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McARTHUR RIVER DRILLING - 2011

WASTE ROCK CHARACTERISATION

and

METALLURGICAL SAMPLING

January 2011

McArthur River Opencut Proposal– circa 1975

Ross Logan

for

McArthur River Mining

DISCLAIMER and ACKNOWLEDGEMENTS

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EXECUTIVE SUMMARY

The 2011 drilling campaign provided samples from the hangingwall sediments of the McArthur River deposit for waste rock characterisation, and samples from the mineralised interval for metallurgical test work. A total of 3508 metres of reverse circulation and 857 metres of diamond drilling were completed.

Waste rock characterisation samples were obtained from 22 reverse circulation drill holes and one diamond drill hole. Most samples comprised 5 metre intervals of reverse circulation chips, but some were shorter intervals determined by geology. Sample quality was generally good with high recovery and dry samples. The samples from the diamond hole were submitted as one metre quartered core. Samples were sent to MET Serve in Brisbane for processing.

The diamond drilling aimed to provide 100 kilograms of each ore lens for metallurgical characterisation test work from 3 diamond holes, and 50 kilograms of each ore lens from 5 holes for metallurgical variability tests. Largely due to deviation of the reverse circulation precollars this was only partly achieved, as most holes intersected mining related voids at the 3 or 4 orebody level. The drill core was geologically logged and the complete core placed in a refrigerated container for dispatch to JKTech in Brisbane.

Drill holes 3_4 and 4_3 were drilled by reverse circulation to 290 metres and 220 metres respectively, but due to budgetary restraints where not drilled for metallurgical sampling. The down hole dip information (azimuths are not available) suggests that these holes should be able to be deepened with a diamond tail, with caution. Prior to deepening these holes it is recommended that the bottom 20 metres of the holes be cemented because it is suspected that gravel fell into them while the all weather access was being prepared.

A 20 metre precollar was drilled at hole 4_4 but due to access difficulties caused by the weather the reverse circulation component was not completed. The precollar comprises steel casing cemented into the bedrock and should remain available for drilling.

Some of the holes in this drilling program were drilled using 3 drill rigs owned by different companies; a precollar drilled by a water bore company, a reverse circulation hole using a reverse circulation only drill rig and a diamond tail using a track mounted diamond only drill rig. This created problems in terms of drill site preparation and especially drill hole diameters and deviation. In future a single universal drill rig should be used to minimise these problems.

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1 INTRODUCTION

The 2011 drilling was designed to provide waste rock characterisation samples from the hangingwall sequence and metallurgical samples from the ore interval of the McArthur River mine.

The intent was to collect the waste rock samples using reverse circulation drilling. Sample intervals were to be 5 metres, with shorter intervals when confined by geological boundaries. The geological model was used to design the hole depths with holes stopping at the top of 8 orebody, or if to be used as a precollar to the diamond drilling, 10 metres above the top of 8 orebody.

The metallurgical samples were to comprise diamond drill core, obtained by drilling from the bottom of the reverse circulation holes. Three sites were nominated for characterisation sampling requiring 100 kilograms of sample from each ore lens, and five sites for variability sampling requiring 50 kilograms from each ore lens.

It was estimated that up to 5 drill hole intersections may be required to provide sufficient metallurgical sample of the narrower ore lenses, for example, the pyritic 3 middle lens. In order to provide the required amount of sample a PQ2 diamond tail was to be drilled from the bottom of the waste rock characterisation reverse circulation hole, supplemented by HQ2 wedges from the PQ2 tail.

2 DRILLING RESULTS

2.1 Introduction

The 2011 McArthur River drilling comprised open hole precollars, reverse circulation and diamond drilling (Table 1, Figures 1 and 2).

The original drill proposal was to drill all holes at minus 70 degrees towards 270 degrees grid. However previous drilling at McArthur River demonstrated that it is very difficult to collar reverse circulation holes through the alluvium using a reverse circulation (only) drill rig, especially in areas with thick alluvium with significant ground water. It was therefore decided that the holes east of the open pit, where there can be 30 plus metres of alluvial cover, would be precollared using a water bore drill rig. The water bore rig demanded the holes be vertical.

