

827195

1985 DIAMOND DRILLING ON FORDING COAL OPTION

Mt. Sicker Property

Victoria Mining Division

NTS 92B/13W

48°59' Latitude 123°50' Longitude

Corporation Falconbridge Copper
Diamond.1

D. V. Lefebure
March, 1986

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Appendix I - Diamond Drill Logs

MTS 11 Log

MTS 12 Log

MTS 14 Log

Map 1. Location of Diamond Drill Holes (1:5000) in pocket

Figure 1. Location of Property 2

1. INTRODUCTION

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

1.1 Location and Access

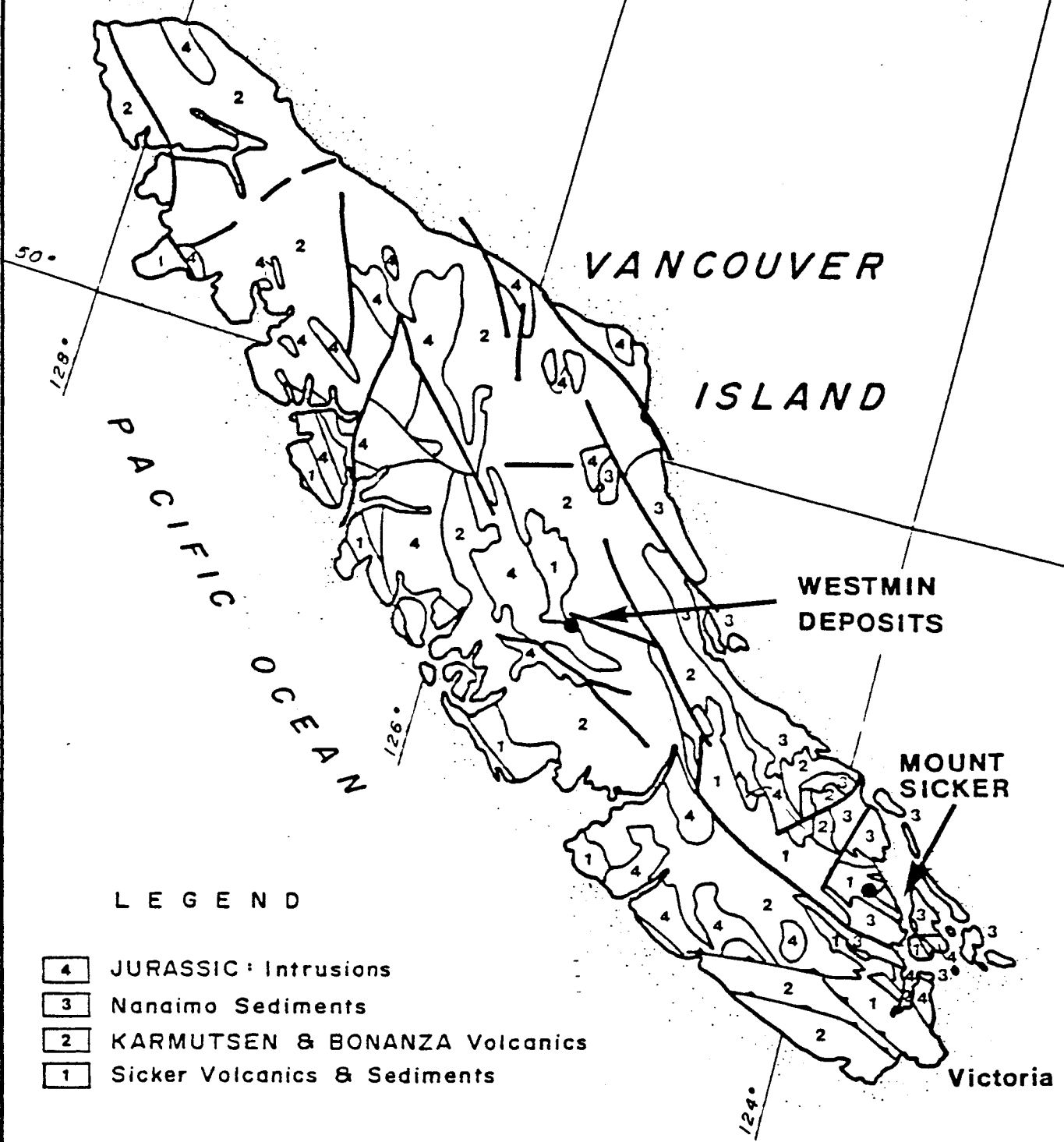
The Mt. Sicker Property is located approximately 13km north of Duncan, British Columbia (Figure 1.) A network of dirt and gravel roads provide access for 2-wheel drive vehicles to the claims from the Trans Canada Highway.

1.2 Mineral Rights

Corporation Falconbridge Copper drilled three holes, MTS 11, MTS 12, and MTS 14 on ground optioned from Fording Coal for the base metal rights. these drill holes are located on precious metal mineral claims optioned from Peppa Resources (Map 1).

1.3 History

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



L E G E N D

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

VANCOUVER ISLAND
GEOLOGY

SCALE: 1:2,000,000

Figure 1 - Location of Mt. Sicker Property

D.G. MAY 1984

Prospecting and trenching was the principal exploration method on Mt. Sicker away from the mines from 1897 until 1964. Since then a number of exploration companies, including Mount Sicker Mines, Ducanex and S.E.R.E.M., carried out integrated exploration programmes utilizing geological mapping, soil sampling, geophysics and diamond drilling. S.E.R.E.M. was the most active and drilled 21 holes between 1978 and 1982.

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

1.4 Work Done

Three NQ diamond drilling holes were drilled in 1985 on the Fording Coal Option totalling 872.8 metres (see Map 1). These holes are:

| | |
|--------|--------|
| MTS 11 | 329.2m |
| MTS 12 | 206.1m |
| MTS 14 | 337.5m |

Expenditures on these drill holes totalled \$59,551.99. The expenditures are detailed in the statement of costs.

2. MT. SICKER AREA GEOLOGY

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

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

The Buttle Lake Formation consists of commonly crinoidal recrystallized limestone, interbedded with calcareous siltstone and chert.

Thinly bedded to massive argillite, siltstone and chert with interlayered sills of diabase form the Sediment - Sill unit. Underlying this unit is the Myra Formation basic to rhyodacitic banded tuff, breccia and lava with interbedded argillite, siltstone and chert. The Nitinat Formation basaltic lavas and agglomerates with minor massive to banded tuff layers forms the base of the Sicker Group.

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

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

3. DIAMOND DRILLING RESULTS

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

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

An argillitic horizon with 3-7% pyrite at a mafic/felsic contact in hole MTS 12. Weakly anomalous copper (205 and 400 ppm) and zinc values (405 and 130 ppm) are present at this horizon. A series of QFP flows and tuffs and a spherulitic andesite flow were intersected above, and andesite flows with minor mafic tuff below the argillite. The hole was stopped in a diorite intrusion.

