

MineQuest Report #237  
Ref. # RM1006

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GEOLOGICAL REPORT

on the

KEN CLAIMS

South Central British Columbia

NTS 92H/15

49 ° 53'N, 120 ° 35'W

by

J.B. Richards, P.Eng.

for

MineQuest Exploration Associates Ltd.

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

20,393

Vancouver, B.C.

September, 1990

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1.0

INTRODUCTION

The Ken Claims cover a copper porphyry-type prospect located in south central British Columbia.

Mr. G. Vernon and MineQuest Exploration Associates Inc. own the claims, 49%:51% respectively.

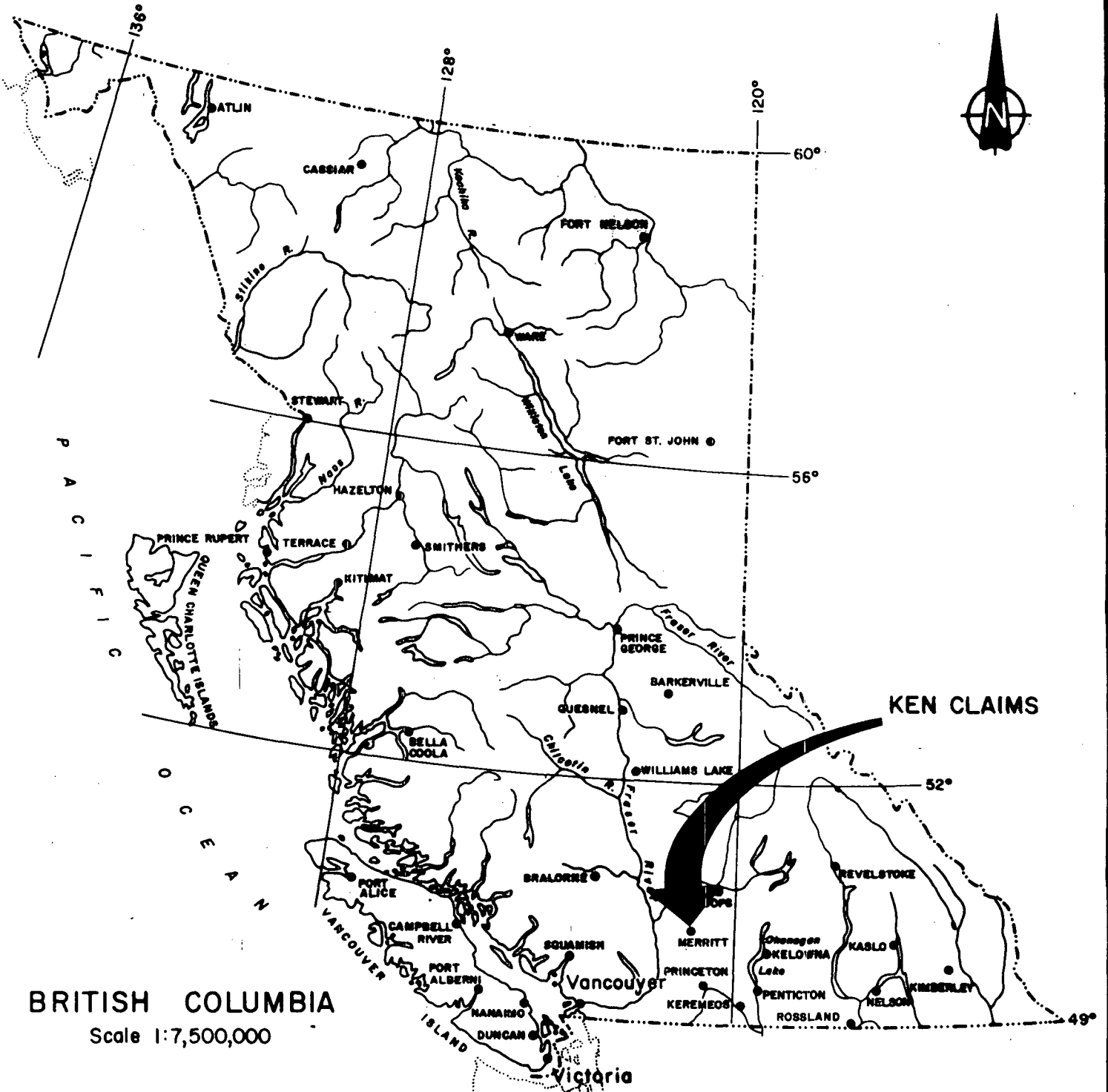
Three days were spent in reconnaissance mapping portions of the claims from August 27th to August 29th 1990.

2.0

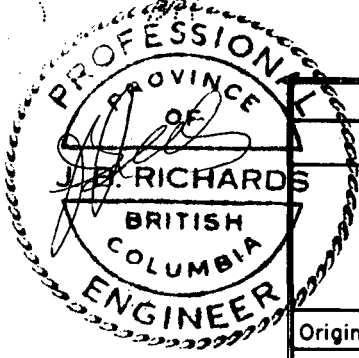
LOCATION AND ACCESS

The Ken Claims are located in south central B.C. 30 kilometres south of Merritt, and 200 kilometres east of Vancouver (Figure 1). Geographic coordinates are 49° 53' north latitude and 120 ° 35' west longitude.

