# PASMINCO ROSEBERY

A.C.N. 004 074 962

**Hole No:** 011B **Location:** Brown's Tunnel 5290N Line

**Objective:** Verify BT2 Lens 1 intersection, and check size of pod.

**Result:** Pod sheared out. 24.4-26.3m 5.5%Pb, 9.6%Zn, 1.97%Cu, 41g/tAg, 1.4g/tAu, 5.5%Fe, $194TMU. 24.4-25m Fault pug. -26.3m silicified sediment.

Planned Direction: 90°
Planned Dip: -57°
Planned Depth: 45.0 m
Planned Northing: 5288 m N
Planned Easting: 4889 m E
Planned Collar R.L.: 477 m RL

Drilling Commenced: 22/09/98
Drilling Completed: 26/09/98
Actual Depth: 45.0 m
Surveyed Northing: 5288.27 m N
Surveyed Easting: 4889.47 m E
Surveyed Collar R.L.: 476.42 m RL

Date Logged: 30-Sep-1998
Logged By: Michael Whitbread
Hole Size: HQ
Hole Category: other
Grouted:

Date Log Verified: 26-Nov-1998
Verified By: Michael Whitbread

Summary Log:

0-2.7m NC; -5.5m Ho; -6.0m NC; -21.3m Ho;
-25m F;
-26.3m Hosm;-32.8m Hods;-33m S;
-43.7m Hots;
-45m F. EOH

| Depth | Direct | Dip |
|---|---|---|
| 0.0 | 92.0 | -57.0 |
| 32.0 | 93.0 | -56.8 |
| 45.0 | 93.0 | -57.2 |

| Depth | Direct | Dip |
|---|---|---|

| Depth | Direct | Dip |
|---|---|---|

| Depth | Direct | Dip |
|---|---|---|

| From (m) | To (m) | Strat Code | Desc Code | Alt Code | Alt Int. | Description | @ Depth | Feature | LCA Deg° |
|---|---|---|---|---|---|---|---|---|---|
| **0.0** | **2.7** | **NC** | | | | **NO CORE** | | | |
| 0.0 | 2.7 | | NC | | a | No core. | | | |
| **2.7** | **5.5** | **HO** | | | | **HOST SEQUENCE** | | | |
| 2.7 | 5.5 | | SA SS | cy | a | Highly weathered and oxidised core. Unit is white, to yellow white and brown in colour. Saprolite of medium to coarse grained sandstone, now fairly altered to clay minerals. Very minor quartz veining. Iron staining common. Unit of poor competence, present as broken fragments generally under 10 and 5cm in length. | 2.8 | JT | 32° |
| **5.5** | **6.0** | **NC** | | | | **NO CORE** | | | |
| 5.5 | 6.0 | | NC | | a | No core. Perhaps like next unit, except completely washed away. | | | |
| **6.0** | **6.5** | **HO** | | | | **HOST SEQUENCE** | | | |
| 6.0 | 6.5 | | RK | | a | Loose sand, consisting mainly of rounded quartz and ?feldspathic fragments. At least 20cm core loss. | | | |
| **6.5** | **11.5** | **HO** | | | | **HOST SEQUENCE** | | | |

| RQD To (m) | RQD % |
|---|---|
| 2.7 | NC |
| 15.4 | 79 |
| 20.8 | 27 |
| 21.3 | 100 |
| 22.2 | 0 |
| 28.7 | 86 |
| 29.3 | 33 |
| 32.7 | 76 |
| 33.0 | 0 |
| 34.6 | 75 |
| 35.0 | 0 |
| 37.2 | 72 |
| 38.7 | 20 |
| 39.0 | 100 |
| 40.9 | 5 |
| 42.1 | 83 |
| 45.0 | 24 |

