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REPORT ON THE
BAR, SC, AND ANNA CLAIMS

Kamloops Mining Division
British Columbia

for

CORPORATION FALCONBRIDGE COPPER
6415 - 64TH Street
Delta, B. C.
V4K 4E2

July 18, 1984

A. J. Davidson

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SUMMARY

The Bar, Anna and SC claims consist of 453 units totalling 11325 hectares located approximately 60 kilometres north-northeast of Kamloops, B. C. in the Kamloops Mining Division of southcentral British Columbia. The claims are situated between Chu-Chua Mountain in the north and the Sinmax Valley in the south.

Most parts of the claim group are readily accessible by truck. The northern half of the property is accessible via the East Barriere Road and the Birk Creek road and the southern half is accessible via Sinmax Valley, the Dixon Lake road and the Wickiup Creek road.

The claims are all wholly owned by Corporation Falconbridge Copper. However the Anna claims are subject to a 5% royalty on the net proceeds of production that is payable after CFC recovers its exploration, pre production, and captial expenditures from production revenues. The royalty is subject to a buy-out clause.

The claims were staked after a 1983 CFC reconnaissance geological survey identified excellent potential for the occurrence of poly metallic massive sulphide deposits in the claim block area. The discovery and subsequent announcement in November 1983 by Rea Gold of massive sulphides grading 1.62% Cu, 2.19% Zn, 3.66% Pb, 4.7 oz/t Ag and 1.0 oz/t Au prompted an immediate staking rush. CFC acquired the Bar, SC and Anna claims during and after the Rea Gold rush to cover stratigraphy similar to that found at Rea Gold and to cover specific targets identified by CFC's reconnaissance geological survey.

The northern half of the property is underlain by volcanic and sedimentary rocks of the Devonian Lower Fennel Formation. The rocks strike northerly and dips are steep. The major rock types are pillowed mafic flows, rhyolite and chert breccias and quartz-feldspar porphyries. The southern half is underlain by the similar age Eagle Bay Formation which consists of a north-westerly striking, northeasterly dipping sequence of mafic flows and tuffs, intermediate pyroclastics and intercalated quartz rich sediments.

Since acquiring these claims Corporation Falconbridge Copper has carried out exploration work with expenditures totalling \$130,000. The work includes a 500 km airborne Dighem and magnetometer survey, reconnaissance and semi-detailed geological mapping, and lithogeochemical sampling. Work on

the Bar, Anna and SC claims is closely tied to ongoing exploration of the Rea Gold Option because rocks hosting the Rea massive sulphide deposits are geologically similar and stratigraphically equivalent to those on the Bar, Anna and SC claims.

Initial airborne geophysical, geological and geochemical results covering the Bar, Anna & SC claims are encouraging. Approximately 600 medium to high priority bedrock conductive responses are interpreted from the Dighem airborne geophysical data. Favourable Rea Gold stratigraphy identified by geological mapping on the Bar, Anna SC claims correlates with a number of geophysical anomalies. Preliminary geochemical results indicate at least 9 streams anomalous in gold (up to 1100 ppb) in the same area as the encouraging geology and geophysics.

Based on the results to date, further exploration is definitely warranted to evaluate the economic potential of these claims. A \$1,000,000 exploration and development programme is recommended to test the potential of the property.

INTRODUCTION

Corporation Falconbridge Copper acquired 453 claim units totalling 11,325 hectares in the Kamloops Mining Division, British Columbia between November 1, 1983 and May 1, 1984. A total of 24 claims (373 units) were acquired by staking and 4 claims (80 units) were acquired through an option to purchase. This report describes the claim group, its geologic setting, and its exploration potential. A staged programme of exploration is recommended with a proposed budget. Field work is now in progress on the property.

This report is based on personal examinations of the Bar, SC and Anna claims and the work of Falconbridge Copper field crews under my supervision between July 1, 1983 and the present.

