

Diamond Drilling Report

Mt. Sicker Property

Victoria Mining Division

NTS 92B/13W

<sup>52.3'</sup> 48°~~58'~~ Latitude      <sup>45.2'</sup> 123°~~50'~~ Longitude

Owner: Corporation Falconbridge Copper  
Operator: Corporation Falconbridge Copper

**FILMED**

by: A. G. ~~Partridge~~ **GEOLOGICAL BRANCH**  
**ASSESSMENT REPORT**  
May, 1986

Claims  
Rocky Group  
**14,929**

- |               |               |              |
|---------------|---------------|--------------|
| Sicker 1      | CF Group #14  | Rocky 2      |
| Sicker 2      | CF Group #15  | Rocky 5      |
| Acme Fraction | CF Group #16  | Rocky 6 Fr.  |
| CF Group #1   | CF Group #17  | Lawarance    |
| CF Group #2   | CF Group #18  | Pear         |
| CF Group #3   | Nellena MC    | Peach        |
| CF Group #4   | Moline Fr. MC | Apple        |
| CF Group #5   | Blue Belle MC | Acme MC      |
| CF Group #6   | Estelle MC    | Tony         |
| CF Group #7   | Westholme MC  | Donagan MC   |
| CF Group #8   | Golden Rod MC | Dixie Fr. MC |
| CF Group #13  |               |              |

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## 1. Introduction

Corporation Falconbridge Copper has acquired the mineral rights to a group of claims covering much of Mt. Sicker. An exploration programme for polymetallic massive sulphides is currently in progress on these claims. This report summarizes the diamond drilling results from selected drill holes completed in 1985.

### 1.1 Location and Access

The Mt. Sicker Property is located approximately 13km north of Duncan, British Columbia (Figure 1). A network of dirt and gravel roads provide access for 2-wheel drive vehicles to the claims from the Trans Canada Highway.

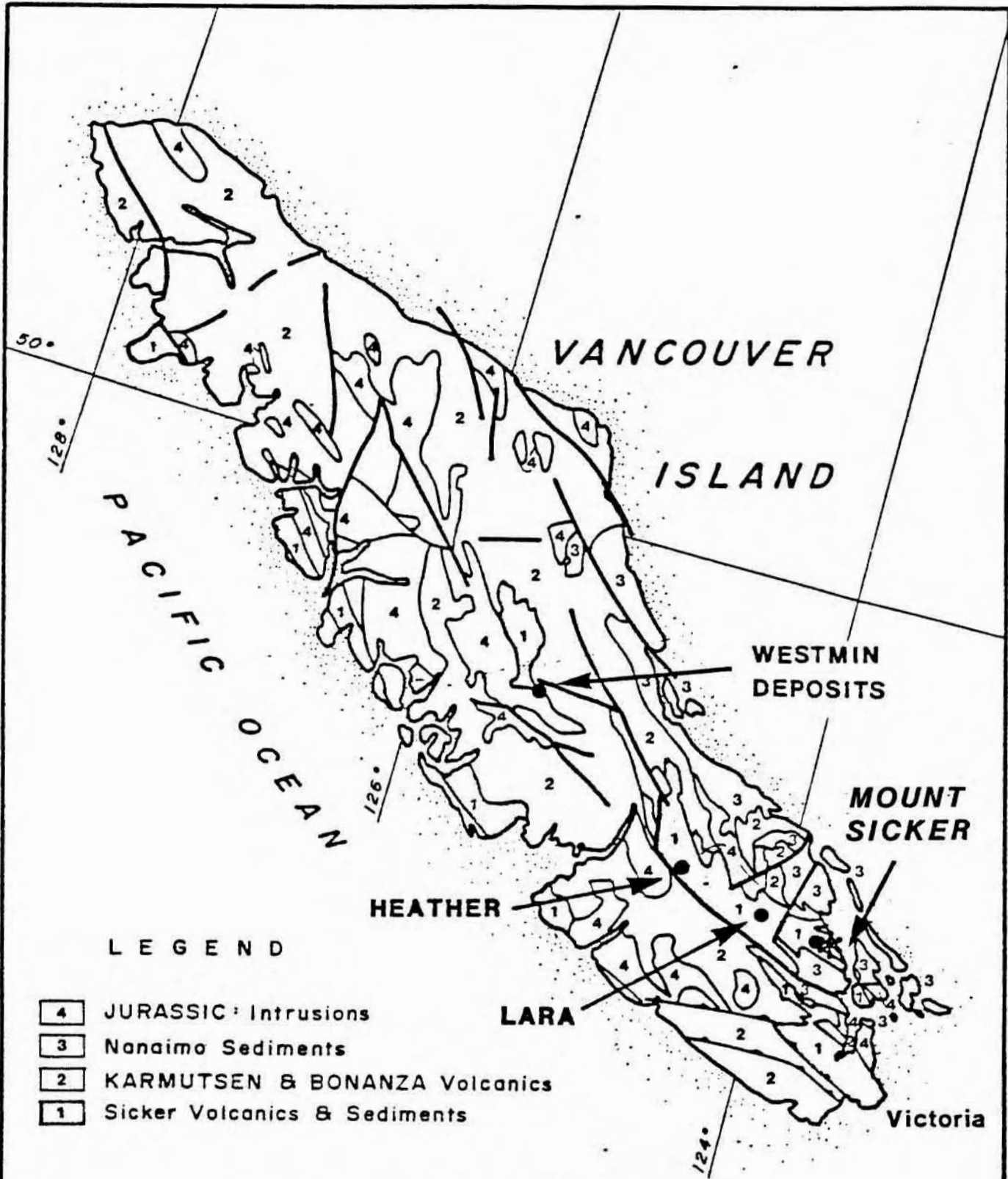
### 1.2 Mineral Rights

Work completed by Corporation Falconbridge Copper on the Rocky Group of claims is described in this report.

