Cominco

# DRILL HOLE RECORD

**Location** Que River Area **Property** Mackintosh EL 2/70 **District** Tasmania, Australia. **Bearing (M)** 96° 49' **Hole N°** QR 60 D.

**Commenced** 9.8.1975 **Completed** 15.8.1975 **% Recovery** 99 **Grid bearing (M)** 8.75 **Date** 18.8.1975

**Objective** To test for base of Q lens 7400N, RL 525. (Development). **Core size** NQ to 116.8 m BQ to 273 m E.O.H. **Logged** C.H. YOUNG

**Co-ordinates** 7399.38N 5064.1E **Dip** 64° **Alt./R.L.** 700.26

| SURVEY DATA | | | |
|---|---|---|---|
| DEPTH | DIP | BEARING(M) | INSTRUMENT TYPE |
| 0 | 65 | 97 | |
| 42 | 64.25 | 104 | Eastman |
| 63 | 64.75 | 104.5 | Single Shot |
| 87 | 65 | 104 | Camera |
| 122 | 64.5 | 105 | " " |
| 161 | 64 | 102 | " " |
| 200 | 62.25 | 100.5 | " " |
| 230 | 61 | 103 | " " |
| 267 | 59 | 102 | " " |

| GRAPH DERIVED DATA | | | CALCULATED CO-ORDINATES | | | REMARKS |
|---|---|---|---|---|---|---|
| DEPTH | DIP | BEARING(M) | NORTHING | EASTING | ALTITUDE | |
| 0 | 65 | 97 | 7399.4 | 5064.1 | 700.3 | |
| 25 | 64.5 | 97 | 7399.7 | 5074.8 | 677.7 | |
| 50 | 64.5 | 97 | 7400.1 | 5085.5 | 655.1 | |
| 75 | 65 | 97 | 7400.4 | 5096.2 | 632.5 | |
| 100 | 65 | 97 | 7400.7 | 5106.7 | 609.9 | |
| 125 | 64 | 96.5 | 7401.1 | 5117.5 | 587.3 | |
| 150 | 64 | 96 | 7401.6 | 5128.4 | 564.8 | |
| 175 | 63 | 95.5 | 7402.1 | 5139.6 | 542.5 | 178.2 - 184.3 m Disseminated and semi-massive pyrite with minor base metals. |
| 200 | 62.5 | 95 | 7402.8 | 5151.0 | 520.3 | |
| 225 | 61.5 | 95 | 7403.6 | 5162.7 | 498.2 | 194.85 - 196.0 m Massive pyrite with some associated chalcopyrite. |
| 250 | 60 | 95 | 7404.4 | 5174.9 | 476.4 | |
| 273 | 59 | 95 | 7404.9 | 5183.5 | 461.7 | 196.0 - 197.45 m Semi-massive pyrite with base metal mineralization as an irregular vein to 2 cm parallel to core axis. |
| | | | | | | 208.1 - 212.3 m Semi-massive to massive pyrite, minor base metal mineralization. |
| | | | | | | 212.3 - 216.0 m Chlorite alteration zone, minor base metal mineralization. |

Cominco

# DIAMOND DRILL LOG

Hole N° QR 60 Page N° 1.

**Feature :** Bedding, Foliation, Fragment - size & shape; Shearing, Fault, Vein (c carbonate, q quartz)

**Mineralization :** Trace 1-5%, Common 5-15%, Abundant 15-60%, Massive >60%

| CORE REC'D | DEPTH m | GEOLOGY | VISUAL LOG | TRACE | COMMON | ABUNDANT | MASSIVE | DEPTH m | MINERALIZATION |
|---|---|---|---|---|---|---|---|---|---|
| | 5 | No Core. | | | | | | | |
| | 10 | | | | | | | | |
| | 15 | | | | | | | | |
| | 20 | | | | | | | | |
| | 25 | | | | | | | | |

Commoo

# DIAMOND DRILL LOG

Hole No QR 60 Page No 2.