PROPERTY AND OWNERSHIP

The Bar, SC and Anna claims consist of 453 units in 28 claims all located in the Kamloops Mining Division in southcentral British Columbia. The configuration of the claims is shown in Figure 2. Table 1 summarizes all pertinent mineral claim data. The Bar claims form the southern part of the group and the SC and Anna claims form the northern part of the group.

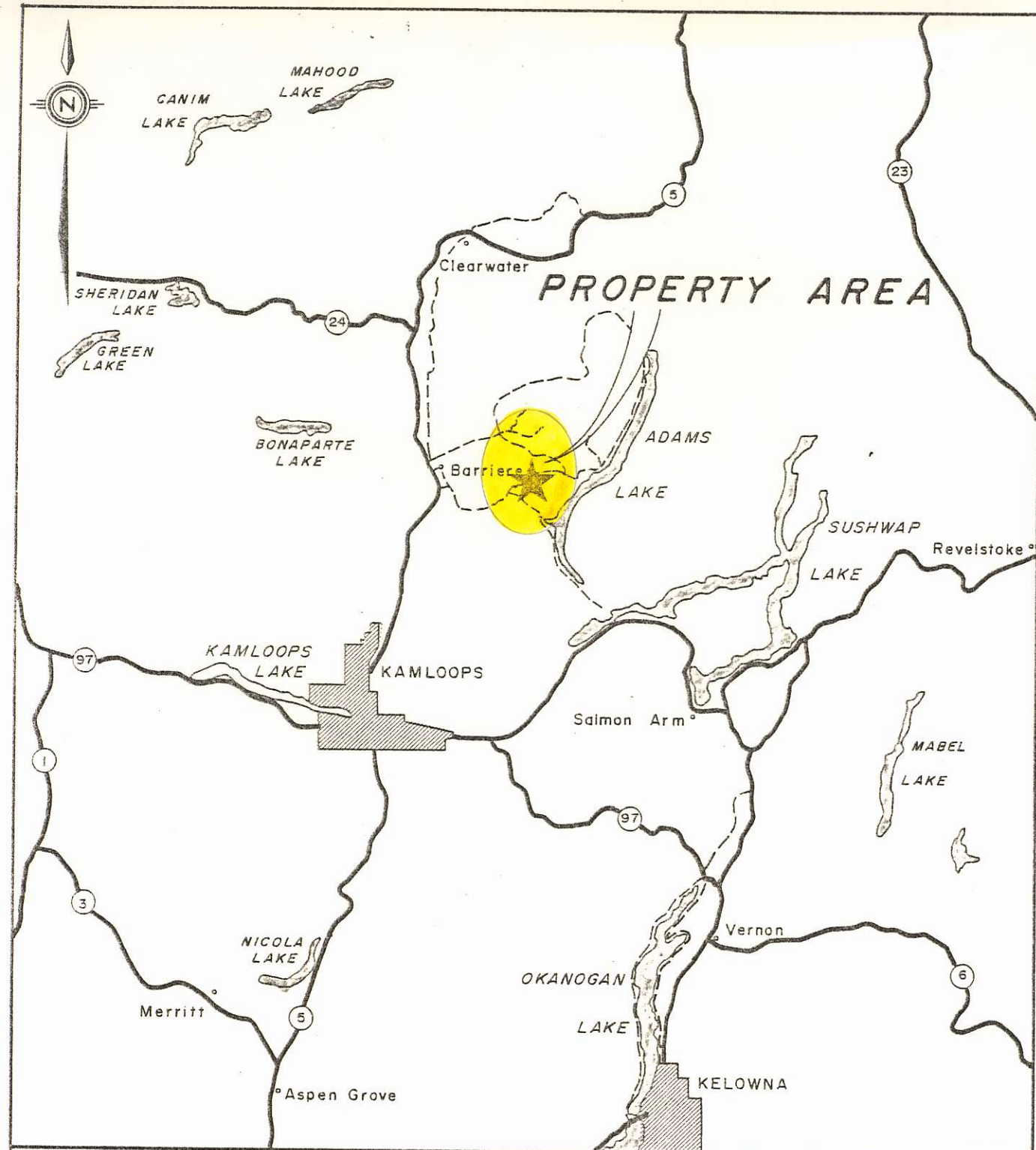
LOCATION AND ACCESS

The claims are located along the western edge of the Adams Plateau, bounded by longitude $119^{\circ} 45'$ and $120^{\circ} 10'$, and latitude $51^{\circ} 00'$ and $51^{\circ} 25'$ (Figure 1).

