

BRENDA MINES LTD.
EXPLORATION GROUP

DIAMOND DRILL REPORT

on the

ALCO PROPERTY

Latitude 49° 31, Longitude 118° 21'
Greenwood Mining Division
N.T.S. 82 E/9

Norman Pitcher

October, 1981

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
9682

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I INTRODUCTION

a) History of Property

The area now covered by the Alco claims was originally staked as the Bear-Doe group of claims.

In 1975, during construction of the Burrell Creek logging road, a weakly mineralized stockwork of copper and molybdenite was explored in the Nelson granodiorite over an intermittent north-south strike length of 700 metres. The area was staked by J. Nedokus, who subsequently optioned these claims to Rio Tinto Canadian Explorations Ltd. This company ran geological, geochemical and geophysical surveys over the area in 1976 and their option has since been cancelled. The Alco claim was retained by J. Nedokus and P. Koochin and was subsequently optioned to Brenda Mines Ltd. in the spring of 1980. Alco 4 and Alco 5 claims were staked in May, 1980.

b) Vegetation and Topography

The topography of the claim area between Burrell and Nicoll Creeks consists of steep sided, mound shaped hills. The land rises steeply, west and east of these two creeks.

Vegetation at lower elevations is variable, consisting for the most part of grassy hills with sparse vegetation. Some hillsides are covered by dense growths of jackpine. Steep slopes to the east of Nicoll Creek are covered by dense growths of cedar and jackpine windfalls. West of Burrell Creek, vegetation is sparse on steep slopes.

II PROPERTY DESCRIPTION

a) Location and Access

The Alco mineral property is situated approximately 50 kilometers north of Grand Forks, B.C., immediately south of the junction of Burrell Creek and Franklin Creek.

Access is via a paved road following the Granby River northwards from Grand Forks, and then onto the gravel topped Burrell Creek logging road. The property straddles this road between the 18 km and 20 km logging signs.

b) Claim Inventory

| <u>Claim Name</u> | <u>Record No.</u> | <u>No. of Units</u> | <u>Record Date</u> |
|-------------------|-------------------|---------------------|--------------------|
| Alco | 128 | 20 MG | Sept. 29/75 |
| Alco 4 | 2192 | 10 MG | May 23/80 |
| Alco 5 | 2193 | 16 MG | May 23/80 |
| Alco 6 | 2194 | 8 MG | May 23/80 |
| Alco 7 | 2233 | 1/2P | May 30/80 |
| Alco 8 | 2234 | 1/2P | May 30/80 |

III REGIONAL SETTING

Structurally, the area of the Alco claims is part of the Cariboo geanticline, a stable massif adjoining the Quesnel trough to the west.

The area has been mapped by the G.S.C. (Little, 1957) and by Drysdale (1915).

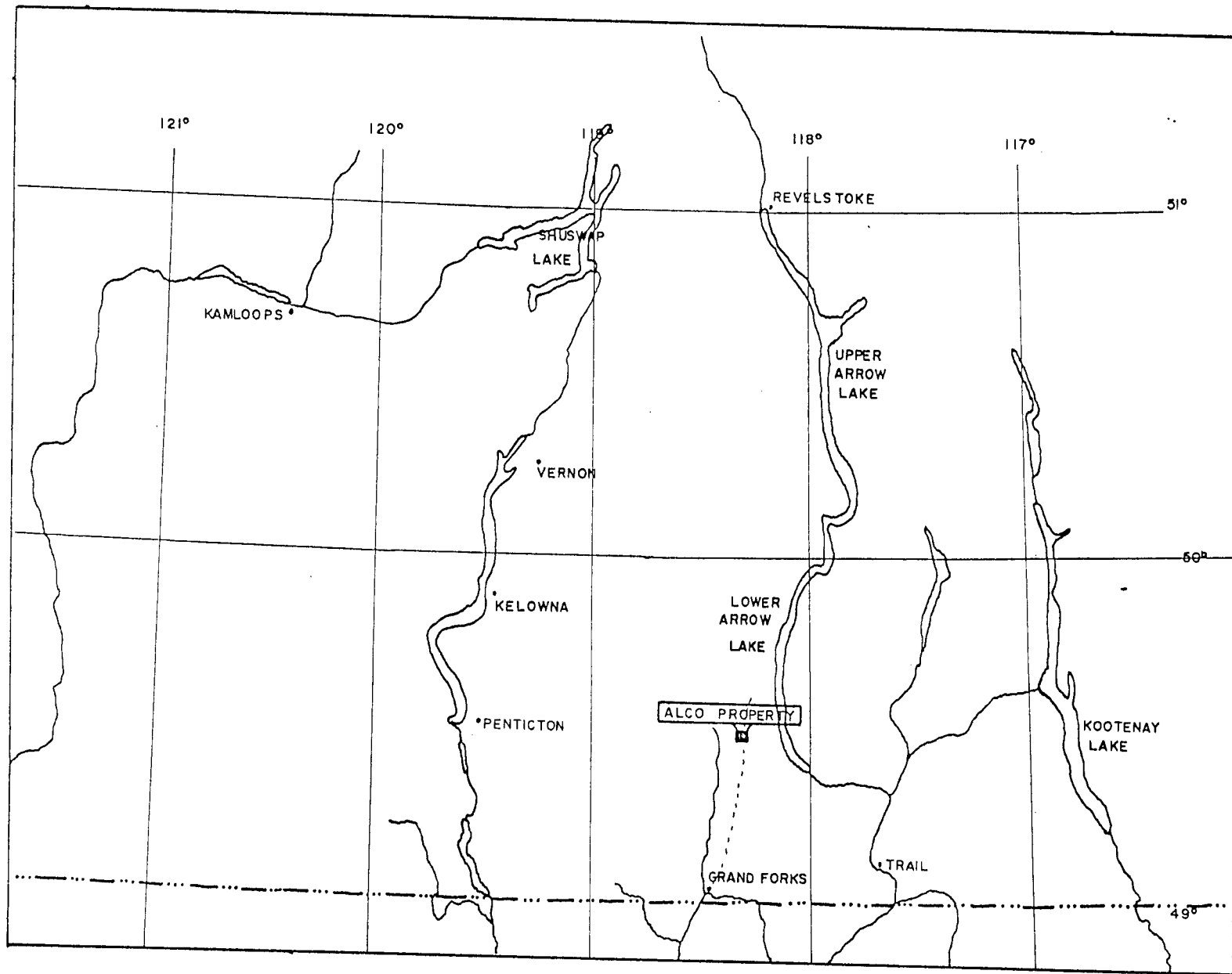


Figure 1 - Location Map

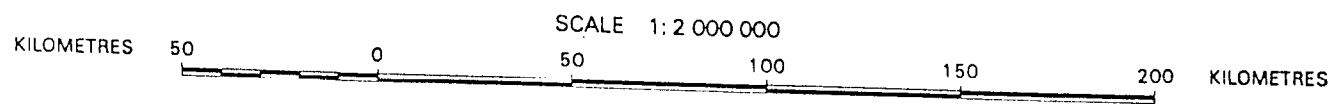
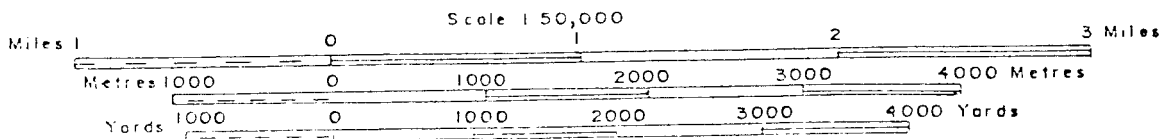
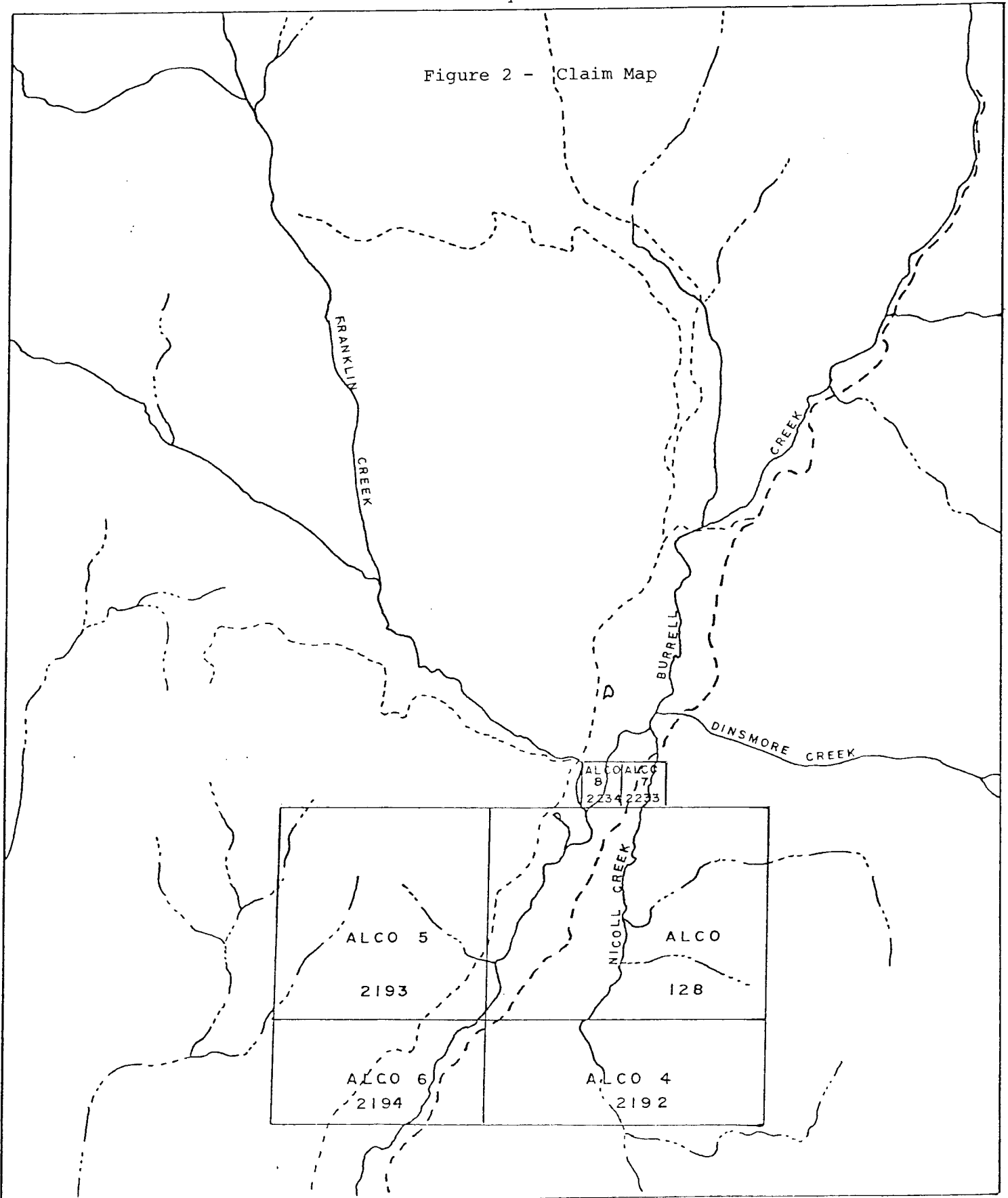