The claim status on the Mt. Sicker Property is as follows:

#### Rocky Group

<u>Name</u>	<u>Record No.</u>		<u>Month</u>
Rocky 2	8	156	April
Rocky 5	6	247	July
Rocky 6 Fr.	1	248	July
Acme Fraction	1	254	August
CF Group #1	1	14150	October
CF Group #2	1	14151	October
CF Group #3	1	14152	October
CF Group #4	1	14153	October
CF Group #5	1	14154	October
CF Group #6	1	14155	October
CF Group #7	1	14156	October
CF Group #8	1	14157	October



LEGEND

- 4 JURASSIC Intrusions
- 3 Nanaimo Sediments
- 2 KARMUTSEN & BONANZA Volcanics
- 1 Sicker Volcanics & Sediments

**VANCOUVER ISLAND**  
**MOUNT SICKER PROPERTY**  
**- LOCATION MAP -**

SCALE: 1:2,000,000

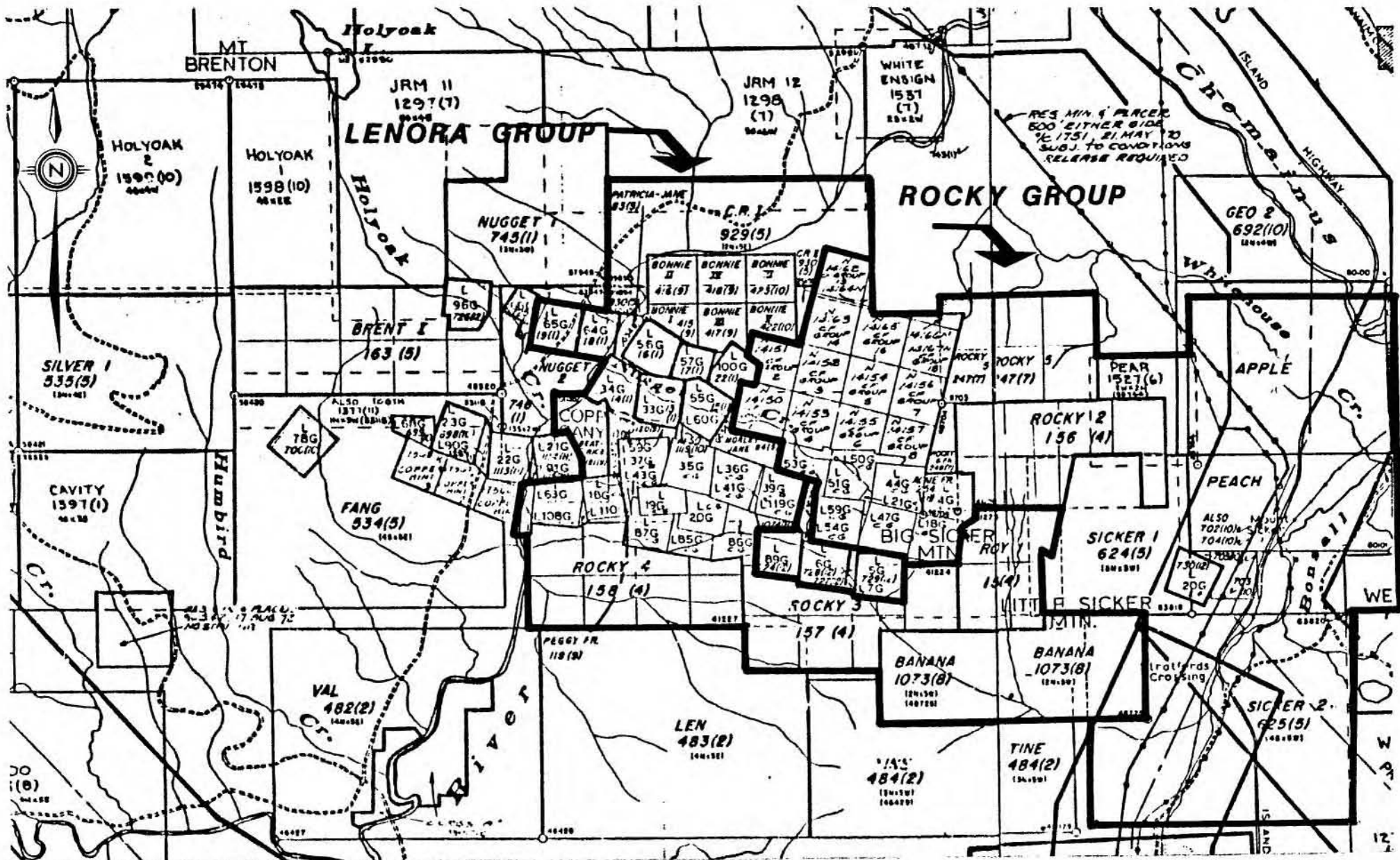


FIGURE 2

LOCATION OF MINERAL CLAIMS BELONGING TO THE ROCKY AND LENORA GROUPS

~ 1:50,000  
92B/13

CF Group #13	1	14162	October
CF Group #14	1	14163	October
CF Group #15	1	14164	October
CF Group #16	1	14165	October
CF Group #17	1	14166	October
CF Group #18	1	14167	October
Acme M.C.	1	4G	Crown G. M. C.
Tony	1	18G	Crown G. M. C.
Donagan M.C.	1	18G	Crown G. M. C.
Dixie Fraction M.C.	1	21G	Crown G. M. C.
Golden Rod M.C.	1	44G	Crown G. M. C.
Nellena M.C.	1	47G	Crown G. M. C.
Moline Fraction M.C.	1	50G	Crown G. M. C.
Blue Bell M.C.	1	51G	Crown G. M. C.
Estelle M.C.	1	53G	Crown G. M. C.
Westholme M.C.	1	54G	Crown G. M. C.
Lawarance	1	730	December

### 1.3 History

The Mt. Sicker Property encompasses an old underground mine which has been worked sporadically by various companies since the turn of the century. The initial discovery was made in 1897 on the Tye claim. Between 1899 and 1907 the Lenora and Tye Mines produced ore from different parts of the same orebody. Further exploration and development work was completed by Landysmith-Tidewater Smelters Limited in 1926 - 1929 and by Sheep Creek Mines limited in 1939 - 1940. Both "Twin J" Mines Limited (1943 - 1944; 1947) and Vancouver Island Base Metals Limited (1951 - 1952) produced modest amounts of ore from the same ore body. Total production is 305,787 tons at a grade of 3.31% Cu, 7.51% Zn (estimated), 0.13 oz/ton Au and 2.75 oz/ton Ag.

Prospecting and trenching was the principal exploration method on Mt. Sicker away from the mines from 1897 until 1964. Since then a number of exploration companies, including Mount Sicker Mines, Ducanex and S.E.R.E.M., carried out integrated exploration programmes utilizing geological mapping,

soil sampling, geophysics and diamond drilling. S.E.R.E.M. was the most active and drilled 21 holes between 1978 and 1982.