Access to the claim block is via 30 kilometres of paved highway (Highway 5A) from Merritt, and branches of the Dibble Creek forest access road, and numerous other old logging trails. A tote road following the power transmission line along the eastern edge of the claims is accessible by four wheel drive vehicle.



BRITISH COLUMBIA  
Scale 1:7,500,000



KEN CLAIMS

LOCATION MAP

|            |              |          |           |
|------------|--------------|----------|-----------|
| Originator | Drawn c.d.   | Plan No. | FIG.<br>1 |
| Revised    | Date Oct.'90 | NTS      |           |

### 3.0 TOPOGRAPHY AND CLIMATE

The area is one of moderate relief, rising about 300m from the valley bottom at an elevation of 1000 metres above sea level. Slopes rarely exceed 30°.

Lower slopes are grassland and the upper slopes are covered by open conifer forest, which has been and is presently being selectively logged. On the highest ground the bush is occasionally so thick as to make passage difficult.

The area is part of the interior plateau: summers are generally hot and dry, winters cold with moderate snowfall.

### 4.0 CLAIM STATUS

The Ken Claims consist of four claims containing 51 units. See Figure 2., Claim Map. Relevant data is tabulated below.

| <u>Claim Name</u> | <u>Units</u> | <u>Record No.</u> | <u>Record Date</u> |
|-------------------|--------------|-------------------|--------------------|
| Ken               | 16           | 2247              | 89/08/19           |
| A1 2              | 14           | 2248              | 89/08/31           |
| A1 3              | 20           | 2245              | 89/09/01           |
| A1 4              | 01           | 2257              | 89/09/23           |

### 5.0 HISTORY

Abundant evidence of old cut grid lines and hand trenches indicate that the area has been worked in the past, but the time available did not permit a literature study.



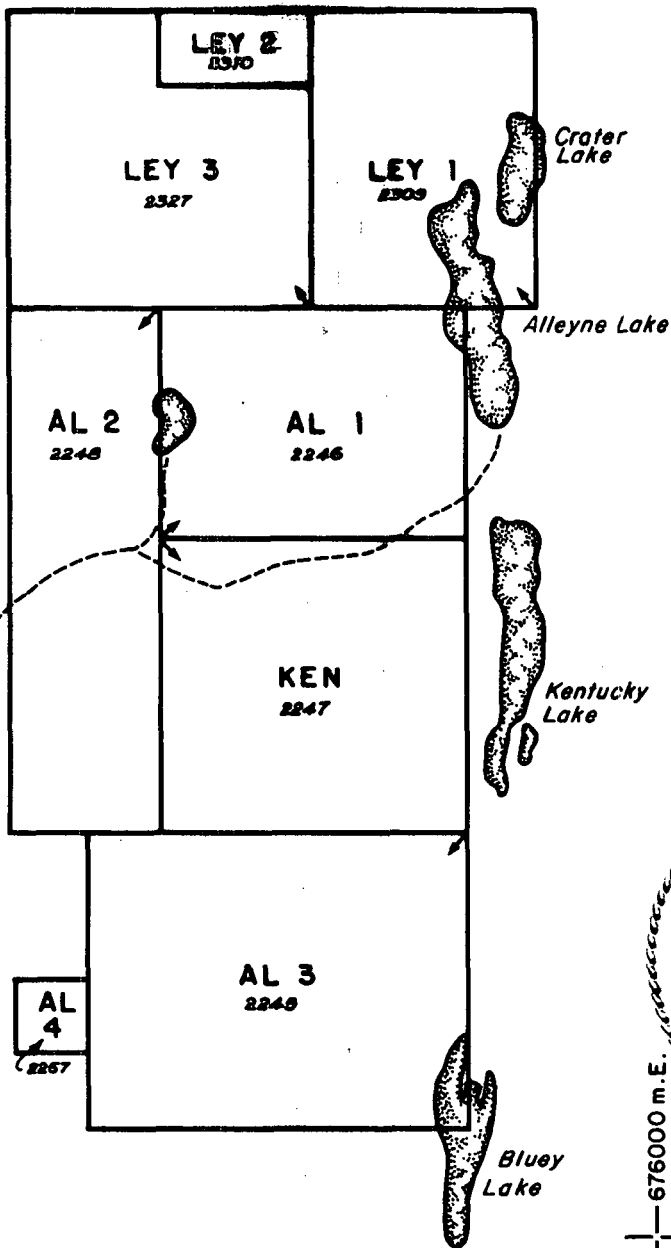
Aspen Grove

49°56' N

120°37' W

5534000 m.N.

677000 m.E.



676000 m.E.

5526000 m.N.

0 500 1000 1500 2000 2500 m  
Scale: 1:50,000

KEN CLAIMS

CLAIMS

|                 |              |            |           |
|-----------------|--------------|------------|-----------|
| Originator e.v. | Drawn c.d.   | Plan No.   | FIG.<br>2 |
| Revised         | Date Oct.'90 | NTS 92H/15 |           |

MINEQUEST EXPLORATION ASSOCIATES LTD.

