

825476

GEOLOGICAL AND GEOCHEMICAL REPORT

ON THE

BAR PROPERTY

(BAR 'C' GROUP)

Kamloops Mining Division

NTS 82M/4W

Lat.  $51^{\circ}25'N$  Long.  $119^{\circ}55'W$

Claims: Bar 6-10

Owner and Operator

Corporation Falconbridge Copper

6415 - 64th Street

Delta, B. C.

V4K 4E2

Ian D. Pirie

December 19, 1

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## INTRODUCTION

### General

Corporation Falconbridge Copper is the owner of 463 claim units totalling 11,500 hectares in the Barriere area of the Kamloops Mining Division, British Columbia. For the purpose of administration this large property is divided into 6 claim groups. This report presents the results of geological mapping and lithogeochemical sampling carried out during 1984 on the Bar 'C' Group.

### Location and Access (Figure 1)

The claims are located on the Adams Plateau between Adams Lake and the North Thompson River and are bounded by latitude  $51^{\circ}00'N$  and  $51^{\circ}25'N$  and longitude  $119^{\circ}45'W$  and  $120^{\circ}10'W$  (Figure 1).

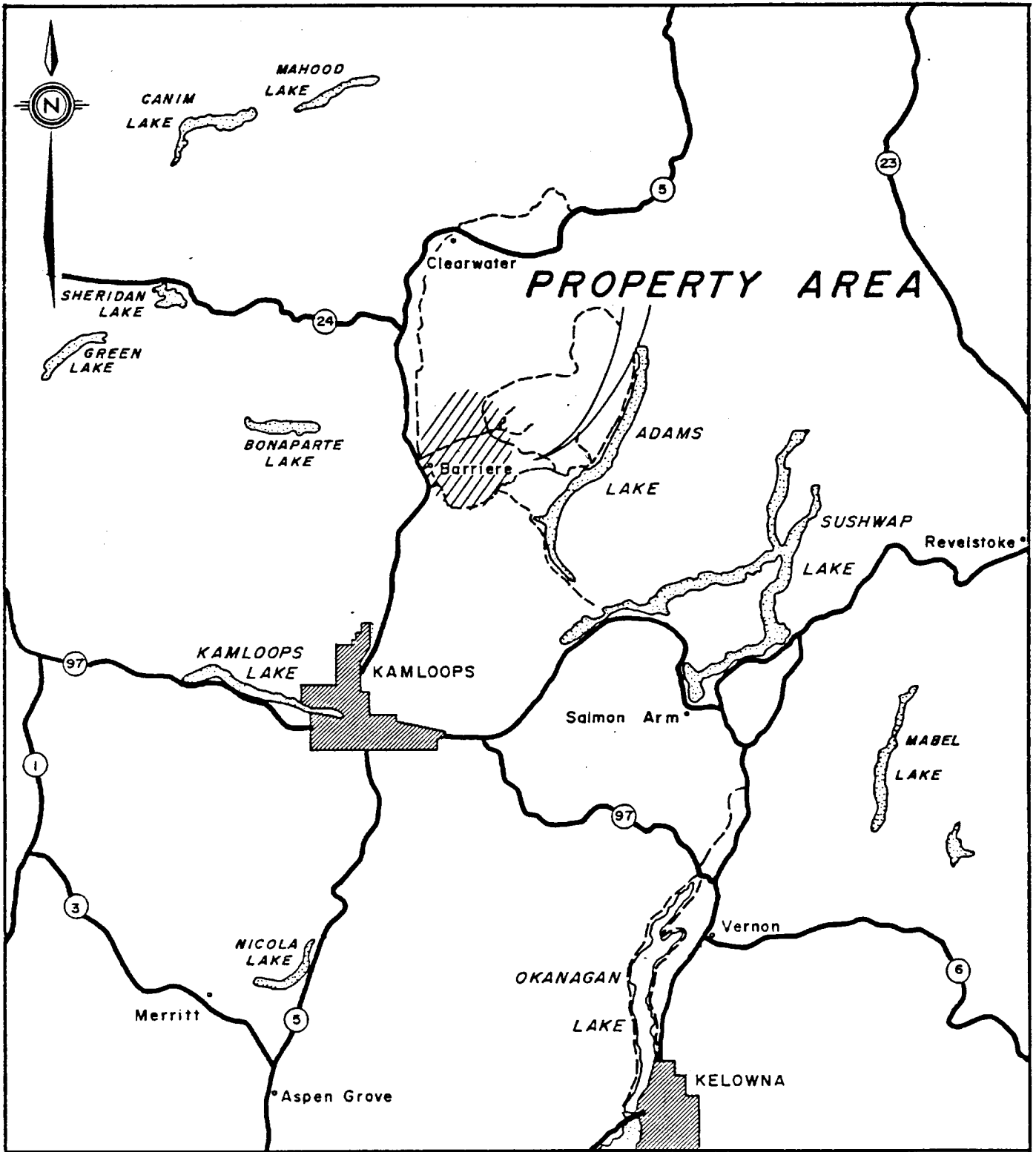
Access is readily available from Highway 5 in the Barriere area. Principal routes are via the Barriere Lakes Road and the Dixon Mountain Road.