| Sample No | From (m) | To (m) | Length (m) | Pb % | Zn % | Cu % | Ag g/t | Au g/t | Fe % | TMU $ |
|---|---|---|---|---|---|---|---|---|---|---|
| 97122 | 19.1 | 19.3 | 0.2 | 0.1 | 0.1 | 0.01 | 1 | 0.1 | 0.8 | 3 |
| 97123 | 19.3 | 20.3 | 1.0 | 0.1 | 0.1 | 0.01 | 1 | 0.1 | 0.7 | 3 |
| 97124 | 20.3 | 21.3 | 1.0 | 0.1 | 0.1 | 0.01 | 3 | 0.1 | 0.8 | 3 |
| 97125 | 21.3 | 21.8 | 0.5 | 0.2 | 0.1 | 0.38 | 117 | 0.4 | 9.4 | 31 |
| 97126 | 21.8 | 22.6 | 0.8 | 7.3 | 5.1 | 0.48 | 52 | 0.4 | 5.5 | 122 |
| 97127 | 22.6 | 23.6 | 1.0 | 0.2 | 0.2 | 0.45 | 3 | 0.1 | 2.0 | 10 |
| 97128 | 23.6 | 24.4 | 0.8 | 0.5 | 0.5 | 0.98 | 5 | 0.2 | 2.4 | 23 |
| 97129 | 24.4 | 25.0 | 0.6 | 5.5 | 9.3 | 3.52 | 87 | 2.6 | 10.3 | 223 |
| 97130 | 25.0 | 26.3 | 1.3 | 5.5 | 9.7 | 1.25 | 29 | 0.8 | 3.3 | 180 |
| 97131 | 26.3 | 27.3 | 1.0 | 0.8 | 1.9 | 0.28 | 14 | 0.1 | 1.6 | 35 |
| 97132 | 27.3 | 28.3 | 1.0 | 0.3 | 1.3 | 0.12 | 7 | 0.1 | 2.1 | 22 |
| 97133 | 28.3 | 29.5 | 1.2 | 1.0 | 1.0 | 0.11 | 8 | 0.1 | 1.8 | 22 |
| 97135 | 29.5 | 30.5 | 1.0 | 0.2 | 1.0 | 0.05 | 5 | 0.1 | 1.6 | 16 |
| 97136 | 30.5 | 31.5 | 1.0 | 0.2 | 0.8 | 0.04 | 1 | 0.1 | 1.5 | 13 |
| 97137 | 31.5 | 32.8 | 1.3 | 0.3 | 1.7 | 0.09 | 3 | 0.1 | 1.8 | 26 |
| 97138 | 32.8 | 33.0 | 0.2 | 0.2 | 0.4 | 0.02 | 3 | 0.1 | 3.9 | 8 |
| 97139 | 33.0 | 34.0 | 1.0 | 0.1 | 0.1 | 0.01 | 8 | 0.1 | 1.7 | 4 |
| 97140 | 34.0 | 35.0 | 1.0 | 0.1 | 0.1 | 0.01 | 1 | 0.1 | 1.3 | 3 |
| 97141 | 35.0 | 36.2 | 1.2 | 0.1 | 0.2 | 0.02 | 2 | 0.1 | 1.4 | 5 |
| 97142 | 36.2 | 37.2 | 1.0 | 0.1 | 0.4 | 0.01 | 2 | 0.1 | 1.1 | 7 |
| 97143 | 37.2 | 38.2 | 1.0 | 0.1 | 1.6 | 0.04 | 13 | 0.1 | 1.6 | 25 |
| 97144 | 38.2 | 39.2 | 1.0 | 0.1 | 0.5 | 0.03 | 3 | 0.1 | 1.3 | 9 |