Table 1: Drill hole summary - 2011 drilling

Hole	Grid Name	East	North	RL	AzimG	Dip	TD	Type	Start	Finish
1_1	K24/48	7547.504	2484.773	10011.091	0	-90	213.8	RC/DD	8-Nov-11	18-Nov-11
1_1A	K24/48A	7547.504	2484.773	10011.091	0	-90	219.7	Wedge DD	18-Nov-11	20-Nov-11
1_1B	K24/48B	7547.504	2484.773	10011.091	0	-90	215.5	Wedge DD	20-Nov-11	21-Nov-11
1_2	I24/21	7325.310	2413.494	9988.000	270	-70	101	RC	11-Nov-11	11-Nov-11
1_3	I23/20	7322.806	2300.225	9983.862	0	-90	65	RC	7-Nov-11	7-Nov-11
1_4	J23/21	7426.282	2311.830	10012.233	270	-70	136	RC	12-Nov-11	12-Nov-11
1_5	J22/01	7401.419	2212.389	10000.190	270	-70	112	RC	13-Nov-11	13-Nov-11
1_6	I21/51	7357.856	2114.977	9991.857	0	-90	112	RC	5-Nov-11	5-Nov-11
1_7	J20/97	7497.548	2071.188	10010.974	0	-90	207.1	RC/DD	29-Nov-11	9-Dec-11
1_8	J19/69	7464.399	1998.415	10010.693	0	-90	142	RC	27-Nov-11	27-Nov-11
2_2	I16/19	7315.964	1690.183	9960.208	0	-90	110	RC	3-Nov-11	3-Nov-11
3_1	L25/30	7631.965	2502.970	10017.350	270	-70	94	RC	25-Oct-11	25-Oct-11
3_10	M14/36	7736.718	1469.511	10031.780	0	-90	232	RC	17-Nov-11	19-Nov-11
3_2	N24/41	7844.304	2418.060	10028.530	0	-90	313.4	RC/DD	13-Oct-11	4-Nov-11
3_2A	N24/41A	7844.304	2418.060	10028.530	0	-90	347.3	Wedge DD	5-Nov-11	8-Nov-11
3_2B	N24/41B	7844.304	2418.060	10028.530	0	-90	311.1	Wedge DD	8-Nov-11	11-Nov-11
3_3	K23/20	7520.989	2306.090	10010.520	0	-90	166	RC	22-Nov-11	22-Nov-11
3_4	N21/39	7832.394	2197.441	10028.480	0	-90	290	RC	16-Oct-11	19-Oct-11
3_5	K19/49	7545.410	1995.345	10011.000	0	-90	196	RC	24-Nov-11	25-Nov-11
3_7	M17/98	7795.358	1789.083	10029.310	0	-90	298	RC	30-Oct-11	1-Nov-11
3_8	H15/29	7227.406	1599.469	9952.663	270	-70	79.9	DD	13-Nov-11	15-Nov-11
3_8B	H15/39	7234.241	1596.822	9952.556	270	-70	73.3	DD	4-Dec-11	5-Dec-11
3_9	J14/19	7416.957	1499.849	10012.724	270	-70	203	RC/DD	14-Nov-11	16-Dec-11
4_1	K26/56	7554.963	2667.690	10013.538	270	-70	58	RC	27-Oct-11	27-Oct-11
4_2	Q22/70	8175.022	2206.599	10030.820	0	-90	232	RC	9-Oct-11	12-Oct-11
4_3	P24/00	8009.134	2406.798	10026.700	0	-90	220	RC	15-Oct-11	16-Oct-11
4_4	M19/48	7745.521	1987.815	10028.490	0	-90	17.5	Pre collar	6-Oct-11	6-Oct-11
4_5	J18/99	7497.118	1890.109	10010.579	0	-90	219.65	DD	23-Nov-11	2-Dec-11
4_7	O15/72	7973.388	1527.650	10032.560	0	-90	232	RC	21-Oct-11	22-Oct-11
PH1	H22/83	7288.196	2238.026	9984.347	0	-90	94	RC	25-Nov-11	25-Nov-11

Figure 1: 2011 drill hole locations overlaying the August 2011 aerial photography

