

Diamond Drilling Report

Mt. Sicker Property

Victoria Mining Division

NTS 92B/13W, 13E

48°~~58'~~ Latitude      123°~~58'~~ Longitude  
52.4'                      46.9'

Owner: Corporation Falconbridge Copper  
Operator: Corporation Falconbridge Copper

by: D. V. Lefebure

FILMED

March, 1986

Claims

<u>Peppa Group</u>		<u>Nugget Creek Supplement Group</u>		
Rocky 1	CF Group #8	Lenora	Little Nugget	Beatrice
Rocky 2	CF Group #13	Tyee	Chemainus	Morley Jane Fr.
Rocky 3	CF Group #14	Key City	Belle	Bonnie I
Rocky 4	CF Group #15	Richard III	Dunsmuir	Bonnie II
Rocky 5	CF Group #16	Magic Fr.	Seattle	Bonnie III
Rocky 6 Fr.	CF Group #17	NT	Copper King	Bonnie IV
Acme Fr.	CF Group #18	Golden Rod	Copper Queen	Bonnie V
CF Group #1	Banana	Nellena	Queen Bee	Bonnie VI
CF Group #2	Acme M.C.	Moline Fr.	Alliance Fr.	CR I
CF Group #3	Tony	Blue Bell	Patricia Jane Fr	CR II
CF Group #4	Donagan	Estelle	Peggy Fr.	
CF Group #5	XL	Westholme		
CF Group #6	Herbert	International Fr.		
CF Group #7	Dixie Fr.	Donald		
Thelma	Doubtful Fr.	International A Fr.		
Imperial Fr.	Muriel Fr.	Westholme Fr.		
Phil Fr.				

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

14,735

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File.

## 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 two separate groups of claims is described in this report. Diamond drill holes MTS 10 and MTS 15 are located on the Nugget Creek Supplement Group and holes MTS 11, MTS 14 and MTS 16 are situated on the Peppa Group. (Figure 2).

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

#### Nugget Creek Supplement Group

<u>Name</u>	<u>Record No.</u>	<u>Month</u>
Little Nugget	13	January
Chemainus	14	January
Belle	15	January
Dunsmuir	16	January
Seattle	17	January
Copper King	18	January
Copper Queen	19	January
CR I	929	May
CR II	930	May
Queen Bee	22	January



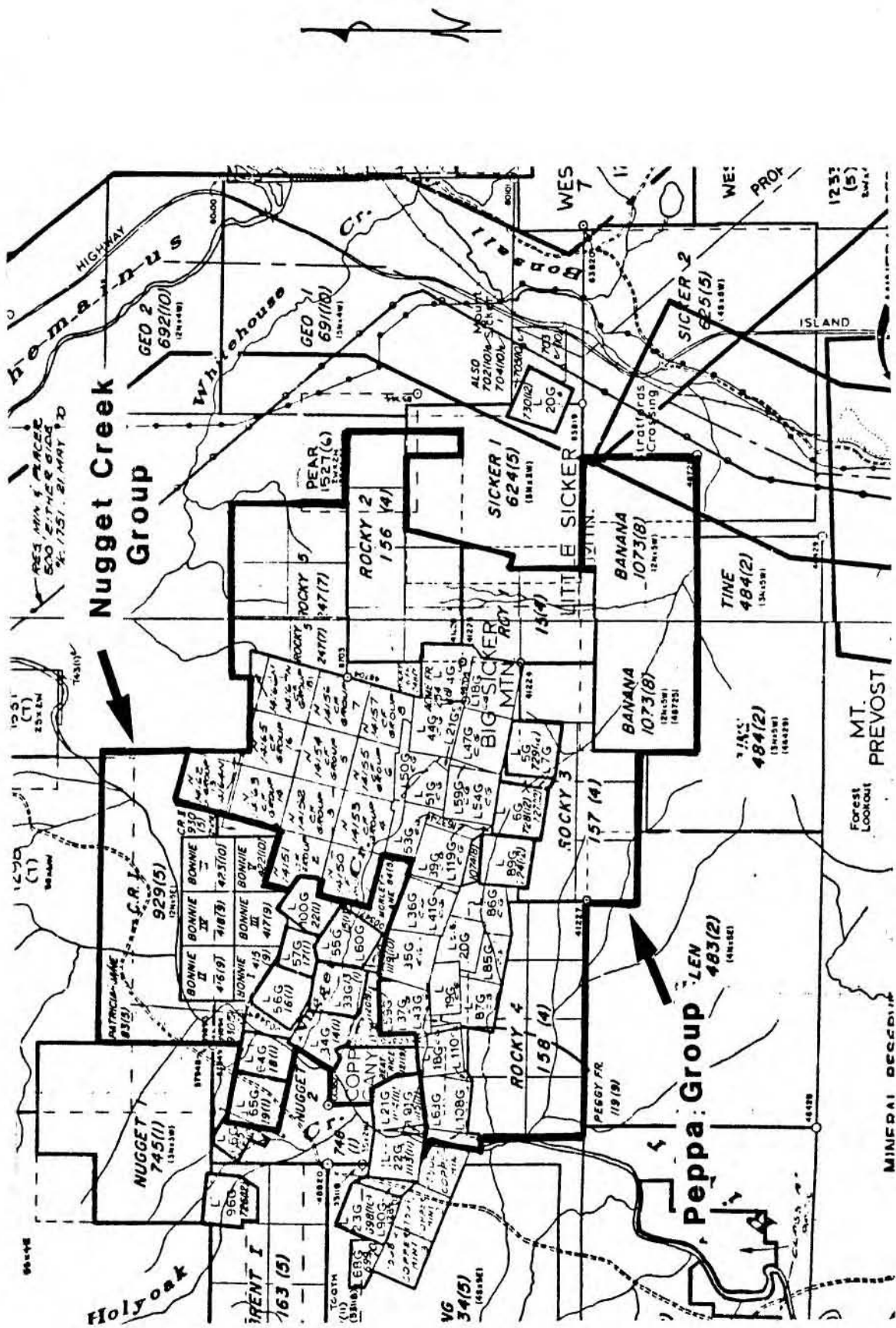


Figure 2. Location of mineral claims belonging to the Peppa and Nugget Creek Supplement groups. Scale is ~1:50,000

Alliance Fr.	120	September
Patrica Jane Fr.	83	May
Morley Jane Fr.	84	May
Peggy Fraction	119	September
Beatrice	121	September
Bonnie I	415	September
Bonnie II	416	September
Bonnie II	417	September
Bonnie I	418	September
Bonnie V	422	October
Bonnie VI	423	October

Peppa Group

<u>Name</u>	<u>Units</u>	<u>Record No.</u>	<u>Month</u>
Rocky 1	4	155	April
Rocky 2	8	156	April
Rocky 3	8	157	April
Rocky 4	8	158	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
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
Banana	10	1073	August

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.
XL	1	19G	Crown G. M. C.
Herbert	1	20G	Crown G. M. C.
Dixie Fraction M.C.	1	21G	Crown G. M. C.
Lenora	1	35G	Crown G. M. C.
Tyee M.C.	1	36G	Crown G. M. C.
Key City	1	37G	Crown G. M. C.
Richard III M.C.	1	39G	Crown G. M. C.
Magic Fraction M.C.	1	41G	Crown G. M. C.
NT Fraction	1	43G	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.
International Fr.	1	60G	Crown G. M. C.
Donald	1	63G	Crown G. M. C.
Thelma Fraction	1	85G	Crown G. M. C.
Imperial Fraction	1	86G	Crown G. M. C.
Doubtful Fraction	1	87G	Crown G. M. C.
Muriel Frctlon	1	108G	Crown G. M. C.
International A Fr.	1	1119	October
Westholme Fr. M.C.	1	59G	Crown G. M. C.
Phil Fraction	1	110G	Crown G. M. C.



### 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 Peppia Group and Nugget Group claims in 1983. Since that time, CFC has completed geological mapping and lithogeochemical sampling; carried out DEEPEM, PEM, magnetometer and LP. Surveys; and drilled 16 diamond drill holes.

### 1.4 Work Done

Five NQ diamond drilling holes were drilled on the Mt. Sicker Property totalling 1502 metres (see Map 1). These holes are:

#### Peppia Group

MTS 11	CF Group #3	329.2m
MTS 14	Rocky 5	337.5m
MTS 16	Rocky 5	120.7m

#### Nugget Creek Supplement Group

MTS 10	Bonnie III	93.6m
MTS 15	Bonnie III	621m



## 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

Four areas were drilled on the north slopes of Mt. Sicker to test for massive sulphides along strike or down dip of mineralized chert exhalites at Postuk-Fulton (1+80W, 1+60N) and Northeast Copper (21+50E, 1+40S). None of the holes intersected massive sulphides.

