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| LOG NO: 0714 | RD |
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| FILE NO:     |    |

1989 Prospecting Report  
on the  
GRAN16 Claim

Liard Mining Division  
NTS: 104/G 13  
Lat: 57 49'N  
Long: 131 47'W

Owners: Homestake Mineral Development Company  
1000 - 700 W. Pender St.  
Vancouver, B.C.  
and  
Equity Silver Mines Ltd.  
Suite 13 - 1155 Melville St  
Vancouver, B.C.

Operator: Homestake Mineral Development Company

R.G. Carmichael  
P.M. Holbek

July 26, 1989

10,073

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## SUMMARY

The GRAN16 property is located in the Stikine region of British Columbia. The property consists of 1 claim totalling 18 units and is owned by Homestake Mineral Development Company and Equity Silver Mines Ltd.

Work on the property was carried out on June 10, 1989 and involved prospecting as well as the collection of 10 rock samples and 5 silt samples.

The GRAN 16 claim is underlain by intermediate to mafic volcanic rocks which are locally intruded by irregular shaped syenite bodies. Little alteration was seen on the property, and topography makes exploration difficult, but with one 500 ppb Au sample and the presence of syenite intrusives, further work is warranted for the property.

### 1.0 INTRODUCTION

#### 1.1 Location and Access

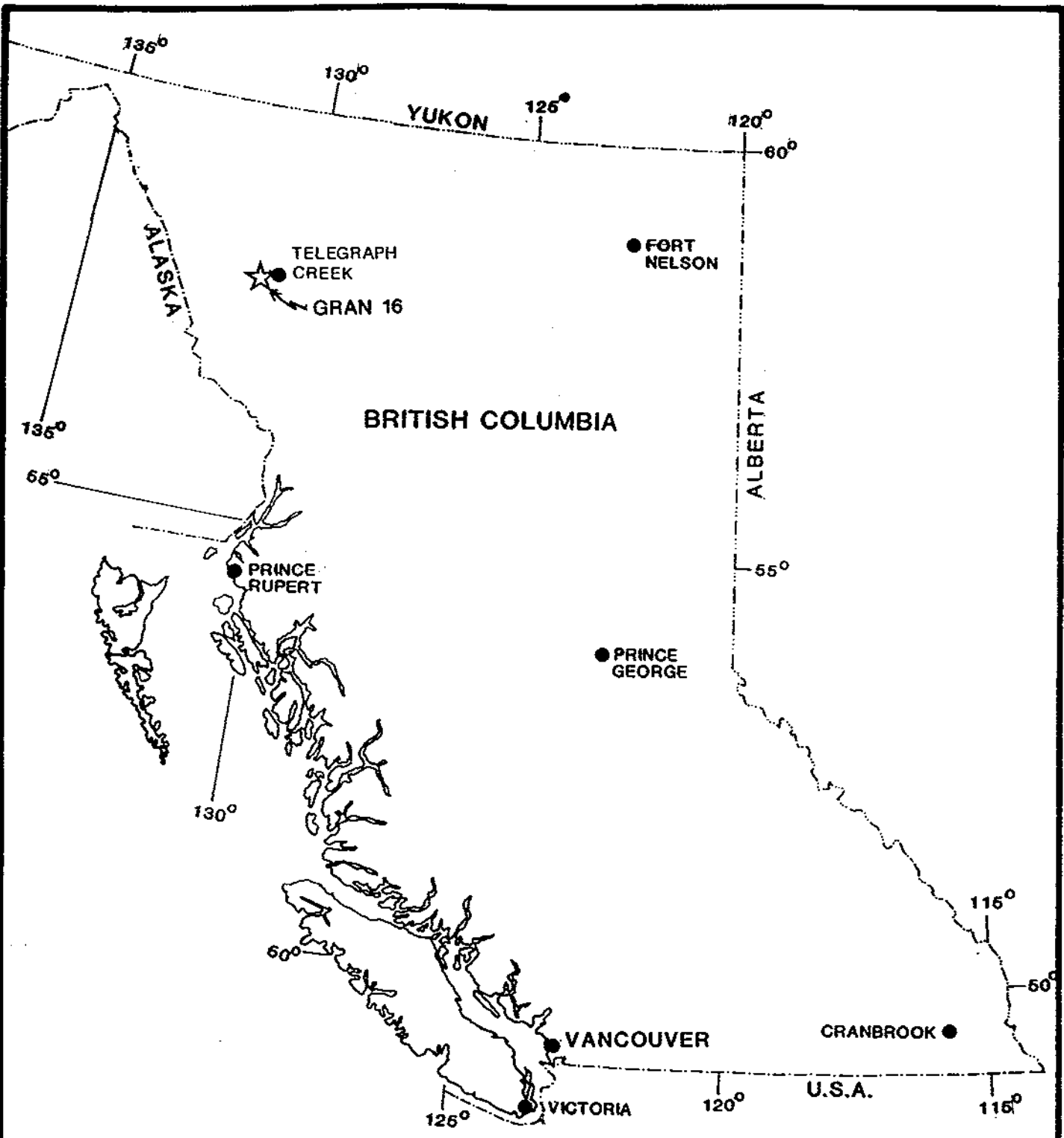
The GRAN16 claim is located in the Stikine region of northwestern British Columbia approximately 37 km west-southwest of the village of Telegraph Creek, on the Barrington River, 1 km upstream from its junction with Limpoke Creek (Figure 1.1). The claim is centred at 57 47' N latitude and 131 47'W longitude on NTS map sheet 104G/13.


Access to the property is via helicopter from Telegraph Creek, which is connected to Dease Lake by an all-weather road and serviced by fixed-wing flights from Smithers, B.C. The Stikine River provides navigable water access from Wrangell, Alaska north to Telegraph Creek.