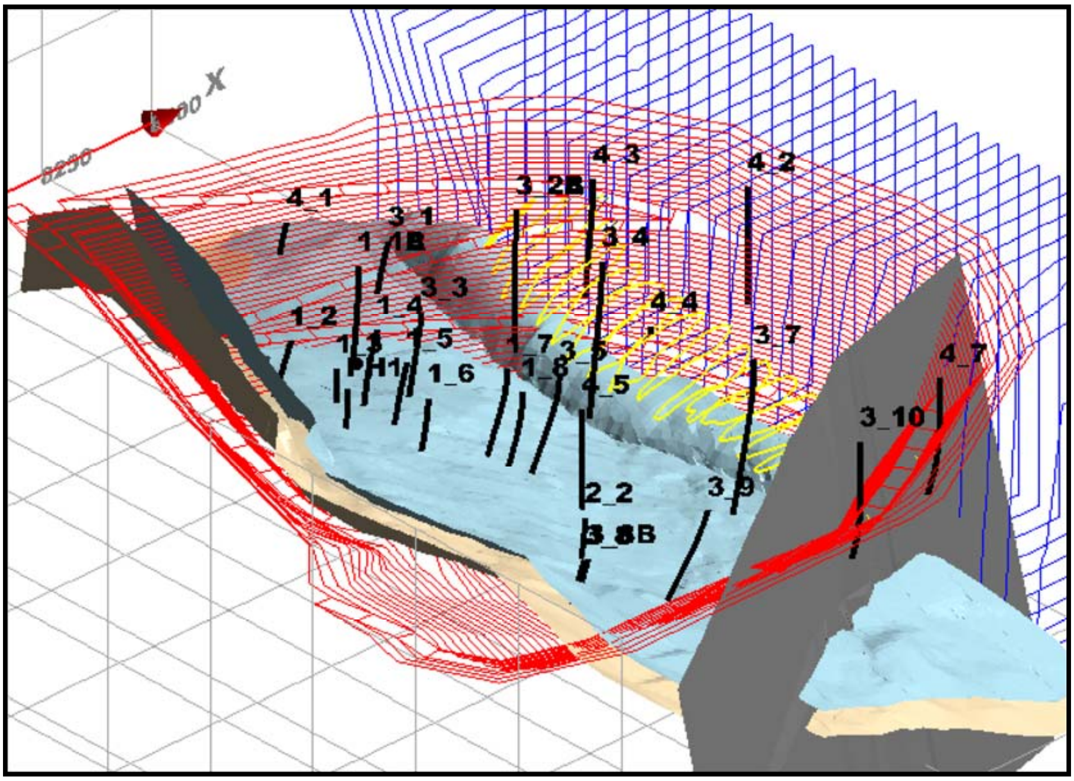


Figure 2: Schematic 3D model (looking 043, -31) showing 2011 drill holes, 8 orebody hanging wall surface (cyan), 2 orebody footwall surface (pale brown), Woyzbun Fault plane surface (grey), Cooley Dolomite (blue mesh), proposed open pit shell (red mesh) and intense hanging wall pyrite zone along the eastern side of the pit (yellow mesh). Note that geological surfaces are based on 2003 data.

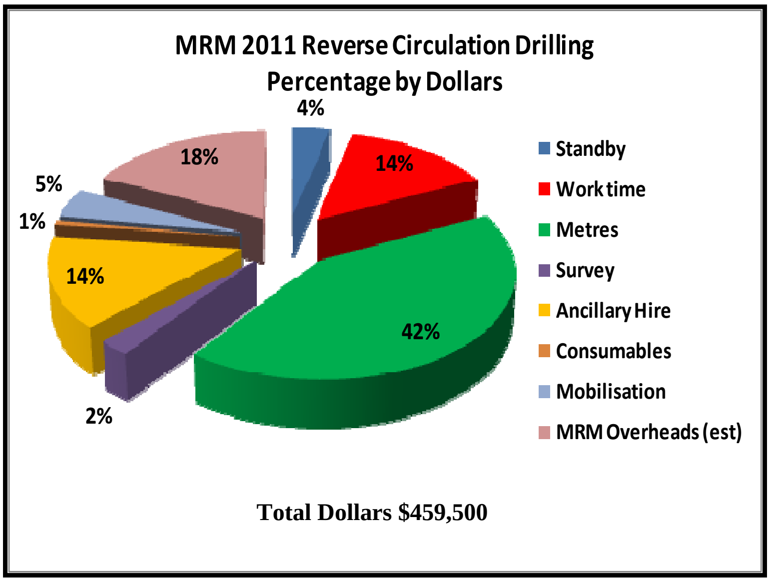
Open Hole Precollars

BoresNT drilled 8 precollars east of the pit, which were cased with 200 millimetre steel casing cemented into the bedrock. Seven of the holes were successfully deepened by reverse circulation drilling to their target depth[1]. The success of the technique was demonstrated when hole 3_1, which was collared using the reverse circulation rig on about 8 metres of remnant alluvium in the pit, was lost when the collar blew-out.

Reverse Circulation Drilling

The reverse circulation drilling was completed by Drilltorque using a Schramm 660 with a rig mounted 3 tier cyclone/splitter. An ancillary booster and second compressor were used to drill the deeper and/or wet holes. Holes were drilled using a 133 mm (reducing to 127 mm) RC hammer. Twenty two holes were drilled for a total of 3508 chargeable metres[2]. The invoiced cost was $377,500 of which 52% was the metre cost. The estimated total cost (Graph 1) includes an estimate of $82,000 for MRM overheads comprising support vehicle hire, diesel and driller's travel and accommodation, but excluding MRM labour costs. The average metre cost against the invoiced cost was $107/m and against the estimated total cost[3] $131/m.

