CORPORATION FALCONBRIDGE COPPER

FILE

MEMORANDUM

DATE: September 23, 1985

A / TO: A. J. Davidson

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DE / FROM: D. V. Lefebure

827146

SUJET / SUBJECT: Proposed Diamond Drill Programme, Mt. Sicker Project

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Introduction

Eleven drill holes totalling 3,500m are proposed to test the best mineralized horizons in favourable Sicker Group volcanic rocks on the Mt. Sicker project. The target is a polymetallic massive sulphide deposit with high gold values. The proposed drill holes are divided as follows:

1) Northeast Copper Horizon - 3 holes, 700m;
2) Postuk-Fulton Horizon - 4 holes, 1,700m;
3) Mona Horizon - 2 holes, 500m; and
4) Gabriel Horizon - 2 holes, 500m.

Northeast Copper Horizon

The Northeast Copper Horizon (Figure 1) consists of numerous exposures of chert with associated pyrite and chalcopyrite, typically containing 0.4% Cu over widths of more than one metre. The footwall rocks are intensely chloritized (<0.2% Na_2O) with disseminated pyrite and anomalous Ba, Cu, Au and Zn values. The surface trace of the Northeast Copper Horizon is coincident with the strongest Dighem and Deepem anomalies on Mt. Sicker.

The Northeast Copper Horizon is virtually untested and is open in all directions. Three holes (P1, P2 and P3 totalling 800m) are proposed to test this Horizon 270 to 400m downdip of the surface exposures (Table 1, Figure 2).

Postuk-Fulton Horizon

Pyrite, chalcopyrite and sphalerite in chert occur along the Postuk-Fulton Horizon. Grab samples from this Horizon contain up to 6% Zn and 9% Ba. In 1984 CFC intersected 0.5m of semi-massive sulphide containing 2.2%

Cu, 0.05% Zn, 10.5 gm/T Ag and 0.25 gm/T Au within a 10m thick sequence of chert, chlorite and green mica tuff. In 1985 drill hole MTS 8 cut the Horizon again intersecting 15m of chert with associated pyrite and chalcopyrite. The best assays from MTS 8 are 0.52% Cu over 3.5m and 0.18% Zn over 2.3m. A broad, off-hole EM37 anomaly at the bottom of MTS 8 could be caused by a massive sulphide lens downdip of this hole. Aberford's has recently intersected massive sulphides (1.2% Cu, 9.2% Zn, 8.6 oz/T Ag, 0.21 oz/T Au over 12.1'), 10km to the west at the same stratigraphic position as the Postuk-Fulton Horizon.

This horizon is open to the east and downdip. Two holes (P4 and P5 totalling 700m) are proposed 500 and 1000m east of MTS 8 to test the eastern extension of this horizon and two holes (P6 and P7 totalling 1000m) are proposed to test the Postuk-Fulton Horizon downdip of the MTS 8 intersection.

Mona Horizon

The Mona Horizon is a pyritic cherty exhalite with chalcopyrite, pyrrhotite and magnetite. It contains up to 1.64% Cu and 1.35 gm/T Au and may be the eastern extension of the Lenora-Tyee Horizon which produced 305,000 tons of 3.31% Cu, 7.51% Zn, 2.75 oz/T Ag and 0.13 oz/T Au. The sericitic wallrock is depleted in Na_2O and enriched in Ba, Cu and Au. SEREM Vector PEM anomalies are coincident with the Mona Horizon.

The Horizon is open in all directions because only one hole cuts it less than 25m below the surface. Two holes (P8 and P9 totalling 500m) are proposed to test the Mona Horizon downdip of the surface showings.

Gabriel Horizon

Discovered by CFC in 1984, the Gabriel Horizon consists of disseminated pyrite in argillite and chert. Argillite is relatively rare in the Myra Formation and is associated with massive sulphides at both the Lenora-Tyee deposit and the Coronation Zone of Aberford. The Gabriel Horizon has a polymetallic lithogeochemical signature with anomalous Zn and Au values and the Horizon is enveloped by a Na_2O depletion zone (<1% Na_2O).

This horizon is untested over a strike length of more than 2km. Two drill holes (P10 and P11 totalling 500m) are proposed to test the horizon in an area of coincident geochemical and Dighem anomalies.