The southern part of the claim group is readily accessible from Kamloops via Highway 5 to Louis Creek; thence east to the Dixon Lake and Johnson Lake roads. The northern part is accessible via the Barriere Lakes road to Birk Creek road. Numerous logging roads allow good local access to most parts of the Property.

PHYSIOGRAPHY

The claims straddle the Barriere River and range from 500m to 1500m in elevation. They exhibit features typical of intermontane-plateau glaciation.



BAR PROJECT

LOCATION MAP

FIGURE 1

TABLE 1 CLAIMS

<u>Name</u>	<u>Record No.</u>	<u>Units</u>	<u>Month</u>	<u>Expiry Date</u>
Anna 1	5332	20	December	1984
Anna 2	5333	20	December	1984
Anna 7	5339	20	December	1984
Anna 8	5340	20	December	1984
Alex	4888	20	November	1984
SC1	5560	12	March	1985
SC2	5561	20	March	1985
SC3	5562	20	March	1985
SC4	5640	20	May	1985
SC5	5641	20	May	1985
BAR 1	4970	18	November	1984
BAR 2	4971	18	November	1984
BAR 3	4972	20	November	1984
BAR 4	4973	20	November	1984
BAR 5	4974	20	November	1984
BAR 6	4975	20	November	1984
BAR 7	4976	20	November	1984
BAR 8	4977	20	November	1984
BAR 9	4978	20	November	1984
BAR 10	4979	20	November	1984
BAR 11	4980	20	November	1984
BAR 12	4981	20	November	1984
BAR 13	4982	20	November	1984
BAR 16	4983	TP	November	1984
BAR 17	4984	TP	November	1984
BAR 18	4985	TP	November	1984
BAR 19	4986	TP	November	1984
BAR 20 FR	4987	1	November	1984

all of which are situated in the Kamloops Mining Division, British Columbia.

The valley of the North Thompson River defines the western edge and south central Adams Lake defines the northeastern edge of the study area.

The climate is moderate with temperatures ranging between -25°C and $+30^{\circ}\text{C}$. Precipitation is moderate and the exploration season extends from June to November.

HISTORY

This region has received intermittent and sometimes quite aggressive exploration since the 1920's. Although there are no known sulphide occurrences on the claims a great number of occurrences occur in their vicinity. The most important are the Chu-Chua deposit just northwest of the Anna claims which contains 2.6 million tons of 2.0% Cu, and 0.25 oz/ton Ag (CMH 1985), the Homestake Mine which contains 796,280 tons grading 7 oz/t Ag, 28% Ba, 4% Zn, 2.5% Pb and 0.55% Cu (BCMM 1974) and the Rea Gold deposit which contains 150,000 tons grading 0.7% Cu, 3.6% Zn, 3.1% Pb, 3.5 oz/ton Ag and 0.43 oz/ton Au.

Previous operators on various parts of the claims have included Craigmont Mines Ltd. and Esso Resources.

GEOLOGY

Regional Geology

The Barriere Lakes - Adams Plateau region, including the Samatosum Mountain area, has been geologically mapped by a number of government workers; the most definitive and recent published works have been by V. A. Preto, G. P. McLaren and P. A. Schiarizza (1980) and V. A. Preto (1981). Much of the following text is based on the results of these recent works.