A short hole, MTS 10, was located to test an argillite horizon with associated weak Dighem and Deepem anomalies. Interbedded felsic and intermediate tuffs with minor argillite and chert beds were intersected in the hole. Disseminated pyrite (5-25%) occurs in all units from 15.2 to 70.1m

Drill hole MTS 11 was drilled to test the Postuk-Fulton Horizon 950 metres along strike from the surface exposure. A series of dacite and rhyolite flows and tuffs and an intermediate tuff/lapilli-tuff were intersected before the hole reached diorite which dyked out the Horizon.

Holes MTS 14 and MTS 16 were drilled to test the Northeast Copper Horizon downdip of previous drill intersections by Ducanex. Hole MTS 16 is located near a fault and was stopped before reaching the target depth due to bad ground. It intersected felsic tuffs with minor disseminated pyrite. The other hole, MTS 14, intersected similar felsic tuffs and flows and an andesite tuff with argillaceous and hematite/jasper bands. This hole was drilled past the target depth but failed to reach the mineralized horizon because it dips steeply on this limb of the fold.

Hole, MTS 15, was drilled north of a major diorite intrusion in an attempt to intersect the Postuk-Fulton Horizon at greater depth. A thick sequence of felsic flows, tuffs and lapilli-tuffs was intersected above a banded intermediate tuff with calcite veinlets. The hole was stopped (short of the Postuk-Fulton Horizon) due to the beginning of the Christmas holidays.

#### 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 11, MTS 14, MTS 15 and MTS 16 to reach the mineralized horizon. Further drilling is warranted on the Mt. Sicker Property in these, as well as, other areas.

Statement of Costs

Nugget Creek Supplement Group

STATEMENT A - MTS 10

Filed for \$5,208.00

Footage Costs	4,451.62
Tractor Time ( 3 hrs at \$55.)	165.00
A. Davidson, 2 days June 7,8 @ \$400.	<u>800.00</u>
Total	5,416.62

STATEMENT B - MTS 15

Filed for \$37,688.49

Footage Costs	34,916.75
Casing (10')	133.00
Casing Shoe	328.00
Fuel (barrel)	113.40
Tropari Tests (4 @ \$70.)	280.00
D. Lefebure, 2 days Dec. 20,21 @ \$300.)	600.00
A. Davidson, 3 days Dec. 12,14,18 @ \$400.)	1,200.00
N. Trafford, 5 days Dec. 12, 14,18,20,21 @ \$100.)	<u>500.00</u>
	38,071.15

Peppa Group

STATEMENT C - MTS 11,14,16

Filed for \$54,650.62

MTS 11

Footage Costs	17,875.02
Casing (20')	266.00
Shoe	328.00
Fuel (Barrel)	113.40
Tropari Tests (2 @ \$70.)	140.00
Tractor Time (see invoice #1102)	3,959.00
D. Lefebure, 6 days, Nov. 17,22,25, 26,27,29 @ \$300.	1,800.00
N. Trafford, 6 days, Nov. 19,20,22, 25,26,27 @ \$100.	<u>600.00</u>
	25,081.42

Statement of Costs - cont'd.

MTS 14

Footage Costs	18,338.97
Casing (20')	266.00
Shoe	328.00
NQ Bit	550.00
Tropari Tests (2 @ \$70.)	140.00
Fuel	113.40
Tractor Time (2 hrs @ \$55.)	110.00
D. Lefebure (Dec 5,7 @ \$300.)	600.00
A. Davidson (Dec 9,10 @ \$400.)	800.00
N. Trafford (Dec 5,7,9,10 @ \$100)	<u>400.00</u>
	21,646.37

MTS 16

Footage Costs	6,449.30
Casing (35')	474.00
Shoe	328.00
1 NQ Bit	550.00
Fuel	113.40
Tropari Tests (2 @ \$70.)	140.00
Tractor Time (2 hrs @ \$55.)	110.00
A. Davidson (Dec 13,15 @ \$400.)	800.00
N. Trafford (Dec 14,15 @ \$100.)	<u>200.00</u>
	9,164.70

Total 55,892.49

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Certificate of Qualifications

I, David V. Lefebure certify that:

1. I am an Exploration Geologist residing at 5433 7th Avenue, Delta, B. C.
2. I have B.Sc. (Honours, 1974) and M.Sc. (1976) degrees in geology from Queen's University, Kingston, Ontario and a Ph.D. in geology from Carleton University, Ottawa, Ontario.
3. I am a Fellow of the Geological Association of Canada.
4. I have practiced my profession continuously since graduation in 1976.
5. I personally carried out or supervised the work reported herein.

March 18, 1986

Date

David V. Lefebure

David V. Lefebure



<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>
0 to 0.8	Casing				
3.8 to 8.35	Felsic Tuffs	Colour - lt. - med. green Grain Size - f.g. - m.g. Highly contorted + schistose (not paper) lots contorted quartz veinlets. Few discernable frags.	Varies from 0-50°	Wk - mod chlorite + some strong sericite, kinked and contorted Ser. is almost rose coloured.	Tr py in small bleb
8.35 to 15.15	Felsic Tuff	Colour - lt. green Grain Size - f.g. As above with less contortions strong foliation developed. Fewer qtz veinlets. Poss. few qtz eyes.	30° at 9.5	Less chlorite; wk-mod sericite along foliation. Some green mica (fuch-sitic) assoc. with a vein at 12.5 + in foliating parting throughout but at 13.2	Tr py
15.15 to 15.9	Argillite	Colour - blk Fragmental in part with arg clasts in more cherty mtx. Well foliated still some kinking + small scale faulting.	Contact at 60° 70°	Sericite along foliation + with occ. qtz stringer. Tr. greenish mica.	Pyrite throughout 5-15% locally.
15.9 to 18.6	Felsic tuff Lapilli tuff	Colour - light green - whitish Rhyolitic with occ. qtz eye strongly foliated.	50°	Sericite wk-mod along foliation.	Tr. py.
18.6 to 18.9	Intermediate Tuff	Grain Size - v.f.g. F.g. inter tuff. Well foliated.	50°	mod. chloritic	
18.9 to 19.2	Felsic tuff	Colour - lt green - white As above.		Buff sericite alt. mod-strong.	
19.2 to 20.4	Felsic tuff	Colour - lt. green F.g. well foliated occ. q eye v. fine leucoxene throughout.	25-30°	mod sericite + chlorite	Tr py throughout i blebs with py band a 19.6

<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>
20.4 to 27.15	Felsic tuff	Colour - lt-med green Grain Size - mg - cg Coarse grained in some qtz veining. Kinked + contorted with variable foliation angles and small scale faults (kink).	50°	Wk-mod ser-chlc along partings and foliation. Lt green chlorite in places.	Tr pyrite in blebs - diss.
27.15 to 31.4	Felsic - Intermediate Tuff	Colour - med. green Grain Size - f.g. Very fine grained felsic int. tuff, kinked + foliated.			Barren
31.4 to 31.9	Int. tuff	Very fine grained poss some amygs? or clasts along foliation.	50°	Sericite along foliation chl.	py minor diss. + beds <5%
31.9 to 44.8	Felsic Int. tuff	As above med grained with strong foliation. Finer grained section 37-40m. Series of bull qtz vein 43-44.8m.	30-50°	Sericite & chlorite along foliation. Wk-mod in places. Qtz patches occasionally. Generally little altn.	Tr py diss + isolated bands <2mm thick. Increases in py from 42-44.8 assoc. with qtz veins.
44.8 to 50.6	Rhyolite Qtz eye	Colour - white - lt grey Grain Size - v.v.f.g. - massive wk foliated quartz eyes increasing around 47.6 - very fine qtz eyes throughout 5-10% - Fine qtz eyes continue	50°	- wk sericite  Becoming more altered with buff sericite bands and along foliation from 48-50.6 Greenish mica from 49.0	Tr pyrite occ. pyrite band 1-2mm  Tr pyrite throughout