## 6.0

## GEOLOGY

The property is underlain by calc-alkaline volcanic and volcanic sediments of the Nicola Group of upper Triassic age, and their alkaline intrusive equivalents. The regional geology was mapped by Preto (1979).

Structure in the Aspen Grove area is predominantly north to north-west trending, with the property lying in the Central Belt (as defined by Preto) between the Allison Fault to the west and the Kentucky - Alleyne Fault to the east. Most mineral occurrences in the Nicola Group are found in this Central Belt.

## 7.0

## WORK PROGRAM

The work program consisted of three days of reconnaissance mapping by hip chain and compass traverses, described as follows:

- 1) From the power line at the 8km post of a new logging access road that is a branch of the Dibble Creek Forrest Access road, to the end of the new road at 9.5 kilometres, to a disused road running roughly 340° - 160° through the AL 3 claim, to the south along the old road to the southern edge of the AL 3 claim and thence westerly back to the power line and the starting point. The most southerly leg of this traverse, along the southern boundary of the AL 3 claim, was subsequently found to be off the claim on an open fraction, and consequently the time spent on this part of the traverse is not included in the cost statement.
- 2) Northerly along the old road for approximately one km and thence in a random traverse through forest cover to the east and back to the starting point.
- 3) From the power line east along the northern boundary of the AL2 claim for 1.5 km and thence north-westerly to the Kentucky - Alleyne road, westerly along the road to the power line and back to the starting point.

All outcrops found were examined and are located on Figure 3. Type specimens were collected from most outcrops, and outcrops with alteration or sulphide mineralization were sampled. Analytical results are found in Appendix I, and are tabulated on Figure 3.

Rocks encountered were of three types:

- 1) Extrusive Volcanics including Andesite, and Augite Andesite porphyry,
- 2) Pyroclastics, ash to breccia tuffs, almost entirely of the above andesites, and
- 3) Diorite.

## 8.0

## OBSERVATIONS

ANDESITE: Generally purple in colour, occasionally mottled with purple and green, green or grey. Fine-grained to aphanitic, 60% <.5mm feldspar phenocrysts in a very fine feldspathic matrix. Occasionally larger phenocrysts are epidotized. Three to five percent fine disseminated hematite and magnetite, mostly hematite. Phenocrysts are often broken. This rock could easily be a crystal tuff, a thin-section may be useful. Purple colour is due to staining of both matrix and phenocrysts equally. Rarely mineralized with pyrite, occasionally albitized, as at locations JBR 27/08/90-7 & 8. Albitization is associated with an 080° fracture set.

AUGITE ANDESITE: Forty percent 0.5-1 X 1-2 mm white feldspar phenocrysts, occasionally saussuritized, in an aphanitic purple matrix. The feldspars are occasionally sub-parallel, suggesting flows. 10% 2-3 mm augite phenocrysts, or limonite after augite, and 0 to 20 % other mafics, usually fine hornblende, often chloritized. One to five percent - 3 mm blebs of hematite, with occasional magnetite. Not mineralized.



DIORITE: Forty percent 0.3 X 1 mm slightly clouded feldspar phenocrysts in fine feldspathic matrix. Most phenocrysts are fresh enough to show good cleavage faces. Fifteen to twenty percent 0.6 X 1 mm mafics, largely hornblende (could some be augite or olivine?). One to two percent very fine disseminated hematite. Occasionally mineralized with pyrite and malachite. Malachite is restricted to zones of strong fracturing.

TUFFS: Fine grained rocks very similar to the purple andesite, but obvious fragments from ash to breccia tuff size are visible. Some exposures display lapilli to breccia tuff textures where surfaces have been weathered, and are indistinguishable from augite andesite. They have not been seen to be mineralized. Location JBR 28/08/90-8 is a buff-coloured, albitized ash tuff with some of the larger fragments/phenocrysts sericitized, and is the only instance of chalcopyrite seen.

## 9.0

## DISCUSSIONS AND RECOMMENDATIONS

The Ken Claims are prospective for bulk - type copper deposits because of the other mineralization known to exist in the area, and the copper mineralization noted in this field work.

A program of geological mapping and ground geophysics following a thorough literature study to maximize the benefit of the previous operators, is warranted.

The limited mapping described in this report suggests that this is a low sulphur environment, and that there was not a great deal of hydrothermal activity with its associated large alteration envelopes. Reconnaissance IP surveys may show very low response; the zones of strong fracturing associated with the northerly faults may provide stronger IP response than zones of very low sulphide content. With chalcocite being a known copper mineral in the Aspen Grove Camp, and pyrite contents being very low, significant copper gold mineralization may have very poor IP expression. IP survey work is recommended but interpretation of results should be done by a Geophysicist with experience in subtle anomalies.

Northerly regional structure suggests that east - west lines would be most effective. But it must be remembered that the observed copper mineralization is associated with 080° fracture set. Lines oriented north-west south-east will be safer. Soil and rock geochemistry will prove valuable in rating of IP anomalies. Ground magnetics and VLF-EM will aid in structural interpretation.