**Hole No: 011B**

| From (m) | To (m) | Strat Code | Desc Code | Alt Code | Alt Int. | Description | @ Depth | Feature | LCA Deg° | RQD To (m) | RQD % |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 6.5 | 11.5 | | SA SS | cy | a | Highly oxidised, white to yellow brown, medium grained sandstone/rock. Unit fairly altered to clay minerals. Very dodgy evidence (questionable quartz phenocrysts) for some pieces to be weathered rhyolite. Unit of poor competence (most pieces at or under 10cm). Some very broken zones e.g. 10-10.7m, the first 40cm of the unit (clay rich - possibly after siltstone etc). Iron staining present occasionally on breaks in core. Patchy silicification begins in last 20cm of unit, increases towards end of unit. Boundary with next unit gradational over 15cm. Some weak banding (sometimes grainsize, other times alteration; after ??) present on some pieces. | 6.9<br>8.2<br>9.6 | JT<br>JT<br>BD | 40°<br>18°<br>27° | | |
| **11.5** | **21.3** | **HO** | | | | **HOST SEQUENCE** | | | | | |
| 11.5 | 21.3 | | RK | cy si | a | Oxidised, variably pink, white and yellow brown coloured, silicified rock. Subtle grain size variations may indicate a siltstone-sandstone protolith, but these variations may also be caused by the silicification process. Unit carries numerous liesegang patterns, and contains numerous thin fractures. These fractures (generally less 0.5mm wide) are usually coloured by goethite, and can be cavitous. The orientations are varied, but may sit close to CA, 45 degrees to it, or near parallel to the joint/shears mentioned below. In rare cases some iron oxides in these fractures appear to be after sulphides; some also contain fine grained black sulphide masses. Quartz veins are sporadic in occurrence and thin where present. Occasionally have small joints/fractures/?shears (0.5-2cm in width) present which are clay rich, and have similar orientations e.g. 16m, 16.5m, 19.9m, 20.6m. Small brecciated zone (silica fragments) 19.1-19.3m - this zone is quite broken. Unit generally of moderate competency with lesser zones of poor competence. Some core loss: 20cm 19.2-20m. | 12.7<br>16.5<br>19.9<br>20.6 | JT<br>JT<br>JT<br>JT | °<br>23°<br>28°<br>25° | | |
| **21.3** | **21.8** | **F** | | | | **FAULT** | | | | | |
| 21.3 | 21.8 | | CY SA | | a | Clay rich, but partially oxidised mess. Contact with previous unit is reasonbly sharp in terms of texture, but silicification does persists for a few cm's - roughly 40-45 degrees in orientation to CA (approximate though). Unit contains common fine to medium grained pyrite crystals in non oxidised patches - these zones may be comprised of fine grained sulphide. Unit looks to be a clay fault pug. 20cm core loss to 21.5m. | | | | | |
| **21.8** | **25.0** | **F** | | | | **FAULT** | | | | | |
| 21.8 | 22.6 | | CY MD | | a | Soft, dark grey, sulphide bearing plasticine like mud and sand size particles as a fault pug (or mudstone?). Pyrite crystals abundant (<1mm size), some evidence of galena crystals as well. Scattered chips of oxidised rock throughout. Occasional sulphide chips (some pyrite masses, others indeterminate) impregnated into the pug. Competency bad due to softness, but core recovered fairly well. | | | | | |

| Sample No | From (m) | To (m) | Length (m) | Pb % | Zn % | Cu % | Ag g/t | Au g/t | Fe % | TMU $ |
|---|---|---|---|---|---|---|---|---|---|---|
| 97145 | 39.2 | 40.9 | 1.7 | 0.2 | 0.4 | 0.11 | 6 | 0.2 | 2.9 | 10 |
| 97146 | 40.9 | 41.9 | 1.0 | 0.1 | 0.3 | 0.05 | 10 | 0.1 | 2.5 | 8 |
| 97147 | 41.9 | 42.9 | 1.0 | 0.3 | 0.7 | 0.07 | 3 | 0.2 | 2.9 | 14 |
| 97148 | 42.9 | 43.7 | 0.8 | 0.3 | 0.8 | 0.08 | 18 | 0.4 | 4.2 | 19 |
| 97149 | 43.7 | 45.0 | 1.3 | 0.1 | 0.1 | 0.01 | 1 | 0.1 | 0.7 | 3 |
| | | Total Length: | 25.9 | | | | | | | |

**Standards**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Reference Values for:** | LBM-07 | | | | | 21/08/98 | |
| | 2.0 | 6.3 | 0.17 | 51 | 0.4 | 9.4 | |
| **Variances Allowed:** | 20% | 20% | 30% | 20% | 20% | 20% | |
| 97134 Inserted @ 29.5m | 2.1 | 6.0 | 0.18 | 42 | 0.4 | 8.9 | Y |

**Weighted Averages**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 21.3 | 32.8 | 11.5 | 1.7 | 2.7 | 0.55 | 20 | 0.4 | 3.0 | 57 |
| 21.8 | 26.3 | 4.5 | 3.8 | 5.1 | 1.19 | 28 | 0.7 | 4.2 | 110 |
| 23.6 | 26.3 | 2.7 | 4.0 | 6.9 | 1.67 | 30 | 1.0 | 4.6 | 143 |
| 24.4 | 26.3 | 1.9 | 5.5 | 9.6 | 1.97 | 41 | 1.4 | 5.5 | 194 |