**Feature :** Bedding, Foliation, Fragment (size & shape), Shearing, Fault (F), Vein (c carbonate, q quartz)

**Mineralization :** Trace 1-5%; Common 5-15%; Abundant 15-60%; Massive >60%

| CORE REC'D | DEPTH m | GEOLOGY | VISUAL LOG | TRACE | COMMON | ABUNDANT | MASSIVE | DEPTH m | MINERALIZATION |
|---|---|---|---|---|---|---|---|---|---|
| | | No Core. | | | | | | | |
| | 28 | | | | | | | | |
| 1.0 | | DP Green chloritic locally carbonated feldspar crystal lithic tuff agglomerate. | | | | | | | Pyrite 1% as irregular secondary veinlets to 5 mm. |
| 3.0 | 30 | Lithic fragments are irregular to sub-rounded from 5 mm to 6 cm, they are characteristically porphyritic green (chloritic) lava, white carbonate aggregates often euhedral in outline up to 3 mm replace feldspar phenocrysts. The matrix is pale green, carbonate | | | | | | | |
| | 32.6 | | | | | | | | |
| 1.0 | | Fault zone Pug, 60% sheared and broken core. | | | | | | | |
| | 33.9 | | | | | | | | |
| | | rich and has a composition and texture similar to the fragments, feldspar | | | | | | | |
| | 35 | crystals are represented by aggregates of carbonate. | | | | | | | |
| 2.4 | | At 30 m aggregates of magnetite to 1 cm have been noted. | | | | | | | |
| | | There is a crude fragment alignment at 30° to core axis. | | | | | | | |
| | 39 | Gradational Contact. | | | | | | | |
| 3.0 | | DTL Buff carbonated feldspar quartz crystal tuff-lava. | | | | | | | |
| | 40 | The rock is essentially a porphyritic lava-partly autobrecciated with minor secondary pyrite along "fragment" boundaries. | | | | | | | |
| 3.0 | | Feldspar crystals, often euhedral in outline are represented by aggregates of pale green sericite to 3 mm. | | | | | | | |
| | | Quartz occurs as aggregates pale grey in colour to 4 mm (possibly filling vesicles?) and is randomly distributed. | | | | | | | |
| | 45 | | BROKEN CORE | | | | | | |
| 3.0 | | The matrix or groundmass is fine grained and siliceous although carbonated. | | | | | | | |
| | | 44.2 - 46.5 m The rock is green in colour (chloritic?) and vesicular. | | | | | | | |
| 3.0 | | | | | | | | | |
| | 50 | | | | | | | | |

Dominion

# DIAMOND DRILL LOG

Hole N° QR 60 Page N° 3.

**Feature :** Bedding, Foliation, Fragment - size & shape 0%, Shearing, Fault F, Vein c carbonate q quartz

**Mineralization :** Trace 1-5%, Common 5-15%, Abundant 15-60%, Massive >60%

| CORE REC'D | DEPTH m | GEOLOGY | VISUAL LOG | DEPTH m | MINERALIZATION |
|---|---|---|---|---|---|
| 3.0 | | DTL as above.<br>Fractures 40° - 50° to core axis. | BROKEN CORE | | Pyrite 1% as above. |
| 3.0 | 55 | | | | |
| 3.0 | | | | | |
| 3.0 | 60 | | | | |
| | 63.0 | | | | |
| 3.0 | 63.4 | Fault zone Pug and broken core. | | | |
| | 65 | | | | |
| | 65.8 | Gradational Contact. | | 65.8 | Pyrite <1% as disseminations and occasional aggregates. |
| 3.0 | | DP<br>Green locally carbonated feldspar crystal lithic tuff agglomerate.<br>Fragments are irregular to sub-rounded from 0.5 mm to 6 cm, they are commonly porphyritic green (chloritic) lava? White carbonate aggregates to 3 mm are thought to represent feldspar phenocrysts. Fragments of buff feldspar crystal (sericite) lava are less common.<br>The matrix is fine grained fragmental partly siliceous and carbonated. | | | |
| 3.0 | 70 | | | | |
| 3.0 | | | | | |
| | 75 | | | | |

Dominion

# DIAMOND DRILL LOG

Hole N° QR 60 Page N° 4.

**Feature :** Bedding, Foliation, Fragment - size & shape 0%, Shearing, Fault F, Vein c carbonate q quartz

**Mineralization :** Trace 1-5% Common 5-15% Abundant 15-60% Massive >60%

| CORE REC'D | DEPTH m | GEOLOGY | VISUAL LOG | DEPTH m | MINERALIZATION |
|---|---|---|---|---|---|
| | 75.45 | Fault Contact. | | 75.45 | Pyrite rare. |
| 3.0 | | DTL Light brown-buff carbonated feldspar crystal tuff-lava. (Pale grey-green near the contact, foliated at 30° to core axis). | | | |
| | 77.6 | | | | |
| | 77.8 | Fault Pug and broken core. | BROKEN CORE | | |
| 3.0 | | The rock is grey in colour and sheared near the fault. | | | |
| | | Feldspar crystals are represented by irregular white carbonate aggregates to 2 mm - randomly distributed in a brown siliceous and carbonated matrix. | | | |
| | 80 | | | | |
| 2.0 | | Down to 84 m the rock has numerous, chlorite healed, irregular fractures. | | | |
| 1.0 | | Fractures commonly 30° - 50° to core axis. | | | |
| | | | BROKEN CORE | | |
| 3.0 | 85 | | | | |
| 3.0 | | | | | |
| 3.0 | 90 | | | | |
| 1.5 | | | | | |
| 1.5 | | | | | |
| | 95 | | | | |
| 3.0 | | | | | |
| | 97.8 | | | | |
| 3.0 | | MTL Brown fine grained feldspar crystal tuff-lava. The rock is weakly magnetic and brown in colour due to fine grained magnetite. | | | |
| | 100 | | | | |