### Physiography

The western edge of the Adams Plateau consists of high rolling plateau country incised by locally steep, drift drilled valleys. Elevations range from less than 500m. in the Sinmax Valley at the south end of the property to over 1900m. on the SC claims. However, the majority of the property lies between 1000m. and 1500m. elevation.

Fairly dense forest cover occurs across most of the area, although the Sinmax Valley is partially cultivated. Active logging operations are present on the property.

The climate is moderate with temperatures ranging from  $-25^{\circ}C$  in the winter to  $30^{\circ}C+$  in the summer. Precipitation is extremely variable ranging from semi-arid in the south to moderately wet in the north. The snow free period runs from May to November in the south, but lasts only from July to October in the north.



BAR PROJECT

LOCATION MAP

FIGURE 1

### Property and Ownership

Figure 2 shows the configuration of the Bar, Alex, SC and Anna claims with Bar 'C' Group highlighted. Table 1 summarizes the pertinent claim data. All are 100% owned and operated by CFC.

Table 1

<u>Name</u>	<u>Record No.</u>	<u>Units</u>	<u>Month</u>
Bar 6*	4975	20	November
Bar 7*	4976	20	November
Bar 8*	4977	20	November
Bar 9*	4978	20	November
Bar 10	4979	20	November

\* Claims upon which work was actually done.

### History

The Bar claims were staked following discovery of the Rea Gold massive sulphide showings in late 1983. These are located 10km to the southeast and are believed to be hosted by stratigraphy which passes through the Bar Property. No previous exploration is recorded in the area considered in this report.

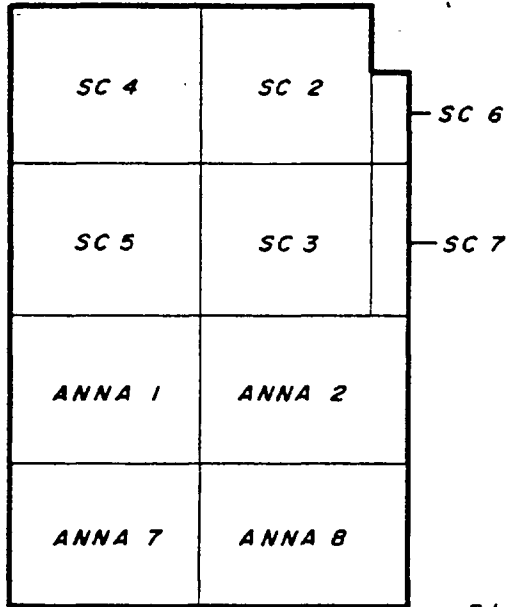
### Summary of Work Done

Geology	16 man-days mapping	1:10,000 scale pace and compass mapping tied to road locations obtained from existing forestry and topographic maps.
Geochemistry	16 man-days sampling 81 rock samples	located as above. Analyzed for Cu, Zn, SiO <sub>2</sub> , TiO <sub>2</sub> , CaO, MgO, Na <sub>2</sub> O, and Ba.