This region is dominantly underlain by a weakly to moderately-metamorphosed assemblage of sedimentary and volcanic rocks belonging to the Late Devonian to Early Mississippian-age Eagle Bay Formation. Regionally the Eagle Bay Formation appears to stratigraphically overlie the dominantly volcanic rocks of the Late Devonian Fennell Formation. Both of these major formations have been intruded by granodiorite orthogneiss to biotite quartz monzonite ranging in age from Late Devonian to Cretaceous. Locally the

metamorphosed strata and intrusions are overlain by olivine basalt flows of Pleistocene to Recent age.

Structural features of the region include at least two periods of folding and faulting (Preto et al, 1979). An early period of folding, west to northwest trending with axes plunging north to northwest, has deformed the volcanic and sedimentary strata prior to later folding with fold axes plunging gently north.

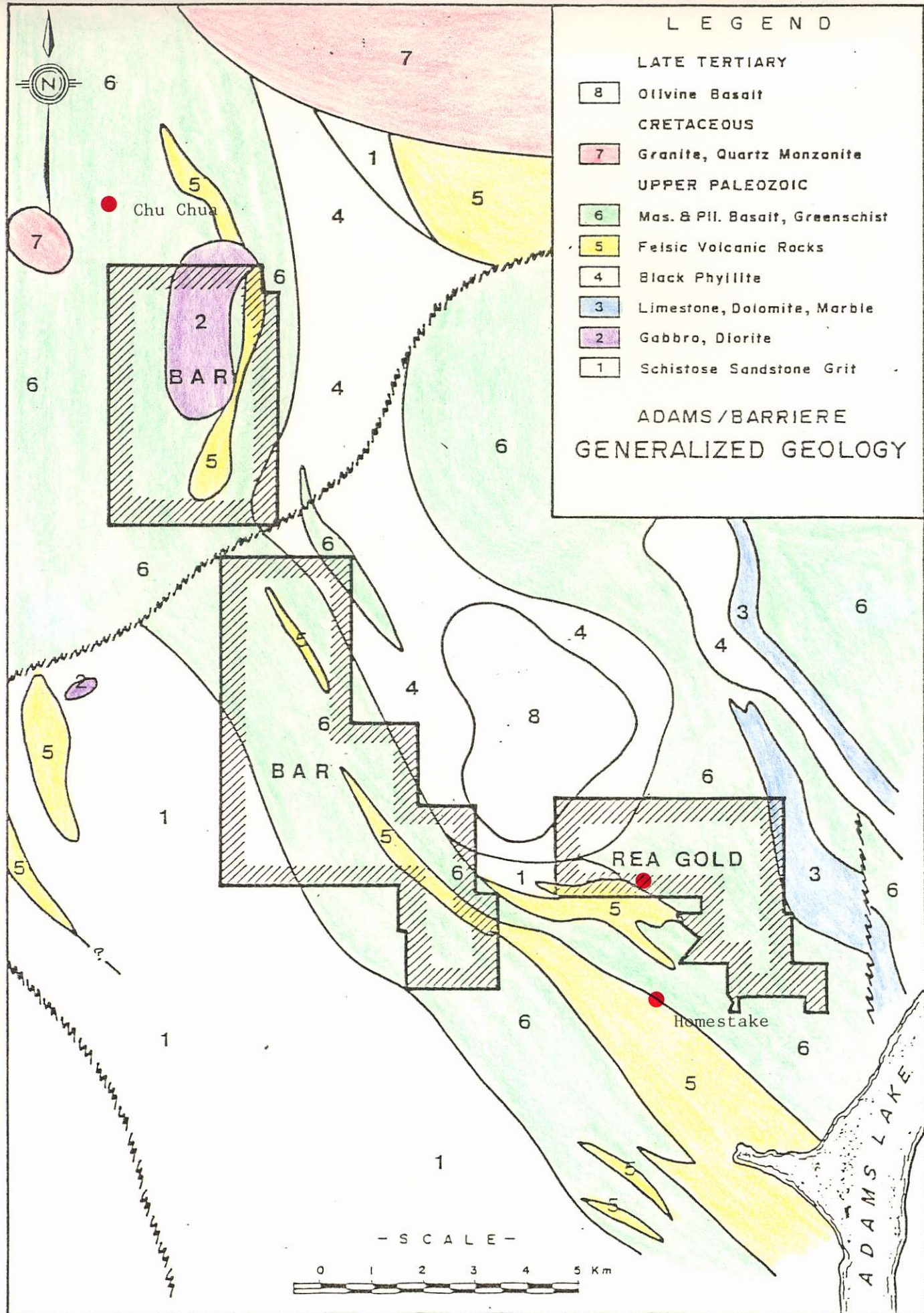
There are numerous base-metal occurrences known in the region, many of which are stratabound massive sulphide deposits syngenetic with their host rocks. Such polymetallic deposits, commonly with associated barite and precious-metal values, are most abundant in the Birk Creek - North Barriere Lake, Johnson Lake - Sinmax Creek and Adams Plateau areas (Preto, 1979). See Figure 3 for a map of the regional geology and locations of the known mineral occurrences.

