mineral claims.

The Indian River forms a steeply walled forested valley with sharply incised tributary creeks. At higher elevations the terrain levels off and could be classed as sub-alpine. Elevations range from 500 metres to 1500 metres.

The claims were located in 1977 by Maggie Mines Limited (N.P.L.) and optioned to Placer Development Limited in 1978. Prospecting by Maggie Mines Limited in the vicinity of the claims had found copper, lead and zinc mineralization in sedimentary and volcanic rocks.

The present report covers reconnaissance geological mapping on a scale of 1:2500 with the final map being reduced to 1:5000.

Geology:

The claims are underlain by sediments and volcanics of the Gambier Group of Jurassic age and by intrusives of Cretaceous age.

The sediments are largely siltstone, sandstone and arkose with lesser amounts of argillite and pebble conglomerate.

...2/

Geology (continued)

The volcanics are predominantly rhyolites and appear to be mainly tuffs. Dacites and porphyry flows occur in relatively minor amounts.

The main body of plutonic rock lies to the south of the BOB claim and is composed of medium grained quartz diorite. An irregular projection from this stock extends northward into the southeastern corner of the BOB claim and the southwestern corner of the Santana claim.

Another dike like intrusive body lies in the northwestern corner of the BOB claim. This latter body may join up with the main pluton to the south but additional mapping is required to determine the point. In the intrusive areas located in the claims some outcrops contain an increased potassium feldspar content and appear to be grandiorite.

The sediments and volcanics on the BOB claim have a general northwest strike and dip 45° - 70° to the southwest. One particularly distinctive volcanic tuff composed of lava bombs 1 - 2 cms. has been traced from a point south of the BOB claim northwestward across the claim to adjoining claims to the westward.

A zone immediately to the northeast of the main quartz diorite pluton is largely a black to dark green fine grained andesite with narrow zones which appear to be metamorphosed volcanics.

There appears to be a major facies change in the vicinity of Clarion Lake near the eastern end of the Santanna claim. Sediments lie to the southwest of the lake while rhyolite tuffs outcrop to the north and northeast. A zone of interfingering between the sediments and volcanics is located to the southeast of the lake.

The only reported mineralization is on the BOB claim. Exploration during the approximate period 1910-1918 found narrow zones of chalcopryite mineralization on and between two northeasterly flowing creeks located in the west and southwest sectors of the BOB claim.