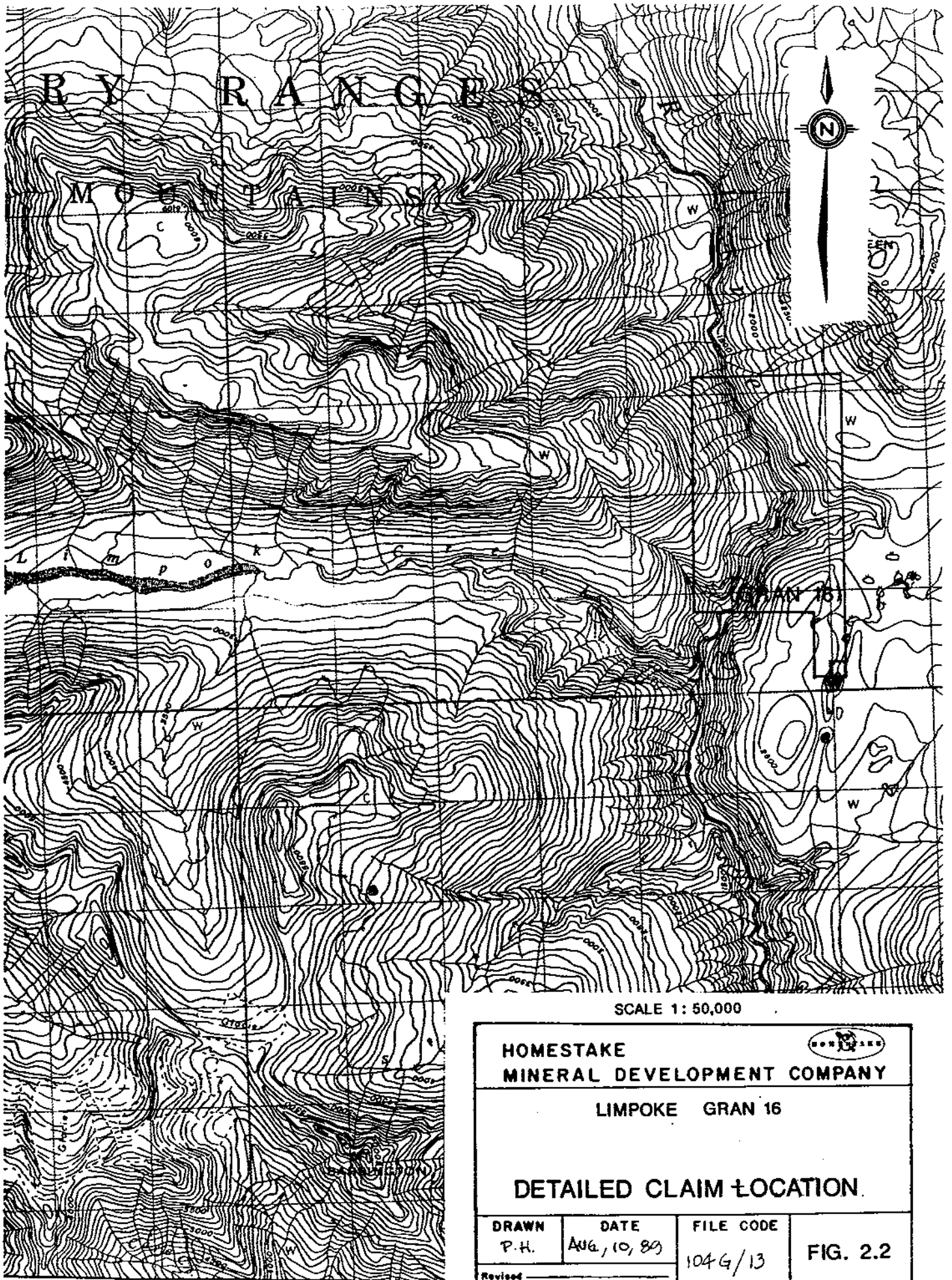
#### 1.2 Claim Status

The GRAN16 property consists of one claims totalling 18 units. The claim was recorded on June 28, 1988 and is owned by Homestake Mineral Development Company and Equity Silver Mines Ltd. Assuming acceptance of this assessment work, claim data will be as follows:


| CLAIM  | UNITS | RECORD # | RECORDING DATE | EXPIRY DATE   |
|--------|-------|----------|----------------|---------------|
| GRAN16 | 18    | 4740     | June 28, 1988  | June 28, 1990 |



|  |                      |                              |                   |
|--|----------------------|------------------------------|-------------------|
| <b>HOMESTAKE</b><br><b>MINERAL DEVELOPMENT COMPANY</b>  |                      |                              |                   |
| <b>GRAND CANYON PROJECT, B.C.</b><br><br><b>GRAN 16</b>  |                      |                              |                   |
| <b>LOCATION MAP</b>  |                      |                              |                   |
| <b>DRAWN</b><br>KMc  | <b>DATE</b><br>11/87 | <b>FILE CODE</b><br><br>104G | <b>FIGURE 1.1</b> |
| Revised _____  |                      |                              |                   |



SCALE 1: 50,000

|  |                            |                              |   |
|--|----------------------------|------------------------------|---|
| <b>HOMESTAKE</b><br><b>MINERAL DEVELOPMENT COMPANY</b> |                            |                              |  |
| <b>LIMPOKE GRAN 16</b>                                 |                            |                              |   |
| <b>DETAILED CLAIM LOCATION.</b>                        |                            |                              |   |
| <b>DRAWN</b><br>P.H.                                   | <b>DATE</b><br>AUG, 10, 89 | <b>FILE CODE</b><br>104 G/13 | <b>FIG. 2.2</b>   |
| Revised _____  |                            |                              |   |

28      29      30      31      50'

### 1.3 Physiography

The GRAN16 claim straddles the Barrington River canyon and is characterized by precipitous topography. On the east side of the river, the canyon rises 260m to a small plateau and on the west side the steep slopes rise 660m to the ridge top. Although rock exposure is good, much of the property is inaccessible due to extreme topography. Vegetation occurs on the less steep slopes and consists of mature spruce and balsam trees with a thick undergrowth of slide alder and devil's club.

### 1.4 Exploration History

Kennco Exploration Ltd conducted a program of soil sampling and prospecting on the Gordon showing (MINFILE 104G002) in 1966 (B.C. Assessment report #847). This showing is located at the junction of the Barrington River and Limpoke Creek, just south of the GRAN16 claim. Mineralization is reported to consist of scattered patches of weakly disseminated chalcopyrite in all rock types and widespread disseminated pyrite. Chalcopyrite, bornite and malachite were discovered in a 10cm wide silicified fracture zone.

### 1.5 Present Work

The 1989 work program outlined in this report was designed to locate areas of anomalous metal values and to assess the economic potential of the property. It consisted of rock sampling, stream sediment sampling and prospecting.

## 2.0 REGIONAL GEOLOGY

The property lies on the boundary between the Coast and Intermontane tectonic belts. This area is underlain by rocks of the Stikine Terrane (Stikinia) consisting of Paleozoic schists, phyllites and greenstones of the Stikine Assemblage, Mid to Upper Triassic sedimentary and volcanic rocks of the Stuhini Group (Kerr, 1948), and Late Cretaceous to Tertiary continental volcanic arc assemblages of the Sloko Group (Logan and Koyanagi, 1989).