Local Geology

The claims are divided into two structural domains lying north and south of the Barriere River and separated by a fault (Preto). Several stratigraphic horizons can be traced from one structural domain into the other, or from Fennell volcanic rocks to Eagle Bay volcanic-sedimentary rocks.

The domain lying north of the Barriere River is a homoclinal sequence of steeply dipping, north striking, pristine basaltic volcanic rocks, the Fennell Fm. It is overlain by rocks described as Eagle Bay Fm., consisting of a prominent unit of black phyllite, grit and argillite which is in turn overlain to the east by a sequence of acid tuffs, basaltic to intermediate flows and tuffs, minor clastic sediments and discontinuous limestone units. The contact between Fennell and Eagle Bay rocks is conformable and consists of a gradual change westward from phyllite through a transition zone of interbedded massive basalt, phyllite, chert and chert (rhyolite?) breccia into massive and pillowed basaltic flows. The SC and Anna claims centre on this transition zone which is thought to be favourable for massive sulphide deposition because of the similarity of the environment to that of other known deposits.

South of the Barriere River, the Eagle Bay rocks are characterized by a strong penetrative deformation that appears to be axial planar to shallow plunging, and moderate to steeply northeast dipping isoclinal folds. Correlation



of stratigraphic units in Eagle Bay rocks south of the Barriere River with similar stratigraphic units in both Fennell and Eagle Bay rocks north of the river strongly suggests that Fennell and Eagle Bay rocks are stratigraphically equivalent. Also quartz porphyry bodies within greenstone are traceable from Skwaam Bay on Adams Lake north-northwestward to the Barriere River. They are correlative, along strike, with a quartz porphyry horizon that lies within pristine basalt flows near the top of the Fennell Fm north of the Barriere River.

Black phyllite of the Eagle Bay Fm, lying stratigraphically on Fennell rocks, north of the Barriere River, can be traced south-southeast to Johnson Creek where argillite and greywacke are intercalated with quartz porphyritic volcanoclastic rocks near the Rea Gold showing. Quartz porphyritic bodies are present within mafic volcanic rocks in close proximity to phyllite-argillite from Johnson Creek to the north end of the claims, where they are terminated by the Cretaceous Baldy batholith. It is apparent from work done thus far that rocks hosting the Rea Gold and Homestake deposits extend through the Bar claims.

WORK DONE

Since acquiring the Bar, SC and Anna claims Corporation Falconbridge Copper has spent a total of \$130,000 on exploration work.

A 500km airborne Dighem and magnetometer survey was flown over the Bar claims. The SC and Anna claims were previously flown by Dighem in 1981. CFC has access to these earlier survey results. At least 600 moderate to high priority bedrock anomalies were picked by Dighem's geophysicist. High priority targets among these 600 were isolated conductors of short strike length, and good thicknesses. The locations of some of these high priority conductors correlate with the projection of the Rea Gold stratigraphy. Ground work consisting of VLF-EM surveys and detail mapping are being used to further explore these anomalies.