926/NW-14 BELLE
(IRISH MOUNTAIN)
BELL


W. Pentland

WP/ct
Attachments

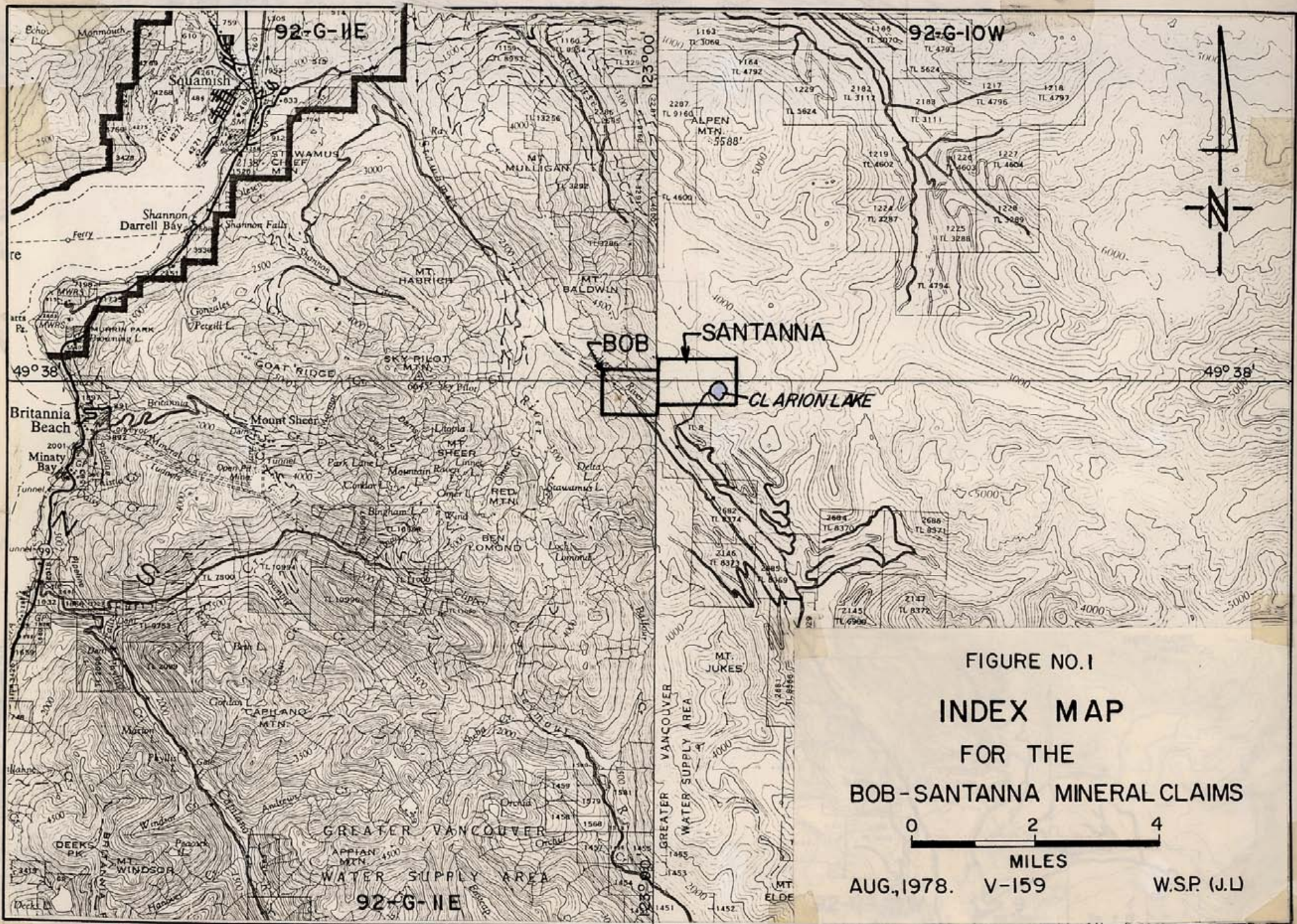


FIGURE NO.1
 INDEX MAP
 FOR THE
 BOB-SANTANNA MINERAL CLAIMS

0 2 4
 MILES

AUG., 1978. V-159 W.S.P. (J.L)

Statement of Costs

Geological Mapping on the Santanna Claims

| | |
|---|------------|
| (1) Base Map by McElhanney Associates (1:2500) | |
| 15 units @ \$40./unit | \$600.00 |
| (2) Geological Mapping | |
| Geologist - 3 days @ \$170./day | 510.00 |
| (W. Pentland - July 23 & 24 and Aug. 8, 1978) | |
| Assistant - 3 days @ \$60./day | 180.00 |
| (B. Quenville - July 23 & 24, and Aug. 8, 1978) | |
| <u>Note:</u> Above rates include room and meals | |
| (3) Transportation | |
| Truck - 3/4 ton 4x4 @ \$20./day for 4 days | \$ 80.00 |
| Helicopter --6 hrs. @ \$300./hr. | 180.00 |
| (4) Map Preparation and Report Writing | |
| 4 days @ \$150./day | 600.00 |
| | <hr/> |
| TOTAL: | \$2,150.00 |

STATEMENT OF QUALIFICATIONS

I, W.S. Pentland, with a business address in Vancouver, British Columbia, and a residential address in Delta, British Columbia, hereby certify that:

- 1) I am a geologist.
- 2) I am a graduate of the University of British Columbia, Vancouver, British Columbia, with a B.A. in 1951.
- 3) From 1951 to 1977, I have worked in mineral exploration in various parts of Canada.
- 4) I personally examined the area and have assessed the results of the work.

Respectfully submitted,

W. Pentland
W.S. Pentland

Dated this 24 day of August,
1978, Vancouver, British Columbia.

CERTIFICATION

I, D.A. Howard, with a business address at 800 - 1030 West Georgia Street, Vancouver, British Columbia, do hereby certify that:

- 1) I am a professional engineer registered in the Province of British Columbia.
- 2) I have examined the report by W.S. Pentland, on work done in 1978, on the Bob & Santanna claims, $49^{\circ}39'N$; $123^{\circ}00'W$, in the Vancouver Mining District.
- 3) To the best of my knowledge the acquisition of the data and expenditure claimed for the performance of work is correct.