Hole MTS 14 was drilled to test the Northeast Copper Horizon downdip of previous drill intersections by Ducanex. It intersected similar felsic tuffs and flows and an andesite tuff with argillaceous and

hematite/jasper bands. This hole was drilled past the target depth but failed to reach the mineralized horizon because it dips steeply on this limb of the fold.

4. CONCLUSIONS

These drill holes help to define the extent of a diorite intrusion which dykes out the Postuk-Fulton Horizon and show the significance of folding on the position of both the Postuk-Fulton and Northeast Copper Horizons down dip. The absence of massive sulphides in these holes could reflect the failure in holes MTS 11 and MTS 14 to reach the mineralized horizon. Further drilling is warranted on the Mt. Sicker Property in these, as well as, other areas.

David V. Lefebvre

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6. STATEMENT OF COSTS

| | |
|------------------------------------|---------------|
| MTS 11 | |
| Footage Costs | 17,875.02 |
| Casing (20') | 266.00 |
| Shoe | 328.00 |
| Fuel (Barrel) | 113.40 |
| Tropari Tests (2 @ \$70.@ | 140.00 |
| Tractor Time (see Invoice #1102) | 3,959.00 |
| D. Lefebure, 6 days, Nov.17,22,25 | 1,800.00 |
| 26,27,29 @ \$300. | |
| N. Trafford, 6 days, Nov.19,20,22, | |
| 25,26,27 @ \$100. | <u>600.00</u> |
| | 25,081.42 |

| | |
|---------------------------------|-----------------|
| MTS 12 | |
| Footage Costs | 10,979.80 |
| Casing (19') | 133.00 |
| Shoe | 328.00 |
| Fuel (Barrel) | 113.40 |
| Tropari Test (1 @ \$70.) | 70.00 |
| D. Lefebure, 3 days, Nov.28,30, | 900.00 |
| Dec 2 @ \$300. | |
| N. Trafford, 3 days, Nov.28,30, | 300.00 |
| Dec 2 @ \$100. | <u> </u> |
| | 12,824.20 |

| | |
|---------------|-----------|
| MTS 14 | |
| Footage Costs | 18,338.97 |
| Casing | 266.00 |
| Shoe | 328.00 |

| | |
|-------------------------------------|---------------|
| NQ Bit | 550.00 |
| Tropari Tests (2 @ \$70.) | 140.00 |
| Fuel | 113.40 |
| Tractor Time (2 hrs @ \$55.) | 110.00 |
| D. Lefebure (Dec 5,7 @ \$300.) | 600.00 |
| A. Davidson (Dec 9,10 @ \$400.) | 800.00 |
| N. Trafford (Dec 5,7,9,10 @ \$100.) | <u>400.00</u> |

21.646.37

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|-------|-----------|
| Total | 59,551.99 |
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APPENDIX I

Diamond Drill Logs

CORPORATION FALCONBRIDGE COPPER

DRILL HOLE RECORD

X METRIC UNITS
IMPERIAL UNITS

| | | | | | | | | | |
|--|------------------------|------------------|--------------------|---------------|--------------|--|---|--------------------------|-------------------------------------|
| HOLE NUMBER MTS 11 | GRID CFC | FIELD COORDS | LAT 2+22N | DEP 8+00E | ELEV 525m | COLLAR BRNG 180° | COLLAR DIP -75° | HOLE SIZE NQ | FINAL DEPTH 329.2m |
| PROJECT Peppa 305 | CLAIM # CF Group #3 | SURVEY COORDS | | | | DATE STARTED Nov 23, 1985 DATE COMPLETED Nov 28, 1985 | CONTRACTOR F. Boisvenu CORE STORAGE Fulton Farm CASING Yes | | |
| PURPOSE To test the Postuk-Fulton Horizon approximately 600m east of MTS 8 intersection | | | | | | | | RQD LOG COLLAR SURVEY | PULSE EM SURVEY MULTISHOT SURVEY |
| ACID TESTS | | | | TROPARI TESTS | | | MULTISHOT DATA | | |
| DEPTH: m | CORRECTED ANGLE | DEPTH: | CORRECTED ANGLE | DEPTH: m | AZIMUTH | DIP | DEPTH: | AZIMUTH | DIP |
| 61.0 | 73° | | | 62.5 | 172° | 73° | | | |
| 91.4 | 72° | | | 288.6 | 195° | 69° | | | |
| 121.9 | 73° | | | | | | | | |
| | | | | | | | | | |
| 182.9 | 72° | | | | | | | | |
| 213.4 | 73° | | | | | | | | |
| 243.8 | 71° | | | | | | | | |
| 274.3 | 72° | | | | | | | | |
| 329.2 | 72° | | | | | | | | |
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HOLE NO MTS 11
ZIPPY PRINT - BRIDGEPORT RICHMOND

LOGGED BY David Lefebure

| <u>From To</u> | <u>Rock Type</u> | <u>Texture and Structure</u> | <u>Angle to Core Axis</u> | <u>Alteration</u> | <u>Sulphides</u> | <u>Remarks</u> |
|--------------------|-------------------------|---|------------------------------------|--|------------------|---|
| 0 to 6.1 | Casing | | | | | - depth to bed- rock less than 6.1m |
| 6.1 to 10.7 | Green Dacite Flow | Colour - dark grey Grain Size - aphanitic - scattered oval quartz eyes up to 4mm (<3%) | | - calcite veinlets and patchy calcite throughout matrix - groundmass strongly chloritized - some Fe-carbonate | barren | - some weathered fractures |
| 10.7 to 10.8 | Fault | - flakey, broken up core | | - moderately sericitic | barren | - minor fault zone could be related to fault mapped on surface |
| 10.8 to 24.2 | Rhyolite Flow | Colour - beige, dark grey Grain Size - aphanitic - 10.8 to 14.2 is strongly flow- banded with some disruption of bands - abundant qtz eyes (<2mm) approximately 10% but small and difficult to identify, qtz eyes less abundant in core of flow (below flow-banded portion) - core of flow cut by healed fractures - flow-banding from 23.5 to 24.2m - possible fragments at 20.1m | 30° 25° | - cut by qtz veinlets and carbonate heals fractures - groundmass siliceous and little altered | barren | 17.15-17.25 - qtz - carbonate veinlet with bleached halo in rhyolite wallrock which extends 0.5m above and 0.3m below 17.1-17.2m - core broken 17.25-17.55m - core broken and ground BCD 3626 18.3 - 21.0m - base of flow because flow- banding developed over less width |