A stream sampling program was undertaken on the property after orientation surveys showed the method to be effective in the Rea Gold area. Of 29 streams sampled thus far on the Bar-Anna-SC claims, 9 have returned anomalous gold values ranging from 40 ppb to 1100 ppb Au. These streams drain areas whose geology is correlative with the geology at Rea Gold.

Geological mapping commenced on the property June 1. Preliminary results indicate a through going extension of favourable rocks which are similar to those at Rea Gold, Homestake Mine and Chu-Chua.

CONCLUSIONS

Based on the very positive stratigraphy and exploration results thus far the Bar-Anna-SC claims appear to have excellent potential for discovering economic massive sulphide deposits.

Detailed exploration is definitely warranted to delineate and enhance this potential. A staged exploration programme is therefore recommended.

RECOMMENDATIONS

A three stage exploration programme following the outline given below is recommended. Stage I of this programme includes work done to date.

STAGE I

1. A 500km Dighem survey to be flown over the Bar claims
COST - \$50,000

2. Geological mapping on a semi-detailed basis to provide exploration framework.
COST \$50,000

3. Lithological and stream geochemical sampling to delineate favourable host rocks and areas of anomalous gold and base metals.
COST \$45,000

4. Linecutting on high priority areas as defined by Dighem, geology and geochemistry.
COST \$10,000

5. Ground geophysics to delineate airborne Dighem anomalies.
COST \$10,000

6. Property Acquisition - staking and option.
COST \$15,000

7. Contingency 10%.
COST \$20,000

TOTAL COST STAGE I = \$200,000

STAGE II

1. Linecutting to prepare new targets from Dighe m surveys.
COST \$40,000

2. Ground geophysics on new targets from Dighe m surveys.
COST \$25,000

3. Detail geology and geochemistry on new targets above.
COST \$75,000

4. Diamond drilling to test high priority targets generated in Stage I and Stage II 7000 feet at \$25.00/foot.
COST \$175,000

5. Contingency 10%.
COST \$35,000

TOTAL COST STAGE II = \$350,000

STAGE III

1. Diamond drilling 12,000 feet at \$25.00/foot to test both new targets and to follow up previous intersections.
COST \$300,000

