

1986 Diamond Drill Programme on
The Fording Coal Lease

Mt. Sicker Property 827201

NTS 92B/13W

January 30, 1987

Corp. Falconbridge
Copper



CORPORATION FALCONBRIDGE COPPER

6415 - 64th Street
Delta, B.C., Canada V4K 4E2
Telephone (604) 946-5451

January 30, 1987

D. J. Shyluk
General Manager
Projects and Developments
Fording Coal Ltd.
200 - 205 Ninth Avenue S.E.
Calgary, Alberta
T2G 0R4

Dear Mr. Shyluk;

In accordance with paragraph 4.2 of the agreement dated November 6, 1985 between Fording Coal Ltd. and Corporation Falconbridge Copper please find enclosed a summary report describing Exploration Work performed on the Leased Lands. The report describes a diamond drill program in which expenditures totalling \$217,437.03 were incurred on the Lands.

If you have any questions concerning this report or the expenditures please call.

Sincerely,

Harold Gibson
Senior Exploration Geologist

HLG/ik

1986 Diamond Drill Programme on
The Fording Coal Lease
Mt. Sicker Property

Victoria Mining Division
NTS 92B/13W
48° 59' Latitude, 123° 51' Longitude

Corporation Falconbridge Copper
6415 - 64th Street
Delta, B. C.

Harold L. Gibson
January 30, 1987

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FIGURE 4 1:5000 geology map of Mt. Sicker with location of 1986 drill holes	In Pocket

INTRODUCTION

This report summarizes results of the 1986 drill program on claims (base-metal rights only) optioned from Fording Coal on CFC's Mt. Sicker property. A total of 2276.18m in 10 holes (MTS 18 to 27) were drilled.

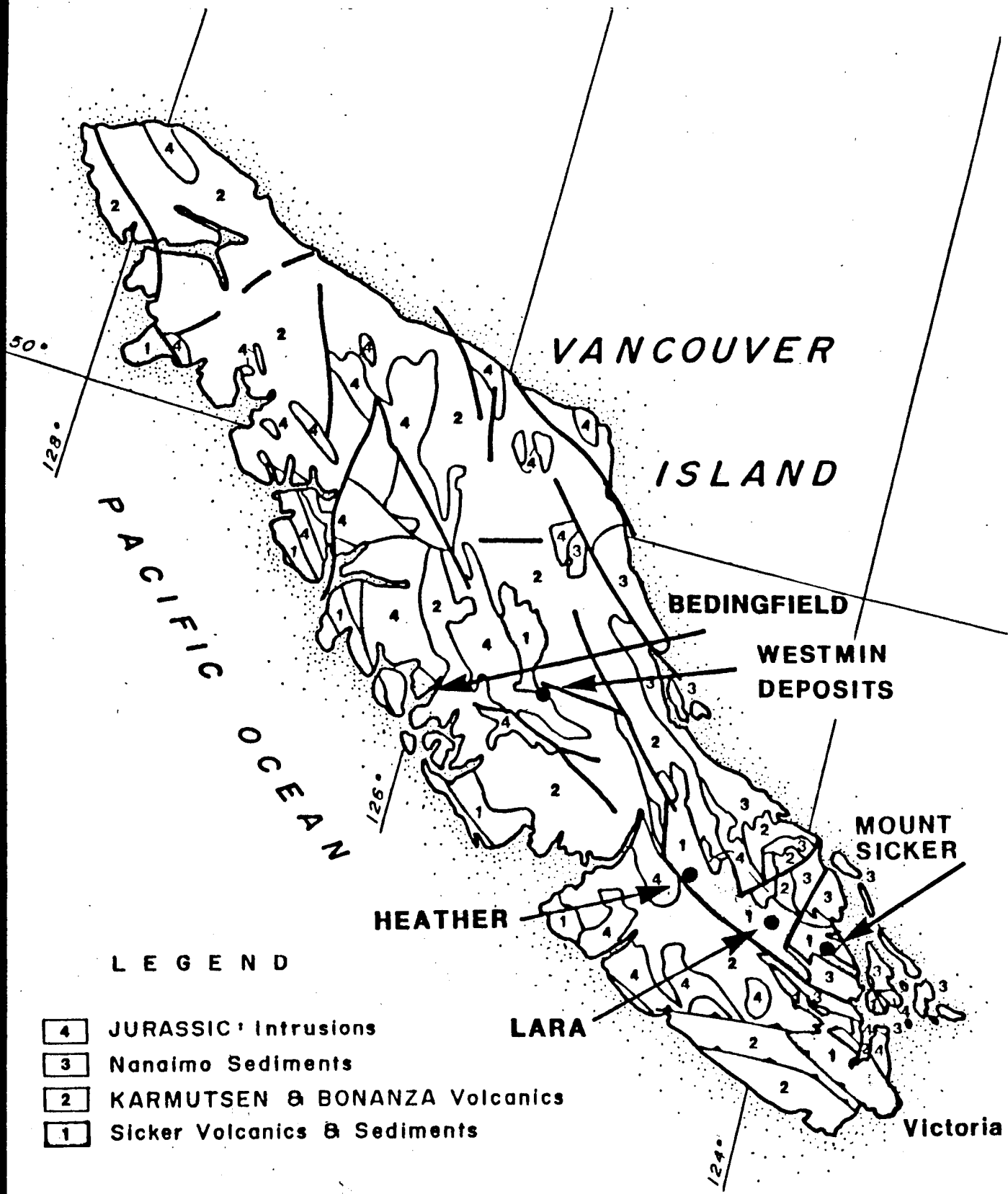
Location and Access

The Mt. Sicker property is located 40 km north of Victoria and 10 km north of Duncan, on Vancouver Island (Figure 1). An extensive system of 2WD + 4WD logging roads from the Island Highway provide excellent access to the property. Topography is moderate with elevations ranging from 150 - 700m. The property is covered by a dense mixed forest of douglas fir, alder and cedar.

Property Definition and History

The Mt. Sicker property consists of 3 contiguous options (Postuk-Fulton, Peppa and Lieberman Options) and CFC claims (Figure 2) for a total of 192 units. Corporation Falconbridge Copper drilled 10 holes MTS-18 to 27 on ground optioned from Fording Coal for base metal rights. These claims are located on precious metal mineral claims optioned from Peppa Resources and Postuk-Fulton.

The Mt. Sicker property (Peppa Option) contains two former producers, the Lenora & Tyee deposits, which collectively yielded approx. 300,000 tons grading 3.31% Cu, 7.51% Zn, 2.75 oz/ton Ag and 0.13 oz/ton Au. The Lenora Tyee deposits discovered in 1898, were largely mined out by 1909, but were worked intermittently until 1947. Previous exploration of the property principally by Ducanex, Mt. Sicker Mines & SEREM focussed on the former mine area and the Postuk-Fulton and NE Copper exhalites along the north slope of Mt. Sicker.



LEGEND

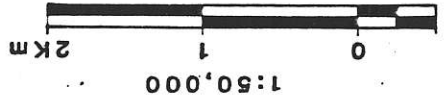
- 4 JURASSIC Intrusions
- 3 Nanaimo Sediments
- 2 KARMUTSEN & BONANZA Volcanics
- 1 Sicker Volcanics & Sediments

VANCOUVER ISLAND

GEOLOGY

SCALE: 1:2,000,000

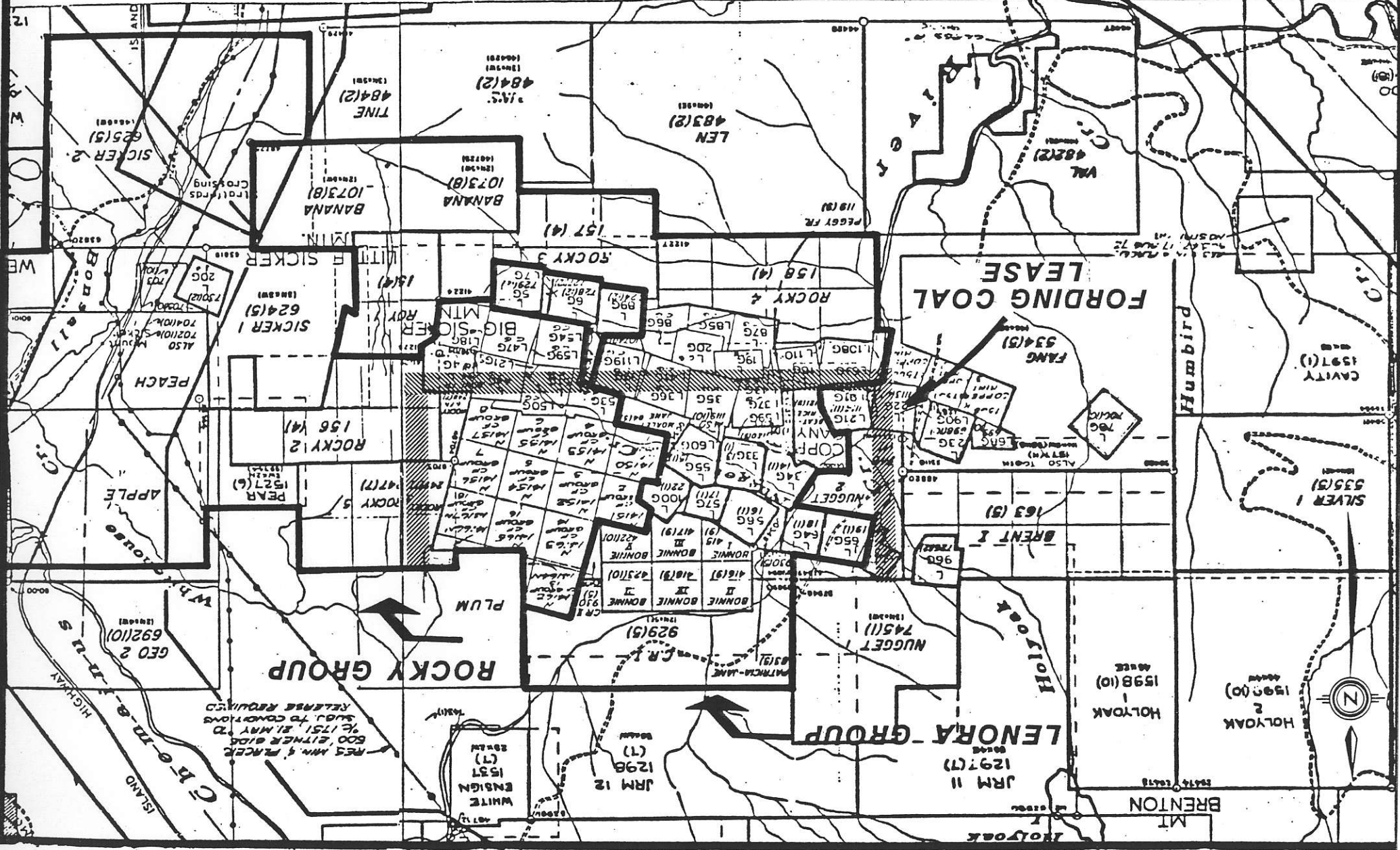




1:50,000

LENORA AND ROCKY CLAIM GROUPS

FORDING COAL LEASE BOUNDARY



12
11
10
9
8
7
6
5
4
3
2
1



GEOLOGY

Regional Geology

The Mt. Sicker property is located in the Cowichan-Horne Lake uplift. The Cowichan-Horne Lake Uplift is one of 3 fault bounded structural culminations that expose the Paleozoic Sicker Group of Vancouver Island (Figure 1). Muller (1980) subdivided the Sicker Group, as follows, in order of increasing age:

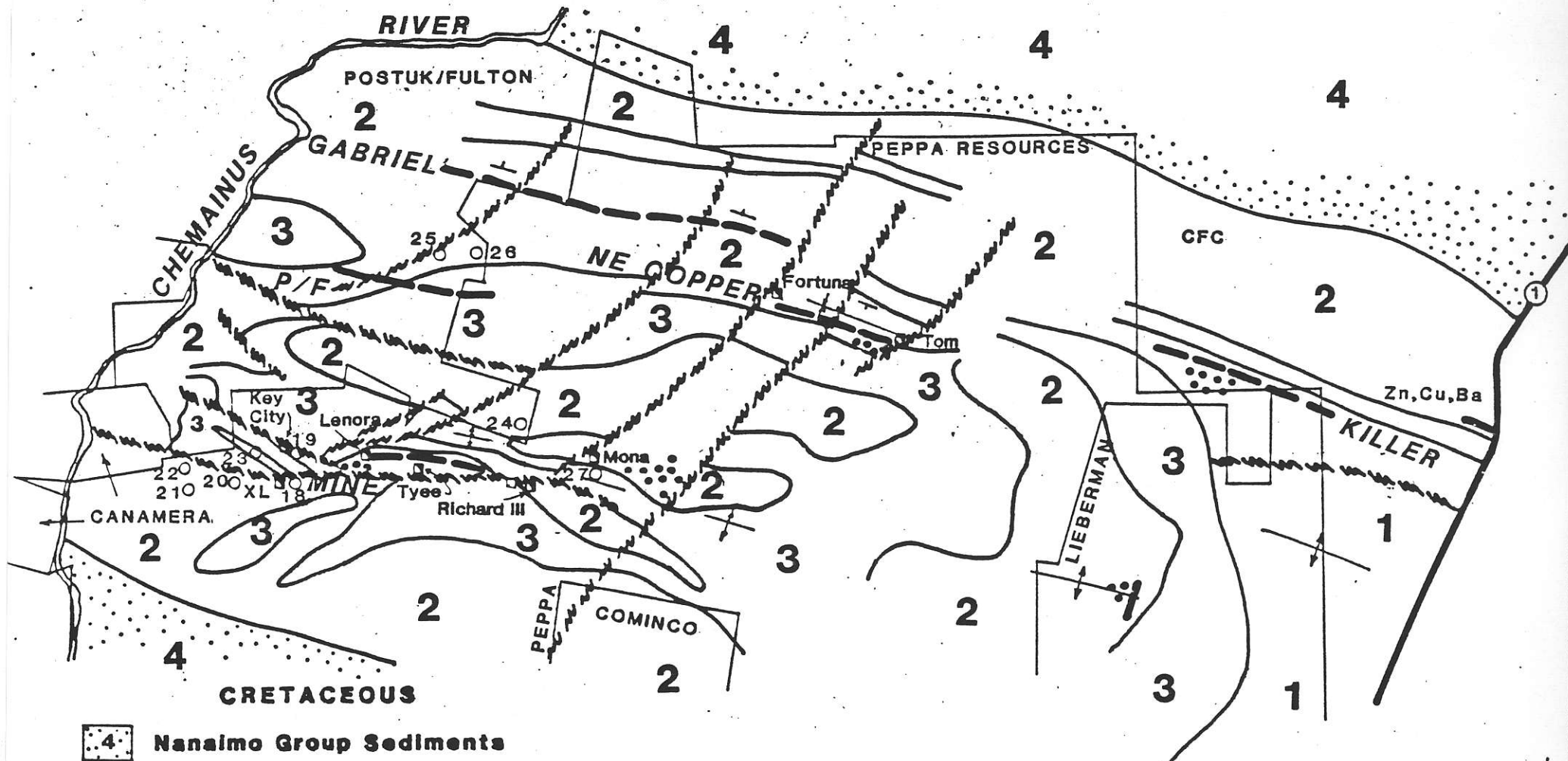
- 1) Buttle Lake Formation - consists of recrystallized crinoidal limestone interbedded with calcareous siltstone and chert
- 2) Sediment - Sill Unit - thinly bedded to massive argillite, siltstone and chert interlayered with diabase sills
- 3) Myra Formation - basic to rhyodacitic banded tuff, breccia and lava with interbedded argillite, siltstone and chert
- 4) Nitinat Formation - basaltic lavas and agglomerates with minor to massive banded tuff layers

Cretaceous sediments of the Nanaimo Group unconformably overly the Sicker group; the contact is commonly marked by a basal conglomerate containing volcanic fragments derived from the Sicker Group.

The structure of the Sicker group is characterized by southwest verging, asymmetric and vertical, open and isoclinal folds (Muller, 1980). West - northwest and northeast trending faults dissect the Sicker Group of the Cowichan-Horne Lake Uplift into numerous fault blocks. Movement along those faults is interpreted to have been mostly Tertiary in age (Muller, 1980). Metamorphic grade ranges from subgreenschist to greenschist.

Geology of the Mt. Sicker Property

The Mt. Sicker Property is underlain by Sicker Group volcanic rocks, Nanaimo group sediments and gabbro-dioritic intrusions of uncertain age. The Sicker group is readily subdivided into the Myra and Nitinat Formations (Figures 3 and 4).



4 Nanaimo Group Sediments

3 Diorite (age unknown)

PALEOZOIC

SICKER GROUP

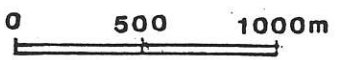
2 Myra Formation

1 Nitinat Formation

270 1986 Drill Holes MTS 17 to MTS 27

Mineralized Horizon

Stringer Mineralization



MT. SICKER PROPERTY

- GEOLOGY -

FIGURE 3

The Myra Formation, which underlies the bulk of the Mt. Sicker property, consists of thick massive units of felsic and subordinate mafic pyroclastic/flow rocks with minor ash, argillaceous sediment and chert. The Lenora-Tyee VMS deposits, stratigraphically equivalent(?) to Westmin's Myra-Lynx deposits, occur within the Mine Package. The Mine Package is a distinct well bedded succession (approx. 70 m. thick) of quartz and quartz-feldspar crystal tuffs, local flows/domes, fine felsic/andesitic ash and minor chert and/or argillite.

The Nitinat formation (Figure 4) is restricted to the east end of the property and is well exposed along the Island Highway. The formation consists of epidotized pyroxene and/or plagioclase porphyritic andesitic-basaltic flows, flow breccias and debris flows (minor pyroclastic rocks). Felsic units are rare and where found are typically thin localized deposits of fine laminated ash/tuff associated with chert.

The structure of the Mt. Sicker property is dominated by a large asymmetric, west-northwest trending, shallow west-plunging anticline, the Mt. Sicker anticline, whose fold axis is interpreted to lie 300m north of the Lenora-Tyee deposits. The Lenora-Tyee deposits are situated within the Mine Package on the shallow-dipping south limb of the Mt. Sicker anticline. The Postuk-Fulton and stratigraphically equivalent Northeast Copper cherts, along the north slope of Mt. Sicker, define the Mine Package on the north limb of the Mt. Sicker anticline. Smaller ancillary drag folds have been identified at NE Copper and Lenora - Tyee.

The Nitinat Formation which covers the Mt. Sicker anticline plunges shallowly west below Mt. Sicker from its surface exposures in the east. The Myra-Nitinat contact is interpreted to be the stratigraphically equivalent to the "H-W Horizon" at Buttle Lake which hosts Westmin's world class H-W VMS deposit. This stratigraphically lower contact occurs at variable depths on the Mt. Sicker Property and is a prime exploration target.

WORK COMPLETED

Ten holes were drilled (MTS-18 to 27) for a total of 2276.18m of NQ core. Holes ranged in length from 160 to 293m. Core from each hole was systematically sampled for a 12 element ICP analysis (SiO₂, TiO₂, Al₂O₃, CaO, Na₂O, K₂O, MgO, MnO₂, Fe₂O₃, Zr, Pb, Ba; plus Cu, Zn by A.A.) and where

mineralized assayed for Cu, Zn + or - Au, Ag, Ba. The core is stored at the Fulton Farm, 6719 Lakes Road, Duncan, B. C.

DRILL HOLE SUMMARY AND RESULTS

A brief summary of each hole is outlined below and their location illustrated in Figure 3 and 4. More detailed descriptions are contained in drill logs of Appendix L

MTS-18 to MTS-23

MTS-18 to 20 inclusive and MTS-23 tested the faulted extension of the Lenora-Tyee Mine Package, west of the former deposits, in the Key City shaft area. MTS-21 and 22 were directed at the Mine Package west of Key City and south of the South Fault.

MTS-18 failed to intersect the Mine Package but did encounter encouraging mineralization (0.35% Zn/0.3m) in stratigraphically lower units. MTS-19 intersected the base of Mine Package approx. 75m east of the Key City shaft; significant pyrite stringer mineralization was intersected in sericitized rhyodacitic ashes (43.30 - 50.9m) immediately above a quartz porphyritic rhyodacite flow/dome. MTS-20 intersected chloritized and mineralized crystal tuff units of the Mine Package (71.32 - 180.9m) dilated by a diorite dyke (87 - 145m). Hole MTS-23 intersected thinly bedded felsic ash and tuff, the up-dip extent of the Lower Horizon encountered in MTS-20. Holes MTS-20 and 21 missed the Mine Package but did intersect encouraging disseminated and stringer pyrite-chalcopyrite mineralization in stratigraphically lower rhyodacitic and andesitic tuffs.

Summary Logs

MTS-18

0 - 260.9

Interbedded succession of rhyodacitic ash, tuff, crystal tuff with minor andesite. Possible footwall to Mine Package.

Best assay: 0.35% Zn/0.3m @ 32.0m

MTS-19

0 - 43.30	Interbedded rhyodacitic tuff, lapilli tuff 0.58% Cu/0.73m @ 13m
43.30 - 50.9	Sericitized rhyodacitic crystal tuff with pyrite stringer mineralization 0.37% Cu/0.45m @ 44.55m
50.9 - 123.4	Quartz porphyritic rhyolite flow, pyrite stringer mineralization 0.32% Cu/0.3m @ 98.0m
123.4 - 163.4	Interbedded rhyodacitic quartz-crystal tuff and ash

MTS-20

0 - 55.0	Andesitic crystal tuff, tuff and massive rhyolite
55.0 - 71.32	Fault and diorite
71.32 - 87.65	Chloritized quartz-crystal tuffs - Mine Package 0.18% Cu/1.51m
87.65 - 145.0	Diorite
145.0 - 180.9	Chloritized quartz-crystal tuffs - Mine Package 0.35% Cu/0.78m
180.9 - 257.2	Sericitized rhyolite flow
257.2 - 270.9	Bedded felsic ash/chert - "lower horizon"
270.9 - 293.52	Diorite and rhyodacitic tuff

MTS-21

0 - 29.15	Interbedded rhyodacitic quartz-crystal tuffs, ash
29.15 - 178.45	Andesitic tuff and lapilli tuff, minor rhyolite 0.49% Cu, 0.11% Zn/0.65m @ 124.55m
178.45 - 279.55	Feldspar porphyritic dacite flow and flow breccia 5.12% Cu, 0.31% Zn/0.12m @ 231.8m - stringer mineralization
279.55 - 288.03	Massive rhyolite and diorite

MTS-22

0 - 83.4	Rhyodacitic quartz-crystal tuffs/ash and dacitic tuff
83.4 - 102.52	Feldspar porphyritic dacite flow 0.79% Cu/0.25m @ 88.5m

102.52 - 196.6 Interbedded rhyodacitic quartz-crystal tuff, ash and lapilli tuff
0.17% Cu/0.58m @ 137.37m
196.6 - 202.08 Aphyric rhyolite

MTS-23

0 - 55.1 Quartz and feldspar-crystal tuffs
55.1 - 106.25 Diorite
106.25 - 134.90 Quartz-crystal tuff
134.90 - 145.73 Rhyodacitic ash, minor tuff - up-dip extension of "lower horizon" intersected in MTS-20
0.35% Cu/0.95m @ 134.8m
145.73 - 199.03 Rhyodacitic crystal tuffs, minor ash

MTS-24

MTS-24 was located to test the Mine Package north and east of the Lenora - Tyee deposits below a strong IP anomaly. MTS-24 encountered quartz-crystal tuffs, felsic ash and chert to 42.65m that may constitute the base of the Mine Package.

Summary Log

0 - 38.8 Quartz crystal tuff, tuff and lapilli tuff; minor diorite
38.8 - 42.65 Thin bedded felsic ash/minor chert
0.1% Cu/0.34m, 4500 ppm Ba
42.65 - 53.0 Dacitic tuff
53.0 - 81.85 Diorite
81.85 - 163.67 Rhyodacitic tuff, quartz-crystal tuff and ash
5.24% Cu, 0.1% Zn, 14 gm/T Ag and 100 ppb Au/0.18m - stringer mineralization
163.67 - 166.72 Andesitic tuff

MTS-25 and 26

MTS-26 and 26 were directed at testing the Mine Package, hosting the Postuk-Fulton horizon, on the north slope of Mt. Sicker. Both holes intersected a mineralized, chloritized and locally Ba enriched Mine Package consisting of well bedded dacitic ash, tuff and chert containing up to 20% pyrite and 6% chalcopyrite (values up to 2.12% Cu/0.6m). Pyrite-pyrrhotite - minor chalcopyrite stringer mineralization was encountered in epidotized andesitic volcaniclastics stratigraphically above the Mine Package in both holes.

Summary Logs

MTS-25

0 - 112.63	Epidotized andesitic ash, tuff, tuff breccia and flows Pyrite - pyrrhotite (chalcopyrite) stringer mineralization from 87.3 - 87.8m and from 98 - 105m 1.13% Cu/0.5m at 87.3m
112.63 - 191.0	Mine Package, chloritized pyritic dacitic ash and chert 0.99% Cu, 1.18% Zn/1.45m at 113.85 1.94% Cu, 0.1% Zn/0.23m at 117.25m
191.0 - 252.07	Felsic ash, tuff and massive rhyolite flow

MTS-26

0 - 43.59	Diorite and dacite dykes
43.59 - 153.4	Epidotized andesitic tuff, tuff breccia and flows Pyrrhotite-pyrite (chalcopyrite) stringer mineralization from 137.87 - 153.4m 0.16% Cu/1.44m @ 149.66m
153.4 - 236.8	Chloritized mine Package - dacitic ash and chert 2.12% Cu/0.6m @ 168.90m
236.8 - 249.02	Sericitized rhyodacitic crystal tuffs and ash 0.34% Cu/0.41m @ 238.16m

MTS-27

MTS-27 was located to test an interpreted east continuation of the Lenora-Tyee mine horizon across the Fortuna faults and below the Mona diorite. Anomalous zinc mineralization, principally fine sphalerite stringers, was encountered below the diorite within Ba enriched, weakly sericitized quartz-crystal tuffs similar to those at Lenora-Tyee 1km to the west.

Summary Log

0 - 40.70	Diorite
40.70 - 201.47	Mine Package, weakly sericitized rhyodacitic ash and quartz-crystal tuffs with fine pyrite-chalcopyrite-sphalerite stringers up to 3.0cm wide
	0.21% Zn/1.2m @ 41.95
	0.33% Cu, 5.70% Zn/0.07m @ 52.42m

CONCLUSIONS

Results of the 1986 drill program are encouraging. Drilling defined and tested the Lenora-Tyee Package for 600m west of the former deposits. Although no significant base metal mineralization was intersected in holes MTS-18 through 23, strong pyrite stringer mineralization encountered in MTS-19, within a quartz-porphyritic rhyodacite flow, may warrant an additional drill hole. Mineralization intersected in MTS-21 and 22, located stratigraphically below the Mine Package, may define a "Lower mineralized horizon" that will be evaluated through mapping and lithogeochemical surveys along the Chemainus River to the west.

Holes MTS-24 and 27 located 500m and 1000m west of the Lenora-Tyee deposits intersected copper-zinc stringer mineralization within a quartz-crystal tuff, ash and chert succession which may define the eastern extension of the Mine package, east of the Fortuna Fault. Anomalous zinc mineralization in MTS-27 definitely warrants follow-up drilling both down dip and to the east.

Mineralization encountered within chloritized dacitic ash and chert (Postuk-Fulton horizon) of the Mine Package in both MTS-25 and 26 warrants

follow-up drilling especially to the west where the horizon is shallow and wide-open. Stringer sulphides encountered in andesitic volcanics above the Mine Package in both MTS-25 and 26 point to a stratigraphically higher target yet to be tested.

REFERENCES

Muller, J. E., 1980; The Paleozoic Sicker Group of Vancouver Island, B. C. GSC
Paper 79-30, 22p.

ITEMIZED COST STATEMENT

DRILLING

Contractor - F. Boisvenu

2276.18m @ \$55.01/m	152,095.56
Machine, Man and Cat hours	9,558.30
Materials	9,343.19
Plastic Pipe (Line drill holes)	8,100.00

Salaries

H. Gibson	45 days @ \$350/day	15,750.00
M. Gray	10 days @ \$300/day	3,000.00
D. Small	30 days @ \$150/day	4,500.00
E. Denholm	15 days @ \$150/day	2,250.00

Field Expenses

Truck	45 days at \$50/day	2,250.00
Food/accommodation	100 days at \$40/day	4,000.00

Analyses

279 lithogeochem and assay samples @ \$23.62 each	<u>6,589.98</u>
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TOTAL COSTS

\$217,437.03

APPENDIX I
DRILL LOGS

CORPORATION FALCONBRIDGE COPPER

Grid Co-ordinates, 6+40W/8+70S

DRILL HOLE RECORD

x METRIC UNITS
IMPERIAL UNITS

HOLE NUMBER MTS-18	GRID CFC	FIELD COORDS	LAT 8+70S	DEP 6+75W	ELEV 385m	COLLAR BRNG 360	COLLAR DIP -55°	HOLE SIZE NQ	FINAL DEPTH 260.29m
PROJECT PN 305	CLAIM #	SURVEY COORDS				DATE STARTED: June 12/86 DATE COMPLETED: June 16/86	CONTRACTOR: F. Boisvenu CORE STORAGE: Duncan CASING: 3.3m		
PURPOSE								RQD LOG COLLAR SURVEY	PULSE EM SURVEY MULTISHOT SURVEY
ACID TESTS				TROPARI TESTS			MULTISHOT DATA		
DEPTH (m)	CORRECTED ANGLE	DEPTH ()	CORRECTED ANGLE	DEPTH ()	AZIMUTH	DIP	DEPTH ()	AZIMUTH	DIP
30.5	-55°			Tropari sent for repair					
61									
91									
122									
152	-56°								
183	-55°								
213	-56°								
244	-55°								

HOLE NO MTS-18
ZIPPY PRINT - BRIDGEPORT RICHMOND

LOGGED BY A. J. Davidson
H. L. Gibson

<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>	<u>Remarks</u>
0 to 6.5		Casing				
6.5 to 9.5	Diorite	Coarse grained, equigranular to 6.5 then fsp. porphy. (border phase??) to 6.5 - 9.5 poss. intermediate crystal tuff		Strongly epidotized to 6.5 then unaltered.	Trace pyrite	
9.5 to 10.2	Rhyolite - Rhyodacite Tuff	Fine grained with occasional quartz phenos to 5mm.				
10.2 to 10.9	Intermediate Ash Tuff	Medium grey-green, fine grained broken up. Becoming silicified or dacitic in comp. 10.67 - 10.85		Very weak sericite quartz vein at 10.3/10cm	Trace pyrite	
10.9 to 11.8	Quartz Porphyry	10-15% qtz eyes to 5m, foliated at 80°		Weak sericite		
11.8 to 12.2	Quartz Eye Rhyolite	Occasional quartz eyes (1%) to 5mm size, aph-fg matrix.		Very, very weak sericite		
12.2 to 12.65	Intermediate Ash Tuff	Pale green, with fine cherty ash bed markings contact at 20° to CA Possible load casts & flames indicate tops to top of hole.	20°			
12.65 to 13.15	Diorite					
13.15 to 16.1	Intermediate Ash Tuff/ Flow	F - mg with occasional bands of more felsic/cherty ash at 13.7-13.9, 14.1, 14.7.	Cherty beds at 40°	No	Tr-2% py associated with cherty beds.	

<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>	<u>Remarks</u>
16.1 to 17.4	Chert - Cherty Ash	Very fine grained chert, starts with 2cm wide band of cherty argillite, then aph banded lt. grey chert, broken up & fractured		Cut by fine quartz & calcite veinlets.	Tr - 3% pyrite on fractures.	BCD 4726
17.4 to 19.7	Diorite					
19.7 to 21.64	Rhyolite - Rhyodacite Tuff	Fairly massive, med grained with occasional pheno & distinct fragments. Weakly banded at 60° to CA		Fresh in weak sericite.	Tr - 1% pyrite in wisps & diss., blebs py at contacts.	
21.64 to 26.2	Rhyodacite Ash - Lapilli Tuff	Well foliated, v.v. fine quartz eyes with lapilli to 2cm.	Fol. 60°	Wk - occ. mod. sericite. Tr chl in wisps.	Tr-2% py through in diss. & fractures fine veinlets.	
26.2 to 32.0	Rhyolite Ash - Cherty Rhyolite (Vit)	Becoming more massive, occ. quartz eyes with zones of cherty rhyolite. Micro quartz porph. cc/mm. Shows kink banding occ. Broken up & occ gouge from 29 - 31.4		Wk - occ mod. sericite.	Tr - 2% pyrite in fol. & diss.	
32.0 to 32.3	Rhyolite Crystal Tuff Py-Cp-Chl	Rhyolite crystal tuff with fsp phyric		fsp - ep chl bands	5-15% py, 0.5% cp, poss tr sph?	
32.3 to 39.15	Rhodacite Ash Crystall Tuff - Lapilli Tuff	F - mg & cherty in places to 34 then mottled lapilli texture with chlorite along foliation & fsp phyric.		Mottled green white text due to chl wisps mod ser + mod chl alt Some chl-ep most fresh.	Py 1-3% along foliation + associated with chloritic zones 3-5% py from 38-39.	
39.15 to 44.7	Rhyodacite Ash Fsp Phyric Crystal Tuff	Fsp phyric to 1-2mm, f.g. matrix, no quartz eyes, 10-15% fsp phenos. Extremely cherty with green talc colour from 41.2 - 41.9		Wk - mod. chl, wk ep. Some fsps - ep.	Tr - 1% py throughout along foliation + associated with chl.	

<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>	<u>Remarks</u>
44.7 to 60.45	Rhyolite Rhyodacite Ash - Lapilli Tuff	v.f.g. to start then becoming more lapilli size frags from 51, occ. qtz phenos, lt grey overall. Occ. cherty/glassy patches.	Fol. 80°	Wk ser + chl (mod.)		1-3% py throughout. Also patches <2cm of blebs of py associated with cherty patches.
60.45 to 63.3	Quartz Eye Rhyolite	Well foliated, lt. grey rhyolite with 5-10% fine (<1mm) quartz eyes.	Fol. 90°	Mod. ser.	Tr py	
63.3 to 73.3	Rhyodacite Lapilli Tuff	Lt-med green, occasional quartz pheno cherty sections. Becoming more chl from 69.		Mod. chlorite mottling - lapilli; more chloritic from 69-73.	Tr - 1% py associated with more chl zones along foliation.	
73.3 to 93.2	Quartz Eye Rhyolite Tuff Lapilli Tuff	Lt grey - white, fine microporphy. qtz throughout, well foliated + kink banded. Becoming strongly gouged from 84.0m due to upcoming fault.		Mod - intense? sericite. Strong foliation + alt. - paper schist. Also due to upcoming fault.	1-5% py in thin wisps bandes + patches with black soft min? graph? sph? Also py with gouge zone.	
93.2 to 95.7	Fault Gouge Contact	Strong fault gouge with clay + hem.	60°			
95.7 to 105.95	Mafic Crystal Tuff	Fsp phyrlic in part diorite looking except for hem + leucoxene in matrix. Poss. fragmental + (Nitinat like?)		Quartz calcite veinlets throughout + epidote patches, hematite + leucoxene. Strong qtz veins from 105-105.55		
105.95 to 106.2	Diorite Dyke	Poss. xeno or frag. in mafic tuff.			Tr - 1% po.	
106.2 to 107.2	Mafic Tuff	As above with leucoxene				

<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>	<u>Remarks</u>
107.2 to 107.65	Diorite Dyke	Poss. frag.				
107.65 to 113	Rhyolite Tuff - Lapilli Tuff	Microcrystalline, no quartz eyes.	Contact at 50°	Mod chl + ser	Py 1-3% along contact.	
113 to 113.38	Fault Gouge				Py frags in fault gouge, py in band at contact.	
113.38 to 113.9	Mafic Tuff	A/A leucoxene, foliated.				
113.9 to 115.6	Diorite Dyke	Poss. frags.				
115.6 to 119.45	Mafic Tuff	With diorites from 116.35 - 116.6 117.5 - 117.7		Leucoxene + hem chl.	py, po	
119.45 to 132.0	Diorite	C.g. ep.				
132.0 to 148.6	Rhyolite Ash - Lapilli Tuff	Well doliated, f-m.g. with patches or veins or bands of mafic tuff at 133.3 133.85 - 134.2 Becoming kink foliated from 135 Chloritized ash? frags from 143-145. 145.2-145.65 F.g. mafic dyke 147.9-148.1 Fault gouge.	Bands 50° Fol. 60°	Mod sericite + fol. weak chl along fol. silicified from 140.	Tr-1% py along foliation + in blebs + associated with bands mafic tuff (diss). Occ. patches of py. Py increasing to 2-3% overall from 135. 141.72-141.73 Band of 20% py with 1% cp. Mafic dyke with tr py.	Assay #4730 137.55-138.55 Assay #4731 136.2-137.0
148.6 to 164.0	Mafic Tuff or Foliated Margin of Diorite	Foliated, f-m.g., leucoxene rich with calcite and qtz veins, leucoxene aligned along foliation 160 - as above becoming coarser grained.	30-50°	Chloritized?	Tr - 1% pyrite along foliation.	