Three stages of plutonism are recognized in the area. The Hickman batholith is composed of Early to Middle Triassic quartz diorites and Middle Jurassic quartz monzonites. The third series of intrusive rocks are alkalic, generally syenitic, rocks of



132°00' 45' 30' 15' 131°00'  
58°00'



|  |                       |                  |                   |
|--|-----------------------|------------------|-------------------|
| <p>HOMESTAKE<br/>MINERAL DEVELOPMENT COMPANY</p>     |                       |                  |                   |
| <p>GRAND CANYON PROJECT<br/>TELEGRAPH CREEK B.C.</p> |                       |                  |                   |
| <p>GRAN 16</p>                                       |                       |                  |                   |
| <p>REGIONAL GEOLOGY</p>                              |                       |                  |                   |
| <p>DRAWN<br/>MJD</p>                                 | <p>DATE<br/>08/89</p> | <p>FILE CODE</p> | <p>FIGURE 3.1</p> |



LEGEND

- QUATERNARY**  
**PLEISTOCENE AND RECENT**
- 29 Fluvialite gravel; sand, silt; glacial outwash, till, alpine moraine and colluvium
  - 28 Hot-spring deposit, tufa, aragonite
  - 27 Olivine basalt, related pyroclastic rocks and loose tephra; younger than some of 29
- TERTIARY AND QUATERNARY**  
**UPPER TERTIARY AND PLEISTOCENE**
- 26 Rhyolite and dacite flows, lava domes, pyroclastic rocks and related subvolcanic intrusions; minor basalt
  - 25 Basalt, olivine basalt, dacite, related pyroclastic rocks and subvolcanic intrusions; minor rhyolite; in part younger than some 26
- CRETACEOUS AND TERTIARY**  
**UPPER CRETACEOUS AND LOWER TERTIARY**  
**SLOKO GROUP**
- 24 Light green, purple and white rhyolite, trachyte and dacite flows, pyroclastic rocks and derived sediments
  - 22 Biotite leucogranite, subvolcanic stocks, dykes and sills
  - 23 Porphyritic biotite andesite, lava domes, flows and (?) sills
- SUSTUT GROUP**
- 21 Chert-pebble conglomerate, granite-boulder conglomerate, quartzose sandstone, arkose, siltstone, carbonaceous shale and minor coal
  - 20 Felsite, quartz-feldspar porphyry, pyritiferous felsite, orbicular rhyolite; in part equivalent to 22
  - 19 Medium-to coarse-grained, pink biotite-hornblende quartz monzonite
- JURASSIC AND/OR CRETACEOUS**  
**POST-UPPER TRIASSIC PRE-TERTIARY**
- 18 Hornblende diorite
  - 17 Granodiorite, quartz diorite; minor diorite, leucogranite and migmatite
- JURASSIC**  
**MIDDLE (?) AND UPPER JURASSIC**  
**BOWSER GROUP**
- 16 Chert-pebble conglomerate, grit, greywacke, subgreywacke, siltstone and shale; may include some 13
- MIDDLE JURASSIC**
- 15 Basalt, pillow lava, tuff-breccia, derived volcanoclastic rocks and related subvolcanic intrusions
- LOWER AND MIDDLE JURASSIC**
- 14 Shale, minor siltstone, siliceous and calcareous siltstone, greywacke and ironstone
- LOWER JURASSIC**
- 13 Conglomerate, polymictic conglomerate; granite-boulder conglomerate, grit, greywacke, siltstone; basaltic and andesitic volcanic rocks, peperites, pillow-breccia and derived volcanoclastic rocks
- TRIASSIC AND JURASSIC**  
**POST-UPPER TRIASSIC PRE-LOWER JURASSIC**
- 12 Syenite, orthoclase porphyry, monzonite, pyroxenite
- HICKMAN BATHOLITH**
- 10 Hornblende granodiorite, minor hornblende-quartz diorite
  - 11 Hornblende, quartz diorite, hornblende-pyroxene diorite, amphibolite and pyroxene-bearing amphibolite
- TRIASSIC**  
**UPPER TRIASSIC**
- 9 Undifferentiated volcanic and sedimentary rocks (units 5 to 8 inclusive)
  - 8 Andite-andesite flows, pyroclastic rocks, derived volcanoclastic rocks and related subvolcanic intrusions; minor greywacke, siltstone and polymictic conglomerate
  - 7 Siltstone, thin-bedded siliceous siltstone, ribbon chert, calcareous and dolomitic siltstone, greywacke, volcanic conglomerate, and minor limestone
  - 6 Limestone, fetid argillaceous limestone, calcareous shale and reefoid limestone; may be in part younger than some 7 and 8
  - 5 Greywacke, siltstone, shale; minor conglomerate, tuff and volcanic sandstone
- MIDDLE TRIASSIC**
- 4 Shale, concretionary black shale; minor calcareous shale and siltstone
- PERMIAN**  
**MIDDLE AND UPPER PERMIAN**
- 3 Limestone, thick-bedded mainly bioclastic limestone; minor siltstone, chert and tuff
- PERMIAN AND OLDER**
- 2 Phyllite, argillaceous quartzite, quartz-sericite schist, chlorite schist, greenstone, minor chert, schistose tuff and limestone
- MISSISSIPPIAN**
- 1 Limestone, orinoidal limestone, ferruginous limestone; maroon tuff, chert and phyllite
- B Amphibolite, amphibolite gneiss; age unknown probably pre-Upper Jurassic
  - A Ultramafic rocks; peridotite, dunite, serpentinite; age unknown, probably pre-Lower Jurassic

CENOZOIC

MESOZOIC

PALEOZOIC

- Geological boundary (defined and approximate, assumed) .....
- Bedding (horizontal, inclined, vertical, overturned) .....
- Anticline .....
- Syncline .....
- Fault (defined and approximate, assumed) .....
- Thrust fault, teeth on hanging-wall side (defined and approximate, assumed) .....
- Fossil locality .....
- Mineral property .....
- Glacier .....

INDEX TO MINERAL PROPERTIES

|                 |            |                   |             |
|-----------------|------------|-------------------|-------------|
| 1. Laird Copper | 5. Bam     | 9. MH             | 13. Ann. Su |
| 2. Galore Creek | 6. Gordon  | 10. BIK           | 14. SF      |
| 3. QC, QCA      | 7. Limpoke | 11. JW            | 15. Goat    |
| 4. Nabs         | 8. Foks    | 12. Copper Canyon | 16. Mary    |

GRAND CANYON PROJECT B.C.  
**GEOLOGICAL  
 LEGEND**

Early Jurassic age. These Early Jurassic rocks are associated with mineralization in the area, including the Galore Creek and Schaft Creek porphyry deposits.