<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>
50.6 to 52.8	Argillite	Colour - black - dk grey Grain Size - fine - well foliated, mod bedding. - some chert component and significant ash and tuff component towards 52.8		Wk sericite + quartz	5% pyrite in bands wisp, diss. + patches. Contorted with bedding.
52.8 to 53.85	Argillaceous chert	Colour - grey Grain Size - fine - Fairly well bedded chert with leftover argillaceous component	Contact 40° Contact 30°	Sericite in bands. - altered tuff component	5-10% pyrite in bands 1-2mm thick
53.85 to 4.18	Felsic Int. Tuff	Grain Size - med - coarse Cg foliated + banded contorted	50°	Green mica + mod sericite along foliation (buff)	10-15% py in bands + blebs in with green mica barren
54.18 to 54.60	Mafic Dyke	Colour - green Grain Size - med. - massive			
54.60 to 55.75	Felsic Int. tuff	Grain Size - med-coarse - as above, with less well developed foliation	50°	Green mica (fuchsite) + mod ser.	py up to 20% in bands in patched in flecks green mica (fuchsite)
55.75 to 57.51	Qtz eye felsic tuff Int?	Colour - lt grey Grain Size - med - coarse 15% good qtz eyes	70°	No green mica, wk sericite	Tr pyrite
57.51 - 61.2	Felsic Int. Lapilli tuff	Well foliated, occ. qtz stringers	40-50°	Moderate sericite thruout + fleck + splashes green fuchsite mica. Also buff-yellow ser.	2% py thruout with flecks green mica. Bands up to 15% at 59.13.
64.3 to 65.2	Mafic Dyke	Fine grained			

<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>
65.2 to 66.5	Altered Quartz Eye Tuff	Colour - med. grey Grain Size - med - coarse More altered with chlorite than above. 10% qtz eyes harder to see because of all qtz veinlets.	60°	Moderately chloritized	Minor py in thin <1mm bands
66.5 to 67.1	Mafic Dyke	Grain Size - fine Carbonate patches fract. fillings			
67.1 to 70.05	Qtz Eye Tuff	Grain Size - med - coarse Qtz eyes quite patchy, up to 15% locally but sometimes <5%.	40-50°	Mod chlorite in patches, qtz-fsp veinlets	Pyrite up to 10% locally in patches assoc. with chlorite or altered zone and quartz fsp patches.
70.05 to 72.6	Felsic Intermediate Tuff	Grain Size - fine Well foliated, sometimes contains very fine qtz eyes <10%. Some almost cherty bands near 72.6		Wk-mod chlorite + wk sericite	Pyrite in patches and bands assoc. with more chloritic zones <2% overall.
72.6 to 76.75	Quartz Eye Tuff	Grain Size - med - coarse Good coarse (1-3mm) qtz eyes 15% overall still foliated and kinked.		Occ. epidote patches (75.3). Otherwise fresh.	Trace - minor pyrite assoc. with chert + ep + qtz patches.
76.75 to 82.4	Alt. Quartz Eye Tuff	Essentially same as above with mottled appearance due to chlori- tization. Qtz eyes 5-10% variable and patchy.	30-50°	Mod. chloritization - mottled look throughout to 81.4. From 81.4 - 82.4 less chlorite but increase in sericite to tuff sericite bands at 82.4.	Trace py throughout. Bands of pyrite + dis- seminated to 5% from 81.4 to 82.4.
82.4 to 83.7	Mafic Dyke Flow	Foliated f.g. mafic with carbonate? patches as in dykes above.	30°		Bands of pyrite at 82.4 prob. assoc. with qtz tuff.

<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>
83.7 to EOH	Altered Quartz Eye Tuffs	As 76.75 - 82.4 foliated, variable qtz eyes. Usually med-coarse. Some area of finer quartz eyes (92m). Mottled appearance. Gouge at 87.7 in intense ser. zone.	30-50°	Chlorite - mod + variable - mottled appearance. Sericite in patches and clumps moderate through- out.	Trace py in diss. + occasional fine (1mm) band.
E.O.H.					



Summary Log MTS 10

0 - 3.8	Casing
3.8 - 15.2	Felsic tuff, strongly foliated, moderate chlorite and sericite.
15.2 - 15.9	Argillite some clasts, 5-15% pyrite locally.
15.9 - 44.8	Felsic - intermediate tuffs moderate sericite and chlorite minor pyrite.
44.8 - 50.6	Quartz eye rhyolite, 5-10% qtz eyes, weak sericite.
50.6 - 52.8	Argillite, chert and tuff component, 5% pyrite in bands and diss.
52.8 - 53.9	Argillaceous chert, well bedded, 5-10% pyrite in 2mm bands.
53.9 - 55.8	Felsic - intermediate tuff, 10-25% py, moderate sericite and green mica.
55.8 - 57.5	Quartz eye porphyry felsic tuff, tr py, weak sericite
57.5 - 61.2	Felsic - intermediate lapilli-tuff, moderate sericite and splashes green mica, 2-15% py.
61.2 - 70.1	Quartz eye porphyry felsic tuff, moderate chlorite, up to 10% pyrite.
70.1 - 72.6	Felsic - intermediate tuff, some cherty bands, weak to moderate chlorite and weak sericite, 2% pyrite.
72.6 - 93.6	Altered quartz eye felsic tuff, minor pyrite, variable chlorite from 76.8 to 93.6m.

## CORPORATION FALCONBRIDGE COPPER

### DRILL HOLE RECORD

X METRIC UNITS  
IMPERIAL UNITS

HOLE NUMBER <b>MTS 11</b>	GRID <b>CFC</b>	FIELD COORDS	LAT. <b>2+22N</b>	DEP. <b>8+00E</b>	ELEV <b>525m</b>	COLLAR BRNG <b>180°</b>	COLLAR DIP <b>-75°</b>	HOLE SIZE <b>NQ</b>	FINAL DEPTH <b>329.2m</b>
PROJECT <b>Peppa 305</b>	CLAIM # <b>CF Group #3</b>	SURVEY COORDS				DATE STARTED <b>Nov 23, 1985</b> DATE COMPLETED <b>Nov 28, 1985</b>	CONTRACTOR <b>F. Boisvenu</b>	CORE STORAGE <b>Fulton Farm</b>	CASING <b>Yes</b>
PURPOSE <b>To test the Postuk-Fulton Horizon approximately 600m east of MTS 8 intersection</b>								ROD LOG COLLAR SURVEY	PULSE EM SURVEY MULTISHOT SURVEY <b>Yes</b>
ACID TESTS			TROPARI TESTS			MULTISHOT DATA			
DEPTH ( m )	CORRECTED ANGLE	DEPTH ( )	CORRECTED ANGLE	DEPTH ( m )	AZIMUTH	DIP	DEPTH ( )	AZIMUTH	DIP
61.0	73°			62.5	172°	73°			
91.4	72°			288.6	195°	69°			
121.9	73°								
182.9	72°								
213.4	73°								
243.8	71°								
274.3	72°								
329.2	72°								