<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>	<u>Remarks</u>
164.0 to 178.75	Diorite	Coarse grained Foliated margin 178.2 - 178.75				
178.75 to 180.95	Rhyodacitic Tuff	Colour - grey Grain Size - aphanitic Massive rhyodacitic tuff, speckled appearance possibly reflecting feldspar crystals - thin (<10cm sections (beds?) of aphanitic argillaceous? andesitic tuff	contact at 180.95 at 60°		2-3% disseminated and bleby pyrite	
180.95 to 186.1	Andesitic Tuffs, Lapilli Tuffs	180.95 - 183.0 Medium to thin-bedded, aphanitic aphyric andesitic tuff and minor ash. Beds range in thickness from several cm to +20cm. Siliceous, "cherty" interbed @ 181.45 - 181.60 @ 55° to C.A. 183.0 - 186.1 - massive, thick-bedded andesitic tuff, bedding contact at 183.0 @ 70°			2-3% fine disseminated pyrite throughout, somewhat concentrated along fractures that parallel bedding - two, 1cm blebs of chalcopyrite in quartz vein at 181.90m - possible "bed" of massive pyrite in ash tuffs at 181.85m. 5cm wide section at "base" of unit with 25° to pyrite at 35-60° to C.A. in chl. carbonate veined andesitic tuff(?)	Geochem 3948 180.95 - 183.50

<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>	<u>Remarks</u>
186.1 to 214.80	Interbedded Rhyolite Tuff, Ash, Crystal Tuff and minor Andesitic Tuff	<p>Colour - light grey Grain Size - aphanitic</p> <p>From 186.1 to 188.0 unit is definitely a breccia with lapilli size felsic, aphyric grey-green fragments (somewhat diffuse looking) in a darker green matrix</p> <ul style="list-style-type: none"> - odd distinct large fragments up to 5cm in size - lapilli tuff <p>After 188m units consists of massive sections of grey massive to green-grey mottled rhyodacite tuff? and minor sections "beds", of andesitic tuff</p> <ul style="list-style-type: none"> - contorted, thinly laminated felsic ash from 190.45 - 190.80 at <math>40^\circ</math> to C.A. <p>Some sections have a mottled appearance and may be rhyodacitic crystal tuffs (Feldspar crystals). Strong gouge zone - fault - from 191.11 - 191.65 at <math>25^\circ</math> to C.A. 188 - 200.2 Interbedded massive rhyodacitic tuff, lapilli tuff and minor ash.</p>		- weak but pervasive chlorite alteration	<p>3-4% disseminated pyrite throughout rhyodacitic tuffs</p> <ul style="list-style-type: none"> - locally sections 1-2cm wide contain up to 10% py - tr. ccp. - generally more sulphide (pyrite) in thinly bedded - laminated ash section (3-6%). 	<p>Geochem #3949 197.20 - 201.85 Assay #4729 206.04 - 206.60 (pyrite in laminated felsic ash).</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>	<u>Remarks</u>
200.2 - 200.4	Rhyodacitic crystal tuff	- quartz + feldspar crystals = 8%				
200.4 - 201.15	Rhyodacitic tuff, crystal tuff					
201.15 - 201.25	Andesitic tuff, contact at 30°					
201.25 - 201.85	Rhyodacitic tuff contact at 40°					
201.85 - 202.25	Crystal tuff, 8% quartz/feldspar crystals					
202.25 - 202.8	Andesitic tuff, massive					
202.8 - 202.9	Rhyodacite tuff					
202.9 - 203.0	Andesitic tuff					
203.0 - 203.45	Quartz veins + chlorite					
203.45 - 205.32	Rhyodacitic crystal tuff, massive	- quartz and feldspar crystals				
205.32 - 205.8	Andesitic tuff and ash, bedding at 50° to C.A.					
205.8 - 207.0	Rhyodacitic tuff and minor ash laminae, bedding of ash at 30-45° to C.A.					
207.0 - 208.45	Thin bedded - laminated andesitic tuff and minor ash laminae. Bedding at 65° to C.A.					
208.45 - 214.80	Massive dacitic, weakly chloritized tuff					
	- faintly laminated and finer grained from 208.45 - 210.90m.					

<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>	<u>Remarks</u>
214.80 to 219.35	Diorite	Colour - green Aphanitic, chilled contacts, feldspar porphyritic margins and interior. - calcite veins (60-70°) in dyke margins	contact at approx 80° to C.A.	Epidote altered feldspar.		
219.35 to 234.5	Interbedded Rhyolitic Tuff/ Crystal Tuff and Andesitic Tuff	219.35 - 221.8 Aphanitic, aphyric, massive rhyodacitic tuff - pale grey-buff siliceous mottling - frags - from 221.1 to 221.35m. 221.8 - 223.1 Aphanitic, andesitic tuff, massive with a faint lamination - thin interbed of rhyodacitic tuff (<5cm) at 222.6m, bedding at 222.6 also appears to be sub-parallel to to C.A. 223.1 - 234.5 Rhyodacitic crystal tuff ash tuff with minor felsic ash - crystal tuffs defined by 8-15%, epidotized feldspar crystals up to 3mm - rhyolite tuffs some as crystal tuffs but lack feldspar crystals - felsic ash beds are massive to laminated sections with bedding at 50° to C.A. Thinbedded felsic ash at 225.65 - 225.85 (50° to C.A.) and from 232.75 - 232.86 (broken core).	contact at 223.1 at 55-60° to C.A.		- fine diss. pyrite (2-3%) throughout unit - irregular 3cm clot of ccp/py at 225.65m in thinly bedded ash unit	Geochem #3950 221.8 - 223.1 Geochem #4501 223.1 - 225.65

<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>	<u>Remarks</u>
234.5 to 252.0	Diorite	<p>Colour - green Grain Size - fine-grained Massive, fine-grained diorite with 6% epidotized feldspar phenocrysts <4mm in size - few calcite veins at 50-40° to C.A. Contains sections of massive, aphanitic mafic tuff(?) from 242.8 - 244.1 @ 70° 248.93 - 249.27 @ 60° Diorite contact chilled at 249.27 with xenoliths of massive aphanitic tuff at contact - massive white quartz veins at 242.81 - 243.05 at 50° 243.12 - 243.22 at 50°</p>	<p>contact at 252.0m at 40°</p>	<p>Weak epidote alteration of feldspar</p>		<p>Aphanitic mafic Xenoliths within diorite contain fine feldspar crystals (5-10%) locally (<1mm).</p>
252.0 to 260.29 E.O.H.	Andesitic Tuff	<p>Colour - green Grain Size - aphanitic Massive, aphanitic andesitic tuff. 1-5mm subrounded grey "felsic fragments" (<5%) - cut by mineralized, pyritic veins, chloritic envelopes surrounding veins impart a bedded structure to unit (at <15° to C.A.) - calcite veins at 15-40° to C.A.</p>		<p>- chlorite alteration mantling pyrite veins.</p>	<p>- minor diss. pyrite - up to 10% pyrite in narrow (2-5mm) veins at <15° to CR</p>	<p>Geochem #4502</p>

LITHOGEOCHEMISTRY

MAJOR OXIDES

TRACE ELEMENTS

SAMPLE NUMBER	FROM (m)	TO (m)	MAJOR OXIDES										TRACE ELEMENTS					Rock Type	Alt	Min	Grid
			SiO ₂	Al ₂ O ₃	CaO	MgO	Na ₂ O	K ₂ O	FeO	MnO	TiO ₂	Ba	ppm Cu	ppm Zn	% Pb	% Zr	ppb Au				
3944	13.1	16.1	54.21	19.09	3.67	5.56	3.86	2.75	7.63	0.18	0.76	0.16	65	104	.005	.005					
3945	35.5	38.2	71.47	14.77	0.69	2.58	2.73	2.76	3.28	0.20	0.31	0.116	46	92	.005	.006					
3946	75.75	78.80	75.23	12.96	0.53	2.85	1.35	2.70	3.38	0.13	0.16	.093	195	88	.005	.005					
3947	140.35	143.25	71.81	14.22	2.13	1.49	1.46	3.45	3.38	0.06	0.33	.194	500	48	.005	.005					
3948	180.95	183.50	58.24	17.54	1.02	5.48	4.21	1.10	10.20	0.24	0.71	.062	695	208	.017	.005					
3949	197.2	201.85	72.30	12.98	1.48	2.13	3.69	1.45	3.82	0.10	0.32	.104	116	62	.005	.005					
3950	221.8	223.1	56.41	17.18	0.75	8.04	0.13	2.53	12.82	0.31	0.62	.161	158	152	.010	.005					
4501	223.1	225.65	75.07	12.36	1.23	2.35	0.62	2.81	4.05	0.09	0.13	.166	13	41	.005	.005					
4502	255.12	257.55	41.14	18.30	8.29	8.39	2.88	0.09	16.67	0.37	2.25	.007	35	180	.014	.010					

Hole No. MTS-18

Entered by _____

Logged by _____

Page No. 11

ASSAY SHEET

Sample Number	From (m)	To (m)	Estimate		Length (m)	% Cu	% Zn	% Pb	gm. T Ag	ppb Au	% SiO ₂	% TiO ₂	% Na ₂ O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	PPM Ag	Ba			
			Cu	Zn																			
4726	16.1	17.4				.006	.010			5											2490		
4727	32.0	32.3				.056	.35	.001		5										1.2			
4728	80.9	82.0				.031	.29	.035		5										1.5	1200		
4729	206.04	206.60				.001	.01		0.1	5													
4730	137.55	138.55				.030	.01		0.4	5													
4731	136.2	137.0				.028	.02		1.0	10													

CORPORATION FALCONBRIDGE COPPER

x METRIC UNITS
IMPERIAL UNITS

Grid Co-ordinates 7+40S, 6+40W

DRILL HOLE RECORD

HOLE NUMBER MTS-19	GRID CFC	FIELD COORDS	LAT 7+45S	DEP. 6+65W	ELEV 395	COLLAR BRNG. 0°	COLLAR DIP -50	HOLE SIZE NQ	FINAL DEPTH 163.68m
PROJECT PN 305	CLAIM #	SURVEY COORDS.				DATE STARTED: June 17/86 DATE COMPLETED: June 19/86	CONTRACTOR: F. Boisvenu CORE STORAGE: Duncan CASING: 3.65m		

PURPOSE								RQD LOG COLLAR SURVEY	PULSE EM SURVEY MULTISHOT SURVEY
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ACID TESTS				TROPARI TESTS			MULTISHOT DATA		
DEPTH (m)	CORRECTED ANGLE	DEPTH ()	CORRECTED ANGLE	DEPTH ()	AZIMUTH	DIP	DEPTH ()	AZIMUTH	DIP
20	50.5°								
61	50°								
91	50°								
122	49°								
152	48°								

HOLE NO MTS-19
ZIPPY PRINT - BRIDGEPORT RICHMOND

LOGGED BY H. L. Gibson

<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>	<u>Remarks</u>
0 to 3.65m	Casing					
3.65 to 43.30	Interbedded Rhyolitic Tuffs, Lapilli tuffs and Ash	<p>Colour - light grey Grain Size - aphanitic <u>3.65 - 22.86</u> Massive rhyodacitic crystal tuff - fine, <2mm, quartz eyes (1-2%) - foliation @ 60-65° to CA <u>22.86 - 23.65</u> - felsic ash unit, massive, not bedded - possibly silicified - aphyric - few calcite/quartz veins at 40- 60° to CA Contact at 23.65 @ 65° to CA Weak shear, at 22.2m @ 70° to CA <u>23.65 - 36.5m</u> Foliated, kinked, sericitic felsic tuff/ash - aphanitic, aphyric - diss. and stringer pyrite. Foliation at 45-50° to CA Band of intermediate (dacitic) tuff? from 25.09 - 25.15m - trace to 1% fine (1mm) quartz eyes - sericitic gouge from 26.3 to 26.6 @ 50° to CA</p>		<p>Weak sericite alteration to 23.65 Moderate sericite altera- tion from 23.65 to 36.50m Weak sericite alteration from 37.50 - 43.30m</p>	<p>1-3% fine disseminated pyrite throughout to 23.65m 25% pyrite, tr. ccp in a 5cm and 1cm wide band (60° to CA) at 10.8m From 13.27 to 14.0 good chalcopyrite - pyrite in stringers up to 8mm wide - average <3% ccp over interval Assay #4732 13.27 - 14.0 Assay #4733 10.70 - 11.15 Assay #4734 25.15 - 26.4 Assay #4735 29.65 - 30.07 Semi Massive pyrite/ quartz</p>	<p>Geochem #4503 6.09 - 8.53 45% recovery from 3.65 - 6.09m - boulders of Diorite at 3.65m? 96% recovery from 6.09-8.53m Geochem #4504 23.65 - 25.09</p>

<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>	<u>Remarks</u>
		<u>36.50 - 38.68</u> Aphanitic, aphyric, massive to banded (bedded at 40-50° to CA) rhyodacitic ash - siliceous, cherty appearance from 36.5 - 37.35 thereafter more tuffaceous in appearance.			From 23.65 to 35.0 unit is characterized by 3-5% disseminated pyrite with stringers or bands of near massive pyrite (tr. ccp) from 2-3mm (averaging 1-2cm) up to 20cm. Semi massive (25% pyrite) pyrite, tr. ccp from 29.65 - 30.07 plus vein-like quartz in sericitic felsic tuffs (#4735) Assay #4736 35.0 - 36.5m 10-15% pyrite as stringers + disseminations tr. ccp.	Geochem #4505 36.50 - 38.68
		<u>38.68 - 39.50</u> Quartz-eye crystal tuff, 1-2% QP up to 3mm. - foliation wraps around crystals - rhyodacitic aphanitic matrix - minor, <1% diss. pyrite				
		<u>39.50 - 43.30m</u> Massive, grey rhyodacitic tuff, trace 1-2mm quartz crystals - pyrite stringers/fractures at 50° to CA - <1% diss. pyrite			From 42.80 - 43.30 unit contains 8% pyrite, principally as stringers @ <20° to CA, tr. to minor ccp (<1%) Assay #4737 42.80 - 43.30	Geochem # 4506 39.55 - 42.80

<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>	<u>Remarks</u>
43.30 to 44.16	Semi-massive Stringer Sulphides	Colour - Brass yellow Sulphides with milky-white quartz, minor sericitic rhyolite			Unit averages (+)30% pyrite with two sections 12cm in width with >60% pyrite, tr. ccp. Assay #4738 43.30 - 44.16	Coarse-grained textures (+5cm) similar to stringers at Tom shaft and elsewhere on property (Mona, Killer Gossan) and to those at Buttle Lake.
44.16 to 44.55	Sericitic Pyritic Rhyolitic Tuff	Colour - light grey Grain Size - aphanitic Aphanitic, quartz porphyritic massive rhyolite tuff - foliation @ 35° to CA - milky-quartz veins at <35° to CA - quartz eyes (2%) typically <3mm but up to 5mm		Moderate sericite alteration	Pyrite, minor chalcopyrite in (<30°) stringers <1cm in width - 10% sulphides overall, <1% ccp Assay #4739 44.16 - 44.55 (Geochem also)	
44.55 to 45.00	Semi-Massive Stringer Sulphides	Colour - yellow - 30% sulphides - sericitic rhyolite - milky quartz		Strong sericite	Chiefly pyrite but with minor ccp (<1%) - massive sulphides (>60% sulphides) over 13cm from 44.60 - 44.73 Assay #4740 44.55 - 45.00	- coarse grained (5mm) stringers

<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>	<u>Remarks</u>
45.00 to 50.9	Sericitic Rhyolitic Crystal Tuffs/Tuff	<p>Colour - light grey</p> <p>Grain Size - aphanitic</p> <p>- fine 1-2mm quartz eyes (<2%)</p> <p>- odd 3mm quartz crystals</p> <p>- aphanitic matrix</p> <p>- faint massive, lighter cherty grey fragments</p> <p>- possible "bed" of lapilli tuff from 45.65 to 46.10, - characterized by light grey aphanitic lapilli size (<3cm) rhyodacite frags (<20%) in a lighter grey, more sericitic matrix.</p> <p>Bedding @ 60° - 20° to CA</p> <p>From 47.6 - 48.2 unit has a banded appearance (<20°) reflecting alternating light + dark grey cm-size bands</p> <p>- odd sections with fine feldspar (<1mm) crystals after 50m.</p>		<p>Weak sericite alteration throughout, however unit is characterized by narrow sections of massive light green sericite which could be totally altered portions of tuff or altered "ash" beds?</p> <p>- sericite sections at</p> <p>46.1 - 46.30 at 10° to CA</p> <p>46.55 - 46.8 at 30° to CA</p> <p>47.45 - 47.6 at 25° to CA</p> <p>- sericitic sections characterized by massive nature and sharp contacts</p>	<p>Diss. and stringer pyrite throughout unit - 2-5%</p> <p>Assay #4741</p> <p>46.8 - 47.45</p> <p>Good py (minor ccp, <1%) in stringers with light apple-green micas</p> <p>Locally - 8% sulphides</p>	<p>Geochem #4507</p> <p>45.00 - 46.8</p> <p>Geochem #4508</p> <p>50.9 - 53.94</p>
50.9 to 123.4	QP Rhyolite	<p>Colour - light grey</p> <p>Grain Size - aphanitic</p> <p>Massive, aphanitic grey rhyolite.</p> <p>Contact at 50.9m is "gradational", Quartz eyes become more abundant 2-3% and larger (up to 6mm) and the unit is generally more massive - possible flow? Variable percentage of feldspar phenocrysts</p> <p>- quartz phenocrysts subhedral and clear grey in colour (<1% fine (1mm) feldspar phenocrysts locally.</p> <p>- foliation more pronounced in sericite altered sections.</p> <p>Strongly foliated (sheared locally) from 65.53 - 71.0m, main fault, with gouge, from 69.60 - 69.85m at 40° to CA.</p> <p>- quartz-veined (<30° to CA), chloritic shear zone from 100.25 - 100.65</p>		<p>Wk sericite alteration to nil.</p> <p>- moderate sericite alteration from 86.87 - 90.52 - moderate foliation and 3-4% diss + fracture pyrite (Geochem #4510).</p> <p>Moderate to weak sericite alteration associated with stringer mineralization from 98.0 - 98.65m</p>	<p>Specks of fine disseminated pyrite</p> <p>- pyrite stringer mineralization at 76.3m, 77.2m, 81.8 (over 5cm)</p> <p>- tr ccp</p> <p>- 3-4% py (ftr + diss) from 86.40 - 90.52</p> <p>- 20% pyrite, 1% ccp in stringers with milky quartz from 98.0 to 98.30 (Assay #4742) and 15% pyrite tr. ccp in fine stringers from 98.52 to 98.65 at 50° to CA</p>	<p>Box #14</p> <p>From approx. 78.0m - 83.0m box opened on transit and the core spilled.</p> <p>Geochem #4509</p> <p>72.23 - 75.28m</p> <p>Geochem #4510</p> <p>86.87 - 90.52</p> <p>Geochem #4511</p> <p>117.04 - 120.09</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>	<u>Remarks</u>
		After 120.4 unit has a "speckled grey appearance" and noticeably less QP (<1%) and appears to grade into a massive, finely feldspar phyric rhyolite at 123.40m.		Moderate, pervasive sericite alteration from 99.70 - associated with 1-2% diss. and fracture pyrite - 10% pyrite (tr. ccp) with grey quartz and sericitic rhyolite from 107 - 107.57 (Assay #4743)	Pyrite, trace to nil ccp stringers (1-2cm wide) at 112.1, 113.35, 116.1, 118.5, 118.7, 119, 121.25 at 30-60° to CA	
123.4 to 129.05	Feldspar Phyric Rhyolite	Colour - light grey Grain Size - aphanitic Massive homogenous unit 3-4%, 1-2mm, white feldspar crystals - aphanitic matrix - broken and sheared rhyolite from 125.5 - 126.7 - 8cm of gouge at 126.17 (50°) marks fault	Contact at 129.05 @ 40-45° - sharp	- wk sericite	- few stringers of pyrite (<1cm wide) - 2cm wide py stringers at 45° to CA at contact at 129.05	Rhyolite crystal tuff or flow
129.05 to 130	Quartz Crystal Tuff (Rhyolite)	Colour - grey - 8-12%, 1-3mm quartz, phenocrysts - aphanitic matrix - massive, non bedded unit			Fine irregular stringers of pyrite	
130 to 130.95	Feldspar Phyric Rhyolite	Same as 123.4 - 129.05 Contact at 130.95 not sharp but marked by absence of feldspar crystals				
130.95 to 144.30	Aphyric Rhyolite	Colour - grey Grain Size - aphanitic Massive, homogeneous aphanitic, aphyric rhyolite - foliated @ 30° to CA - tr. quartz eyes		- weak sericite	py stringers scattered throughout unit with 5cm of pyrite stringer mineralization @ 137.4m (Assay #4744, 137.66 - 137.45m) - minor (1%) diss. pyrite - tr. ccp	Geochem #4512 138 - 141

<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>	<u>Remarks</u>
144.30 to 144.80	Fault Gouge	- strong fault - chlorite/sericite gouge - 40° to CA				
144.80 to 163.68m E.O.H.	Quartz Eye Rhyolite	Colour - grey Grain Size - aphanitic Massive rhyolite, aphanitic with 1% fine (<2mm) subhedral quartz crystals - unit foliated within 3m of fault otherwise massive - foliated at 45-50° to CA - weakly sheared from 154.40 to 155.8 at 35° to CA - kinked foliation		- weak sericite where foliated in proximity to fault	- fine disseminated and fracture/stringer pyrite locally - good 1-5cm wide py stringer at 30° to CA at 145.20m	Aphanitic mafic dykes from 158.90 - 159.2 at 50° 151.88 - 161.98 at 70° and a 2cm wide mafic dyke @ 156.1m Geochem #4513 149.35 - 152.40

LITHOGEOCHEMISTRY

MAJOR OXIDES

TRACE ELEMENTS

SAMPLE NUMBER	FROM (m)	TO (m)	MAJOR OXIDES										TRACE ELEMENTS					Rock Type	Alt	Min	Grid	
			SiO ₂	Al ₂ O ₃	CaO	MgO	Na ₂ O	K ₂ O	FeO	MnO	TiO ₂	Ba	ppm Cu	ppm Zn	% Pb	% Zr	ppb Au					
4503	6.09	8.53	71.43	13.27	1.68	3.76	1.06	2.55	4.22	0.11	0.30	.085	76	44	.005	.005						
4504	23.65	25.09	73.98	12.24	1.05	2.52	0.69	2.62	5.46	0.05	0.25	.123	225	28	.005	.005						
4505	36.5	38.68	73.78	10.88	1.48	1.21	0.32	2.72	8.58	0.05	0.21	.152	128	24	.005	.005						
4506	39.55	42.80	72.14	12.60	2.71	1.27	0.70	2.87	5.94	0.08	0.25	.170	119	22	.005	.005						
4507	45.0	46.8	66.78	17.67	0.95	1.10	0.30	4.87	5.78	0.05	0.70	.338	33	21	.005	.005						
4508	50.9	53.94	71.17	14.21	2.15	2.28	1.16	2.54	5.04	0.13	0.29	.191	215	36	.005	.005						
4509	72.23	75.28	71.85	14.03	0.79	3.35	0.90	2.56	4.44	0.07	0.29	.111	56	43	.005	.005						
4510	86.87	90.52	72.28	13.37	0.90	3.59	0.48	2.43	5.00	0.08	0.26	.176	76	55	.005	.005						
4511	117.04	120.09	70.00	14.09	2.13	3.20	0.65	2.48	5.42	0.12	0.28	.147	29	45	.005	.005						
4512	138.00	141.00	71.87	13.80	0.71	2.57	2.31	2.31	4.54	0.05	0.23	.148	24	20	.005	.005						

Hole No. MTS-19

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LITHOGEOCHEMISTRY

MAJOR OXIDES

TRACE ELEMENTS

SAMPLE NUMBER	FROM (m)	TO (m)	MAJOR OXIDES										TRACE ELEMENTS					Rock Type	Alt	Min	Grid		
			SiO ₂	Al ₂ O ₃	CaO	MgO	Na ₂ O	K ₂ O	FeO	MnO	TiO ₂	Ba	ppm Cu	ppm Zn	% Pb	% Zr	ppb Au						
4513	149.35	152.40	71.49	13.74	0.72	2.60	2.34	2.05	5.50	0.08	0.27	.125	184.	40	.005	.005							

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ASSAY SHEET

Sample Number	From (m)	To (m)	Estimate		Length (m)	% Cu	% Zn	% Pb	gm T Ag	ppb Au	% SiO ₂	% TiO ₂	% Ba	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	PPM Ag	PPB Au					
			Cu	Zn																					
4732	13.27	14.0				.58	.01		3.6	30			900												
4733	10.7	11.15				.31	.01		1.5	10			790												
4734	25.15	26.4				.12	.01		1.7	5			850												
4735	29.65	30.07				.11	.01		2.5	15															
4736	35.0	36.5				.002	.01		0.2	5															
4737	42.8	43.30				.011	.01		0.4	5															
4738	43.3	44.16				.067	.01		1.8	20															
4739	44.16	44.55				.006	.02		0.1	5															
4740	44.55	45.00				.372	.01		3.0	70															
4741	46.8	47.45				.007	.02		0.2	5															
4742	98.0	98.3				.324	.01	.01	3.9	40															

CORPORATION FALCONBRIDGE COPPER

x METRIC UNITS
IMPERIAL UNITS

Grid Co-ordinates 8+40S/8+65W

DRILL HOLE RECORD

HOLE NUMBER MTS-20	GRID CFC	FIELD COORDS	LAT 8+40S	DEP. 9+00W	ELEV. 370m	COLLAR BRNG. 0°	COLLAR DIP -55°	HOLE SIZE NQ	FINAL DEPTH 293.52m
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PROJECT PN 305	CLAIM #	SURVEY COORDS				DATE STARTED: June 19/86 DATE COMPLETED: June 23/86	CONTRACTOR: F. Boisvenu CORE STORAGE: Duncan	CASING 4.57	
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PURPOSE	RQD LOG COLLAR SURVEY	PULSE EM SURVEY MULTISHOT SURVEY
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ACID TESTS				TROPARI TESTS			MULTISHOT DATA		
DEPTH (m)	CORRECTED ANGLE	DEPTH ()	CORRECTED ANGLE	DEPTH ()	AZIMUTH	DIP	DEPTH ()	AZIMUTH	DIP
30	53°								
61	53°								
91	53°								
122	53°								
152	53°								
183	52-53°								
213									
244	50°								
274	49°								

HOLE NO MTS-20
ZIPPY PRINT - BRIDGEPORT RICHMOND

LOGGED BY H. L. Gibson

<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>	<u>Remarks</u>
0 to 4.57	Casing					
4.57 to 5.18	Diorite					Broken pieces of Diorite
5.18 to 8.27	Massive Rhyolite	Colour - light grey Grain Size - aphanitic Massive, aphanitic, aphyric rhyolite - streaky light green colouration - sheared, gouged contact with Diorite at 7.7m (80-75°)		Weak chlorite alteration?	Pyrite (tr. ccp) stringer mineralization, minor diss. pyrite - pyrite - chalcopyrite stringers over 3-5cm at 50° to CA @ 6.5m	Aphanitic mafic (And) dyke from 7.1 - 7.7m at 80° to CA
8.27 to 38.95	Diorite/ Andesite Crystal Tuffs	Colour - green Grain Size - fine grained - aphanitic, aphyric chilled margins grade in to f. gr. feldspar porphyritic interior - massive milky white quartz veins from 17.7 - 17.75 at 40°. 17.82 - 18.07 at 60°. 19.8 - 19.90 20.37 - 20.45 at 30°. After 16m unit is heterogeneous and is characterized by random sections of fine-grained feldspar porphyritic diorite, aphanitic "diorite" and pyroxene? diorite - heterogeny of unit may indicated diorite is a succession of mafic andesitic crystal tuffs.	contact at 8.27m @ 75°?	- epidote alteration feldspars	Weakly magnetic locally - 3cm X 1cm bleb of massive chalcopyrite in white quartz vein at 17.85m.	Heterogeneous nature of unit with feldspar porphyritic, aphanitic and f. gr. sections suggests unit may be bedded andesitic crystal tuffs. Geochem #4514 29.26 - 32.31

<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>	<u>Remarks</u>
		<ul style="list-style-type: none"> - Feldspar Porphyritic to 17.37 - aphanitic from 17.37 - 18.63 - Feldspar Porphyritic 18.63 - 20.00 - Pyroxenite Porphyritic (?) from 20.0 - 23.30 - Feldspar Porphyritic from 23.30 - 23.60 (at 30°) - aphanitic from 23.60 - 24.35 - Feldspar Porphyritic from 24.35 - 24.44 - aphanitic from 24.44 - 24.50 (at 80°) - Feldspar porphyritic from 24.50 - 26.75 (30°) - aphanitic from 26.75 - 29.75 - From 29.75 to 38.95 unit consists of alternating sections (Beds?) of feldspar porphyric diorite or crystal tuff (Andesitic), aphanitic diorite/tuff at - Possible good bedding at 35.05 at 75° - 80° to CA - from 35.95 - 38.95 unit is a lighter grey colour - strong gouge (Fault) over 5cm at 38.95m @ 80° to CA 				
38.95 to 55.0m	Rhyolite tuff and ash	<ul style="list-style-type: none"> Colour - grey-green Grain Size - aphanitic Unit has a "marbled appearance" with irregular to bed-like disrupted bands of siliceous, white rhyolite alternating with and within darker grey rhyolite - siliceous bands don't appear to be frags but may be disrupted beds - original bedding @ 45-60° to CA? Sections of massive rhyolite may be thicker beds of rhyolite tuff - strong foliation with local shear zones in unit after 50.70m approaching main fault zone - foliation at 60°, shear at <40° 		<ul style="list-style-type: none"> - siliceous white "beds" may be silicified felsic ash 	<ul style="list-style-type: none"> - pyrite (plus minor to trace chalcopyrite) along fractures oriented at 30 - 60 to CA subparallel to parallel to bedding(?) 1-2% total sulphides 	<ul style="list-style-type: none"> Geochem #4515 38.95 - 41.2

<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>	<u>Remarks</u>
55.0 to 56.80	Fault Zone	55.0 - 56.4 Sheared feldspar porphyritic diorite(?) 56.4 - 56.80 Chlorite - clay gouge zone at 30° to CA				
56.80 to 71.32	Diorite	Colour - green Predominately a fine-grained to aphanitic but with distinctly feldspar porphyritic sections between 57.10 to 57.60 and 64.85 to 69.2 - Quartz veins from 1cm - 12cm in width at 60° to CA		Weak epidote alteration of feldspars	Chalcopyrite blebs in quartz veins at 62.85m and 64.7m	

<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>	<u>Remarks</u>
71.32 to 87.65	"Mine Horizon"	<p>Colour - shades of grey! Grain Size - aphanitic Unit consists of Quartz porphyritic (1% - 2%) tuff and ash that is strongly chloritized/sericitized and interlayered with cherty siliceous and massive chloritic beds locally. Bedding ranges from 25° to CA (most common) to 50° to CA - Quartz crystals range to 5mm, are subhedral and have a bluish cast. - Possible tectonic; shear related breccia @ 73.05 - 73.30 - broken sheared massive chloritic bed at 73.5m - bedding @ 25-30° to CA at 74.05m - alternating siliceous QP + chl QP beds - massive chlorite (black) beds and brownish siliceous bed (2.5cm) thick @ 25° to CA from 74.35 - 74.55m - Massive to thick-bedded QP chloritic beds from 74.55 to 81.80 with crude "wispy layering".</p> <p>From 81.80 - 83.80 unit is an extremely fine-grained, chloritized QP - med/ash From 83.80 - 87.65 QP, chloritized crystal tuff Few, white quartz veins at 30° + 70° to CA</p>		<p>- pervasive strong chlorite/sericite alteration of QP crystal tuff/ash - massive chloritic beds</p>	<p>- principally pyrite but with minor to trace chalcopyrite averaging a total of 3-5% throughout entire section - up to 2% ccp over 10cm locally - Best ccp from 74.55 - 81.80 which should average slightly less than 1% ccp over interval with section of 5-6% ccp over 5cm locally (83.30m) - Brown colouration (buff) to some more siliceous beds as at 74.40, suggest fine sphalerite. Assay #4745 72.35 - 73.20 Assay #4740 74.16 - 74.98 Assay #4747 74.98 - 76.55 Assay #4748 76.85 - 78.7 Assay #4749 80.20 - 81.80 Assay #4750 82.35 - 83.80 Assay #4701 84.43 - 86.00 Assay #4702 86.00 - 87.65</p>	<p>Mine Horizon here is a massive to thin bedded unit of QP tuff, ash and "mafic" (chloritic) sediment that is strongly chloritized and mineralized. Unit is a bedded succession that may underly the Lenora-Tyee argillitic units Geochem #4516 74.98 - 78.33 Geochem #4517 81.38 - 84.43</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>	<u>Remarks</u>
87.65 to 145.0	Diorite	<p>Aphanitic to feldspar porphyritic border - margin of Diorite</p> <ul style="list-style-type: none"> - milky white quartz veins from 1cm to locally. 35m wide at <math>30^{\circ}</math> to CA - numerous gash-like irregular quartz and calcite veins at 5-20° to CA - becomes massive and fine-med. grained after 107.8m (finer grained, aphanitic sections <math>20\text{cm}</math> wide may be chilled margins marking internal contacts) - becomes finer grained - aphanitic after 142.80 towards contact at 145.0 	contact at 145.0 @ 70° to CA	Weak epidote alteration of feldspar	bleb (5m X 1.5cm) of ccp at 120.60m	Geochem #4518 108.81 - 111.86

<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>	<u>Remarks</u>
145.0 to 180.90	Mine Horizon	<p>Colour - green</p> <p>Mine Package comprises a secession of chloritized ash, fine tuff and crystal tuff units of originally rhyodacitic composition indicated(?) by the presence of ubiquitous anhedral quartz crystals from 1mm to 6mm in size which comprise from <1% to 5% of some units</p> <p>- Bedding defined by variation in size/percentage of QP and grain size (ash vs tuff) - Bed thicknesses from 3cm - 1m (+)</p> <p>- Bedding somewhat kinked + folded but ranges from 45° to 70°(+) to CA</p> <p>- Fault gouge (chloritic) from 148.72 - 148.95 @ 80° to CA</p> <p>- Foliation @ 60° to CA and at <30° but kinked</p> <p>From 145.0 - 153.90 sequence of finely QP (1-3mm, <1% to 3%) ash, tuff and crystal tuff beds.</p>		Assuming Quartz eyes indicated a more felsic provenance unit is pervasively chloritized	<p>Fine disseminated, bleby and fracture sulphide chiefly pyrite and chalcopyrite are scattered throughout the unit (2-5%)</p> <p>Sulphide along foliation but also along bedding planes</p> <p>Assay #4703 148.13 - 150.60m 5-8% sulphides, approx. 1% ccp</p> <p>Assay #4704 155.33 - 156.36 Fine diss. py - ccp with a good stringer of ms ccp-py (1.5cm) at 155.37m at 85° to C.A.</p> <p>Assay #4705 158.80 - 159.46 Py - minor ccp with quartz veins + dissemination - 10% sulphides</p> <p>Assay #4706 160.45 - 162.30 Stringer + bleby diss. py-ccp- 10-15% total - 1% ccp good ccp stringer vein (5% over 2cm) at 161.83m</p>	<p>Repeat of mine package offset along Diorite(?)</p> <p>Geochem #4519 145.08 - 148.13</p> <p>Geochem #4520 156.36 - 158.80</p> <p>Geochem #4521 175.87 - 178.92</p>

<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>	<u>Remarks</u>
		<p>After 153.90 unit is more massive and contains 3 - +5% QP</p> <p>From 174.0m - 178.92 bed contains 5-8% QP</p> <p>From 178.92 - 180.03 QP crystal tuff with <2% QP</p> <p>180.03 - 180.90 - med. - thinly bedded felsic ash, and tuff bedding at 55-60° to CA</p>			<p>From 162.90 - 173.40 unit contains 5-8% diss, bleby and fracture pyrite - chalcopyrite with good ccp stringers? from 163.1 - 163.15 - 5% ccp</p> <p>Assay #4707</p> <p>162.90 - 163.68</p> <p>Assay #4708</p> <p>163.68 - 164.90</p> <p>Assay #4709</p> <p>164.90 - 166.52</p> <p>Assay #4710</p> <p>167.42 - 169.77</p> <p>Assay #4711</p> <p>169.77 - 170.8</p> <p>Assay #4712</p> <p>170.8 - 173.40</p> <p>Assay #4713</p> <p>180.03 - 180.90</p> <p>Up to 10% py, minor ccp - qtz veins</p>	

<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>	<u>Remarks</u>
180.90 to 257.2	Rhyolite Flow or Tuff	Colour - light grey Grain Size - aphanitic Massive, aphanitic, aphyric rhyolite - crude, faint banding at 60-30° to CA defined by variations in color (light-dark grey 3mm-1cm bands) may be bedding? - few calcite/quartz veins at 5-30° to CA - <1% fine (1mm) quartz eyes locally - gouged, sheared from 194.0 - 194.45 at 5-10° to CA - 5cm of gouge at 45° CA at 191.7 - unit becomes more massive and less "banded" in appearance after 197.5m and has a fine-grained "granular" texture to 245.3 - minor shear with py stringers at 45° to CA from 212.85 to 213.05 - Quartz vein is shear at 245.2-245.3 at 60° to CA		- nil to weak sericite - sericite alt. associated with pyrite stringer.	Fine disseminations of pyrite (tr ccp) as fracture fillings + along banding throughout unit. Py stringer mineralization - ccp in quartz vein (3° to CA) at 192m, 194.10m, 203.3, 224.50 (pyrite) Assay #4714 190.3 to 191.63 5% diss. pyrite, trace ccp Assay #4715 218.68 - 219.2 Chalcopyrite stringers + pyrite from 218.96 - 219.3 - 5% ccp over 7cm Good pyrite (minor ccp) stringer from 227.68 to 228.35m - 15-20% pyrite in sericitized rhyolite. Stringers @ 20-45° to CA Assay #4716 5cm wide py (minor ccp) stringers at 235.05 - 235.20 Assay #4717	Geochem #4522 181.97 - 185.01 Geochem #4523 212.44 - 215.49 Geochem #4524 239.88 - 248.93 Core broken from 224.63 to 226.40m

<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>	<u>Remarks</u>
		245.3 - 249.05 Strongly foliated, moderately sericite/chl altered rhyolite - possible crystal tuff - foliation at 45°, and locally kinked				
		249.05 - 257.2 Fine grained aphanitic, weakly QP crystal tuff with possible finely fragmental sections (lapilli tuffs - felsic fragments)				
257.2 to 270.09	Bedded Felsic Ash/Cherts Lapilli Tuff and Tuffs	Colour - grey 257.2 to 263.50m Rhyolitic tuff - mottled texture of light grey - green possibly reflecting fragments or broken beds - <1% QP - quartz veins at 20° to CA at 259.65m - thin bed of andesitic ash/ or mafic dyke at 35° to CA from 259.40 - 259.45 - fine tuff section from 259.8 - 260.7 contact at 260.7 at 20° to CA		Moderate to weak sericite alteration	257.2 - 265.25 1-2% fine diss pyrite, tr ccp From 261.0 - 262.25 unit contains approx. 3-5% sulphides in matrix to breccia and locally +10% sulphides - pyrite over 20cm from 261.95 to 262.15 (tr ccp) Assay #4718 Fine-grained dark sulphides (brown) possible fine pyrite and sphalerite(?)	Geochem #4524 257.2 - 260.7 Geochem #4525 265.25 - 267.80

<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>	<u>Remarks</u>
		Interlayered felsic ash, chert, lapilli tuff and tuff 263.50 - 263.70 Felsic ash/chert, internal laminated at 45° to CA however beds are broken and actual bedding may be at 20° to CA 263.70 - 264.0 Felsic lapilli tuff, QP 264.0 - 264.15 Bedded siliceous felsic ash, chert, minor pyrite - Bedding at 80° to CA 264.15 - 265.25 Chloritized felsic lapilli tuff - broken beds, - chloritized - thin cherty ash bed (3cm) at 265.05 at 60° to CA 265.25 - 266.30 - thin bedded to laminated felsic ash, cherty - minor pyrite contact at 265.25 @ 40-30°, at 266.30 at 15° to CA - Minor andesitic ash near base of unit			Assay #4719 267.80 - 268.50 3-4% pyrite/tr. ccp along bedding + in fractures Assay #4720 269.5 - 269.60 Well bedded, brownish sediment, fine pyrite - barite Ba analysis also.	