SC 1

# BAR PROJECT CLAIM CONFIGURATION



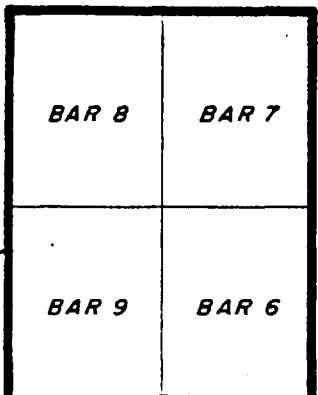
EAST  
BARRIERE  
LAKE

RIVER

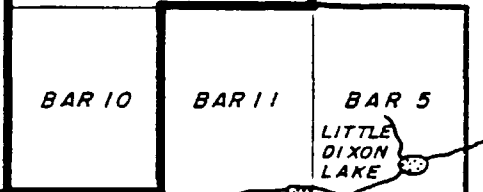
BARRIERE

BAR 'C' GROUP

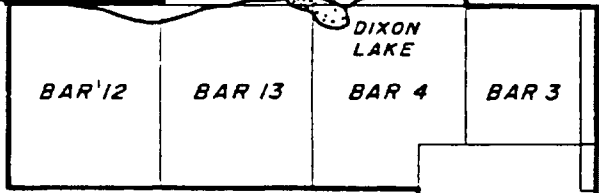
← TO BARRIERE



Dixon  
Creek

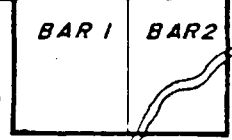
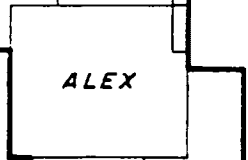


LITTLE  
DIXON  
LAKE



BAR 16-20

CORPORATION FALCONBRIDGE COPPER  
REA GOLD CORPORATION  
JOINT VENTURE



TO SKOOP BOJ

FIGURE 2

## RESULTS

### Geology (Map 1)

Although sufficient outcrop was found in the south part of the map area to get a reasonable idea of the geology, exposure is generally not the best, especially in the valley of the Barriere River. Glacial overburden has been deposited on north facing slopes and includes boulders of house size.

The area is underlain by a NW trending, easterly dipping sequence of volcanics and sediments, part of the Paleozoic Eagle Bay formation. Local folding is apparent, especially within the sediments, but units appear quite continuous and are believed to young eastwards.

The oldest exposed rocks on the property are greywackes. They are locally bedded, quite heterogeneous and generally devoid of mineralization.

Immediately overlying the sediments is a predominantly basaltic unit. It consists of vesicular flows and pillowed flows with interbedded chloritic tuff and mudstone. Minor bleaching (silicification) is noted at one location and pyrite, although not extensive, is locally present.

Overlying the basalts is a mixed sequence of sediments, volcanoclastics and intrusions. The sediments are generally coarser grained than those to the west although they seem to become more argillitic northwards. The volcanoclastics are relatively distal mafic lapilli tuffs and debris flows. Intrusions are dioritic and gabbroic. No significant mineralization was noted.

The eastern part of the package exposed on the property is predominantly felsic to intermediate in character. Mapping of this area was hampered by active logging operations and sparse exposure. It is dominated by a large oval, dacite plug, containing quartz and feldspar phenocrysts. Flanking this are andesitic to rhyolitic fragmental rocks. Fragment size, shape, heterogeneity and lack of sorting indicate these to be mainly debris flows. Argillite is occasionally found in the matrix. Pyrite is common and carbonate, chlorite and sericite alteration locally present. In part, the apparent thickness of this section is due to a shallowing of the easterly dips.

Just off of the eastern edge of the property sediments, including limestone, were noted interbedded with or infolded with the volcanoclastics.



### Litho geochemistry

A total of 81 representative samples were taken of the different lithologies in the mapped area. Samples were of fresh rock and weighed 1 1/2 - 2 lbs. These were analyzed for Cu, Zn, Ba, SiO<sub>2</sub>, TiO<sub>2</sub>, CaO, MgO and Na<sub>2</sub>O at Terramin Research Labs in Calgary. Cu and Zn were determined by aqua regia digestion with AA finish while the rest were determined by Lithium Borate fusion, dilute HCl leach and AA finish.

Volcanic rocks were sampled mainly since these show better geochemical homogeneity and thus geochemical anomalies are more readily apparent. The sample locations are plotted on Map 2 with the elemental data on Maps 3 and 4. Appendix I consists of a listing of the data.