| <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> |
|--------------------|--|---|-------------------------------|---|---|--|
| 24.2 to 51.8 | Feldspar Rhyolite Porphyry Flow | Colour - grey to purple Grain Size - aphanitic to f.g. - homogeneous siliceous unit with phenocrysts of feldspar (<2mm) and quartz (<3mm) | | - cut by veinlets of quartz and carbonate - significant iron- carbonate - at 46.1m there is an open space fracture filled with carbonate and quartz and rock fragments (5cm wide) | barren | BCD 3627 46.5 - 49.5m |
| 51.8 to 59.2 | Quartz eye Rhyolite Dyke | Colour - grey Grain Size - f.g. margins aphanitic - upper contact difficult to find - numerous small qtz eyes (<1mm) occasional qtz eyes up to 3mm - weak colour banding towards basalt contact - patch of qtz rhyolite porphyry at 55.5m | approx. 10° 20° | - minor qtz-carbonate veinlets | barren except for 10% py in qtz veinlet adjacent to patch of qtz rhyolite porphyry | - dyke roughly paralleling drill hole |
| 59.2 to 74.7 | Feldspar Dacite Porphyry Flow | Colour - grey and purple Grain Size - aphanitic - grey to white feldspar form speckled pattern - plagioclase up to 5mm, forms 15% of rock - matrix siliceous - light grey patches contain grey plagioclase which looks very like qtz have diffuse but distinguishable contacts - basal contact sharp | 30° | - qtz-chlorite veinlets are common | - <1% diss. pyrite | light patches may be start of weak flow-banding 73.9-74.35 - fracture zone with oxidized broken core |
| 74.7 to 79.2 | Flow-banded Rhyolite Flow | Colour - grey-white Grain Size - aphanitic - contorted flow banding with chlorite-filled amygdules (elongate) - basal contact sharp | 25° | - abundant patchy carbonate between bands - core soft, altered to sericite | barren | - flow-banded flow top |

| <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> |
|--------------------|-------------------------------------|---|-------------------------------|---|------------------|---|
| 79.2 to 79.7 | Mafic Dyke | Colour - grey Grain Size - f.g. C.I.= 50, appears to be mafic in composition | | - numerous calcite veinlets parallel to upper contact | barren | |
| 79.7 to 96.2 | Rhyolite Flow | Colour - purplish-grey Grain Size - aphanitic - flow-banded rhyolite grades into massive purplish-grey rhyolite - no foliation developed in flow - scattered quartz eyes (<15mm) and numerous microphenocrysts of grey quartz - 95.0 to base there is light coloured flow banding - basal contact sharp | 35° 45° | | barren | BCD 3628 89.5 to 92.4m |
| 96.2 to 112.7 | Quartz Eye Rhyolite Flow | Colour - purple Grain Size - aphanitic Grey, glassy quartz phenocrysts are oval in shape and up to 2 1/2mm in size. Some scattered feldspar(?) phenocrysts. - basal contact sharp obscured by qtz veins | | - numerous quartz veinlets with minor green chlorite cutting core at high angles, open space fillings - minor sericite? on fractures | barren | |
| 112.7 to 115.6 | Banded Felsic Crystal Tuff | Colour - green to greenish-white Grain Size - f.g. Well developed banding (beds?) in a f.g. crystal tuff containing plagioclase and quartz phenocrysts. Possible stretched greenish fragments towards base. Basal contact irregular, sharp. | 45° | Minor qtz veinlets | barren | |
| 115.6 to 127.1 | Quartz Eye Rhyolite Flow | Colour - purple Grain Size - aphanitic to v.f.g. 5% quartz eyes (< 1 1/2mm) set in a possibly perlitic matrix (myriad of light coloured fractures). Flow banding developed from 121.75m to 124.9m which may mark a flow contact. Base of flow a green colour | | Scattered qtz veinlets | Barren | 2cm of gouge at 119.2m, minor fault? BCD 3629 118.1 - 120.8 |

| <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> |
|--------------------|---|--|-------------------------------|--|------------------|--|
| 127.1 to 134.7 | Spherulitic Rhyolite | Colour - purple Grain Size - aphanitic Top contact poorly defined; unit is characterized by oval patches with white cores (feldspar) and grey rims (qtz) up to 1.5cm in size. Patches form 0 to 20% of unit. Smaller quartz eyes present. Thin bed(?) of light green, f.g. tuff? with ghost fragments from 131.4 to 131.7m. Similar 10cm band of green tuff at 133.0 to 133.1m From 133.5 to 134.7m no spherulites and discontinuous flow banding or stretched fragments. | 35° | Little altered | Barren | Patches are spherulites or amygdulites. The distribution of spherulites and suggestion of flow banding may indicate flow layering. |
| 134.7 to 139.1 | Intermediate Dyke | Colour - dark grey Grain Size - aphanitic to f.g. Minor gouge at top contact. Chilled margins over 20cm. Scattered white feldspars <1mm Basal contact sharp | 35° | Cut by minor quartz veinlets | barren | |
| 139.1 to 151.6 | Spherulitic Rhyolite | As above (127.1 to 134.7) spherulites disappear below 143.7m but small quartz eyes continue and become more prominent. Gradational contact into underlying unit. | | Quartz vein with green chlorite from 148.7 to 148.9m | Barren | |
| 151.6 to 154.8 | Intermediate Banded Tuff and Lapilli- Tuff | Colour - greenish-grey Grain Size - f.g. to aphanitic Banding is variable between well developed to faint. Almost cherty at 152.4m. Lapilli-tuff from 155.2 to 154.3m with very elongate cherty and chloritic fragments. Basal contact sharp | 30° 30° | Quartz veinlets and patchy carbonate. Matrix moderately chloritic. | Trace pyrite | BCD 3630 151.9 to 152.7 |

| <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> |
|--------------------|---|--|-------------------------------|--|---|--|
| 154.8 to 157.7 | Intermediate Dyke | Colour - grey Grain Size - f.g. Homogeneous with scattered feldspar phenocrysts and quartz eyes. Sharp basal contact. | 30° | Minor carbonate veinlets | Barren | Possibly a tuff BCD 3631 155.8 - 157.3 |
| 157.7 to 170.1 | Intermediate Lapilli-Tuff | Colour - greenish-grey Grain Size - f.g. Same unit as 151.6 to 154.8m. Weak banding, some obvious fragments. | | Strongly chloritic with abundant veinlets and patches of calcite | Barren | |
| 170.1 to 182.7 | Plagioclase white Rhyolite | Colour - white-grey Grain Size - aphanitic Gradational contact with overlying unit. 10% plagioclase phenocrysts less than 2mm. | | Silicified and minor chlorite on fractures. | Trace to 2% pyrite as disseminations and along fractures, sometimes with quartz. | BCD 3633 179.6 - 182.3 |
| 182.7 to 188.3 | Felsic Lapilli-tuff to tuff- breccia | Colour - green Grain Size - aphanitic Pronounced foliation with numerous fragments of cherty rhyolite in a feldspar phyric matrix. | 50° | Moderate chlorite and minor sericite. | Barren | |
| 188.3 to 188.9 | Fault Zone | Colour - grey Grain Size - aphanitic Gouge consisting of flakes of sericitic felsic | | Sericitic | Barren | |
| 188.9 to 193.8 | Felsic Lapilli-tuff to Tuff- breccia | Colour - grey Grain Size - aphanitic Similar to 182.7 to 188.3m Basalt contact sharp, core broken | | Moderate to strong sericite | Barren | Fault gouge at 10° angle to core axis at 189.6 to 189.9m 191.8 to 192.4m 193.4m |