MTS 11

LOGGED BY David 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 6.1	Casing	:			
6.1 to 10.7	Green Dacite Flow	Colour - dark grey Grain Size - aphanitic - scattered oval quartz eyes up to 4mm (<3%) -		- calcite veinlets and patchy calcite throughout matrix - groundmass strongly chloritized - some Fe-carbonate	barren
10.7 to 10.8	Fault	- flakey, broken up core		- moderately sericitic	barren
10.8 to 24.2	Rhyolite Flow	Colour - beige, dark grey Grain Size - aphanitic - 10.8 to 14.2 is strongly flow- banded with some disruption of bands - abundant qtz eyes (<2mm) approximately 10% but small and difficult to identify, qtz eyes less abundant in core of flow (below flow-banded portion) - core of flow cut by healed fractures - flow-banding from 23.5 to 24.2m - possible fragments at 20.1m	30°          25°	- cut by qtz veinlets and carbonate heals fractures - groundmass siliceous and little altered	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>
24.2 to 51.8	Feldspar Rhyolite Porphyry Flow	Colour - grey to purple Grain Size - aphanitic to f.g. - homogeneous siliceous unit with phenocrysts of feldspar (<2mm) and quartz (<3mm)		- cut by veinlets of quartz and carbonate - significant iron-carbonate - at 46.1m there is an open space fracture filled with carbonate and quartz and rock fragments (5cm wide)	barren
51.8 to 59.2	Quartz eye Rhyolite Dyke	Colour - grey Grain Size - f.g. margins aphanitic - upper contact difficult to find - numerous small qtz eyes (<1mm) occasional qtz eyes up to 3mm - weak colour banding towards basalt contact - patch of qtz rhyolite porphyry at 55.5m	approx. 10° 20°	- minor qtz-carbonate veinlets	barren except for 10% py in qtz veinlet adjacent to patch of qtz rhyolite porphyry
59.2 to 74.7	Feldspar Dacite Porphyry Flow	Colour - grey and purple Grain Size - aphanitic - grey to white feldspar form speckled pattern - plagioclase up to 5mm, forms 15% of rock - matrix siliceous - light grey patches contain grey plagioclase which looks very like qtz have diffuse but distinguishable contacts - basal contact sharp	30°	- qtz-chlorite veinlets are common	- <1% diss. pyrite
74.7 to 79.2	Flow-banded Rhyolite Flow	Colour - grey-white Grain Size - aphanitic - contorted flow banding with chlorite-filled amygdules (elongate) - basal contact sharp	25°	- abundant patchy carbonate between bands - core soft, altered to sericite	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>
79.2 to 79.7	Mafic Dyke	Colour - grey Grain Size - f.g. C.I.= 50, appears to be mafic in composition		- numerous calcite veinlets parallel to upper contact	barren
79.7 to 96.2	Rhyolite Flow	Colour - purplish-grey Grain Size - aphanitic - flow-banded rhyolite grades into massive purplish-grey rhyolite - no foliation developed in flow - scattered quartz eyes (<15mm) and numerous microphenocrysts of grey quartz - 95.0 to base there is light coloured flow banding - basal contact sharp	35° 45°		barren
96.2 to 112.7	Quartz Eye Rhyolite Flow	Colour - purple Grain Size - aphanitic Grey, glassy quartz phenocrysts are oval in shape and up to 2 1/2mm in size. Some scattered feldspar(?) phenocrysts. - basal contact sharp obscured by qtz veins		- numerous quartz veinlets with minor green chlorite cutting core at high angles, open space fillings - minor sericite? on fractures	barren
112.7 to 115.6	Banded Felsic Crystal Tuff	Colour - green to greenish-white Grain Size - f.g. Well developed banding (beds?) in a f.g. crystal tuff containing plagioclase and quartz phenocrysts. Possible stretched greenish fragments towards base. Basal contact irregular, sharp.	45°	Minor qtz veinlets	barren
115.6 to 127.1	Quartz Eye Rhyolite Flow	Colour - purple Grain Size - aphanitic to v.f.g. 5% quartz eyes (< 1 1/2mm) set in a possibly perlitic matrix (myriad of light coloured fractures). Flow banding developed from 121.75m to 124.9m which may mark a flow contact. Base of flow a green colour		Scattered qtz veinlets	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>
127.1 to 134.7	Spherulitic Rhyolite	Colour - purple Grain Size - aphanitic Top contact poorly defined, unit is characterized by oval patches with white cores (feldspar) and grey rims (qtz) up to 1.5cm in size. Patches form 0 to 20% of unit. Smaller quartz eyes present. Thin bed(?) of light green, f.g. tuff? with ghost fragments from 131.4 to 131.7m. Similar 10cm band of green tuff at 133.0 to 133.1m From 133.5 to 134.7m no spherulites and discontinuous flow banding or stretched fragments.	35°	Little altered	Barren
134.7 to 139.1	Intermediate Dyke	Colour - dark grey Grain Size - aphanitic to f.g. Minor gouge at top contact. Chilled margins over 20cm. Scattered white feldspars <1mm Basal contact sharp	35°	Cut by minor quartz veinlets	barren
139.1 to 151.6	Spherulitic Rhyolite	As above (127.1 to 134.7) spherulites disappear below 143.7m but small quartz eyes continue and become more prominent. Gradational contact into underlying unit.		Quartz vein with green chlorite from 148.7 to 148.9m	Barren
151.6 to 154.8	Intermediate Banded Tuff and Lapilli- Tuff	Colour - greenish-grey Grain Size - f.g. to aphanitic Banding is variable between well developed to faint. Almost cherty at 152.4m. Lapilli-tuff from 155.2 to 154.3m with very elongate cherty and chloritic fragments. Basal contact sharp	30°  30°	Quartz veinlets and patchy carbonate. Matrix moderately chloritic.	Trace pyrite

<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>
154.8 to 157.7	Intermediate Dyke	Colour - grey Grain Size - f.g. Homogeneous with scattered feldspar phenocrysts and quartz eyes. Sharp basal contact.	30°	Minor carbonate veinlets	Barren
157.7 to 170.1	Intermediate Lapilli-Tuff	Colour - greenish-grey Grain Size - f.g. Same unit as 151.6 to 154.8m. Weak banding, some obvious fragments.		Strongly chloritic with abundant veinlets and patches of calcite	Barren
170.1 to 182.7	Plagioclase white Rhyolite	Colour - white-grey Grain Size - aphanitic Gradational contact with overlying unit. 10% plagioclase phenocrysts less than 2mm.		Silicified and minor chlorite on fractures.	Trace to 2% pyrite as disseminations and along fractures, sometimes with quartz.
182.7 to 188.3	Felsic Lapilli-tuff to tuff-breccia	Colour - green Grain Size - aphanitic Pronounced foliation with numerous fragments of cherty rhyolite in a feldspar phyric matrix.	50°	Moderate chlorite and minor sericite.	Barren
188.3 to 188.9	Fault Zone	Colour - grey Grain Size - aphanitic Gouge consisting of flakes of sericitic felsic		Sericitic	Barren
188.9 to 193.8	Felsic Lapilli-tuff to Tuff-breccia	Colour - grey Grain Size - aphanitic Similar to 182.7 to 188.3m Basalt contact sharp, core broken		Moderate to strong sericite	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>
193.8 to 204.4	Feldspar Dacite Porphyry Flow	Colour - grey Grain Size - f.g. Homogeneous, flow with no foliation. White plagioclase phenocrysts up to 3mm form 15% of unit. Scarce oval qtz eyes.		Fresh	Minor pyrite stringers with associated quartz veinlets. Trace chalcopyrite.
204.4 to 206.9	Mafic Dyke	Colour - grey Grain Size - aphanitic to f.g. Both contacts aphanitic, sharp with alteration to sericite. Discontinuous veinlets of calcite define foliation.	60° 60° 50°	Calcite veinlets	Barren
206.9 to 234.9	Cherty Rhyolite Flow	Colour - white to green-white Grain Size - aphanitic Speckled leucoxene present in greenish-white rhyolite. Strongly siliceous rhyolite with 7% feldspar phenocrysts (<2mm). Foliation developed in greenish-white rhyolite (213.8 to 214.8m).	50°	Silicified with very minor chlorite veinlets. Zone of qtz veins from 227.8 to 233.0 with associated sericite and chlorite. Basalt within 2m of diorite is baked.	Barren
234.9 to 329.2 E.O.H.	GD Diorite	Colour - grey to green Grain Size - f.g. to m.g. Upper contact sharp but cut twice due to irregular contact. F.g. margin for first 2m. Generally m.g. with a colour index of 55. Leucoxene specks in some sections.	90° and 40 to 45°	Minor calcite veinlets. Trace to 1% pyrite.	

#### Conclusions

1. No significant zones of mineralization were intersected.
2. The hangingwall andesite is absent or much deeper than expected.
3. Most of the units are massive felsic flows with little evidence of foliation. A more proximal package of volcanic rocks than encountered in previous drilling to the west.
4. The hole terminated in the GD Diorite near its southern contact.

Summary Log MTS 11

0 - 6.1	Casing
6.1 - 10.7	Green dacite flow
10.7 - 10.8	Minor fault zone
10.8 - 51.8	Rhyolite flow cut by qtz-carb veinlets
51.8 - 59.2	Quartz eye rhyolite dyke
59.2 - 96.2	Rhyolite flow with flow banding
96.2 - 112.7	Quartz eye rhyolite flow
112.7 - 115.6	Banded felsic crystal tuff, minor qtz veinlets
115.6 - 127.1	Quartz eye rhyolite flow, minor qtz veinlets
127.1 - 151.6	Spherulitic rhyolite
151.6 - 170.1	Intermediate banded tuff and lapilli-tuff, calcite veinlets and patches and qtz veinlets, tr pyrite
170.1 - 182.7	Plagioclase white rhyolite, high sodium content, trace to 2% pyrite, very siliceous in appearance
182.7 - 188.3	Felsic lapilli-tuff to tuff-breccia, moderate chl and minor sericite
188.3 - 188.9	Fault zone, gouge
188.9 - 193.8	Felsic lapilli-tuff to tuff-breccia, similar to 182.7 to 188.3 with minor to strong sericite
193.8 - 204.4	Feldspar dacite porphyry flow, minor pyrite stringers with qtz
204.4 - 206.9	Mafic dyke
206.9 - 234.9	Cherty rhyolite flow, very siliceous, leucoxene
234.9 - 329.2	GD diorite
329.2	E.O.H.