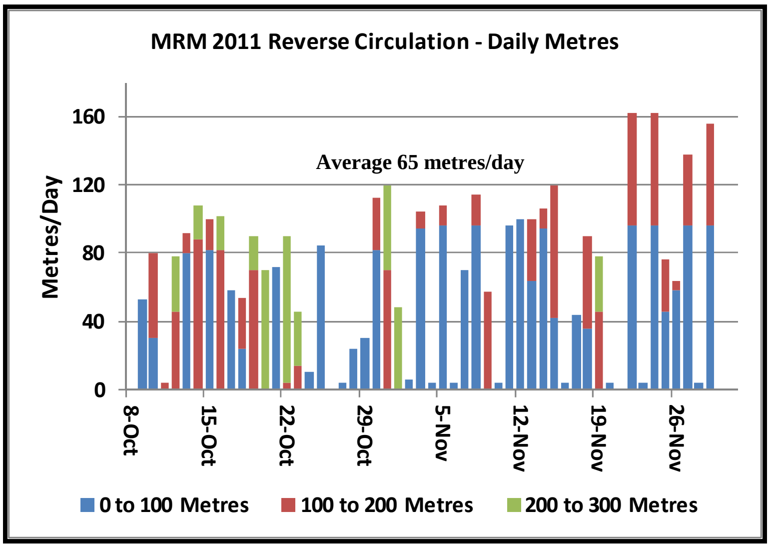
[1] The eighth precollar was not drilled due to access problems caused by the onset of the wet season.
[2] The metres drilled are different from the TD in Table 1 because Table 1 includes precollars and does not include metres drilled in voids at the bottom of several holes.
[3] The estimated total cost includes recognised costs for accommodation, travel, fuel, thrifty vehicle hire and identified incidentals.



Graph 1: Reverse circulation breakdown by dollar costs

Graphs 2 and 3 divide the reverse circulation drilling into two phases, based on performance[4]. The first phase equates with October when the drilling was largely outside of the pit and utilised precollars drilled by BoresNT. The metres drilled each day are generally consistent, continuous, with no standby and minimal work time (non-drilling). Drilling averaged 65 metres/day for the life of the program. The daily hours worked were adversely impacted by the high temperatures and humidity experienced during October, especially when pulling the drill rods at the ends of holes.

The second phase reflects holes which were largely drilled in the pit during November. The spiky drilling rate frequently reflects the difficulty collaring in broken bed rock and/or fill, which required cementing and consequently standby while the cement set. It was virtually impossible to cement holes collared in fill which were also below or at the water table. Standby was also caused by storms, lightning and blasting.

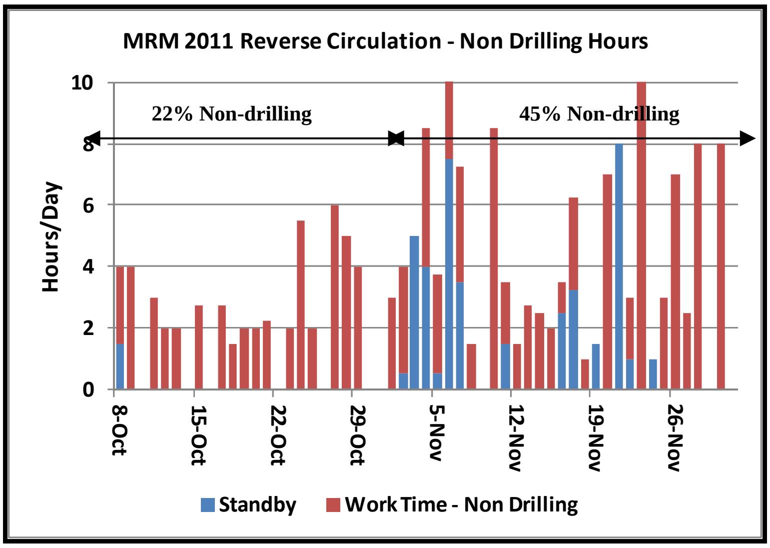


Graph 2: Reverse circulation daily drill rates

[4] The data is derived from the invoices not the daily plod sheets.

