822234 093L/01 Benamy

# CORPORATION FALCONBRIDGE COPPER

X METRIC UNITS
IMPERIAL UNITS

## DRILL HOLE RECORD

| HOLE NUMBER | GRID | FIELD COORDS | LAT. | DEP. | ELEV. | COLLAR BRNG. | COLLAR DIP | HOLE SIZE | FINAL DEPTH |
|---|---|---|---|---|---|---|---|---|---|
| BEN 3 | CFC 1985 | | 32+00S | 0+54E | 3m below BEN 2 | | -90° | NQ | 252.1m |
| PROJECT: Benamy | CLAIM #: Lucky Ben 2 | SURVEY COORDS. | | | | DATE STARTED: Mar 26/85<br>DATE COMPLETED: | CONTRACTOR: J. T. Thomas<br>CORE STORAGE: Equity Silver | | CASING: yes 9.1m |

PURPOSE: To test for mineralization and alteration deeper within the Goosly Sequence

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 |
| 9.1 | unreadable | | | | | | | | |
| 75.3 | 89° | | | | | | | | |
| 136.2 | 89.5° | | | | | | | | |
| 185.0 | spiral line | | | | | | | | |
| 215.5 | 89° | | | | | | | | |

Note: Hole is lined with 1½" PVC plastic pipe. Core recovery for the hole averaged 99%.

HOLE NO BEN 3

LOGGED BY D. V. Lefebure

| From<br>To | Rock Type | Texture and Structure | Angle to Core Axis | Alteration | Sulphides | Remarks |
|---|---|---|---|---|---|---|
| 0 to 9.1 | Overburden | | | | | |
| 9.1 to 12.7 | Amygdaloidal Plagioclase Andesite Porphyry Flow | Colour - gray<br>Grain Size - aphan.<br>- 7-25% white irregular amygdules<br>- 15% euhedral plagioclase phenocrysts (<4mm)<br>- basal contact sharp, slightly irregular | 45° | - some feldspars have orangish tinge<br>- minor veinlets of quartz near base of flow | | |
| 12.7 to 16.6 | Volcanic Conglomerate and Breccia | Colour - purple<br>- consists of polymictic fragments which are predominantly andesitic in composition<br>- poorly sorted with subrounded to subangular fragments<br>- fragments up to at least 10cm<br>- crude bedding | | | | |
| 16.6 to 17.7 | Amygdaloidal Plagioclase Andesite Porphyry Flow | - same as 9.1 to 12.7 | | | | |
| 17.7 to 18.5 | Volcanic Breccia | - same as 12.7 to 16.6 | | | | |

| From<br>To | Rock Type | Texture and Structure | Angle to Core Axis | Alteration | Sulphides | Remarks |
|---|---|---|---|---|---|---|
| 18.5 to 22.8 | Amygdaloidal Andesite Flow | Colour - purple<br>- upper contact sharp, irregular<br>- 3-20% whiteh to gray amygdules (<1cm)<br>- scarce euhedral plagioclase phenocrysts (<5mm)<br>- amygdule content decreases dramatically from 21.1 to 22.8 and feldspar content increases but no contact visible | | - at top contact some fractures filled with hematite | barren | non-magnetic |
| 22.8 to 29.3 | Volcanic Tuff Breccia | Colour - purple<br>- 70% fragments of andesite in hematite-rich volcanic sandstone matrix<br>- fragments range in size from 10cm to <1mm<br>- some fragments have sharp boundaries, others have very irregular contacts<br>- well-developed bedding in sandstone at 23.65 to 23.8m; bedding appears distorted by overlying fragments<br>- from 25.4 to 29.3 much less matrix | high angle 50-90° | - irregular fragment contacts may reflect some alteration<br>- matrix very hematite rich | barren | |
| 29.3 to 43.2 | Feldspar Andesite Porphyry Flow | Colour - purple<br>Grain Size - aphan.<br>- top contact sharp<br>- 20% euhedral plagioclase phenocrysts (<5mm)<br>- scarce amygdules<br>- flow breccia from 41.0 to 43.2 | | - squarish plagioclase altered a greenish-white<br>- basal breccia weakly altered to gray colour from 42.8 to 43.2 | | BCD 3222<br>32.5 - 35.4 |