<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>
0 to 6.4	Casing				
6.4 to 28	Intermediate Tuff/Flow?	Med. green, well foliated plagioclase porphyry cut by qtz + calcite veinlets	30°	Weak bleaching around veinlets.	No
28 to 71.9	Quartz Porphyry	Moderately foliated, coarse grained, med. grey - green - pink stained in colour 30.1 - 30.6 - Mafic Dyke 38.2 - 38.6 - Fine grained ash tuff with disseminated magnetite aligned along foliations 38.6 - Coarse grained med grey- green Quartz Porphyry with rusty patches and hem staining. Qtz phenos up to 5-8mm. 53.3 - 54.1 Mafic breccia, fine grained, occ. qtz eyes interflow breccia. 54.1 Quartz porphyry, large fragmental with strong bleached patches coarse grained. 56.1 - 57.6 Fault gouge badly broken up. 57.6 - Extremely broken up, rusty, - Quartz porphyry, badly broken up, Fe stained. 66.7 - 66.9 Mafic Dyke 70.0 - 70.2 Mafic Dyke	35°	Hematite stained + cut by qtz-hem veinlets variably blended.  Fe staining  weak-moderate sericite, intense bleaching in patches.  Mod - Intense sericite + Fe staining.	No

<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>
71.9 to 105.3	White Qtz Porphyry	Coarse (3-7m) qtz porphyry, 10-15% qtz eyes, moderately foliated, white. 92.7 - 93.5 Badly broken rusty QP. 96.6 - 98.3 Badly broken rusty QP. 98.5 - 98.75 Cherty tuff or flow breccia. 98.75 - 99.7 Broken and rusty QP with clay gouge. Foliated. Strong gouge at 104.5 - 105.1	10°	Totally bleached, moderate sericite along partings.  Becoming less bleached towards 105.3	2-5% pyrite throughout in thin (1mm) bands + disseminated. Locally pyrite up to 10% in zones of concentrated py bands from 78.8 - 79.8 81.3 - 81.7 83.2 - 84.5 89.6 - 90.3 Py bands up to 1cm throughout 98.5 - 98.75 Tr py in blebs Py locally to 10% assoc. with qtz up to 1-2cm.
105.3 to 129.1	Quartz Porphyry	Lt. green - green, broken up - places but not gouge. Large qtz phenos to 7mm. Foliated. 111.6 - 111.7 Mafic Dyke	20°	Bleached zones with up to 5% pyrite assoc. with fault gouge 122.2 - 125 + patchy bleaching 125 - 128.	
129.1 to 173.3	White Quartz Porphyry	As above except extremely bleached with coarse qtz phenos to 7mm and 15% overall. Bleached + medium - coarse grained white quartz porphyry with 15% qtz eyes. Lots fracturing + gouge 152. 159.8-161.3 Fine grained mafic tuff/dyke 164.0-164.6 Mafic dyke	15° 20° 10° 10° 20°	Extremely bleached + sericitized.  Strong bleaching + sericite + clay along fractures.	Py 3% overall + up to 15% in thin bands from 135.2 - 136.7 5% py in bands 141.5-142 10% pyrite in thin bands 148.8 - 151.2 Tr - 2%
173.3 to 179.3	Quartz Porphyry	Less bleached, lt-green to mod. green qtz porphyry as above.	20°		No

<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>
179.3 to 197.0	Quartz fsp Porphyry	Lt-med green, schistose qtz fsp porphyry, qtz eyes up to 5mm. 187 - 187.8 Broken up, gouged.	30° schisto- sity almost parallel C Axis	Minor fsps - ser some chlorite on shears. 180.6 - 190 White bleach 196.8 Becoming bleached towards contact with dyke	Nil
197.0 to 197.4	Diorite Dyke	Fsp sweats + veinlets.			
197.4 to 202.6	White Qtz Fsp Porphyry	Colour - white As above except totally bleached, sheared + qtz eyes still to 5m @ 15%		Minor chlorite as wisps + veinlets.	Tr cp
202.6 to 207.3	Diorite	As above, dk green with interlocking patchwork of white feldspar. Chill Contact at 207.3	50°		
207.3 to 217.6	Qtz Fsp Porphyry	Varies from white (bleached) to lt-med green, fresh. Quartz eyes becoming fewer and finer to 217.6	fol. 0-50°	bleaching	Tr-1% py as discrete blebs (clasts?)
217.6 to 218.9	Diorite Dyke	As above			
218.9 to 222.6	Qtz fsp Porphyry Felsic Tuff	Coarse qtz eyes at contact then becoming finer past 220. White - lt. grey with py patches + bands.	10°	Bleached + mod. sericite.	Thin 1-2mm bands of py parallel to CA (5% py.

<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>
222.6 to 238.8	Andesite Tuff/Fe fm	Well foliated + banded with some dk argillaceous looking bands, contorted bedding purplish caste to rock. Some QF sweets. Definite argillaceous bands + also fine up to 5mm wide hematite/jasper bands. Becoming quite black with red hem. frags.	30°	Mod-strong chlorite  Broken up + gouged throughout.	Tr py.
238.8 to 256.7	QE Felsic Tuff - QE Porphyry	Lt green - white bleached. Fine grained diorite dykes at 239.3, 242.3-242.7, 243.5 244.8 Bleached with large quartz eyes - 256.7	30°  0-30°	Hem staining + some hem in mtz hem staining quartz. Sericitized + sheared like footwall to MTS 8	Massive py as blebs (2 or 3) Tr py.
256.7 to 257.6	QE Felsic Tuff Fault Gouge	Brecciated + gouge with qtz veining or along qtz veining. Note core angle.	0-10°	Strong sericite + clay.	No. sulphides
257.6 to 273.6	QE fel. tuff- QE Porphyry	As above though not as bleached overall. QE to 15-20% and up to 5mm. Variably lt green - white to 266. 266 - 273 White-beige with mod. carb. alt.		Weak sericite but mod. chl. especially in patches and along qtz veins. Mod. carb alt. in veinlets + patches.	No sulphides
273.6 to 282.3	Fault Fault Gouge Mafic Vols.	Sharp Fault at 10° CA marked by hematite clay. Strong fault gouge in chloritized mafic volcanics.	10°		No
282.3 to 283.4	Mafic Vols.	Still partly fault gouge with chert fragments.			



<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>
283.4 to 294.2	QFP	Strongly sheared prob. from fault. Minor mafic dykes at 286.7 and 287.2 and 291.7	20°	mtx - ser. + clay	Tr py.  Thin 1mm py bands in qtz eye tuff at 5° CA at 292
294.2 to 295.2	Green QP	LT-T with qtz eyes chloritized or mafic in comp. brecciated.	15°	Clay in matx in bx zone.	No
295.2 to 303.1	QE Porphyry - LT	Variably lt green - white coarse qtz eyes. Brecciated looking because of CA Mafic dyke 301.7-302, with carb.	Banding at 298° 15° 5°	Some chl + ser.  Zone of gouge + fracturing with clay.	Thin py bands at 0-10° CA (<5% py)
303.1 to 304.2	Mafic Carb. Dyke	Mafic carb. dyke			Tr - 3% py.
304.2 to 306.9	Mafic Ash- Lap. tuff/ dyke	Fine ash - lap size frags, dk green colour with white frags, well foliated, well sorted.	10-30°	No weak chl.	No sulphides
306.9 to 331.8	QE Porphyry - Fel Tuff	White - lt green coarse qtz porphyry as above. Mafic dykes 310.3 - 310.6 310.75 - 311.2 Becoming more bleached to 331.	10°	Variably bleached  Intense sericite bleaching + gouge 319-323	Tr - 5% py in thin bands parallel to foliation. Up to 15% py locally in bands to 1cm at 321.
331.8 to 337.5 E.O.H.	Qtz Porphyry	Lt green as above.		Wk sericite.	

### Conclusions

1. Hole intersected a 16m thick altered andesite tuff (222.6 - 238.8m) with argillaceous and jasper/hematite bands with trace pyrite. This is the down dip equivalent to the gossan with galena at 19+50E, 1120N.
2. Most of the hole cuts bleached quartz porphyry dacite (keshi?), sometimes with associated pyrite stringers, a favourable environment for massive sulphides.
3. Significant fault at 273.6 to 282.3m may repeat stratigraphy.
4. Both foliation and banding almost parallels core towards bottom of hole.