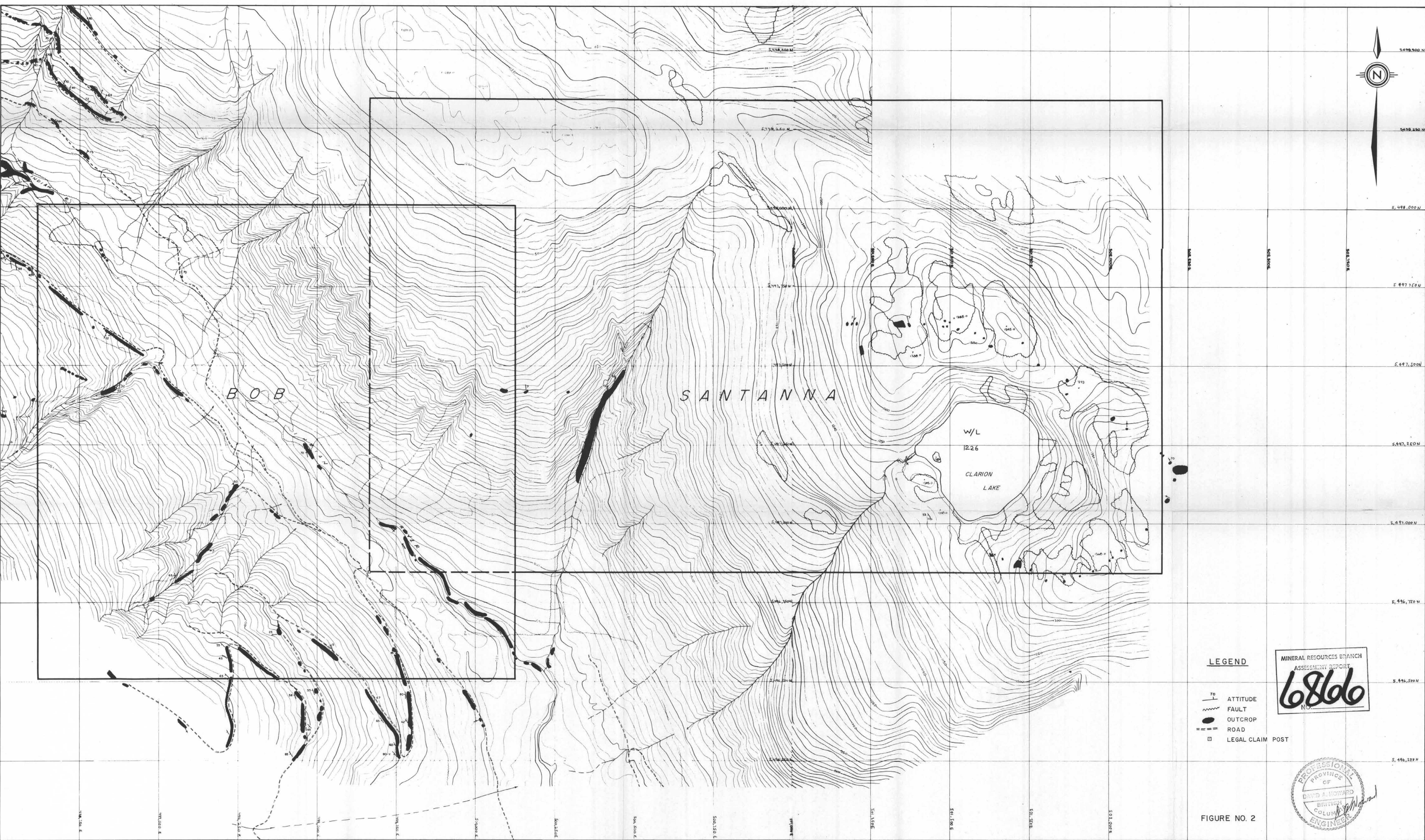
Dated this 25 day of August,
1978, Vancouver, British Columbia.

STATEMENT OF COSTS

Geological Mapping on the BOB Claims

| | |
|--|----------|
| (1) Base Map by McEthanney Associates (1:2500) 9 units @ \$40.00/unit | \$360.00 |
| (2) Geological Mapping | |
| Geologist - 6 days @ \$170/day (W. Pentland - June 2,7,8,9,15&16, 1978) | 1,020.00 |
| Assistant - 3 days @ \$60/day (B. Quenville - June 7,8,9, 1978) | 180.00 |
| <u>NOTE:</u> - Above rates include room and meals | |
| (3) Transport - 3/4 ton 4x4 @ \$20/day for 6 days | 120.00 |
| (4) Map Preparation and Report Writing 5 days @ \$150/day | 750.00 |