Figure 2 - Claim Map



IV DIAMOND DRILLING

a) Introduction

Maitland Explorations Ltd. was contracted to drill approximately 305 metres (1,000 feet) of BQ core (35 mm) during June, 1981.

Four holes were drilled (a total of 313 metres) to test the extent of surface mineralization. All holes were drilled to the west of Nicoll Creek, between lines 15+00 N and 22+00 N.

b) Lithologies

1) Granodiorite

Granodiorite was the dominant rock type in all four drill holes. This unit is a mottled gray to grayish-green, medium grained rock composed of quartz, feldspar, biotite and hornblende in a hypidiomorphic texture.

The dominant alteration type is phyllic (quartz, sericite and pyrite), although prophyllitic alteration (chlorite and epidote) is also widespread. Phyllic alteration is often accompanied by chlorite, which may represent a transitional phyllic/prophyllitic alteration type.

2) Granite Porphyry

This rock was encountered in two of the drill holes. It ranges from gray to reddish-gray and is commonly fine grained. In some instances grain size becomes so fine the rock is best described as a rhyolite. This is particularly apparent near the margins of

the dike where a chill zone has formed.

Phenocrysts are composed of hornblende and potassium feldspar.

3) Andesite and Andesite Porphyry

Found in two holes, this rock is a dark grayish-green, massive dike which locally may contain granite fragments, imparting a brecciated texture. When a porphyritic texture is present, phenocrysts are composed of hornblende.

4) Serpentine

This unit was found in only one drill hole. It is off white to light green and contains 2 - 3 cm fragments of quartz.

c) Mineralization

Mineralization, with the exception of pyrite, is exclusively fracture controlled. Molybdenite and chalcopyrite occur along fractures and slips of several different orientations. Bornite has been found, but is uncommon.

d) Diamond Drill Hole Descriptions

1) D.D.H. No. A-81-1

Location: 21+75 N, 3+60 W

Azimuth: 45°

Dip: -45°

Total Depth: 96 metres (315 feet)

Hole A-81-1 was drilled approximately 125 metres west of the Burrell Creek logging road and contained the strongest mineralization.

Granodiorite was the dominant rock type and was locally strongly altered. Where phyllic alteration was found, it was commonly accompanied by epidote and/or chlorite. Two dikes, a granite porphyry and an andesite porphyry occurred in the second half of the hole, where mineralization had decreased considerably.

2) D.D.H. No. A-81-2

Location: 16+75 N, 4+00 W

Azimuth: 45°

Dip: -45°

Total Depth: 59 metres (194 feet)

The second hole was drilled to the east of the Burrell Creek road. Granodiorite was the only rock type and both mineralization and alteration (dominantly phyllic) were weak.

3) D.D.H. No. A-81-3

Location: 18+50 N, 3+15 W

Azimuth: 45°

Dip: -45°

Total Depth: 93 metres (305 feet)

Granodiorite and granite porphyry were the predominate lithology. Alteration was both phyllic and prophyllitic, ranging from weak to moderate. Mineralization was poor, being confined to the first 30 metres. This hole ended in a large dike or vein composed primarily of serpentine and talc with numerous quartz fragments. The exact origin and paragenesis of this unit is uncertain.

4) D.D.H. No. A-81-4

Location: 14+50 N, 3+40 W

Azimuth: 45^o

Dip: -45^o

Total Depth: 65 metres (213 feet)

Granodiorite and andesite were the only lithologies. Although alteration was locally strong (phyllic), mineralization was very poor.

V CONCLUSIONS

Based on diamond drill results, mineralization on the Alco property has little continuity and occurs only within sporadic fracture sets. Only drill hole No. 1 produced encouraging, but low grade results; the remainder of the holes drilled were largely barren. No further work on this property is recommended.

APPENDIX 1

PREPARATION for ROCK SAMPLES and DRILL CORES

Each core is given a sample number 1, 2, 3 etc.

Preparation:

- a) Jaw crush into sample tray.
- b) Mix 2x and split sample in half using large riffle. Transfer each half to a drying tray and label A & B.
- c) Dry sample for at least 1 hour.
- d) Cool and riffle mix 3x, then split down to pot grinding size.
- e) Pot grind sample A for 2½ minutes and transfer to a number sample packet.
- f) Clean all apparatus thoroughly after each sample.
- g) Retain sample B as a coarse reject sample (pot grind every 10th B sample and run as normal).

Note: Rock samples are prepared in a similar manner depending upon size.

ANALYSIS by A.A. for Cu, Pb, Zn, Ag, and Mo.

1. Weigh 2.00 GM on the top pan balance into a 150 ML beaker (check that beaker No. is the same as written on work sheet).
2. Add 15 MLS Nitric Acid, cover with watchglass and heat on low heat until brown Nitrous fumes are gone.
3. Remove beakers from hot plate, cool for 5 minutes.
4. Add 10 ML Hydrochloric Acid. Place on hot plate. When all brown Nitrous fumes gone, remove watchglasses and take just to dryness on a low plate.
5. Remove from plate, cool, add 20 MLS distilled water, 5 MLS Conc. Hydrochloric Acid and boil salts into solution.
6. Cool in water bath, when cold transfer to 100 MLS Volumetric flask, add 1 MLS Superfloc solution and dilute to 100 MLS with distilled water.
7. Mix thoroughly and then transfer to original beaker.
8. When all samples ready, transfer to A.A. room for reading.
9. If Mo is required, 10.00 MLS of this solution is transferred to a test tube and 1.00 MLS of ALC₃ solution added.

APPENDIX II

LIST of ABBREVIATIONS

| | | | |
|-----------------|--------------------------|--------|-------------------------|
| alt | - alteration | mn | - manganese |
| andes | - andesite | mod | - moderate |
| arg | - argillic | Mo | - molybdenite |
| assoc | - associated | ntwk | - network |
| bio | - biotite | O.B. | - overburden |
| born | - bornite | oz. | - ounces |
| bx | - breccia | Pb | - lead |
| cc | - calcite | phenos | - phenocrysts |
| chlor | - chlorite, chloritic | phyll | - phyllic |
| cm | - centimetre | porphy | - porphyry |
| cpy | - chalcopyrite | prop | - propylitic |
| Cu | - copper | py | - pyrite |
| diss/ dissem | - disseminated | Qz | - quartz |
| fracs | - fractures | recov | - recovery |
| frags | - fragments | rk | - rock |
| gal | - galena | sev | - several |
| G.D. | - granodiorite | sil | - siliceous, silicified |
| g/mt | - grams per metric tonne | spec | - specular hematite |
| hb | - hornblende | sphal | - sphalerite |
| hem | - hematite | unalt | - unaltered |
| kaol | - kaolinite | vn | - vein |
| k-spar | - potassium feldspar | vnlt | - veinlet |
| lim | - limonite | w | - with |
| m | - metre | xen | - xenolith |
| mag | - magnetite | | |
| mlzn | - mineralization | | |