Summary Log MTS 14

0 - 6.4	Casing
6.4 - 28	Intermediate plagioclase porphyry tuff, cut by qtz + calcite veinlets.
28 - 71.9	Quartz porphyry flow/tuff, weak to moderate sericite, Fe-carbonate staining
71.9 - 105.3	White quartz porphyry flow, bleached with moderate sericite, 2-5% py in thin (1mm) bands.
105.3 - 129.1	Quartz porphyry flow, bleached zones.
129.1 - 179.3	White quartz porphyry flow, strong bleaching with sericite, 3% pyrite overall with up to 15% pyrite in thin bands.
179.3 - 202.6	Quartz feldspar porphyry tuff(?), minor chlorite.
202.6 - 207.3	Diorite dyke.
207.3 - 222.6	Quartz feldspar porphyry felsic tuff, moderate sericite, thin 1-2mm bands of pyrite (< 5%)
222.6 - 238.8	Andesite tuff with argillaceous and hematite/ jasper bands, mod - strong chlorite, trace pyrite.
238.8 - 273.6	Quartz eye felsic tuff, weak sericite, nil to trace pyrite.
273.6 - 282.3	Fault
282.3 - 283.4	Mafic volcanics with chert fragments.
283.4 - 294.2	Quartz feldspar porphyry tuff?, sericite and clay, trace pyrite.
294.2 - 337.5	Quartz porphyry felsic tuff, weak sericite, trace to 5% pyrite.
337.5	E.O.H.

**CORPORATION FALCONBRIDGE COPPER**

**DRILL HOLE RECORD**

X METRIC UNITS  
IMPERIAL UNITS

HOLE NUMBER MTS 15	GRID CFC	FIELD COORDS 053W	LAT 5+66N	ELEV 352m	COLLAR BRNG 80°	COLLAR DIP -82°	HOLE SIZE NQ	FINAL DEPTH 621m
PROJECT 304 Postuk-Fulton	CLAIM # Bonnie III	SURVEY COORDS			DATE STARTED	CONTRACTOR F. Boisvenu	CORE STORAGE Fulton Farm	CASING Yes
PURPOSE Test down dip MTS 3								

ACID TESTS			TROPARI TESTS			MULTISHOT DATA		
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DEPTH (m)	CORRECTED ANGLE	DEPTH (m)	CORRECTED ANGLE	DEPTH (m)	AZIMUTH	DIP	DEPTH (m)	AZIMUTH	DIP
61.0	83°	20.4	182°	81°					
91.5	83°	518.3	82°	157.6	200°	82°			
122.0	80°	337.4	158°	81°					
152.4		480.8	177°	82°					
182.9	83°								
213.4	82°								
243.9	82°								
274.4	81°								
304.9	83°								
335.4	82°								
396.3	83°								
426.8	81.5°								

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MTS 15

HOLE NO  
ZIPPLY PRINT - BRIDGEPORT RICHMOND

<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>
0 to 3	Casing				
3 to 40.4	Mafic Volcanics	Med-dk green, calcite in fractures, veinlets + patches, massive. 10.4 - 14.5 Med grey massive inter flow, no foliation 14.5 - 15.2 Flow breccia frags of chert + felsic vols. in inter matrix. 15.2 Mafic - calcite flow as above. Med-dk green with chert-qtz interstices or intra flow cherty tuffs at 15.7, 16.7, 17.65, 18.7, 21.9 Becoming well foliated from 30m and less chloritized.		Abundant calcite in veinlets etc.  no  weak ser.  calcite veining wk-mod chl.	Tr-1% py in cubes.   Tr-1%  Tr-3% py diss. + minor py bands.
40.4 to 41.2	Quartz - calcite breccia				
41.2 to 46.3	Intermediate vitric tuff	Stretched vitric (chlorite) frags, well foliated.	20°	Wk chl.	No
46.3 to 56.9	Felsic - Intermediate Tuff - Tuff Breccia	Lt-med. grey, stretched frags of chert + felsic vols. in matrix of intermediate (vitric) tuff as above. Poorly banded occ. qtz eyes.		Cut by qtz-calcite veinlets. Patchy chl alt assoc with qtz veins.	Tr py. Tr - 3% py associated with chloritic zones.

<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>
56.9 to 83.8	Dacite Tuff- Lapilli tuff - Tuff Bx	Lt-med grey, mod well banded and fragmental with frags of cherty tuff + dacite tuff. Very small qtz eyes throughout to 5%. More massive non fragmental sections. 58.8 - 59.7 60.8 - 61.7 61.7 - 62.6 - Broken up. 64.4 - 65.2 Banded? felsic tuff and chert fragmental. Chert component in form of frags persists to 68.7. 69.3 Mod foliated with frags qtz eye dacite tuff + minor silicified cherty beds. As above, mod well foliated. Lapilli to Tuff Bx size frags of dacite, minor cherty. Occ (<5%) small (<2mm) qtz eyes.	20°  20°  20°  15°	Weak chl assoc with qtz veins.  weak sericite  64.3 - 69.3 Silicified matrix + frags, cut by qtz-carb veins.  Weak ser + chl + silicification.	Tr - 1% py diss.    Tr - 3% pyrite   Tr - 3% py throughout in fractures + bleb assoc. with more bleached + silicified zones.
83.8 to 96.5	Intermediate Tuff	Becoming more chloritized or poss. more intermediate composition. Occasionally more massive sections usually <1m.		Mod-intensely sericitized + silicified + bleached 82.2 - 83.8, 93.8 - 94.7, 96.0 - 96.5	
96.5 to 104.2	Dacite Lapilli tuff - Tuff Bx	96.5 Lt grey good felsic LT - TBx, mod. foliated. 99.4 As above, brecciated + stockwork like fracturing + silicified white - lt grey.		Mod.  99.4 Mod-intense sericite + silicification.	Tr - 3% py in fractures + almost incipient stockwork especially in more sericitized + bleached zone. 99.4 - 103.3 3-5% py in thin (<1mm) bands + in incipient fractures.

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104.2 to 111.0	Intermediate (Felsic) Lapilli Tuff	Med green-grey lapilli tuff, no qtz eyes.		weak - mod chloritized.	Tr py.
111.0 to 114	Plag. Porph. Flow	Chill margin? to 111.6 Wkly foliated may be flow?			Tr py in large (5mm) cubes.
114 to 124.4	Intermediate (Andesite) vitric ash tuff	Med green, fine grained with fine stretched ash lapilli size chloritic frags. (glassy). No qtz eyes, finely foliated + uniform. Massive from 122.7 to contact.	20°	Wk chl-ser, cut by qtz carb veinlets.	No
124.4 to 148.4	Felsic? - Intermediate Plag. Porph. Lapilli tuff/ flow	Med grey-green lap - TBx size frags, occ small (<3mm) qtz eyes throughout, mod - well foliated. Good fragmental texture with chert + felsic frags to 1cm, some stretched some not. Poorly sorted, poss. flow f-mg matrix, variable.	10°	Weak-mod chl weak bleaching in patches, occ biotite alt of felsic/chert frags.  Variably bleached becoming more bleached from 140.	No
148.4 to 170.3	Diorite and Plag. Porph. Flow	Fine grained chill then med-cg massive but foliated med green, plag. porph. in part.	10°	No. occ. qtz veining.	Tr py.
170.3 to 216	Qtz Fsp Porphyry Flow	Lt-med green, moderately foliated, med-coarse grained. Banding + pseudo fragmental from 174-180 poss. flow banding. Qtz phenos 3-5mm + up to 20-25% of rock. 180 More homogeneous med grey colour. Foliation at 188. 192 Becoming flow banded or more foliated + more definitely flowbanded from 197. Still med grained with qtz phenos 2-3mm average + up to 5mm + 25%. Consistently flowbanded or bleaching to produce banded appearance to 216.	10° 110° 215-25°	variably bleached  epidote patches + fsp - ep. Less bleached from 180. Some epidote alt. of fsp. Hem staining 191.6-193.5  Bleached to white 194.5-196. Hem staining from 197-216	No - tr py.  No - tr py.