Cominco

# DIAMOND DRILL LOG

Hole Nº QR 60 Page Nº 5.

**Feature :** Bedding, Foliation, Fragment - size & shape; Shearing, Fault, Vein (c carbonate, q quartz)

**Mineralization :** Trace 1-5%; Common 5-15%; Abundant 15-60%; Massive >60%

| CORE REC'D | DEPTH m | GEOLOGY | VISUAL LOG | TRACE | COMMON | ABUNDANT | MASSIVE | DEPTH m | MINERALIZATION |
|---|---|---|---|---|---|---|---|---|---|
| 3.0 | 104.0 | Feldspar crystals are represented by small < 1 mm carbonate-sericite aggregates randomly distributed in a fine grained siliceous matrix. | | | | | | | Pyrite rare asabove. |
| 3.0 | 105 | DTL<br>Green locally carbonated and chloritised feldspar crystal tuff-lava.<br>The rock is buff in colour commonly altered green due to pervasive chlorite alteration.<br>Small carbonate aggregates <2 mm - elongated in the direction of foliation at 10° - 30° to core axis may represent feldspar or incipient alteration in minute tension fractures. | BROKEN CORE | | | | | | |
| 3.0 | 110 | 106.4 10 cm carbonate cemented breccia.<br>Fractures at 30° - 50° to core axis are commonly carbonate lined. | | | | | | | |
| 3.0 | 115 | | | | | | | | |
| 0.8 | | | | | | | | | |
| 2.2 | 120 | | | | | | | | |
| 3.0 | | | | | | | | | |
| 3.0 | 125 | | | | | | | | |

Dominco

# DIAMOND DRILL LOG

Hole N° QR 60 Page N° 6.

**Feature :** Bedding, Foliation, Fragment - size & shape; Shearing, Fault, Vein; c carbonate, q quartz

**Mineralization :** Trace 1-5%, Common 5-15%, Abundant 15-60%, Massive >60%

| CORE REC'D | DEPTH m | GEOLOGY | VISUAL LOG | DEPTH m | MINERALIZATION |
|---|---|---|---|---|---|
| 3.0 | | 125-129 m Irregular carbonate aggregates to 5 mm are interpreted as vesicles. | | | Pyrite rare as above. |
| 3.0 | 130 | Below 127.6 m the rock is generally buff in colour and carbonate rich. Fractures 40° - 45° to core axis. | C | | |
| 3.0 | | | C | | |
| 3.0 | 135 | | C | | |
| 3.0 | | | | | |
| | 139.8 | | | 139.8 | Pyrite 3%-5% as disseminations and aggregates of fine subhedral to euhedral crystals. |
| 3.0 | 140 | $PyP_1$ Blue-grey sericitised and locally siliceous and carbonated lithic tuff/ coarse lithic tuff. Lithic fragments are irregular in outline commonly <1 cm up to 3 cm. They are commonly grey in colour, heavily sericitised trachyte?. The matrix is siliceous grey in colour due to the presence of ultra fine pyrite. Below 143 m the rock is highly sericitised and grey-green in colour. | F | 142.7 | Pyrite 10%-15% as |
| 3.0 | | | F | 143.0 | disseminations and aggregates. Pyrite 3%-5% as above, aggregates of sphalerite and galena up to 3 mm have been noted. |
| 3.0 | 145 | | F | | |
| 3.0 | | | F | | |
| | 150 | | F | | |

Dominco

# DIAMOND DRILL LOG

Hole No QR 60 Page No 7.