**TMU Parameters**

| | | | |
|---|---|---|---|
| **Date of Parameters:** | 21/07/98 | **Aust-US Exch. Rate:** | 0.7000 |
| **Pb Metal Price (US$/t):** | $525 | **Pb Recovery (%):** | 68.40% |
| **Zn Metal Price (US$/t):** | $1,200 | **Zn Recovery (%):** | 75.50% |
| **Cu Metal Price (US$/t):** | $1,750 | **Cu Recovery (%):** | 45.40% |
| **Ag Metal Price (US$/oz):** | $6 | **Ag Recovery (%):** | 70.00% |
| **Au Metal Price (US$/oz):** | $300 | **Au Recovery (%):** | 63.70% |

| From (m) | To (m) | Strat Code | Desc Code | Alt Code | Alt Int. | Description | @ Depth | Feature | LCA Deg° | RQD To (m) | RQD % | Sample No | From (m) | To (m) | Length (m) | Pb % | Zn % | Cu % | Ag g/t | Au g/t | Fe % | TMU $ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22.6 | 24.4 | | CY<br>MD | | a | Light grey version of previous - lacking the preponderance of sulphide crystals. Some disseminated fine grained pyrite crystals about, occasional grey sulphide chips (1-2mm across - some pyrite masses, others indeterminate) impregnated into the pug. Greater proportion of sand size particles than compared with previous unit. Competency as in last unit. | | | | | | | | | | | | | | | | |
| 24.4 | 25.0 | | RK | | a | Loose sand and mud fill, consisting of fragments of quartz, carbonate?, sulphides (pyrite, dark indeterminate and galena), and undifferentiated oxidised lithics. Maximum particle size 2mm. Overall only 50% of core recovered. | | | | | | | | | | | | | | | | |
| **25.0** | **28.3** | **HOSM** | | | | **HOST - SEMI-MASSIVE SULPHIDES** | | | | | | | | | | | | | | | | |
| 25.0 | 26.3 | | RK<br>SS | si<br>si | a | Medium grey, silicified rock/sandstone/siltstone containing semi-massive sulphide as blebs, veins and stringers. May go 8-10% Zn. Sulphides are dominated by medium to light brown sphalerite, dark fine grained presumably sphalerite, chalcopyrite and pyrite (sometimes mixed) and galena. Sulphides are usually fine grained, but may be coarse in larger veins The light brown sphalerite occurs as patches and round spots from 1 to 8mm in size, larger patches occur within sulphide veins. One vein at 25.4m shows internal banding parallel to vein walls. Core of poor to moderate competence. 25.1-25.3m is broken. Sulphide veins and veinlets in 3 main orientations 25 degrees, 40 and near orthogonal. | 25.4<br>25.4 | VN<br>VN | 40°<br>25° | | | | | | | | | | | | |
| **26.3** | **29.5** | **HODS** | | | | **HOST - DISSEMINATED SULPHIDES** | | | | | | | | | | | | | | | | |
| 26.3 | 29.5 | | RK | si | a | HODS version of previous - light grey coloured. Unit may go 4-5%Zn. Lacks the larger veins of previous unit. Sulphides as thin wisps and hairlike veinlets, and as tiny blebs - some of the latter appear to follow a fabric. Veinlet and blebs and wisp orientations vary, but around 27.7m some wisps follow a fabric which appears to be a tension fabric conjugate to the banding in the host rock (this banding is defined by finer grained cherty bands (- looks suspiciously like the cherty breccia banding further downhole) . Larger veinlets may carry small quantities of coarser grained sphalerite etc with chlorite, but also have bleached margins (silica and/or sericite alteration). Core of moderate to good competency. | 27.0<br>27.8 | BD<br>BD | 30°<br>45° | | | | | | | | | | | | |
| **29.5** | **32.8** | **HODS** | | | | **HOST - DISSEMINATED SULPHIDES** | | | | | | | | | | | | | | | | |
| 29.5 | 32.8 | | RK | qs<br>si | a | Light yellow-green-white version of previous unit. Perhaps some sericite alteration as is softer than previous unit. Some evidence of fabric development indicated by white flecks and elsewhere by 'banding' - difficult to say if cleavage or banding. Sulphides still as thin veinlets, spots, wisps and blebs. Some larger veinlets (5-10mm wide) sporadically present, containing brown coarser sphalerite. Core of moderate to good competency. Core orient at 31.5m. Orientated measurement, 31.6m, sulphide vein - dip 72 degrees north, strike 260-80. | 29.6<br>31.6 | BD<br>CV | 26°<br>45° | | | | | | | | | | | | |