TOTAL : \$2,430.00



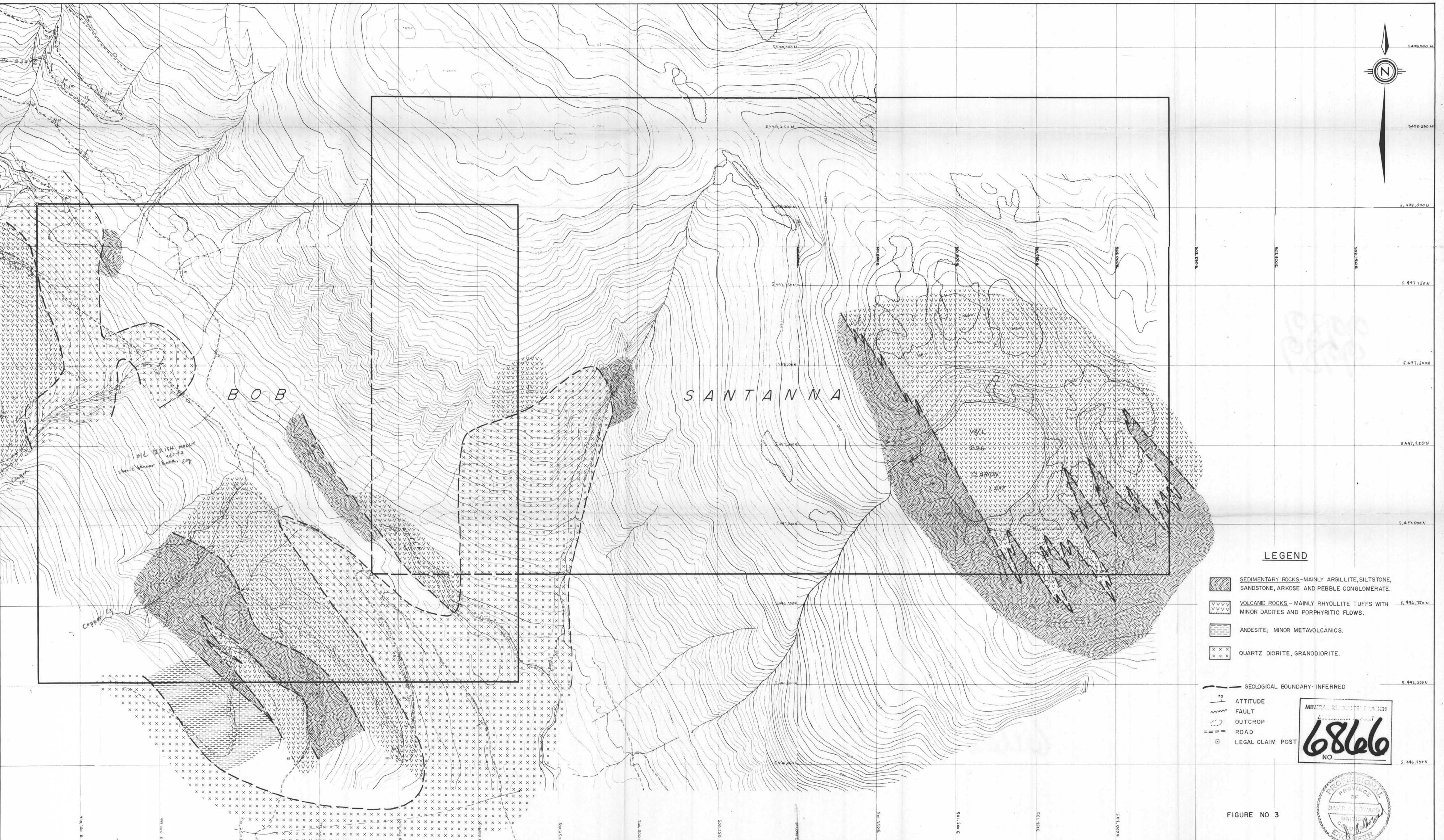
LEGEND

- ATTITUDE
- FAULT
- OUTCROP
- ROAD
- LEGAL CLAIM POST

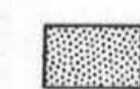


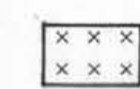

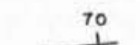

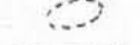


MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
6866
No.



FIGURE NO. 2



LEGEND

-  SEDIMENTARY ROCKS - MAINLY ARGILLITE, SILTSTONE, SANDSTONE, ARKOSE AND PEBBLE CONGLOMERATE.
-  VOLCANIC ROCKS - MAINLY RHYOLITE TUFFS WITH MINOR DACITES AND PORPHYRIC FLOWS.
-  ANDESITE; MINOR METAVOLCANICS.
-  QUARTZ DIORITE, GRANODIORITE.
-  GEOLOGICAL BOUNDARY - INFERRED
-  ATTITUDE
-  FAULT
-  OUTCROP
-  ROAD
-  LEGAL CLAIM POST

MINERAL RIGHTS RESERVED
 6866
 NO.

FIGURE NO. 3