These rocks have undergone multiple stages of deformation, forming a complex structural pattern which is complicated by large differences in the competence of the different units. North- and northwesterly-trending normal faults are dominant with narrow west-trending extensional fault zones postdating them (Souther, 1972).

The most economically important exploration targets are porphyry copper-gold-silver deposits and peripheral mesothermal and shear zone-hosted precious metal veins (Logan et al, 1989).

### 3.0 PROPERTY GEOLOGY

The GRAN16 claim is underlain by Stuhini Group intermediate to mafic volcanics which have been intruded by a large syenite body in the southeast corner of the claim, and numerous syenite dykes over the rest of the claim area. Volcanic rocks are locally fragmental and porphyritic and represent a series of flows and related pyroclastics. The syenite intrusive is locally megacrystic, with orthoclase crystals to 5 cm noted.

Narrow zones of albite, epidote, chlorite and pyrite alteration are noted throughout and some malachite staining was seen associated with calcite stringers within the volcanics. These features are a very minor component of the geology. No argillic alteration zones or quartz stockworks or veins were seen, and mineralization was extremely scarce.

### 4.0 GEOCHEMISTRY

Two types of geochemical samples (rock and stream silt were collected during the work program. Sample locations and results are plotted on Figure 4.1.

#### 4.1 Analytical Methods

Three rock samples were collected from the property and shipped to Acme Analytical Labs. Thirty element ICP and gold by fire assay was done on each sample.

Six soil samples were collected using a maddock, placed in kraft paper bags and air dried. They were shipped to Acme Analytical Labs where 30 element ICP and gold by fire assay was done.

Six stream sediment samples were taken from the GRAN16 property. The samples were collected with a hand trowel or by

hand and placed in kraft sample bags, air dried and shipped to Acme Analytical Labs of Vancouver, B.C. Sample analysis consisted of 30 element ICP and gold by fire assay.

All sample sites were located by elevation and topography and marked by metal tags and orange flagging tape.

#### 4.2 Results

Analytical results are presented in Appendix I and sample locations are shown on Figure 4.1.

Rock samples 31255 and 31262 did not return any significant results. Sample 31256 was a grab sample from an altered fracture zone in an andesitic volcanic. This zone had a maximum width of 60cm, and alteration was typified by pervasive silicification (15%) and calcite stringers (3%). Two to five percent disseminated pyrite and trace chalcopyrite was noted. This sample returned 212ppm Mo, 428ppm Cu, 184ppm Pb, 34ppm Zn, 181ppm As, 32ppm Bi and 500ppb Au.

Three B horizon soil samples (31254, 31257, 31258) and three talus fine samples (31259, 31260, 31261) were collected. All samples contained greater than 400ppm copper. Other interesting results include 40ppm Mo in 31258, 35ppm Mo in 31261, and 40ppb Au in 31259.

Six stream sediment samples were collected, one from the west side of Barrington canyon (31253) and five from the east side (31351, 31352, 31353, 31024, 31025). Gold values from the east side samples are 26ppb, 23ppb, 45ppb, 19ppb and 40ppb, respectively.

## 5.0 CONCLUSIONS AND RECOMMENDATIONS

The geology of the GRAN16 property can be summarized as an intermediate to mafic volcanic pile which has been intruded by syenite stocks and dykes. Mineralization is very limited and consists of malachite in calcite stringers and minor disseminated pyrite in the volcanics adjacent to the intrusives. No encouraging alteration was seen.

The claim is bisected by the Barrington River and is characterized by extremely rugged topography along the canyon walls. Access is difficult and work done on the claim is greatly hampered by the topography.

Syenite intrusives are commonly related to mineralization in this area and the presence of such an intrusive on the GRAN16 claim combined with the 500ppb gold result from rock sample 31256 indicates that the property warrants further work. Additional sampling of the altered fracture zone which this sample came from is required and the extent of this zone should be determined.

## 6.0 REFERENCES

Brown, D.A. and Gunning, M. (1989): "Geology of the Stikine River Area, Northwestern B.C.", B.C. Ministry of Energy, Mines and Petroleum Resources, Geological Field Work, 1988, Paper 1989-1, pp. 251-267.

Holbek, P.M. (1988): "Geology and Mineralization of the Stikine Assemblage, Mess Creek Area, Northwestern British Columbia.", University of British Columbia MSc thesis.

Kerr, F.A. (1948): "Lower Stikine and Western Iskut River Areas, B.C.", GSC Memoir 246.

Logan, J.M. and Koyanagi, V.M. (1989): "Geology and Mineral Deposits of the Galore Creek Area, Northwestern B.C.", B.C. Ministry of Energy, Mines and Petroleum Resources, Geological Field Work, 1988, Paper 1989-1, pp. 269-284.

|      |                    |
|------|--------------------|
| MMAR | Annual Reports     |
|      | 1930 pg. 119       |
|      | 1963 pg. 7         |
|      | 1966 pg. 22        |
|      | Assessment Reports |
|      | 847                |

Souther, J.G. (1972): "Telegraph Creek Map Area, B.C.", GSC Paper 71-44.

## 7.0 STATEMENT OF COSTS

### Labour

|                   |                   |           |
|-------------------|-------------------|-----------|
| Project Geologist | 1 day @ \$253/day | \$ 253.00 |
| Geologist         | 1 day @ \$165/day | \$ 165.00 |
| Senior Assistant  | 1 day @ \$115/day | \$ 115.00 |
| Junior Assistant  | 1 day @ \$ 90/day | \$ 90.00  |

### Food and Accommodation

|                       |           |
|-----------------------|-----------|
| 4 mandays @ \$ 90/day | \$ 360.00 |
|-----------------------|-----------|

### Geochemical Analysis + Freight

|              |                   |           |
|--------------|-------------------|-----------|
| Rock Samples | 10 @ \$ 25/sample | \$ 250.00 |
| Silt Samples | 5 @ \$ 25/sample  | \$ 125.00 |
| Supplies     |                   | \$ 200.00 |

|           |           |
|-----------|-----------|
| Mob/Demob | \$ 200.00 |
|-----------|-----------|

### Helicopter Support (including fuel)

|                    |           |
|--------------------|-----------|
| 1.4 hrs @ \$700/hr | \$ 980.00 |
|--------------------|-----------|

### Report Preparation

|                   |           |
|-------------------|-----------|
| 1 day @ \$165/day | \$ 165.00 |
|-------------------|-----------|

|       |             |
|-------|-------------|
| TOTAL | \$ 2,903.00 |
|-------|-------------|



**APPENDIX I**  
**Analytical Results**

GEOCHEMICAL ANALYSIS CERTIFICATE

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 1-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.  
 THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR NG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.  
 - SAMPLE TYPE: P1 ROCK P2 SOIL AU\* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

MASTER  
 NTS: STIKINE/LIMPOCK CANY.  
 11 BC. 1076  
 DMB/ACCT.