In analyzing the data, samples are divided according to rock type and the statistics on each element looked at separately. Unlike soil geochemical data, the populations for elements in rocks are rarely normally or log normally distributed and therefore rigorous statistical definition of anomalous values is not possible. However, given sound geologic groundwork, abnormalities may be recognized.

Table 2 summarizes the data for the volcanic rocks. The mafic rocks are high TiO<sub>2</sub> basalts. They show a wide range of alkalis (Na<sub>2</sub>O, CaO) and MgO as well as Zn and Ba. This suggests that hydrothermal alteration of their primary mineralogy has occurred. No particular locus of this alteration is apparent from the current sample distribution.

The intermediate volcanics show a very wide range of SiO<sub>2</sub> and TiO<sub>2</sub>. As noted in the geology, these rocks are mainly debris flows and it is likely that they were derived from a bimodal (felsic-mafic) succession or two separate areas. The wide range of the other elements may also be a reflection of this.

The visually inferred rhyolites are rhyolitic from a chemical standpoint as well. The mean Na<sub>2</sub>O content of 1.5% is low and may indicate depletion during hydrothermal activity, but there are not enough samples to be sure. High Zn and Ba is also a positive indicator.

The QFP intrusion, despite its quartz and feldspar phenocrysts, is distinctly andesitic in composition. It shows little in the way of anomalous values but does show more heterogeneity than would normally be expected.

Table 2

Summary Statistics - Volcanic Rocks

Basalt (28)	Andesite (24)	Rhyolite (6)	QFP (8)
range 32.7-58.6 $\bar{x} = 42.6$ 96% < 49	range 42.3-71.7 $\bar{x} = 58.8$ ; fairly normal, single population	range 71.2-86.0 $\bar{x} = 75.4$	range 51.3-68.7 $\bar{x} = 62.8$
range 1.55-5.5 $\bar{x} = 3.28$ ; modes at 3.25 and 5.25 two populations	range 0.15-2.17 $\bar{x} = 0.74$ ; samples > 1.2 not part of main population	range 0.12-0.35 $\bar{x} = 0.21$	range 0.18-0.40 $\bar{x} = 0.31$
range 0.12-5.77 $\bar{x} = 2.18$ ; irregular distribution	range 1.18-7.32 $\bar{x} = 3.16$ > 4 is anomalous	range 0.07-3.14 $\bar{x} = 1.50$ 2 pop. > 2, < 1	range 1.24-4.99 $\bar{x} = 3.00$
range 0.56-19.6 $\bar{x} = 7.49$ ; extended population 'tail' 12%	range 0.64-8.48 $\bar{x} = 3.57$ ; 2nd population > 5.5	range 0.06-1.54 $\bar{x} = 0.47$ (1.54 is anomalous)	range 0.37-12.2 $\bar{x} = 2.36$ (12.2 is anomalous)
range 0.59-10.6 $\bar{x} = 5.41$ ; erratic population	range 0.73-7.59 $\bar{x} = 3.11$ single population	range 0.25-1.05 $\bar{x} = 0.56$	range 0.42-3.13 $\bar{x} = 1.64$
range 1-69 $\bar{x} = 34$ ; modes at 5, 55, no anomalous values	range 5-100 $\bar{x} = 27.5$ ; 2 pop. 0-40 and 40-70; > 70 anomalous	range 11-31 $\bar{x} = 19.5$	range 2-11 $\bar{x} = 7.2$
range 77-310 $\bar{x} = 120$ ; 96% < 190	range 17-101 $\bar{x} = 64.4$ no anomalous values	range 21-132 $\bar{x} = 35.8$ (132 is anomalous)	range 12-57 $\bar{x} = 32$
range 30-2010 $\bar{x} = 778$ ; 96% < 1550	range 150-5400 $\bar{x} = 1295$ ; > 3500 anomalous	range 290-2250 $\bar{x} = 1208$	range 930-2400 $\bar{x} = 1377$

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Table 3

Summary Statistics - Sediments

Ba (ppm)	range 160 - 1990 $\bar{x} = 603$ only 2 > 850
Cu (ppm)	range 1 - 69 $\bar{x} = 24.4$
Zn (ppm)	range 5 - 142 $\bar{x} = 57.2$ only 1 > 100

15 samples