Whole-rock geochemistry on mapping specimens will prove very useful in rock identification. A diamond slabbing saw and staining kit should also be included.

APPENDIX I

Analytical Methods

## APPENDIX I

### Analytical Methods

The rock samples were shipped to Acme Analytical Laboratories Ltd., of Vancouver, B.C. The samples were crushed to less than 3/16 inch size, from which a 200 gram split was pulverized to 98% minus 100 mesh. A 0.50 gram sample was then subjected to a 30-element ICP (inductively coupled plasma) analytical technique, after digestion for one hour at 95° in 3:1:2-HCL:HNO<sub>3</sub>:H<sub>2</sub>O. In addition, gold contents were determined by MIBK extraction followed by atomic absorption analysis. The gold analyses used a 10 gram sample. It is important to note that for the ICP techniques the extraction process is only partial for several of the elements reported.

APPENDIX II

Analytical Results

GEOCHEMICAL ANALYSIS CERTIFICATE

Minequest Exploration PROJECT ASG-N File # 90-4159  
 500 - 164 Water St., Vancouver BC V6B 1B5

*ASG-N*

| 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   | U   | Au* |
|-----------------|-----|------|-----|-----|-----|-----|-----|------|------|-----|-----|-----|-----|-----|------|-----|-----|-----|------|------|-----|-----|------|-----|-----|-----|------|-----|-----|-----|-----|
|                 | ppm | ppm  | ppm | ppm | ppm | ppm | ppm | ppm  | %    | ppm | ppm | ppm | ppm | ppm | ppm  | ppm | ppm | ppm | %    | %    | ppm | ppm | %    | ppm | %   | ppm | %    | %   | %   | ppm | ppb |
| C-42251 20-2    | 1   | 139  | 12  | 67  | 1   | 9   | 17  | 1268 | 4.13 | 2   | 5   | ND  | 2   | 178 | 6    | 2   | 2   | 119 | 3.53 | 193  | 13  | 10  | 1.38 | 206 | 11  | 6   | .86  | .07 | .15 | 1   | 18  |
| C-42252 20-6    | 2   | 171  | 39  | 62  | 1   | 8   | 15  | 1050 | 3.99 | 10  | 5   | ND  | 1   | 177 | 1.0  | 3   | 2   | 120 | 3.30 | 175  | 10  | 5   | 1.51 | 134 | 15  | 12  | 1.88 | .05 | .11 | 1   | 23  |
| C-42253 20-8    | 1   | 101  | 6   | 49  | 1   | 4   | 12  | 1243 | 3.95 | 3   | 5   | ND  | 1   | 180 | 6    | 2   | 2   | 20  | 5.74 | 169  | 11  | 2   | .86  | 53  | 01  | 13  | .47  | .02 | .25 | 2   | 2   |
| C-42254 20-13   | 1   | 108  | 2   | 74  | 1   | 7   | 15  | 1012 | 3.58 | 8   | 5   | ND  | 1   | 201 | 5    | 2   | 2   | 110 | 2.27 | 135  | 8   | 8   | 1.42 | 37  | 23  | 6   | 1.57 | .04 | .04 | 1   | 10  |
| C-42255 20-15   | 1   | 1681 | 5   | 152 | 3   | 3   | 16  | 1189 | 4.17 | 2   | 5   | ND  | 1   | 67  | 5    | 2   | 2   | 65  | 2.30 | 184  | 10  | 2   | 1.60 | 43  | 09  | 12  | 1.70 | .03 | .27 | 1   | 95  |
| C-42256 29-4    | 1   | 42   | 2   | 39  | 1   | 5   | 14  | 952  | 3.83 | 4   | 5   | ND  | 1   | 116 | 6    | 2   | 2   | 136 | 2.72 | 163  | 9   | 3   | 1.16 | 36  | 17  | 18  | 2.39 | .07 | .06 | 1   | 3   |
| C-42257 29-6    | 1   | 79   | 2   | 88  | 1   | 10  | 17  | 903  | 3.50 | 2   | 5   | ND  | 1   | 68  | 6    | 2   | 2   | 114 | 2.31 | 168  | 7   | 12  | 1.61 | 35  | 18  | 21  | 2.24 | .05 | .03 | 2   | 4   |
| STANDARD C/AU-R | 20  | 63   | 40  | 134 | 7.0 | 73  | 32  | 1051 | 3.96 | 40  | 19  | 7   | 40  | 56  | 19.2 | 15  | 18  | 58  | .52  | .097 | 40  | 61  | .89  | 182 | .08 | 37  | 1.88 | .06 | .14 | 11  | 510 |

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 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 MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM. - SAMPLE TYPE: ROCK AU\* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

DATE RECEIVED: SEP 5 1990 DATE REPORT MAILED: *Sept 12/90* SIGNED BY: *C. Leong* D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