| From To | Rock Type | Texture and Structure | Angle to Core Axis | Alteration | Sulphides | Remarks |
|---|---|---|---|---|---|---|
| 43.2 to 44.7 | Amygdaloidal Plagioclase Andesite Porphyry Flow | Colour - purple<br>Grain Size - aphan.<br>- top contact sharp<br>- 10% gray-white irregular amygdules less than 7mm<br>- 15% plagioclase laths up to 3 1/2mm | high angle | | | non-magnetic |
| 44.7 to 46.0 | Volcanic Tuff Breccia | - same as 22.8 to 29.3 | | | | |
| 46.0 to 75.9 | Feldspar Andesite Flow | Colour - gray<br>Grain Size - aphan.<br>- red and gray flow breccia from 46.0 to 54.0<br>- 10% euhedral plagioclase phenocrysts less than 4mm | | - larger plagioclase phenocrysts are usually squarish and altered to greenish-white secondary minerals<br>- sections of core at 59 and 67m have dark green phenocrysts of similar shape and abundance that appear to be clinopyroxene which grade into greenish-white phenocrysts<br>- minor veinlets of carbonate | | - non-magnetic<br>- form of greenish phenocrysts suggests they are altered plagioclase<br>BCD 3223<br>72.6 to 75.6 |
| 75.9 to 78.3 | Gray Pyroxene Plagiclase Andesite Porphyry Dike | Colour - gray<br>Grain Size - aphan.<br>- top contact sharp<br>- 25% gray plagioclase phenocrysts (<6mm)<br>- 7% dark green subhedral to anhedral phenocrysts | | - at base of overlying flow greenish-white alteration on two fractures, feldspars unaltered<br>- green phenocrysts are pyroxene or altered plagioclase<br>- minor carbonate veinlets | | strongly magnetic |

| From To | Rock Type | Texture and Structure | Angle to Core Axis | Alteration | Sulphides | Remarks |
|---|---|---|---|---|---|---|
| 78.3 to 88.5 | Feldspar Andesite Flow | Colour - red and gray<br>Grain Size - aphan.<br>- same as 46.0 to 75.9<br>- flow breccia from 81.2 to 88.5<br>- possible internal flow contact at approximately 82.9m<br>- 7% white amygdules (<1cm) in 82.9 to 88.5m section | | | barren | |
| 88.5 to 92.4 | Plagioclase Andesite Dike | Colour - gray<br>Grain Size - f.g.<br>- top contact sharp with aphan 2.5cm chill zone<br>- 10% plagioclase glomerophenocrysts <5mm | 60° | - minor carbonate veinlets | barren | |
| 92.4 to 94.5 | Andesite Volcanic Breccia | Colour - red and purple<br>- gray hematitic matrix to irregularly shaped andesitic fragments<br>- most fragments plagioclase phyric<br>- fragments at least as large as 10cm<br>- basal contact gradational over 10cm | | - bleaching of fragments<br>- in matrix minor patchy silica and greenish-white secondary mineral | barren | |
| 94.5 to 102.9 | Plagioclase Andesite Porphyry Flow | Colour - gray<br>Grain Size - aphan.<br>- 15% plagioclase laths up to 6mm long<br>- well-developed fluidal texture<br>- from 99.9 to 102.9 basal flow breccia with hematite replacement of matrix | | | barren | |

| From To | Rock Type | Texture and Structure | Angle to Core Axis | Alteration | Sulphides | Remarks |
|---|---|---|---|---|---|---|
| 102.9 to 106.7 | Plagioclase Andesite Porphyry Flow | Colour - red and gray<br>- top contact gradational, possibly marked by patch of silica<br>- similar to 94.5 to 102.9 | | | barren | |
| 106.7 to 107.1 | Andesite Tuff Breccia | Colour - red<br>- top contact gradational over 20cm<br>- some smaller tuffaceous fragments which are red and brown<br>- basal contact sharp, irregular | 55° | | barren | - transported rather than flow breccia |
| 107.1 to 121.4 | Plagioclase Andesite Porphyry Flow | Colour - gray<br>- flow breccia at both contacts<br>- same as 102.9 to 106.2<br>- basal contact marked by increased amygdule content and volcanic conglomerate over 5cm | | | barren | |
| 121.4 to 126.3 | Plagioclase Andesite Porphyry Flow | Colour - gray<br>- same as above including flow bx | | | barren | |
| 126.3 to 129.9 | Andesitic Volcanic Sandstone and Breccia | Colour - gray<br>- flow breccia grades into volcanic breccia<br>- includes section of well bedded graywacke with repetitive graded bedding indicating tops towards casing<br>- andesitic fragments | 60° | | | |
| 129.9 to 149.1 | Amygdaloidal Plagioclase Andesite Porphyry Flow | Colour - gray and purple<br>Grain Size - aphan.<br>- 25% plagioclase laths up to 6mm<br>- 5-10% oval white amygdules up to 1cm<br>- flow breccia throughout flow | | | barren | BCD 3224<br>137.3 - 140.1 |