Conclusions

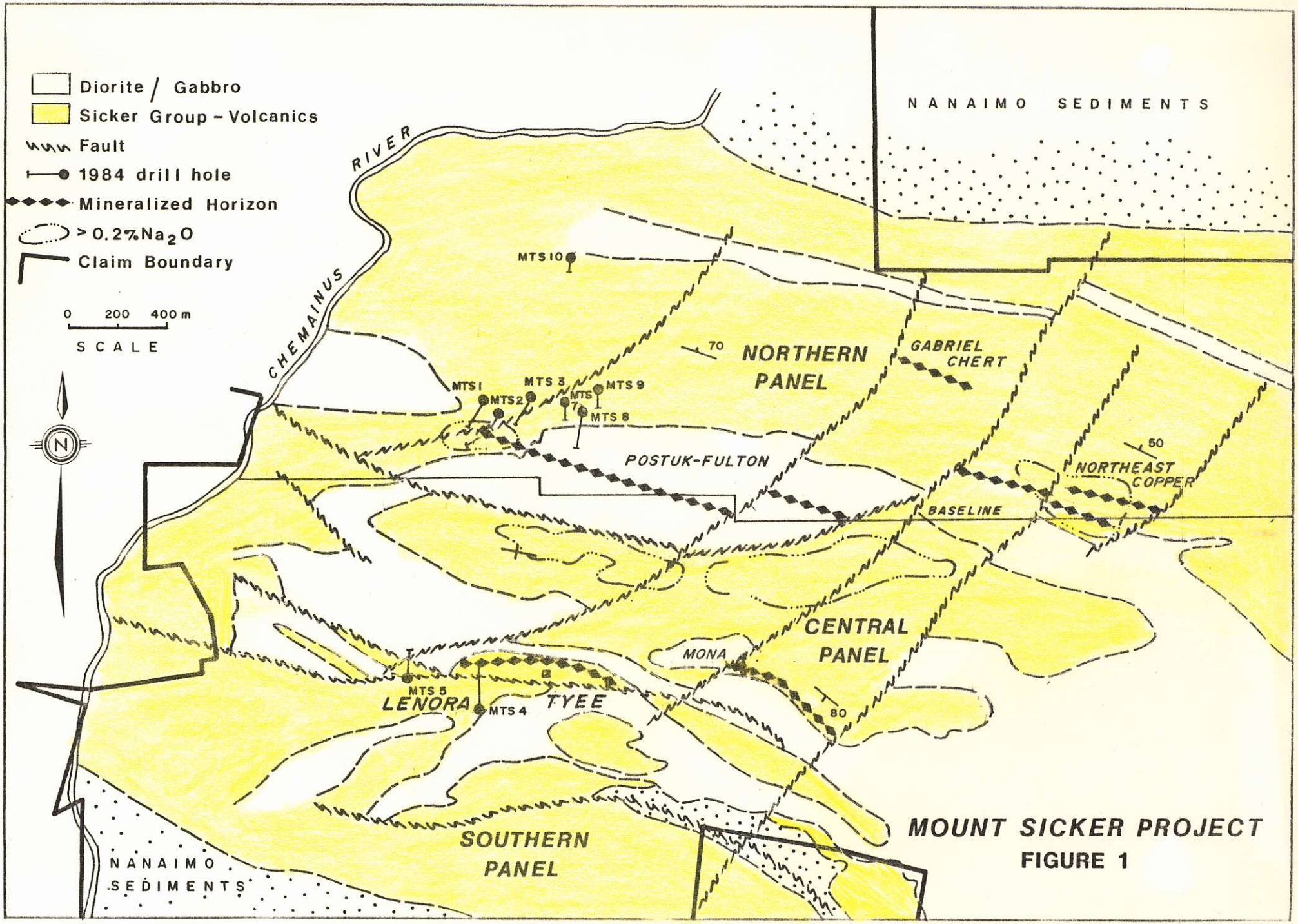
The Mt. Sicker volcanic rocks have proven potential for hosting polymetallic massive sulphide deposits. There are four mineralized horizons (Northeast Copper, Postuk-Fulton, Mona, Gabriel) on the Mt. Sicker Property with associated geochemical and geophysical anomalies. Initial drilling on the Postuk-Fulton Horizon has produced encouraging results. The Northeast Copper, Mona and Gabriel Horizons are virtually untested despite the presence of coincident geochemical and geophysical anomalies. A drill programme of eleven holes totalling 3,500m is therein proposed to test these Horizons.