APPENDIX III

Property AlcoD.D.H. No. A-81-1Dip - 45°D.D.H. Grid Location 21+75 N, 3+60 WElevation 2,700'Azimuth 45°Core Size BQ Total Depth 96 metres (315 feet)

| METRES | ROCK TYPE (core description) | ALTERATION & STRUCTURE (associated minerals) | MINERALIZATION | MLZN | RECOV. | Cu | Mo |
|----------|---------------------------------|--|---|------|--------|------|------|
| 0 - 3.05 | OVERBURDEN | | | | | | |
| 3.05 - 4 | GRANODIORITE | Broken core. | Lim stain. | | | .019 | .002 |
| 4 - 5 | | Mod prop alt w/ minor chlor & epidote. | Hem on frags, minor dissem py, 45° to core. | | | .012 | .001 |
| 5 - 6 | | | 4 cm of qtz, cpy, Mo & malachite. | | | .289 | .098 |
| 6 - 7 | | | Hem on frags. | | | .009 | .002 |
| 7 - 8 | | Some chlor & epidote. | | | | .015 | .001 |
| 8 - 9 | | Mod phyll alt. | 8 mm qtz vein w/ minor cpy & py. 60 mm qtz, cpy, py vn. | | | .080 | .003 |
| 9 - 10 | | | Small Fe frags. | | | .024 | .001 |
| 10 - 11 | | | | | | .089 | .001 |
| 11 - 12 | | Mod to intense phyll alt. w/ epidote & chlor. | Numerous Fe & calcite frags. | | | .017 | .001 |
| 12 - 13 | | Mod phyll alt. | Small cpy vein 45° to core. | | | .183 | .005 |
| 13 - 14 | | | Very small cpy blebs along tight sporadic frags. | | | .025 | .001 |
| 14 - 15 | | Mod to intense phyll alt. | Numerous frags & chlor slips, some w/ cpy, tight Mo slip. | | | .086 | .014 |
| 15 - 16 | | | Larger Mo slip at 14.72, cpy continues. | | | .083 | .013 |
| 16 - 17 | | | Several tight Mo slips, some cpy on frags. | | | .063 | .008 |
| 17 - 18 | | | Small hem & chlor slips, minor py. 15 mm qtz, cpy vein 45° to core. | | | .065 | .004 |
| 18 - 19 | | | Mod py on frags. Small hem & chlor slips. | | | .030 | .008 |
| 19 - 20 | | | 3 small qtz, cpy, Mo veins. | | | .235 | .042 |

| METRES | ROCK TYPE (core description) | ALTERATION & STRUCTURE (associated minerals) | MINERALIZATION | MLZN | RECOV. | Cu | Mo |
|---------|--|---|---|------|--------|------|------|
| 20 - 21 | GRANODIORITE | Mod phyll alt. | Several small hem & chlor fracs. Qtz, cpy, Mo vein 45° to core, minor py. | | | .132 | .001 |
| 21 - 22 | | | 15 mm qtz, cpy, py vein 50° to core. | | | .038 | .001 |
| 22 - 23 | | | Minor dissem py. | | | .024 | .002 |
| 23 - 24 | | | Mo, cpy slip. 30 mm qtz vein. | | | .110 | .010 |
| 24 - 25 | | | Cpy, Mo slip. Small qtz, cpy, py vein. | | | .042 | .004 |
| 25 - 26 | | | Cpy slip. Minor py. | | | .019 | .001 |
| 26 - 27 | | | 5 mm qtz, cpy Mo vein, minor py. Hem & chlor fracs. | | | .036 | .001 |
| 27 - 28 | | Weak to mod phyll alt. | Numerous hem & chlor slips, minor py. | | | .018 | .001 |
| 28 - 29 | | | 10 mm qtz, cpy, py vein. | | | .059 | .001 |
| 29 - 30 | GRANITE PORPHYRY at 30.23. ANDESITE PORPHYRY at chill zone. | | 15 mm calcite vein, minor py. Calcite veining increases. | | | .034 | .001 |
| 30 - 31 | | | | | | | |
| 31 - 32 | GRANITE PORPHYRY | | | | | | |
| 32 - 33 | | | | | | | |
| 33 - 34 | | | | | | | |
| 34 - 35 | | | | | | | |
| 35 - 36 | | | | | | | |
| 36 - 37 | | | | | | | |
| 37 - 38 | | | | | | | |
| 38 - 39 | | | | | | | |
| 39 - 40 | | | | | | | |
| 40 - 41 | | | | | | | |
| 41 - 42 | | | | | | | |
| 42 - 43 | | | | | | | |
| 43 - 44 | GRANODIORITE contact at 43.6 w/ .5 m chill zone. | | 3 small qtz, cpy, minor Mo veins. | | | .355 | .018 |

| METRES | ROCK TYPE (core description) | ALTERATION & STRUCTURE (associated minerals) | MINERALIZATION | MLZN | RECOV. | Cu | Mo |
|---------|---|---|--|------|--------|------|------|
| 44 - 45 | GRANODIORITE | Mod phyll alt. | Small hem & chlor slips w/ assoc py. Several very small cpy veins. | | | .072 | .002 |
| 45 - 46 | | | Several very small cpy, Mo frags. | | | .072 | .002 |
| 46 - 47 | | | 20 mm zone of strong cpy & mod Mo w/ qtz. | | | .199 | .012 |
| 47 - 48 | | | 3 small qtz, cpy veins w/ PY. | | | .271 | .010 |
| 48 - 49 | | | 2 small qtz, cpy veins w/ minor Mo. Several small slips w/ cpy, py. | | | .213 | .006 |
| 49 - 50 | | | 4 small qtz, cpy veins. | | | .243 | .004 |
| 50 - 51 | GRANITE PORPHYRY contact at 50.3. | 30 mm chill zone. | | | | | |
| 51 - 52 | | | | | | | |
| 52 - 53 | | | | | | | |
| 53 - 54 | | | | | | | |
| 54 - 55 | | | | | | | |
| 55 - 56 | GRANODIORITE contact at 55.5. | 25 mm chill zone. | 2 small qtz, cpy veins at 50° to core. | | | .049 | .001 |
| 56 - 57 | GRANODIORITE | Weak phyll alt. | Hem & chlor slips & vnltz, minor dissem & frac py. Two 10 mm qtz, cpy, Mo veins. | | | .217 | .028 |
| 57 - 58 | | Mod phyll alt. | 24 mm qtz, cpy, Mo vein. 26 mm qtz, cpy, Mo vein. | | | .320 | .029 |
| 58 - 59 | | | 2 slips w/ minor cpy. | | | .042 | .002 |
| 59 - 60 | | | 1 small qtz, cpy vein. 1 cpy slip. | | | .075 | .003 |
| 60 - 61 | | | Small hem & chlor slips. Several cpy blebs on frags & slips. | | | .107 | .002 |
| 61 - 62 | | | 10 mm qtz, cpy vein. Minor cpy & py on slips. | | | .095 | .008 |
| 62 - 63 | GRANODIORITE & contact BRECCIA zone. ANDESITE matrix w/ large frags of GRANODIORITE. | | Dissem & frac py. | | | .031 | .003 |

| METRES | ROCK TYPE (core description) | ALTERATION & STRUCTURE (associated minerals) | MINERALIZATION | MLZN | RECOV. | Cu | Mo |
|---------|--|---|--|------|--------|------|-------|
| 63 - 64 | Contact BRECCIA. GRANODIORITE at 63.4. | | | | | .024 | .001 |
| 64 - 65 | GRANODIORITE | | Minor hem & remobilized cpy. Mo slip. | | | .020 | .002 |
| 65 - 66 | ANDESITE BRECCIA (massive). | | Small calcite veining. | | | .006 | <.001 |
| 66 - 67 | | | | | | | |
| 67 - 68 | | | | | | | |
| 68 - 69 | ANDESITE PORPHYRY | | | | | | |
| 69 - 70 | | | | | | | |
| 70 - 71 | | | | | | | |
| 71 - 72 | | | 20 mm gouge zone. | | | | |
| 72 - 73 | | | Small calcite veining. | | | | |
| 73 - 74 | | | | | | | |
| 74 - 75 | | | | | | | |
| 75 - 76 | | | | | | | |
| 76 - 77 | | | | | | | |
| 77 - 78 | ANDESITE PORPHYRY | .6 m granite frag. | Py, cpy slip. | | | .022 | <.001 |
| 78 - 79 | | .1 m granite frag. | | | | | |
| 79 - 80 | ANDESITE PORPHYRY | | | | | | |
| 80 - 81 | ANDESITE PORPHYRY (massive). | Calcite veining. | | | | | |
| 81 - 82 | ANDESITE PORPHYRY. GRANODIORITE CONTACT at 81.9. | | Tight frac w/ bornite & cpy. | | | | |
| 82 - 83 | GRANODIORITE. ANDESITE DIKE from 82.6 to 82.9. | | Fractured py throughout. | | | .007 | .001 |
| 83 - 84 | GRANODIORITE. Increase in k-spar gives granitic appearance. | Prop alt. | | | | .015 | .001 |
| 84 - 85 | GRANODIORITE | Weak phyll alt. Chlor & calcite veining. | | | | .005 | .001 |
| 85 - 86 | | Mod phyll alt. Chlor increases. | | | | .005 | <.001 |

| METRES | ROCK TYPE (core description) | ALTERATION & STRUCTURE (associated minerals) | MINERALIZATION | MLZN | RECOV. | Cu | Mo |
|---------|---------------------------------|---|-----------------------|------|--------|------|------|
| 86 - 87 | GRANODIORITE | Chlor, calcite, qtz veining. | | | | .005 | .001 |
| 87 - 88 | | Small calcite breccia zone. | Minor cpy in breccia. | | | .046 | .010 |
| 88 - 89 | | | | | | | |
| 89 - 90 | | 20 mm qtz vein 45° to core. | | | | | |
| 90 - 91 | | | | | | | |
| 91 - 92 | | | | | | | |
| 92 - 93 | | | | | | | |
| 93 - 94 | | | | | | | |
| 94 - 95 | | | | | | | |
| 95 - 96 | END of HOLE | | | | | | |