<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>	<u>Remarks</u>
		266.30 - 267.15 Rhyolite tuff - light grey felsic fragments - chloritized				
		267.15 - 269.30 Thin bedded to laminated felsic ash and chert, minor andesitic ash - internal bedding at 5-30° to CA - contorted layering - contact at 269.30 @ 40°				
		269.30 - 270.09 - fine andesitic ash with felsic ash beds at 40° to CA - minor pyrite in felsic ash beds				
270.09 to 286.00	Diorite	Colour - green Grain Size - f.gr. - m. gr. Aphanitic - f. gr. chilled margins with gash-like calcite veins at 3 + 20° to CA from 270.09 - 273.3m - Feldspar porphyritic f. gr. - m. gr. interior to 283.2 - F. gr. chilled margins from 283.2 to 286.0	Contact at 270.09 at 40° to CA	Weak epidote alteration of feldspars		
286.00 to 293.52 E.O.H.	Rhyolite	Colour - grey Grain Size - aphanitic Massive, rhyolite tuff/lapilli tuff - fine (<1mm) quartz crystals (<1%) - possible felsic lapilli size frags (<1cm - 2cm) from 286.0 - 288.40 may be broken beds - streakly chloritic bands (beds?) (<1cm in width) - more massive after 288.40 but still contain fine irregular wispy chloritic bands at 40° to CA Broken core with thin 2-4cm wide shears at <45° to CA from 290.5-291.7		- weak chlorite alteration	Fine disseminated pyrite along fractures + with chloritic wisps/bands 1-2% overall	Geochem #4526

LITHOGEOCHEMISTRY

MAJOR OXIDES

TRACE ELEMENTS

SAMPLE NUMBER	FROM (m)	TO (m)	MAJOR OXIDES										TRACE ELEMENTS					Rock Type	Alt	Min	Grid
			SiO ₂	Al ₂ O ₃	CaO	MgO	Na ₂ O	K ₂ O	FeO	MnO	TiO ₂	P ₂ O ₅	ppm Cu	ppm Zn	% Pb	% Zr	ppb Au				
4514	29.26	32.31	50.56	14.33	10.30	6.48	1.69	0.05	12.84	0.32	1.84	.005	172	98	.014	.008					
4515	38.95	41.20	72.34	14.00	0.91	1.39	3.54	2.19	3.82	0.10	0.18	.074	52	28	.005	.005					
4516	74.98	78.33	58.40	16.71	0.57	8.40	2.19	1.47	9.10	0.48	0.78	.028	276	196	.005	.005					
4517	81.38	84.43	58.30	16.72	0.28	8.28	2.05	1.72	9.84	0.46	0.79	.028	840	208	.005	.006					
4518	108.81	111.86	50.91	15.46	8.49	5.58	2.17	0.26	12.98	0.28	2.18	.012	160	92	.007	.010					
4519	145.08	148.13	58.13	16.42	0.34	9.04	1.23	1.43	10.80	0.29	0.78	.034	560	260	.007	.006					
4520	156.36	158.80	59.20	16.31	0.42	7.31	3.02	0.93	10.11	0.43	0.77	.022	196	248	.005	.005					
4521	175.87	178.92	57.52	16.28	0.59	7.53	3.33	0.69	10.49	0.66	0.77	.021	1080	268	.012	.005					
4522	181.97	185.01	73.43	13.15	1.12	2.38	1.31	2.82	3.82	0.29	0.32	.075	22	68	.005	.007					
4523	212.44	215.49	72.18	13.63	1.34	2.55	2.43	2.16	3.71	0.17	0.32	.073	180	84	.005	.008					

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LITHOGEOCHEMISTRY

MAJOR OXIDES

TRACE ELEMENTS

SAMPLE NUMBER	FROM (m)	TO (m)	MAJOR OXIDES										TRACE ELEMENTS					Rock Type	Alt	Min	Grid	
			SiO ₂	Al ₂ O ₃	CaO	MgO	Na ₂ O	K ₂ O	FeO	MnO	TiO ₂	Ba	ppm Cu	ppm Zn	% Pb	% Zr	ppb Au					
4524	257.2	260.7	73.25	13.14	1.46	2.26	3.29	1.58	3.30	0.11	0.30	.054	12	57	.005	.008						
4525	265.25	267.00	70.52	13.76	1.39	3.29	1.77	2.35	4.96	0.17	0.38	.075	44	80	.005	.007						
4526	286.3	290.45	73.44	13.55	1.04	1.69	3.04	2.08	3.52	0.09	0.30	.094	188	80	.005	.005						

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ASSAY SHEET

Sample Number	From (m)	To (m)	Estimate		Length (m)	% Cu	% Zn	% Pb	gm T Ag	ppm Au	% SiO ₂	% TiO ₂	% Na ₂ O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	PPM Ag	PPB Au			
			Cu	Zn																			
4745	72.35	73.20				.023	0.03		0.8	5													
4746	74.16	74.98				.01	0.02		1.7	5													
4747	74.98	76.55				.038	0.01		1.6	5													
4748	76.85	78.7				.039	0.01		1.2	10													
4749	80.20	81.80				.043	0.02		0.4	5													
4750	82.35	83.80				.187	0.02		1.9	20													
4701	84.43	86.00				.04	0.01		1.2	5													
4702	86.00	87.65				.06	0.02		2.1	10													
4703	148.13	150.6				.108	0.01		1.6	10													
4704	155.33	156.36				.216	0.02		2.3	30													
4705	158.80	159.46				.035	0.01		1.9	10													
4706	160.45	162.30				.21	0.03		2.6	35													
4707	162.90	163.68				.35	0.02	0.01	4	65													
4708	163.68	164.9				.127	0.01	0.01	2.3	5													
4709	164.90	166.52				.093	0.01	0.01	2.1	5													
4710	167.42	169.77				.174	0.02	0.01	2.6	10													
4711	169.77	170.8				.116	0.01	0.01	3.4	25													
4712	170.8	173.4				.182	0.02	0.01	2.0	10													
4713	180.03	180.9				.090	0.01	0.01	1.7	15													
4714	190.3	191.63				.002	0.01	0.01	1.3	5													

ASSAY SHEET

Sample Number	From (m)	To (m)	Estimate		Length ()	% Cu	% Zn	% Pb	gm T Ag	ppb Au	% SiO ₂	Ba	% Na ₂ O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	PPM Ag	PPB Au			
			Cu	Zn																			
4715	218.68	219.2				.063	0.01	0.01	1.2	10													
4716	227.68	228.35				.027	0.01	0.01	2.3	30													
4717	235.05	235.2				.175	0.01	0.01	1.9	15													
4718	261.95	262.15				.004	0.01	0.02	0.3	5													
4719=	267.8	268.5				.009	0.01	0.01	0.2	5		1540											
4720	269.5	269.6				.012	0.01	0.01	0.4	5		920											

CORPORATION FALCONBRIDGE COPPER

X METRIC UNITS
IMPERIAL UNITS

Grid Co-Ordinates 9+45S/11+20W

DRILL HOLE RECORD

HOLE NUMBER MTS-21	GRID CFC	FIELD COORDS	LAT 9+40S	DEP. 11+85W	ELEV. 304m	COLLAR BRNG. 0°	COLLAR DIP -50	HOLE SIZE NQ	FINAL DEPTH 288.03m
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PROJECT 305	CLAIM #	SURVEY COORDS.				DATE STARTED: June 25/86 DATE COMPLETED: June 28/86	CONTRACTOR: F. Boisvenu CORE STORAGE: Duncan	CASING 3.7m
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PURPOSE	RQD LOG COLLAR SURVEY	PULSE EM SURVEY MULTISHOT SURVEY
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ACID TESTS				TROPARI TESTS			MULTISHOT DATA		
DEPTH (ft)	CORRECTED ANGLE	DEPTH ()	CORRECTED ANGLE	DEPTH (ft)	AZIMUTH	DIP	DEPTH ()	AZIMUTH	DIP
100	50			497	90	78°(?)			
200									
300	50								
400	50								
500									
600	49								
700	49-50								
800	48								
900	48-49								

HOLE NO MTS-21
ZIPPY PRINT - BRIDGEPORT RICHMOND

LOGGED BY Harold L. Gibson

<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>	<u>Remarks</u>
0 to 3.7	Casing					
3.7 to 10.05	QP, Rhyodacitic Crystal Tuffs	<p>Colour - dark grey green 3.7 - 4.4 Dacitic to rhyodacitic crystal tuff containing 3-5%, fine (1mm) feldspar crystals in an aphanitic dacitic matrix - foliated @ 40-50 to CA 4.4 - 10.27 Medium bedded chloritized QP crystal tuff, bedding defined by variations in percentage of quartz crystals from 4.4 - 5.45, densely packed, crowded quartz crystals (+6%, 2-4mm) From 5.45 - 5.85, bed contains fewer quartz crystals (<3%) From 5.85 - 7.0 Crowded QP crystal tuff as above, +10% quartz crystal up to 4mm in size contact at 7m at 45-50 to CA and gradational 7.0 - 9.63 Well foliated, quartz crystal tuff/lapilli tuff - foliated at 40 to C.A. - <3% QP - fine (1-2mm) felsic "frags" observed with Binocular microscope 9.63 - 10.05 Crowded QP crystal tuff, +10%, 1-4mm anhedral QP, dacitic matrix - fine bedding (1-2cm) at 60 to CA</p>		Pervasive moderate chlorite alteration	Fine diss. (1-2%) pyrite in matrix and along fractures - tr. ccp	Geochem #4527 4.87 - 7.92 This chloritic QP tuff succession and underlying QP units may be equivalent to QP chloritic, Mine Sequence units intersected in holes MTS-20 + 22. QP units in MTS-21 may be offset along south fault.

<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>	<u>Remarks</u>
10.05 to 11.15	Andesitic Tuff and QP crystals	Colour - dark grey-green Fine "Andesitic" ash/tuff with Quartz Crystal tuff bed from 10.17 - 10.35 at 50 to CA - contact at 10.05 at 55-60		Weak chlorite alteration	Diss. pyrite (<1%)	Geochem #4528 10.05 - 11.15
11.15 to 12.05	Quartz Crystal Tuff	Colour - dark grey Massive, non-bedded unit with 1-2% QP up to 4mm		Pervasive, moderate chlorite alteration	1% diss. pyrite	
12.05 to 22.0	Diorite	Colour - green Weakly feldspar porphyritic margins, prophyritic, fine-grained interior - few quartz veins at 45 to CA		Weak epidote alteration of feldspar		
22.0 to 22.63	Quartz Crystal Tuff	Colour - grey Aphanitic, massive groundmass - 5% 1-3mm QP	Contact at 22.63 grada- tional	Very weak chlorite alteration	<1% diss. pyrite	
22.63 to 26.2	Bedded Rhyodacitic Ash	Colour - light - med. grey Grain Size - aphanitic Aphanitic, rhyodacitic ash beds, thin-thick bedded Bedding @ 75-85 to CA - Andesitic ash bed from 25.45 - 25.75 - thin beds (<5cm) of crystal (FP) tuff		Very weak chl. alteration	Trace pyrite	Geochem #4529 22.63 - 26.2
26.2 to 26.65	Andesitic Ash	Colour - grey Grain Size - aphanitic Massive bed of andesitic ash				

<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>	<u>Remarks</u>
26.65 to 26.70	Chloritized Dacitic Ash	Colour - dark grey-green Grain Size - aphanitic Massive bed of dacitic ash		Chlorite		
26.70 to 26.95	QP Crystal Tuff	Colour - dark grey Grain Size - aphanitic matrix Massive bed of QP crystal tuff - 2% QP - 4mm - fine FP crystals			Trace pyrite	
26.95 to 29.15	Rhyolitic Ash	Colour - grey Grain Size - aphanitic Massive, aphanitic ash, 1-2% QP (4mm) - non bedded	shear at 29.15 at 70	Weak sericite		Geochem #4530 26.95 - 29.15
29.15 to 62.55	Epidotized Andesite - Dacite Tuff - Lapilli tuff	Colour - green 2915 - 32.50 Massive, non bedded andesitic - Dacitic tuff, - Bed of QP crystal tuff from 29.98 - 30.6 32.50 - 62.00 Andesitic - Dacitic tuffs, crystal tuff, - Possible frags altered to epidote - Occasional QP (<1% - 4mm) - variations in % of epidote patches/frags may define crude massive, thick beds - few quartz/chl vein at 60 to CA - Quartz-crystal tuff bed from (AND-DAC) 50.30 to 53.0m at 60 to CA. Quartz crystals are more abundant near "base" of unit suggesting tops are up-hole. - thin bedded to laminated sections of andesitic ash separate massive to thick-bedded andesitic units at 60 to CA - "Square" mafic "pyroxene" crystals in andesitic tuff (<5%) from 57.15 - 58.0m. Crystals up to 1cm in size.		Spotty epidote alteration from 31.7 to 32.0 32.90 - 62.00 Pervasive epidote alteration principally as <1.5cm spots, which constitute up to 20% of some sections and as diffuse patches up to +5cm in size - smaller epidote spots may be after primary frags?	Fine diss. pyrite	Geochem #4531 32.61 - 35.60 Geochem #4532 44.80 - 47.85

<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>	<u>Remarks</u>
62.00 to 63.05	Thin Bedded Laminated Andesitic Ash	Interbedded fine andesitic tuffs/ ash. Bedding defined by light and dark green alternating beds from 20cm to <1cm Bedding @ 60-75 to CA		- weak epidote alteration of same beds	Tr pyrite	
63.05 to 64.50	Interbedded Rhyolite ash Tuff and Andesitic ash	Colour - grey-green 63.05 - 63.75 Aphanitic, aphyric rhyodacitic ash bed - wk chlorite alteration - minor pyrite 63.75 - 64.05 Epidotized, thin bedded to laminated andesitic ash/tuff. Bedding offset on small scale faults - soft - sed. loading features indicate tops down-hole? - 3cm wide cherty bed at "base" of unit (64.50) 64.05 - 64.50 Rhyodacitic crystal tuff with QP + FP - weakly hematized and chloritized.		variable, minor epidote + chlorite	minor, <1% pyrite throughout unit	
64.50 to 66.43	Thin Bedded Andesitic and Felsic Ash	Colour - green Grain Size - aphanitic Interbedded fine beds (<1cm) of grey to pink, hematitized felsic ash with green andesitic ash beds (up to 5cm) - Bedding locally disrupted and brecciated - Intraformational breccia - Bedding from 30-60 to CA		Weak hematite, chlorite	Tr 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>	<u>Remarks</u>
66.43 to 70.50	Andesitic Crystal Tuff	Poorly sorted crystal tuff containing - 2-3% anhedral to square mafic crystals to 1cm - 5% subhedral quartz crystals - <3% feldspar crystals In an aphanitic andesitic matrix - felsic ash bed (4cm wide) at 66.75m - possibly some lithic lapilli (<0.5cm) contact at 70.5m		- silicification patches - minor epidote alteration - hematitized quartz veins parallel to CA	Tr pyrite	Geochem #4533 66.43 - 69.19
70.50 to 82.8		<u>70.50 - 71.85</u> contact at 70.5 marked by 2cm of felsic, brownish grey ash Thin bedded to laminated Andesitic Tuff/Ash - Bedding at 60 to CA		<u>70.50 - 71.85</u> Wk chlorite-epidote alteration		
		<u>71.85 - 72.23</u> Rhyolite crystal tuff - 10% anhedral QP up to 3mm - aphanitic, rhyolitic matrix - steep contact		<u>71.85 - 72.23</u> Zip Tr. pyrite		
		<u>72.23 - 72.61</u> Andesitic ash bed massive - wk chlorite alteration				
		<u>72.61 - 72.86</u> Rhyolitic crystal tuff - QP as above - contact parallel to CA - could be a block!!				
		<u>72.86 - 82.8</u> Massive thick bedded to thin bedded (laminated) Andesitic tuff and ash. Bedding at 60 to CA - quartz - calcite hematite filled fractures at 40-90 to CA - mafic crystal (frags?) occur in some beds. From 79.4 - 82.8 unit looks more And - Dacitic in composition, and contains both mafic "pyroxene crystals" (1%) in a foliated matrix in could be ash flow tuff unit.		<u>72.86 - 82.8</u> Wk chlorite alteration, minor epidote	<u>72.86 - 82.8</u> Minor pyrite throughout, tr. ccp 1% pyrite over 5cm at 82.8m.	Geochem #4534 72.86 - 82.8

<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>	<u>Remarks</u>
82.8 to 83.90	Andesitic Ash Tuff	Colour - green Grain Size - aphanitic Massive, homogeneous chloritized Andesitic - Dacitic ash tuff with 1%. Quartz crystals - increasingly foliated after 84.40m. - bed (<10cm - broken core) of QP Felsic Tuff from 83.3 - 83.40 - sheared and broken - few quartz veins		Pervasive chlorite alteration (moderate)	fine diss & fracture pyrite - 1% overall	- could be part of unit from 79.4 to 82.8 Geochem # 82.8 - 83.90m
83.90 to 90.30	Rhyolite	Colour - grey - white Grain Size - aphanitic Massive unit, strongly foliated and sheared - 1% quartz crystals up to 5mm - shear/fault zone for 84.30 to 89.30, strong gouge at 84.8m at 45 to CA - unit crudely banded after 89.60m		Sericite alteration	1-2% pyrite in distinct bands from 89.6 to 90.30m	Assay #4721 83.55 - 90.30 (+ Ba)
83.90 to 109.75	Rhyolitic Ash Flow unit?	Colour - light grey - white Grain Size - aphanitic 83.90 to 96.50 Massive unit, aphanitic and uniform - tr. quartz eyes (<2mm) - milky white quartz veins up to 20cm wide at 45 to CA from 92.65 - 93.45 96.50 to 106.20 Massive foliated rhyolite with faint, elongate to wispy more chloritic "mafic" fragments (2-4mm X 10-15cm) - local feldspar crystals + quartz eyes (<1%) 106.20 to 109.75 After 106.20 unit contains angular epidote "patches" which occur throughout unit or concentrated 2-3cm wide bands at 60-75 to CA - may be altered fragments - good epidote/hematite altered lithic block (3cm X 3cm) at 109m. - fine wispy to angular mafic fragments (<1cm in size (2-5%)		Wk sericite alteration	Tr. disseminated pyrite - minor diss pyrite (1%) and pyrite within more chloritic "fragments" - tr ccp	Geochem #4535 93.57 - 96.62 Geochem #4536 102.71 - 105.76

<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>	<u>Remarks</u>
109.75 to 125.20	Epidotized Andesitic Tuff and Ash	Colour - green Grain Size - fine-grained Massive fine-grained Andesitic tuff. Thick bedded. Possible thin (1-2cm thick) beds of andesitic ash at 60-65° to CA at 116.6 Laminated felsic ash bed from 115.3 - 115.8 at 80° to CA From 118.15 to 120.5, unit has a fragmental appearance with dark green "mafic" lapilli + possible epidotized fragments From 124.5 to 125.20 unit is an aphanitic fine grained AND-DAC ash, without epidote spotting - massive, non-bedded unit		Diffuse epidote patches occur throughout unit		Geochem #4537 111.86 - 114.91
					124.55 - 125.20, stringer + fracture controlled py - ccp mineralization 3-5% sulphides overall <1% ccp Assay #4722 124.55 - 125.20	
125.20 to 139.45	Andesitic Ash/Tuff	Colour - green-grey Grain Size - f. gr. - aphanitic 125.20 - 125.55 Thin bedded, chert (silicified felsic ash?), bedding at 60° to CA - trace pyrite 125.55 - 127.65 Thin bedded to laminated (3cm to 0.5cm thick beds) ANDESITE - DACITIC ash and minor tuff Bedding @ 65-80° to CA - some broken, disrupted beds - minor pyrite along bedding - cherty beds (15cm) mark "base" of unit	contact at 125.2 @ 70 to CA sheared			Geochem #4538 125.20 - 125.55 Geochem #4539 125.55 - 127.65

<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>	<u>Remarks</u>
		127.65 to 139.45 Thin - medium bedded andesitic ash/tuff alternating with thinly - bedded to laminated grey Dacitic ash + minor chert Bedding @ 45-50 to CA 70 - grading suggests tops are down hole		Epidote alteration, minor chlorite of ash.	Minor (<1%) pyrite + tr ccp throughout unit	Geochem #4540 133.19 - 136.24
139.45 to 145.0	Epidotized Andesitic Tuff	Colour - grey - green Grain Size - aphanitic Epidote altered, aphanitic Andesitic tuff - massive unit, possibly bedded after 143.80m.		Pervasive epidote alteration principally as fine 2mm - 1cm sized clots (15-20%) - variation in % of epidote defines banding at 70 to CA (Bedding) from 143.80 - 145.0 - epidote may be alter. "frags" or feldspar crystals	Tr pyrite	
145.0 to 147.15	Dacitic Tuff	Colour - light grey-green Grain Size - aphanitic Massive, non-bedded unit - streaky foliation (chloritic bands 1m X +3cm) at 50 to CA		Moderate, pervasive chlorite alteration	Disseminated and fracture (foliation) controlled pyrite/ chalcopyrite throughout - 2-3% Assay #4723 145.25 - 145.77 5-6% py, 5% ccp in stringers plus milky quartz 10cm of 20% pyrite 1% ccp from 145.6 - 145.7	Geochem #4541 145.77 - 147.15
147.15 to 147.73	Epidotized Andesite Crystal Tuff	Colour - green Grain Size - aphanitic 6%, 1-2mm epi-altered feldspars - aphanitic matrix		Weak epidote	Tr. 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>	<u>Remarks</u>
147.73 to 152.7	Dacitic Tuff?	Colour - grey-green Grain Size - aphanitic - massive, aphyric unit - cut by milky white quartz veins at 5 + 75 to CA - tr. quartz crystals - Sections of broken core contain pieces of FP AND Crystal Tuff		- chloritized (mod.) locally	fracture + diss pyrite throughout unit and associated with quartz veins - 3m X 1cm bleb of ccp at 148.05m - stringer of pyrite - minor ccp with quartz vein from 152.58 - 152.70m.	Assay #4724 151.62 - 152.70
152.7 to 153.7	Andesitic Tuff	Colour - green Grain Size - aphanitic Massive, non bedded unit - aphyric		pervasive chlorite alteration (moderate)	fine, bleby pyrite along fractures tr. ccp	
153.7 to 157.4	Aphyric Rhyolite	Colour - grey Grain Size - aphanitic Massive, non bedded unit - foliated at 70 to CA - massive cherty siliceous areas may be frags or less foliated rhyolite - sheared from 153.8 - 154.25 with broken core - 2cm of chloritic And. tuff? at contact			Tr pyrite throughout with 5% pyrite, tr. ccp in two 3cm +2cm wide quartz veins at 75 to CA @ 156.8 + 156.88	
157.4 to 161.8	Quartz Eye Rhyolite	Colour - grey Grain Size - aphanitic - kinked, foliated rhyolite - foliation at 75-80 to CA with kink bands - 3-4% anhedral QP from 1mm to 4mm - massive aphanitic matrix		Weak, pervasive sericite alteration	Bleby and disseminated fracture pyrite parallel to foliation - tr. pyrite - 15% sulphide in stringers from 160.4 - 160.52 at 75 - 70 to CA in chl/ser rhyolite Assay #4725 160.35 - 160.73	- QP crystal tuff Geochem #4542 157.54 - 161.8

<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>	<u>Remarks</u>
161.8 to 164.1	Rhyolite	Colour - grey Grain Size - aphanitic Gradational contact at 161.8 unit differs from quartz eye rhyolite above in 1) <1% to Tr. QP 2) more massive nature - milky white quartz vein from 163.4 to 163.85m - ccp + py in quartz vein			Pyrite - ccp in quartz veins - good ccp in 1.5cm wide quartz vein at 161.05m	
164.1 to 178.45	Andesitic Tuffs, Crystal Tuffs and minor Dacite	Colour - green Grain Size - aphanitic 164.1 - 166.75 Massive, non-bedded unit 166.75 - 178.45 Medium to thin bedded alternating succession of 1) aphanitic, aphyric andesitic tuff/ash 2) thin beds of siliceous cherty ash 3) Beds of andesitic tuff with 1-2% epidotized, silicified lithic frags up to 3cm in size 4) Beds of lapilli tuff with 10-20%, 3mm - 1cm siliceous, epidotized lapilli. Quartz vein in chl shear marked by broken core from 474.3 - 474.7 Milky white quartz veins at 65 to CA from 175.77 - 175.97 and 176.14 - 176.29		164.1 - 166.75 Wk chlorite alteration	164.1 - 166.75 - stringer pyrite ccp mineralization from 165.0 - 165.65m Assay #4676 Assay #4677 171.8 to 172.1 - ccp - py in fractures and "sphalerite" in fragments (sphalerite bleb 1 X 1.5cm)	Geochem #4543 169.77 - 172.8

<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>	<u>Remarks</u>
178.45 to 220.00	Dacite Flow, Flow Breccia	<p>Colour - grey Grain Size - aphanitic 178.45 - 185.5 Breccia unit - possible flow breccia with sections or beds of massive aphyric dacite. Dacite breccia consists of feldspar phyrlic (epi altered) dacite/ rhyodacite + tr. QP separated by grey aphanitic dacite - sections of massive non-porphyrific dacite may be beds of dacite tuff? After 185.5 - unit is predominately a massive FP, wk QP Rhyodacite massive flow? that is faintly brecciated from 201.05 to 201.3 - unit is extremely fine-grained and chloritized from 201.35 to 201.70 where sheared at 75 to CA Fine insitu breccia from 202.40 to 202.8 After 207m unit is characterized by stronger epi alteration of feldspar and as irregular patches, with the amount of epidote decreasing after 219.8m Contact at 220.0 is sharp, decrease in feldspar towards unit suggest chilling of "flow" Breccia immediately below contact may be related to underlying unit.</p>		<p>Wk epi alt. of feldspars Strong epi alt. from 207 - 219.8m - epidote patches appear to be largely replacing feldspar crystals however large angular nature of some "patches" may be after original frags or simply alteration patches within in matrix.</p>	<p>minor ccp-pyrite in quartz veins - fine diss + fracture controlled pyrite in grey dacitic tuff matrix - irregular stringers of fine pyrite, minor ccp and dark grey brown (pyrite) invade unit from 192 to 193.0m Assay #4678 192 - 193m 3-5% py, tr. ccp Bleb of ccp (3m X 1.5cm) at 200.55m clot of massive pyrite 5cm X 2cm in epidote patch at 212.55m.</p>	<p>Geochem #4544 181.96 - 185.01 Geochem #4545 206.35 - 209.4</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>	<u>Remarks</u>
220.0 to 224.43	Aphyric to weakly FP Dacite	Colour - grey Grain Size - aphanitic Massive grey Dacite, <1% feldspar crystals but with 2-3% locally. - 10cm wide breccia zone at 220.0 consists of angular blocks of aphyric to wk FP dacite in a f. gr. fragmental, chloritic matrix (Flow contact breccia?)		Weak epidote alteration of feldspar - occasional epidote patch	Tr. pyrite, <1%	
224.43 to 232.0	Massive Rhyodacite - Dacite	Colour - light grey Grain Size - aphanitic Massive aphanitic aphyric rhyodac. - insitu "tectonic breccia" with angular rhyolite frags in a white quartz vein matrix from 226.05 - 226.75 - contact at 232.0 marked by increase in percentage of Feldspar and by faint breccia - Feldspar phyrlic sections (2%)		- unit becomes more chloritic from 227.0 to 232.0, moderate chlorite alteration	Tr. diss. pyrite and 1-2cm pyritic bands with tr ccp (<10% sulphide) - 1cm wide py-ccp stringer at 228.15 (75) - 5cm wide quartz vein with <2% pyrite, tr ccp at 228.5m - ccp-pyrite stringers with vein quartz from 231.25 to 231.45, <1% Cu - strong ccp-pyrite stringer from 231.8 - 231.92 at 75 to CA, 30% sulphide, 5-6% ccp Assay #4679 231.25 - 231.45 Assay #4680 231.8 - 231.92 Minor diss. pyrite, tr. ccp - fine fracture controlled sulphides, <1% overall	

<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>	<u>Remarks</u>
232.0 to 249.95	Feldspar Porphyritic Dacite	Contact at 232.0 marked by fragments of FP, epi alt. dacite in an aphanitic siliceous matrix - 5% pyrite, +1% ccp at ctc in an irregular breccia zone <.10m wide. Typically a homogeneous, massive unit containing 3-5% feldspar crystal from 1mm - 3mm. - aphanitic, aphyric chloritic sections from: 233.55 - 236.0 237.4 - 241 243.1 - 245.5 - fault at 35° to CA 247.9 - 249.65 maybe mafic tuffs but appear to be chloritized, sheared sections of core with obliteration of the Feldspar crystals + increase in chlorite		Chlorite alteration associated with shears as indicated.	Minor diss. pyrite, tr. ccp - fine fracture controlled sulphides, <1% overall Assay #4681 241.35 - 242.05 bleb - diss pyrite (5%) + minor ccp (<1%) Assay #4682 244.42 - 244.86 - crudely banded (<2mm - 1cm wide), fracture controlled sulphides - principally pyrite but with <1% ccp - 3-4% sulphide over interval.	
249.95 to 279.55	Aphanitic fine grained Dacite?	Colour - grey Grain Size - aphanitic Massive, foliated homogeneous aphyric grey dacite Strong fault zone from 251.30 - 254.35 with 0.3m of chloritic gouge at 253.5m @ 30° to CA Unit becomes increasingly fine-grained, chloritic and "aphyric" where foliated - sheared. Badly broken core, (1-5cm pieces) from 267.5 - 270.75, 0.6m lost to ground core.		Pervasive moderate chlorite alteration	Fine to med. grained pyrite and tr. ccp as irregular stringers up to 1cm wide in sheared, epidotized zones <1% sulphide overall - foliation at 80	- Possibly a f.gr. tuffaceous unit or sheared equivalent of FP Dacite above Geochem #4547 250.1 - 254.81

<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>	<u>Remarks</u>
279.55 to 286.85	Massive Rhyolite	Colour - grey-white Grain Size - aphanitic 4-5%, 1-2mm feldspar crystals - aphanitic - strong shear at 75° to CA from 279.62 - 279.85. - 5cm wide quartz vein from 286.80 to 286.85m at 75° to CA - milky quartz veins up to 10cm wide at 70° from 285.94 - 286.35	contact at 279.55 lost	Weak sericite	Tr fracture controlled pyrite	Geochem #4548 279.70 - 282.55
286.85 to 288.03	Diorite?	Colour - green Grain Size - f. gr. Massive diorite, aphanitic margins grades into a weakly feldspar phyric interior			Tr pyrite	possible mafic - tuff