DATE RECEIVED: JUN 29 1989 DATE REPORT MAILED: July 7/89 SIGNED BY: C. L. ... D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

HOMESTAKE MINERAL DEV. CO. PROJECT 5711LC (G16) #22 File # 89-1838 Page 1

| SAMPLE#       | No  | Cu  | Pb  | Zn  | Ag  | Ni  | Co  | Mn   | Fe   | As  | U   | Au  | Th  | St  | cd  | Sb  | Bi  | V   | Ca   | P    | La  | Cr | Mg   | Ba | Ti  | B  | Al   | Na  | K   | W   | Au* |
|---------------|-----|-----|-----|-----|-----|-----|-----|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|-----|----|------|----|-----|----|------|-----|-----|-----|-----|
|               | PPM | PPM | PPH | PPM | PPM | PPM | PPM | PPM  | %    | PPM | PPM | PPM | PPM | PPM | PPM | PPM | PPM | %   | %    | PPM  | PPM | %  | PPH  | %  | PPM | %  | %    | %   | PPM | PPB |     |
| LC 16-1 31255 | 4   | 536 | 5   | 57  | .4  | 16  | 17  | 544  | 4.87 | 5   | 5   | ND  | 1   | 193 | 1   | 2   | 2   | 137 | 1.70 | .090 | 5   | 32 | .78  | 17 | .17 | 5  | 1.25 | .04 | .13 | 2   | 5   |
| LC 16-1 31256 | 212 | 428 | 184 | 34  | 2.8 | 6   | 16  | 229  | 6.10 | 181 | 5   | ND  | 1   | 37  | 1   | 2   | 32  | 165 | 1.12 | .082 | 5   | 5  | .47  | 22 | .15 | 2  | .56  | .02 | .46 | 6   | 500 |
| LC 16-1 31262 | 5   | 292 | 5   | 50  | .4  | 16  | 24  | 734  | 6.40 | 3   | 5   | ND  | 1   | 106 | 1   | 2   | 2   | 109 | 2.09 | .073 | 4   | 23 | 1.70 | 18 | .17 | 3  | 2.71 | .11 | .15 | 1   | 6   |
| LC 16-1 31354 | 3   | 37  | 6   | 35  | .1  | 18  | 11  | 857  | 3.19 | 60  | 5   | ND  | 1   | 360 | 1   | 2   | 2   | 56  | 9.83 | .020 | 2   | 28 | 1.62 | 33 | .01 | 11 | .08  | .02 | .02 | 1   | 6   |
| LC 16-1 31355 | 1   | 105 | 4   | 65  | .3  | 27  | 15  | 1033 | 4.57 | 50  | 5   | ND  | 1   | 266 | 1   | 33  | 2   | 63  | 7.04 | .110 | 4   | 19 | 2.53 | 11 | .01 | 15 | .18  | .04 | .03 | 1   | 2   |
| TU 20-1 31234 | 3   | 207 | 8   | 24  | .1  | 24  | 12  | 169  | 1.92 | 4   | 5   | ND  | 1   | 129 | 1   | 2   | 2   | 36  | 2.82 | .090 | 3   | 19 | .28  | 29 | .14 | 9  | 3.28 | .23 | .08 | 1   | 3   |

Handwritten notes: 11/10 CR, 7/10 BR

| SAMPLE#    | Mo  | Cu  | Pb  | Zn  | Ag  | Bi  | Co  | Mn   | Fe   | As  | U   | Au  | Th  | Sr  | Cd  | Sb  | Bi  | V   | Ca   | P    | La  | Cr | Hg   | Ba  | Ti  | B  | Al   | Na  | K   | W   | Au* |
|------------|-----|-----|-----|-----|-----|-----|-----|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|-----|----|------|-----|-----|----|------|-----|-----|-----|-----|
|            | PPM | PPM | PPM | PPM | PPM | PPM | PPM | PPM  | %    | PPM | PPM | PPM | PPM | PPM | PPM | PPM | PPM | %   | %    | PPM  | PPM | %  | PPM  | %   | PPM | %  | %    | %   | PPM | PPM |     |
| 31024      | 1   | 59  | 6   | 51  | .2  | 16  | 10  | 486  | 3.41 | 11  | 5   | ND  | 3   | 48  | 1   | 4   | 2   | 88  | 1.10 | .082 | 9   | 19 | .81  | 69  | .12 | 4  | 1.29 | .02 | .06 | 2   | 19  |
| 31025      | 2   | 100 | 6   | 71  | .3  | 19  | 14  | 654  | 4.08 | 15  | 5   | ND  | 2   | 63  | 1   | 3   | 2   | 108 | 1.57 | .108 | 12  | 23 | .88  | 99  | .10 | 2  | 1.46 | .02 | .08 | 1   | 40  |
| 31081      | 1   | 135 | 6   | 92  | .2  | 10  | 22  | 621  | 5.44 | 18  | 5   | ND  | 1   | 38  | 1   | 2   | 2   | 143 | 1.51 | .060 | 4   | 17 | 1.24 | 46  | .12 | 11 | 2.38 | .02 | .03 | 1   | 73  |
| 31082      | 1   | 213 | 4   | 115 | .1  | 13  | 30  | 798  | 5.73 | 20  | 5   | ND  | 1   | 48  | 1   | 2   | 2   | 123 | 1.54 | .068 | 4   | 13 | 1.31 | 65  | .12 | 8  | 2.56 | .02 | .04 | 1   | 33  |
| 31413      | 1   | 63  | 2   | 35  | .1  | 11  | 15  | 350  | 5.09 | 4   | 5   | ND  | 7   | 39  | 1   | 2   | 2   | 115 | .94  | .062 | 14  | 46 | .67  | 62  | .08 | 2  | .77  | .02 | .03 | 2   | 1   |
| 31992      | 2   | 95  | 17  | 96  | .2  | 40  | 26  | 990  | 5.49 | 7   | 5   | ND  | 2   | 37  | 1   | 2   | 2   | 84  | .83  | .075 | 15  | 52 | 2.30 | 181 | .07 | 2  | 2.33 | .02 | .06 | 1   | 5   |
| STD C/AU-6 | 18  | 61  | 38  | 132 | 6.6 | 67  | 31  | 1018 | 4.08 | 40  | 18  | 7   | 38  | 49  | 18  | 15  | 22  | 58  | .50  | .092 | 39  | 56 | .96  | 178 | .07 | 35 | 1.89 | .06 | .13 | 11  | 51  |

ANALYST

G.K.