| <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> |
|-----------------------------|--|---|-------------------------------|--|--|---|
| 193.8 to 204.4 | Feldspar Dacite Porphyry Flow | Colour - grey Grain Size - f.g. Homogeneous, flow with no foliation. White plagioclase phenocrysts up to 3mm form 15% of unit. Scarce oval qtz eyes. | | Fresh | Minor pyrite stringers with associated quartz veinlets. Trace chalcopyrite. | Possible dyke. |
| 204.4 to 206.9 | Mafic Dyke | Colour - grey Grain Size - aphanitic to f.g. Both contacts aphanitic, sharp with alteration to sericite. Discontinuous veinlets of calcite define foliation. | 60° 60° 50° | Calcite veinlets | Barren | Chlorite patches up to 3mm may be remnants of ferromagnesian phenocrysts. |
| 206.9 to 234.9 | Cherty Rhyolite Flow | Colour - white to green-white Grain Size - aphanitic Speckled leucoxene present in greenish-white rhyolite. Strongly siliceous rhyolite with 7% feldspar phenocrysts (<2mm). Foliation developed in greenish-white rhyolite (213.8 to 214.8m). | 50° | Silicified with very minor chlorite veinlets. Zone of qtz veins from 227.8 to 233.0 with associated sericite and chlorite. Basalt within 2m of diorite is baked. | Barren | Possible interbed of lapilli-tuff from 213.8 to 214.8m. BCD 3634 214.8 to 217.1m |
| 234.9 to 329.2 E.O.H. | GD Diorite | Colour - grey to green Grain Size - f.g. to m.g. Upper contact sharp but cut twice due to irregular contact. F.g. margin for first 2m. Generally m.g. with a colour index of 55. Leucoxene specks in some sections. | 90° and 40 to 45° | Minor calcite veinlets. Trace to 1% pyrite. | | BCD 3635 249.4 to 252.0 Quartz vein from 274.9 to 276.1m |

Conclusions

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

LITHOGEOCHEMISTRY

MAJOR OXIDES

TRACE ELEMENTS

| SAMPLE NUMBER | FROM (m) | 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 | ppm Pb | ppm Ag | ppb Au | Rock Type | Alt | Min | Grid | Zr |
|---|----------|--------|------------------|--------------------------------|-------|------|-------------------|------------------|-------|------|------------------|------|--------|--------|--------|--------|--------|-----------|-----|-----|------|------|
| 3626 | 18.3 | 21.0 | 64.57 | 18.96 | 1.70 | 0.91 | 2.71 | 4.81 | 3.68 | 0.04 | 0.32 | .081 | 7 | 56 | 50 | | | | | | | .021 |
| Rhyolite flow | | | | | | | | | | | | | | | | | | | | | | |
| 3627 | 46.5 | 49.5 | 67.02 | 16.54 | 2.89 | 1.81 | 3.11 | 2.65 | 3.10 | 0.07 | 0.30 | .068 | 8 | 54 | 50 | | | | | | | .018 |
| Fledspar rhyolite flow | | | | | | | | | | | | | | | | | | | | | | |
| 3628 | 89.5 | 92.4 | 71.61 | 13.84 | 2.44 | 0.98 | 3.73 | 1.97 | 2.71 | 0.06 | 0.25 | .047 | 11 | 81 | 50 | | | | | | | .016 |
| Rhyolite Flow | | | | | | | | | | | | | | | | | | | | | | |
| 3629 | 118.1 | 120.8 | 69.96 | 13.43 | 2.47 | 0.78 | 3.48 | 1.96 | 3.22 | 0.05 | 0.27 | .053 | 9 | 58 | 50 | | | | | | | .013 |
| Quartz eye rhyolite flow | | | | | | | | | | | | | | | | | | | | | | |
| 3630 | 151.9 | 152.7 | 63.29 | 16.53 | 2.51 | 2.24 | 3.08 | 2.36 | 4.61 | 0.06 | 0.42 | .059 | 20 | 110 | 50 | | | | | | | .016 |
| Intermediate banded tuff and lapilli-tuff | | | | | | | | | | | | | | | | | | | | | | |
| 3631 | 155.8 | 157.3 | 58.67 | 18.23 | 5.92 | 2.58 | 4.21 | 0.82 | 6.90 | 0.26 | 0.43 | .035 | 11 | 112 | 50 | | | | | | | .005 |
| Intermediate dyke? | | | | | | | | | | | | | | | | | | | | | | |
| 3633 | 179.6 | 182.3 | 73.57 | 13.98 | 0.95 | 0.31 | 7.99 | 0.03 | 1.41 | 0.05 | 0.33 | .007 | 415 | 33 | 50 | | | | | | | .015 |
| Plagioclase white rhyolite | | | | | | | | | | | | | | | | | | | | | | |
| 3634 | 214.8 | 217.1 | 76.77 | 12.76 | 1.93 | 0.23 | 3.99 | 1.52 | 0.72 | 0.02 | 0.30 | .064 | 19 | 14 | 50 | | | | | | | .012 |
| Cherty rhyolite | | | | | | | | | | | | | | | | | | | | | | |
| 3635 | 249.4 | 252.0 | 64.21 | 12.89 | 3.93 | 0.76 | 4.39 | 1.06 | 9.37 | 0.19 | 0.77 | .058 | 200 | 69 | 50 | | | | | | | .044 |
| Diorite | | | | | | | | | | | | | | | | | | | | | | |
| 3632 | MTS 9 | | 48.74 | 15.55 | 10.55 | 5.77 | 2.00 | 0.19 | 12.54 | 0.30 | 1.83 | .015 | 184 | 70 | 80 | | | | | | | .009 |
| Diorite standard | | | | | | | | | | | | | | | | | | | | | | |

Hole No. MTS 11

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Page No. 8

LITHOGEOCHEMISTRY

MAJOR OXIDES

TRACE ELEMENTS

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Hole No. MTS 11

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Page No. 9

Summary Log MTS 11

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

☒ METRIC UNITS
☐ IMPERIAL UNITS

DRILL HOLE RECORD

[illegible]