Property Alco

D.D.H. No. A-81-2

Dip -45°

D.D.H. Grid Location 16+75 N, 4+00 W

Elevation 2,850 feet

Azimuth 45°

Core Size BQ Total Depth 59 metres (194 feet)

| METRES | ROCK TYPE (core description) | ALTERATION & STRUCTURE (associated minerals) | MINERALIZATION | MLZN | RECOV. |
|---------|---------------------------------|---|-------------------------------------|------|--------|
| 0 - 3.3 | OVERBURDEN | | | | |
| 3 - 4 | GRANODIORITE - very broken | | Minor py. | | |
| 4 - 5 | GRANODIORITE | Weak prop alt. | Minor py. | | |
| 5 - 6 | | Alt increases. | Py decreases, some hem on fracs. | | |
| 6 - 7 | | Mod phyll alt w/ chlor. Calcite common as frac filling. | Minor blebs of Mo. | | |
| 7 - 8 | | | Qtz vein 30° to core. | | |
| 8 - 9 | | | Minor cpy in frac w/ calcite. | | |
| 9 - 10 | | | | | |
| 10 - 11 | | Sericite decreases. | Localized py at 10.5 m. | | |
| 11 - 12 | | Weak phyll alt. Several calcite veins. | | | |
| 12 - 13 | | | | | |
| 13 - 14 | | Chlor increases slightly. | Very minor py. | | |
| 14 - 15 | | Weak prop alt. | Some blebs of cpy & Mo. | | |
| 15 - 16 | | | Very minor py. | | |
| 16 - 17 | | Mod prop alt. | Mo on several fracs. | | |
| 17 - 18 | | | | | |
| 18 - 19 | | | | | |
| 19 - 20 | | Weak prop alt. Broken from 19.7 - 20, abundant calcite. | | | |
| 20 - 21 | | Weak phyll alt. | Minor py. | | |
| 21 - 22 | | | | | |
| 22 - 23 | | | | | |
| 23 - 24 | | Minor chlor. | | | |
| 24 - 25 | | | | | |

| METRES | ROCK TYPE (core description) | ALTERATION & STRUCTURE (associated minerals) | MINERALIZATION | MLZN | RECOV. | |
|---------|---------------------------------|---|--|------|--------|--|
| 25 - 26 | GRANODIORITE | 3 cm chlor vein. | Minor cpy on frags. | | | |
| 26 - 27 | | Calcite blebs & vnltts. | | | | |
| 27 - 28 | | | | | | |
| 28 - 29 | | | | | | |
| 29 - 30 | | | | | | |
| 30 - 31 | | | | | | |
| 31 - 32 | | Weak phyll alt. | Limonite on frags. | | | |
| 32 - 33 | | | | | | |
| 33 - 34 | | | | | | |
| 34 - 35 | | | | | | |
| 35 - 36 | | | | | | |
| 36 - 37 | | | | | | |
| 37 - 38 | | | | | | |
| 38 - 39 | | | | | | |
| 39 - 40 | | | Py along frags, minor cpy & very minor bornite. | | | |
| 40 - 41 | | | | | | |
| 41 - 42 | | | | | | |
| 42 - 43 | | Fracs increase. | Minor py. | | | |
| 43 - 44 | | | | | | |
| 44 - 45 | | | | | | |
| 45 - 46 | | | Limonite on frags. | | | |
| 46 - 47 | | | | | | |
| 47 - 48 | | 1 cm calcite vein. | | | | |
| 48 - 49 | | | | | | |
| 49 - 50 | | | | | | |
| 50 - 51 | | Calcite veins & blebs in swarm. | | | | |
| 51 - 52 | | Chlor vein at 90° to core. | | | | |
| 52 - 53 | | 1 cm wide chloritized zone. | | | | |
| 53 - 54 | | | | | | |
| 54 - 55 | | | | | | |
| 55 - 56 | | | | | | |
| 56 - 57 | | | | | | |
| 57 - 58 | | | | | | |
| 58 - 59 | | | | | | |
| 59 | END of HOLE | | | | | |

Property Alco

D.D.H. No. A-81-3

Dip -45°

D.D.H. Grid Location 18+50 N, 3+15 W

Elevation 2,800 feet

Azimuth 45°

Core Size BQ Total Depth 93 metres (305 feet)

| METRES | ROCK TYPE (core description) | ALTERATION & STRUCTURE (associated minerals) | MINERALIZATION | MLZN | RECOV. |
|---------|---|--|--|------|--------|
| 0 - 2.9 | OVERBURDEN | | | | |
| 2.9 - 3 | GRANODIORITE | Very broken core. | | | |
| 3 - 4 | | Weak phyll alt w/ chlor. Calcite filled frac common. | Malachite and minor cpy. | | |
| 4 - 5 | | | Very minor Mo & cpy blebs. Some malachite & limonite staining. | | |
| 5 - 6 | | Calcite veins at 30° to core. | Cpy blebs, very minor Mo, some limonite staining. | | |
| 6 - 7 | | | Cpy blebs. | | |
| 7 - 8 | | | Minor malachite on frac. | | |
| 8 - 9 | | Alt decreases slightly. | Very minor py. | | |
| 9 - 10 | | Locally well broken. | Limonite on frac. | | |
| 10 - 11 | | | Blebs of malachite & limonite on frac. | | |
| 11 - 12 | | | | | |
| 12 - 13 | | Chloritic gouge on frac. | | | |
| 13 - 14 | | | | | |
| 14 - 15 | | Irregular calcite vnlt. | Minor cpy, abundant limonite. | | |
| 15 - 16 | | | Minor py. | | |
| 16 - 17 | | | | | |
| 17 - 18 | | Chloritic increases | Mo slip, minor py & cpy. | | |
| 18 - 19 | | slightly. | | | |
| 19 - 20 | | | Strong Mn staining. | | |
| 20 - 21 | | Chlor vein at 10° to core. | | | |
| 21 - 22 | GRANITE PORPHYRY at 21.6. Phenocrysts of hornblende & k-spar. | Calcite veins & blebs throughout. | Very minor py & limonite. | | |

| METRES | ROCK TYPE (core description) | ALTERATION & STRUCTURE (associated minerals) | MINERALIZATION | MLZN | RECOV. | |
|---------|--|--|----------------------------|------|--------|--|
| 22 - 23 | GRANITE PORPHYRY | | | | | |
| 23 - 24 | | | | | | |
| 24 - 25 | | | | | | |
| 25 - 26 | | | | | | |
| 26 - 27 | | | | | | |
| 27 - 28 | | | | | | |
| 28 - 29 | | | | | | |
| 29 - 30 | | | | | | |
| 30 - 31 | | | | | | |
| 31 - 32 | | | | | | |
| 32 - 33 | | | | | | |
| 33 - 34 | | | | | | |
| 34 - 35 | | | | | | |
| 35 - 36 | | 30 cm brecciated fault. | | | | |
| 36 - 37 | | 20 cm brecciated fault. | | | | |
| 37 - 38 | GRANITE PORPHYRY | | | | | |
| 38 - 39 | | 1 cm calcite vein at 40° to core. | | | | |
| 39 - 40 | | 30 cm of granodiorite w/ breccia around contacts. | | | | |
| 40 - 41 | | 20 cm fault w/ very soft gouge. | | | | |
| 41 - 42 | | | | | | |
| 42 - 43 | GRANODIORITE | Mod prop alt. Calcite on fracs, 5 mm qtz vein. | Minor py. | | | |
| 43 - 44 | | 5 cm very strong chlor. | Py increases slightly. | | | |
| 44 - 45 | | Chlor decreases. | Py & limonite on fracs. | | | |
| 45 - 46 | | | Locally abundant limonite. | | | |
| 46 - 47 | | Broken & rehealed. | Very minor Mo. | | | |
| 47 - 48 | | 2 cm fault. 8 cm fault. | | | | |
| 48 - 49 | | Irregular calcite veining. | | | | |
| 49 - 50 | | 5 mm qtz vein at 80° to core. | Minor py. | | | |
| 50 - 51 | | Weak phyll alt. | Minor limonite. | | | |
| 51 - 52 | 3 cm broken zone w/ abundant chlor. | | | | | |