<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>
216 to 253	Qtz Eye Felsic Tuff?	As above, fine-med. grained in qtz phenos (<15%) more distinct, Still flow? banding to 238. Mafic Dykes 221.2 - 222.0 225.7 - 227.3 231.2 - 233 235.2 - 237.8 238-242.5 Qtz fsp porph flow, lt-med grey fine - med. grained. 242.5 - White, strongly bleached qtz porph (fsp-ser). Brecciated with frags of hem stained qtz porph + just ser qtz porph. Fault gouge 246-247 Strongly brecciated + white -red colour to 253.6.	5° 10°  0-5°   10°	216-238 Mod sericite + hem staining + bleaching. Intense hem + ser 223.4 - 224.5   Wk ser, no hem cut by calcite-qtz veinlets. Intense sericite + fractured. 246 - Hem stained qtz phenos.	Tr py in cubes.
253 to 275.8	Qtz-Fsp Porphyry	253-256 Med - coarse grained, red/green colour few qtz eyes to 256- Coarse grained fragmental looking red green qtz fsp porphyry. Fine grained felsic qtz eyes dykes 267.5 - 267.8 268.8 - 269.6 270.5 - 270.7 271.5 - 275.0	10°	Strongly hematized mod sericitized. Mod sericite + hematite.	Tr py in cubes.



<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>
275.8 to 301.7	Qtz-fsp Porphyry	<p>Med green, coarse grained QFP</p> <p>284.6 Becomes foliated and fine-med grained.</p> <p>285.9 M-C grained, green QFP</p> <p>288.2 - 289.8 Mafic dyke, fine grained</p> <p>289.8 F-m grained Qtz (fsp) porphyry, Lt - med grey, fragmental - part with silicified cherty rhy. frags.</p> <p>292.5 - 294.1 Series of fine grained mafic (carb) tuffs with fine pyrite bands.</p> <p>294.1 Qtz fsp porphyry massive as above medium grey</p> <p>299.8-301.7 Mafic dyke fine grained with carbonate.</p>	10°	<p>No hem alt. wk ser.</p> <p>S</p> <p>silicified in part</p> <p>silicified in part wk sericite</p>	<p>No</p> <p>Fine pyrite bands of &lt;1mm thick, &lt;3% py in bands.</p>
301.7 to 312.9	Qtz Fsp Porphyry	<p>Med grey-green massive qtz eyes to 5mm</p> <p>309.1-310.9 Qtz vein with chlorite patches.</p>		Mod sericitized with fsp - ser variably bleached.	
312.9 to 337.2	White-Grey Qtz Porphyry	<p>Coarse grained qtz porph with qtz eyes to 5-7mm, massive to wk foliated.</p> <p>316 - 316.4 Mafic dyke</p> <p>322 Becoming less altered more med grey colour foliated at</p> <p>329.8 White qtz porphyry, coarse grained, mod foliated.</p> <p>335 Qtz porphyry, chloritic crowded QP.</p>	15°	<p>Totally bleached sericitized + silicified.</p> <p>Becoming quite chloritized.</p> <p>Totally bleached + sericitized Mod chloritic.</p>	<p>Tr-2% py in thin bands.</p> <p>No - tr py</p> <p>tr - 3% py in thin (&lt;1mm) bands.</p>

<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>
337.2 to 342.25	Felsic Tuff with Chert Exhalites	Fine grained lt green with occ. qtz eyes (<5%) (3mm) with beds of finely bedded + laminated light grey chert. Chert Beds, also frags of chert in qtz porphyry. 338.7 - 339.1 340.15 - 340.9 341.75 - 341.9 342.2 - 342.25	30°  30-50°		Tr - 3% pyrite in thin bands in chert.
342.25 to 382.5	Qtz Fsp Porphyry	Med-coarse grained, lt-med green white fsps. 344.5-346.6 Qtz chl vein 348.7-349.2 Qtz chl vein M-C grained lt-med green, qtz white fsp porph. to 362.1 362.1 Qtz fsp porphyry med green now fsp > qtz, qtz eyes avy 2-3mm fsps are white foliated at Minor qtz veining + strong fracture/fault at 372.3. 377 med green qtz fsp porphyry.	10°	Wk chlorite  358.7-361 Fe(hem) staining mod chloritic throughout. weak sericite - chlorite patches of Fe (hem) staining. Mod ser + chl + hem from 374.5 - 377 Becoming bleached from 379-382.5	Tr py.
382.5 to 398.5	Felsic - Inter. Tuff	Finely foliated contact at 382.5 Qtz vein to 385.9 Well foliated, med-dk green fsp porphyry fine-med grained. Not as pronounced QFP as above. Only occ. qtz eyes. Banded at and fragmental with qtz + felsic clasts. 395.6-398.5 Qtz-chlorite vein.	20°  10-20°	Strongly chloritized + mod. hem stained.	No

<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>
398.5 to 404.6	Intermediate Tuff with Hematite Bands	Fine-med. grained, med grey to green, fsp phytic in part, well foliated. Bands of 1-2cm wide fine grained hematite throughout especially between 399-400.	10°		
404.6 to 475	Intermediate Hem banded Tuff	As above with calcite veins + patches and bands of 0.5cm wide f.g. hematite especially between 405-407 and from 412-427, 432-457. Small (< 1.5mm) oval quartz eyes present in light green layers (5%). Banding is warped. More pronounced banding 460- approx. 470m. Hematite disappears below 470m. Banding less conspicuous.	15-20°	Calcite-qtz veinlets and patches hematite bands. Light green bands are altered to sericite and/or chlorite.	No
475 to 576	Banded intermediate tuff with calcite veinlets.	Colour - dk green Grain Size - aphanitic Core strongly foliated with colour banding and extensive calcite veinlets parallel to banding and foliation. Small quartz eyes disappear below approx. 510m. 10 cm of gouge at 549m.	5-15°	Intensely altered to chlorite and sericite. Calcite + quartz veinlets following foliation are abundant.	Barren
576 to 589.6	Banded felsic to intermediate tuff	Colour - grey Grain Size - aphanitic. Distinct change in colour although no upper contact was identified. Elongate (1.2 X 5mm) fragments are aligned parallel to banding and may be fiamme, small quartz eyes noted towards lower contact which is sharp.	40°	More sericitic with fewer calcite-quartz veinlets.	Barren

<u>From To</u>	<u>Rock Type</u>	<u>Texture and Structure</u>	<u>Angle to Core Axis</u>	<u>Alteration</u>	<u>Sulphid</u>
589.6 to 621.0	B a n d e d Felsic to Intermediate Tuff	Colour - greenish-grey Grain Size - aphan. Moderately developed banding as in overlying units.	0-10°	Strongly sericitic	Barren, except for 2% pyrite from 620.5 to 621.0m