LITHOGEOCHEMISTRY

MAJOR OXIDES

TRACE ELEMENTS

SAMPLE NUMBER	FROM (m)	TO (m)	MAJOR OXIDES										TRACE ELEMENTS					Rock Type	Alt	Min						
			SiO ₂	Al ₂ O ₃	CaO	MgO	Na ₂ O	K ₂ O	FeO	MnO	TiO ₂	Ba	ppm Cu	ppm Zn	% Pb	% Zr	ppb Au									
4527	4.87	7.92	70.21	14.10	0.76	1.77	3.70	4.60	3.24	0.12	0.33	0.09	12	44	.005	.006										
4528	10.05	11.15	56.07	16.98	1.64	6.73	4.26	2.93	8.83	0.19	0.75	.058	42	60	.005	.005										
4529	22.63	26.2	70.58	14.31	1.94	1.51	3.66	3.18	2.90	0.05	0.33	.084	12	20	.005	.006										
4530	26.95	29.15	70.43	13.92	2.10	2.43	2.73	3.24	3.30	0.08	0.32	.078	10	32	.005	.006										
4532	44.80	47.85	57.75	16.79	5.55	3.28	5.05	1.28	7.91	0.16	0.73	.058	52	76	.005	.005										
4533	66.43	69.19	59.99	16.96	3.17	3.25	6.40	1.14	7.24	0.16	0.69	.013	46	36	.005	.006										
4534	79.40	82.8	56.76	17.00	4.58	5.12	0.48	4.40	8.69	0.39	0.83	.084	80	336	.068	.005										
4535	93.57	96.62	70.68	14.35	1.27	1.45	3.20	3.49	3.56	0.19	0.37	.146	72	60	.005	.005										
4536	102.71	105.76	70.14	14.37	1.01	1.80	2.57	4.17	3.80	0.24	0.36	.182	24	56	.005	.005										
4537	111.86	114.91	53.12	16.87	8.79	4.32	3.64	0.51	9.83	0.72	0.71	.017	132	194	.005	.005										

Hole No. MTS-21

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LITHOGEOCHEMISTRY

MAJOR OXIDES

TRACE ELEMENTS

SAMPLE NUMBER	FROM (m)	TO (m)	MAJOR OXIDES										TRACE ELEMENTS					Rock Type	Alt	Min	Grid
			SiO ₂	Al ₂ O ₃	CaO	MgO	Na ₂ O	K ₂ O	FeO	MnO	TiO ₂	Ba	ppm Cu	ppm Zn	% Pb	% Zr	ppb Au				
4538	125.20	125.55	72.84	12.28	2.45	1.92	4.53	1.08	3.03	0.22	0.28	.087	12	96	.005	.005					
4539	125.55	127.65	65.38	16.04	1.23	3.67	3.68	2.54	5.15	0.30	0.49	.171	92	132	.005	.006					
4540	133.19	136.24	58.40	18.16	3.24	3.76	5.01	1.73	7.03	0.40	0.65	.141	114	260	.005	.005					
4541	145.77	147.15	55.15	17.43	0.99	9.24	1.68	2.03	10.42	0.53	0.83	.117	220	228	.005	.005					
4542	157.54	161.8	73.28	13.59	0.22	2.82	1.37	3.12	3.74	0.19	0.24	.090	80	108	.005	.008					
4543	169.77	172.8	60.14	16.65	2.34	3.85	4.66	0.92	8.33	0.59	0.90	.038	89	193	.005	.011					
4544	181.96	185.01	69.19	14.57	1.83	2.23	3.10	1.89	5.20	0.25	0.37	.070	168	72	.005	.008					
4545	206.35	209.4	65.12	16.56	2.09	2.03	5.33	1.15	5.42	0.28	0.42	.046	36	73	.005	.010					
4546	227.68	230.73	69.25	15.32	1.21	1.63	5.21	1.24	4.26	0.21	0.36	.040	46	107	.005	.009					
4547	250.1	254.81	64.22	15.54	2.51	3.13	2.64	2.66	7.20	0.29	0.34	.112	28	76	.005	.009					

Hole No. MTS-21

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LITHOGEOCHEMISTRY

MAJOR OXIDES

TRACE ELEMENTS

SAMPLE NUMBER	FROM (M)	TO (M)	MAJOR OXIDES										TRACE ELEMENTS					Rock Type	Alt	Min	Grid	
			SiO ₂	Al ₂ O ₃	CaO	MgO	Na ₂ O	K ₂ O	FeO	MnO	TiO ₂	Ba	ppm Cu	ppm Zn	% Pb	% Zr	ppb Au					
4548	279.70	282.55	72.49	14.50	1.42	2.05	2.05	2.85	2.85	0.15	0.30	.089	16	48	.005	.009						

Hole No. MTS-21

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Page No. _____

ASSAY SHEET

Sample Number	From (m)	To (m)	Estimate		Length ()	% Cu	% Zn	% Pb	gm T Ag	ppb Au	% SiO ₂	Ba	% Na ₂ O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	PPM Ag	PPB Au			
			Cu	Zn																			
4722	124.55	125.20				0.492	0.11	0.01	3.2	20		1510											
4723	145.25	145.77				0.141	0.01	0.01	2.0	15													
4724	151.62	152.70				0.07	0.01	0.01	0.3	5													
4725	160.35	160.73				0.352	0.02	0.01	4.3	65		660											
4676	165.0	165.65				0.160	0.01	0.01	3.8	20													
4677	171.8	172.1				0.493	0.04	0.01	4.2	60													
4678	192.0	193.0				0.044	0.01	0.01	0.4	5													
4679	231.25	231.45				0.299	0.02	0.01	2.0	5													
4680	231.80	231.92				5.12	0.31	0.01	26.5	130													
4681	241.35	242.05				0.032	0.01	0.01	1.0	5													
4682	244.42	244.86				0.042	0.01	0.01	1.6	5													

MTS-21

HOLE NO _____

PAGE _____

ZIPPY PRINT COMPANY PRINT RICHMOND

CORPORATION FALCONBRIDGE COPPER

DRILL HOLE RECORD

METRIC UNITS X
IMPERIAL UNITS

HOLE NUMBER MTS-22	GRID CFC	FIELD COORDS	LAT 8+ 20S	DEP. 11+80W	ELEV. 305	COLLAR BRNG. 0	COLLAR DIP -45	HOLE SIZE NO	FINAL DEPTH 202.8
PROJECT 305	CLAIM #	SURVEY COORDS.				DATE STARTED: June 29/86 DATE COMPLETED: Jul 02/86	CONTRACTOR: Boisvenu CORE STORAGE: Duncan CASING: 6.7		
PURPOSE								RQD LOG COLLAR SURVEY	PULSE EM SURVEY MULTISHOT SURVEY
ACID TESTS				TROPARI TESTS			MULTISHOT DATA		
DEPTH ()	CORRECTED ANGLE	DEPTH ()	CORRECTED ANGLE	DEPTH ()	AZIMUTH	DIP	DEPTH ()	AZIMUTH	DIP
100	45 fuzzy			402'	320	45			
200	45 fuzzy			657	322	47			
300	45								
400									
500	44								
600	44								

HOLE NO MTS-22
ZIPPY PRINT - BRIDGEPORT RICHMOND

LOGGED BY _____
Harold Gibson

<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>	<u>Remarks</u>
0 to 6.7	Casing					
6.7 to 25.00	Interbedded Rhyolitic Tuff/Ash and Dacite Tuff	<p>color - grey grain size - aphanitic Grey, aphanitic (weakly fp) tuff. Foliation at 80 degrees to CA and locally kinked.</p> <p>7.58 - 7.78 Andesitic tuff (<3% feldspar crystals); ctc at 7.58 at 80 degrees to CA.</p> <p>7.78 - 1.70 Light and dark grey dacitic tuff and ash, thin - medium bedded at 80-85 degrees to CA.</p> <p>10.70 - 11.80 m Thin bedded to laminated dark to light grey dacitic ash bedding at 70 - 85 degrees to C.A.</p> <p>Beds offset along small faults and folded.</p> <p>11.80 - 25.00 Thin to medium bedded grey-white rhyolitic tuff (tr FP) and dark grey-green tuff with sections of thin-bedded to medium bedded andesitic ash. Bedding at 70 - 80 degrees to C.A. and commonly caught up into tight minor folds. Axial plane of folds at 60 degrees - 80 degrees to CA.</p>		Weak to moderate sericite alteration	<1% fine diss pyrite along bedding/fracture - banded pyrite (3-5%) in felsic tuff from 17.80 - 18.22 Assay #4683	Geochem #4549 14.38 - 17.37

<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>	<u>Remarks</u>
25.00 to 48.90	Quartz-eye Rhyolitic (tuff?)	<p>color - light grey grain - aphanitic Massive, homogeneous unit</p> <ul style="list-style-type: none"> - 2% fine, <1mm anhedral quartz eyes - <1% feldspar crystals, aphanitic & foliated matrix - foliation at 80 degrees to CA and kinked locally - fine, <1cm wide, dark grey-green bands may be beds of more mafic-intermediate ash 		Weak-moderate sericitic alteration	<ul style="list-style-type: none"> - fine, 1% diss pyrite along bedding/foliation planes - 3 cm wide band of cgr massive pyrite at 90 degrees to CA at 39.3 (tr ccp) 	<p>Geochem #4550 25.91 - 28.95 Core is broken into 15 cm to <2 cm chips and becomes increasingly broken after 47.0m</p>
48.90 to 69.82	Grey Cherty Felsic Ash	<p>color - light and dark grey grain - aphanitic Aphyric (tr <0.5m quartz eyes) massive grey rhyolite</p> <ul style="list-style-type: none"> - banding of unit a product of alternating light grey, grey, dark grey and light green bands (disrupted beds?) at 75 to CA. - some cherty-looking, siliceous, hard bands - unit is broken into 1.0 - 2 cm pieces from 48.90 - 52m with a strong fault, gouge zone from 49.85 - 50.90 m at 30 degrees to CA - beds/bands are more siliceous and cherty in appearance after 60.3m 			<p>Fine, <1% pyrite along and within beds</p> <ul style="list-style-type: none"> - occasional bed from 2cm to 1cm wide of fine to mgr. pyrite and tr ccp parallel to banding - minor, <1% ccp in cherty siliceous banded tuff form 	<p>Geochem #4552 56.99 - 61.57</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>	<u>Remarks</u>
69.82 to 83.40	Grey Dacite Tuff	<p>color - grey grain - aphanitic Massive homogeneous unit which consists of:</p> <ol style="list-style-type: none"> 1) 1-4mm irregular to ovoid spots of more siliceous?, epi altered material - may be altered fine lapilli or alteration patches but some are alt. feldspar. 2) Matrix/groundmass of aphanitic grey dacite. <p>Fuzzy, blocky fragment forms (in situ bx?) from 76-76.45m.</p> <p>Possible bedded unit, bedding etc at 75.53m at 65 degrees.</p> <p>After 75.45 to 78.55, unit has a faint brecciated appearance (lapilli tuff?) with light grey dacitic fragments and chloritic fragments.</p> <p>Strongly sheared after 79.4m, with a strong chloritic gouge from 79.45 to 80.05m at 60 degrees to CA.</p>		weak chl alt	<p>Fine 2% pyrite and tr ccp throughout unit.</p> <p>From 78.55 - 79.3m unit is cut by stringers of ccp from 0.3cm to 1.3cm at 65 - 80 degrees to CA. Assay #4686.</p>	<p>Geochem #4551 75.28 - 78.33</p>

<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>	<u>Remarks</u>
83.4 to 102.52	Feldspar Porphyritic Dacitic Crystal Tuff/Flow	color - dark grey-green grain - aphanitic 83.4 to 85.05 Shear, fault zone with chloritic gouge at <40 degrees to CA. 85.05 - 102.52 Massive, aphanitic unit with 5-6%, 2-3mm epidote altered subhedral crystals in a aphanitic matrix. - where chloritized unit loses fp texture and is massive and aphanitic. From 92.55 to 95.05 unit is a grey, aphanitic aphyric dacite with 5-10cm sections containing feldspar crystals locally. May be an ash bed. Ctc at 92.55 is sharp at 60 degrees, ctc at 95.05 gradational. Unit from 99.80 to 102.52 is aphanitic and aphyric to wk feldspar phyric (<1% FP locally)	Ctc at 102.52 sharp and sheared at 65 degrees		Fine pyrite along fractures (<1% Pyrite-ccp stringers from 2-3m to 3cm from 88.5 - 88.75 (Assay #4687) 8% sulphide over interval with 1% ccp. 2-3% diss and blebby pyrite, tr ccp in dacitic ash bed from 92.55 to 95.0m. Ccp and pryite in irregular stringers (<3% sulphides over 5 cm) at 98.0m with fine 2mm to 1 cm stringers of py-minor cp scattered through core from 101-102.25.	Geochem #4553 89.30 - 92.35 Geochem #4554 92.55 - 95.0 Geochem #4555 99.66 - 102.25
102.52 to 118.0	Rhyolite Ash	color - light dark grey grain - aphanitic Aphanitic, predominately aphyric rhyolitic ash, medium to thick bedded, light grey, grey and green-gray beds. Trace fine QP in some beds (<<1%, <1mm in size). Odd cream-white cherty beds (<5cm wide). Bedding at 60 degrees to CA. Minor (?) shear from 108.52 - 108.67 with chloritic gouge at 45-50 degrees to CA.			Minor py + tr ccp along bedding ? or parallel fractures	Geochem #4556 114.91 - 117.45

<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>	<u>Remarks</u>
118.0 to 122.3	Rhyolitic Crystal Tuff	color - light grey grain - aphanitic Massive, homogeneous, well foliated rhyolite - 3-5%, fine (1mm) white feldspar crystals - foliation at 75 degrees to CA, weakly and locally kinked	ctc at 118 sharp at 60 degrees ctc at 122.3 sharp at 40 degrees	weak sericite	minor diss pyrite	
122.3 to 126.27	Andesitic Crystal Tuff	Predominately a massive andesitic unit with 3-6%, 1-2mm feldspar crystals. Interbeds of siliceous rhyolite tuff from 124.5 to 124.85 at 50 degrees to CA and from 125.89 to 126.0m at 70 degrees to CA. Andesitic unit crudely colour banded green-dark grey green locally.		Pervasive chlorite alteration. Epidote alteration of feldspar.	Minor pyrite, tr ccp along fractures	Geochem #4557 121.6 to 126.27
126.2 to 131.20	Diorite and fault	Feldspar porphyritic. Diorite from 126.2 to 127.10. Sheared, foliated chloritic andesitic? from 127.10 to 130. Strong gouge from 127.4 m-130.15m at 40 degrees.		Pervasive chlorite alteration.	Minor pyrite in fractures.	"South Fault", splay of mine fault?
131.20 to 136.24	QP chloritized Andesite-Dacite	Color - green Grain - aphanitic Massive, aphanitic andesite-dacite unit, moderate to weak foliation at 60 degrees to CA - 40. Distinctly QP near 131.20 containing up to 4% 2-3mm anhedral crystals. Bulk of unit is aphanitic to weakly QP - <1%. Non bedded unit	Ct at 131.20 at 55 degrees	Pervasive chlorite alteration	Fine diss pyrite <1%	Geochem #4558 131.20 - 133.88 Chloritized QP tuff units same as those intersected in MTS-20 and 21. Part of mine Package? Stratigraphically below Lenora-Tyee argillite units.

<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>	<u>Remarks</u>
136.24 to 139.53	Grey Bedded Tuff (QP)	Color - grey Grain - aphanitic Massive banded unit, banding a result of alternating light grey-green bands/beds at 45 degrees to 60 degrees to CA. Units weakly QP containing 1% - <1% 2mm quartz eyes.		weak to moderate sericite altera- tion		Fine pyrite as disseminations or as thin (<1cm bands) parallel to bedding. Minor ccp locally. <2% sulphide over unit. Assay samples+ #4688 136.27 - 136.65m #4869 137.37 - 137.95

<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>	<u>Remarks</u>
139.53 to 173.68	Crystal Tuff/Ash	Medium to thin bedded "felsic" crystal tuff/ash containing 2-3% anhedral quartz phenocrysts from 3mm - 8mm in size. Bedding ranges from 60-65 degrees to 30 degrees to CA. Predominately crystal tuff but aphanitic, chloritic beds are probably altered ash beds - both are QP. Variation in % of QP within tuff units suggests some internal stratification. After 171.80 unit is predominately a chloritized ash, QP are not conspicuous. Crudely bedded 45-50 degrees to CA.	Ct at 173.68 at 40 - 45 to CA	Chiefly pyrite but with variable ccp principally occurring as irregular stringers/bands from 2mm to locally 1 cm wide parallel - subparallel to bedding. Assay #4690 141.57 - 142.34 5% sulphides over, with stringers/beds of ccp-py <1% ccp Assay #4691 142.65 - 143.80 6-8% sulphides overall Pyrite and ccp stringers - 1% ccp over interval. Assay #4692 (145.39-146.8) 6% pyrite - <1% ccp over interval as fine disseminations and stringers parallel to bedding?/foliation. Assay #4693 (146.8 - 148.15) 6%-7% Pyrite - <1% ccp Assay #4694 (148.15 - 148.95) 5%-6% pyrite - 1% ccp Assay #4695 - 152.68 - 153.03 - ccp (<1%) in fine QP ash Assay #4695 - 159.94 - 161.05 Assay #4697 - 162.97 - 163.67 Assay #4698 - 164.85 - 165.57		Quartz "porphyritic" nature of tuff suggests it may be an altered felsic unit? Geochem #4559 148.95 - 152.28m Geochem #4560 161.05 - 162.30 Geochem #4561 169.71 - 172.71

<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>	<u>Remarks</u>
173.68 to 180.70	Rhyolitic Quartz Eye Crystal Tuff	Color - grey Grain - aphanitic Massive, non-bedded unit. 2-3% anhedral quartz crystals <5mm in size. Aphanitic, foliated rhyolitic matrix.	Ctc at 180.70 marked by broken sheared core over 10cm	Weak sericite alteration	Pyrite, 2-3% overall, principally as irregular stringers at 10 degrees - 40 degrees to CA and as disseminated grains.	Geochem #4562 175.56 - 178.61
180.70 to 196.6	Chloritized Rhyodacitic Tuff/Ash	Color - dark grey-green Grain - aphanitic Massive, thick bedded to locally thin bedded tuff, and minor ash. Quartz crystals account for 1-2% of some units but are absent or <1% in sections. 5-10cm wide chloritic gouge zones at 187.6 (50 degrees); 189.7		Pervasive moderate chlorite alteration.	Disseminated and fracture pyrite throughout - 1-2% overall, with sections containing up to 10% pyrite, tr ccp over 10cm. Assay #4699 191.80 - 192.17	Geochem #4563 186.53 - 189.58
196.6 to 202.08 EOH	Aphyric Rhyolite	Color - grey Grain - Aphanitic Massive, grey, aphanitic aphyric rhyodacite Non bedded. Ctc at 196.6 is approximate as unit appears to grade into overlying non chloritized unit.			<1% blebby and disseminated pyrite.	Geochem #4564

PBb
ASSAY SHEET
Ba

Sample Number	From ()	To ()	Estimate		Length ()	% Cu	% Zn	% Pb	gm T Ag	Au	% SiO ₂	%	% Na ₂ O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	PPM Ag	PPB Au			
			Cu	Zn																			
4683	17.8	18.22				0.080	0.01	0.01	2	10		1200											
84	62.12	63.41				0.087	0.01	0.01	1	5		1000											
85	64.05	65.55				0.091	0.01	0.01	1.2	5													
86	78.55	79.3				0.089	0.01	0.01	0.8	5		1020											
87	88.5	88.75				0.790	0.02	0.01	4.3	10													
88	136.27	136.65				0.120	0.04	0.01	3.5	15													
89	137.37	137.95				0.170	0.04	0.01	2.4	25													
90	141.57	142.34				0.141	0.02	0.01	2.3	5													
91	142.65	143.80				0.072	0.02	0.01	3.6	110													
92	145.39	146.8				0.11	0.02	0.01	1.9	5													
93	146.8	148.15				0.073	0.02	0.01	1.5	5													
94	148.15	148.95				0.27	0.04	0.01	3.0	10													
95	152.68	153.03				0.098	0.02	0.01	2.0	5													
96	159.94	161.05				0.138	0.01	0.01	2.1	15													
97	162.97	163.67				0.039	0.01	0.01	2.2	5													
98	164.85	165.57				0.076	0.01	0.01	2.4	10													
4699	191.8	192.17				0.022	0.02	0.01	2.5	5													

LITHOGEOCHEMISTRY

MAJOR OXIDES

TRACE ELEMENTS

SAMPLE NUMBER	FROM (m)	TO (m)	MAJOR OXIDES										TRACE ELEMENTS					Rock Type	Alt	Min	Grid
			SiO ₂	Al ₂ O ₃	CaO	MgO	Na ₂ O	K ₂ O	FeO	MnO	TiO ₂	Ba	ppm Cu	ppm Zn	% Pb	% Zr	ppb Au				
4549	14.38	17.37	71.60	14.14	0.70	2.89	3.02	2.51	3.32	0.19	0.31	.134	24	90	.005	.007					
4550	25.91	28.05	75.25	13.29	0.73	1.41	3.41	2.37	1.79	0.09	0.16	.148	8	29	.005	.007					
4551	75.28	78.33	68.34	15.51	1.07	1.91	4.34	1.77	5.18	0.27	0.36	.064	66	82	.005	.009					
4552	56.99	61.57	75.82	13.0	0.21	0.63	3.28	2.19	2.97	0.07	0.14	.101	500	38	.005	.006					
4553	89.30	92.35	68.73	14.74	1.41	2.11	4.44	1.28	4.90	0.25	0.36	.050	48	72	.005	.008					
4554	92.55	95.0	69.30	14.40	0.52	1.80	2.87	2.51	6.38	0.18	0.34	.091	56	64	.005	.009					
4555	99.66	102.25	68.33	14.97	1.01	2.05	4.75	1.41	5.38	0.20	0.34	.061	440	76	.005	.009					
4556	114.91	117.45	74.47	13.65	1.01	1.81	1.55	3.0	2.69	0.11	0.19	.088	14	45	.005	.007					
4557	121.6	126.27	58.42	17.01	2.58	5.32	2.23	1.65	10.22	0.39	0.64	.067	180	120	.005	.005					
4558	131.2	133.88	57.45	17.84	0.85	8.33	3.18	1.10	8.26	0.38	0.82	.100	58	360	.005	.005					

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LITHOGEOCHEMISTRY

MAJOR OXIDES

TRACE ELEMENTS

SAMPLE NUMBER	FROM (m)		MAJOR OXIDES										TRACE ELEMENTS					Rock Type	Alt	Min	Grid
	TO (m)	SiO ₂	Al ₂ O ₃	CaO	MgO	Na ₂ O	K ₂ O	FeO	MnO	TiO ₂	Ba	ppm Cu	ppm Zn	% Pb	% Zr	ppb Au					
4559	148.95	152.28	60.12	16.59	0.42	7.03	1.46	1.99	9.33	0.45	0.71	.064	640	296	.005	.005					
4560	161.05	162.30	58.94	16.83	0.24	7.69	0.80	2.19	10.75	0.34	0.73	.056	400	170	.005	.005					
4561	169.71	172.71	58.28	17.11	0.61	8.07	2.14	1.48	9.23	0.43	0.75	.051	480	152	.005	.006					
4562	175.56	178.61	67.51	12.55	0.77	4.86	0.31	2.38	9.54	0.33	0.26	.133	60	92	.005	.007					
4563	186.53	189.58	55.2	18.81	0.38	6.55	3.20	1.74	11.42	0.34	0.79	.119	398	153	.007	.005					
4564	197.4	200.45	72.33	13.62	0.26	2.73	3.84	1.37	3.97	0.14	0.32	.077	20	74	.005	.005					

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Grid Co-ordinations 7+20S/8+50W

DRILL HOLE RECORD

X METRIC UNITS
IMPERIAL UNITS

HOLE NUMBER MTS-23	GRID CFC	FIELD COORDS	LAT. 7+20S	DEP. 8+85W	ELEV. 390	COLLAR BRNG 0°	COLLAR DIP -50	HOLE SIZE NØ	FINAL DEPTH 199.03
PROJECT 305	CLAIM #	SURVEY COORDS				DATE STARTED: July 2/86 DATE COMPLETED: July 4/86	CONTRACTOR: Boisvenu CORE STORAGE: Duncan CASING: 4.8m		
PURPOSE								RØD LOG COLLAR SURVEY	PULSE EM SURVEY MULTISHOT SURVEY
ACID TESTS				TROPARI TESTS			MULTISHOT DATA		
DEPTH ()	CORRECTED ANGLE	DEPTH ()	CORRECTED ANGLE	DEPTH ()	AZIMUTH	DIP	DEPTH ()	AZIMUTH	DIP
100	50			335					
200	50								
300									
400	50								
500	50								
600	50								
700									

HOLE NO MTS-23
ZIPPY PRINT - BRIDGEPORT RICHMOND

LOGGED BY H.L. Gibson

<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>	<u>Remarks</u>
0 to 4.0	Casing					
4.8 to 55.1	Quartz Feldspar Rhyolite Tuffs and Lapilli Tuffs	<p>Colour - grey Grain - aphanitic 4.8 - 43.85 Massive, well foliated altered rhyolite - non-bedded? - foliated at <30 degrees to CA - minor quartz veins at 15-30 degrees to CA - 1-3% quartz eyes (anhedral) up to 4mm - trace feldspar crystals <1mm - 3-5 mm felsic fragments (feldspar?) from 19.70 - 20.0 m and again from 25.6 - 26.0m may define lapilli tuff beds (fine QP) - crude banded appearance of unit suggests it may be a clastic, tuffaceous, crystal tuff sequence - thin (<5 cm wide) sericitic shears at 50 degrees to CA - core is broken and blocky - lapilli tuff beds (white felsic fragments <5 cm) from 30.6 - 31.13, 35.8 - 43.85 - felsic fragments from 3mm to 1 cm are elongate parallel to foliation at 50 degrees to CA. Fragments may in part be feldspar crystals. Quartz crystals up to 5 mm constitute <1%-3% of the unit and both "fragments" and quartz crystals sit in a light-green-grey aphanitic siliceous matrix. Aphanitic, aphyric, carbonate-rich (calcite) unit from 47.3 - 47.65 is likely a rhyodacite dike but may be an ash bed (lacks foliation at 45 degrees to CA).</p>		<p>Pervasive weak - moderate sericitic alteration</p>	<p>Stringers of fine pyrite and minor ccp (<1%) from 6.8 to 7.5 at <40 degrees to CA. Assay #4700</p> <p>Assay #4651 26.46 - 26.90 Chalcopyrite - pyrite stringers, section averages 2% ccp overall. Stringers up to 1 cm wide.</p> <p>Unit is characterized by five stringers of pyrite from <2 m to 1 cm wide, with minor to nil ccp that parallel foliation. 2-3% pyrite throughout tuffs.</p>	<p>Geochem # 4565 8.80 to 14.32</p> <p>Geochem 4566 23.47 - 26.21 Thin, <10 cm, carbonated mafic dikes cut unit at 11.85 and 12.15 at 5 degrees and 20 degrees to CA 1.35 m of core lost from 11.27 to 14.32 (55% recovery).</p> <p>Geochem #4567 31.75 to 35.66</p> <p>Geochem #4568 41.75 to 43.85</p> <p>Geochem #4569 43.85 to 46.77</p>

<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>	<u>Remarks</u>
		<p>Strong, gouge zones at 28.95m at <30 degrees; 36.6 at 40 degrees. 43.85 - 50.55</p> <p>Foliated to sheared (60 degrees) massive "bedded" rhyolitic ash/tuff unit.</p> <p>Trace QP.</p> <p>Banding (bedding) parallel to foliation at 60 degrees.</p> <p>Strong shear with minor gouge from 47.3 - 47.60 at 60 degrees to CA.</p> <p>After 50.55 to 55.1, unit is more massive, only weakly foliated and aphyric - possible massive rhyolite flow or tuff.</p>				
55.1 to 106.25	Diorite	<p>Aphanitic chilled margins grade rapidly (over 1m) into a medium grained, feldspar porphyritic interior with phenocrysts up to 1.5 cm in size.</p> <p>Calcite, hematite filled fractures at 70 degrees to CA.</p> <p>Fine grain aphanitic sections may be chilled margins of multiple diorite dikes?</p>	<p>Ctc at 55.1 at 80 degrees</p> <p>Ctc at 106.25 at 70 degrees</p>	Weak epidote alt of feldspars		Minor ccp in quartz, calcite veins <40 degrees to CA.

<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>	<u>Remarks</u>
106.25 to 121.55	Quartz-Eye Rhyolite	<p>Colour - grey Grain - aphanitic Massive, homogeneous unit Well foliated at 70-75 degrees to CA - foliation kinked 1% to 2% fine 1-3 mm anhedral quartz eyes Trace feldspar crystals Weak shear at 20 degrees to CA at 108.65 - 108.80 m Foliation/bedding folded into open fractures with limbs at 80 degrees and 10 degrees to CA Alternation of light and dark grey bands suggests unit may be bedded (75 degrees to 80 degrees to CA). Strongly sheared from 120.7 - 121.55 with gouge over test 20 cm at 70 degrees to CA.</p>		Pervasive, moderate sericitic alteration	<p>Fine, 1% disseminated pyrite throughout Thin (<1 cm to 2.5 cm wide bands of 20-30% fine pyrite (tr ccp) scattered through unit from 115.5 to 120.7 at 65 degrees - 85 degrees to CA</p>	<p>Massive, light green-grey carbonated (calcite) unit, probable aphyric dike from 112.9 to 113.2. Contacts lost in broken core. Core broken into chip-size piece from 2-3 cm to 20 cm</p> <p>Geochem #4570 110.2 - 114.3</p> <p>Geochem # 4571 116.43 - 120.7</p>
121.55 to 134.90	Quartz-Eye Rhyolite	<p>121.55 to 121.95 Carbonated (calcite) light green grey, aphanitic, weakly epidote altered mafic dike or tuff. Crude banding suggests it may be a tuff. Fine diss pyrite and minor ccp in fractures.</p> <p>121.95 to 134.90 Massive rhyolite unit as above but with fewer, <1% quartz eye (1-3mm). Fine <1mm specks may be feldspar crystals (1-2%). Well foliated at 50 degrees to CA, locally kinked and folded. Thin shears at <5 degrees and 30 degrees to CA. 4 cm wide band of epi-altered carbonated mafic tuff at 45 degrees to CA at 130.52m.</p>		Pervasive sericite alteration.	<p>Fine 1% pyrite throughout unit. Fine pyrite in irregular bands to 5mm wide which parallel foliation along with minor ccp.</p> <p>Assay #4652</p> <p>133.07 to 133.50 4-5% sulphides, 0.5% ccp</p>	

<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>	<u>Remarks</u>
134.90 to 145.73	Dacite- Rhyodacite Ash, minor Tuff	Colour - grey Grain - aphanitic Thin bedded to laminated ash. Beds range in thickness to 15cm but are commonly <1cm and finely laminated. Grading in fine ash laminate/beds suggest tops up hole. Bedding ranges from 2-3 degrees to 10 degrees to CA (typical) to 70 degrees to 80 degrees to CA and is locally folded (open) with limbs 70 - 80 degrees and <10 degrees to CA (minor scale structures effect bedding attitude of unit). Strong fault with sericitic gouge from 136.2-136.6 at <30 degrees to CA (?) Fine felsic cherty laminae (silicified ash?) Thin interbeds (up to 15 cm wide) of andesitic tuff	Ctc at 134.90 and 145.73 at 70 to 75 degrees to CA.	Pervasive moderate to weak sericite. Odd epidote patch	Fine disseminated and blebby pyrite, minor ccp along bedding and foliation planes 1 - 2% overall. From 134.85 - 135.80 unit contains 10% sulphide and 1% ccp. Assay #4653 Sulphides along bedding plane.	Geochem #4572 135.80 - 139.15
145.73 to 156.25	Quartz-Eye Rhyolite Crystal Tuff?	Colour - grey Grain - aphanitic Massive, homogeneous unit. Non-bedded, foliated a 45 degrees to CA, locally kinked. 1% fine 1-3.5 mm anhedral quartz eyes. Aphanitic rhyolitic matrix.		Weak sericite alteration.	1-2% fine disseminated blebby and minor fracture filling pyrite.	Geochem #4573 146.3 - 150.87

<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>	<u>Remarks</u>
156.25 to 164.30m	Rhyodacite Lapilli Tuff	Colour - grey Grain - aphanitic Massive, broken unit, non-bedded. 3 to 10% light, buff coloured 2-4mm ovoid to irregular spots that may be fine granular epidote and quartz and replacing fragments or accretionary lapilli? 1%, 2mm - 5mm quartz crystals. Aphanitic rhyodacitic matrix. Chlorite shear at 35 degrees to CA at 162.7m.		Weak sericite alteration.	Fine fracture filled stringers of pyrite, tr ccp. <1% sulphide overall with sections containing up to 5% pyrite over 20 cm.	Geochem #4574 156.3 - 160.02
164.30 to 169.40	QP Rhyolite	Colour - medium grey Grain - aphanitic massive, non-bedded unit. 1% quartz crystals (anhedral) from 2m to 6m. Aphanitic matrix/groundmass		Weak-moderate sericite chlorite alteration.	Blebbly pyrite/chalcopyrite in matrix and along fractures. 1% sulphide overall.	Very blocky broken core; thin shears at 50 degrees to CA. Granulated core from 167.83 to 167.84. Geochem #4575 164.30 - 169.40
169.40 to 184.00	Diorite	Aphanitic, fine-grained chilled calcite-veined margins (45 degrees), fine-med grained interior. - Weakly feldspar porphyritic.	50 at 169.40	Epidote alt. of feldspar	weak-moderately magnetic	
184.0 to 191.2	QP Rhyolitic Crystal Tuffs	Colour - grey-green Grain - aphanitic Massive unit, crude bedding defined by variation in % of quartz crystals. Typically contains 1% QP but locally up to 5-6% QP up to 4mm. Foliated at 25 - 30 degrees to CA.		Weak to moderate sericite alteration.	Disseminated and fracture controlled fine and blebbly pyrite 2-3% over unit. Blebs of pyrite up to 1.5 x 1cm. Tr ccp	Geochem #4576 185.07 - 190.5

<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>	<u>Remarks</u>
191.2 to 199.03	Thin bedded to Laminated Andestic - Dacite Ash/minor Tuff	Colour - dark grey - grey Grain - aphanitic 191.2 - 191.90 Aphanitic andestic ash, massive bed. 1% blebby pyrite. chlorite altered. 191.90 - 192.80 Rhyodacitic ash, massive and cherty. 192.80 - 109.03 Thin bedded to laminated andesite-dacite ash and minor tuff Bedding folded with limbs at <5 degrees to 65 degrees to Ca. Foliation at 30 degrees to Ca.		Pervasive moderate chlorite alteration.	Blebby pyrite and fine diss pyrite along bedding planes and fractures. Assay # 4654 193.85 - 194.90 10% pyrite, 1% ccp #4658 194.90 - 196.30 8% pyrite, <1% ccp	Geochem #4577 196.60 - 199.03

ASSAY SHEET

Pbb

Ba

Sample Number	From ()	To ()	Estimate		Length ()	% Cu	% Zn	% Pb	gm T Ag	gm T Au	% SiO ₂	% TiO ₂	% Na ₂ O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	PPM Ag	PPB Au			
			Cu	Zn																			
4700	6.8	7.5				0.003	0.01	0.01	1.8	5													
4651	26.46	26.90				0.27	0.01	0.01	4.5	40													
52	133.07	133.50																					
53	134.85	135.8				0.354	0.02	0.01	4.0	45		830											
54	193.85	194.9				0.503	0.01	0.01	4.2	50		810											
55	194.90	196.3				0.052	0.01	0.01	1.9	10		770											