Corporation Falconbridge Copper optioned the Rocky Group and Lenora Group claims in 1983. Since that time, CFC has completed geological mapping and lithogeochemical sampling; carried out DEEPEM, PEM, magnetometer and L.P. Surveys; and drilled 16 diamond drill holes.

#### 1.4 Work Done

Two NQ diamond drilling holes were drilled on the Mt. Sicker Property totalling 649 metres (see Map 1). These holes are:

<u>Rocky Group</u>	
MTS 12	169.2m
MTS 13	479.8m

## 2. Mt. Sicker Area Geology

The Mount Sicker area is underlain by the Paleozoic Sicker Group volcanic rocks and Cretaceous Nanaimo Group and Quaternary sediments. These rocks are cut by the Paleozoic Saltspring intrusion, Jurassic Island intrusions and diorite/gabbro bodies. Muller (1980) has subdivided the Sicker Group as follows:

- i) Buttle Lake Formation,
- ii) Sediment - Sill Unit,
- iii) Myra Formation and
- iv) Nitinat Formation

The Buttle Lake Formation consists of commonly crinoidal recrystallized limestone, interbedded with calcareous siltstone and chert. Thinly bedded to massive argillite, siltstone and chert with interlayered sills of diabase form the Sediment - Sill unit. Underlying this unit is the Myra Formation basic to rhyodacitic banded tuff, breccia and lava with interbedded argillite, siltstone and chert. The Lenora-Tyee volcanogenic massive sulphide deposits occur in Myra Formation felsic volcanic rocks. The Nitinat Formation basaltic

lavas and agglomerates with minor massive to banded tuff layers forms the base of the Sicker Group.

Nanaimo Group conglomerate, sandstone and shale beds unconformably overly the Sicker Group rocks. The unconformity is commonly marked by a conglomerate containing fragments of Sicker Group volcanic rocks and quartz. Quaternary sediments and glacial drift cover much of the area.

West- to northwest- and northeast-striking faults divide the Mount Sicker area volcanic rocks into fault blocks. The majority of fault movement occurred in Tertiary time. Within the fault blocks the conformable units are folded and exhibit a penetrative deformation. These folds, possibly of Jurassic age, are asymmetrical with northwest-trending axes.

#### Diamond Drilling Results

Holes MTS 12 and MTS 13 were designed to test for massive sulphides along strike or downdip of mineralized chert exhalites at Postuk-Fulton and Northeast Copper. Neither of the holes intersected massive sulphides.

Hole MTS 12 was drilled to test the eastern extension of the Postuk-Fulton Horizon. The hole intersected felsic to intermediate tuffs with trace - 1% pyrite before intersecting an intrusive diorite body.

Hole MTS 13 was drilled to test the Postuk-Fulton Horizon downdip and on the north side of an intrusive diorite at a depth of 450m. Due to a steepening in the dip of the Horizon the hole was unable to reach the Horizon before being cut off by the intrusive diorite.

#### 4. Conclusions

These drill holes help to define the extent of a diorite intrusion which dykes out the Postuk-Fulton Horizon and show the significance of folding on the position of both the Postuk-Fulton and Northeast Copper Horizons down dip. The absence of massive sulphides in these holes reflects the failure in holes MTS 12 and MTS 13 to reach the mineralized horizon. Further drilling is warranted on the Mt. Sicker Property in these, as well as, other areas.



5. Cost Statement

Hole MTS 12

Drilling	\$9,018.36
Moving	923.00
Others	280.00
Materials	1,407.48
A.J.Davidson 1 day @ \$400	<u>400.00</u>
	\$12,028.84

Hole MTS 13

Drilling	\$26,470.75
Demobilization	625.00
Moving	881.00
Others	1,260.00
Materials	994.42
A.J.Davidson 1 day @ \$400	<u>400.00</u>
	\$30,631.17

TOTAL

\$42,660.01

## 6. References

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- Ronning, P.A. 1980. Mount Sicker Project, 1979 Summary Report. Serem report, 45 p.
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- Simpson, J. W. 1973. Report on geology and Drilling at the Mount Sicker Property, 1972. Ducanex Report, 17 p.  
- logs S721 to S725
- Stevenson, J. S. 1945. Geology of the Twin J. Mine. Western Miner, March, 1945, p. 38
- Stevenson, J. S. 1945. Geology of the Twin "J" Mine. CIM Transactions, volume XLVIII, pp. 294-308.
- Stevenson, J. S. 1948. Twin "J" Mine in Structure and Canadian

Diamond Drilling Invoices

F. BOISVENU DIAMOND DRILLING LTD.  
C/O 200 2695 GRANVILLE STREET  
VANCOUVER, B.C. V6H 3H4

INVOICE  
#1103

DATE: December 9, 1985

TO: Corporation Falconbridge Copper  
6415 64th Street  
Delta, B.C.  
V4K 4E2

FOR: Mount Sicker Property, Duncan, B.C.  
Surface drilling  
November 26-30, 1985  
BBS 15 Drill

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Drilling	\$ 9,018.36
Moving	923.00
Others	280.00
Materials	<u>1,407.48</u>
	<u>\$11,628.84</u>

Moving:

<u>Date</u>	<u>Memo</u>	<u>Man hrs</u>	<u>Tractor hrs</u>
Nov. 27	Move in set up, plow road	13	5
28	Set up drill	14	-
		<u>27</u>	<u>5</u>
27 man hours @ \$24.00 per hour			\$ 648.00
5 tractor hours @ \$55.00 per hour			275.00
			<u>\$ 923.00</u>

Others:

<u>Date</u>	<u>Memo</u>	<u>Man hrs</u>	<u>Drill hrs</u>
Nov. 29	Drill through cave-in	4	2
29	Drill through cave-in	2	1
30	Tropari test	2	1
		<u>8</u>	<u>4</u>
8 man hours @ \$24.00 per hour			\$ 192.00
4 drill hours @ \$22.00 per hour			88.00
			<u>\$ 280.00</u>

Materials:

1 - NQ bit @ \$550	\$ 550.00
1 - NQ bit @ 75% of \$550.00	412.50
	<u>962.50</u>
Add: 7% PST	67.38
	<u>1,029.88</u>
2 Barrels of fuel for coil stove @ \$113.40	226.80
	<u>1,256.68</u>
Add: 12% overhead charge	150.80
	<u>\$1,407.48</u>