DD

| SAMPLE#    | Mo  | Cu  | Pb  | Zn  | Ag  | Ni  | Co  | Mn   | Fe    | As  | U   | Au  | Th  | Sr  | Cd  | Sb  | Bi  | V   | Ca   | P    | La  | Cr  | Mg   | Ba  | Ti  | B   | Al   | Na  | K   | W   | AU* |
|------------|-----|-----|-----|-----|-----|-----|-----|------|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|-----|-----|------|-----|-----|-----|------|-----|-----|-----|-----|
|            | PPM | PPM | PPM | PPM | PPM | PPM | PPM | PPM  | %     | PPM | PPM | PPM | PPM | PPM | PPM | PPM | PPM | PPM | %    | %    | PPM | PPM | %    | PPM | %   | PPM | %    | %   | %   | PPM | PPM |
| 31085      | 2   | 88  | 8   | 84  | .4  | 16  | 12  | 578  | 3.68  | 37  | 5   | ND  | 1   | 116 | 1   | 3   | 2   | 86  | 2.72 | .090 | 5   | 21  | 1.03 | 102 | .08 | 2   | 1.57 | .03 | .15 | 1   | 10  |
| 31154      | 2   | 105 | 11  | 96  | .2  | 16  | 17  | 666  | 4.55  | 17  | 5   | ND  | 1   | 52  | 1   | 2   | 2   | 129 | 1.00 | .086 | 6   | 29  | 1.18 | 75  | .09 | 5   | 1.88 | .02 | .06 | 1   | 18  |
| 31155      | 2   | 79  | 10  | 83  | .3  | 15  | 12  | 438  | 3.67  | 22  | 5   | ND  | 1   | 55  | 1   | 3   | 5   | 97  | .72  | .101 | 6   | 22  | .99  | 93  | .08 | 4   | 1.57 | .04 | .13 | 1   | 65  |
| 31177      | 2   | 70  | 4   | 82  | .3  | 15  | 12  | 501  | 3.61  | 19  | 5   | ND  | 1   | 48  | 1   | 2   | 2   | 98  | .72  | .101 | 6   | 23  | 1.11 | 96  | .09 | 2   | 1.73 | .03 | .13 | 1   | 74  |
| 31253      | 7   | 249 | 36  | 87  | .3  | 28  | 25  | 710  | 5.32  | 5   | 5   | ND  | 1   | 102 | 1   | 2   | 4   | 160 | 1.73 | .083 | 7   | 39  | 2.07 | 56  | .16 | 2   | 2.37 | .02 | .33 | 1   | 10  |
| 31254      | 5   | 418 | 33  | 140 | .4  | 27  | 36  | 1091 | 6.68  | 13  | 5   | ND  | 1   | 81  | 1   | 2   | 2   | 202 | 1.00 | .100 | 6   | 39  | 1.55 | 92  | .17 | 3   | 2.49 | .01 | .12 | 1   | 8   |
| 31257      | 6   | 450 | 26  | 111 | .5  | 24  | 34  | 823  | 6.69  | 16  | 5   | ND  | 2   | 101 | 1   | 2   | 2   | 187 | 1.01 | .055 | 5   | 30  | 1.68 | 54  | .18 | 4   | 2.75 | .01 | .20 | 1   | 3   |
| 31258      | 40  | 772 | 12  | 54  | .7  | 23  | 48  | 822  | 15.85 | 13  | 6   | ND  | 2   | 161 | 2   | 2   | 2   | 202 | 1.90 | .103 | 6   | 13  | 1.30 | 13  | .12 | 3   | 1.84 | .01 | .08 | 1   | 9   |
| 31259      | 6   | 638 | 22  | 55  | .4  | 24  | 41  | 803  | 6.61  | 10  | 5   | ND  | 1   | 174 | 1   | 2   | 2   | 145 | 1.18 | .088 | 8   | 20  | 1.40 | 42  | .13 | 6   | 2.40 | .02 | .10 | 1   | 40  |
| 31260      | 5   | 603 | 20  | 65  | .4  | 19  | 63  | 1293 | 7.02  | 13  | 5   | ND  | 1   | 246 | 1   | 2   | 3   | 175 | 1.55 | .098 | 7   | 16  | 1.54 | 66  | .11 | 2   | 3.12 | .01 | .15 | 1   | 16  |
| 31261      | 35  | 400 | 38  | 55  | .3  | 24  | 44  | 597  | 6.68  | 4   | 5   | ND  | 1   | 67  | 1   | 2   | 19  | 101 | .94  | .072 | 6   | 15  | .95  | 32  | .10 | 2   | 1.92 | .01 | .09 | 1   | 14  |
| 31351      | 2   | 101 | 9   | 61  | .2  | 14  | 12  | 490  | 4.14  | 16  | 5   | ND  | 2   | 73  | 1   | 2   | 2   | 115 | 1.86 | .112 | 10  | 21  | .73  | 76  | .08 | 5   | 1.22 | .02 | .07 | 3   | 26  |
| 31352      | 2   | 90  | 8   | 60  | .2  | 14  | 11  | 481  | 3.48  | 12  | 5   | ND  | 1   | 70  | 1   | 2   | 2   | 95  | 1.74 | .106 | 10  | 19  | .73  | 77  | .08 | 2   | 1.24 | .02 | .07 | 1   | 23  |
| 31353      | 1   | 84  | 8   | 60  | .3  | 13  | 12  | 486  | 3.90  | 12  | 5   | ND  | 3   | 49  | 1   | 2   | 2   | 106 | 1.15 | .105 | 10  | 21  | .72  | 73  | .08 | 6   | 1.28 | .02 | .08 | 1   | 45  |
| STD C/AU-5 | 18  | 62  | 43  | 132 | 6.7 | 70  | 30  | 1016 | 4.13  | 43  | 18  | 7   | 39  | 50  | 18  | 15  | 23  | 60  | .51  | .091 | 39  | 57  | .92  | 180 | .07 | 35  | 2.02 | .06 | .13 | 11  | 50  |