MTS 12
HOLE NO _____
ZIPPY PRINT - BRIDGEPORT RICHMOND

LOGGED BY D. Lefebure

| <u>From To</u> | <u>Rock Type</u> | <u>Texture and Structure</u> | <u>Angle to Core Axis</u> | <u>Alteration</u> | <u>Sulphides</u> | <u>Remarks</u> |
|--------------------|--|---|-------------------------------|--|----------------------------|--|
| 0 to 3.1 | Casing | | | | | |
| 3.1 to 13.5 | Quartz Feldspar Rhyolite Flow | Colour - grey Grain Size - aphanitic Homogeneous rhyolite with phenocrysts of plagioclase (<3mm, 5%) and quartz (<2mm, 10%). Quartz eyes are oval. Wispy fine fracture lines in aphanitic matrix. No foliation Lower contact difficult to pick as phenocrysts become less prominent. | | Qtz and chlorite veins | Barren | Core badly broken throughout unit, n u m e r o u s w e a t h e r e d fractures, some ground core. |
| 13.5 to 14.7 | Felsic Tuff | Grain Size - f.g. Variation in grain size, no banding, feldspar prominent in lower section. | | | Barren | Ground core with p o o r c o r e recovery. |
| 14.7 to 45.4 | Spherulitic Andesite | Colour - greyish-purple Grain Size - aphanitic White patches up to 3cm are prominent and form 5 to 10% of unit. In some patches small euhedral phenocrysts can be seen. Weak to moderate flow-banding developed in core. Core breaks parallel to this direction. Spherulites disappear and core is more altered towards lower contact. | 25° | Iron-carbonate and hematite staining of spherulites from 17.2 to 19.9m Calcite veinlets become more abundant deeper in the hole in this unit. Matrix becomes softer and more dark green in colour due to development of chlorite and sericite. | Trace Pyrite Barren | BCD 3636 21.2 - 23.9m |

| <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> |
|--------------------|--|---|-------------------------------|--|---|---|
| 45.4 to 80.2 | Quartz Feldspar Rhyolite Porphyry Flow | Colour - grey Grain Size - aphanitic Strongly porphyritic with 20-25% plagioclase phenocrysts (<3mm, subhedral) and 5-10% qtz eyes (<4mm, oval, grey). Weak foliation defined in carbonated QFP Sharp basal contact | 20° 25° | Iron-carbonate alteration in zones of pervasive orange-brown. White quartz veins occur in sections of unit with no iron-carbonate alteration. Iron-carbonate alteration from 45.4 to 60.0m and 65.9 to 72.8m | Nil to 1% pyrite on fractures | Carbonate changes from fringe calcite to iron-carbonate as approach fault. Broken core at 53.0m. Broken core from 54.0 to 54.6m with mixed and ground core at 54.6. No specific fault zone, possibly just a shear. Some weathered fractures Broken core at 72.5m BCD 3637 60.3 to 62.7 BCD 3638 66.1 to 69.0 Fe-carbonate alteration. |
| 80.2 to 82.7 | Banded Intermediate To Felsic Tuff | Colour - green and white Grain Size - f.g. to aphanitic Pronounced colour banding, sometimes contorted. One 10cm of qtz porphyry felsic tuff. | 25-30° | Sericite developed in some bands. | 1-5% disseminated pyrite, generally associated with qtz veinlets. Trace chalcopyrite. | |
| 82.7 to 91.1 | Quartz Porphyry Tuff and Lapilli-Tuff | Colour - greenish-grey Quartz eyes (20%) up to 4mm in most beds. Light green elongate aphanitic mafic fragments (<4cm) throughout, cherty white fragments (oval) near top contact. Top contact gradational. Fragments form foliation. Basal contact sharp and irregular. Minor tuff bed from 83.5 to 84.0m | 30° 60° | Iron-carbonate alteration developed in part of unit. | 5% disseminated pyrite in qtz vein at 83.3m. Otherwise the unit is barren. | |

| <u>From To</u> | <u>Rock Type</u> | <u>Texture and Structure</u> | <u>Angle to Core Axis</u> | <u>Alteration</u> | <u>Sulphides</u> | <u>Remarks</u> |
|--------------------|--------------------------------|---|-------------------------------|---|---|---|
| 91.1 to 93.8 | Pyritic Argillite | Colour - black to grey Grain Size - aphanitic Grey beds are tuff and black beds are argillite. | 25° | Cut by calcite veinlets | 3-7% pyrite in argillite bands as tiny veinlets parallel to or cross- cutting banding. | Similar to argillite at Lenora-Tyee Mine BCD 3639-3641 91.1 - 91.7m 91.7 - 92.4m 92.4 - 93.7m |
| 93.8 to 94.4 | QFP Tuff | Colour - grey Grain Size - aphanitic Fewer quartz eyes than typical in overlying QFP's. Sharp contacts. | | Iron-carbonate alteration | Barren | |
| 94.4 to 96.2 | Mafic Tuff | Colour - grey Grain Size - aphanitic to f.g. Banding near upper contact and 95.8m. Basal contact sharp. | 30° 35° | | 1-10% py (average 3%) from 94.4 to 95.1m Minor pyrite in rest of units | BCD 3642 94.4 to 95.2m BCD 3643 95.2 to 96.2m Possibly anomalous barium content due to partial chemical component in tuff. |
| 96.2 to 172.8 | Andesite Flow | Colour - dark to light green Grain Size - f.g. Amygdaloidal in some sections. | | Altered to epidote, cut by numerous quartz veinlets with associated chlorite and pyrite. | 1-3% py | BCD 3865 - 67 111.5 - 114.2 128.8 - 131.0 145.1 - 148.0 |
| 172.8 to 181.7 | Banded Intermediate Tuff | Colour - brownish-white Grain Size - aphanitic Weakly banded | | Variably sericitic cut by veinlets of quartz- carbonate. | | BCD 3868 173.1 to 176.6 |
| 181.7 to 183.1 | Amygdaloid- al Andesite | Colour - grey Grain Size - f.g. | | Little altered. | 3% pyrite in stringers and amygdules. | |

| <u>From To</u> | <u>Rock Type</u> | <u>Texture and Structure</u> | <u>Angle to Core Axis</u> | <u>Alteration</u> | <u>Sulphides</u> | <u>Remarks</u> |
|--------------------|-------------------------------|------------------------------|-------------------------------|-------------------|------------------|----------------------------|
| 183.1 to 188.5 | Feldspar Phyric Diorite | Chilled margin. | | | | |
| 188.5 to 206.1 | Diorite | | | | | BCD 3869 201.8 - 204.5m |
| 206.1 | E.O.H. | | | | | |