MTS-23

HOLE NO _____

LITHOGEOCHEMISTRY

MAJOR OXIDES

TRACE ELEMENTS

SAMPLE NUMBER	FROM (m)	TO (m)	MAJOR OXIDES										TRACE ELEMENTS					Rock Type	Alt	Min	Grid
			SiO ₂	Al ₂ O ₃	CaO	MgO	Na ₂ O	K ₂ O	FeO	MnO	TiO ₂	Ba	ppm Cu	ppm Zn	% Pb	% Zr	ppb Au				
4565	8.80	14.32	74.72	13.39	1.48	1.72	0.63	3.21	3.2	0.05	0.32	13.39	32	42	.005	.005					
4566	23.47	26.21	71.05	12.93	4.19	2.12	0.49	2.58	4.76	0.08	0.26	12.93	108	53	.005	.005					
4567	31.75	35.66	74.83	12.57	1.30	1.95	0.60	2.67	4.48	0.05	0.27	12.57	64	42	.005	.005					
4568	41.75	43.85	72.72	12.71	3.50	1.84	0.99	2.04	4.28	0.06	0.26	12.71	26	44	.005	.005					
4569	43.85	46.77	71.83	13.35	1.98	2.07	1.13	2.65	4.88	0.07	0.34	13.35	92	64	.005	.005					
4570	110.2	114.3	72.51	13.25	0.92	4.16	1.13	2.15	4.15	0.12	0.29	13.25	20	92	.005	.005					
4571	116.43	120.7	73.11	13.89	1.06	2.37	0.58	3.13	3.80	0.08	0.30	13.89	384	68	.005	.005					
4572	135.8	139.15	69.49	13.92	1.57	4.11	0.74	1.83	5.99	0.24	0.49	13.92	56	99	.005	.005					
4573	146.3	150.87	72.21	14.22	1.09	2.68	1.81	2.12	3.87	0.22	0.31	14.22	121	96	.005	.005					
4574	156.3	160.02	72.11	13.86	1.86	1.94	1.76	2.33	4.23	0.18	0.29	13.86	53	64	.005	.005					

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LITHOGEOCHEMISTRY

MAJOR OXIDES

TRACE ELEMENTS

SAMPLE NUMBER	FROM (m)	TO (m)	MAJOR OXIDES										TRACE ELEMENTS					Rock Type	Alt	Min	Grid		
			SiO ₂	Al ₂ O ₃	CaO	MgO	Na ₂ O	K ₂ O	FeO	MnO	TiO ₂	Ba	ppm Cu	ppm Zn	% Pb	% Zr	ppb Au						
4575	164.3	169.4	71.80	13.67	1.96	2.36	2.89	1.57	3.97	0.14	0.30	13.67	228	72	.005	.005							
4576	185.07	190.5	69.74	14.96	0.74	2.82	1.87	2.44	5.59	0.10	0.31	14.96	360	54	.005	.005							
4577	196.6	199.03	62.12	17.22	1.00	4.68	2.04	2.12	8.50	0.21	0.54	17.22	46	66	.005	.005							

Hole No. MTS-23

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x METRIC UNITS
IMPERIAL UNITS

Grid Co-ordinates 6+20S, 5+65E

DRILL HOLE RECORD

HOLE NUMBER MTS-24	GRID CFC	FIELD COORDS	LAT. 6+20S	DEP. 5+20E	ELEV. 578m	COLLAR BRNG. 0	COLLAR DIP 50	HOLE SIZE NQ	FINAL DEPTH 166.72	
PROJECT 304	CLAIM #	SURVEY COORDS				DATE STARTED: July 5/86 DATE COMPLETED: July 8/86	CONTRACTOR: Boisvenu CORE STORAGE: Duncan CASING: 3.55			
PURPOSE								RQD LOG COLLAR SURVEY	PULSE EM SURVEY MULTISHOT SURVEY	
ACID TESTS				TROPARI TESTS			MULTISHOT DATA			
DEPTH ()	CORRECTED ANGLE	DEPTH ()	CORRECTED ANGLE	DEPTH ()	AZIMUTH	DIP	DEPTH ()	AZIMUTH	DIP	
100	50			542	351	48				
200	49									
300	49									
400	49									
500	49									

HOLE NO MTS-24
ZIPPY PRINT - BRIDGEPORT RICHMOND

LOGGED BY H.L. Gibson

<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>	<u>Remarks</u>
0 to 3.55	CASING					
3.55 to 26.00	Quartz- Feldspar Porphyritic Rhyolite	Color - grey Massive unit, non-bedded 1%-3% anhedral quartz-eyes to 2-3mm 1%-4% subhedral feldspar crystals <3mm Aphanitic, aphyric matrix- groundmass Unit has an insitu-brecciated shattered appearance with light grey, 1-2mm mega-perlitic textured fractures separating darker grey rhyolite. "Fragments" range from <1cm to 10 cm.		Weak sericite altered	1-2% disseminated pyrite throughout unit. Assay #4656 23.25 - 23.60 3% pyrite, 1% ccp as blebby stringers #4567 24.37 - 25.30 5%-6% pyrite, <1% ccp as irregular stringers in matrix to fragments or as diss sulphide patches up to 2cm in size	Monolithic, in situ nature of breccia suggests it may be a primary flow breccia or tectonic bx. Geochem #4578 11.27 - 14.32
26.00 to 36.74	Rhyolitic Tuffs, Lapilli Tuff and Ash	26.00 - 26.70 Speckled rhyolite tuff - lapilli tuff? Fine ash interbeds at 25 degrees to CA 26.70 - 26.85 Aphanitic, aphyric ash 26.85 - 26.92 Fine lapilli tuff, 1-2 mm dark gray fragments or crystals 26.92 - 27.05 Fine felsic ash, etc at 45 degrees to CA 27.05 - 36.74 Sequence of massive, rhyolitic, QP crystal tuffs		weak sericite	2-3% fine diss and blebby pyrite, tr ccp	Geochem #4579 27.10 - 32.61

<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>	<u>Remarks</u>
36.74 to 38.8	Diorite	Color - green Grain - fine grain Fine gr. - aphanitic margins, fine-grained interior Chilled ctc from 38.6 - 38.8 is light green and dotted with 5% elongate (1mm x 5m) mafic spots that may be amydules (possibly a separate dike?)	At 36.74 ctc at 70 degrees Ctc at 38.8 at 70 degrees	Weak epidote alt	Calcite veins at 83.6 m to 83.65 at 60 degrees contains 8% fine grain pyrite and tr ccp	
38.8 to 42.65	Thin bedded to Laminated Felsic Ash/and minor Chert	Color - grey-green 38.8 - 39.34 Thin bedded, laminated felsic ash, bedding at 40 degrees - 45 degrees to CA. Bedding defined by alternation of light and dark grey ash and chert beds up to 4 cm thick. 39.34 - 39.45 Breccia unit - fragments consist of a) aphyric aphanitic fine quartz or -chert, subangular and from 4mm - 2.5 cm in size. b) rhyolitic fragments up to 15 cm Possible intraformational breccia 39.45 - 39.60 Grey felsic ash/chert bed 39.60 - 39.80 Mafic, andesitic tuff bed with disrupted beds of felsic ash 39.80 - 42.65 Thin bedded felsic ash, bedding at 60 degrees and 5 degrees to CA, kink folded		Weak sericite alteration	1-2% Fine grained pyrite along bedding planes, up to 5-6% pyrite and tr ccp over 10-15 cm Assay #4658 39.0 - 39.34	Heavy oil coating. Geochem #4580 39.45 - 42.60

<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>	<u>Remarks</u>
42.65 to 53.00	Dacitic - Rhyodacitic Tuff	Massive unit, typically thick bedded with 1-2 cm wide beds of felsic ash at 50-60 degrees to CA		Pervasive moderate chl alteration	Fine diss pyrite and chalcopyrite throughout - 3% - 4% sulphide. 5% py, <1% ccp from 42.73 - 43.32 Assay #4659	Geochem # 4581 44.5 - 47.29 Thin fine grained feldspar porphyrite diorite diike from 49.86 to 50.14 at 80 degrees to Ca
53.00 to 81.85	Diorite	Color - green Grain - aphanitic - medium green Aphanitic, chilled margin to 56.0m, medium grained, feldspar porphyritic diorite from 56.0 - 81.30m. Few calcite and epidote veins at 45 degrees - 70 degrees to CA. Chilled, fine-grained diorite from 81.30 - 81.85m.		Weak epi alt of feldspar.		Fine grained mafic/feldspar porphyritic diorite? from 69.85 to 70.75 at 75 degrees to CA
81.85 to 84.00	Rhyolitic Crystal Tuff	Color - grey Grain - aphanitic Massive, medium-bedded unit. Beds contain from 1-3% quartz crystals up to 3 mm and 1-5%, 1-2 mm feldspar crystals in an aphanitic matrix - unit has a banded, streaky appearance with thin lenticular dark grey-green wisps from 8 mm to 2 cm from 83.65 - 84.00 Bedding at 60 - 70 degrees to CA		Weak sericite alteration	Tr 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>	<u>Remarks</u>
84.00 to 89.10	Rhyodacitic Tuff/Ash	Color - grey Grain - aphanitic Massive non-bedded unit Aphyric, homogeneous Foliated at 75 degrees to CA	Ct at 84.00m at 65 degrees to CA	Weak sericite alteration	Disseminated fine-grained pyrite along bedding - foliation planes 2-3% overall. From 84.50 - 85.00, 5% pyrite, tr ccp. 3.5 cm pyrite "bed", (band) consisting of 40% pyrite and <1% ccp at 88.86m, with parallel pyrite bands 2-3mm - 1 cm wide from 88.7 - 89.10 m	Geochem #4582 84.45 - 89.10 1.5 m lost at 85.5. Core is blocky and in chips over most of interval.
89.10 to 89.45	Rhyolite Crystal Tuff	Color - grey Grain - aphanitic Massive, thin-bedded unit - bedding at 60 degrees. 1-2% quartz crystals up to 6 mm. Thin - 2 cm wide chloritic bed at 89.35m	60 degrees at 89.10 and 89.45	Moderate sericite alteration	2% diss pyrite	
89.45 to 90.2	Rhyodacitic Tuff/Ash	Same as unit from 84.00 to 89.10m				

146.23 to 163.67	Chloritized Dacitic Tuff and Ash	<p>Color - grey to grey-green Grain - aphanitic 146.23 - 148.53 Massive dacitic tuff, fine grained, aphanitic. Fine (<1mm) feldspar crystals? 148.53 - 149.25 Dacitic ash, thin bedded, at 80 degrees to CA. 149.25 - 150.72 Quartz crystal tuff - 2.3%, 3 mm - 7mm recrystallized? round quartz crystals and faint mafic lapilli in an aphanitic matrix. 150.72 - 151.8 Thin bedded aphyric dacitic tuff/ash. Bedding at 80 - 75 degrees to CA.</p> <p>151.8 - 156.05 Massive dacitic tuff, non bedded unit. Grades into overlying thin bedded unit, lower contact sharp at 60 degrees to CA. Contains 2-3% diss pyrite and tr ccp.</p> <p>156.05 - 156.23 Bedding at 65 degrees to CA. Rhyolite crystal tuff bed - 5% QP to 6 mm - 6-7% FP, <2mm - aphanitic grey matrix</p> <p>156.23 - 158.66 Rhyolite tuff, crystal tuff - 10% quartz crystals up to 5mm - 3% fine, <1mm feldspar crystals - aphanitic matrix 158.66 - 163.67 Dacitic tuff, massive and aphanitic, non-bedded - fine, <1mm light colored specks may be feldspar (2-5%) - shear, with chloritic gouge from 161.7 to 161.85 at 85 degrees to CA. Thin diorite dike from 161.85 - 161.87 at 80 degrees to CA.</p>	<p>2-3% disseminated and fracture controlled pyrite throughout with minor to tr ccp. Assay #4665 149.07 to 149.25 5% ccp as irregular stringer up to 1 cm wide, 1% pyrite. Assay #4666 158.96 - 159.65 3-4% pyrite as stringers, tr ccp.</p>	<p>Geochem #4585 146.23 - 149.07 Geochem #4586 149.25 - 150.72 Geochem #4588 160.63 - 163.67</p>
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<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>	<u>Remarks</u>
163.67 to 166.72 EOH	Andesitic Tuff	Color - green Grain - aphanitic Massive, non-bedded unit. Dacitic bed/section from 164.1 - 164.55 Chlorite gouge zone at diorite ctc from 165.8 to 165.95 m at 70 degrees		Pervasive moderate chl alt	<3% diss and fracture pyrite Minor ccp	Diorite dikes from 164.55 to 164.73 at 75 degrees and from 165.95 - 166.72 at 60 degrees to CA.

PPb ASSAY SHEET

Sample Number	From ()	To ()	Estimate		Length ()	% Cu	% Zn	% Pb	gm T Ag	gm T Au	% SiO ₂	% TiO ₂	% Na ₂ O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	PPM Ag	PPB Au			
			Cu	Zn																			
4656	23.25	23.6				0.334	0.01	0.01	2.1	30													
57	24.37	25.30				0.129	0.01	0.01	2.2	10													
58	39.0	39.34				0.100	0.01	0.01	2.0	10		4500											
59	42.73	43.32				0.057	0.02	0.01	2.0	5													
60	88.70	89.10				0.032	0.02	0.01	2.1	30													
61	141.75	143.1				0.380	0.01	0.01	3.0	20													
62	144.0	144.6				0.329	0.01	0.01	2.4	10													
63	144.6	145.15				0.094	0.01	0.01	2.0	5		1140											
64	145.55	146.23				0.30	0.01	0.01	2.0	10		940											
65	149.07	149.25				5.24	0.10	0.01	14.0	100													
66	158.96	159.65				0.051	0.06	0.02	2.3	5													

LITHOGEOCHEMISTRY

MAJOR OXIDES

TRACE ELEMENTS

SAMPLE NUMBER	FROM (m)	TO (m)	MAJOR OXIDES										TRACE ELEMENTS					Rock Type	Alt	Min	Grid
			SiO ₂	Al ₂ O ₃	CaO	MgO	Na ₂ O	K ₂ O	FeO	MnO	TiO ₂	Ba	ppm Cu	ppm Zn	% Pb	% Zr	ppb Au				
4578	11.27	14.32	73.05	14.58	0.36	1.57	3.97	2.12	2.72	0.10	0.28	.133	19	102	.005	.005					
4579	27.10	32.61	69.50	15.53	0.40	2.16	4.54	1.76	4.06	0.14	0.36	.073	120	540	.005	.005					
4580	39.45	42.60	63.91	16.39	0.89	4.84	1.45	2.88	7.15	0.35	0.55	.200	252	160	.005	.005					
4581	44.5	47.29	62.98	16.62	1.02	5.70	2.31	2.12	6.77	0.42	0.54	.098	352	352	.005	.005					
4582	84.45	89.10	61.28	16.76	0.39	7.24	0.37	2.88	8.60	0.35	0.54	.092	254	150	.005	.005					
4583	107.29	110.33	61.76	16.20	0.89	7.11	2.13	1.84	7.57	0.44	0.53	.101	216	174	.005	.005					
4584	133.19	136.25	60.75	16.71	0.37	8.96	1.13	2.00	7.41	0.44	0.54	.101	164	196	.005	.005					
4585	146.23	149.07	64.75	15.84	0.31	5.15	1.66	2.38	7.63	0.27	0.48	.114	1000	136	.005	.005					
4586	149.07	150.72	64.53	15.76	0.36	5.61	1.60	2.20	7.35	0.32	0.51	.110	1520	168	.005	.005					
4587	153.0	156.05	70.22	13.47	0.27	3.64	1.31	2.47	6.68	0.15	0.32	.128	1280	92	.005	.005					

Hole No. MTS-24

Entered by _____

Logged by _____

Page No. 10

LITHOGEOCHEMISTRY

MAJOR OXIDES

TRACE ELEMENTS

SAMPLE NUMBER	FROM (m)		MAJOR OXIDES										TRACE ELEMENTS					Rock Type	Alt	Min	Grid
		TO (m)	SiO ₂	Al ₂ O ₃	CaO	MgO	Na ₂ O	K ₂ O	FeO	MnO	TiO ₂	Ba	ppm Cu	ppm Zn	% Pb	% Zr	ppb Au				
4588	160.63	163.67	66.06	15.19	0.62	4.22	2.67	2.12	6.90	0.11	0.41	.117	206	40	.005	.005					

Hole No. MTS-24

Entered by

Logged by

CORPORATION FALCONBRIDGE COPPER

Grid Co-ordinates - 2+50N, 0+80E

x METRIC UNITS
IMPERIAL UNITS

DRILL HOLE RECORD

HOLE NUMBER MTS-25	GRID	FIELD COORDS	LAT 2+60N	DEP 0+75E	ELEV 470m	COLLAR BRNG 185	COLLAR DIP 51°	HOLE SIZE NQ	FINAL DEPTH 252.07m
PROJECT PN 305 Mt. Sicker	CLAIM #	SURVEY COORDS				DATE STARTED: Dec 1/86 DATE COMPLETED:	CONTRACTOR F. Boisvenu CORE STORAGE Fulton Farm CASING		

PURPOSE	RQD LOG COLLAR SURVEY	PULSE EM SURVEY MULTISHOT SURVEY
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ACID TESTS				TROPARI TESTS			MULTISHOT DATA		
DEPTH (ft)	CORRECTED ANGLE	DEPTH ()	CORRECTED ANGLE	DEPTH (ft)	AZIMUTH	DIP	DEPTH ()	AZIMUTH	DIP
100	50°			623	143°	-49°			
200	49-50°								
300	50°								
400	50°								
500	74-75° - not correct								
600	no line								
700	49°								
800	49-50°								

HOLE NO MTS-25
ZIPPY PRINT - BRIDGEPORT RICHMOND

LOGGED BY Harold L. Gibson

<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>	<u>Remarks</u>
0 to 3.05	CASING					
3.05 to 23.0	Epidotized Andesitic Tuff and Ash	<p>Colour - dark to light grey green Grain - fine to aphanitic</p> <p>3.05 - 8.25m Andesitic ash, tuff unit. Poorly defined bedding defined by light green epidotized "beds" alternating with darker green laminae. Beds from 3-4mm to 4cm thick at approx. 55 - 60° CA - irregular chloritic "frags" or vein segments</p> <p>8.25 - 14.32m Epidotized Lapilli Tuff - poorly defined somewhat diffuse-looking fragments from <1cm to 5-6cm - subangular in form - in situ brecciated appearance - thin bed of aphanitic, aphyric felsic ash (white) at 40° to CA from 11.00 - 11.06m. - quartz (minor calcite) veins at <20° to CA</p> <p>14.32 - 23.0m Predominately grey to light green andesitic ash unit. Fine epidote spots (1-2mm) define sections that may be crystal-tuff (epi altered feldspar crystals) beds.</p> <p>- Distinct darker grey irregular lapilli to 4cm in a light grey matrix from 17.10-17.55m</p> <p>- Distinct bedded section of fp crystal tuff from 20.5 to 20.86m with bedding at 50° to CA</p>		<p>Pervasive mod-strong epidote alteration - diffuse epidote patches, chlorite associated sulphide stringers/fracture fillings from 13.53 - 14.32m</p>	<p>3-4%, fracture controlled, fine py, po and minor ccp from 13.53-14.32m</p> <p>Fine disseminated, bleby and locally fracture controlled py (tr ccp) throughout unit - <1% sulphides.</p> <p>3% py-po, tr ccp in stringers with chlorite over 4 cm at 15.35m.</p>	<p>Assay #6401 13.53-14.15</p> <p>Geochem #6001 8.23-11.27</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>	<u>Remarks</u>
23.0 to 24.05	Fault Zone	<p>Colour - green-grey Strongly foliated and broken core</p> <p>- broken and segmented blue-grey quartz veins, minor calcite.</p> <p>- chloritized/sericitized sheared andesite?</p> <p>- foliation at <45° to CA</p>		Sericitic, chloritic epidote alt. andesite?	Tr py	
24.05 to 30.53	Andesite Ash-Tuff	<p>Colour - grey to grey-green Grain - fine</p> <p>24.05 to 27.90 Massive, aphanitic andesitic ash/v. fine tuff - weak and localized epidote alteration</p> <p>27.90 - 32.0 moderately epidotized andesitic ash/v. fine tuff and accretionary lapilli tuff. Bedding totally disrupted and broken (primary slumping of "wet" tuffaceous seds?)</p> <p>- acc. lapilli form distinct beds <1cm - 3cm wide consisting of 10-20% 1-3mm round light green acc. lapilli in an ash matrix.</p> <p>- acc. lapilli also occur within massive ash/v. fine tuff beds (<5%)</p> <p>- some acc. lapilli beds are graded; tops up hole?</p> <p>- Qtz-calcite veins at <50° and >30° to CA</p> <p>from 30.80 - 31.4 faint fragment forms - angular fragments up to 5 cm with lighter coloured margins</p> <p>31.4 - 32.0: broken core - andesite tuff?</p>		<p>24.05-27.90 V. weak epidote alteration.</p> <p>27.80 - 32.0 distinct epidote patch development with psuedobx texture.</p> <p>- patches locally look distinct but are diffuse and gradational into tuff/ash matrix - their outer margin containing more Qtz than epidote and imparting a grey versus a light green/grey colour.</p> <p>- patches form 1cm to in amoeboid forms to 10cm.</p>	<p><1% disseminated and fracture controlled pyrite from 24.05-27.90m</p> <p>27.90 - 32.0 minor pyrite (<1%) and tr ccp</p>	Geochem #6002 28.34 - 31.4

<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>	<u>Remarks</u>
		<p>32.0 - 36.95 Aphanitic, massive andesitic tuff - v. fine grained</p> <p>- possible lapilli-size fragments from 32.8 to 39.05m</p> <p>- small, faint 1mm circular spots - possible accretionary lapilli (15-20%) from 34.6 - 34.8m</p>		<p>32.0 - 36.95 Weak-nil epidote alteration</p>		
		<p>36.95 - 38.7 Bedded-laminated ash unit Crude-faint bedding at 60 - 70° to CA Crystal (FP) rich light coloured mottled section from 38.10 to 38.7m</p>		<p>36.95 - 38.7: nil</p>	<p>2-3% stringer like pyrite with chl. ash from 37.6-38.10m</p>	
		<p>38.7 - 64.92 Bleached, grey, massive andesite - Strong fault marked by broken core from 39.65 to 44.51m with strong muddy gouge from 40.0 to 41.0m with 0.5m of core missing over the latter interval.</p> <p>- crude layering locally at 65° to CA. Layering a result of alternating light and dark colour laminae and laminae with a mgr. granular texture - feldspar crystals?</p>		<p>38.7 - 64.2 Andesite is bleached and light-grey in appearance with irregular - amoeboid shaped mottled patches of silicification and sercite- epidote alteration up to 20cm in size. Alteration patches commonly cut by quartz veins with massive green-grey chlorite. - local spots of py, tr ccp up to 3-4cm in size with 10-15% sulphide.</p> <p>After 57.30 epi-qtz patches take on an in situ bx texture imparting a fragmental texture to the altered patch - irregular chlorite in veins separate frags - could be frag beds but look more like alteration texture/structure.</p>	<p>38.7 - 64.92 <1% diss pyrite throughout interval, however locally epidote/qtz alt. patches contain 3-4% sulphides, chiefly py but with some ccp. Coarse blebs of ccp (1%) occur in epidote/qtz alt patches at 51.0m</p>	<p>Geochem #6003 48.45 - 51.2</p> <p>Calcite-qtz veins at 50 - 80 to CA</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>	<u>Remarks</u>
		64.92 - 65.10 Andesitic crystal tuff with 10-15% feldspar crystals in a v. fine andesitic tuff/ash matrix.		64.92 - 65.10 Irregular silicification alteration patches with a distinct vein-like appearance (notably from 64.92-65.06m)		
		65.10 - 72.20 Andesitic ash, minor crystal tuff (Fp crystals) - crude faint layering at 50 - 60° to CA		65.10 - 72.20 Weak epidote alteration, silicification.		
		72.20 - 76.60 Andesitic accretionary lapilli tuff -crude, indistinct layering at 65° to CA -5-20% accretionary lapilli, consisting of round to ovoid felsic forms with mafic cores occasionally preserved.		72.20 - 76.60 Weak pervasive epidote alteration -weak to moderate chlorite alteration from 74.75 - 75.70m	72.20 - 76.60 <10% diss pyrite, with 2% py from 74.75 - 75.70m	Geochem #6004 74.75 - 75.50m
		4cm wide shear/gouge zone at 76.80m at 75° to CA				
		76.60 - 79.30 -Contact at 76.60 is gradational and located to separate crudely bedded acc. lapilli tuffs from more massive in situ bx. tuffs. -massive grey andesite tuff - in situ brecciated with a light grey green sericitic vein-network matrix.		76.60 - 79.30 Sericitic vein-network matrix, mod-strong sericite alteration from 78.30 to 78.70m	76.60 - 79.30 <10% 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>	<u>Remarks</u>
		<p>79.30 - 85.6 From 79.30 - 81.65, massive chloritic andesitic tuff After 81.65m unit is an andesitic lapilli tuff with light green-grey typically tabular angular fragments up to 4cm long x 1.5cm wide in a leucoxene-chloritized sulphide bearing matrix.</p> <p>-Breccia may be primary volcanic bx or syn. sed slump bx - tabular shape of frags reminiscent of broken beds?</p>		<p>79.30 - 85.6 Pervasive weak to moderate chlorite alteration especially apparent in matrix to breccias (leucoxene crystals dot chloritized andesite) Epidote patches for 2-3cm to 0.7m are not chloritized but are cut by gash-like quartz/massive chlorite veins. Bx texture of Andesite not apparent in epidote alteration patches.</p>	<p>79.30 - 85.6 Chloritized section of unit characterized by irregular-bleby stringers of pyrite - minor pyrrhotite and trace chalcopyrite Epidote patches noticeably lack sulphides</p> <p>-Interval contains 2-3% sulphides overall with section up to 10cm wide averaging 5-6% sulphides.</p>	
		<p>85.6 - 90.53 Strongly epidotized andesite tuff, lapilli tuff? Fragments/texture difficult to discern because of intense epidote-quartz alteration</p> <p>-crude layered look to unit?</p> <p>Massive grey chert, weakly laminated, from 88.81-88.89m at 80° (?) to CA - good exhalative horizon (minor ash laminae, 1% py)</p>		<p>85.6 - 90.53 Moderate to intense epidote alteration and silicification. Irregular alteration patches up to 0.30m veined by gash-like chlorite and quartz veins.</p>	<p>Pyrite, pyrrhotite and minor chalcopyrite stringers from 87.3-87.80m, near massive pyrrhotite veins (+40% sulphide) over 2-3cm at 40° to CA</p> <p>Assay #6403 87.3 - 87.80m</p>	<p>Geochem #6009 87.80 - 90.53m</p>
90.53 to 93.25	Chloritized Andesite Tuff	<p>Colour - green-grey Grain - aphanitic Massive unit, chloritized and mineralized -possibly bedded, however alteration masks most textures/structures</p>		<p>Pervasive chlorite alteration (unit may be more dacitic)</p>	<p>- irregular stringers of pred. pyrrhotite and pyrite with tr. ccp throughout unit - 2-3% overall.</p>	<p>Geochem #6010 90.53 - 93.25</p>

<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>	<u>Remarks</u>
93.25 to 96.80	Rhyodacite Lapilli Tuff	Colour - grey Grain - aphanitic Good lapilli to block size fragments of predominately sericitized rhyodacite (some with elongate chloritic spots-amygdules) and massive grey rhyodacite. Fragments are angular and the breccia verges on being matrix supported -matrix is a fine dacitic ash and from 5-20% pyrite		Moderately chloritized from 93.25 to 92.10 95.10 - 96.80: moderately sericitized.	2-20% pyrite, tr. ccp and pyrrhotite in matrix to breccia. Section averages 3-5% sulphides Assay #6405 95.10 - 95.75: 5% sulphides	Geochem #6011 93.25 - 96.80 (except section from 95.10-95.75)
96.80 to 112.63	Epidotized Andesitic Tuff and And/Dac Ash	Colour - dark green to grey Grain - f.gr Predominant rock type is a strongly epidotized andesitic tuff/ash. Most textures/structures destroyed or masked by alteration - crude layering locally apparent along with epidotized lapilli size fragments? Epidotized andesitic units separated by thin units of grey, massive homogeneous to faintly laminated andesite/dacite ash and minor chert from: 97.45 - 97.47: chert 97.84 - 97.90 at 70° to CA; cherty ash 98.0: 2cm wide band of cherty ash at 80° to CA 104.95 - 105.20: Andesitic/Dacitic ash at 70° 105.8 - 106.0: And/Dac ash at 60° 106.05 - 106.20: And/Dac ash at 60° to CA.		Pervasive strong epidote alteration, distinct patches with diffuse boundaries.	Fine diss and clotty stringers of pyrite, tr. ccp and po. Section averages 2-3% sulphides with narrow intervals (<15cm) of 10%-15% py. Ultra fine pyrite in And/Dac Ash units - 1-3% Assay #6406 98.00 - 99.17: 4% py Assay #6407 101.23 - 101.82: 3-4% py; 2-4cm py bands with 20% py Assay #6408 104.62 - 105.0: 2% py; Tr ccp	Geochem #6012 99.17 - 104.24 (does not include assayed intervals) Geochem #6013 104.95 - 105.20 105.80 - 106.0 And/Dac Ash units

<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>	<u>Remarks</u>
112.63 to 121.70	Chloritized Pyritic And/Dac Ash, minor Chert	Colour - grey Grain - fine 112.63 - 112.95 Thin bedded, chloritized andesite/dacite ash; 8mm wide massive pyrite bed at 80° to CA Qtz vein with sericite and pyrite at 50° to CA from 112.78 to 112.86m and over 2cm at 112.95m. 112.95 - 113.50 Thin-bedded, massive light and dark grey chert. Ovoid inclusions (3cm x 1cm) of felsic ash are identical to those observed in the NE Copper cherts 2.1km to the east. Thin pyrite (<5mm) laminae at 80 - 85° to CA.	ctc at 112.63m is sharp and at 80° to CA	112.63 - 112.95 Strong chlorite/sericite alteration 112.95 - 113.50 nil	112.63 - 112.95 -2% py average over section - chiefly as distinct beds/laminae or diss in beds. -py in qtz vein - 3-5% at 112.78 to 112.86m 112.95 - 113.50 2% py, tr. ccp along laminae in chert -distinct pyrite beds (<0.5cm in width - 60-70% py)	START OF MINE PACKAGE hosting Postuk-Fulton Horizon

<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>	<u>Remarks</u>
		<p>113.5 - 121.70 Grey, chloritized andesite/dacite ash/tuff. Crude layering difficult to discern from foliation. Fine quartz and calcite veins (<4mm) at 75 - 80° to CA</p> <p>-discontinuous, transposed pyrite laminae at 75 - 85° to CA</p> <p>-Tectonic bx from 118.3-118.43m with siliceous cherty frags in a quartz-vein matrix at 80° to CA</p>		<p>113.50 - 121.70 Pervasive strong chlorite alteration; lack of epidote alteration suggests a more "dacitic" original composition.</p>	<p>113.5 - 121.70 Section characterized by 3-6% py overall with sections over 10-20cm of 15-20% pyrite. Pyrite as fine disseminations, as disseminated blebs (<3mm) and fine reticulate stringers. Chalcopyrite ranges from tr. to locally 4% over 8cm widths. Typically as irregular discontinuous stringers, blebs and to a lesser extent as fine disseminated grains.</p> <p>Assay #6409 113.85 - 115.30: 6% sulphides; <1% ccp</p> <p>Assay #6410 116.8 - 117.25: 5% py; <1% ccp</p> <p>Assay #6411 117.25 - 117.48: 10% py; 3% ccp</p> <p>Assay #6412 117.48 - 118.20: 5% sulphides; <1% ccp</p>	<p>Geochem #6015 118.20 - 121.70m</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>	<u>Remarks</u>
121.70 to 130.60	Massive, thin bedded Chert, minor Chloritized Ash	Colour - light grey Grain - aphanitic Massive, thin bedded to laminated chert -bedding defined by colour variation light-dark grey to black in massive chert -bedding ranges from 20° to 80° to CA - soft sediment deformation? - with chert, however, ctc's with ash are sharp at range from 70° - 80° to CA - commonly sheared with minor gouge locally -few ash nodules in chert a la NE Copper! -Pyritic ash interbed (8-10% py) from 122.47-122.60m at 70° to CA and at 129.8-130.30m; and 127.87-128.05 (all pyritic with Tr ccp) -apple-green micas in chert from 127.30-127.41m.	ctc at 121.7m sharp at 70° to CA		Assay #6413 124.05 - 124.36: 6% sulphide; <math><1\%</math> ccp Assay #6417 124.70 - 125.57: 3-4% py; <math><1\%</math> ccy	Geochem #6016 121.70 - 124.05 Geochem #6017 127.41 - 130.60 Stratigraphic equivalent of NE Copper Cherts

<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>	<u>Remarks</u>
130.60 to 191.0	Chloritized Andesite/ Dacite Ash/ minor Tuff; Chert	<p>Colour - grey Grain - fine to aphanitic Chloritized dark grey Andesite/Dacite Ash/ minor Tuff. -homogeneous fgr.-aphanitic unit -faint bedding in ash, or is it foliation - strongly foliated/sheared at ctc with chert (130.60) and from 130.6 - 135.5m (Fault zone?) -foliation at 80 - 85° to CA -chert interbed from 130.85 - 131.12m</p> <p>-thin cherty ash and chert beds (<3cm) at 80° to CA -cherty ash with ultra-fine pyrite from 137.10 - 138.0m at 80 - 85° to CA. -calcite/qtz veins at 70 - 85° to CA - few at 45° to CA</p> <p>-Laminated chert section from 145.69 to 146.33m and from 146.51 to 146.38m. Chert is thinly bedded, with light and dark grey beds and pyrite-rich laminae that are contorted and folded-bedding at <25 - 70° to CA. Contacts with adjacent ash are sharp but chl ash is strongly sheared.</p>	<p>ctc at 130.6m sharp/ sheared at 75 - 80 to CA</p>	<p>Pervasive, strong chlorite alteration except in chert interbeds</p> <p>-unit is more massive, less foliated after 151.44 possibly reflection either a change in composition/ grain size or decreasing alteration (chlorite).</p> <p>From 183.70 to 191.0m ash unit averages 3-4% pyrite throughout with narrow sections (<15cm) of 15-20% py - typically c.gr py in stringers at 90° to CA with 20% - 25% pyrite from 189.75-191.0m</p>	<p>1-2% diss pyrite and tr ccp throughout unit</p> <p>-ultra fine (<<1mm) py in cherty ash interbeds (5-6%) -distinct laminae <0.5cm wide of massive fine pyrite -tr ccp as blebs, disseminated grains and discontinuous stringers.</p> <p>After 164m sulphide content of chloritized ash increases 2-4% overall, with distinct <1cm-2cm wide stringers of f-cgr. pyrite, tr. ccp.</p>	<p>Geochem #6018 140.82 - 144.40: ash, cherty ash</p> <p>Geochem #6019 145.69 - 147.38: chert (except ash interval from 146.33-146.51m)</p> <p>Geochem #6020 147.38 - 151.44: chl, sheared, veined andesite/dacite ash</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>	<u>Remarks</u>
		<p>After 151.44 unit is a weakly foliated massive, thin bedded And/Dac Ash/Tuff - distinctly less foliated and more intact.</p> <p>-fine pyrite as distinct laminae, <0.5cm in width and minor chert laminae interbeds - bedding at 80 - 50° to CA</p> <p>-massive white quartz vein with angular clots of massive chlorite from 157.15m-157.80m, at <20° to CA</p> <p>-4mm wide py bed at 170.17m at 80° to CA - interbedded with laminated chloritic ash</p> <p>-shear/fault from 168.8 - 169.05 and from 169.25 - 169.60 at 85 - 90° to CA</p> <p>-3cm wide bed of green Dacitic ash at 189.75m at 80° to CA</p>		Strong epidote alteration patch from 175.8-159.40m	<p>Assay #6415 164.06 - 164.81m: 2-3% py <1% bleby chalcopyrite (up to 1cm)</p> <p>Assay #6416 166.03 - 166.80: <1% bleby ccp (<0.5cm); 2% py</p> <p>Assay #6417 180.25 - 181.15: 6-7% py; <1% ccp</p> <p>Assay #6418 183.79 - 185.45: 8% pyrite as disseminated grains and stringers - beds at 80° to CA</p> <p>Assay #6419 189.20 - 191.0m</p>	<p>Geochem #6021 161.85 - 164.06: Tr py, ccp; chloritized ash</p> <p>Geochem #6022 172.0 - 175.58m</p> <p>Geochem #6024 176.78 - 179.82: 2-3% py, Tr. ccp</p> <p>Geochem #6025 185.45 - 189.20: pyritic ash</p>
191.0 to 192.30	Grey Rhyodacitic Ash	<p>Colour - grey Grain - aphanitic Thin bedded - laminated ash. Bedding defined by alternating grey, dark gray and black laminae. Bedding at 70° to CA -occasional quartz veins at approx. 50° to CA</p>	Bedding at 70° CA	Weak sericite	2-3% pyrite overall, typically as massive py (+30%) stringers at 70 - 90° to CA	Geochem #6026 191.0 - 192.30