2. Geology - detailed on new targets.

COST \$55,000

3. Linecutting/Geophysics - to delineate new targets and extend old targets.

COST \$55,000

4. Contingency 10%.

COST \$45,000

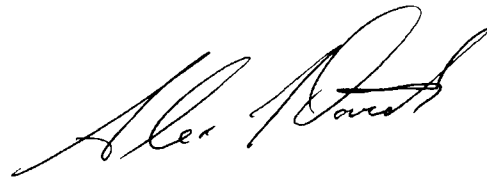
TOTAL COST STAGE III = \$450,000

Alvin D. Smith
July 18/1984

STATEMENT OF QUALIFICATIONS

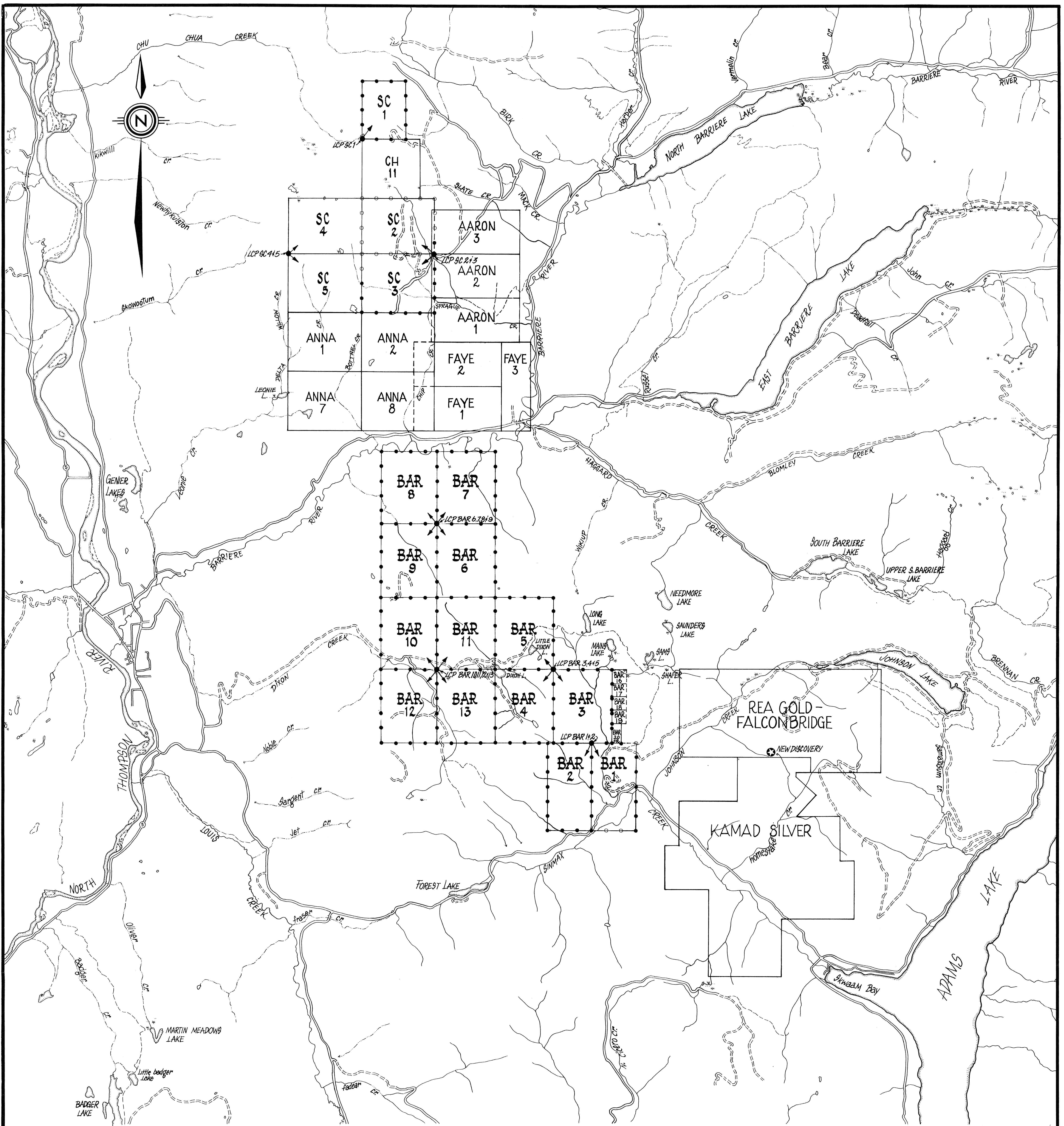
I, Alex J. Davidson hereby certify that:

- 1) I hold a Bachelor of Science Degree (Geology Major) and a Master of Science Degree in Economic Geology from McGill University, Montreal, Quebec.
- 2) I have practised my profession in exploration continuously since graduation.
- 3) I have based conclusions and recommendations contained in this report on knowledge of the area, my previous experience and the results of the field work conducted on the property.

A handwritten signature in cursive script, appearing to read "Alex Davidson".

Alex J. Davidson MSc.

Vancouver, British Columbia



CORPORATION FALCONBRIDGE COPPER
 Bar 1 to 13 & 16 to 20 Fr. AND SC 1 to 5 mineral claims
 Dixon Lake and Sprague Creek Areas Kaloops Mining Division
 Scale 1:50,000 Maps 82°4'15"W, 92°1'18"E

AMEX 84 Job no's 83-147, 84-19 & 42