Conclusions

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

LITHOGEOCHEMISTRY

| MAJOR OXIDES | | | | | | | | | | | | | TRACE ELEMENTS | | | | | | | | | |
|---------------------|---------------|-------------|------------------|--------------------------------|------|------|-------------------|------------------|-------|------|------------------|------|----------------|-----------|-----------|-----------|-----------|--------------|-----|-----|------|------|
| SAMPLE NUMBER | FROM (m) | 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 | ppm Pb | ppm Ag | ppb Au | Rock Type | Alt | Min | Grid | Zr |
| 3636 | 21.1 | 23.9 | 61.76 | 19.84 | 3.31 | 2.19 | 3.71 | 1.10 | 4.97 | 0.06 | 0.53 | .061 | 38 | 285 | 50 | | | | | | | .021 |
| Rhyolite | | | | | | | | | | | | | | | | | | | | | | |
| 3637 | 60.3 | 62.7 | 73.22 | 13.01 | 1.37 | 0.37 | 5.42 | 1.07 | 1.69 | 0.05 | 0.17 | .035 | 10 | 18 | 50 | | | | | | | .005 |
| QFP | | | | | | | | | | | | | | | | | | | | | | |
| 3638 | 66.1 | 69.0 | 71.40 | 14.73 | 2.47 | 0.44 | 3.91 | 2.58 | 2.21 | 0.07 | 0.20 | .099 | 16 | 68 | 50 | | | | | | | .006 |
| QFP | | | | | | | | | | | | | | | | | | | | | | |
| 3639 | 91.1 | 91.7 | 53.75 | 16.88 | 9.65 | 1.69 | 7.15 | 0.46 | 5.17 | 0.40 | 0.76 | .074 | 65 | 127 | 50 | | | | | | | .005 |
| Argillite & Tuff | | | | | | | | | | | | | | | | | | | | | | |
| 3640 | 91.7 | 92.4 | 53.21 | 19.72 | 7.16 | 3.07 | 7.12 | 0.56 | 6.72 | 0.41 | 0.92 | .090 | 51 | 405 | 70 | | | | | | | .005 |
| Tuff | | | | | | | | | | | | | | | | | | | | | | |
| 3641 | 92.4 | 93.7 | 60.56 | 14.41 | 5.27 | 2.16 | 5.93 | 0.04 | 8.04 | 0.22 | 0.60 | .011 | 205 | 130 | 100 | | | | | | | .005 |
| Argillite | | | | | | | | | | | | | | | | | | | | | | |
| 3642 | 94.4 | 95.2 | 45.36 | 18.69 | 9.60 | 2.49 | 4.36 | 1.58 | 12.93 | 0.44 | 1.18 | .149 | 400 | 115 | 120 | | | | | | | .005 |
| Felsic tuff - split | | | | | | | | | | | | | | | | | | | | | | |
| 3643 | 95.2 | 96.2 | 49.62 | 19.10 | 8.34 | 2.59 | 5.07 | 1.27 | 9.94 | 0.42 | 1.26 | .090 | 134 | 104 | 140 | | | | | | | .005 |
| Felsic tuff - split | | | | | | | | | | | | | | | | | | | | | | |
| 3865 | 111.5 | 114.2 | 49.89 | 18.59 | 5.50 | 3.26 | 0.57 | 5.82 | 12.26 | 0.29 | 0.91 | .141 | 42 | 78 | 80 | | | | | | | .005 |
| Andesite | | | | | | | | | | | | | | | | | | | | | | |
| 3866 | 128.8 | 131.0 | 52.78 | 15.03 | 4.38 | 3.68 | 0.85 | 4.44 | 12.94 | 0.20 | 0.68 | .155 | 1360 | 92 | 70 | | | | | | | .005 |
| Andesite | | | | | | | | | | | | | | | | | | | | | | |

Hole No. MTS 12

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LITHOGEOCHEMISTRY

| MAJOR OXIDES | | | | | | | | | | | | | TRACE ELEMENTS | | | | | | | | | |
|-------------------|---------------|-------------|------------------|--------------------------------|-------|------|-------------------|------------------|-------|------|------------------|------|----------------|-----------|-----------|-----------|-----------|--------------|-----|-----|------|------|
| SAMPLE NUMBER | FROM (m) | 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 | ppm Pb | ppm Ag | ppb Au | Rock Type | Alt | Min | Grid | Zr% |
| 3867 | 145.1 | 148.0 | 48.34 | 19.15 | 11.80 | 3.05 | 2.09 | 0.83 | 10.99 | 0.31 | 0.86 | .023 | 23 | 82 | 100 | | | | | | | .005 |
| Andesite | | | | | | | | | | | | | | | | | | | | | | |
| 3868 | 173.1 | 176.6 | 51.29 | 20.50 | 5.18 | 4.03 | 1.23 | 4.41 | 8.84 | 0.20 | 1.24 | .077 | 20 | 100 | 60 | | | | | | | .005 |
| Intermediate Tuff | | | | | | | | | | | | | | | | | | | | | | |
| 3869 | 201.8 | 204.5 | 52.23 | 11.53 | 6.46 | 2.64 | 2.51 | 0.98 | 18.36 | 0.41 | 3.15 | .030 | 575 | 122 | 90 | | | | | | | .029 |
| Diorite | | | | | | | | | | | | | | | | | | | | | | |
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| 3858 | | | 47.27 | 18.94 | 12.66 | 3.38 | 1.43 | 0.40 | 11.51 | 0.34 | 1.01 | .010 | 32 | 100 | 90 | | | | | | | .005 |
| Duplicate of 3867 | | | | | | | | | | | | | | | | | | | | | | |
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Hole No. MTS 12

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Page No. 7

Summary Log - MTS 12

| | |
|---------------|---|
| 0 - 3.1 | Casing |
| 3.1 - 14.7 | Quartz feldspar rhyolite flow, cut by qtz and chl veins. |
| 14.7 - 45.4 | Spherulitic andesite, trace pyrite. |
| 45.4 - 80.2 | Quartz feldspar rhyolite porphyry flow, zones of iron-carbonate alteration, trace pyrite. |
| 80.2 - 82.7 | Banded intermediate to felsic tuff, sericite in some bands, 1-5% diss. py. |
| 82.7 - 91.1 | QFP tuff and lapilli-tuff, some sections with iron-carbonate |
| 91.1 - 93.8 | Pyritic argillite, cut by calcite veinlets, 3-7% pyrite. |
| 93.8 - 96.2 | Mafic tuff, minor pyrite. |
| 96.2 - 172.8 | Andesite flow, amygdaloidal in some sections, altered to epidote, 1-3% pyrite. |
| 172.8 - 181.7 | Banded intermediate tuff, variably sericitic. |
| 181.7 - 183.1 | Amygdaloidal andesite, 3% pyrite in amygdules and stringers. |
| 183.1 - 206.1 | Diorite |
| 206.1 | E.O.H. |