<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>	<u>Remarks</u>
192.30 to 198.15	Sericitized Pyritic Dacitic Ash	Colour - dark grey Grain - aphanitic Interbedded grey "dacitic" chloritized ash and greenish andesitic tuff and possible crystal tuff (fp) -4cm wide chloritic shear at 196.70m at 85° to CA	Bedding at 80° to CA	Chlorite - pervasive	2-4% average pyrite throughout - cgr. disseminated grains - tr ccp -5% pyrite, tr ccp in qtz vein stringer from 197.3 - 195.4m	Geochem #6027 194.16 - 198.15
198.15 to 240.10	Rhyodacite Massive Tuff or Flow	Colour - light grey Grain - aphanitic Massive, grey rhyodacite -homogeneous uniform unit, no discernable bedding or breccia recognized -crude, weak discontinuous dark grey "chloritic" banding at 70 - 90° to CA - commonly associated with cgr. pyrite stringers -Tr. fine (<2mm) quartz eyes -3cm wide sericite shear at 85° to CA at 205m. 210.32 - 211.5: weakly epidotized andesite dike or tuff - strong shear/fault from 211.5-211.80m marked by chl. gouge (65 - 70° to CA) 212.45 - 212.60: chloritized tuff - andesite at 70° to CA Slightly more chloritic from 222.05- 223.05 with tr-1% quartz eyes up to 3-4mm - crystal tuff bed.		Weak to nil sericite alt. -dark banding (<1cm) wide) commonly associated with py veins may be alt. - chlorite. Mod-weak sericite alteration after 223.05m	1% fine diss pyrite, Tr. ccp throughout -good py, tr. ccp stringers oriented at 75 - 90° to CA From 199.45 to 200.75m, 4% pyrite, chiefly as stringers 1cm wide. 5cm stringers of py (tr. ccp) at 200.6 and 200.7m. Assay #6420 199.45 - 200.75m	Geochem #6028 200.75 - 203.30 Geochem #6029 215.53 - 218.54 Geochem #6030 224.64 - 227.69 Geochem #6031 236.83 - 239.88

<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>	<u>Remarks</u>
		<p>From 223.05 to 227.73m, unit is more strongly foliated at 70° to CA with 4cm wide shear at 225.2m at 70° to CA. Minor quartz-vein-tectonic bx from 227.60-227.73m</p> <p>After 227.75 to 240.10: rhyodacite unit has a distinct "banded" appearance with wispy-discontinuous darker grey bands <2cm wide that contrast with text/min identical grey rhyodacite. Banding at 70 - 85° to CA and occasionally kinked.</p> <p>Strong fault-gouge zone (sericitic) with quartz veins from 235.5 to 235.83m at 80° to CA</p>				
240.10 to 252.07 EOH	Quartz-eye Rhyodacite Crystal Tuff (Flow?)	<p>Colour - light grey Grain - fine Similar to overlying unit except lacks "banded" structure and contains more quartz-phenocrysts</p> <p>-1-locally 2% fine <2mm quartz-eyes, massive homogeneous unit -quartz eyes are elliptical and may be "metamorphic granular qtz" rather than primary crystals? -foliation at 65 - 70° to CA -Good distinct quartz eyes, up to 4mm, after 249.50m -unit has a speckled appearance (fine 4 x 1mm chlorite wisps) and locally with darker grey discontinuous bands.</p>	etc at 240.10 marked by thin shear (1cm)	Weak but pervasive	1% fine and coarse diss pyrite	<p>Mafic dike (andesite) from -243.80-244.80m at 30° to CA -248.75-249.20m at 40° to CA -249.30-249.35m -249.40-249.44m at 30° to CA</p> <p>Geochem #6032 246.70 - 252.07</p>

LITHOGEOCHEMISTRY

MAJOR OXIDES

TRACE ELEMENTS

SAMPLE NUMBER	FROM (m)	TO (m)	MAJOR OXIDES										TRACE ELEMENTS					Rock Type	Alt	Min	Zr%	Total
			SiO ₂	Al ₂ O ₃	CaO	MgO	Na ₂ O	K ₂ O	FeO	MnO	TiO ₂	Ba	ppm Cu	ppm Zn	% Pb	ppm Ag	ppb Au					
6001	8.23	11.27	42.42	17.68	20.12	4.26	0.30	0.06	11.02	0.80	0.81	.005	50	32	.008						.005	97.48
Andesite																						
6002	28.34	31.40	47.62	23.08	6.20	3.64	3.02	2.94	9.07	0.25	1.90	.042	18	60	.007						.005	97.77
Andesite																						
6003	48.45	51.20	49.02	20.62	7.02	3.79	2.54	1.28	11.14	0.20	1.57	.033	1200	72	.008						.005	97.22
Andesite																						
6004	74.75	75.50	41.33	18.35	7.92	3.04	0.47	0.04	25.26	0.34	0.87	.005	140	80	.009						.005	97.63
Andesite																						
6009	87.80	90.53	47.65	21.45	6.34	2.46	1.80	3.24	12.59	0.25	1.31	.240	840	76	.010						.005	97.34
Andesite																						
6010	90.53	93.25	49.62	20.13	5.42	2.10	1.98	3.49	12.53	0.19	1.54	.190	1800	80	.005						.005	97.20
Andesite																						
6011	93.25	96.80	49.67	19.53	5.92	1.89	1.10	5.30	12.26	0.15	1.51	.229	190	28	.005						.005	97.56
Rhyodacite																						
6012	99.17	104.24	50.41	18.84	11.67	4.58	0.49	1.80	15.62	0.34	0.96	.169	296	40	.005						.005	104.88
Andesite																						
6013	104.95 105.80	105.20 106.0	47.10	22.89	3.83	4.17	2.37	4.79	10.54	0.18	1.27	.371	144	32	.005						.005	97.50
Andesite																						
6015	118.20	121.70	42.23	24.97	0.74	5.35	0.14	6.70	15.32	0.40	1.20	.429	68	104	.006						.005	97.47
Andesite/Dacite																						

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LITHOGEOCHEMISTRY

MAJOR OXIDES

TRACE ELEMENTS

SAMPLE NUMBER	FROM (m)	TO (m)	MAJOR OXIDES										TRACE ELEMENTS						Rock Type	Alt	Min	Zr%	Total
			SiO ₂	Al ₂ O ₃	CaO	MgO	Na ₂ O	K ₂ O	FeO	MnO	TiO ₂	Ba	ppm Cu	ppm Zn	% Pb	ppm Ag	ppb Au						
6016	121.70	124.05	87.06	4.11	1.18	1.35	0.02	0.96	2.69	0.13	0.20	.076	30	40	.005						.005	97.76	
Chert																							
6017	127.41	130.60	84.79	4.33	0.68	3.43	0.01	0.36	3.75	0.30	0.21	.025	76	72	.005						.005	97.89	
Chert																							
6018	140.82	144.40	46.18	20.78	0.40	12.30	0.94	2.13	12.35	0.87	1.05	.106	400	300	.023						.005	97.15	
Ash/Chert																							
6019	145.69	147.38	71.59	11.63	0.58	5.62	0.42	2.05	5.21	0.28	0.47	.107	24	232	.006						.005	97.96	
Chert/minor Ash																							
6020	147.38	151.44	49.69	11.83	6.67	17.58	0.05	0.04	10.28	0.80	0.58	.005	108	420	.021						.005	97.55	
Andeiste/Dacite																							
6021	161.85	164.06	53.45	15.35	0.65	11.77	0.95	0.40	12.94	0.75	0.81	.021	1600	240	.023						.005	97.11	
Ash-Andesite/Dacite																							
6022	172.0	175.58	39.03	18.78	0.84	12.82	0.07	1.27	21.72	0.80	1.45	.058	320	248	.016						.005	96.86	
Andesite/Dacite																							
6024	176.78	179.82	42.39	18.60	0.52	12.80	0.02	1.19	19.24	0.67	1.46	.054	40	204	.028						.005	96.98	
Andesite/Dacite																							
6025	185.45	189.20	40.97	20.14	0.54	11.97	0.05	1.96	19.27	0.61	1.49	.087	40	184	.019						.005	97.10	
Andesite/Dacite																							
6026	191.0	192.30	51.76	17.96	0.47	6.02	0.09	3.76	15.70	0.25	1.35	.173	200	80	.008						.005	97.55	
Dacite																							

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LITHOGEOCHEMISTRY

MAJOR OXIDES

TRACE ELEMENTS

SAMPLE NUMBER	FROM (m)	TO (m)	MAJOR OXIDES										TRACE ELEMENTS					Rock Type	Alt	Min	Zr %	Total	
			SiO ₂	Al ₂ O ₃	CaO	MgO	Na ₂ O	K ₂ O	FeO	MnO	TiO ₂	Ba	ppm Cu	ppm Zn	% Pb	ppm Ag	ppb Au						
6027	194.16	198.15	47.72	17.85	1.29	9.17	0.12	1.96	17.12	0.60	1.28	.086	680	144	.021						.005	97.23	
Dacite																							
6028	200.75	203.30	72.77	13.88	0.23	1.36	0.47	3.75	5.05	0.05	0.25	.154	1000	40	.005						.005	97.97	
Rhyodacite																							
6029	215.53	218.54	71.26	14.26	0.05	2.99	0.13	3.70	4.85	0.09	0.25	.155	1200	60	.007						.005	97.75	
Rhyodacite																							
6030	224.64	227.69	71.01	14.65	0.12	2.55	0.11	3.71	5.28	0.10	0.26	.183	760	32	.005						.005	97.98	
Rhyodacite																							
6031	236.83	239.88	73.70	13.95	0.50	0.95	2.91	2.47	2.93	0.05	0.26	.133	580	20	.005						.005	97.85	
Rhyodacite																							
6032	246.70	252.07	72.01	13.40	0.30	1.26	1.38	2.93	6.13	0.06	0.23	.160	760	76	.005						.005	97.87	
Rhyodacite																							

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ASSAY SHEET

Sample Number	From (in)	To (in)	Estimate		Length (in)	% Cu	% Zn	% Pb	gm T Ag	gm T Au	% Ba	% TiO ₂	% Na ₂ O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	PPM Ag	PPB Au				
			Cu	Zn																				
6401	13.53	14.15			0.62	.182	.01		2.0	.02														
6403	87.30	87.80			0.50	1.13	.04		6.2	.03														
6405	95.10	95.75			0.65	.003	.01		1.2	.01														
6406	98.00	99.17			1.17	.024	.01		1.0	.01														
6407	101.23	101.82			0.59	.010	.02		0.2	.02														
6408	104.62	105.0			0.38	.043	.02		1.2	.01														
6409	113.85	115.30			1.45	.990	1.18		5.2	.03	.17													
6410	116.8	117.25			0.45	.320	.08		4.0	.01	.12													
6411	117.25	117.48			0.23	1.94	.10		12.0	.14	.02													
6412	117.48	118.20			0.72	.122	.05		2.0	.01	.14													
6413	124.05	124.36			0.31	.220	.02		2.1	.01	.01													
6414	124.70	125.57			0.87	.002	.02		1.0	.04	.01													
6415	164.06	164.81			0.75	.384	.05		2.0	.01	.01													
6416	166.03	166.80			0.77	.158	.03		0.4	.01	.01													
6417	180.25	181.15			0.90	.082	.04		2.6	.01														
6418	183.79	185.45			1.66	.059	.03		2.1	.02														
6419	189.20	191.0			1.8	.264	.02		1.0	.01														
6420	199.45	200.75			1.3	.011	.04		2.4	.01														

MTS-25

CORPORATION FALCONBRIDGE COPPER

x METRIC UNITS
IMPERIAL UNITS

Grid Co-ordinates 2+55N, 3+15E

DRILL HOLE RECORD

HOLE NUMBER MTS-26	GRID	FIELD COORDS	LAT 2+60N	DEP. 3+15E	ELEV. 495 m	COLLAR BRNG. 170°	COLLAR DIP 45	HOLE SIZE NQ	FINAL DEPTH 249.02
PROJECT PN 304	CLAIM #	SURVEY COORDS				DATE STARTED: DATE COMPLETED:	CONTRACTOR: F. Boisvenu CORE STORAGE: Duncan CASING: 11.27m		

PURPOSE
Test the PF Horizon east of MTS-8

RQD LOG
COLLAR SURVEY
PULSE EM SURVEY
MULTISHOT SURVEY

ACID TESTS				TROPARI TESTS			MULTISHOT DATA		
DEPTH (ft)	CORRECTED ANGLE	DEPTH ()	CORRECTED ANGLE	DEPTH (ft)	AZIMUTH	DIP	DEPTH ()	AZIMUTH	DIP
100	46°			701	59.5M/36T	48			
200	46°								
300	45°								
400	46°								
500	45-46°								
600	47°								
700	47°								
800	46°								

HOLE NO MTS-26
ZIPPY PRINT -- BRIDGEPORT RICHMOND

LOGGED BY Harold Gibson 0-
170.08

M. Gray 170.08-
249.02

<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>	<u>Remarks</u>
0 to 11.27	CASING					
11.27 to 43.59	DIORITE AND FP DACITE DYKES	<p>Colour - green grey + grey</p> <p>Grain Size - f.g.</p> <p>11.27 - 25.95 Badly broken, oxidized core - weathered surface - diorite</p> <p>25.95 - 26.00 Chilled margin of diorite</p> <p>26.00 - 27.50 Dacite FP crystal tuff or dyke</p> <p>27.50 - 31.40 F.g. diorite? Feldspar porphyritic 6-4% feldspar phenocrysts <3mm</p> <p>31.40 - 32.90 Dacite crystal tuff or dyke, 8-10% 2-3mm fp, irregular mafic clots <3mm (4%), contact at 31.40 at 30 degrees and 15 degrees at 32.90</p> <p>32.90 - 34.60 FP diorite</p> <p>34.60 - 35.25 FP Dacite crystal tuff or dyke</p> <p>35.25 - 37.20 FP diorite, 5% feldspar phenocrysts, aphanitic groundmass</p> <p>37.20 - 38.70 Strongly epidotized andesite tuff?</p> <p>38.70 - 39.40 Feldspar porphyritic diorite</p> <p>39.40 - 39.95 Dacite crystal tuff (fp - 10%) or dyke, contact at 70 degrees + 40 degrees</p> <p>39.95 - 43.59 Pred. a fp diorite with thin intervals of dacite from 40.20 - 40.22, 40.3 - 40.40, 40.45 - 40.35 and epidotized andesite from 40.55 - 40.65m</p>		Strongly epidotized from 37.20 - 38.70m. Well developed epidote patches		

<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>	<u>Remarks</u>
43.59 to 68.27	STRONGLY EPIDOTIZED ANDESITE	<p>Colour - dark grey to light pistachio green Grain Size - f.g. 43.59 - 48.35</p> <p>Although strongly epidotized the fragmental nature of this unit is clearly displayed. Dark grey-green angular andesitic fragments variably replaced by epidote - however some are pristine! Intense epidote altered areas display relict insitu? - closely packed fragmental texture</p> <p>- odd, <1% strongly amugdaloidal (epidote-qtz filled) scoria frags - unit is probably an andesitic lapilli tuff - lapillistone 48.35 - 53.0</p> <p>Unit is characterized by massive sections of dark grey grey andesite with irregular clusters of small epidote patches. Feldspar crystals are epidotized and define crude fp-rich beds? at 70 degrees to CA. Large strongly epidotized patches (<10cm) dot core and are typically strongly amugdaloidal (qtz-epi filled). Amygdules are <3mm and elongate but are smaller (<1mm) toward the epidote patch margin thus defining a chilled rim that is symmetric about the frag.</p>		<p>Pervasive, strong epidote alteration of lapilli-tuff including both frags and matrix</p> <p>- preferential epidote alt. of Fp crystals in andesite crystal tuff, scoria frags with smaller more diffuse patch alteration of tuff matrix.</p> <p>Alteration so intense and pervasive after 53.0m that primary textures/ structures not preserved.</p>	Minor pyrite	Geochem #6033 43.59 - 46.63

<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>	<u>Remarks</u>
		<p>These epidotized 'a' patches are altered andesite scoria, probably bombs, that are randomly distributed + supported in the ash, crystal tuff matrix - bread crust bombs?</p> <p>53.0 - 68.27</p> <p>Strongly epidotized andesite lapilli tuff - textures/structures difficult to recognized. Thin Fp diorite dyke from 53.0 - 53.10m at 75 degrees to CA from 56.32 - 56.70m at 75 degrees; from 57.55 - 57.65 at 60 degrees; from 58.0 - 59.15 at 55 degrees; from 61.15 - 61.54m at 65 degrees; from 62.4 - 63.09 at 60 degrees; and from 63.30 - 64.70m. Dykes have chilled aphyric ribbed margins and Fp (6-8%) interiors. Quartz vein - breccia fault zone from 59.65 - 59.98m at 75 degrees to CA - minor chloritic gouge. - faint 'a' fragment like forms locally recognized.</p>				Geochem #6034 64.70 - 68.27m

<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>	<u>Remarks</u>
68.27 to 75.83	FP DIORITE AND FP DACITE	Colour - dark + light grey Grain Size - aphanitic groundmass Complex alternating assemblage of FP diorite and FP Dacite. Dacite is light grey in colour; contains from 6-8% fuzzy feldspar crystals up to 3mm in an aphanitic grey matrix/ groundmass with fragments "xenoliths" of fp diorite. Diorite contains 4-6% sharp, 1-3mm feldspar crystals in an aphanitic groundmass. Diorite locally appears to be finer-grained (chilled) and ribbed adjacent to FP Dacite. If dacite is intrusive and not volcanic, occurrence of fp diorite xenoliths and chilling diorite adjacent to Dacite suggest intrusions were consanguineous. FP Dacite from; 68.27 - 69.19; 69.72 - 69.82; 70.75 - 70.94; 72.05 - 72.41; 73.22 - 75.83.	Nil	Nil	Tr pyrite to Nil	Geochem #6035 69.19 - 72.24 (minus FP Dac. sections) Geochem #6036 72.24 - 73.97 (minus FP Dacite sections)

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75.83 to 84.13	PLEXUS OF FP DIORITE/ DACITE DYKES AND ANDESITIC VOLCANICS	<p>Colour - light grey green, grey and dark green Grain Size - f.g. Complex dyke assemblage as described above but with screens of epidotized andesitic volcanics - tuffs/lapilli tuffs 75.83 - 76.94 - aphyric, epidotized andesitic tuff? - 5mm wide pyrite stringer @ 80 degrees to CA at 76.02m contact at 75.83 at 40 degrees, however from 76.15 - 76.94 half the core is andesitic tuff, the other FP diorite - shallow contact, subparallel to CA 76.94 - 77.80 FP diorite, contact at 77.80m sharp at 50 degrees 77.80 - 78.01 FP Dacite, contact at 78.01 at 65 degrees to CA 78.01 - 79.40 Strongly epidotized andesitic lapilli tuff? tr. pyrite 79.40 - 80.57 FP Diorite, contacts at 55 degrees 80.57 - 80.75 Epidotized andesite 80.75 - 82.15 FP Diorite, contacts at 60 degrees 82.15 - 83.72 Weakly epidotized, dark grey andesitic tuff and crystal tuff (FP) 83.72 - 84.13 FP Diorite, contacts at 60 degrees</p>		Strong - moderate epidote alteration of volcanic screens between dykes	Minor pyrite in andesite tuffs, good pyrite stringers (3% py over 7cm) at 76.0m	Geochem #6037 75.83 - 83.72 (minor diorite/ dacite dykes)

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84.13 to 95.80	ANDESITE TUFF AND FLOW BRECCIA	<p>Colour - green Grain Size - f.g. Strongly epidotized andesite - bleached, quartz veined and hematitic shear zone from 84.13 - 84.65 @ 75 degrees to CA FP Diorite dykes from 85.20 - 85.25 @ 40 degrees; 85.37 - 85.42 @ 45 degrees; 85.51 - 85.55 @ 30 degrees; 85.58 - 85.65 at 65 degrees and 86.15 - 86.45 at 45 degrees to CA. From 84.13 - 86.55 unit may be an epidotized andesite ash/crystal tuff.</p> <p>From 86.55 - 95.80 Coarse Andesitic monolithic tuff breccia. Fragments are of two main types</p> <p>1) amygdaloidal to massive f.g. light green-grey andesite. Fragments are irregular to amoeboid in form but are commonly broken with angular margins. Frags range from 0.4m to 2cm. Amygdaules are elliptical - elongate in form and filled with chlorite-epidote-qtz (up to 1cm in size). These large fragments typically lack or have partial chilled margins up to 1cm wide of dark grey hyaloclastite - the rim does not completely mantle fragments.</p> <p>2) The matrix is composed of fine, <1m shard like dark grey fragments identical to the chilled rim of large clasts and is interpreted as hyaloclastite. The hyaloclastite fragments and coarser lava fragments or an intact framework with a fine ash/tuff matrix. Excellent flow breccia, absence of finer lava fragment in matrix indicates a flow vs pyroclastic brecciation.</p>		Patchy epidote alteration to 86.50, pervasive weak alteration from 86.50 -	Tr pyrite - irregular, discontinuous patches of fine py, tr ccp in stringer within epidote altered areas from 94.48 - 95.50m	Excellent preservation - is this really Mt. Sicker? Geochem #6038 92.75 - 95.40

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95.80 to 102.0	ANDESITIC ASH/TUFF AND LAPILLI TUFF	<p>Colour - grey-green Grain Size - f.g. Although pervasive epidote alteration and epidote patches obscure text/structures unit appears to be an interbedded succession (med-bedded) of andesitic tuff/ash and lapilli tuff. Andesitic tuff units less altered than breccia beds.</p> <ul style="list-style-type: none"> - bedding @ approx. 45-50 degrees to CA - possible andesite dyke a tuff unit from 99.6 - 99.78 at 40 degrees to CA - not epidote altered - fine hyaloclastic looking breccia from 100.30 - 100.37m - few calcite/qtz veins @ - strongly foliated from 101.80 to 102.0m @ 70 degrees to CA 		Pervasive moderate epidote alteration with localized areas - patches of intense epi. alt.		Localized 2-4cm clots of fine massive pyrite or pyritic stringers principally within epidote altered patches. (1% py overall)
102.0 to 105.25	MASSIVE ANDESITE DYKE	<p>Colour - grey Grain Size - aphanitic Massive, homogenous unaltered Feldspar porphyritic (3%) andesite dyke or crystal tuff?</p> <ul style="list-style-type: none"> - massive, unaltered nature suggests unit is a dyke - cut by gash-like quartz veins at 50 + 30 to C.A. - aphanitic uniform grey groundmass 	Contact's at 30 to CA	Nil		Nil

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105.25 to 122.04	INTER- BEDDED ANDESITIC ASH AND CRYSTAL TUFF	Colour - green grey Grain Size - f.g. 105.25 - 107.07 F.g. andesitic ash, green in color, massive. Calcite quartz veins @ 50 to CA 107.07 - 107.43 Andesite crystal tuff, massive, with 20%, <1mm feldspar crystals 107.43 - 107.85 Discontinuous thin bedded grey andesitic ash and feldspar crystal tuff. Bedding @ 80 to CA 107.85 - 115.15 Andesitic crystal tuff, massive unit with 10-25% fine (<1mm) feldspar crystals. Thin aphyric andesite dyke from 106.10 - 106.17 at 35 degrees Lapilli-tuff interbed from 109.8 - 110.30. Dark grey-grey lapilli-size fragments in a crystal (FP) rich matrix - framework supported. - Ribbed, feldspar porphyritic andesite dykes from: 112.30 - 113.2 (crystal tuff xenoliths) 113.6 - 113.65 114.95 - 115.0 115.3 - 115.4 115.85 - 116.15 116.20 - 116.27 116.40 - 116.45 116.90 - 117.93 at 50 degrees 118.46 - 118.80		105.25 - 107.85 Nil 107.85 - 115.15 epidote alteration of feldspar 115.15 - 122.04 epidote altered fp and minor epidote patches	105.25 - 107.85 Minor, <1% pyrite 107.85 - 115.15 <1% pyrite 115.85 - 122.04 <1% py but with irregular pyrite stringers from 119.0 - 119.75 - 1% pyrite	

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		<p>Andesite lapilli tuff bed from 115.15 - 115.55.</p> <p>Andesite lapilli (angular) in a lighter grey - siliceous feldspar crystals? matrix - framework supported.</p> <p>115.55 - 122.04</p> <p>Interbedded andesite crystal tuff (FP), andesitic tuff, minor lapilli tuff and predominately f.g. andesite ash/tuff.</p> <p>- crude bedding @ 75 to CA</p> <p>Massive green andesitic ash bed from 121.35 - 122.04</p>				Geochem #6042 118.80 - 121.50
122.04 to 122.83	ANDESITIC ACCRETION- ARY LAPILLI TUFF	<p>122.04 - 122.11</p> <p>Accretionary lapilli tuff - 3 distinct beds 1.5cm wide consisting of 2mm - 3mm round felsic (feldspar) lapilli which constitutes 25% of bed - matrix is fine andesitic ash which also separates accretionary lapilli tuff beds.</p> <p>Bedding @ 75 - 80 to CA</p> <p>122.11 - 122.50</p> <p>Massive andesite ash, odd accretionary lapilli - massive</p> <p>122.50 - 122.83</p> <p>Bedded accretionary lapilli tuff as described above.</p> <p>Bedding at 70 to CA</p>		Weak chlorite	Tr pyrite	Similar accretionary lapilli tuff units intersected along strike in MTS-25 at 27.90 - 32.0m 32.0 - 36.95m and 72.10 - 76.60m
122.83 to 123.05	ANDESITIC CRYSTAL TUFF	<p>Colour - green</p> <p>Grain Size - f.g.</p> <p>Quartz-veined/chlorite veined andesitic crystal tuff.</p>				

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123.05 to 123.32	ANDESITE DYKE	Colour - grey-green Grain Size - f.g. Massive, homogeneous aphyric andesite.				
123.32 to 127.95	ANDESITIC TUFF- BRECCIA AND TUFF	Colour - mottled grey-green Grain Size - f.g. 123.32 - 123.61 Massive, andesitic ash 123.61 - 124.25 Crudely layered epidotized andesite tuff. Unit characterized by streaky light green grey and dark grey beds and beds with 10%, up to 7m, round to avoid siliceous forms composed of pred quartz with minor feldspar imparting a concentric to radiating texture - spherulites or amygdules. 124.45 - 127.95 Heterogeneous looking unit because of variable epidote alteration. Light to dark green subangular to angular fragments from 6-7cm to 1-2cm in an andesitic, possibly fine crystal tuff (FP) matrix - Matrix supported 126.6 - 126.68 Andesite dyke at 40 to CA.		Weak chlorite alteration from 123.32 - 124.45 124.45 - 127.95 Moderate pervasive epidote alteration.	<1% py throughout	Geochem #6043 124.45 - 127.95
127.95 to 131.95	ANDESITIC TUFFS	Colour - green-grey Grain Size - f.g. F.g. crudely bedded andesitic tuff and fine crystal tuff (FP) (1mm, <10%) - bedding @ 80 to CA - 4cm quartz vein shear at 80 to CA at 129.9m with sericitic envelope from 129.65 - 130.09m		Weak chlorite alteration	8% py parallel to bedding over 5cm at 130.15m, <1% pyrite overall.	Geochem #6044 127.95 - 131.95

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131.95 to 133.21	ANDESITE TUFF BRECCIA AND ASH	Colour - grey green to dark green Grain Size - f.g. 131.95 - 132.15 Qtz-chlorite vein breccia at <10 to CA in bleached pale green - buff coloured andesite 132.15 - 132.3 Buff coloured ultra-fine andesitic? ash 132.3 - 133.20 Monolithologic andesite breccia. Dark grey-green andesite fragments in an aphanitic light grey matrix. Fragments range from 14cm to 1-2cm, are aphyric but dotted with round to squarish epidote knots from 2mm - 7mm in size. Some epidote knots may be altered feldspar others with round-oval shape are amygdules. - May be a flow breccia		Weak epidote alteration	Tr pyrite	
133.21 to 134.83	FELDSPAR PORPHYRI- TIC ANDESITE DYKE	Colour - grey green Aphanitic groundmass <2%, <3mm feldspar phenocrysts.				
134.83 to 137.87	ANDESITIC TUFFS	Colour - dark-light green Grain Size - f.g. Massive, crudely bedded andesitic tuff.		Weak, spotty epidote alteration	1% diss. + fracture pyrite	

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137.87 to 143.98	STRONGLY EPIDOTIZED ANDESITE	Colour - Light grey green to pistachio green Grain Size - f.g. Strongly epidotized andesite - alteration so intense as to destroy most primary textures/structures. - homogeneous epidote altered areas to however display some textural variation - small, 1-2mm mafic amygdules define amygdaloidal lapilli clasts + crude layering is locally observed. - epidote altered andesite cut by irregular quartz/chlorite veins - gashes to 140.3 thereafter dissected by irregular Sulphide Stringers!		Pervasive, intense epidote alteration - essentially one large alteration patch. Epidote alt. overprinted by chl. alt. mantling with sulphide stringers.	1% py, tr pyrrhotite from 137.87 - 140.30 with up to 2-3% sulphides in Qtz/chl veins. From 140.3 - 143.98 irregular stringers of + clots up to 4cm in diameter of pyrite, pyrrhotite + tr chalcopyrite dominate core - est. interval to contain 6-8% sulphide total with local section up to 15cm wide with 15-20% sulphide - most stringers are fine, reticulate + discontinuous but coalesce to form a ramifying sulphide-rich network. Similar to Py-Po sulphide interval in strongly epi altered andesite of MTS-25 from 79-87m approx.	Andesite dyke from 139.87 to 140.05 @ 50 to CA Geochem #6045 137.87 - 140.30 Assay #6424 140.30 - 141.12 Assay #6425 141.50 - 143.98
143.98 to 144.70	CHLORI- TIZED ASH	Colour - black Grain Size - f.g. Massive aphanitic ash.		Pervasive, strong epidote alteration.	C.g. pyrite, tr pyrrhotite as irregular bands - stringers at 80 to CA 5% sulphides Assay #6426 143.98 - 144.70	

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144.70 to 146.37	MASSIVE ANDESITE FLOW?	<p>Colour - grey-green Grain Size - f.g. Massive aphanitic andesite. Andesite is strongly amygdaloidal from 144.70 to 145.70m. Amygdules range from 1-2mm to 8mm, are ovoid in form, filled by feldspar, quartz, pyrite and constitute 10-12% of the flow.</p> <p>From 145.70 - 146.37 andesite is marked less amygdaloidal (<10%) and brecciated - possible flow breccia.</p> <p>Minor grey chert at massive flow - breccia transition at 145.70m</p>		Moderate pervasive chlorite alteration	2-3% sulphides as amygdule fillings, disseminations and irregular stringers.	Geochem #6046 144.70 - 146.37

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146.37 to 153.4	ALTERED ANDESITE TUFFS AND LAPILLI TUFFS	Colour - light grey-green to black 146.37 - 147.33 Chloritized andesite ash - massive + pyritic. 147.33 - 148.12 Crudely bedded andesite ash, minor 1cm wide grey chert beds from 147.80 - 147.95 Bedding at 80° to CA 148.12 - 148.13 Chloritized andesitic ash - massive 148.13 - 153.4 Massive, epidotized and chloritized andesite - faint breccia texture locally - lapilli tuff, with fragments distinguished from epidotized matrix by their amygdules.		146.37 - 147.33 Strong chlorite alt. 147.33 - 148.12 Pervasive weak epidote alteration 148.12 - 148.13 Strong chlorite alteration Pervasive moderate epidote alteration overprinted by strong, black chlorite alteration associated with sulphide stringers.	146.37 - 147.33 8% pyrite, minor ccp <1% as bleby discontinuous stringers Assay #6427 146.37 - 147.33 147.33 - 148.12 2% py, tr ccp - irregular stringers and disseminated grains 8-9% py, tr ccp - irregular, bleby stringers. Sulphide content variable but averages 5-8% with sections up to 15cm wide containing 15-20% sulphide. Sulphides chiefly pyrite, pyrrhotite + tr. chalcopyrite that occur as irregular, discontinuous + bleby stringers that form a reticulate ramifying network - excellent Stringer-Zone Sulphide.	May have clipped section of stringer zone - spectacular sulphide + chlorite alt. Geochem #6047 147.33 - 148.12 Assay 6428 148.12 - 149.66 Assay #6429 149.66 - 151.10 Assay #6430 151.10 - 152.0 10-15% sulphide Geochem #6048 152.0 - 153.4 General restriction of pyrrhotite to epi altered areas of tuffs suggest composition of rock may have buffered equilibrium sulphide assemblage.