*AWG*  
*AWG*  
*AWG*

RECEIVED  
 SEP 12 1990  
 LABORATORY

CONSECUTIVE LISTING

ASG

| SAMPLE NUMBER<br><small>(3 Letters<br/>&lt;5 digits)</small> | DATE<br><small>(YY/MM/DD)</small> | SAMPLER<br><small>(3 Initials)</small> | TYPE<br><small>(hm, silt soil float, rkgrab, core, rkchip, cuttings)</small> | PROJECT or CLAIM BLOCK CODE | CLAIM NAME and NUMBER | COMMENTS<br><br><small>(maximum 48 characters including spaces)</small> | Tick or Leave Blank |          |           |      |     |  |  |
|--|-----------------------------------|--|--|-----------------------------|-----------------------|---|---------------------|----------|-----------|------|-----|--|--|
|  |                                   |  |  |                             |                       |   | FLAGGED             | ANALYZED | WITNESSES | THIN | SEC |  |  |
| JBR 28/08  | 90-2                              | JBR                                    |  | ASG                         |                       | ACME CODE TAG<br>C-42251  | ✓                   |          |           |      |     |  |  |
| 28/08  | 90-6                              | "                                      |  | "                           |                       | C-42252   | ✓                   |          |           |      |     |  |  |
| 28/08  | 90-8                              | "                                      |  | "                           |                       | C-42253   | ✓                   |          |           |      |     |  |  |
| 28/08  | 90-13                             | "                                      |  | "                           |                       | C-42254   | ✓                   |          |           |      |     |  |  |
| 28/08  | 90-18                             | "                                      |  | "                           |                       | C-42255   | ✓                   |          |           |      |     |  |  |
| 27/08  | 90-7                              | "                                      |  | "                           |                       | C-42256   | ✓                   |          |           |      |     |  |  |
| 29/08  | 90-6                              | "                                      |  | "                           |                       | C-42257   | ✓                   |          |           |      |     |  |  |
|  |                                   |  |  |                             |                       |   |                     |          |           |      |     |  |  |
|  |                                   |  |  |                             |                       |   |                     |          |           |      |     |  |  |
|  |                                   |  |  |                             |                       |   |                     |          |           |      |     |  |  |
|  |                                   |  |  |                             |                       |   |                     |          |           |      |     |  |  |
|  |                                   |  |  |                             |                       |   |                     |          |           |      |     |  |  |
|  |                                   |  |  |                             |                       |   |                     |          |           |      |     |  |  |
|  |                                   |  |  |                             |                       |   |                     |          |           |      |     |  |  |
|  |                                   |  |  |                             |                       |   |                     |          |           |      |     |  |  |
|  |                                   |  |  |                             |                       |   |                     |          |           |      |     |  |  |
|  |                                   |  |  |                             |                       |   |                     |          |           |      |     |  |  |
|  |                                   |  |  |                             |                       |   |                     |          |           |      |     |  |  |
| 0  |                                   |  |  |                             |                       |   |                     |          |           |      |     |  |  |

APPENDIX III

Cost Statement



APPENDIX III

Cost Statement

Labour

|                                    |                    |          |
|------------------------------------|--------------------|----------|
| J.B. Richards<br>senior geologist, | 4 days @ \$425/day | \$ 1,700 |
| J.Walker<br>field assistant,       | 3 days @ \$185/day | \$ 555   |
| 4X4 rental                         | 4 days @ \$50/day  | \$ 200   |
| Room and board                     |                    | \$ 213   |
| Assays                             |                    | \$ 280   |
| Drafting and Report Preparation    |                    | \$ 100   |
|                                    |                    | -----    |
|                                    |                    | \$ 3,048 |
|                                    |                    | -----    |

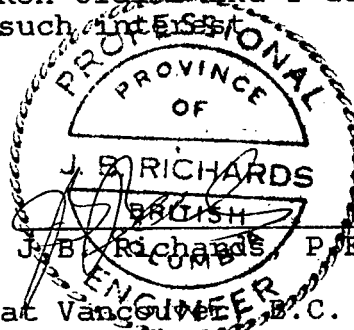
APPENDIX IV

Statement of Qualifications

I , John Byron Richards certify that:

- 1) I reside at 2879 West 38th Avenue in Vancouver, Canada,
- 2) I am a graduate of the University of British Columbia in Geological Engineering,
- 3) I have practised my profession more or less continuously since graduation in 1970,
- 4) I have been a member of the Association of Professional Engineers of the Province of British Columbia since 1973,
- 5) I have no interest in the Ken Claims and I do not expect to receive any such interest.