D. V. Lefebure

DVL/ik

Table 1 Proposed Diamond Drill Holes for Mt. Sicker Project

Hole No.	Depth(m)	Dip	Azimuth	Grid Coordinates		Direct Drilling Costs	Comments
P1	250	-70	180	21+00E	1+88N	16,080	Three holes are proposed to test the Northeast Copper Horizon downdip of surface showings of chert with pyrite and chalcopyrite stringers. Massive sulphide boulders from Tom's Shaft on this horizon contain up to 0.43% Cu and 1.0 g/T Au. The host lithologies are intensely altered to chlorite with strong sodium depletion (<0.2%). The strongest Dighem and Deepem anomalies on Mt. Sicker correpond with the Northeast Copper Horizon.
P2	300	-60	180	19+80E	3+42N	19,200	
P3	250	-90		23+00E	1+60N	16,000	
P4	400	-60	180	13+00E	1+00N	19,200	Two holes are proposed to test the eastern extension of the Postuk-Fulton Horizon between the two showings beneath the diorite. These holes will be 500m from the nearest hole. Both holes will intersect the horizon downdip of footwall sodium depletion and weak geophysical anomalies.
P5	300	-60	180	8+00E	2+00N	25,600	
P6	500	-80	180	1+50E	4+15N	32,000	Two holes are proposed to test the Postuk-Fulton Horizon downdip of chert and semi-massive sulphide intersections in MTS 3 and MTS 8. The best assay from MTS 3 is 2.15% Cu, 0.05% Zn, 10.5 g/T Ag and 0.25 g/T Au over 0.5m. In MTS 8 anomalous Cu (up to 0.52% Cu over 3.5m) and Zn (up to 0.18% Zn over 2.3m) is associated with 15m of chert. These holes will also be testing a broad off-hole EM 37 anomaly found in MTS 8.
P7	500	-80	180	3+25E	4+15N	32,000	
P8	250	-60	0	8+00E	9+25S	16,000	Two holes are proposed to test the Mona Horizon. Pyrite, pyrrhotite and chalcopyrite boulders on the Mona dump come from the Mona Horizon. A surface exposure of the chert exhalative horizon with pyrite and chalcopyrite contains up to 1.64% Cu, 0.02% Zn, 19.5 g/T Ag and 1.35 g/T Au. The footwall felsic rocks are altered to sericite with associated sodium depletion.
P9	250	-60	0	10+50E	10+25S	16,000	
P10	250	-60	0	13+60E	6+00N	16,000	Two holes are proposed to test the Gabriel Horizon in an area with anomalous lithogeochemical values (Zn, Ba, Au, Na_2O) and associated Dighem anomalies.
P11	250	-60	0	8+70E	6+50N	16,000	
Totals	3,500					$224,000	


Diorite / Gabbro
Sicker Group – Volcanics
Fault
1984 drill hole
Mineralized Horizon
> 0.2% Na_2O
Claim Boundary
0 200 400 m
SCALE
N
CHEMAINUS RIVER
NANAIMO SEDIMENTS
MTS 10
70
NORTHERN PANEL
GABRIEL CHERT
MTS 1
MTS 2
MTS 3
MTS 7
MTS 9
MTS 8
POSTUK-FULTON
50
NORTHEAST COPPER
BASELINE
CENTRAL PANEL
MONA
MTS 5
LENORA
MTS 4
TYEE
80
SOUTHERN PANEL
NANAIMO SEDIMENTS
MOUNT SICKER PROJECT
FIGURE 1

— LEGEND —

- 1 MAFIC VOLCANICS
- 2 INTERMEDIATE VOLCANICS
  - 2.2 Feldspar Phyric
- 3 FELSIC VOLCANICS
  - 3.1 Quartz Phyric
  - 3.2 Feldspar Phyric
  - 3.3 Quartz Feldspar Phyric
- 4 MAFIC INTRUSIONS
  - 4.1 Diorite
  - 4.2 Gabbro
  - 4.4 Quartz-Bearing Diorite
- 5 FELSIC INTRUSIONS
  - 5.3 Andesite
- 6 SEDIMENTS
  - 6.1 Cherty Sediment
  - 6.3 Argillite/Shale
- 7 MINERALIZATION *********
  - 7.2.6 Chert with Chalcopyrite
  - 7.7.6 Massive Chert

- Porphyritic (>5% phenocrysts)
- f Flow
- Lapillistone
- ( ) Partially (ie 3(1) – some qtz phyric o/c)
- Intrusive Contact
- Conformable Contact
- Gradational Contact
- Foliation
- Second Foliation (inclined, vertical)
- Lineation
- Fault
- Alteration Zone
- Outcrop
- Float
- Drill Hole
- Survey Point
- Shaft
- Adit
- Trench
- Claim Post
- Road (maintained, abandoned)
- Creek

– ABBREVIATIONS –

ba Barite; cp Chalcopyrite; ga Galena; mag Magnetite; py Pyrite; po Pyrrhotite; carb Carbonate; chl Chlorite; epid Epidote; ser Sericite; si Silicified

- <1.0% / <0.2% Na_2O Depletion Anomalies
- EM Anomaly
- P5 Proposed Drill Holes

COMINCO

POSTUK-FULTON / PEPPA RESOURCES

NANAIMO – SEDIMENTS

RIVER FAULT

NUGGET CREEK FAULT

POSTUK-FULTON HORIZON

LEONA DIORITE

DEEPEM ANOMALY

DIGHEM-DEEPEM ANOMALY

DIGHEM-DEEPEM ANOMALY

LENORA FAULT

KEY CITY

LENORA

MINE

RICHARD III

FAULT

MONA

py-po-cp

WESTHOLME

NORTHEAST COPPER

COPPER FAULT

FORTUNA FAULT

BLUEBELL

FORTUNA ADIT

Zinc pit

Gabriel Chert

TOM

YANKEE FAULT

NANAIMO SEDIMENTS

COPPER CANYON

VIVA VENTURES

strongly banded py

massive chlorite

qtz-py

chert breccia

P1 P2 P3 P4 P5 P6 P7 P8 P9 P10 P11

LOCATION MAP

SCALE 1:250,000

MT. SICKER PROPERTY

PROPOSED DRILL PROGRAMME
FALL-1985

0 50 100 200 300 400 500 m
1:5000

DWL./DG 24/9/85

DATE: SEPT. 1985 92B/13

FIGURE 2