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153.4 to 162.20	INTER- BEDDED DACITIC ASH, TUFF AND MINOR LAPILLI TUFF	Colour - grey Grain Size - aphanitic 153.4 - 153.75 Moderately sheared, grey dacitic tuff, unit appears massive but upper 5cm of unit may be finely bedded at 80 to CA 153.75 - 155 Massive, finely pyritic, grey dacite tuff - <2% fine aphanitic grey lapilli 155.0 - 157.4 Dacite tuff - lapilli tuff - elongate dark grey and chloritic frags <2cm + occasionally subangular grey aphyric fragments that deflect foliation and are not elongate. Matrix is a f.g. dacitic tuff with <1% 1-2mm quartz crystals - ultra fine pyrite in matrix and as irregular stringers or lenses of med. grained pyrite at 80 to CA 157.4 - 159.95 Massive andesitic tuff with thin intervals of felsic ash. Bedding @ 80-75 to CA 159.95 - 160.42 Streaky tuff with beds of light grey, grey, buff and dark grey dacitic tuff and minor lapilli tuff - bedding disrupted @ 80 to CA - pyrite - elliptical light grey siliceous frags <1cm characterized lapilli tuff beds. 160.42 - 162.20 Dacitic lapilli tuff, frags are amygdaloidal with up to 15% dark grey amygdules up to 3mm Fragments are subangular and range up to 4cm.	Contact at 153.4 sharp at 80 to CA	Pervasive moderate sericite alteration	3-5% py throughout as fine disseminated grains in matrix but also as med. grained pyrite in discontinuous stringers <5mm wide oriented at 80-85 to CA	Geochem #6049 153.92 - 156.97
				Pervasive weak sericite alteration	Pyrite typically m.g., as stringers parallel to bedding.	Geochem #6050 158.95 - 160.42

<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>	<u>Remarks</u>
162.20 to 166.65	GREY CHLORI- TIZED ANDSITE ASH and minor CHERT	Colour - grey Grain size - fine Massive, homogeneous grey chloritized ash/minor tuff -massive, no obvious bedding -odd (<<1%) clast of grey chert (<1.5cm) Thin interbeds of massive grey chert from 165.86 - 165.94 166.13 - 166.14 at 80 degrees 166.42 - 166.50 at 80 degrees (plus qtz veins)		Pervasive moderate chlorite alteration	fine + m.gr disseminated pyrite concentrated into lense-like stringers up to 7mm wide parallel to bedding - 2-3% py overall -irregular clotty discontinuous stringers of chalcopyrite throughout core Assay #6431 162.82 - 162.98 1-2% ccp Assay #6432 163.55 - 165.00 <1% ccp Assay #6433 165.34 - 166.42 1% ccp Assay #6434 <u>chert</u> - 2% py - sau. 166.42 - 166.50 Assay #6435 2% ccp - 20% fine bedded pyrite 166.50 - 166.65 Pyrite and chalcopyrite from 166.50 - 166.65 constitutes 15-20% of unit and is remobilized bedded sulphide.	Geochem #6051 162.20 - 165.84

<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>	<u>Remarks</u>
166.65 to 167.50	GREY CHERT, minor ASH	<p>Colour - grey Grain size - aphanitic Basal 10 cm of unit is massive grey chert however bulk of unit is an intraformational slump breccia. Breccia consists of irregular "rounded" forms of massive grey chert with 1-3mm wide ultrafine pyrite laminae that are contorted and broken along with the chert. Squeezed between the irregular chert frags is a fine dacitic ash containing 1-2% ultra fine disseminated pyrite</p> <p>-Chert also contains nodules of pyritic grey ash a la NE copper cherts</p> <p>-Bedding at 70 - 75 to CA, however locally contorted + folded due to slumpage? with challow core axis angles (5-30%)</p> <p>-nodules in chert up to 3 cm.</p>	etc at 166.65 at 80 to CA	Weak sericite alteration of ash.	Chiefly pyrite within pyritic laminae + diss. throughout matrix of ash. Fine irregular blebs of chalcopyrite (<5mm, <1%) occur in matrix ash.	<p>Unlike MTS-25 which was cut by stringer sulphide this chert <u>has</u> stratiform bedded sulphide.</p> <p>Geochem #6052 166.65 - 167.50</p>

<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>	<u>Remarks</u>
167.50 to 170.08	GREY DACITIC and CHLORITIZE D ASH/TUFF	Colour - grey + black Grain size - fine 167.50 - 167.78 from 167.50 to 167.54 unit is a finely bedded Dacitic ash - bedding at 75 to CA from 167.54 to 167.78 fine Dacitic Tuff with 10-15%, elongate 2-4mm chloritic frags in a grey dacitic matrix. 167.78 - 170.08 Chloritized "dacitic" lapilli tuff/tuff -irregular, elongate black chloritized lapilli up to 4cm long but typically <1.5cm supported in a lighter grey dacitic ash matrix - frags elongate at 80 to CA. -minor ash interbeds (<2cm wide) at 70 - 80 to CA.		167.50 - 167.78 nil to weak chlorite alteration Pervasive moderate to strong alteration -preferential strong alteration of frags?	167.50 - 167.78 Good bedded pyrite and chalcopyrite (some remobilized into fractures) in bedded ash from 167.5 to 167.54 -irregular patches/stringers of chalcopyrite <6mm to 167.78 -8% py overall 1-2% ccp Assay #6436 167.50 - 167.78 Best section of chalcopyrite mineralization. From 167.78 to 169.50m chalcopyrite occurs as fine disseminated grains (<1mm), as irregular blebs/clots (<5mm), fine discontinuous irregular stringers and massive stringers of remobilized ccp beds up to 1.3cm wide at 85 to CA -section will average 1-2% ccp throughout but with sections containing up to 5% ccp over 10cm. -pyrite occurs throughout section up to 5% -sulphides drop off quickly after 169.50m	Assay #6437 167.78 - 168.90 Assay #6438 168.90 - 169.50

<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>	<u>Remarks</u>
170.08 to 193.34	CHLORI- TIZED GREY DACITIC/ ANDESITIC ASH/TUFF +/- minor CHERT	Colour - grey Grain size - fine 170.08 - 171.30 (gradational etc) massive, homogeneous grey ash 171.30 - 174.04 (weakly foliated) Mainly homogeneous med. to dark grey ash-lapilli. Beds/layers of ash tuff with 20-30% lapilli size fragments drawn out parallel to the foliation. Individual beds have sharp contacts, 1-50cm thick, somewhat darker grey (poss. more chloritic) -Ash with lapilli approx. 70% of this section. 174.04 - 187.44 Massive grey ash, relatively homogeneous with minor crystal tuff beds 1-8cm thick, <1mm feldspar phenos and minor ash-lapilli.	70 - 80 75 - 80 (60 - 80)	170.08 - 171.30 Pervasive moderate chlorite alteration. 171.30 - 174.04 Pervasive weak to mod. chloritization. Locally pervasive weak sericitization. Pervasive weak chloritization +/- moderate. Pervasive weak sericitization, locally narrow sections of medium sericitization.	170.08 - 171.30 <1% py, tr. ccp 171.30 - 174.04 1-5% v.fine gr. and fine. gr. diss py, locally as stringers. Also as subround patches. Avg. 3% throughout. 174.04 - 177.06 1-3% diss. py, avg. 1-2% 177.06 - 186.95 1-8% avg. 3-5%, as diss. and as stringers (discont.) 1-4mm thick with fine to med. gr. pyrite. Also tr to 2% ccp, avg. <0.5% occurs as patches and irregular stringers. "Patchy occurrence of cpy" in this section. 186.95 - 187.44 3-8% py as stringers, patches and diss. ccp locally as fine gr. large patches.	Litho BCD - 6053 177.30 - 180.30 Assay BCD - 6439 3% py, 1-2% ccp 177.05 - 177.27 BCD 6440 2-8% py, <1-1% ccp 179.36 - 180.62

<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>	<u>Remarks</u>
187.44 - 187.52		Light grey aphanitic cherty tuff.	Layering	Very weak sericitization	187.44 - 187.52: 5% py mainly v. fine gr. diss.	
187.53 - 187.72		Med. to dark green chloritic ash (andesite-dacite)		Mod. to strong chloritization	187.52 - 187.72: 8% py as stringers 1-3mm thick, v. fine gr. to fine gr. py.	
187.72 - 188.06		Massive aphanitic chert with minor bands of dacitic ash <1cm thick.	75	Tr. sericite, tr. chlorite	187.72 - 188.06: 3-5% fine gr. py as discontinuous irregular 1-2mm stringers + diss.	
188.06 - 188.46		Poorly layered fine gr. dacite ash tuff + minor chert (10%) 0.5cm layers + minor cherty tuff.		Weak sericitization, tr. to weak chloritization.	188.06 - 188.46: 3-5% py as v. fine gr. diss. + bands	
188.46 - 189.34		Poorly to moderately layered cherty tuff 2-8mm bands avg. 2-3mm, also v. fine gr. py within individual layers. Heterogeneous overall as it varies in chert vs. ash content.	75	Weak to mod.? sericitization, tr. chlorite	188.46 - 189.34: 5-8% py mainly as v. fine gr. diss., also as 1-3mm thick py stringers (py diss. within) Tr. ccp as small patches.	
189.34 - 191.42		Fine grained grey dacitic ash, relatively homogeneous.	75 - 80	Weak seritization, tr. chlorite	189.34 - 191.42: 6-10% py mainly as discont. stringers, and fine gr. diss.	
191.42 - 193.34		Interlayered cherty tuff, dacitic ash, and chloritic ash tuff. Poorly layered	70	Weak to mod. chlorite (individual layered) weak seritization	191.42 - 192.02: 5-10% mainly disont. <1-2mm stringers, + minor v. fine gr. diss.	
					192.02 - 192.63: 8-30% py, avg. 10%, mainly med. gr. stringers + v. fine gr. diss.	
					192.63 - 193.36: 5-10% py avg. 5% mainly stringers.	

<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>	<u>Remarks</u>
193.34 to 195.90	CHERT and MINOR CHERTY TUFF (end of interval)	<p>Colour - lt. grey, tr. green Grain size - aphanitic to very fine Very crude layering noted locally otherwise massive V. fine gr. to aphanitic chert with chloritic seams + patches (5%) along crude layering. Chert has ellipsoid nodules/concretions 1-2cm by 0.5-1cm approx. 5% throughout.</p> <p>Top contact not clear but changes from cherty tuff (interlayered) to chert. Bottom contact is gradational chert to cherty tuff.</p>	approx. 70	<p>Minor chlorite patches with py parallel to layering. Mod. to string chlorite Traces of sericite throughout V. weak qtz veinlets, milky white.</p>	<p>2-10% py, v. fine gr. to med. gr., brassy yellow, mainly as grains or patches within chloritic seams or lenses (up to 30% py within individual patches) Py also diss. + irregular stringers in chert. Ccp fine gr. as small patches +/- py, "spotty" occurrence.</p>	<p>Chlorite patches or partings mainly lensoid, discont., dark green.</p> <p>Litho BCD 6054 193.34 - 195.90 Chert only, left chlorite seams</p> <p>Assays BCD 6441 193.51 - 193.82 Approx. 8% py mainly with chlorite, 1-2% ccp as isolated patches.</p> <p>BCD 6442 194.38 - 195.40 approx. 8-10% py, stringers + patches, 1-2% ccp diss patches.</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>	<u>Remarks</u>
195.90 to 225.62	AND.-DAC. LAMINATED F.GR. ASH TUFF with minor sections of CHERT & CHERTY TUFF	Colour - med. to dark green and lt. grey-green Grain size - fine to aphanitic and aphanitic (lt. grey - green) 195.90 - 197.83 Weakly foliated, poor to mod. laminated. Andesite-Dacite lt. to med. green ash tuff, strong chloritic alteration. Note black phenocrysts locally in bands. 197.83 - 198.13 Massive chert +/- minor chert tuff with chloritic seams <0.5cm thick. 198.13 - 199.91 Fine. gr., poorly laminated lt. green-grey ash tuffs. Minor banded cherty-tuff at upper and lower contacts. 199.91 - 200.32 Massive lt. green-grey chert with chloritic bands. Note 2 by 1cm nodules conspicuous. Chloritic seams <0.5cm thick. 200.32 - 200.43 Qtz vein-breccia, broken up chloritic fragments in qtz matrix 200.43 - 200.83 Interlaminated ash tuff and cherty tuff (15%). Crudely laminated. 200.83 - 201.23 Dacitic ash-lapilli stone tuff(?), poss. syndepositional breccia. Fragments subrounded with vague outlines. Frags aligned parallel to layering, 1mm-10mm avg. 3-4mm	50 - 70 80 ? 85 upper ctc 85 th-out top 80 bottom 35 65 lam. 60 - 65	Strong chloritization pervasive Weak local seritization Strong chl seams/ partings parallel to foliation Strong chl, perv. Moderate to strong chl in seams. Qtz vein Strong chloritization of fragments Strong chloritization pervasive very weak to weak chloritization pervasive Tr. sericite	195.90 - 196.48: 5-8% py in stringers + diss. v.fine gr. 196.48 - 197.83: 3-5% py in stringers and diss., v.f.g. 197.83 - 198.13: 2-3% diss., 3-5% in calcite patches 198.13 - 199.91: 3-15% py, mainly as stringers 1-2mm wide, avg. 0-5% py, also as diss. Tr. ccp patches locally. 191.91 - 200.32 1-2% py diss. in chert 3-5% py in chloritic seams. 5-8% diss., fine to coarse gr. euhedral py. 5-10% py mainly fine gr. in <1-2mm parallel stringers. 5% py as diss. fine to med. gr. and minor discont. stringers.	Assay BCD 6444 199.66 - 199.91: 10-15% py, 1% ccp

<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>	<u>Remarks</u>
		201.23 - 202.26 Poorly lam. Lt. green-grey dacitic lam. ash + interlam. chloritic andesite ash + bands of syndepositional breccia(?) (poss. cherty tuff present)		Very weak to weak chlorite except in Andesitic layers - strong chlorite Tr. sericite	5-8% py, diss. + discont. stringers. <0.5% ccp fine gr. irregular shaped patches.	Assay BCD 6445 201.38 - 201.80 5-10% diss. py + irregular stringers 1-<2% ccp patches
		202.26 - 203.57 Interlam. dac-and ash with and. (chloritic) bands/lams. approx. 5-10cm thick, avg. 1 band per 50 cm	70	Mod. chloritization and strong chlorite in andesite ash bands.	8-20% py, avg. 8-10% mainly diss. v.f.gr. euhedral py + med. gr. py. Note, in Andesite bands med. gr. lensoid grains orientated parallel to banding.	
		203.57 - 207.71 Fine gr. laminated And-Dac. med green ash Relatively homogeneous.	70 - 80	Strong chloritization pervasive Tr. epidote	1-3% py avg., tr. ccp mainly diss. locally 3-8% as stringers + diss. py + up to 0.5% ccp over 25cm.	Litho BCD 6057
		207.71 - 208.59 Poorly laminated. Interlam. med. grey ash and cherty tuff. Poss. minor syndepositional breccia within specific layers.	layers 75 - 80	Very weak to weak chloritization selective bands, but pervasive within Tr sericite	8-15% v. fine to fine gr. py as weakly defined bands and diss. Avg. 10% py	
		208.59 - 212.89 Grey-green fine gr. ash tuff, minor interlam. cherty tuff at top of interval.	Fol-layer 50 - 65	Mainly strong pervasive chlorite locally weak (ie) 208.59-209.60 Tr. sericite Tr to weak qtz veinlets 3-4mm thick.	5-15% py mainly as fine gr. diss. also med to coarse gr. patches and diss. Minor stringers Avg. 8%	Assay BCD 6446 10% diss py, and discont. stringers <1% ccp 212.60 - 212.89
		212.89 - 213.10 Minor fault, sheared and gouged chloritic tuffs.	top - 45 bottom ?	Strong to intense chloritization pervasive	5-10% diss py, fine gr.	

<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>	<u>Remarks</u>
		213.10 - 224.03 Homogeneous looking fine gr. dacite-and. ash tuff very similar to above poss. greyer -Locally mod. laminated felsic ash.	50 (45 - 25)	Strong chlorite pervasive, locally moderate	Avg 5-8% py mainly diss. Range 3-20%, discont. stringers. Local tr of ccp ie 219.84-220.20 as patches	Assay BCD 6447 219.84 - 220.20 10-15% py; 1-2% ccp
		224.03 - 224.94 Fault zone, sheared chloritic ash ; gouge. Lt. to med. green	top 80	Strong chlorite pervasive Weak to mod. qtz veinlet throughout	5-8% fine to med gr. diss py	Litho BCD 6058 214 - 217m
		224.94 - 225.62 Green-grey fine gr. ash tuffs dac.-and. Similar to above. Pyritic	Layering 75 - 80	Mod. to strong chlorite pervasive Weak to strong/intense qtz veinlets, strong/intense near lower contact	8-12% py med. to fine gr. mainly as stringer 1-3mm thick, cont. & discont. parallel to layering. Some stringers pinch & swell. Locally <1% ccp as patches.	Assay BCD 6448 224.94 - 225.62 8-12% py, <1% ccp
225.62 to 226.46	ANDESITE DYKE - F.G DIABASE DYKE	Colour - med. to dark green-grey Grain size - very fine Massive, non foliated equigranular Brecciated by irregular calcite veins.	top ctc 45 - 50 bottom ctc 20	Tr to very weak chlorite pervasive. Weak to mod. calcite veins and vein-breccia, up to 5cm thick (70 to CA)	No visible sulphides to tr. py	
226.46 to 227.74	FELSIC DYKE FELDSPAR PORPH?	Colour - lt. white-grey, tr. green Grain size - fine to aphanitic GM, FM phenos? (poss. equigranular) Massive, porphyritic dacite feldspar porph? 10-15% vague 1-2mm FP phenocrysts <5% chlorite altered mafic phenocrysts? <2mm	top ctc 20 Bottom ctc ?	Chloritization of mafic crystals? <5% Mod. calcite 1-2mm veinlets	<1% py diss., fine gr.	

<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>	<u>Remarks</u>
227.74 to 236.80	DACITE-AND ASH TUFFS & CHERTY TUFF & AND. ASH TUFF	Colour - med. to lt. grey - med. to dark green Grain size - fine Weakly foliated				
		227.74 - 229.11 Poorly laminated to mod. Relatively homogeneous dacitic lt. to med. grey fine ash with minor 0.3-1cm bands of cherty ash-chert (<5%).	layers 75	Mod. to strong & strong chlorite pervasive +/- sericite	2-15% py diss + stringers, avg. 3-5% Ccp locally as small patches 227.99-228.30: 10-15% py	Ccp poss. assoc. with cherty bands. Assay BCD 6449 227.99 - 228.80 5-15% py, <1% ccp
		229.11 - 230.21 Very poorly laminated, fine gr. homogeneous ash tuff Dac.-Andesite lt. grey to sl. green	fol'n 70	Mod. +/- mod. to strong chlorite pervasive +/- sericite Weak calcite 1-2mm veinlets	5-12% py, mainly 2-8mm thick stringer med. to coarse gr., also diss py, fine gr. Local small irregular <1cm patches ccp (<1% overall)	Assay BCD 6450 229.38 - 230.22 8-12% py, <1% ccp
		230.21 - 231.64 Crudely laminated andesite-dacite fine gr. ash tuff. Homogeneous.	fol'n 70 - 75	Strong chlorite pervasive	Py mainly diss. med. to coarse gr. with minor stringers 3-8%, avg. 5% Ccp tr to <1% throughout, locally 1-2% over 20cm as diss. <5mm irregular patches.	Assay BCD 6451 231.04 - 231.29 1-2% ccp, 5% py
		231.64 - 236.77 Massive to very crudely laminated. Weakly foliated. Homogeneous Andesite, fine gr, med to dark green ash tuff.	70 - 80 ?	Mod. to strong chlorite pervasive	3-8% py, avg. 5% as diss., minor stringers Tr of cp throughout	Litho BCD 6059 231.70 - 234.70

<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>	<u>Remarks</u>
236.80 to 249.02 E.O.H.	RHYODACITE QTZ EYE ASH - CRYSTAL TUFF (poss. FLOW?) with CHERTY TUFF locally and minor DACITE- ANDESITE	Colour - lt. to med. grey with greenish hue Grain size - aphanitic to fine matrix to groundmass. Fine to very coarse crystals. 236.80 - 238.63 Weakly foliated Dacite-Andesite; relatively homogeneous, grey to sl. green fine ash tuff, <1% poss. qtz eyes <2mm, local very fine "dust" ash. 238.63 - 238.93 Weakly foliated crudely laminated grey fine tuff with 1-2% <2mm qtz eyes. 238.93 - 239.06 Minor fault, lt. grey-green shear planes.	upper ctc 45 fol'n 75 - 80 layers 55 top ctc 40 ? bottom ctc 25 - 30	Strong chlorite/ seritization pervasive Mod. seritization pervasive +/- chlorite Mod. to strong seritization along planes + strong chlorite 1-3mm planes	5-8% py mainly med. gr diss as lenses in stringers, also fine gr. diss. py throughout Tr to <1% ccp throughout as small patches. 5% py diss very fine to fine grained. 3-5% fine gr. diss py	Assay BCD 6452 238.16 - 238.57 8% stringers + diss py 1-2% ccp discont. stringers.

<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>	<u>Remarks</u>
	(Dominated by Qtz eye Porph. Crystal Tuff)	239.06 - 240.80 Very weak foliation, massive Qtz Eye crystal Ash Tuff (or flow?) 10-20% Qtz Eyes <1-8mm, avg. 1-2mm, sub-rounded Minor chloritic bands interlam.	bottom ctc 45 ? fol'n 50 ?	Very weak to weak seritization pervasive	3-10% fine to med. gr. py, avg. 5-8%, mainly diss. Also <1-2% ccp patchy and discont. stringers.	Assay BCD 6453 239.14 - 239.47 8% py diss - stringers 2% ccp stringers
		240.80 - 241.06 Massive chert, lt. grey, aphanitic. Minor interlam. felsic ash.	Top 80 bottom 80	Strong seritization in felsic bands	3-5% py fine gr, in stringers. Minor diss.	
		241.06 - 242.22 Weak foliated, poorly laminated, fine gr., grey-green dacitic ash tuff & cherty tuff. Cherty tuff - 5mm bands also nodules(?) within ash (5%) Note possible qtz eye	fol'n- layers 80	Mod. seritization +/- chlorite pervasive except cherty bands.	3-8% py, avg. 5% mainly fine gr. diss., also local stringers 1-4mm thick with chlorite envelopes Tr ccp	
		242.22 - 242.43 Well sheared dacite ash, green grey; poss. fault.	top ctc 70 bottom ctc 70 - 90	Strong seritization +/- strong chlorite	3-5% diss fine gr. 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>	<u>Remarks</u>
		242.43 - 242.68 Weakly foliated. Fine gr. Dac.-And. Ash crudely laminated. Lt. grey-green	Fol'n 75	Mod. sericite/chlorite pervasive	8-10% fine gr. diss py <1-1% ccp.	
		242.68 - 242.89 Very weak foliation. Very fine gr. Andesitic Ash + And. Ash-crystal Tuff, lt. to med. to dark green. Note distinct layers of crystal-ash. Also note poss. graded bedding; upright tops at 242.68m	Layers 80	Strong chlorite pervasive Mod. qtz veinlets 1-2mm also tension gashes.	3% fine to med. gr. py diss. + patches	
		242.89 - 243.59 Weakly foliated. Fine to very fine gr. Dacitic Ash with interlam. cherty Tuff +/- chert. Poorly to mod. laminated locally well lam. Very lt. grey to med. grey Avg. 3-4mm bands Note some bands contain up to 10% qtz eyes	Layers 80 - 85	Weak to strong sericite selective bands.	8-12% very fine to fine gr. py diss + 1-3mm stringers. Note very fine gr. py lenses in chert tuff (sawn)	
		243.59 - 243.97 Very weak foliation. Relatively homogeneous. Qtz eye crystal tuff approx. 20% 1-2mm qtz eyes		Mod. to strong seritization pervasive	8-12% fine to med. gr py diss + stringers	
		243.97 - 244.03 Minor fault - sericite gouge silvery-white	Top 60 - 70 bottom 80 - 90	Strong pervasive sericite	5% fine gr. diss. py	
		244.03 - 246.50 Rhyodacite Qtz Eye Crystal Tuff (poss. Flow?). Very homogeneous looking. 10-35% qtz eyes, avg. 20%, range 0.5mm-7mm, avg. 2mm	Fol'n(?) 70 - 80	Weak locally mod. seritization pervasive Tr to very weak chlorite	5-10% diss. + stringer py, avg. 5-8% Note 5mm stringer, fine gr at 245.30m.	
		246.50 - 246.75 Minor fault. White-pale green, some sericite gouge	top ctc 80 bottom ctc 70 - 75	Strong seritization pervasive + intense. Poss. grey carbon on fract? Also qtz veins heal fault irregular 5mm veins.	5-8% F - V.f.g. py diss. throughout.	

<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>	<u>Remarks</u>
		246.75 - 249.02 Qtz eye crystal tuff same as above, poss. more chlorite	fol'n 65	Weak to mod. sericite pervasive +/- chl.	3-15% py diss. + stringer similar to above, avg. 8% py Tr ccp locally.	Litho BCD 6060 246.00 - 249.00
		E.O.H.				

LITHOGEOCHEMISTRY

MAJOR OXIDES

TRACE ELEMENTS

SAMPLE NUMBER	FROM (m)	TO (m)	MAJOR OXIDES										TRACE ELEMENTS					Rock Type	Alt	Min	Grid
			SiO ₂	Al ₂ O ₃	CaO	MgO	Na ₂ O	K ₂ O	FeO	MnO	TiO ₂	ppm Ba	ppm Cu	ppm Zn	ppm Pb	ppm Ag	% Zr				
6033	43.59	46.63	43.81	18.28	17.35	3.45	1.51	0.08	10.58	0.86	0.98	50	32	2080	90		.005				
Andesite																					
6034	64.70	68.27	40.98	18.65	21.36	3.31	0.22	0.01	11.19	0.81	1.02	50	8	22	80		.005				
Epi-Andesite																					
6035	69.19	72.24	55.05	17.90	7.30	3.64	3.93	1.46	7.31	0.35	0.64	590	20	80	80		.005				
Diorite																					
6036	72.24	73.97	67.88	15.95	3.01	1.10	4.83	1.82	2.86	0.15	0.28	620	4	28	50		.005				
Dacite Dyke																					
6037	75.83	83.72	47.79	18.54	9.49	4.03	1.35	3.46	10.95	0.41	1.17	1580	42	80	120		.005				
Andesite - Epi.																					
6038	92.75	95.40	45.00	19.40	12.94	3.87	2.96	0.20	11.12	0.38	1.55	140	28	76	80		.005				
Andesite																					
6042	118.80	121.50	48.40	21.80	5.52	2.68	1.23	3.19	12.23	0.18	1.75	760	12	44	60		.005				
Andesite																					
6043	124.45	127.95	54.71	22.05	4.95	1.90	3.77	2.59	5.87	0.15	1.72	540	2	32	60		.005				
Andesite																					
6044	127.95	131.95	50.03	21.06	4.81	2.55	4.10	2.11	11.20	0.18	1.34	680	160	56	60		.005				
Andesite																					
6045	137.87	140.30	45.30	18.72	14.67	1.70	0.11	0.33	15.25	0.33	0.97	140	174	40	80		.005				
Andesite																					

Hole No. MTS-26

Entered by _____

Logged by Harold Gibson
Michael Gray

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LITHOGEOCHEMISTRY

MAJOR OXIDES

TRACE ELEMENTS

SAMPLE NUMBER	FROM (m)	TO (m)	MAJOR OXIDES										TRACE ELEMENTS					Rock Type	Alt	Min	Grid
			SiO ₂	Al ₂ O ₃	CaO	MgO	Na ₂ O	K ₂ O	FeO	MnO	TiO ₂	ppm Ba	ppm Cu	ppm Zn	ppm Pb	ppm Ag	% Zr				
6046	144.70	146.37	43.91	19.88	3.66	5.57	1.13	2.04	19.19	0.29	1.01	1260	336	68	140		.005				
Andesite																					
6047	147.33	148.12	48.07	19.28	4.65	4.07	1.05	2.36	16.00	0.20	0.95	1670	600	48	100		.005				
Andesite																					
6048	152.0	153.4	34.56	18.91	8.69	6.10	0.01	0.08	26.84	0.40	0.90	50	620	84	240		.005				
Andesite																					
6049	153.92	156.97	55.31	19.73	1.40	1.98	0.22	5.95	10.81	0.15	1.56	2910	132	60	50		.005				
Dacite/Andesite																					
6050	158.95	160.42	53.74	19.01	1.46	4.88	0.12	4.12	10.98	0.54	1.48	1360	128	132	60		.005				
Dacite/Andesite																					
6051	162.2	165.84	50.44	20.57	0.89	7.75	0.90	3.38	11.08	0.56	1.62	1110	76	174	150		.005				
Andesite																					
6052	166.65	167.50	74.22	9.98	0.58	3.64	0.50	1.65	6.44	0.28	0.41	870	240	124	50		.005				
Chert																					
6053	177.3	180.3	45.46	19.02	0.55	12.25	1.11	0.96	15.97	1.00	0.93	510	840	360	230		.005				
Grey Ash																					
6054	193.34	195.90	82.61	4.20	1.57	3.41	0.12	0.10	4.76	0.31	0.20	50	120	440	50		.005				
Chert																					
6057	204.5	207.5	47.25	17.91	1.70	15.08	1.09	0.21	12.23	1.03	0.92	140	376	600	170		.005				
Andesite																					

Hole No. MTS-26

Entered by _____

Logged by Harold Gibson
Michael Gray

Page No. 32

LITHOGEOCHEMISTRY

MAJOR OXIDES

TRACE ELEMENTS

SAMPLE NUMBER	FROM (m)	TO (m)	MAJOR OXIDES										TRACE ELEMENTS					Rock Type	Alt	Min	Grid		
			SiO ₂	Al ₂ O ₃	CaO	MgO	Na ₂ O	K ₂ O	FeO	MnO	TiO ₂	ppm Ba	ppm Cu	ppm Zn	ppm Pb	ppm Ag	% ZR						
6058	214	217	46.26	20.54	0.45	12.23	0.06	2.62	12.41	1.07	1.61	1220	16	320	250		.005						
Dacite																							
6059	231.70	234.70	48.10	18.16	1.58	9.33	3.15	0.22	14.42	0.89	1.40	140	224	184	220		.005						
Andesite																							
6060	246.00	249.00	74.29	13.61	0.14	1.35	0.12	3.93	4.25	0.06	0.26	1370	176	36	50		.005						

Hole No. MTS-26 Entered by _____ Logged by Harold Gibson Michael Gray Page No. 33

ZIPPY PRINT - BRIDGEPORT RICHMOND

ASSAY SHEET

Sample Number	From (m)	To (m)	Estimate		Length (m)	% Cu	% Zn	% Pb	gm T Ag	gm T Au	oz/T Ag	oz/T Au	% Na ₂ O	% MgO	ppm Ba	PPM Cu	PPM Zn	PPM Pb	PPM Ag	PPB Au			
			Cu	Zn																			
6424	140.30	141.12			0.82	0.064	0.02		2.1	0.01	0.06	.001											
6425	141.50	143.98			2.45	0.075	0.01		2.0	0.01	0.06	.001											
6426	143.98	144.70			0.72	0.030	0.02		2.3	0.01	0.07	.001											
6427	146.37	147.33			0.96	0.050	0.02		2.0	0.01	0.06	.001											
6428	148.12	149.66			1.54	0.042	0.01		1.2	0.01	0.04	.001											
6429	149.66	151.10			1.44	0.165	0.02		2.0	0.02	0.06	.001											
6430	151.10	152.0			0.90	0.096	0.01		1.8	0.01	0.05	.001											
6431	162.82	162.98			0.16	1.21	0.09		6.8	0.04	0.20	.001											
6432	163.55	165.00			1.45	0.097	0.03		1.0	0.01	0.03	.001											
6433	165.84	166.42			0.58	1.370	0.07		6.0	0.04	0.18	.001											
6434	166.42	166.50			0.08	1.170	0.04		3.9	0.03	0.11	.001											
6435	166.50	166.65			0.15	0.28	0.05		3.0	0.02	0.09	.001											
6436	167.50	167.78			0.28	0.875	0.06		2.5	0.03	0.07	.001											
6437	167.78	168.90			1.12	0.910	0.06		2.2	0.04	0.06	.001											
6438	168.90	169.50			0.60	2.12	0.07		6.6	0.05	0.18	.001											
6439	177.05	177.27			0.22	0.60	0.05		2.2	0.03	0.06	.001											
6440	179.36	180.52			1.16	0.169	0.04		1.0	0.02	0.03	.001											
6441	193.51	193.82			0.31	0.234	0.25		2.2	0.02	0.06	.001			100								
6442	194.98	195.40			0.42	0.020	0.07		0.2	0.01	0.01	.001			200								
6444	199.66	199.91			0.25	0.096	0.03		2.0	0.02	0.06	.001			1400								

MTS-26

HOLE NO _____

PAGE 34

ZIPPY PRINT PRINT RICHMOND

ASSAY SHEET

Sample Number	From (m)	To (m)	Estimate		Length (m)	% Cu	% Zn	% Pb	gm T Ag	gm T Au	oz/T Ag	oz/T Au	% Na ₂ O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	PPM Ag	PPB Au			
			Cu	Zn																			
6445	201.38	201.80			0.42	0.088	0.02		2.0	0.02	0.06	0.001											
6446	212.60	212.89			0.29	0.468	0.06		3.0	0.05	0.09	0.001											
6447	219.84	220.20			0.36	0.330	0.05		3.8	0.03	0.11	0.001											
6448	224.94	225.62			0.68	0.077	0.03		1.8	0.01	0.05	0.001											
6449	227.98	228.80			0.82	0.014	0.01		2.0	0.01	0.06	0.001											
6450	229.38	230.22			0.84	0.029	0.02		1.0	0.01	0.03	0.001											
6451	231.04	231.29			0.25	0.119	0.03		1.0	0.02	0.03	0.001											
6452	238.16	238.57			0.41	0.340	0.02		2.1	0.02	0.06	0.001											
6453	239.14	239.47			0.33	0.214	0.02		0.9	0.02	0.03	0.001											

MTS-26

CORPORATION FALCONBRIDGE COPPER

X METRIC UNITS
IMPERIAL UNITS

DRILL HOLE RECORD

HOLE NUMBER MTS-27	GRID	FIELD COORDS	LAT. 9+00S	DEP. 9+00E	ELEV. 640m.	COLLAR BRNG. 026°	COLLAR DIP -51°	HOLE SIZE NQ	FINAL DEPTH 201.47m
PROJECT 305	CLAIM #	SURVEY COORDS				DATE STARTED: Dec 11, 1986	CONTRACTOR F. Boisvenu		
PURPOSE						DATE COMPLETED: Dec 13, 1986	CORE STORAGE: Fulton Farm CASING: 3.66m.		
To intersect the faulted eastern extension of the Mine Package (Lenora-Tyee Horizon) east of the Fortuna Fault. This is the first of two holes testing the shallow down-dip extent of Ba-enriched, Na-depleted and pyrite mineralized tuffs below a diorite sill + VPEN conductors.							ROD LOG COLLAR SURVEY	PULSE EM SURVEY MULTISHOT SURVEY	
ACID TESTS			TROPARI TESTS			MULTISHOT DATA			
DEPTH (ft)	CORRECTED ANGLE	DEPTH ()	CORRECTED ANGLE	DEPTH (m)	AZIMUTH	DIP	DEPTH ()	AZIMUTH	DIP
100	No Line			152.44	023°	47°			
200	49-50°								
300	48°								
400	48°								
500	48°								
661	47°								

HOLE NO MTS-27
ZIPPY PRINT - BRIDGEPORT RICHMOND

LOGGED BY M. J. Gray

<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>	<u>Remarks</u>
0 to 3.66	CASING					
3.66 to 40.70	DIORITE (WITH ANDESITE DYKES)	Colour - med. green & white Grain size - fine to coarse 3.66 - 4.88: extremely blocky. 4.88 - 7.72: Med. grained equigranular 30% feldspar euhedral, avg. 1-2mm; range <1-12mm. 7.22 - 7.30: Andesitic aphanitic to fine grained dark green dyke (poss. a phase of diorite). 7.30 - 9.45: Diorite similar to above diorite. 9.45 - 9.66: Andesitic dyke, similar to above. Note aphanitic to very fine grained. 9.65 - 11.22: med. to coarse grained diorite, similar to above. 11.22 - 11.23: Fault plane, noted by veins discont. past plane. 11.23 - 11.95: Med. grained diorite; same as above. 11.95 - 12.11: Andesite Dyke similar to above with qtz vein-breccia margins/contact. 12.11 - 20.12: Med. gr to coarse gr. diorite Equigranular to subporph. Dark green-white.		Pervasive chloritization (weak to mod.) of mafics throughout interval. very weak to weak irregular calcite veinlets <1-2mm thick	nil to 1%	Note Mn and Fe staining on fracture coatings. Note hematite diss. in diorite 1-2%, and as purple patches within dykes 1-5% Note calcite-qtz veins fill contact between diorite and dykes. Lithogeochem BCD 11.00 - 14.10

<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>	<u>Remarks</u>
		20.12 - 24.07: Med. to dark green v.fine grained Andesitic Dyke, massive, equigranular, irregular 1-3mm calcite veinlets throughout (weak to mod.).	Top ctc 45 bottom ctc 5	Note coarse crystal calcite veins +/- vugs (hobnail calcite) up to 1cm across		
		24.07 - 24.72: Med. grained, weakly porph. diorite.				
		24.72 - 24.93: Aphanitic Andesitic Dyke.	top 35 bottom 60			
		24.93 - 25.23: Chilled margin of Diorite with pervasive wispy chlorite-epidote stringers.	bottom 60			
		25.23 - 32.00: Med. to coarse grained Diorite, locally weakly porph. also local tr. glomerocrysts, otherwise equigranular. Feldspar 1mm-12mm, avg. 2mm, Note large tabular laths approx. 1% throughout interval. approx. 35-40% feldspar.				
		32.00 - 40.70: Distinctly porph. Diorite 5-15% feldspar phenocrysts; 2-4mm; 10-25% groundmass feldspar <2mm, minor glomerocrysts.(40.10 - 40.70 bleached, chilled margin)				

<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>	<u>Remarks</u>
40.70 to 45.71	DACITIC - F.G. ASH TUFF	Colour - lt. to med. grey-green Grain size - fine Weakly foliated Dacitic fine grained Ash Tuff with approx. 2% <2mm qtz eyes (range <1-8mm diameter) Crudely laminated locally.	top ctc 65 sharp fol'n 60	Weak to strong sericite, weak to mod. chlorite 40.70 - 41.47: weak to mod. sericite pervasive 41.47 - 42.67: Mod. to strong sericite pervasive	Sulphides mainly as 1-2mm stringers also as diss. of fine gr. py Py 3-8%, avg. 5% Sph tr-<1% throughout, associated with stringer py. Cpy tr-<1% fine gr. patches associated with stringer py *In Mislatch section stringers 1mm-10mm have 5-15% py, tr cpy, 30-50% sph.	Assay BCD 6454 41.45 - 42.17m: 5% py, <<1-1% sph., tr cpy Assay BCD 6455 42.17 - 42.76m: 5-8% py stringers <1-1% sph, tr-<1% cpy Mislatch 42.67 - 45.71 Lithgeochem BCD 6061 40.75 - 42.67m: Lithgeochem BCD 6062 42.67 - 45.72m Assay BCD 6456 42.89 - 43.07m: 3-5% py, 2-3% sph, <1% cpy Assay BCD 6457 43.15 - 43.24m: 5% py, 3-5% sph, 1% cpy

<u>To</u>	<u>From</u>	<u>Description and Observations</u>	<u>Grade (%)</u>	<u>Alteration</u>	<u>Assays</u>	<u>Remarks</u>
45.71 to 57.41	RHYODACITE QTZ PORPH. FLOW (?) (poss. CRYSTAL TUFF)	Colour - lt. grey-white Grain size - aphanitic groundmass, fine to coarse crystals. Very weakly foliated Rhyodacite Qtz porph. flow(?); apparent flow banding (shard lenses). Very homogeneous looking 5-15%, Avg 5-10% Qtz phenocrysts glassy smokey grey to lt. grey 0.5mm-3mm, avg. 1-2mm; sub-rounded (Poss. 42.67 - 45.71m Ash Tuff, but within mismatch section)	flow bands or fol'n (?) 45 (40 - 55) Py-Zn-Cu bands/ stringers 80 - 85 py +/- cpy stringer parallel fol'n generally	Tr to very weak seritization pervasive.	Py diss. throughout fine gr., locally stringers irregular to cont., 1-4mm thick, range 3-10% (30% in massive bands), avg. 5-7% Cpy fine gr. tr. throughout, locally up to 1-2%, mainly assoc. with py stringers. Sph. black to reddy-brown in 1-15mm stringers/bands assoc. with py. Tr to 2% (30% in bands)	Lithogeochem BCD 6063: 48.40 - 51.40m. Assay BCD 6458 45.72 - 46.72m: 3-5% py, Tr cpy, <1-1% sph. Assay BCD 6459 46.72 - 47.60m: 3-5% py, Tr <1% cpy, <1-1% sph. Assay BCD 6460 47.60 - 48.40m: 5-10% py, <1-2% cpy, <1-2% sph. Assay BCD 6461 48.40 - 49.40m: 3-7% py, Tr <1% cpy, Tr <1% sph. Assay BCD 6462 49.40 - 50.60m: 3-7% py, Tr <1% cpy, Tr 1% sph. Assay BCD 6463 50.60 - 51.22m: 3-8% py, Tr cpy, Tr sph. Assay BCD 6464 51.22 - 51.49m: 5% py, 1-2% sph, Tr <1% cpy. Note 4mm irregular Py-Sph band. Assay BCD 6465 51.49 - 52.42m: 3-5% py, Tr cpy, Tr sph.