Signed

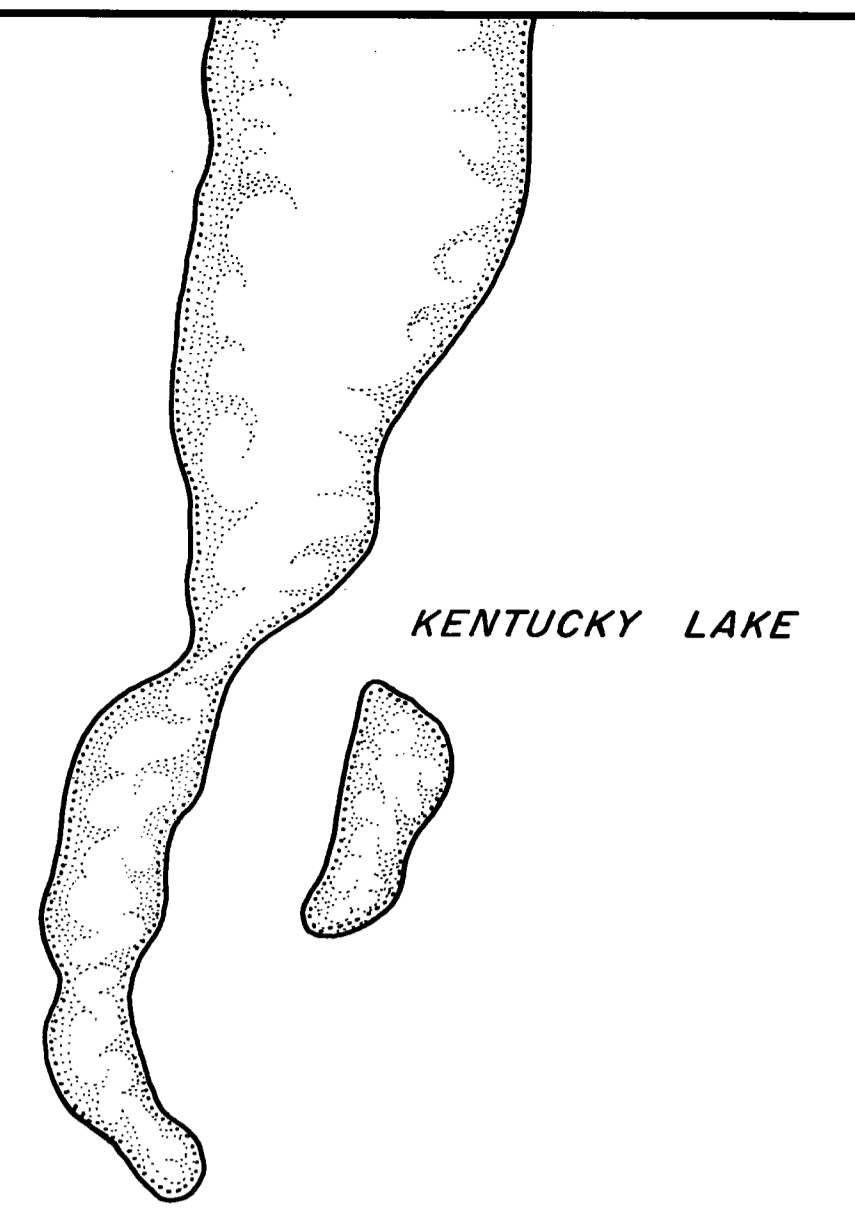
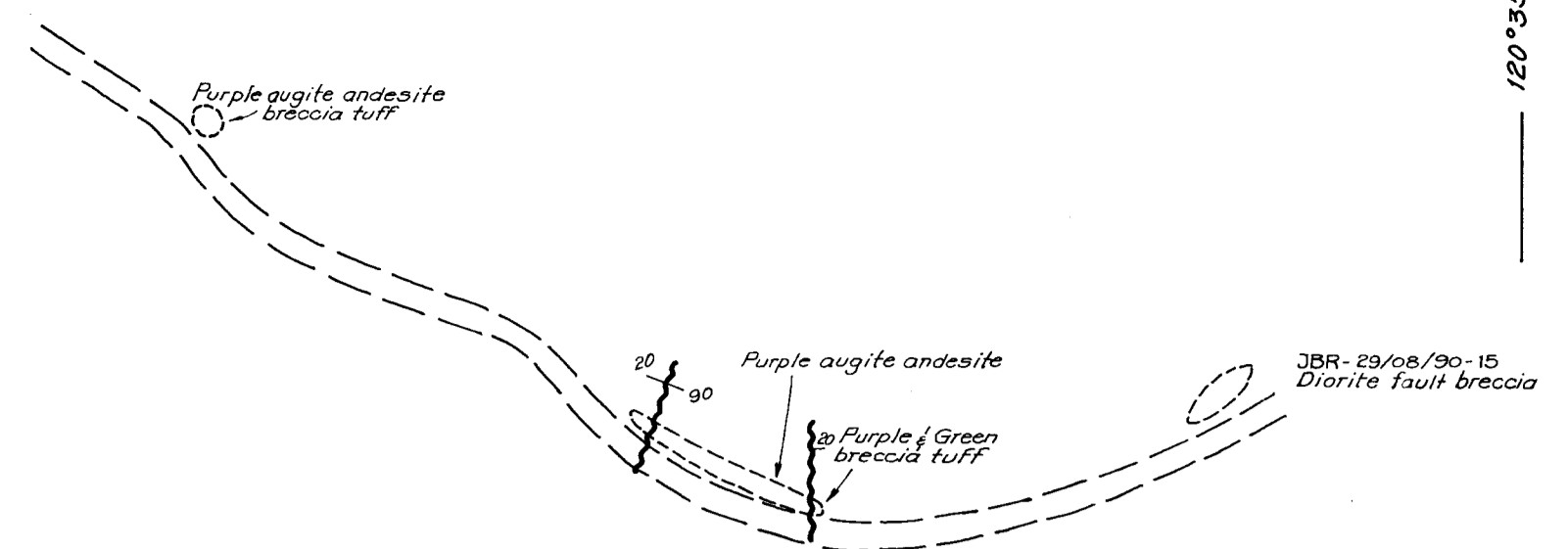