DRILL HOLE RECORD

[illegible]

LOGGED BY A. J. Davidson

| <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 6.4 | Casing | | | | | |
| 6.4 to 28 | Intermediate Tuff/Flow? | Med. green, well foliated plagioclase porphyry cut by qtz + calcite veinlets | 30° | Weak bleaching around veinlets. | No | BCD 3653 23.5 - 26.2 |
| 28 to 71.9 | Quartz Porphyry | Moderately foliated, coarse grained, med. grey - green - pink stained in colour 30.1 - 30.6 - Mafic Dyke 38.2 - 38.6 - Fine grained ash tuff with disseminated magnetite aligned along foliations 38.6 - Coarse grained med grey- green Quartz Porphyry with rusty patches and hem staining. Qtz phenos up to 5-8mm. 53.3 - 54.1 Mafic breccia, fine grained, occ. qtz eyes interflow breccia. 54.1 Quartz porphyry, large fragmental with strong bleached patches coarse grained. 56.1 - 57.6 Fault gouge badly broken up. 57.6 - Extremely broken up, rusty, - Quartz porphyry, badly broken up, Fe stained. 66.7 - 66.9 Mafic Dyke 70.0 - 70.2 Mafic Dyke | 35° | Hematite stained + cut by qtz-hem veinlets variably blended. Fe staining weak-moderate sericite, intense bleaching in patches. Mod - Intense sericite + Fe staining. | No | BCD 3654 47.2 - 50.0 |

| <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> |
|--------------------|--------------------------|---|-------------------------------|---|---|---|
| 71.9 to 105.3 | White Qtz Porphyry | Coarse (3-7m) qtz porphyry, 10-15% qtz eyes, moderately foliated, white. 92.7 - 93.5 Badly broken rusty QP. 96.6 - 98.3 Badly broken rusty QP. 98.5 - 98.75 Cherty tuff or flow breccia. 98.75 - 99.7 Broken and rusty QP with clay gouge. Foliated. Strong gouge at 104.5 - 105.1 | 10° | Totally bleached, moderate sericite along partings. Becoming less bleached towards 105.3 | 2-5% pyrite throughout in thin (1mm) bands + disseminated. Locally pyrite up to 10% in zones of concentrated py bands from 78.8 - 79.8 81.3 - 81.7 83.2 - 84.5 89.6 - 90.3 Py bands up to 1cm throughout 98.5 - 98.75 Tr py in blebs Py locally to 10% assoc. with qtz up to 1-2cm. | BCD 3655 78.0 - 80.5m BCD 3656 83.2 - 86.2m |
| 105.3 to 129.1 | Quartz Porphyry | Lt. green - green, broken up - places but not gouge. Large qtz phenos to 7mm. Foliated. 111.6 - 111.7 Mafic Dyke | 20° | Bleached zones with up to 5% pyrite assoc. with fault gouge 122.2 - 125 + patchy bleaching 125 - 128. | | |
| 129.1 to 173.3 | White Quartz Porphyry | As above except extremely bleached with coarse qtz phenos to 7mm and 15% overall. Bleached + medium - coarse grained white quartz porphyry with 15% qtz eyes. Lots fracturing + gouge 152. 159.8-161.3 Fine grained mafic tuff/dyke 164.0-164.6 Mafic dyke | 15° 20° 10° 20° | Extremely bleached + sericitized. Strong bleaching + sericite + clay along fractures. | Py 3% overall + up to 15% in thin bands from 135.2 - 136.7 5% py in bands 141.5- 142 10% pyrite in thin bands 148.8 - 151.2 Tr - 2% | 3668 135.2-136.7 Bx 19-20 BCD 3658 130.8 - 133.2 BCD 3659 150 - 150.9 BCD 3668 135.2 - 136.7 |
| 173.3 to 179.3 | Quartz Porphyry | Less bleached, lt-green to mod. green qtz porphyry as above. | 20° | | No | |

| <u>From To</u> | <u>Rock Type</u> | <u>Texture and Structure</u> | <u>Angle to Core Axis</u> | <u>Alteration</u> | <u>Sulphides</u> | <u>Remarks</u> |
|--------------------|------------------------------------|---|---|--|--|--|
| 179.3 to 197.0 | Quartz fsp Porphyry | Lt-med green, schistose Qtz fsp porphyry, Qtz eyes up to 5mm. 187 - 187.8 Broken up, gouged. | 30° schisto- sity almost parallel C Axis | Minor fsps - ser some chlorite on shears. 180.6 - 190 White bleach 196.8 Becoming bleached towards contact with dyke | Nil | Bx 27 179.3-184.7 Bx 28 184.7-190.9 Bx 29 190.9-196.4 Bx 30 196.4-202.1 Bx 31 202.1-207.4 Bx 32 207.4-213.0 Bx 33 213.0-218.0 Bx 34 218.0-223.2 Bx 35 223.2-228.6 Bx 36 228.6-233.7 |
| 197.0 to 197.4 | Diorite Dyke | Fsp sweats + veinlets. | | | | |
| 197.4 to 202.6 | White Qtz Fsp Porphyry | Colour - white As above except totally bleached, sheared + Qtz eyes still to 5m @ 15% | | Minor chlorite as wisps + veinlets. | Tr cp | |
| 202.6 to 207.3 | Diorite | As above, dk green with interlocking patchwork of white feldspar. Chill Contact at 207.3 | 50° | | | |
| 207.3 to 217.6 | Qtz Fsp Porphyry | Varies from white (bleached) to lt-med green, fresh. Quartz eyes becoming fewer and finer to 217.6 | fol. 0-50° | bleaching | Tr-1% py as discrete blebs (clasts?) | |
| 217.6 to 218.9 | Diorite Dyke | As above | | | | Bx 37 - 238.8 Bx 38 238.8-244.8 Bx 39 244.8-249.9 Bx 40 249.9-256 |
| 218.9 to 222.6 | Qtz fsp Porphyry Felsic Tuff | Coarse Qtz eyes at contact then becoming finer past 220. White - lt. grey with py patches + bands. | 10° | Bleached + mod. sericite. | Thin 1-2mm bands of py parallel to CA <5% py. | |