| From<br>To | Rock Type | Texture and Structure | Angle to Core Axis | Alteration | Sulphides | Remarks |
|---|---|---|---|---|---|---|
| 149.1 to 159.5 | Trachy-andesite Dike | Colour - gray<br>Grain Size - aphan.<br>- top contact sharp, marked by 4mm of clays<br>- 20% plagioclase laths up to 15mm<br>- sometimes fluidal texture developed | 40° | | barren | |
| 159.5 to 163.6 | Amygda-loidal Plagioclase Andesite Flow | Colour - gray<br>- top contact sharp<br>- basal contact irregular with reddish border and intruding fingers of flow into underlying flow<br>- 5% large white amygdules less than 3cm<br>- 10% plagioclase phenocrysts less than 2mm | 45° | | barren | |
| 163.6 to 201.4 | Amygda-loidal Feldspar Andesite Porphyry Flow | Colour - gray<br>- flow breccia at 165.8 to 168.6, 171.4 to 175, 184.5 to 192.6, 200 to 201.4<br>- 5-10% gray or white amygdules up to 3cm<br>- 10-15% plagioclase laths up to 6mm<br>- flecks of hematite <1mm (2%)<br>- basal contact sharp with 2cm of red volcanic sandstone | | - red to purple where brecciated | barren | BCD 3225<br>190.7 - 193.7 |
| 201.4 to 207.0 | Amygda-loidal Andesite | Colour - gray<br>Grain Size - f.g.<br>- 7% oval amygdules up to 3cm long<br>- some amygdules have open space in core<br>- basal contact sharp with 2mm bleached border | 35° | - fractures filled with silica and carbonate | barren | |
| | | UNCONFORMITY? | | | | |

| From To | Rock Type | Texture and Structure | Angle to Core Axis | Alteration | Sulphides | Remarks |
|---|---|---|---|---|---|---|
| 207.0 to 212.4 | Volcanic Tuff Breccia | Colour - multicoloured<br>- angular to rounded fragments from less than a mm to more than 25cm in size<br>- fragments are andesite feldspar porphyry; red, gray, and green tuffaceous; flow banded felsic<br>- basal contact sharp | 60° | - hematite alteration along fractures and around margin of one fragment | barren | |
| 212.4 to 223.6 | Plagioclase Andesite Porphyry Flow | Colour - gray<br>Grain Size - aphan.<br>- scattered white amygdules (2-4%)<br>- 15% plagioclase laths up to 8mm<br>- 3% anhedral flakes of specularite up to 1mm<br>- scattered small clasts of red andesite | | | barren | -non-magnetic<br><br>BCD 3226<br>218.5 to 221.5 |
| 223.6 to 233.1 | Volcanic Tuff Breccia | Colour - multicoloured<br>- crude sorting<br>- similar to 207.0 to 212.4m<br>- includes two large fragments(?) 0.4 to 0.7m in maximum dimension<br>- weak bedding at 227.5m<br>- andesitic towards base | 65° | | barren | |
| 233.1 to 236.1 | Andesite Dike | Colour - gray<br>- top contact sharp with bleached margin<br>- 3% plagioclase laths less than 5mm<br>- basal contact sharp | 30° | - bleached white adjacent to fractures | barren | |
| 236.1 to 244.4 | Andesitic Tuff Breccia | Colour - purple<br>- amygdaloidal and massive andesite fragments with hematitic matrix<br>- most fragments ten centimeters or larger | | | barren | |

| From<br>To | Rock Type | Texture and Structure | Angle to Core Axis | Alteration | Sulphides | Remarks |
|---|---|---|---|---|---|---|
| 244.4 to 250.4 | Altered Plagioclase Andesite Flow | Colour - gray<br>Grain Size - f.g.<br>- top contact sharp<br>- scattered white oval amygdules<br>- altered placioclase phenocrysts form 7% of flow - <2mm | 40° | - marked by 1mm seam of hematite<br>- fractured with hematite on borders of tight fractures and kaolinite(?) (white) on in situ brecciated portions of fractures<br>- towards base of flow get black-green phenocrysts which are altered to hematite and are possibly replaced feldspars | barren | BCD 3227<br>248.75 - 250.25<br>BCD 3228<br>244.9 - 247.8 |
| 250.4 to 252.1 | Andesite Dike | Colour - gray<br>Grain Size - f.g.<br>- similar to 233.1 to 236.1<br>- top contact sharp with 2mm chill | 20° | unaltered | barren | |
| 252.1 | E.O.H. | | | | | |

Conclusions

1) No mineralization or significant alteration was intersected in the hole because it is not deep enough within the Goosly Sequence.

2) It would appear a simple extension of the Equity Silver Mine trend onto the Benamy Property is not valid. This could reflect folding, faulting or change in lithologies due to proximity to a volcanic centre.

3) The Tertiary volcanic rocks thicken rapidly from west to east because they onlap onto pre-existing topographic highs.