**Feature :** Bedding, Foliation, Fragment - size & shape; Shearing, Fault, Vein; c carbonate, q quartz

**Mineralization :** Trace 1-5%, Common 5-15%, Abundant 15-60%, Massive >60%

| CORE REC'D | DEPTH m | GEOLOGY | VISUAL LOG | TRACE | COMMON | ABUNDANT | MASSIVE | DEPTH m | MINERALIZATION |
|---|---|---|---|---|---|---|---|---|---|
| 3.0 | | 151.5 - 153.8 m The rock is disrupted and heavily carbonated. Fragments of grey feldspar crystal tuff-lava? have been noted. | | | | | | | Pyrite 3%-5% as above. |
| 3.0 | 155 | | | | | | | 155.7 | 10 cm pyrite 10% trace sphalerite and galena. |
| 0.8 | | Below 159 m the rock is locally brecciated with carbonate "cement" as an irregular nettwork. Sericite alteration increases down hole. | | | | | | | |
| 2.2 | 160 | | | | | | | 161.1 | 5 cm pyrite 10% trace sphalerite and galena. |
| 3.0 | | | | | | | | | |
| 3.0 | 165 | | | | | | | | |
| 3.0 | 168.6 | Grey sericitised lithic tuff. Similar to above. Fragment outlines are obscure, the rock is heavily sericitised and weakly carbonated. | | | | | | 170.65 | Trace Sph, Gn as irregular secondary veinlets. |
| 3.0 | 170 | | | | | | | 171.6 | Pyrite 3%-5% as above, Sph 1%-2%, Gn 1% as secondary aggregates to 1 cm with a carbonate matrix. |
| 3.0 | 173.2 | Fault zone Pug, sheared and broken core 45° to core axis. | | | | | | | |
| | 174.9 175 | | | | | | | | |

Cominco

# DIAMOND DRILL LOG

Hole N° QR 60 Page N° 8.

**Feature :** Bedding, Foliation, Fragment - size & shape; Shearing, Fault, Vein; c carbonate, q quartz

**Mineralization :** Trace 1-5%, Common 5-15%, Abundant 15-60%, Massive >60%

| CORE REC'D | DEPTH m | GEOLOGY | VISUAL LOG | DEPTH m | MINERALIZATION |
|---|---|---|---|---|---|
| | | $Pyp_1$ as above. | | | Pyrite 3%-5% as above, trace Sph, Gn. |
| | 176.3 | | | | |
| | | Fault zone Pug, sheared and broken core | | | |
| 3.0 | 177.3 | 60° to core axis. | | 177.3 | Trace secondary Gn in quartz vein. |
| | | Fractures 20° - 30° to core axis. | | 178.2 | Py 5%-10% some framboidal? textures, Sph 2%-3%, Gn 2%, generally as secondary aggregates and stringers. |
| 3.0 | 180 | | | 180.4 | Py 15% locally 60% as disseminations irregular veins and aggregates, Sph 1%-2%, Gn < 1%, trace Cpy as disseminations and aggregates. |
| 3.0 | | | | 184.3 | Py 5% locally 15%, trace Sph, Gn, Cpy. |
| | 185 | | | | |
| 3.0 | 187 | | | | |
| | | Sericitised and chloritised coarse lithic tuff. | | | |
| | | Fragments are irregular to 3 cm chloritised and sericitised tuff-lava? | | | |
| 3.0 | | The matrix is fine grained and siliceous with sericite. | | | |
| | 190 | | | | |
| | | There is a crude fragment alignment parallel? to the foliation at 20°-30° to core axis. | | | |
| 3.0 | | | | | |
| | 194.85 | | | 194.85 | Py 60% as fine subhedral to euhedral crystals, Cpy 3%-5% trace Sph, Gn. |
| 3.0 | 195 | Grey sericitised and carbonated lithic tuff, similar to above 187 m. | | 196 | Py 15%, Sph 8%, Gn 10%, Cpy 2% as an irregular vein or stringer 2 cm wide parallel to C.A. |
| | | Fragment outlines are obscure. | | 197.45 | Py 10% as disseminations aggregates and irregular veins. |
| 3.0 | | | | | |
| | 200 | | | | |

Dominion

# DIAMOND DRILL LOG

Hole N° QR 60 Page N° 9.