621.0 E.O.H. Hole stopped for Christmas

Conclusions

1. Hole failed to reach Postuk-Fulton horizon.

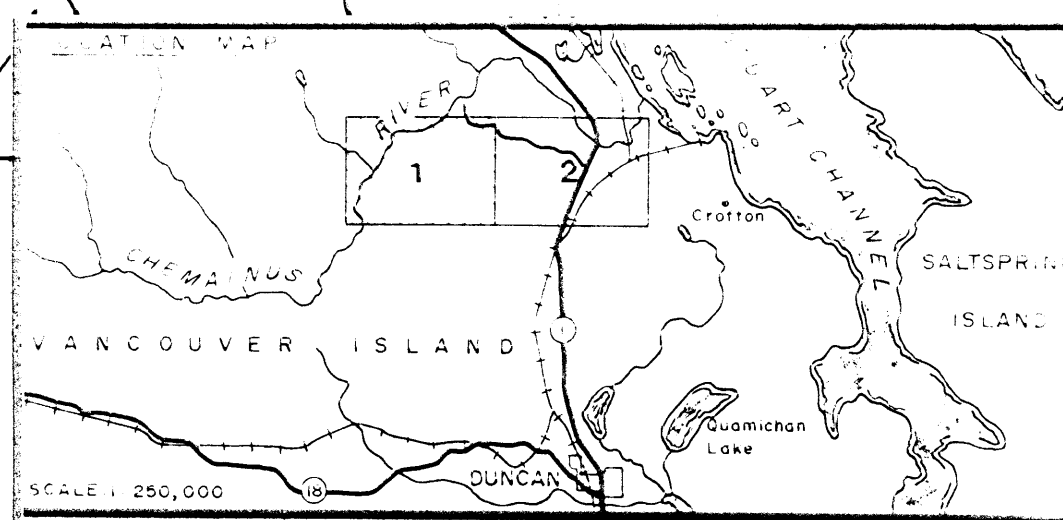
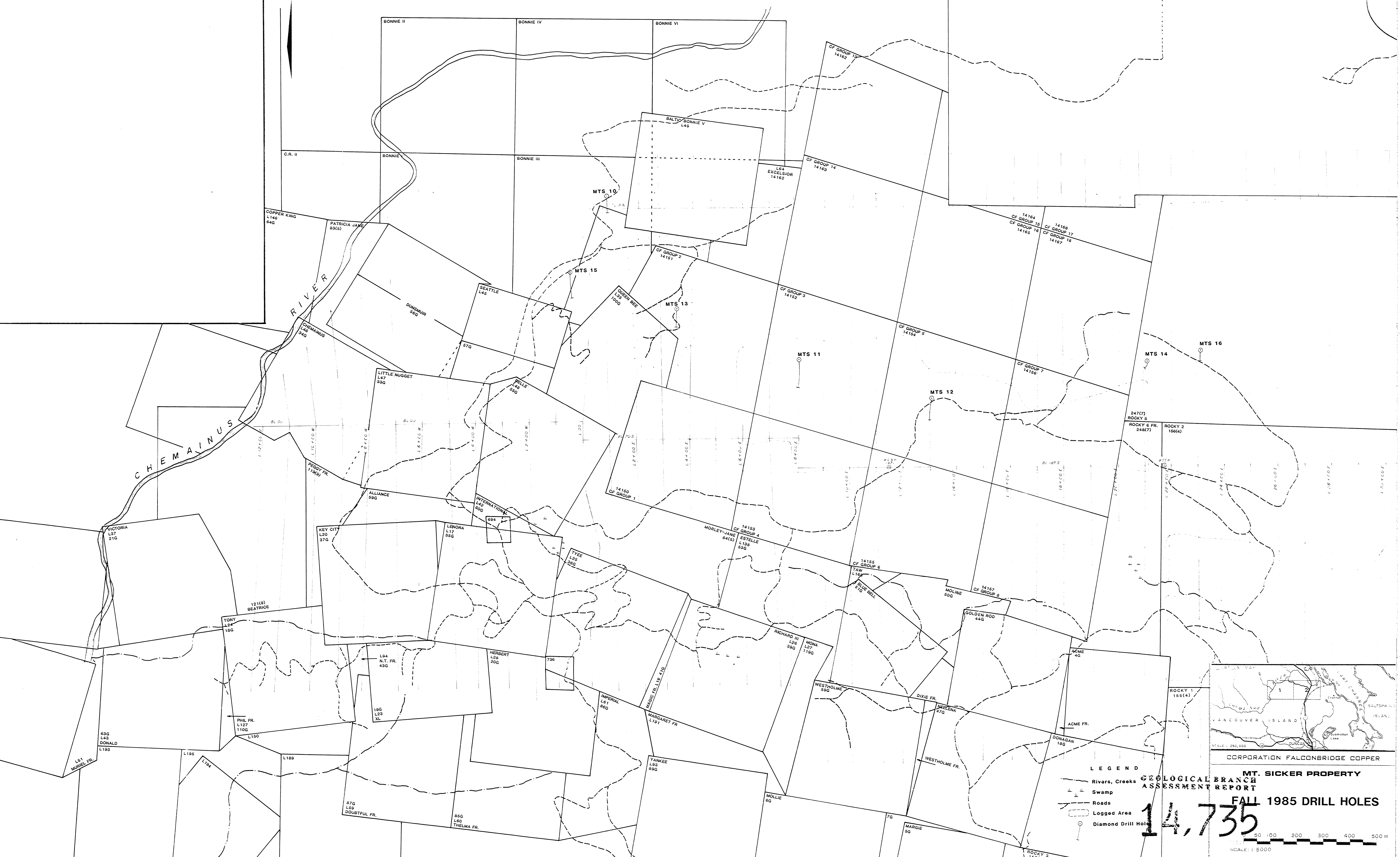
Summary Log - MTS 15

0 - 3	Casing
3 - 40.4	Mafic flow, weak sericite, tr - 1% pyrite
40.4 - 56.9	Felsic - intermediate tuff to tuff-breccia, cut by qtz-calcite veinlets.
56.9 - 83.8	Dacite tuff, lapilli-tuff, lapilli-tuff and tuff-breccia, weak sericite; tr - 1% pyrite as disseminations
83.8 - 96.5	Intermediate tuff, moderately to intensely sericitized.
96.5 - 104.2	Dacite lapilli-tuff and tuff-breccia, moderate to intense sericite and silicification, trace to 3% pyrite almost as incipient stockwork.
104.2 - 148.4	Intermediate-felsic lapilli-tuff, weak chlorite-sericite, barren.
148.4 - 170.3	Diorite.
170.3 - 216	Quartz feldspar porphyry flow, variably bleached.
216 - 275.8	Quartz feldspar porphyry flow, some epidote or sericite.
275.8 - 301.7	Quartz feldspar porphyry flow, some sections silicified.
301.7 - 312.9	Quartz feldspar porphyry flow, mod. sericitized.
312.9 - 337.2	Quartz porphyry flow(?), altered, tr to 3% py.
337.2 - 342.3	Felsic tuff with chert exhalites, trace - 3% pyrite.
342.3 - 382.5	Quartz feldspar porphyry, weak chlorite and sericite, trace pyrite.
382.5 - 398.5	Felsic - intermediate tuff, strongly foliated, intense chlorite.
398.5 - 404.6	Felsic - intermediate tuff with hematite bands.
404.6 - 475	Intermediate hematite-banded tuff, abundant calcite-qtz veinlets, altered to sericite and chlorite.
475 - 576	Banded intermediate tuff with calcite veinlets, intensely altered to chlorite.
576 - 589.6	Banded felsic to intermediate tuff, sericitic.
589.6 - 621.0	Banded felsic to intermediate tuff, strongly sericitic, 2% pyrite from 620.5 to 621.0m
621.0	E.O.H.



<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>
0 to 12.2	Casing				
12.2 to 25.3	Mafic Vols.	Amygdaloidal, dk green cut by qtz-calcite veinlets.		Wk chl, calcite veinlets bleached from 20-22m	Tr - 1% py. 5% diss. /10cm at contact.
25.3 to 84.4	Felsic Tuff - Qtz Eye Felsic Tuff	Lt-med grey, occ. qtz eyes fine- medium grained. 27.7 - 37.4 Mafic tuff well banded, lapilli. 37.4 Qtz eye Felsic Tuff to Qtz fsp prophyry. Pseudo banded/bx to 43. 43 - 69 Badly broken up + gouged, rusty in part. Lt green-white with hem. staining. Still only occasional Qtz eyes to 5% 69 - Gouge to 71 75 - Lt-med. green, + still badly broken gouge. Rusty to 84.1 Minor felsic dyke or f.g. ash tuffs. 82.2 - 82.6 84.5 - 85.7	30°  30°	Qtz eyes + fsps are hem. stained, mod. sericite.  Variable hem. stained.  Bleached + mod. - intense sericite Hem. staining + qtz veining.	Tr - 2% diss.         Tr - no pyrite
84.4 to 112.5	White Qtz Porphyry Felsic Tuff	White qtz porphyry fel. tuff. Qtz phenos 3-7mm to 15%. Fsps - ser. Mod. well foliated 110.5 to 112.5m is mixture of drillers mud and QP	20°	Intense bleaching + ser.	Minor (<5%) thin (<1mm) py bands throughout to 110.0
112.5 to 114.0	Felsic Tuff	Colour - grey Small qtz eyes in siliceous tuff.		Minor chlorite and a few qtz veinlets.	
114.0 to 120.7	Felsic Tuff	Colour - green Grain Size aphanitic Strongly foliated altered felsic tuff.		Moderately chloritic	Tr to 5% diss. pyrite.
120.7	E.O.H.	Hole stopped due to bad ground.			





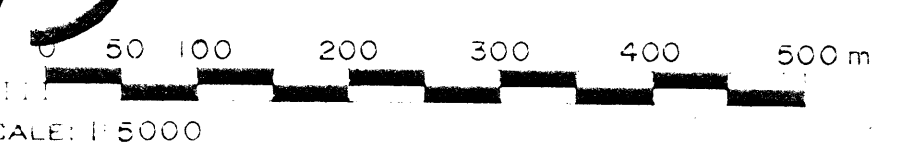
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**MT. SICKER PROPERTY  
GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**FALL 1985 DRILL HOLES**

**14,735**

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



SCALE: 1:5000