## ASSAY SHEET

| Sample Number | From (m) | To (m) | Estimate Cu | Estimate Zn | Length (m) | % Cu | % Zn | % Pb | gm/T Ag | gm/T Au | % $SiO_2$ | % $TiO_2$ | % $Na_2O$ | % MgO | % Fe | PPM Cu | PPM Zn | PPM Pb | PPM Ag | PPB Au | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3227 | 248.8 | 250.3 | | | 1.5 | | | | | | | | | | | | | | | | | | |
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HOLE NO BEN 3

PAGE 10

# LITHOGEOCHEMISTRY

| SAMPLE NUMBER | FROM ( m) | TO ( m ) | MAJOR OXIDES $SiO_2$ | $Al_2O_3$ | CaO | MgO | $Na_2O$ | $K_2O$ | FeO | MnO | $TiO_2$ | $P_2O_5$ | TRACE ELEMENTS ppm Cu | ppm Zn | ppm Pb | ppm Ag | ppb Au (Ba) | Rock Type | Alt | Min | ppm (B) | Sr ppm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BCD 3222 | 32.5 | 35.4 | 50.1 | | | | 3.60 | 3.05 | | 3 | 1.11 | | 23 | 85 | 24 | 5.6 | 1240 | | | | <20 | 1120 |
| 3223 | 72.6 | 75.6 | 53.7 | | | | 4.04 | 3.00 | | | 1.17 | | 30 | 93 | 14 | 0.6 | 1020 | | | | <20 | 1050 |
| 3224 | 137.3 | 140.1 | 51.6 | | | | 3.66 | 2.56 | | | 1.13 | | 36 | 80 | 12 | <0.2 | 1020 | | | | 20 | 1150 |
| 3225 | 190.7 | 193.7 | 53.1 | | | | 3.85 | 3.53 | | | 1.15 | | 27 | 80 | 12 | <0.2 | 1310 | | | | 20 | 930 |
| 3226 | 218.5 | 221.5 | 56.2 | | | | 4.40 | 3.79 | | | 1.10 | | 24 | 93 | 18 | 0.4 | 1690 | | | | 30 | 940 |
| 3228 | 244.9 | 247.8 | 48.1 | | | | 3.24 | 1.61 | | | 1.16 | | 30 | 97 | 10 | 0.4 | 825 | | | | 50 | 1110 |
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Hole No. BEN 3 Entered by _____ Logged by D. V. Lefebure Page No. 11

## SUMMARY LOG - BEN 3

| | |
|---|---|
| 0 - 9.1 | overburden |
| 9.1 - 12.7 | amygdaloidal plagioclase andesite porphyry flow |
| 12.7 - 16.6 | volcanic conglomerate and breccia |
| 16.6 - 22.8 | amygdaloidal andesite flow |
| 22.8 - 29.3 | volcanic tuff breccia |
| 29.3 - 44.7 | feldspar andesite porphyry flow |
| 44.7 - 46.0 | volcanic tuff breccia |
| 46.0 - 75.9 | feldspar andesite flow |
| 75.9 - 78.3 | gray pyroxene plagioclase andesite porphyr dike |
| 78.3 - 88.5 | feldspar andesite flow |
| 88.5 - 92.4 | plagioclase andesite dike |
| 92.4 - 94.5 | andesite volcanic breccia |
| 94.5 - 106.7 | plagioclase andesite porphyry flows |
| 106.7 - 107.1 | andesitic tuff breccia |
| 107.1 - 126.3 | plagioclase andesite porphyry flows |
| 126.3 - 129.9 | andesitic volcanic sandstone and breccia |
| 129.9 - 149.1 | amygdaloidal plagioclase andesite porphyry flow |
| 149.1 - 159.5 | trachyandesite dike |
| 159.5 - 201.4 | amygdaloidal plagioclase andesite flows |
| 201.4 - 207.0 | amygdaloidal andesite |
| | unconformity? |
| 207.0 - 212.4 | volcanic tuff breccia |
| 212.4 - 223.6 | plagioclase andesite porphyry flow |
| 223.6 - 233.1 | volcanic tuff breccia |
| 233.1 - 236.1 | andesite dike |
| 236.1 - 244.4 | andesitic tuff breccia |
| 244.4 - 250.4 | altered plagioclase andesite flow |
| 250.4 - 252.1 | andesite dike |
| 252.1 | E.O.H. |

## Formations - BEN 3

| | |
|---|---|
| 0 - 9.1 | overburden |
| 9.1 - 207.0 | Tertiary volcanic flows - Buck Creek, Goosly Lake |
| | unconformity? |
| 207.0 - 252.1? | Middle Jurassic to Upper Cretaceous, Kasalka Group, Goosly Sequence, volcanic flow division |