| METRES | ROCK TYPE (core description) | ALTERATION & STRUCTURE (associated minerals) | MINERALIZATION | MLZN | RECOV. | |
|---------|---------------------------------|---|-------------------------------|------|--------|--|
| 52 - 53 | GRANODIORITE | | Locally strong limonite. | | | |
| 53 - 54 | | | | | | |
| 54 - 55 | | 10 cm breccia. 2 cm | | | | |
| 55 - 56 | | sheared calcite vein. | | | | |
| 56 - 57 | | 5 cm wide shear w/ abundant calcite. | | | | |
| 57 - 58 | | 50 cm granite porphyry, very broken. | | | | |
| 58 - 59 | GRANITE PORPHYRY | Strong chlor. | | | | |
| 59 - 60 | Phenocrysts of horn- | Calcite veins & bleb | | | | |
| 60 - 61 | blende & k-spar. | throughout. | | | | |
| 61 - 62 | | | | | | |
| 62 - 63 | | | | | | |
| 63 - 64 | | | | | | |
| 64 - 65 | | | | | | |
| 65 - 66 | | | | | | |
| 66 - 67 | | | | | | |
| 67 - 68 | | | | | | |
| 68 - 69 | | | | | | |
| 69 - 70 | | | | | | |
| 70 - 71 | | 10 cm clay gouge. | | | | |
| 71 - 72 | | | | | | |
| 72 - 73 | | | | | | |
| 73 - 74 | | | | | | |
| 74 - 75 | | | Two 5 mm qtz veins. | | | |
| 75 - 76 | | | | | | |
| 76 - 77 | | | 1 cm qtz vein at 50° to core. | | | |
| 77 - 78 | | | | | | |
| 78 - 79 | | | | | | |
| 79 - 80 | GRANODIORITE contact at 79.4 | Mod phyll alt. | | | | |
| 80 - 81 | | Fluidized texture. | | | | |
| 81 - 82 | | | Locally strong limonite. | | | |
| 82 - 83 | SERPENTINE | | | | | |
| 83 - 84 | | | | | | |

D.D.H. No. A-81-3

| METRES | ROCK TYPE (core description) | ALTERATION & STRUCTURE (associated minerals) | MINERALIZATION | MLZN | RECOV. | | |
|---------|---------------------------------|---|----------------|------|--------|--|--|
| 84 - 85 | SERPENTINE | | | | | | |
| 85 - 86 | | | | | | | |
| 86 - 87 | | | | | | | |
| 87 - 88 | | | | | | | |
| 88 - 89 | | | | | | | |
| 89 - 90 | | | | | | | |
| 90 - 91 | | | | | | | |
| 91 - 92 | | | | | | | |
| 92 - 93 | | | | | | | |
| 93 | END of HOLE | | | | | | |

Property Alco

D.D.H. No. A-81-4

Dip -45°

D.D.H. Grid Location 14+50 N, 3 +40 W

Elevation 2,900 feet

Azimuth 45°

Core Size BQ Total Depth 65 metres (213 feet)

| METRES | ROCK TYPE (core description) | ALTERATION & STRUCTURE (associated minerals) | MINERALIZATION | MLZN | RECOV. |
|---------|---------------------------------|---|-------------------------------|------|--------|
| 0 - 2.3 | OVERBURDEN | | | | |
| 2.3 - 3 | GRANODIORITE | Mild prop alt. | | | |
| 3 - 4 | | | | | |
| 4 - 5 | | | | | |
| 5 - 6 | | Some sericite, epidote along fracs. | Limonite stain. | | |
| 6 - 7 | | | Limonite stain. | | |
| 7 - 8 | | | Minor py, manganese on fracs. | | |
| 8 - 9 | | | | | |
| 9 - 10 | | Strong phyll alt. | Py on fracs. | | |
| 10 - 11 | | Mod phyll alt. | Py on fracs. | | |
| 11 - 12 | | Mild phyll alt. | Minor py on fracs. | | |
| 12 - 13 | | | | | |
| 13 - 14 | | | Limonite and py on fracs. | | |
| 14 - 15 | | 5 mm qtz vein 25° to core. | Minor py. | | |
| 15 - 16 | | Mod phyll alt. | | | |
| 16 - 17 | | | | | |
| 17 - 18 | | Chlor vein, sub- parallel to core. | | | |
| 18 - 19 | | Chlor vnltz well fractured. | Very minor py. | | |
| 19 - 20 | | | | | |
| 20 - 21 | | Alt increases. | Py along fracs. | | |
| 21 - 22 | | Strong phyll alt w/ irregular chlor veins. | Py along fracs. | | |
| 22 - 23 | | 1 cm qtz vein 75° to core. | Py along fracs. | | |
| 23 - 24 | | Calcite & chlor along fracs. | Minor py. | | |
| 24 - 25 | | | Very minor py. | | |

| METRES | ROCK TYPE (core description) | ALTERATION & STRUCTURE (associated minerals) | MINERALIZATION | MLZN | RECOV. | |
|---------|---------------------------------|--|---------------------------|-------------------------|--------|--|
| 25 - 26 | GRANODIORITE | 5 cm wide breccia zone. | | | | |
| 26 - 27 | | | Some limonite stain. | | | |
| 27 - 28 | | | | | | |
| 28 - 29 | | | | Very minor Mo on slips. | | |
| 29 - 30 | | | Mod phyll alt. | | | |
| 30 - 31 | | | | Minor py & limonite. | | |
| 31 - 32 | | | Calcite veinlets. | | | |
| 32 - 33 | | | | Limonite on frags. | | |
| 33 - 34 | | | | | | |
| 34 - 35 | | | Mod phyll alt. | | | |
| 35 - 36 | | | Irregular chlor veins. | Py & limonite on frags. | | |
| 36 - 37 | | | | | | |
| 37 - 38 | | | Chlor increases slightly. | Limonite on frags. | | |
| 38 - 39 | | | | Minor py. | | |
| 39 - 40 | | Broken, rehealed w/ chlorite. | | | | |
| 40 - 41 | | Broken, rehealed w/ chlorite. | Py on frags. | | | |
| 41 - 42 | | Broken, rehealed w/ chlorite. | Py on frags. | | | |
| 42 - 43 | | | | | | |
| 43 - 44 | | | Py on frags. | | | |
| 44 - 45 | | | | | | |
| 45 - 46 | | | | | | |
| 46 - 47 | | | | | | |
| 47 - 48 | ANDESITE DIKE | Irregular calcite veins, blebs throughout dike. | | | | |
| 48 - 49 | | | | | | |
| 49 - 50 | | | | | | |
| 50 - 51 | | | | | | |
| 51 - 52 | | | | | | |
| 52 - 53 | | | | | | |
| 53 - 54 | | | | | | |
| 54 - 55 | | | | | | |
| 55 - 56 | | | | | | |
| 56 - 57 | | | | | | |
| 57 - 58 | | | | | | |
| 58 - 59 | | | | | | |
| 59 - 60 | | | | | | |

| METRES | ROCK TYPE (core description) | ALTERATION & STRUCTURE (associated minerals) | MINERALIZATION | MLZN | RECOV. | |
|---------|---------------------------------|---|----------------|------|--------|--|
| 60 - 61 | ANDESITE DIKE | Irregular calcite veins, | | | | |
| 61 - 62 | | blebs throughout dike. | | | | |
| 62 - 63 | | 2 cm breccia zone. | | | | |
| 63 - 64 | | | | | | |
| 64 - 65 | | | | | | |
| 65 | END of HOLE | | | | | |