APPENDIX II  
Sample Summary

## LIMPOKE CREEK SAMPLES (GRAN 16)

| SAMPLE NO. | SAMPLE TYPE | DESCRIPTION  | MINERALIZATION           |
|------------|-------------|--|--------------------------|
| GR-16      | 31024       | silt   |                          |
|            | 31025       | silt   |                          |
|            | 31253       | silt moss matt   |                          |
|            | 31254       | soil 5%org, chocolate brown, 'B'   |                          |
|            | 31255       | o/c meta andesite, 5% limonite, epidote  | 2%py                     |
|            | 31256       | o/c meta andesite, sample fracture zone w/ 3% cc and 15% silicification                              | 2-5% diss. py, trace cpy |
|            | 31257       | soil >5%org, orange-brown, 'B'   |                          |
|            | 31258       | soil from talus area   |                          |
|            | 31259       | soil talus area  |                          |
|            | 31260       | soil talus fines   |                          |
|            | 31261       | soil talus fines   |                          |
|            | 31262       | o/c meta andesites   | 2-5% diss py.            |
|            | 31351       | silt   |                          |
|            | 31352       | silt   |                          |
|            | 31353       | silt   |                          |
|            | 31354       | o/c 10cm wide qtz, cc, gypsum? vein (vuggy & white)<br>host is blue gray f.g. banded felsic ash tuff |                          |
|            | 31355       | o/c felsic tuff?, rusty intensely silicified<br>qtz and cc stringers                                 |                          |



**APPENDIX III**

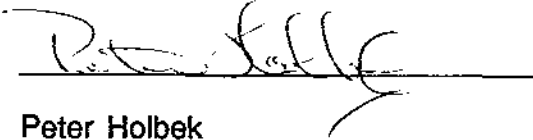
**Statement of Qualifications**

## STATEMENT OF QUALIFICATIONS

I, Peter Holbek, DO HEREBY CERTIFY THAT:

- 1) I am a project geologist presently employed by Homestake Mineral Development Company located at 1000 - 700 West Pender Street, Vancouver, B.C. V6C 1G8
- 2) I graduated from the University of British Columbia with a B.Sc. (Hons.) in geology in 1980 and an M.Sc. in geology in 1988.
- 3) I have actively practiced my profession in North America since 1975.
- 4) The work described herein was done by me or under my direct supervision.

DATED THIS 8th DAY OF AUGUST, 1989 AT VANCOUVER, B.C.

  
Peter Holbek

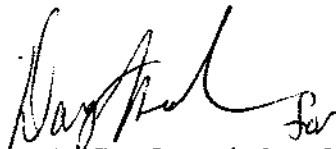
I, Robert G. Carmichael of 4058 West 32 Avenue, Vancouver B.C. do hereby state that:

- I graduated with a Bachelor of Applied Science in Geological Engineering in 1987 from the University of British Columbia;

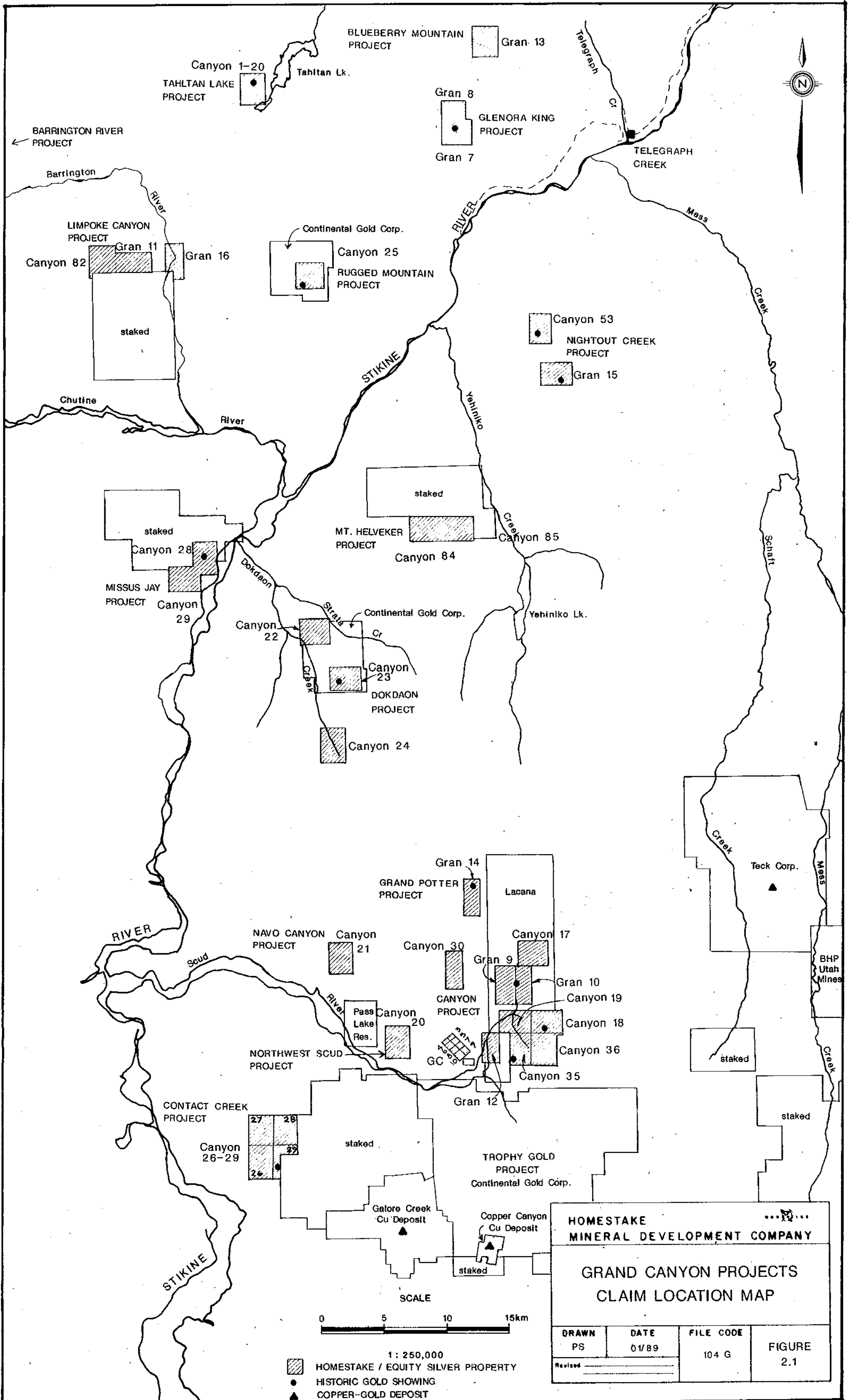
- I have been employed by Homestake Mineral Development Company since May of 1989;