F. BOISVENU DIAMOND DRILLING LTD.  
C/O 200 2695 GRANVILLE STREET  
VANCOUVER, B.C. V6H 3H4

INVOICE  
#1202

DATE: December 31, 1985

TO: Corporation Falconbridge Copper  
6415 64th Street  
Delta, B.C.  
V4K 4E2

FOR: Mount Sicker Property, Duncan, B.C.  
Surface drilling  
December 1-22, 1985  
BBS 56 Drill

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Drilling	\$61,387.74 ✓
Demobilization	1,250.00 ✓
Moving	<del>1,806.00</del> 281.0
Others	1,610.00 ✓
Materials	1,598.58 ✓
Repairs	75.00 ✓
	<u>66,802.32</u>
	<del>\$67,727.32</del>

2/3 → 304  
1/3 - 305

OK  
ML

<u>Hole#</u>	<u>Size</u>	<u>Angle</u>	<u>From</u>	<u>To</u>	<u>Meters</u>	<u>Rate</u>	<u>Amount</u>
2	NQ	-90 deg.	0	229	229.0	\$53.30	\$12,205.70
2	NQ	-90 deg.	229	457	228.0	56.58	12,900.24
2	NQ	-90 deg.	457	479.8	22.8	59.86	1,364.81
3	NQ	-80 deg.	0	229	229.0	53.30	12,205.70
3	NQ	-80 deg.	229	457	228.0	56.58	12,900.24
3	NQ	-80 deg.	457	620.9	163.9	59.86	9,811.05
						<u>1,100.7</u>	<u>\$61,387.74</u> ✓

\$ 26,470.75

Moving:

<u>Date</u>	<u>Memo</u>	<u>Man hrs</u>	<u>Tractor hrs</u>
Dec. 1	Move to next drill site	28	-
3	Haul fuel and core boxes	-	<del>3</del>
4	Clear road	-	6
6	Haul fuel and core boxes	4	<del>2</del>
8	Retrieve skidoo	-	3
11	Move	2	4
		<u>34</u>	<u>18</u>

34 man hours @ \$24.00 per hour

18 tractor hours @ \$55.00 per hour

13

\$ 816.00 ✓

~~990.00~~ 715

\$1,806.00 1531.00

650.00 650.00

881.00

3650 less from WESTHOME Logging Bill



Others:

<u>Date</u>	<u>Memo</u>	<u>Man hrs</u>	<u>Drill hrs</u>
Dec. 3	Tropari test	2	1
5	Tropari test	2	1
9	Tropari test	2	1
10	Pull rods put down casing shoe	10	5
10	Pull down plastic pipe	20	10
12	Tropari test	2	1
13	Tropari test	2	1
16	Reaming to bottom of hole	4	2
19	Tropari test	2	1
		<u>46</u>	<u>23</u>

46 man hours @ \$24.00 per hour \$1,104.00  
23 drill hours @ \$22.00 per hour 506.00  
\$1,610.00

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Materials:

4 - NW casing caps @ \$46 each	\$ 184.00
1 - BW adapter @ \$55	55.00
1 - BW casing shoe @ \$210	210.00
1 - 10 foot length of NW casing @ \$133	133.00
1 - NW casing shoe @ \$328.00	328.00
	<u>910.00</u>
Add: 7% PST	63.70
	<u>973.70</u>
4 Barrels of fuel for coil stove @ \$113.40/barrel	453.60
	<u>1,427.30</u>
Add: 12% overhead charge	171.28
	<u>\$1,598.58</u>

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Repairs

Repair damage to skidoo \$ 75.00

APPENDIX I  
Diamond Drill Logs

MTS 12

MTS 13

### CORPORATION FALCONBRIDGE COPPER

#### DRILL HOLE RECORD

X METRIC UNITS  
IMPERIAL UNITS

HOLE NUMBER <b>MTS 12</b>	GRID <b>CFC</b>	FIELD COORDS	LAT <b>0+72N</b>	DEP <b>13+00E</b>	ELEV <b>580m</b>	COLLAR BRNG. <b>180°</b>	COLLAR DIP <b>-70°</b>	HOLE SIZE <b>NQ</b>	FINAL DEPTH <b>206.1</b>
PROJECT <b>Peppa 305</b>	CLAIM# <b>CF Group #5</b>	SURVEY COORDS				DATE STARTED <b>Nov 28, 1985</b>	CONTRACTOR <b>F. Boisvenu</b>		
						DATE COMPLETED <b>Dec 2, 1985</b>	CORE STORAGE <b>Fulton Farm</b>		CASING <b>Yes</b>
PURPOSE <b>To test Northeast Copper Horizon west of Fortuna fault.</b>								ROD LOG COLLAR SURVEY	PULSE EM SURVEY MULTISHOT SURVEY
ACID TESTS				TROPARI TESTS			MULTISHOT DATA		
DEPTH (m)	CORRECTED ANGLE	DEPTH (m)	CORRECTED ANGLE	DEPTH (m)	AZIMUTH	DIP	DEPTH (m)	AZIMUTH	DIP
31.7	71°			124.1	188.5°	67°			
62.2	71°								
154.5	70°								
182.0	68°								
206.1	no etch								

HOLE NO MTS 12  
ZIPPY PRINT -- BRIDGEPORT MICHIGAN

LOGGED BY D. Lefebure

<u>From</u> <u>To</u>	<u>Rock Type</u>	<u>Texture and Structure</u>	<u>Angle to</u> <u>Core Axis</u>	<u>Alteration</u>	<u>Sulphides</u>
0 to 3.1	Casing				
3.1 to 13.5	Quartz Feldspar Rhyolite Flow	Colour - grey Grain Size - aphanitic Homogeneous rhyolite with phenocrysts of plagioclase (<3mm, 5%) and quartz (<2mm, 10%). Quartz eyes are oval. Wispy fine fracture lines in aphanitic matrix. No foliation Lower contact difficult to pick as phenocrysts become less prominent.		Qtz and chlorite veins	Barren
13.5 to 14.7	Felsic Tuff	Grain Size - f.g. Variation in grain size, no banding, feldspar prominent in lower section.			Barren
14.7 to 45.4	Spherulitic Andesite	Colour - greyish-purple Grain Size - aphanitic White patches up to 3cm are prominent and form 5 to 10% of unit. In some patches small euhedral phenocrysts can be seen. Weak to moderate flow-banding developed in core. Core breaks parallel to this direction. Spherulites disappear and core is more altered towards lower contact.	25°	Iron-carbonate and hematite staining of spherulites from 17.2 to 19.9m Calcite veinlets become more abundant deeper in the hole in this unit. Matrix becomes softer and more dark green in colour due to development of chlorite and sericite.	Trace Pyrite  Barren