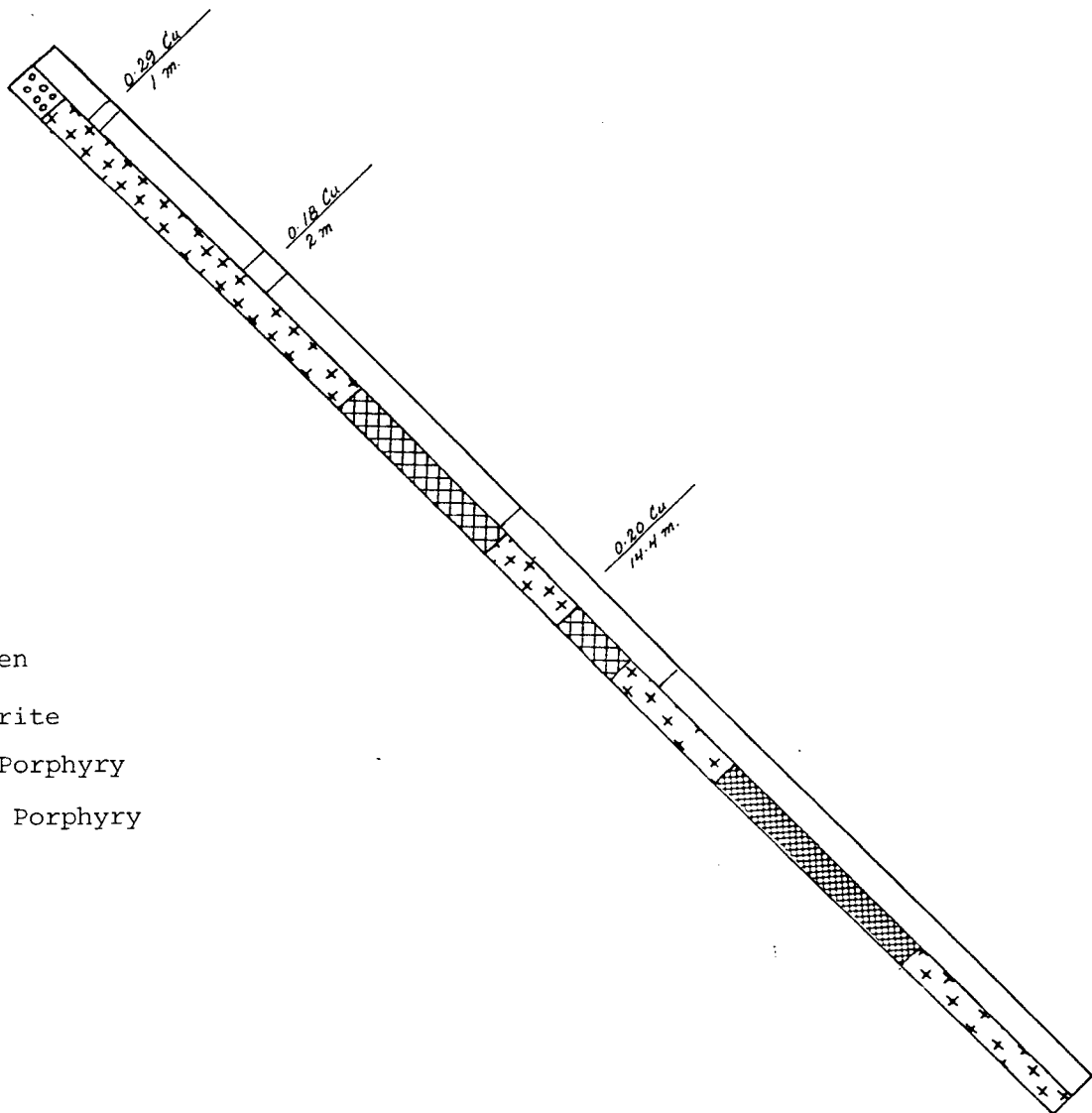
APPENDIX IV

D.D.H. No. A-81-1

Azimuth 45°





Dip -45°

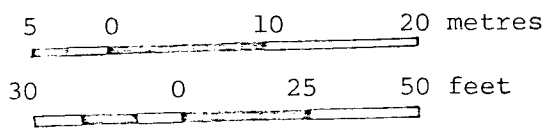
Elevation: 2,700'



96 metres
315 feet

LEGEND

-  Overburden
-  Granodiorite
-  Granite Porphyry
-  Andesite Porphyry

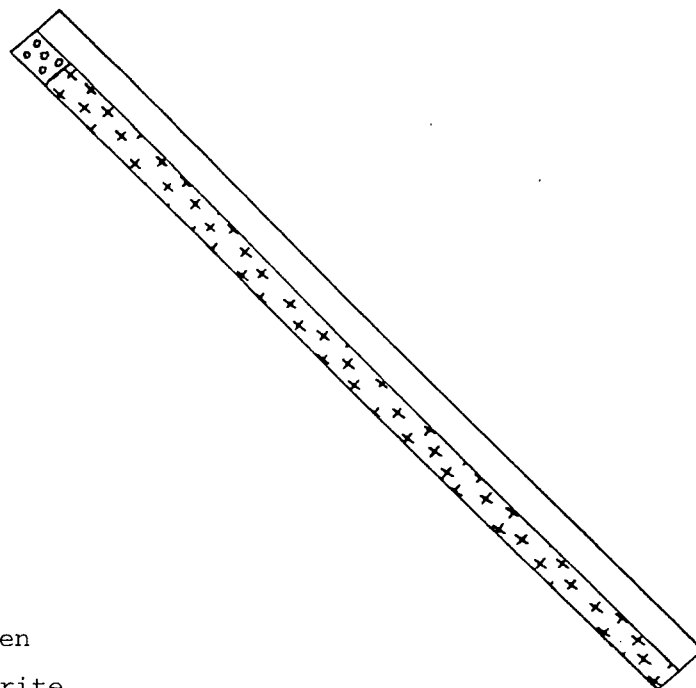


D.D.H. No. A-81-2

Azimuth: 45°

Dip: -45°

Elevation: 2,850'



59 metres
194 feet

LEGEND

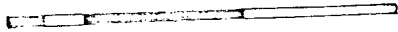


Overburden

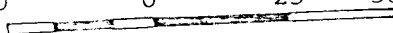


Granodiorite

5 0 10 20 metres



30 0 25 50 feet

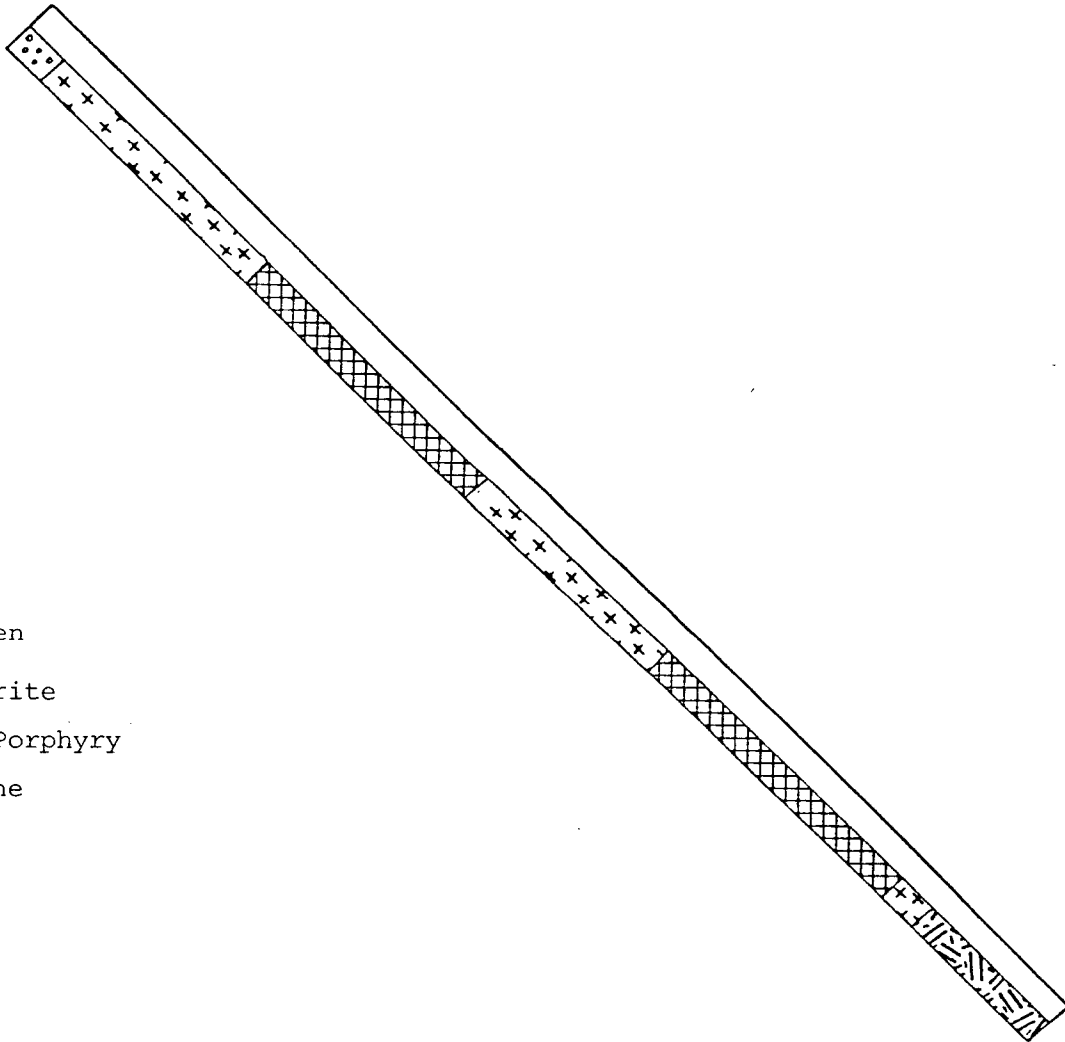


D.D.H. No. A-81-3





Azimuth: 45°

Dip: -45°

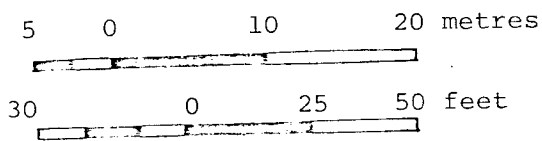
Elevation: 2,800'