- Assay BCD 6466

<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>	<u>Remarks</u>
						<p>3-30% py (30% in massive sulphide band). Note band or sulphides is 3mm to 15mm thick, avg. 10mm.</p> <p>Assay BCD 6467 52.49 - 52.93m: 4-10% py, Tr-1% sph, Tr-1% cpy.</p> <p>Assay BCD 6468 52.93 - 53.64m: 3-5% py, Tr sph, Tr cpy.</p> <p>Assay BCD 6469 53.64 - 54.14m: 5% py, Tr-1% sph, Tr-1% cpy.</p>
57.41 to 59.92	DACITIC FLOW(?) (poss. DAC-RHY, ASH TUFF)	Colour - Med. green to lt. green, to grey Grain size - aphanitic matrix; very fine crystals (phenocrysts) Very weak foliation, crude banding poss. flow structure. Dacitite flow? or ash. Locally weakly porphyritic Tr qtz eyes (<2%), <1mm crude flow banding (?) textures.	40 - 45 flow banding or fol'n	Very weak to weak seritization pervasive +/- chlorite.	Py is diss. as fine to med. gr. discont. stringers parallel to fol'n (py diss. in stringers) range 2-12%, avg. 2-5%, 12% in local areas over 50 cm ie)58.26 - 58.76m Tr cpy locally	Lithogeochem BCD 57.41 - 59.80m
59.92 to 60.00	FAULT - (MINOR)	Colour - lt. grey-white Grain size - fine Sericitic fault gouge	top ctc 80 bottom 80	Intense seritization	3-5% diss 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>	<u>Remarks</u>
60.00 to 70.52	RHYODAC. FLOW(?) - QTZ EYE PORPH. (poss. CRYSTAL ASH, TUFF)	Colour - lt. grey. Locally with greenish hue Grain size - aphanitic groundmass; fine to coarse crystals Weakly foliated, Qtz eye porph. Rhyodacite Flow (?) or Crystal-Ash Tuff. 5-15% Qtz eyes, range <1-6mm diameter, avg. 1-2mm. Very homogeneous looking unit.	Fol'n or flow banding 35 - 45	Very weak sericite pervasive, locally weak Tr. chlorite throughout	2-15% sulphides overall 60.00 - 65.00: avg. 5-8% sulphides (py) 65.00 - 70.52: avg. 2-5% sulphides (py) Mainly fine gr. pyrite as stringers 1-3mm also diss throughout. Cpy as fine gr. diss. within stringers Tr-2%. Tr. sph locally (?).	Lithogeochem BCD 6064 67.00 - 70.00 Assay BCD 6470 62.63 - 63.37m: 8-10% py, 1-2% cpy, Tr sph (?) Assay BCD 6471 63.37 - 63.72m: 5-8% py, <1-1% cpy, Tr sph (?) Assay BCD 6475 67.19 - 67.45m: 3-5% py, 1-2% cpy
70.52 to 71.04	ANDESITE DYKE (AMYGDA-LOIDAL?) (DIORITE?)	Colour - med. green Grain size - very fine to aphanitic Very weakly foliated. Equigranular Andesitic Dyke with 1-2mm diameter epidote filled amydules (?) near contacts.	top etc 60 - 65 bottom approx. 45	Weak chlorite Weak selective epidote (poss. infills spheroidal amydules)	1-3% diss. euhedral fine gr. py	Lithogeochem BCD 6065
71.04 to 74.78	QTZ EYE PORPH. FLOW, RHYO-DACITE	Colour - Lt. grey +/- pale green Grain size aphanitic groundmass Weakly foliated Rhyodacite Qtz eye porphyry flow, massive homogeneous unit similar to above. <5% Qtz eyes, avg. <2mm diameter.	Fol'n or flow banding 60 (50-60)	Very weak sericite, pervasive. Weak chlorite as 1-2mm envelopes on py stringers	1-5% fine gr. py, avg. 2-3%. Py occurs mainly as cont. stringers, 1-2mm, also minor diss. Tr cpy locally in stringers.	

<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>	<u>Remarks</u>
74.78 to 79.83	DACITIC LAPILLI- TUFF to ASH TUFF +/- QTZ EYE PORPH. FLOWS(?)	Colour - lt. green grey 74.78 - 75.61: Monolithic green-grey lapilli tuff. Matrix supported, aphanitic. Frags avg. 3-5mm x 1-2mm, 10-20% Lt. to med. green. No qtz eyes. 75.61 - 76.22: Grey qtz eye porph. flow(?) similar to 71.04-74.78m. 76.22 - 77.18: Monolithic green-grey lapilli tuff similar to 74.78-75.61m, except 30-50% fragments (lapilli) -rounded to subrounded lenses. Note very fine grained feldspar phenos. in matrix. 77.18 - 77.54: Lt. grey feldspar porph. flow? or feldspar crystal ash tuff. Feldspar <1mm approx. 15% diss. Massive homogeneous locking. No qtz eyes. 77.54 - 77.63: Lt. grey pyritic lapilli tuff. 10-20% frags up to 2cm x 1cm, avg. 3-4mm x 1-2mm, subrounded. Sharp contacts defined by py content. 77.63 - 79.30: Lt. green-grey lapilli tuff +/- minor laminated ash (e) at 77.73m. Similar to above lapilli tuffs. 79.30 - 79.83: Qtz eye crystal tuff or flow(?) lt. grey +/- green	Top ctc? 50 fol'n 45 fol'n/flow banding 45 Fol'n ? 65 Top ctc? fol'n 40 Top ctc 65 bottom ctc 70 fol'n 45 good layering at 40 fol'n or flow banding 45	Weak seritization, pervasive. Local with chlorite bands parallel to fol'n. Very weak to nil sericite Weak chlorite as stringers with py. Weak seritization pervasive, locally mod. Weak chloritization of frags (?). Very weak to weak seritization, pervasive. Very weak sericite, Very weak to weak sericite +/- chlorite pervasive. Very weak seritization, pervasive.	1-3% py fine gr., avg. 1% as stringers +/- diss. 2-3% fine to med. gr. py mainly discont. 1mm thick stringers 2-3% py fine gr., discont. stringers up to 3mm thick. 2-5% mainly fine gr. py in stringers. 1-2mm thick. Fine grained diss. py pervasive, poss. stringers(?) 15% py 1-3% fine gr. diss. py 1-3% py mainly in stringers	Lithogeochem BCD 6067 76.22 - 77.18m Note poss. shards Possible stringers. Good layering c/a

<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>	<u>Remarks</u>
79.83 to 79.85	FAULT	Colour - lt. green Grain size - fine Sericitic + chlorite gouge coatings on fractures	35 (sub parallel fol'n)	Strong sericitization +/- chloritization.	5-8% diss. fine gr. py	
79.85 to 81.01	DACITIC FELDSPAR PORPH. +/- QTZ EYE FLOW (poss. CRYSTAL TUFF as local CRYSTAL BANDS present)	Colour - lt. green-grey Grain size - aphanitic groundmass, fine to med. crystals. Qtz feldspar porph. flow(?) Lt. green-grey. <5% grey qtz eyes subangular to subrounded avg. 1-2mm. Feldspar phenos 5-10%, <1mm. Locally sausalitized.	30 - 35 fol'n or flow banding	Tr sericite, tr. chlorite except mod. chlorite with py stringers. Selective weak epidote alteration of feldspar near and within chlorite-py stringers.	1-2% fine gr. diss. py avg. Locally up to 15% over 5cm in stringers, avg. stringer 8mm (parallel fol'n)	
82.01 to 82.30	FAULT	Colour - lt. green Grain size - fine to aphanitic Strongly foliated to sheared with some gouge.	Top etc 45 Bottom ?	Strong sericite pervasive Mod. qtz veinlets 5mm	Tr to 3% diss. py	
82.30 to 82.30	DACITE- RHYODACITE FELDSPAR- QTZ PORPH. FLOW(?) (poss. TUFF, similar to previous unit)	Colour - lt. green-grey Grain size - aphanitic groundmass, fine to med. crystals. Weak foliation. Feldspar-qtz porph. flow(?), has sections with no qtz eyes. Feldspar 5-15%, avg. 10%, angular- subangular <1-2mm. Qtz eyes <1-8mm avg. 1-2mm, Locally up to 8%, low as tr, subrounded to subangular. Note sheared section from 86.13 to 86.68m	Fol'n/ flow banding? 45 (30 - 45)	Very weak to weak sericitization, pervasive	3-8% fine gr. py, avg. 5% mainly in irregular 1-3mm stringers.	Locally feldspar crystal bands <2cm suggest a poss. relative homogeneous crystal ash tuff Lithogeochem BCD 6068 86.75 - 89.75m

<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>	<u>Remarks</u>
92.30 to 109.68	FELDSPAR CRYSTAL TUFF +/- QTZ EYE DACITIC (FLOW?)	Colour - lt. to very lt. green-grey Grain size - aphanitic to fine matrix, fine to coarse crystal. Very weakly foliated. Dacitic crystal-lithic tuff, lt. green/grey to very pale green/grey, relatively homogeneous overall. Feldspar (plag) <1mm-2mm, avg. 1mm-<2mm, euhedral, angular to subangular. Clusters of feldspar locally look like frag. with fuzzy margins, locally look like crystal-ash layers. Good layering absent. Qtz eyes locally present throughout <5%.	Fol'n 45 layering 50 ?	Nil to locally very weak seritization. Selective weak to mod. epidotization of feldspar phenocrysts throughout. Bleached(?) 99.58 - 109.68m	1-8% py throughout, avg. 3-5%. Mainly stringers, irregular + diss. Tr to 1% cpy in stringers locally.	Note pyritic unit (dyke?) at 96.48 - 96.58m Lithgeochem BCD 6069 93.50 - 96.50m Lithgeochem BCD 6070
109.68 to 110.43	FAULT (in FELDSPAR CRYSTAL-LITHIC TUFF)	Colour - lt. grey + green Grain size - fine to aphanitic groundmass, crystals & frags fine to very coarse. Blocky with sections of gouge & seam of clay. Gouge has milled frags up to 2cm long.	top ctc 65 Bottom ctc 40 - 45	Strong seritization in gouge, clay(?) along seams.	1-5% py	
110.43 to 112.79	DACITE-RHYODACITE FLOW? QTZ EYE (poss. a TUFF?)	Colour - lt. to med. grey +/- green Grain size - aphanitic groundmass, fine to med. crystals Weakly foliated. Dacite-rhyodacite flow(?) 5-8% 1mm Qtz eyes <5-10% <1mm feldspar crystals, locally with epidotization.	Fol'n(?) 20 (15 - 30)	Very weak sericite, pervasive +/- chlorite Traces of weak epidotization of feldspars.	3-15% py, avg. 5% fine gr. py mainly as irregular stringers, also as diss. Tr to 2% cpy patches within py stringers	Assay BCD 6476 110.69 - 111.04m: 8% py, 1-2% cpy Assay BCD 6477 111.87 - 112.27m: 8% py, 1% cpy
112.79 to 114.35	ANDESITE DYKE (FELDSPAR PORPHYRY?)	Colour - lt. to med. green Grain size - aphanitic to fine grained. Massive, aphanitic to fine grained andesite dyke, weakly porphyritic toward centre.	Top ctc 5 - 10 Bottom ctc 85	Weak pervasive chlorite - epidote. Local weak to mod. calcite veinlets, Qtz vein 0 - 10 C.A. 25mm thick.	1-2% fine gr. diss. py	Note black chlorite envelope on Qtz vein Lithgeochem BCD 6071 112.92 - 114.33m

<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>	<u>Remarks</u>
114.35 to 119.27	QTZ EYE PORPHYRY FLOW, RHYODACITE (poss. TUFF?)	Colour - lt. grey with a green hue Grain size - aphanitic groundmass, fine to coarse crystals. Weakly foliated. Rhyodacite qtz eye porphyry flow 5-15% qtz eyes (<1-6mm, avg. 1-2mm, subangular to rounded. Homogeneous looking unit. Locally see <5% feldspar phenos.	Fol'n or flow banding 30 (20 - 35)	Very weak sericitization, pervasive, Tr epidotization of feldspar.	5-15% py, fine grained in diss. throughout, avg. 5%, also in 2-4mm thick cont. qtz-py stringers +/- chlorite (no envelope) Tr cpy in stringers.	Lithogeochem BCD 6478 115.20 - 118.57m
119.27 to 120.02	FAULT	Colour - lt. green grey Grain size - aphanitic to coarse Mod. sheared zone with narrow (<5cm seams of gouge (pale green-grey).	50 - 55 (seams)	Very weak sericite except in gouge seams strong. Infilled by qtz + calcite veinlets.	5-7% diss. mod. to coarse gr. py.	
120.02 to 137.81	DACITE CRYSTAL- LITHIC TUFF (LAPILLI TUFF Poss.) (some lapilli size frags)	Colour - med. to light green-grey Grain size - aphanitic, fine to coarse crystals. Weakly foliated. Dacitic crystal lithic tuff. 120.02 - 125.56: Matrix supported lapilli tuff. Qtz phenocrysts 5-20% Feldspar 3-15%, avg. 1mm Frag <2cm, <5%; subrounded to rounded. Homogeneous looking, no layering. 123.14m: Fault at 15° to C.A.		Locally silicified(?) lt. grey qtz veins discont. poss. some silicification. Very weakly sericitized. 120.02 - 128.20 Weakly sericitized. 128.20 - 137.81	Py diss. 5-10% fine gr., also stringers 1-8mm overall avg. approx. 8% py in interval. Locally 20% py in silicified zones.	Assay BCD 6479 10-20% py, <1-3% cpy. Lithogeochem BCD 6072 120.50 - 123.50m Lithogeochem BCD 131.00 - 134.00

<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>	<u>Remarks</u>
		125.56 - 130.76: Grey qtz eye dacite-rhyodacite crystal-lithic tuff. Approx. 5%, 2mm avg. round qtz eyes, locally clustered.		Weak selective epidotization of feldspar (plag).	1-5% fine gr. diss py + 1-3mm stringers, tr cpy	
		130.76 - 134.11: Silicified(?) dacite crystal lithic tuff, lt. grey similar to above dacite tuffs.		Silicification(?) pervasive		Lithogeochem BCD 131.00 - 134.00
		134.11 - 134.95: Silicified + in situ breccia of dacite crystal-lithic tuff.		Silicification(?) pervasive Tr sericite		
		134.95 - 137.81: Dacite crystal-lithic tuff (similar to above).		Very weak sericite		
137.81 to 143.21	RHYODACITE QTZ-EYE PORPHYRY FLOW(?) (poss. CRYSTAL TUFF)	Colour - lt. grey +/- green hue Grain size - aphanitic groundmass, fine to coarse crystals (phenocrysts). Weakly foliated. Rhyodacite Qtz eye porph. flow(?) 5-10% qtz eyes (1-6mm).	fol'n 40 (30 - 45)	Tr to very weak seritization Weak chlorite as envelopes to py stringers	5-15% py mainly as stringers 1-8mm avg 4mm +/- cpy diss within stringers.	Assay BCD 6481 139.15 - 140.21m: 8-10% py, 1-2% cpy Assay BCD 6482 137.81 - 138.61m: 8-10% py, 1% cpy Lithogeochem BCD 6073 138.16 - 141.16m
143.21 to 143.30	FAULT (narrow)	Colour - lt. green Grain size - as above Sheared rhyodacite (above) - no gouge.	approx. 45	Strong seritization	5% fine grained diss. 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>	<u>Remarks</u>
143.30 to 171.92	RYHODACITE to DACITE ASH TUFF & CRYSTAL ASH TUFF	Colour - lt. grey with slight green to lt. green-grey Grain size - aphanitic matrix, fine to coarse crystals (phenocrysts). 143.30 - 145.09: Rhyodacite crystal-ash tuff (poss. silicified) lt. grey, fine grained. Qtz eyes <1-5mm, avg 1-2mm, <2%. 145.09 - 146.30: Rhyodacite Qtz Eye crystal Tuff, lt. grey 5-10% qtz eyes.		Tr to very weak sericite pervasive Tr to very weak sericite pervasive	3-20% stringers & diss py 3-15% py Stringers generally parallel to fol'n	Assay BCD 6478 143.64 - 144.01m: 10-20% py, 2-3% cpy Assay BCD 6483 145.14 - 145.92m: py 8%, cpy 1-2% "S" 5-20mm sulphide stringers. Assay BCD 6484 146.32 - 146.96m: 10-15% py, 1% cpy includes 3cm thick massive sulphide band/stringer
		146.30 - 146.96: Dacite qtz-feldspar crystal-ash tuff		Mod. to strong irregular veinlets of epidote	3-5% py	
		146.96 - 149.35: Dacite qtz eye crystal tuff (silicified?)		Silicification(?) Tr sericite	3-3% py	
		149.35 - 152.26: rhyodacite-dacite crystal-ash tuff, lt. grey to sl. green; 5% qtz eyes throughout.		Tr to very weak seritization	1-8%, avg 3-5% fine gr. py	Note narrow fault at 151.50m C.A. 30
		152.26 - 171.92: Weakly foliated dacite crystal-lithic tuff; lt. green-grey, homogeneous looking. No qtz eyes.	Fol'n. 40 (25 - 45)	Very weak to weak seritization, pervasive	3-8% py diss. throughout	lithogeochem BCD 6075 158.00 - 161.00m

<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>	<u>Remarks</u>
171.92 to 172.37	ANDESITE ASH TUFF to CRYSTAL TUFF	Colour - med. to dark green Grain size - fine to aphanitic Weakly foliated. Andesite crystal tuff.		Weak chlorite pervasive Strong calcite veinlets, some assoc. brecciation.	1-3% py avg., at contact 15% py over 10cm.	
172.37 to 173.53	DACITE CRYSTAL- ASH TUFF (with QTZ EYES)	Colour - lt. grey-green Grain size - aphanitic matrix, fine to med. crystal. Weakly foliated. Dacite crystal-ash tuff.		Very weak sericitization, pervasive.	1-5% diss. fine gr. py One central band is semi-massive approx. 40% py over 8cm, as discont. 1-2mm subparallel stringers.	includes minor fault seams 35 C.A.
173.53 to 174.46	ANDESITE ASH to CRYSTAL- ASH TUFF (same as above)	Colour - med. green Grain size - fine Weakly foliated. Andesite ash tuff +/- crystals, locally layered.	ctc at 173.65m at 75 C.A.	Weak chlorite, pervasive Tr to weak epidote	1-3% diss fine gr. py	Assay BCD 173.65 - 173.92m
174.46 to 175.00	DACITE CRYSTAL- ASH TUFF (same as above)	Colour - lt. to med. grey Grain size - aphanitic matrix, fine to med. phenocrysts. Same as above. Dacite crystal ash tuff.		Very weak sericite	1-5% diss fine gr. py	
175.00 to 175.28	ANDESITE ASH-TUFF (same as above)	Colour - med. green Grain size - fine Weakly foliated, distinct layers avg 1cm fine ash beds in fine crystal tuff. Andesite tuff.	layering 50	Weak to mod. chlorite pervasive. Weak selective epidotization of feldspar crystals.	2-3% diss. fine gr. py	Excellent layering within ash tuffs.

<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>	<u>Remarks</u>
175.28 to 175.73	DACITE ASH to CRYSTAL ASH (same as previous)	Colour - lt. to med. grey Grain size - aphanitic to fine. Massive, weakly foliated dacite ash +/- crystal tuff 10-20% feldspar <1mm phenos, <2% qtz eyes.	Top ctc 45 fol'n 45 bottom ctc 15 - 20	Very weak seritization	5% fine gr. py diss.	
175.73 to 175.83	FELSIC BAND	Colour - biege to white Grain size - aphanitic to fine. Weakly foliated, mod. laminated. Dacite ash tuff.	Top ctc 15 - 20 bottom 20	Mod. seritization, pervasive.	Tr py	Good layering/ lamination
175.83 to 201.47 E.O.H.	DACITE CRYSTAL- ASH TUFF (poss. FLOW?) with QTZ & FELDSPAR PHENOS.	Colour - lt. green-grey Grain size - aphanitic matrix, fine to coarse crystals. Weak to locally mod. foliated. Dacitic ash tuff +/- rhyodacite ash tuff. Generally homogeneous looking dacitic tuff. Qtz eye content 0-5% varies throughout the section. Feldspar 5-20% <1mm.	Fol'n 45 (40 - 50)	Very weak to weak seritization pervasive Tr chlorite throughout.	1-5% py Mainly in <1-2mm discont. stringers.	probably an ash tuff. Shear/gouge at 197.80m Lithogeochem BCD 180.18 - 183.18 Lithogeochem BCD 6080 198.47 - 201.47m.

LITHOGEOCHEMISTRY

MAJOR OXIDES

TRACE ELEMENTS

SAMPLE NUMBER	FROM (m)	TO (m)	MAJOR OXIDES										TRACE ELEMENTS					Rock Type	Alt	Min	Grid
			SiO ₂	Al ₂ O ₃	CaO	MgO	Na ₂ O	K ₂ O	FeO	MnO	TiO ₂	ppm Ba	ppm Cu	ppm Zn	ppm Pb	ppm Ag	% Zr				
6061	40.75	42.67	60.18	17.84	0.92	4.45	1.36	3.42	8.47	0.20	0.70	1010	308	560	50		.005				
Dacite																					
6062	42.67	45.72	71.05	14.83	0.47	1.59	0.17	4.27	4.49	0.05	0.48	1100	352	2120	50		.005				
Rhy-Dac																					
6063	48.40	51.40	75.98	13.62	0.31	0.98	0.19	4.12	2.59	0.03	0.24	1170	38	48	50		.005				
Rhy-Dac																					
6064	67.00	70.00	76.51	12.74	0.89	1.64	0.78	3.06	2.22	0.03	0.18	1330	100	44	50		.005				
Rhy-Dac																					
6065	57.41	58.80	72.75	13.20	1.09	2.69	0.31	3.23	4.49	0.06	0.24	1120	8	64	50		.005				
6066	70.52	71.04	52.30	15.64	12.47	5.05	1.30	0.88	8.84	0.24	0.70	350	120	640	50		.005				
And Dyke																					
6067	76.22	77.18	73.82	14.26	0.46	2.58	0.46	3.44	2.66	0.04	0.31	1240	48	40	50		.005				
Dac																					
6068	86.75	89.75	71.50	14.50	1.01	3.99	0.49	2.82	3.26	0.08	0.31	980	6	60	150		.005				
Dac																					
6069	93.50	96.50	66.46	14.95	6.07	4.13	0.40	1.45	4.00	0.10	0.32	1230	40	24	50		.005				
Dac																					
6070	106.0	109.0	69.98	14.92	3.90	3.06	1.52	2.01	2.21	0.04	0.34	1420	4	4	50		.005				
Dac																					

Hole No. MTS-27

Entered by _____

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LITHOGEOCHEMISTRY

MAJOR OXIDES

TRACE ELEMENTS

SAMPLE NUMBER	FROM (m)	TO (m)	MAJOR OXIDES									TRACE ELEMENTS					Rock Type	Alt	Min	Grid		
			SiO ₂	Al ₂ O ₃	CaO	MgO	Na ₂ O	K ₂ O	FeO	MnO	TiO ₂	ppm Ba	ppm Cu	ppm Zn	ppm Pb	ppm Ag						% Zr
6071	112.92	114.33	51.31	13.67	12.47	5.51	0.51	0.05	9.57	0.26	0.67	50	44	58	240		.005					
And dyke																						
6072	120.5	123.5	72.62	10.63	0.46	2.78	0.63	2.01	7.77	0.06	0.26	990	12	20	50		.005					
Dac																						
6073	138.16	141.16	72.38	12.20	1.01	2.23	0.89	2.68	5.62	0.04	0.27	2270	450	8	50		.005					
Rhy-Dac																						
6074	115.2	118.57	72.37	12.12	6.07	2.25	0.86	2.60	6.81	0.03	0.26	1310	220	20	50		.005					
Rhy-Dac																						
6075	158.0	161.00	69.24	13.99	3.90	4.56	2.05	1.99	4.70	0.05	0.29	1160	920	4	50		.005					
Dac																						
6080	198.47	201.47	68.48	13.80	0.01	5.04	0.39	2.63	7.23	0.08	0.32	1290	52	14	100		.005					
Dac																						
6081	11.00	14.10	47.43	15.31	9.95	5.46	2.34	0.54	13.02	0.30	2.28	640	184	72	180		.008					
Dior																						
6082	131.00	134.00	71.36	13.97	0.28	2.71	0.20	3.50	5.45	0.04	0.32	2020	130	8	50		.005					
Dac																						

Hole No. MTS-27

Entered by _____

Logged by M. J. Gray

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ASSAY SHEET

Sample Number	From (m)	To (m)	Estimate		Length (m)	% Cu	% Zn	% Pb	gm T Ag	gm T Au	% SiO ₂	% TiO ₂	% Na ₂ O	ppm Ba	% Fe	PPM Cu	PPM Zn	PPM Pb	PPM Ag	PPB Au			
			Cu	Zn																			
6454	41.45	42.17			0.72	0.016	0.11		0.1	0.01				1400									
6455	42.17	42.67			0.50	0.038	0.35		0.2	0.02				1300									
6456	42.99	43.07			0.08	0.050	0.74		0.6	0.03				1100									
6457	43.15	43.24			0.09	0.054	4.20		2.2	0.10				1000									
6458	45.72	46.72			1.00	0.004	0.02		0.2	0.05				1100									
6459	46.72	47.60			0.88	0.019	0.04		0.3	0.03													
6460	47.60	48.40			0.80	0.006	0.21		0.2	0.14													
6461	48.40	49.40			1.00	0.002	0.02		0.1	0.02													
6462	49.40	50.60			1.20	0.008	0.03		0.1	0.01													
6463	50.60	51.22			0.62	0.14	0.01		0.2	0.01													
6464	51.22	51.49			0.27	0.010	0.40		0.1	0.02													
6465	51.49	52.42			0.93	0.014	0.24		0.2	0.01													
6466	52.42	52.49			0.07	0.332	5.70		4.8	0.10													
6467	52.49	52.93			0.44	0.008	0.63		0.2	0.01													
6468	52.93	53.64			0.71	0.010	0.04		0.1	0.03													
6469	53.64	54.14			0.50	0.010	0.25		0.1	0.01													
6470	52.63	63.37			0.74	0.344	0.09		4.0	0.14													
6471	63.37	63.72			0.35	0.020	0.03		0.6	0.01													
6475	67.19	67.45			0.26	0.035	0.02		0.2	0.01													

MTS-27

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HOLE NO. _____

ZIPPY PRINT _____ RICHMOND

ASSAY SHEET

Sample Number	From (m)	To (m)	Estimate		Length (m)	% Cu	% Zn	% Pb	gm T Ag	gm T Au	% SiO ₂	% TiO ₂	% Na ₂ O	% Fe	PPM Cu	PPM Zn	PPM Pb	PPM Ag	PPB Au								
			Cu	Zn																							
6476	110.69	111.04			0.35	0.276	0.02		1.9	0.09																	
6477	111.87	112.27			0.40	0.008	0.01		0.4	0.05																	
6479	131.11	132.04			0.93	0.062	0.01		0.3	0.02																	
6480	134.95	135.29			0.34	0.281	0.01		0.5	0.01																	
6482	137.81	138.61			0.80	0.015	0.02		0.1	0.01																	
6481	139.15	140.21			1.06	0.259	0.01		0.2	0.03																	
6478	143.64	144.01			0.37	0.250	0.02		0.5	0.03																	
6483	145.14	145.92			0.78	0.380	0.01		0.3	0.03																	

LEGEND

CRETACEOUS

- 4 Nanaimo Group Sediments
- 3 Diorite Intrusions (age unknown)

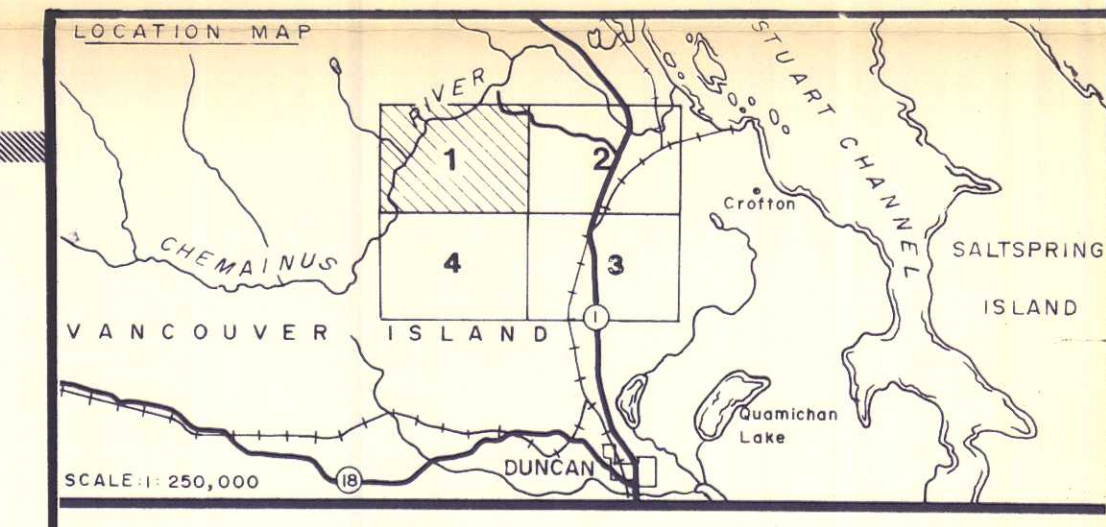
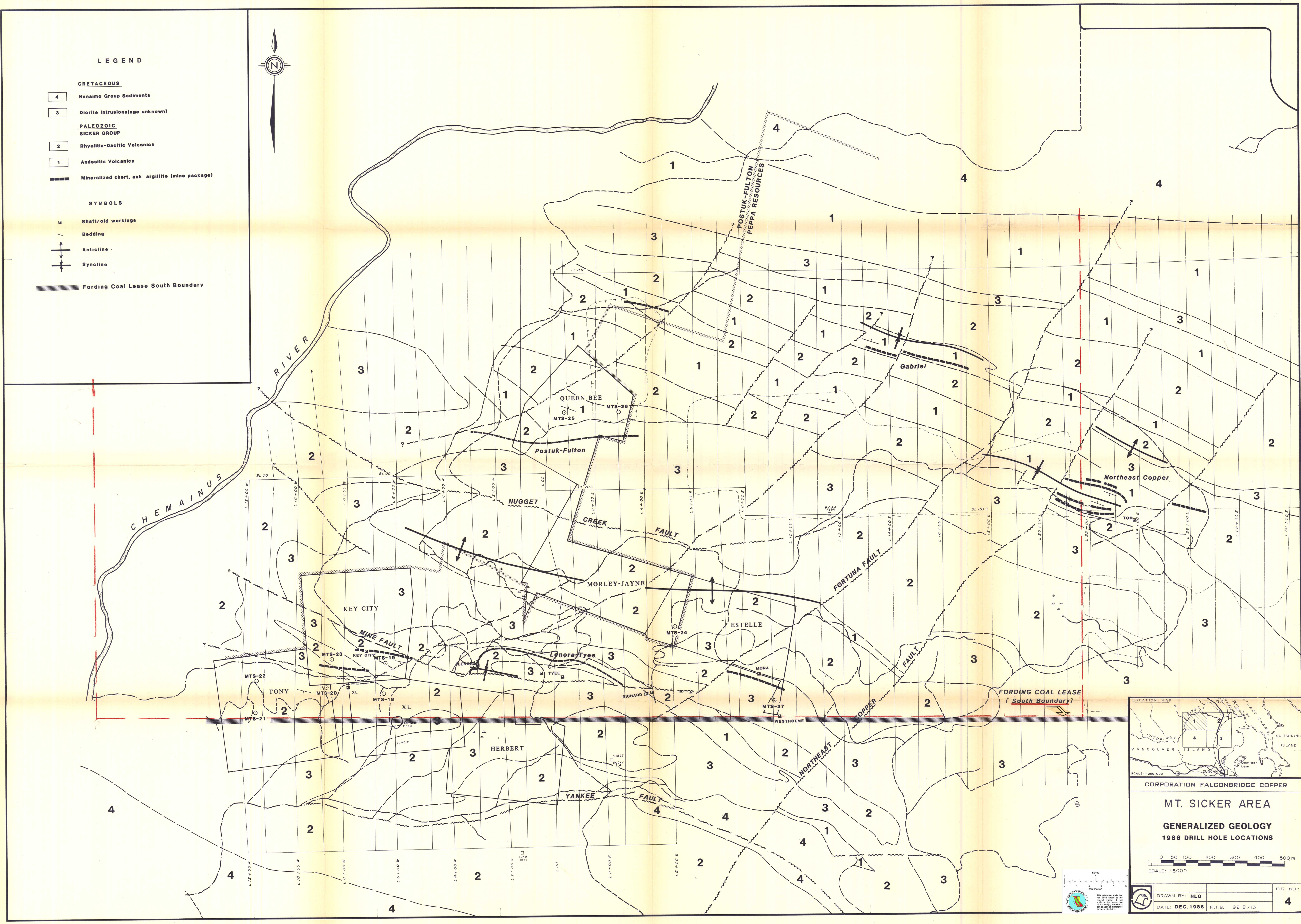
PALEOZOIC

SICKER GROUP

- 2 Rhyolitic-Dacitic Volcanics
- 1 Andesitic Volcanics
- Mineralized chert, ash argillite (mine package)

SYMBOLS

- Shaft/old workings
- Bedding
- Anticline
- Syncline
- Fording Coal Lease South Boundary



CORPORATION FALCONBRIDGE COPPER

MT. SICKER AREA

GENERALIZED GEOLOGY

1986 DRILL HOLE LOCATIONS

0 50 100 200 300 400 500 m

SCALE: 1:5000

DRAWN BY: HLG	FIG. NO.: 4
DATE: DEC. 1986	N.T.S. 92 B/13