<u>From</u> <u>To</u>	<u>Rock Type</u>	<u>Texture and Structure</u>	<u>Angle to</u> <u>Core Axis</u>	<u>Alteration</u>	<u>Sulphides</u>
45.4 to 80.2	Quartz Feldspar Rhyolite Porphyry Flow	Colour - grey Grain Size - aphanitic Strongly porphyritic with 20-25% plagioclase phenocrysts (<3mm, subhedral) and 5-10% qtz eyes (<4mm, oval, grey). Weak foliation defined in carbonated QFP Sharp basal contact	20° 25°	Iron-carbonate alteration in zones of pervasive orange-brown. White quartz veins occur in sections of unit with no iron-carbonate alteration. Iron-carbonate alteration from 45.4 to 60.0m and 65.9 to 72.8m	Nil to 1% pyrite on fractures
80.2 to 82.7	Banded Intermediate To Felsic Tuff	Colour - green and white Grain Size - f.g. to aphanitic Pronounced colour banding, sometimes contorted. One 10cm of qtz porphyry felsic tuff.	25-30°	Sericite developed in some bands.	1-5% disseminated pyrite, generally associated with qtz veinlets. Trace chalcopyrite.
82.7 to 91.1	Quartz Porphyry Tuff and Lapilli-Tuff	Colour - greenish-grey Quartz eyes (20%) up to 4mm in most beds. Light green elongate aphanitic mafic fragments (<4cm) throughout, cherty white fragments (oval) near top contact. Top contact gradational. Fragments form foliation. Basal contact sharp and irregular. Minor tuff bed from 83.5 to 84.0m	30° 60°	Iron-carbonate alteration developed in part of unit.	5% disseminated pyrite in qtz vein at 83.3m. Otherwise the unit is barren.

<u>From To</u>	<u>Rock Type</u>	<u>Texture and Structure</u>	<u>Angle to Core Axis</u>	<u>Alteration</u>	<u>Sulphides</u>
91.1 to 93.8	Pyritic Argillite	Colour - black to grey Grain Size - aphanitic Grey beds are tuff and black beds are argillite.	25°	Cut by calcite veinlets	3-7% pyrite in argillite bands as tiny veinlets parallel to or cross- cutting banding.
93.8 to 94.4	QFP Tuff	Colour - grey Grain Size - aphanitic Fewer quartz eyes than typical in overlying QFP's. Sharp contacts.		Iron-carbonate alteration	Barren
94.4 to 96.2	Mafic Tuff	Colour - grey Grain Size - aphanitic to f.g. Banding near upper contact and 95.8m. Basal contact sharp.	30° 35°		1-10% py (average 3%) from 94.4 to 95.1m Minor pyrite in rest of units
96.2 to 172.8	Andesite Flow	Colour - dark to light green Grain Size - f.g. Amygdaloidal in some sections.		Altered to epidote, cut by numerous quartz veinlets with associated chlorite and pyrite.	1-3% py
172.8 to 181.7	Banded Intermediate Tuff	Colour - brownish-white Grain Size - aphanitic Weakly banded		Varibly sericitic cut by veinlets of quartz- carbonate.	
181.7 to 183.1	Amygdaloid- al Andesite	Colour - grey Grain Size - f.g.		Little altered.	3% pyrite in stringers and amygdules.

<u>From To</u>	<u>Rock Type</u>	<u>Texture and Structure</u>	<u>Angle to Core Axis</u>	<u>Alteration</u>	<u>Sulphides</u>
183.1 to 188.5	Feldspar Phyric Diorite	Chilled margin.			
188.5 to 206.1	Diorite				
206.1	E.O.H.				

#### Conclusions

1. Intersected an argillitic horizon with 3-7% pyrite which contains anomalous copper and zinc values (205 ppm Cu, 400 ppm Cu, 405 ppm Zn, 130 ppm Zn).
2. The argillite is very similar in appearance to the surface outcrops of the Lenora-Tyee horizon.

## CORPORATION FALCONBRIDGE COPPER

### DRILL HOLE RECORD

X METRIC UNITS  
IMPERIAL UNITS

HOLE NUMBER <b>MTS 13</b>	GRID <b>CPC</b>	FIELD COORDS	LAT <b>4+20N</b>	DEP <b>3+60E</b>	ELEV <b>451m</b>	COLLAR BRNG	COLLAR DIP <b>-90°</b>	HOLE SIZE <b>NQ</b>	FINAL DEPTH <b>479.9m</b>	
OBJECT <b>Peppa</b>		CLAIM <b>CF Group #2</b>		SURVEY COORDS		DATE STARTED: <b>Dec 1/85</b> DATE COMPLETED		CONTRACTOR <b>Boisvenu</b> CORE STORAGE <b>Fulton Farm</b> CASING <b>pipe in, casing in</b>		
PURPOSE <b>Test Rowndip of GD Diorite.</b>								ROD LOG COLLAR SURVEY		PULSE EM SURVEY MULTISHOT SURVEY
ACID TESTS				TROPARI TESTS			MULTISHOT DATA			
DEPTH (m)	CORRECTED ANGLE	DEPTH (m)	CORRECTED ANGLE	DEPTH (m)	AZIMUTH	DIP	DEPTH (m)	AZIMUTH	DIP	
30.5	88°			123.8	170°	85°				
61.0	88°			274.6	191.5°	80°				
91.4	88°			453.3	186°	77°				
152.4	85.5°									
182.9	no line, broken tube									
213.4	84°									
243.3	82.5°									
322.2	80°									
337.4	78.5°									
365.9	76°									
396.3	76°									
426.8	77°									