- I was employed by Esso Minerals Canada Limited from May 1987 to February 1989;

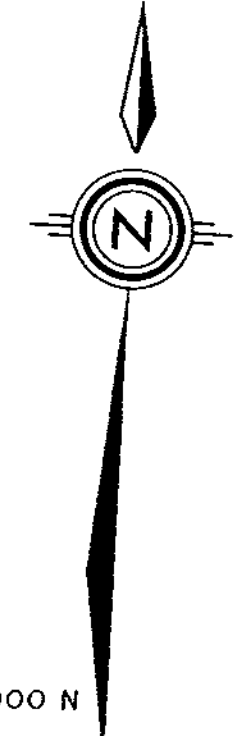
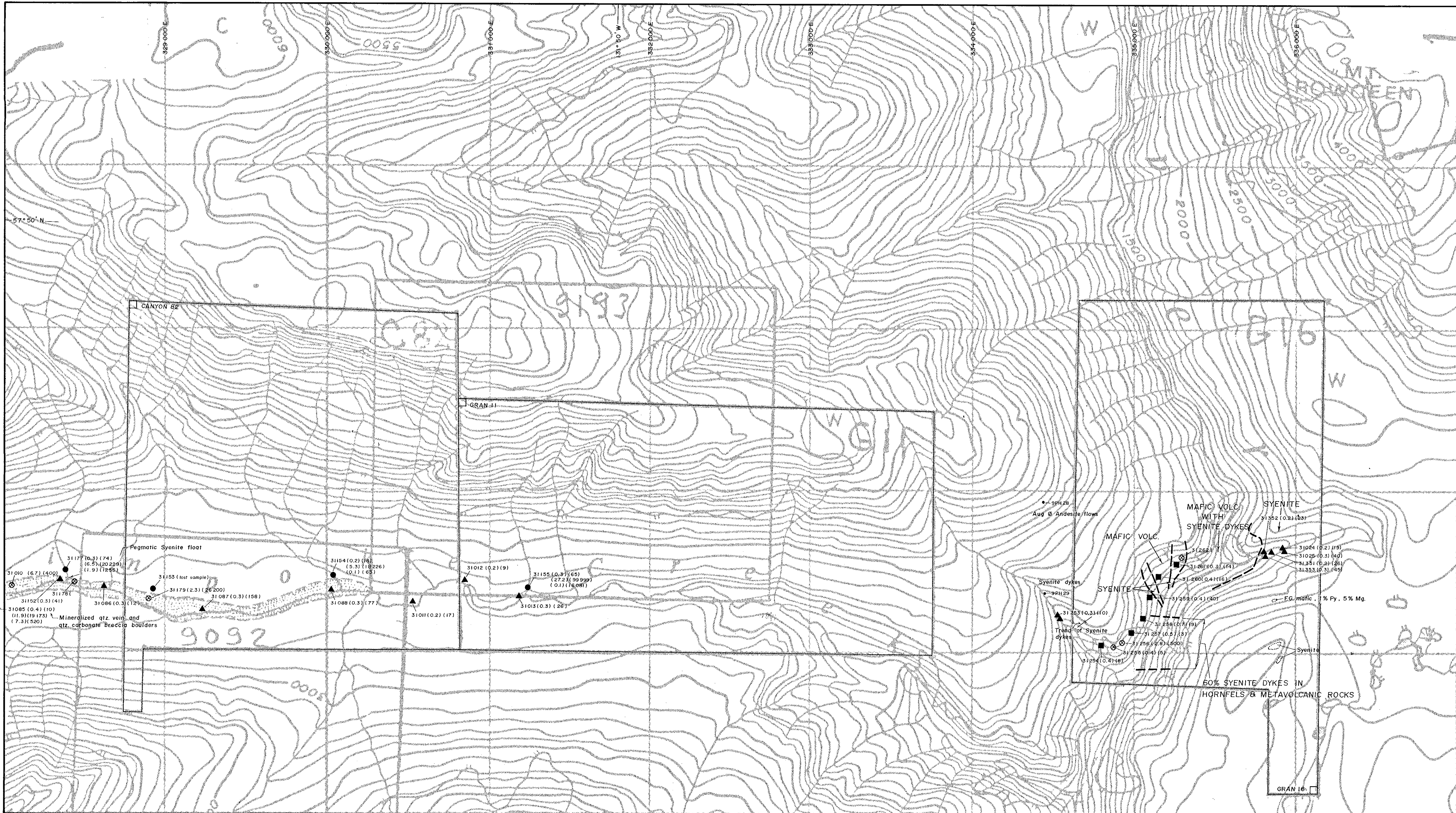
- I was employed by Noranda Exploration Company during the summer months of 1985 and 1986.

  
Robert G. Carmichael  
July 27 1989

19,073



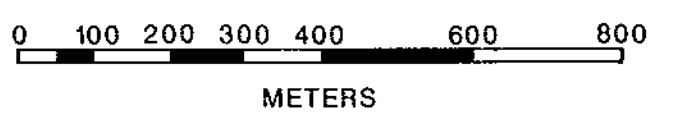




**LEGEND**

- ⊗ Rock Sample
- ▲ Silt
- Soil
- Heavy Mineral
- Mapping Station
- Geological Contact/Limit of Outcrops
- /// Fault
- Outcrop
- Ag ppm Au-ppb
- ⊗ 31395 (0.5) (93) Sample Number Sample Site
- 31395 (0.5) (93) (1000) (10000) Heavy Mineral - 150 mesh (500) (2000) Heavy Mineral - 60 + 150 mesh
- Py Pyrite
- Po/Pr Pyrrhotite
- Mg/Mag Magnetite
- qtz vn Quartz Vein
- Sil Silicified
- EP Epidote
- Bi Biotite
- cp Calcoppyrite
- F.G Fine Grained

**19,073**  
SCALE 1:10,000



|  |                        |                       |          |
|--|------------------------|-----------------------|----------|
| HOMESTAKE<br>MINERAL DEVELOPMENT COMPANY<br>LIMPOKE CANYON PROPERTY<br>B.C.<br>(GRAN 16) |                        |                       |          |
| <b>GEOLOGY AND SAMPLE LOCATIONS</b>  |                        |                       |          |
| DRAWN<br>P.H.  | DATE<br>JULY, 25, 1989 | FILE CODE<br>104 G/13 | FIG. 4.1 |