| <u>From To</u> | <u>Rock Type</u> | <u>Texture and Structure</u> | <u>Angle to Core Axis</u> | <u>Alteration</u> | <u>Sulphides</u> | <u>Remarks</u> |
|--------------------|-------------------------------------|---|-------------------------------|--|--|--|
| 222.6 to 238.8 | Andesite Tuff/Fe fm | Well foliated + banded with some dk argillaceous looking bands, contorted bedding purplish caste to rock. Some QF sweats. Definite argillaceous bands + also fine up to 5mm wide hematite/jasper bands. Becoming quite black with red hem. frags. | 30° | Mod-strong chlorite Broken up + gouged throughout. | Tr py. | Could this be target. |
| 238.8 to 256.7 | QE Felsic Tuff - QE Porphyry | Lt green - white bleached. Fine grained diorite dykes at 239.3, 242.3-242.7, 243.5 244.8 Bleached with large quartz eyes - 256.7 | 30° 0-30° | Hem staining + some hem in mtz hem staining quartz. Sericitized + sheared like footwall to MTS 8 | Massive py as blebs (2 or 3) Tr py. | Bx 41 256-260.7 Bx 42 260.7-266.2 Bx 43 266.2-271.2 Bx 44 271.2-276.7 |
| 256.7 to 257.6 | QE Felsic Tuff Fault Gouge | Brecciated + gouge with qtz veining or along qtz veining. Note core angle. | 0-10° | Strong sericite + clay. | No. sulphides | |
| 257.6 to 273.6 | QE fel. tuff- QE Porphyry | As above though not as bleached overall. QE to 15-20% and up to 5mm. Variably lt green - white to 266. 266 - 273 White-beige with mod. carb. alt. | | Weak sericite but mod. chl. especially in patches and along qtz veins. Mod. carb alt. in veinlets + patches. | No sulphides | |
| 273.6 to 282.3 | Fault Fault Gouge Mafic Vols. | Sharp Fault at 10° CA marked by hematite clay. Strong fault gouge in chloritized mafic volcanics. | 10° | | No | Dave Look at this fault. |
| 282.3 to 283.4 | Mafic Vols. | Still partly fault gouge with chert fragments. | | | | Bx 47 - 293.1 Bx 48 293.1-298.1 Bx 49 298.1-303.1 Bx 50 303.1-308.1 |

| <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> |
|-----------------------------|----------------------------------|---|---------------------------------|--|---|---------------------------|
| 283.4 to 294.2 | QFP | Strongly sheared prob. from fault. Minor mafic dykes at 286.7 and 287.2 and 291.7 | 20° | mtx - ser. + clay | Tr py. Thin 1mm py bands in qtz eye tuff at 5° CA at 292 | |
| 294.2 to 295.2 | Green QP | LT-T with qtz eyes chloritized or mafic in comp. brecciated. | 15° | Clay in matx in bx zone. | No | |
| 295.2 to 303.1 | QE Porphyry - LT | Variably lt green - white coarse qtz eyes. Brecciated looking because of CA Mafic dyke 301.7-302, with carb. | Banding at 298° 15° 5° | Some chl + ser. Zone of gouge + fracturing with clay. | Thin py bands at 0-10° CA (<5% py) | |
| 303.1 to 304.2 | Mafic Carb. Dyke | Mafic carb. dyke | | | Tr - 3% py. | |
| 304.2 to 306.9 | Mafic Ash- Lap. tuff/ dyke | Fine ash - lap size frags, dk green colour with white frags, well foliated, well sorted. | 10-30° | No weak chl. | No sulphides | |
| 306.9 to 331.8 | QE Porphyry - Fel Tuff | White - lt green coarse qtz porphyry as above. Mafic dykes 310.3 - 310.6 310.75 - 311.2 Becoming more bleached to 331. | 10° | Variably bleached Intense sericite bleaching + gouge 319-323 | Tr - 5% py in thin bands parallel to foliation. Up to 15% py locally in bands to 1cm at 321. | BCD 3669 313.5 - 316.5 |
| 331.8 to 337.5 E.O.H. | Qtz Porphyry | Lt green as above. | | Wk sericite. | | |

Conclusions

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

LITHOGEOCHEMISTRY

MAJOR OXIDES

TRACE ELEMENTS

| SAMPLE NUMBER | FROM (m) | TO (m) | SiO ₂ | Al ₂ O ₃ | CaO | MgO | Na ₂ O | K ₂ O | FeO ₂ | MnO | TiO ₂ | Ba | ppm Cu | ppm Zn | ppm Pb | ppm Ag | ppb Au | | Alt | Min | Grid | Zr % |
|------------------|---------------|-------------|------------------|--------------------------------|------|------|-------------------|------------------|------------------|------|------------------|------|-----------|-----------|-----------|-----------|-----------|--|-----|-----|------|------|
| 3653 | 23.5 | 26.2 | 62.64 | 16.55 | 4.32 | 2.09 | 3.64 | 1.58 | 6.78 | 0.19 | 0.64 | .049 | 24 | 92 | 120 | | | | | | | .008 |
| 3654 | 47.2 | 50.0 | 75.81 | 12.56 | 1.89 | 0.53 | 4.05 | 1.71 | 1.64 | 0.08 | 0.18 | .081 | 11 | 27 | 50 | | | | | | | .005 |
| 3655 | 78 | 80.5 | 73.33 | 11.92 | 3.87 | 0.40 | 0.28 | 3.60 | 6.07 | 0.08 | 0.15 | .070 | 18 | 118 | 110 | | | | | | | .005 |
| 3656 | 83.2 | 86.2 | 73.72 | 11.99 | 2.08 | 0.38 | 0.22 | 3.86 | 4.50 | 0.05 | 0.18 | .079 | 22 | 69 | 50 | | | | | | | .005 |
| 3875 | 178 | | 67.61 | 14.47 | 2.04 | 1.80 | 2.12 | 2.47 | 2.30 | 0.07 | 0.19 | .125 | 8 | 36 | 70 | | | | | | | .005 |
| 3877 | 207 | 214 | 75.44 | 11.95 | 2.10 | 0.96 | 3.84 | 1.21 | 1.66 | 0.04 | 0.17 | .063 | 12 | 28 | 50 | | | | | | | .005 |
| 3878 | 230 | 232 | 62.87 | 17.08 | 3.63 | 1.44 | 4.05 | 2.38 | 6.39 | 0.15 | 0.46 | .045 | 8 | 80 | 50 | | | | | | | .012 |
| 3660 | 2355 | 26.2 | 62.88 | 15.97 | 4.42 | 1.79 | 3.62 | 1.53 | 6.56 | 0.19 | 0.65 | .045 | 26 | 82 | 50 | | | | | | | .009 |
| 3879 | 285 | 286 | 67.41 | 15.24 | 61.8 | 1.32 | 1.75 | 2.82 | 3.45 | 0.13 | 0.36 | .072 | 27 | 72 | 50 | | | | | | | .007 |
| 3668 | | | 75.01 | 12.55 | 1.52 | 0.32 | 0.31 | 3.71 | 3.01 | 0.03 | 0.17 | .076 | | | | | | | | | | .005 |

Hole No. MTS 14

Entered by _____

Logged by A. J. Davidson

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ASSAY SHEET

[illegible]

MTS 14
HOLE NO _____
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Summary Log MTS 14

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