HOLE NO **MTS 13**

LOGGED BY **A. J. Davidson**



<u>m</u> <u>To</u>	<u>Rock Type</u>	<u>Texture and Structure</u>	<u>Angle to Core Axis</u>	<u>Alteration</u>	<u>Sulphid</u>
0 to 6.4	Casing				
6.4 to 48	Felsic (Dacite) Tuff to Lapilli Tuff	Mod. grey, f.g.-m.g. badly broken up and chl-qtz veining to 20.0m. 20- becoming m.g.-c.g. with ash-lap size frags to 5mm. Very apparent frags white and then Fe-carb stained. 29.4-30.0 Mafic - carbonate dyke 30- As above becoming finer grained. Badly broken up through no fault gouge from 33-47 - Still lap tuff dacite comp.	30° banding  30° 20°	Weak chl Mod-strong Fe carb. staining occasionally to 26m. then pervasive to 29m.  Very weak ser + weak Fe carb. Poss. silicified in part at 35. Silicified + qtz vein	Tr py        No
48 to 58	Siliceous Dacite ash Tuff - lap. tuff	As above with ash - lap size frags, to 52 (Mafic dykes <1m)		Silicified in patches. Some chl-qtz veinlets + carb.	
58 to 133.2	Dacite/ Andesite Flow/Tuff?	58.2 Dk grey - dk green, lapilli size frags or amygd. throughout moderately foliates. Becoming very mafic to 63 prob. flow 74 As above with definite fragmental nature from 74.7-76.3. Weak - mod. foliation + almost bedding. V. dk green throughout + definitely fragmental to 94 98.9 Dacite - lapilli tuff well foliated. Some kinking and folds. 104 As above, becoming light grey, well foliated fragmental, poss small qtz eyes now showing up because of light grey colour. 127 Dk grey colour tuff - lapilli tuff	10°	Poss. chloritized otherwise unaltered qtz chl veining  chl-qtz-carb veinlets with minor hematite staining.  variably bleached  Increasing bleaching + poss. silicification	Tr - no pyrite        No   No
				less bleached	No

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133.2 to 133.7	Cherty Tuff	Well bedded cherty felsic tuff		Mod. sericite silicified	3% pyrite assoc. in qtz.
133.7 to 156.6	Silicified Felsic tuff with qtz eyes (Poss. QP)	Lt-Med grained with qtz eyes up to 10% and up to 3mm + lapilli size frags. 130.0 - 140.8 Silicified + cherty zone with qtz veins 139.9 - 144 Broken up + somewhat gouged with 144 scattered qtz eyes throughout but massive and grey	20°	Strongly sericitized to 135 Silicified.  139.4 - 139.9 Silicified + carb alt zone + hem.  chloritic in part + leucoxene Very siliceous	3% pyrite assoc. in qtz.  No  No  No
156.6 to 181.1	Intermediate Felsic Tuff	Scattered but large qtz eyes to 5mm. Lapilli size frags up to 7mm from 159 to 161m. Strongly foliated. Variable Qtz eyes range from 1-2mm to 6-7mm size and from 5-10%. 171.8 - 177.0 Zone of densely packed lapilli + qtz eyes poss flow top or tuff breccia. 177 - 180.8 Finer grained + silicified + bleached	10°	weak-mod chl throughout  Becoming bleached + hematite altered from 174.  177 - Silicified + bleached	No  No  No
181.1 to 192.6	Intermediate Tuff/Flow?	Dk green, f.-m. grained lapilli tuff with few qtz eyes. Zones of very coarse + densely packed lapilli? 182.6 poss. flow, amygs filled with qtz. Good lapilli tuff with occasional qtz eyes (amygs). Well foliated at	30°	calcite veinlets	
192.6 to 198	Fault	Fault zone + gouge		Hematite staining	

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198 to 215.0	Intermediate Lapilli Tuff	Well foliated + banded mainly ash size frags to occ. rare fine qtz eyes. 212 - 215 Badly broken up in fault gouge.	20°  30°	calcite-qtz veinlets  hematite mud along fractures.	Tr py with qtz veinlets
215.0 to 219.6	Felsic Tuff	Light grey well foliated. No quartz eyes		wk-mod sericite prob. bleached.	
219.6 to 225.9	Intermediate Flow/Tuff	Massive dk green with calcite veinlets, foliated.			
225.9 to 226.35	Felsic Tuff	qtz + cherty component, well banded.	30°		
226.35 to 260.2	Intermediate Tuff/Flow	Massive to poorly foliated with abundant calcite veinlet. 231.5 - 232.2 Felsic interflow tuff with minor chert component the back into calcite intermediate tuff becoming more foliated though hard to see real bedding. 242.85 - 243.2 Felsic cherty interflow tuff 250 - 250.3 Felsic interflow tuff 250.3 Intermediate tuff with calcite veinlets becoming well banded. 257 Zone of coarse lapilli frags with thick 5mm bands.	30°  50° 30°	chloritized (mod) throughout  243 becoming more bleached to 249. Calcite veinlets.	No  No
260.2 to 266.4	Felsic Intermediate Tuff - lapilli tuff	Very well banded/bedded ash-lapilli tuff. 266.2 - 266.4 Felsic cherty tuff contact zone.	35°	Weak chlorite calcite veinlets.	No

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266.4 to 277.3	Felsic Intermediate Lapilli Tuff	Colour - light grey Coarsely banded and coarse lapilli size frags 2-5mm, occ. qtz frags + coarse py cubes. 271 - 273 Spotted textures from ash size frags 271 - 272.5 273.6 - 275.2 Qtz vein with calcite. 275.2 - 277.3 Coarsely banded felsic - inter. lt. grey lapilli tuff.	20°	wk ser. wk chl.	271 - 273 Coarse py cubes (<1%)  Tr py as cubes
277.3 to 286.3	Intermediate Tuff	Colour - med. green Massive - wkly foliated with calcite veinlets. As above		calcite veinlets	
286.3 to 299.8	Felsic to inter. lapilli tuff	Fine-med. banded + rich in frags. Well banded + foliated. Lt-med grey colour. 290.3 - 292.8 Very coarse lapilli + qtz phenos 299.0 - 299.5 Mafic dykes	30°	Occ. qtz calcite veinlet	No
299.8 to 300.1	Cherty Tuff	Finely banded aphanitic grey			No
300.1 to 303.4	Felsic/Inter. Tuff/Flow	Plag. porph. with occasional qtz eyes quite crowded.		Epidote alt. of plags. + frags.	
303.4 to 303.6	Cherty Tuff	Well bedded but thin 1-2cm beds, chert + plag. porph.			Tr-2% py.