LEGEND

-  Overburden
-  Granodiorite
-  Granite Porphyry
-  Serpentine

93 metres
305 feet

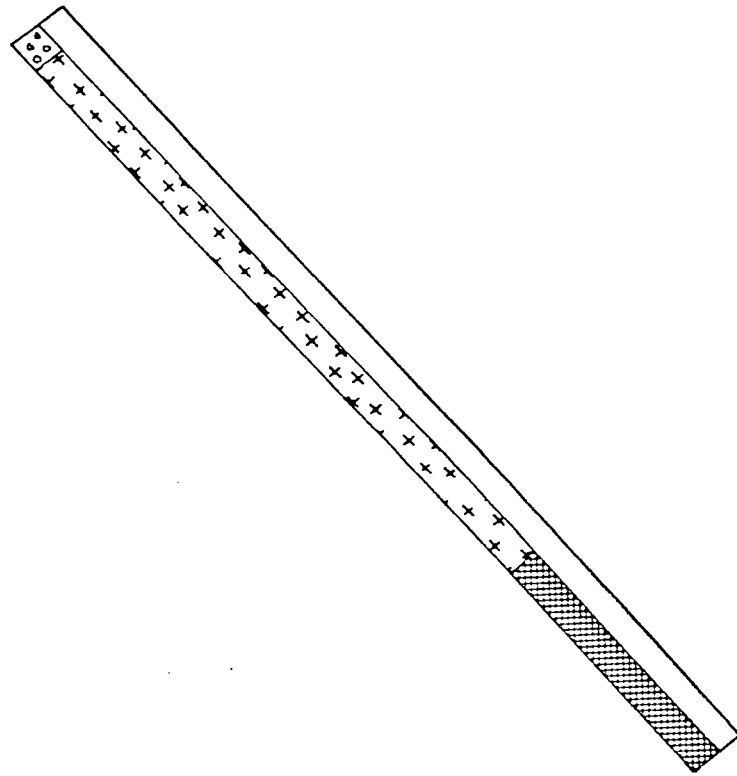


D.D.H. No. A-81-4

Azimuth: 45°




Dip: -45°

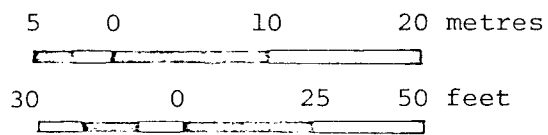
Elevation: 2,900'



65 metres
213 feet

LEGEND

-  Overburden
-  Granodiorite
-  Andesite



APPENDIX V

BRENDA MINES LTD.
EXPLORATION GROUP

- 29 -

BATCH NO. D.D.H. A-81-1

PROJECT NAME _____

ACCT. NO. 8-90-25

DATE June 18/81

| SAMPLE DESCRIPTION | COORDINATES | | ASSAY ELEMENTS | | | | | | REMARKS | | |
|--------------------|-------------|-------------|----------------|-------|-------|------|-------|--------|---------|------|--|
| | LINE NO. | STATION NO. | Cu | Mo | Pb | Zn | Ag | Au ppb | | | |
| CORE | A-81-1 | 3-4 | .019 | .002 | <.001 | .004 | .6 | < 30 | | | |
| | | 4-5 | .012 | .001 | <.001 | .005 | .4 | < 30 | | | |
| | | 5-6 | .289 | .098 | <.001 | .005 | 2.1 | 52 | | | |
| | | 6-7 | .009 | .002 | .001 | .004 | .4 | < 30 | | | |
| | | 7-8 | .015 | .001 | .002 | .005 | .5 | < 30 | | | |
| | | 8-9 | .080 | .003 | .001 | .007 | 1.0 | 30 | | | |
| | | 9-10 | .024 | .001 | .001 | .006 | .5 | < 30 | | | |
| | | 10-11 | .089 | .001 | .001 | .007 | 1.0 | 32 | | | |
| | | 11-12 | .017 | .001 | .001 | .006 | .5 | < 30 | | | |
| | | 12-13 | .183 | .005 | .001 | .007 | 1.1 | 30 | | | |
| | | 13-14 | .025 | .001 | .001 | .006 | .5 | < 30 | | | |
| | | 14-15 | .086 | .014 | .002 | .006 | 1.0 | < 30 | | | |
| | | 15-16 | .083 | .013 | .001 | .004 | .8 | < 30 | | | |
| | | 16-17 | .063 | .008 | .001 | .005 | .8 | < 30 | | | |
| | | 17-18 | .065 | .004 | .001 | .005 | .7 | < 30 | | | |
| | | 18-19 | .030 | .008 | .003 | .006 | .6 | < 30 | | | |
| | | 19-20 | .235 | .042 | .002 | .007 | 2.3 | 30 | | | |
| | | 20-21 | .132 | .001 | .002 | .005 | 1.2 | < 30 | | | |
| | | 21-22 | .038 | .001 | .001 | .004 | .8 | < 30 | | | |
| | | 22-23 | .024 | .002 | .001 | .004 | .5 | < 30 | | | |
| | | 23-24 | .110 | .010 | .004 | .006 | 3.0 | < 30 | | | |
| | | 24-25 | .042 | .004 | .001 | .004 | .7 | < 30 | | | |
| | | 25-26 | .019 | .001 | .001 | .004 | .6 | < 30 | | | |
| | | 26-27 | .036 | .001 | .001 | .004 | .5 | < 30 | | | |
| | | 27-28 | .018 | .001 | .001 | .004 | .5 | < 30 | | | |
| | | 28-29 | .059 | .001 | .001 | .004 | .7 | < 30 | | | |
| | | 29-30 | .034 | .001 | .003 | .005 | .8 | < 30 | | | |
| | | | | 30-31 | | | NS | | | | |
| | | | | ↓ | | | | | | | |
| | | | | 43-44 | .355 | .018 | .002 | .006 | 2.4 | 30 | |
| | | | | 44-45 | .072 | .002 | <.001 | .006 | .8 | < 30 | |
| | | 45-46 | .072 | .002 | .001 | .005 | .8 | < 30 | | | |
| | | 46-47 | .199 | .012 | .001 | .006 | 1.3 | < 30 | | | |
| | | 47-48 | .271 | .010 | .001 | .010 | 1.8 | 52 | | | |
| ↓ | ↓ | 48-49 | .213 | .006 | <.001 | .007 | 1.1 | 31 | | | |

**BRENDA MINES LTD.
EXPLORATION GROUP**

BATCH NO. D.D.H. A-81-1

PROJECT NAME _____

ACCT. NO. 8-90-25

DATE June 18/81

| SAMPLE DESCRIPTION | COORDINATES | | ASSAY ELEMENTS | | | | | | REMARKS |
|---|-------------|-------------|----------------|------|-------|------|-----|--------|---------|
| | LINE NO. | STATION NO. | Cu | Mo | Pb | Zn | Ag | Au ppb | |
| CORE | A-81-1 | 49-50 | .243 | .004 | .001 | .007 | 3.5 | <30 | |
| | | 50-51 | — | — | NS | — | — | — | |
| | | 55.6-56 | .049 | .001 | .001 | .005 | .8 | <30 | |
| | | 56-57 | .217 | .028 | .001 | .006 | 1.6 | 31 | |
| | | 57-58 | .320 | .029 | .001 | .010 | 2.6 | 52 | |
| | | 58-59 | .042 | .002 | .001 | .005 | .6 | <30 | |
| | | 59-60 | .075 | .003 | .001 | .004 | .8 | <30 | |
| | | 60-61 | .107 | .002 | .001 | .005 | 1.0 | <30 | |
| | | 61-62 | .095 | .008 | <.001 | .005 | .8 | <30 | |
| | | 62-63 | .031 | .003 | <.001 | .004 | .7 | <30 | |
| ↓ | | 63-64 | .024 | .001 | .001 | .004 | .7 | <30 | |
| | | 64-65 | .020 | .002 | .002 | .005 | .6 | <30 | |
| ALL ASSAYS DONE BY BRENDA MINES LTD. ASSAY LABORATORY | | | | | | | | | |

EXPLORATION GROUP

BATCH NO. 101 MILLSEY

PROJECT NAME _____

ACCT. NO. S-90-25

DATE JULY 20/81

| SAMPLE DESCRIPTION | COORDINATES | | ASSAY ELEMENTS | | | | | REMA |
|---|-------------|-------------|----------------|-------|-------|------|----|------|
| | LINE NO. | STATION NO. | Cu | Mg | Pb | Zn | Ag | |
| ORE | A25-81-2 | 6-7 ✓ | .002 | .001 | .001 | .003 | .9 | |
| | | 8-9 ✓ | .002 | 4.001 | .001 | .005 | .7 | |
| | | 14-15 ✓ | .002 | .001 | .001 | .003 | .6 | |
| | | 16-17 ✓ | .010 | 4.001 | .001 | .003 | .9 | |
| | | 25-26 ✓ | .005 | .001 | .001 | .003 | .8 | |
| | | 28-29 ✓ | .003 | .001 | 4.001 | .003 | .7 | |
| | | 39-40 ✓ | .002 | 4.001 | .001 | .004 | .8 | |
| ALL ASSAYS DONE BY BRENDA MINES LTD. ASSAY LABORATORY | | | | | | | | |

BRENDA MINES LTD.
EXPLORATION GROUP

BATCH NO. EAR WILSEY

PROJECT NAME _____

ACCT. NO. 8-90-25 DATE JULY 25/81

| SAMPLE DESCRIPTION | COORDINATES | | ASSAY ELEMENTS | | | | | REMARKS |
|---|-------------|-------------|----------------|-------|-------|------|------|---------|
| | LINE NO. | STATION NO. | Cu | Mn | Pb | Zn | Ag | |
| CORE | A25-81-3 | 3-4 ✓ | .019 | 2.001 | 2.001 | .003 | .7 # | |
| | | 4-5 ✓ | .023 | .001 | 2.001 | .004 | 1.0 | |
| | | 5-6 ✓ | .012 | .001 | .001 | .003 | .8 | |
| | | 10-11 ✓ | .005 | 2.001 | .001 | .004 | .8 | |
| | | 11-12 ✓ | .009 | .001 | .001 | .004 | .8 | |
| | | 14-15 ✓ | .032 | .001 | .001 | .004 | 1.3 | |
| | | 17-18 ✓ | .056 | .011 | .001 | .004 | 1.7 | |
| | | 23-24 ✓ | .003 | 2.001 | .002 | .007 | 1.0 | |
| | | 46-47 ✓ | .023 | .015 | .001 | .004 | 1.2 | |
| ALL ASSAYS DONE BY BRENDA MINES LTD. ASSAY LABORATORY | | | | | | | | |