**Feature :** Bedding, Foliation, Fragment - size & shape (0%), Shearing, Fault (F), Vein (c carbonate, q quartz)

**Mineralization :** Trace 1-5%, Common 5-15%, Abundant 15-60%, Massive >60%

| CORE REC'D | DEPTH m | GEOLOGY | VISUAL LOG | DEPTH m | MINERALIZATION |
|---|---|---|---|---|---|
| | | $PyP_1$ as above. | | | Pyrite 10% as above. |
| | 201.2 | | | 202.5 | Pyrite 25% as disseminations irregular veins and aggregates. |
| 3.0 | | Fault Zone Pug, 80% sheared and broken core. | | | |
| | 202.5 | 202.5 - 206.35 m Heavily sericitised and pyritised lithic tuff. | | | |
| | 204 | | | | |
| 3.0 | 204.65 | Fault zone Pug, 80% sheared and broken core 30° to core axis. | | | |
| | 205 | Ptygmatic folding of pyrite veins has been noted. | | | |
| | 206.15 | | | | |
| | 206.35 | ~~Fault Pug and breccia.~~ | | 206.35 | Pyrite 5% as disseminations and aggregates. |
| 3.0 | | Grey sericitised lithic tuff as above 202.5 m. | | | |
| | | | | 208.1 | Pyrite 40% locally 60% as disseminations, irregular veins and aggregates, some colloform textures have been noted. Sph 3%-5%, Gn 1%-2%, trace Cpy as aggregates and irregular veinlets. |
| 3.0 | 210 | | | | |
| | 212.2 | | | 212.3 | Pyrite 10%-20% as disseminations, aggregates and irregular veins, Sph 2%-3%, Gn <1%, trace Cpy. |
| 3.0 | | Chlorite alteration zone. Dark green chlorite-sericite and pyrite alteration of lithic tuff. | | | |
| | 215 | | | | |
| | 216 | | | 216 | Py 40% as disseminations aggregates and veins. |
| 3.0 | | Grey sericitised coarse lithic tuff as above. | | 216.8 | Py 10% as disseminations and aggregates. |
| | | Fragments are completely sericitised irregular in outline to 3 cm. The matrix is siliceous and sericitised. | | 217.5 | Py 50% as disseminations and aggregates in a carbonate rich matrix. |
| 3.0 | 220 | | | 218.1 | Py 5%, 40%-60% where indicated as disseminations irregular veins and aggregates. |
| | | | | 220.3 | 5 cm trace Sph, Gn. |
| 3.0 | | | | | |
| | 225 | | | | |

Cominco

# DIAMOND DRILL LOG

Hole No QR 60 Page No 10.

**Feature :** Bedding, Foliation, Fragment (size & shape), Shearing, Fault, Vein (c carbonate, q quartz)

**Mineralization :** Trace 1-5%, Common 5-15%, Abundant 15-60%, Massive >60%

| CORE REC'D | DEPTH m | GEOLOGY | VISUAL LOG | DEPTH m | MINERALIZATION |
|---|---|---|---|---|---|
| 3.0 | | Grey sericitised coarse lithic tuff as above. | BROKEN CORE | | Py 5%, 40%-60% where indicated as disseminations, irregular veins and aggregates as above. |
| 3.0 | 230 | | | | |
| 3.0 | | | | | |
| 3.0 | 235 | | | | |
| 3.0 | | | | | |
| | 238.6 | | | 238.6 | Pyrite 5%-10% as above, locally 40%-60% as indicated. |
| 3.0 | 240 | Grey sericitised locally carbonated lithic tuff agglomerate. The rock is locally disrupted and fragment outlines are often obscure. Fragments are irregular to subrounded from 0.5 mm to 5 cm, generally grey feldspar crystal tuff-lava? The matrix is grey and siliceous, often pyritized. Minor carbonate veinlets have been noted. Weak foliation 30° to core axis. | | | |
| 2.0 | | | | | |
| 3.0 | 245 | | | | |
| 2.0 | | | | | |
| 2.0 | 250 | | | | |

Cominco

# DIAMOND DRILL LOG

Hole No QR 60 Page No 11.

**Feature :** Bedding, Foliation, Fragment - size & shape 0%, Shearing, Fault F, Vein c carbonate q quartz

**Mineralization :** Trace 1-5% Common 5-15% Abundant 15-60% Massive >60%

| CORE REC'D | DEPTH m | GEOLOGY | VISUAL LOG | TRACE | COMMON | ABUNDANT | MASSIVE | DEPTH m | MINERALIZATION |
|---|---|---|---|---|---|---|---|---|---|
| | | Grey sericitised locally carbonated lithic tuff agglomerate as above. | | | | | | | Pyrite 5%-10%, locally 40%-60% as indicated. Framboidal and colloform textures have been noted. |
| 3.0 | | Irregular fractures 40° - 50° to core axis. | | | | | | | |
| | 255 | | | | | | | | |
| 3.0 | | | | | | | | | |
| 3.0 | | | | | | | | | |
| | 260 | | | | | | | | |
| 3.0 | | | | | | | | 262.0 | 5 cm Py 30%, Sph 3%, Gn 1%. |
| 3.0 | 265 | | | | | | | | |
| 3.0 | | | | | | | | | |
| | 270 | | | | | | | | |
| 3.0 | | | | | | | | | |
| 1.0 | | | | | | | | | |
| | 273 | E.O.H. | | | | | | | |