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303.6 to 345	Andesite Porphyry Flow	Plagioclase porphyritic scattered uralite phenos and amygs. massive, poorly to non bedded. Extremely crowded almost crystal supported from 308 - 310 312.1 - 312.3 - Flow top? bx with argillite + chert frags. 316.9 - 317.5 Felsic dyke massive with plags - ep.		Abundant epidote alt. of plags. cut by qtz veinlets + calcite. Zones of bleaching  all plags - epidote 320 - 323 - bleached + silicified. Variably bleached throughout 335 - 337 - intense bleaching.	Tr py overall with up to 3% locally in bleached zones.
345 to 374.4	Andesite	Andesite porphyry plagioclase + pyx porph. Amygdaloidal throughout with zones of more densely packed amygdules probably flow tops. Also some brecciation - 355 Fine - med. grained becoming more porphyritic from 360. 368 - leucoxene in groundmass + then becoming much finer grained. Frag of underlying felsics at 372.		Weak bleaching around flow margins and qtz-py sweat.  364 Mod. bleaching + epidote alt. with qtz-py patches epidote filled amygs. 367 Increasing alt. bleaching + epidote + leucoxene.	Tr - 1% py in qtz sweats + veinlets.  py in stringers & patches with qtz.
374.4 to 377.0	Cherty Felsic Tuff Bx	Bedded + banded, though not well. Lt - med. grey overall in frags of argillite + felsic tuff, chert frags.	30°	Silicified	<5% py tr. cp in diss. + wk veinlets.
377.0 to 395	Felsic Tuff	377 - 381 Chloritized + mottled to 381.1 then white, completely bleached few qtz eyes.		Mod. sericite. Tr - 1% green mica throughout increasing downhole.	no py
395 to 405.4		395 - 401 Becoming more bedded with thin beds of tuff + poss. exhalites at 398. no real chert, lt grey - white.	10°	Tr - 1% green mica mod. sericitized.	Tr - 1% py in "exhalites" or ashy beds.

From  
To

Rock Type

Texture and Structure

Angle to  
Core Axis

Alteration

Sulphides

405.4 to  
414.0

Intermediate  
Tuff

Mod. well banded/bedded  
med. grey  
Bedding angles are almost parallel  
C.A. and T.T. is only 1.5m  
409.2 - 409.55 - dyke

10<sup>0</sup>

Chlorite mod - inter in  
places, sericitized felsic  
bands occ. green mica.

Py assoc. with chl  
bands 1-5% sometimes  
crosscutting + looks  
stringery.

414.0 to  
425

Cherty  
Felsic Tuff

Lt-med grey, brecciated in part,  
chert frags + felsic, int. tuff  
frags. finely banded in dker green  
bands in part. Chert prob. makes up  
25% of rocks

0-10<sup>0</sup>

Chlorite wisps with py  
silicified carbonate  
fractures

Tr py as diss in chl  
wisps. No good py  
bands. Amazing total  
lack of sulphides.

425 to  
444

Intermediate  
Banded Tuff  
- Cherty  
Tuff

425  
Becoming distinctly black & white  
banded with mafic (chl) dk band +  
siliceous white bands (<1cm thick)

425.8

Ore chert bands 1cm thick

426

Becoming more mafic overall with  
preponderance of mafic/felsic.

Still a chert component.

427.3 - 428.4

Diorite Dykes

Also dio. dykes at

429.2 - 429.9

431.3 - 431.4

Banded + brecciated BW inter tuff -  
cherty tuff. Chert accounts for  
approx. 20-25% of rock.

432.6

Well banded with some ash beds.

437.9

light bleached felsic tuff

438

dk grey-green intermediate tuff  
with felsic-cherty zones frags. +  
bands.

10<sup>0</sup>

chloritized mafic  
fragments and bands.

Tr py with more  
chloritic patches  
especially near contact  
of mafic dykes

Py in bands at 432.6 is  
well banded.

10<sup>0</sup>

Fresh - mod. chl.

Tr py, cubes + diss.

10<sup>0</sup>

From  
To

Rock Type

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Angle to  
Core Axis

Alteration

Sulphides

444 to  
450.0

Felsic -  
Int. tuff  
with chert

As above though more felsic,  
lighter grey. Still mafic bands.  
Actually prob. an altered Rhy-Dac  
Tuff since 405 to 450.0

Still

Tr py, diss + occ. in  
bands <1mm.

450.0 to  
460.3

Cherty  
Felsic Tuff

As above except with definite  
25-30% chert component. Scattered  
but rare qtz eyes. Lousy core  
angles. Finely bedded.

10°  
457-20°

Mod. carb. alt. Weak  
sericite.

<3% py in thin bands  
<1mm) and diss.

460.3 to  
479.9  
E.O.H.

GD Diorite

Starts with chill zone then varies  
fine - med - coarse grained w/ly  
foliated in part. Some f.g. black  
dykes.

Some epidote + hematite  
alt.

Py assoc. with qtz  
carb. veins.

#### Conclusions

1. The major contacts identified in previous drilling were intersected in MTS 13 but there are changes in detailed lithologies.
2. The GD Diorite was intersected before the hole reached the Postuk-Fulton horizon. Chert beds and fragments common in hole in felsic volcanic rocks intersected immediately above diorite.
3. The low core angles of foliation and bedding to core axis at the bottom of the hole show units are steepening.
4. Felsic tuffs at top of the hole are K<sub>2</sub>O - rich.
5. Both the greater abundance of sulphides and the presence of magnetite-rich layers in the hanging wall south of the GD diorite. This suggests hole MTS 8 is more proximal to massive sulphides than hole MTS 13.

Ore Deposits symposium, Geology Division, Canadian Division  
of Mining and Metallurgy, pp. 88-93.

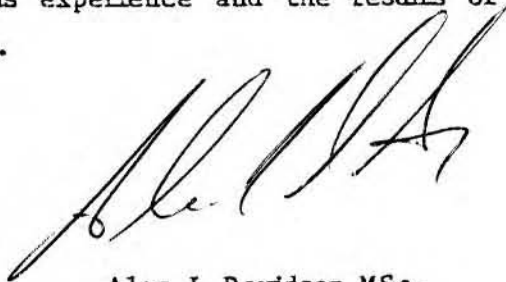
Tough, T. R. 1973. Geological report on the Duncan property  
of Mt. Sicker Mines Ltd.