Hole No: 011B

| From (m) | To (m) | Strat Code | Desc Code | Alt Code | Alt Int | Description | @ Depth | Feature | LCA Deg° | RQD To (m) | RQD % | Sample No | From (m) | To (m) | Length (m) | Pb % | Zn % | Cu % | Ag g/t | Au g/t | Fe % | TMU $ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **32.8** | **33.0** | **S** | | | | **SHEAR** | | | | | | | | | | | | | | | | |
| 32.8 | 33.0 | | RK | si | a | Small zone of broken core, most likely after a small puggy shear. Host is cherty sediment. | 32.9 | SR | 20° | | | | | | | | | | | | | |
| **33.0** | **36.2** | **HOTS** | | | | **HOST - TRACE SULPHIDES** | | | | | | | | | | | | | | | | |
| 33.0 | 36.2 | | BR<br>CH | sc | a | Cherty breccia, within a green sericite-chlorite+/-silica altered sandstone/siltstone matrix. Cherty fragments mainly as elongate bands 1-3cm thick which may extend wider than the core width. Chert is unevenly distributed throughout the unit. Disseminated fine grained pyrite thoughout. Rare sphalerite, dark fine grained sulphide/galena associated with cherty clasts towards end of unit. Fabric defined by clast orienation. Some cherty clasts have internal lamination sub-parallel to the clast orientations. Fabric strengthens near end of unit (cleavage?). Core of moderate to poor competency. Possibly some core loss (20cm) between 33 and 34m. | 33.1<br>35.8 | BD<br>BD | 48°<br>35° | | | | | | | | | | | |
| **36.2** | **39.2** | **HOTS** | | | | **HOST - TRACE SULPHIDES** | | | | | | | | | | | | | | | | |
| 36.2 | 39.2 | | BR<br>SH | sc | a | Yucky yellow-green coloured, sericite-chlorite schist. Contains occasional rounded and sub-angular clasts from 2mm to 3cm in size. These are sometimes siltstone, but are generally sulphidic. The sulphides are small (1mm) dark brown rounded sphalerite cores, surrounded by black fine grained sulphide, pyrite. Some more vein-like occurences of these sulphides occur on the margins of remnant silicified sediment clasts. Overall unit may go 1-2%Zn. Core is of moderate competency to 37.3m, after which competency is poor. Breaks in core seem to be at a higher angle to CA than cleavage. | 37.2<br>37.2 | JT<br>CV | 50°<br>35° | | | | | | | | | | | |
| **39.2** | **40.9** | **HOTS** | | | | **HOST - TRACE SULPHIDES** | | | | | | | | | | | | | | | | |
| 39.2 | 40.9 | | CH<br>SS | cs | b | Zone of dull green-grey, chlorite-sericite sandstone, with cherty patches. Rare minor blebs of pyrite and fine grained black sulphide. Very broken zone around ~39.7-40m, possibly some core loss (indeterminate due to core block error). Competency poor to bad in remainder. | | | | | | | | | | | | | | | | |
| 40.9 | 41.9 | | BR | cc<br>cs | a | Carbonate-chlorite-sericite altered coarse to very coarse cherty breccia. Alteration fairly intense, some clasts completely replaced, one large silicified clast remains. Larger clasts (1-3cm) are quite rounded. Smaller pieces - which dominate - (1-5mm) are more angular. Core of moderate competency. Fabric still present in places - replaced over by carbonate. | 41.0 | BD | 45° | | | | | | | | | | | |
| **41.9** | **43.7** | **HOTS** | | | | **HOST - TRACE SULPHIDES** | | | | | | | | | | | | | | | | |

Hole No: 011B

| From (m) | To (m) | Strat Code | Desc Code | Alt Code | Alt Int. | Description | @ Depth | Feature | LCA Deg° | RQD To (m) | RQD % | Sample No | From (m) | To (m) | Length (m) | Pb % | Zn % | Cu % | Ag g/t | Au g/t | Fe % | TMU $ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 41.9 | 43.7 | | BR CH | sc | b | Cherty breccia, with cherty intervals up to 10cm wide, separated by moderate to heavily sericite-chlorite, occasionally pyrite altered siltstone/rock. Cherty fragments become very small towards end of unit (1-5mm). Some cracks (partially to completely cavitous) contains galena, and fine grained dark sulphide. Uncommon thin bands of sphalerite and dark fine grained sulphide present, sub parallel to the fabric defined by alteration in the intervals between cherty zones. Grade not expected to reach 1%Zn. Possible small fault zone ~43.1-43.4m. Core otherwise of moderate competency. | 42.5 | CV | 42° | | | | | | | | | | | | | |
| **43.7** | **45.0** | **F** | | | | **FAULT** | | | | | | | | | | | | | | | | |
| 43.7 | 45.0 | | SS ST | se se | b | Broken zone of weak to moderately sericite altered sandstone and siltstone. EOH 45m. | | | | | | | | | | | | | | | | |