APPENDIX VI

STATEMENT of COSTS

| | | |
|--|-------|--------------|
| 1) <u>Diamond Drilling</u> | | |
| 1,027 feet @ \$36.38/ft. | | \$37,362.26 |
| 2) <u>Assay Costs</u> | | |
| 68 samples @ \$14.93/sample | | 1,015.24 |
| 3) <u>Food and Other Camp Expenses</u> | | |
| June 14, 1981 to June 30, 1981; for 7 men | | 706.25 |
| 4) <u>Transportation</u> | | |
| <u>Truck Rental</u> | | |
| June 14, 1981 to June 30, 1981; 15 days | | |
| @ \$21.67/day | | 325.05 |
| <u>Fuel Costs</u> | | |
| June 14, 1981 to June 30, 1981; 15 days | | 557.19 |
| 5) <u>Salaries and Wages</u> | | |
| June 14, 1981 to June 30, 1981; | | |
| One staff geologist and one field technician | | 553.10 |
| 6) <u>Report Preparation</u> | | |
| <u>Writing and Drafting</u> | | |
| October 6 to October 8, 1981; | | |
| 3 days @ \$85.00/day | | 255.00 |
| <u>Typing</u> | | |
| October 9, 1981; 1 day @ \$55.00/day | | <u>55.00</u> |
| | TOTAL | \$40,829.09 |

APPENDIX VII

STATEMENT of QUALIFICATIONS

I, Norman S. Pitcher of Peachland, Province of British Columbia,
do certify that:

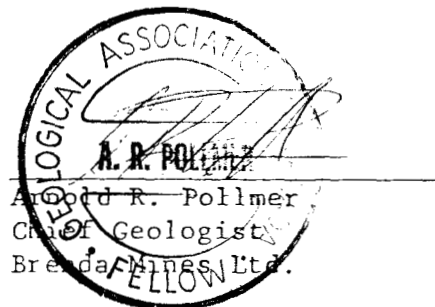
- 1) I have been employed by Noranda Mining Limited from March, 1980 to May, 1984; I am presently employed as a geologist by Brenda Mines Ltd.
- 2) I am a graduate of the University of Arizona with a Bachelor of Science Degree in Geology (1979).
- 3) I am a member of the Society of Economic Geologists, U.S.A.

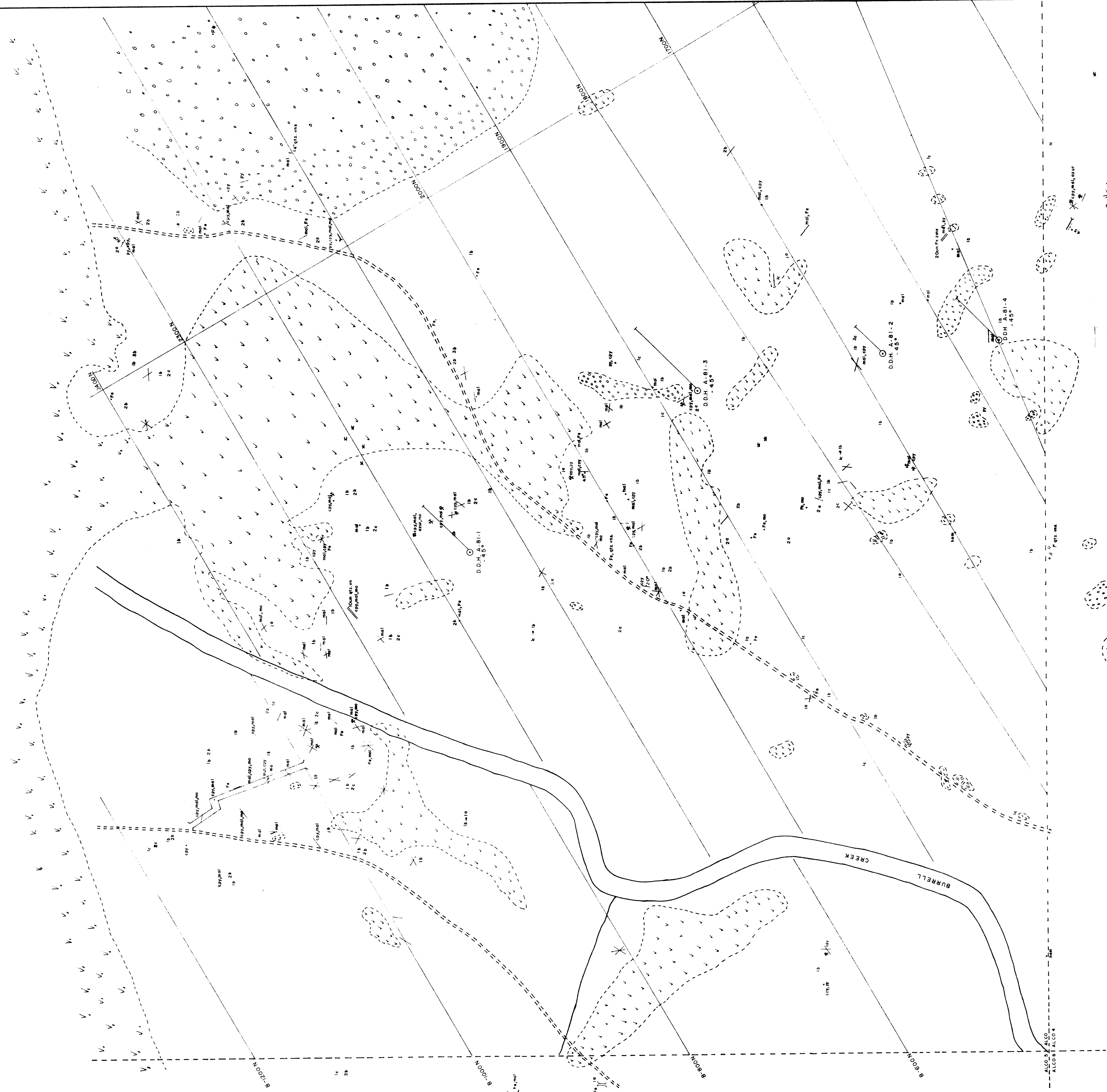
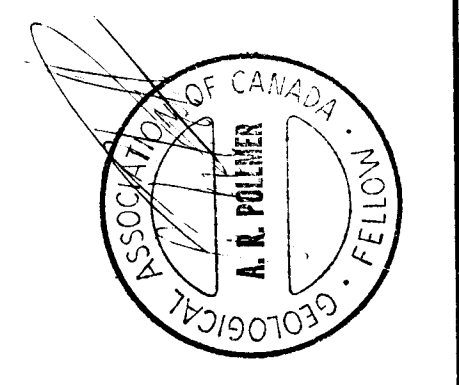
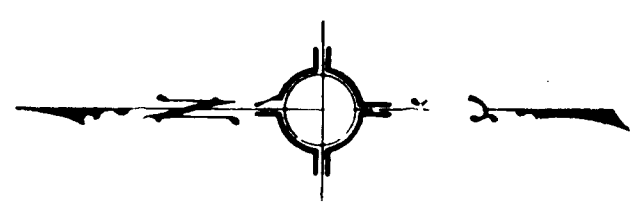
Norman S. Pitcher

STATEMENT of QUALIFICATIONS

I, Arnold R. Pollmer of Peachland, Province of British Columbia,
do certify that:

- 1) I have been employed as a geologist by Noranda Mines Limited from December 1973 to June 1977; I am presently employed as the chief geologist by Brenda Mines Ltd.
- 2) I am a graduate of the University of Wisconsin with a Bachelor of Science Degree in Geology (1972).
- 3) I am a member of the Canadian Institute of Mining and Metallurgy.
- 4) I am a fellow of the Geological Association of Canada.





9680

- LEGEND**
- ROCK TYPES**
- Volcanic agglomerate
 - Volcanic tuffs and andesite
 - Amphibolite and Gabbro
 - Granodiorite
 - Limestone
- ALTERATION**
- 1 PROPYLITIC - is strong is moderate is weak
 - 2 PHYLIC - ze strong ze moderate ze weak
 - 3 ARGILLIC - sa strong sa moderate sa weak
- MINERALIZATION**
- chalcopyrite
 - pyrite
 - molybdenite
 - malachite
 - azurite
 - hematite
 - iron stain
- SYMBOLS**
- vein
 - strike of fractures
 - strike & dip of fractures
 - old diggings
 - vertical shaft
 - adit
 - trench
 - D.D.H. Locations

BRENDA MINES LTD.
EXPLORATION GROUP

Drawn _____
Check _____
Approv _____

ALCO PROPERTY - D.D.H. LOCATION MAP

SCALE 1:2000 FILE No. 8-90-25