J. B. Richards, P. Eng.

Dated at Vancouver, B.C.  
this 19th day of October,  
1990

APPENDIX IV

Statement of Qualifications

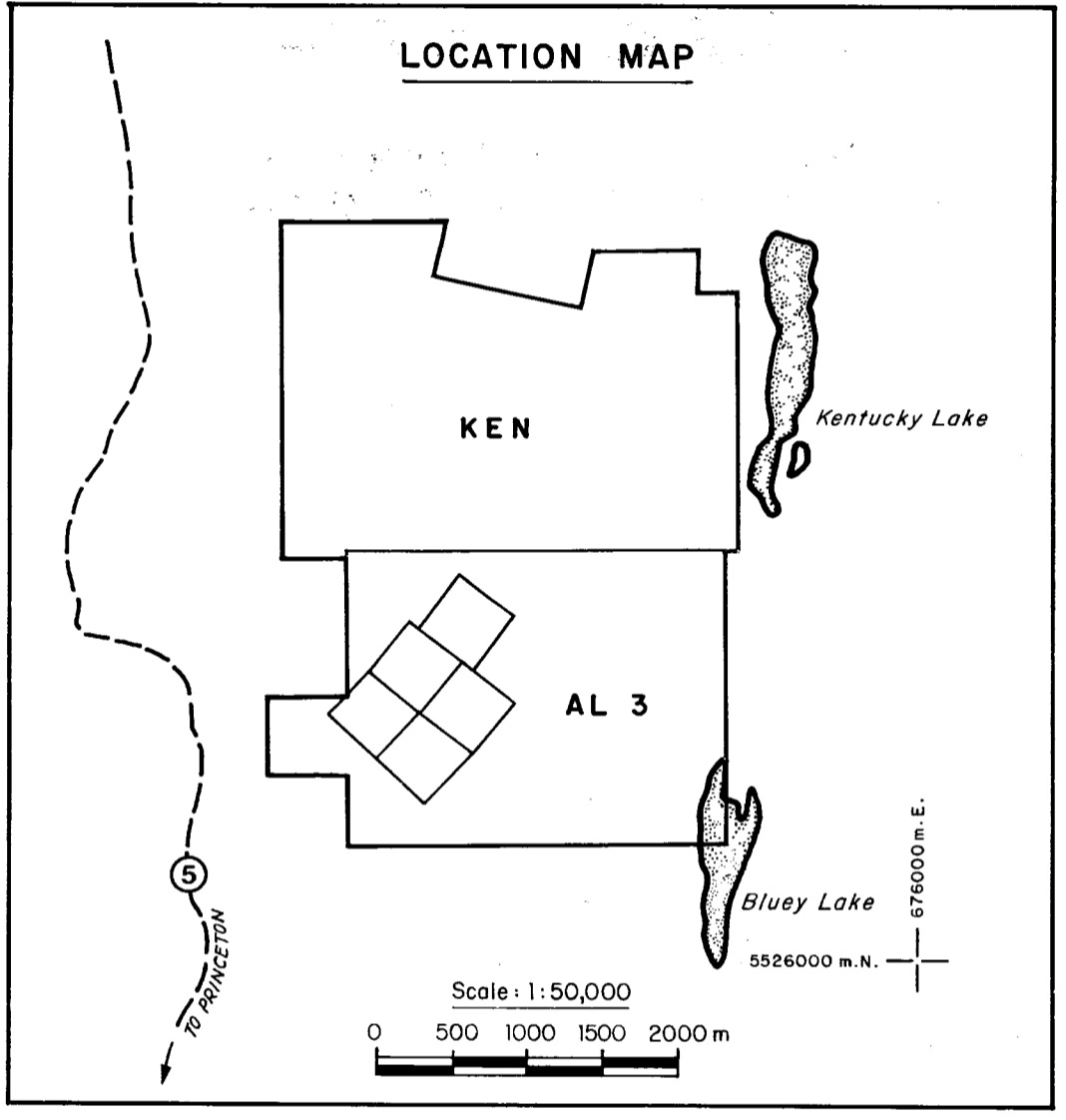


GEOLOGICAL BRANCH ASSESSMENT REPORT

20,393

KEN AL 3

Corner Post AL-3 SW 0-3 Corner Post KEN JBR-23/08/90-1 ... JBR-23/08/90-14



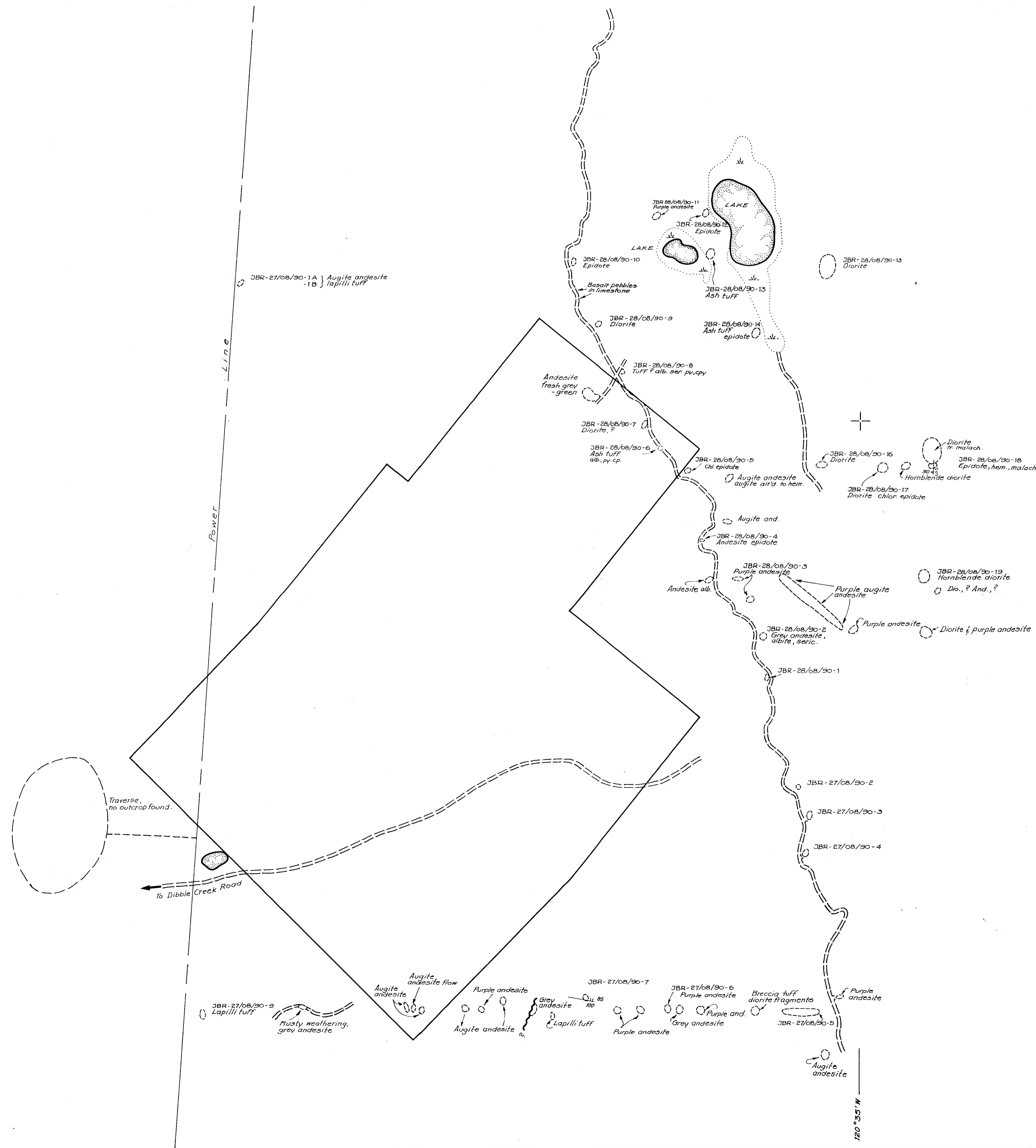
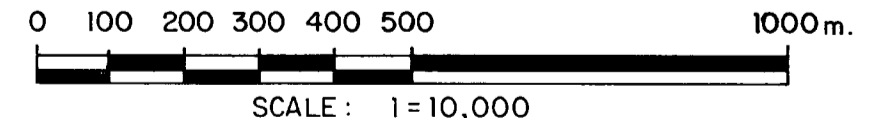
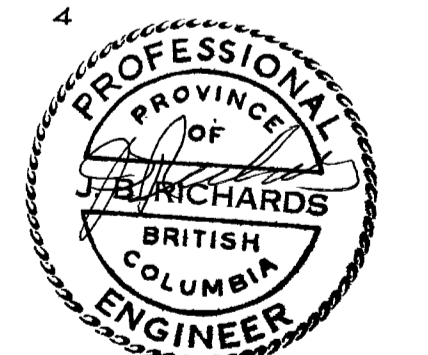
LEGEND

- OUTCROP (dashed line)
ROAD (solid line)
CLAIM BOUNDARY (thick solid line)
FRACTURE, DIRECTION & DIP (line with arrow)

SAMPLE NUMBER

Table with columns: SAMPLE NO., ACME TAG NO., Cu(ppm), Au(ppb). Lists samples JBR-28/08/90-2 through JBR-29/08/90-6 with their respective assay results.

Complete results tabulated in Appendix III.



BLUEY LAKE

ASPHEN GROVE PROJECT
OUTCROP MAP
(OVER PART OF AL 3 & KEN CLAIMS)
Originator: J.B.R., Drawn: C.D., Date: Oct. 1990, PLAN NO. 1539, FIG. 3
MINEQUEST EXPLORATION ASSOCIATES LTD.