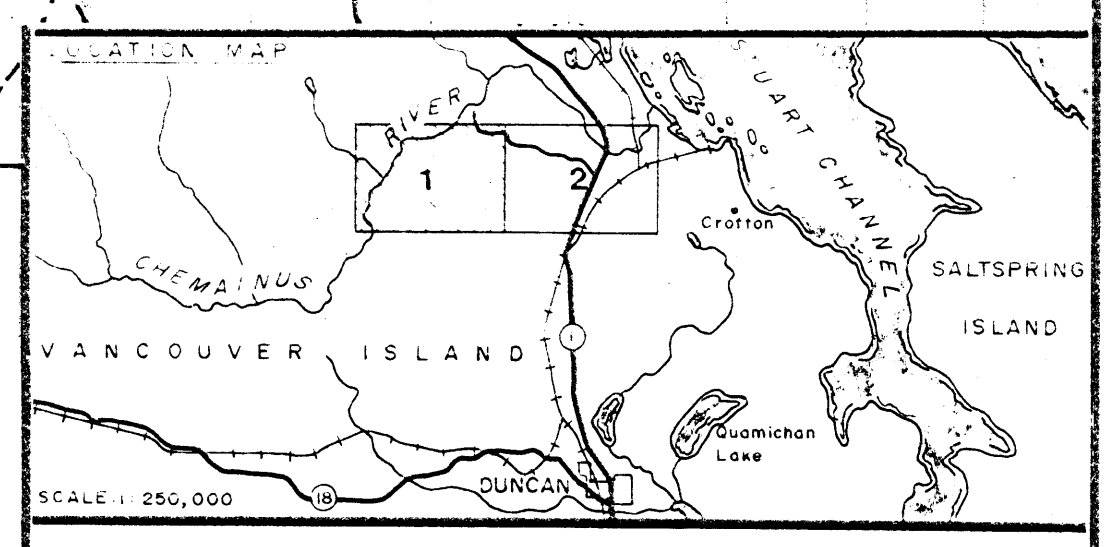
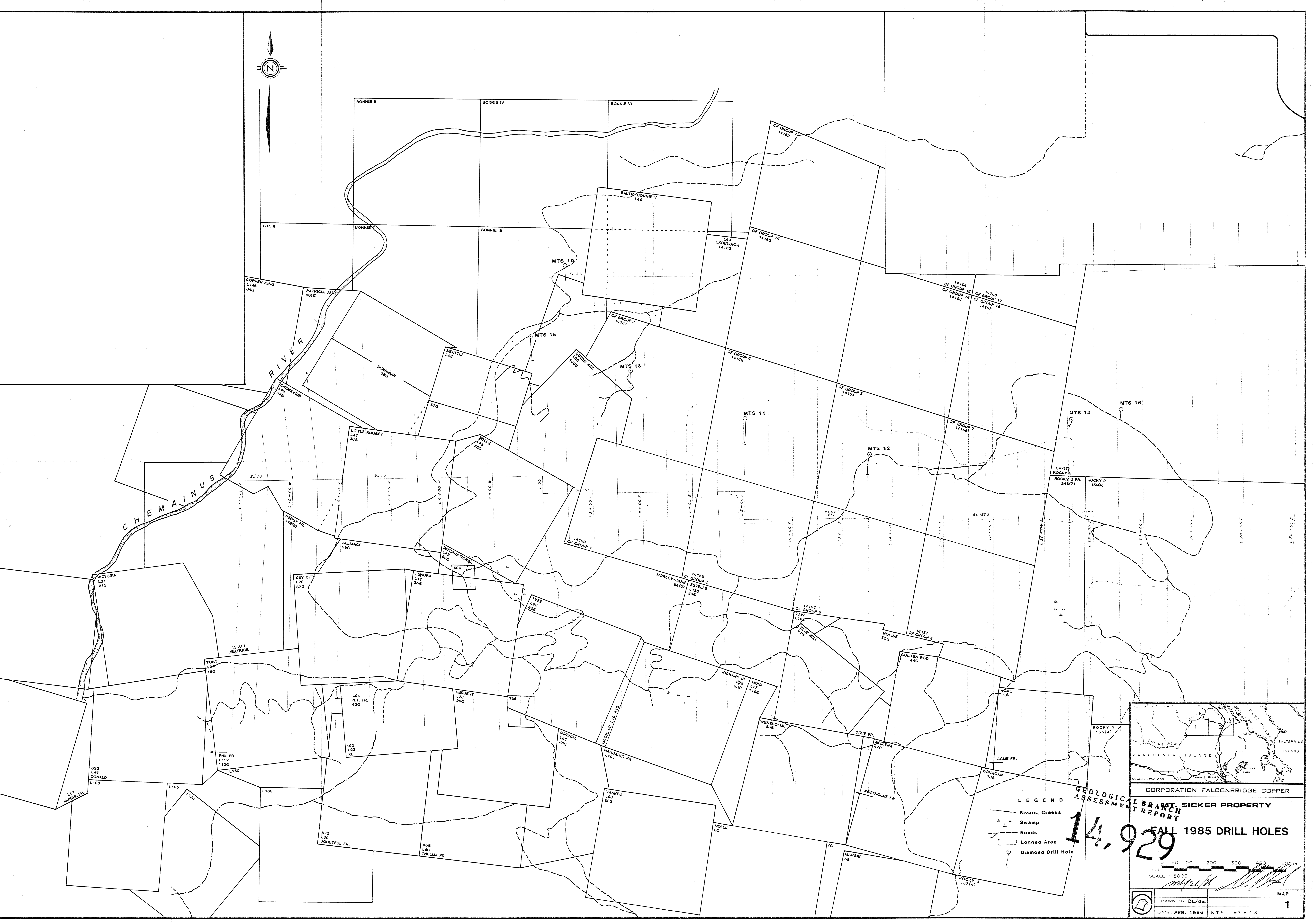
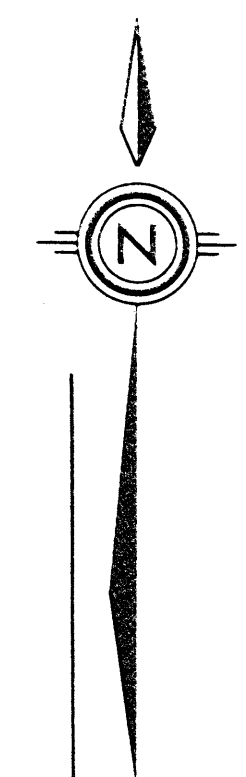
STATEMENT OF QUALIFICATIONS

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.



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**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**  
**CORPORATION FALCONBRIDGE COPPER  
SICKER PROPERTY  
FALL 1985 DRILL HOLES**

**14,929**

- LEGEND**
- Rivers, Creeks
  - Swamp
  - Roads
  - Logged Area
  - Diamond Drill Hole