Holes collared in shales deviated badly in the first 50 to 80 metres; due to the drill hammer *pulling-in* perpendicular to the bedding and also wandering with rotation. This is a feature of all holes drilled at McArthur, both diamond and reverse circulation. The exceptions are holes drilled;

- Along the eastern margin of the deposit where the dip of the sediments can be largely horizontal.
- Into the Upper Breccia unit south of the Woyzbun Fault where holes generally remain vertical within the breccia but *pull-in* perpendicular to the bedding in the shales below the breccia (see holes 3_10 and 4_7 below).
- Into the Cooley Dolomite which generally do not deviate, for example hole 4_2 (see below).



Graph 3: Reverse circulation non drilling hours

Diamond Drilling

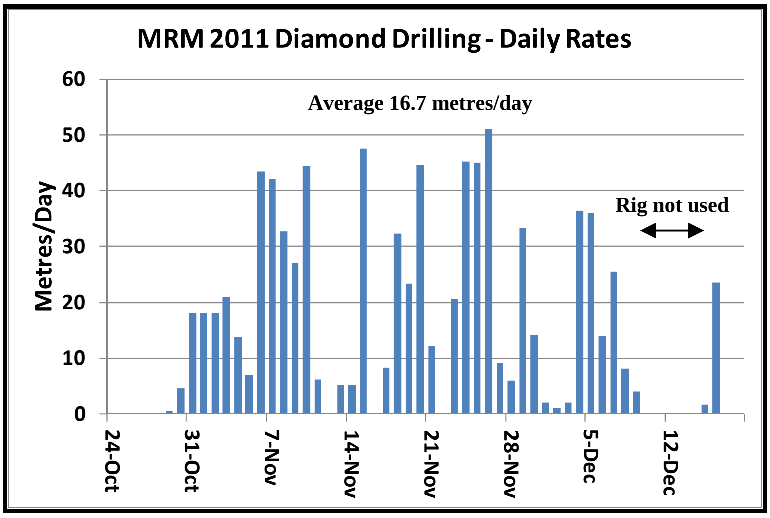
May Drilling from Darwin completed the diamond drilling, using a track mounted HD 900 drill rig. Drill core sizes were PQ2 and HQ2. Three PQ2 holes were drilled from surface, three PQ2 holes from reverse circulation precollars and four HQ2 wedges from PQ2 holes. Drilling totaled 857.2 metres[5], excluding voids, minor drilling at the bottom of voids and the start of wedges (Graph 4).

Drilling averaged a low 16.7 metres/day (Graph 4) from the time of arrival at site to departure[6]. A large part of the low daily rate can be attributed too slow penetration at the bottom of reverse circulation holes and wedging. Delays caused by blasting, weather, some days not double shifted, large diameter core and time moving between sites caused by a track mounted rig also contributed.

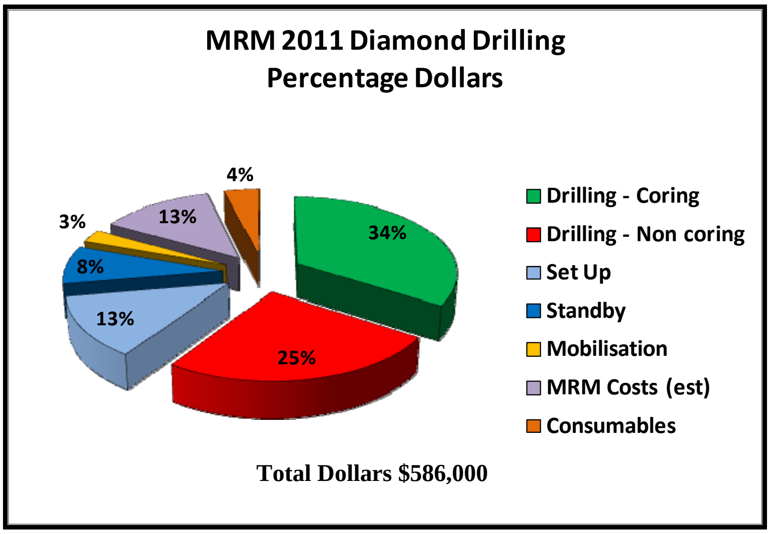
The best daily rate was 51 metres and the best 12 hour shift 47.5 metres, suggesting that if the major delays were eliminated the daily average, including site moves etc should be 30 to 40 metres. This is comparable to earlier diamond drilling programs at McArthur River that are believed to have averaged about 30 metres a day.

The invoiced cost for the diamond drilling was \$510,000 and the estimated total cost (Graph 5) includes \$76,000 for MRM overheads comprising core trays, diesel and driller's travel and accommodation, but excluding MRM labour costs. The average metre cost against the invoiced cost was \$595/m and against the estimated total cost \$683/m. About 41% of the chargeable rig hours[7] were allocated to actual core drilling (Graph 6).

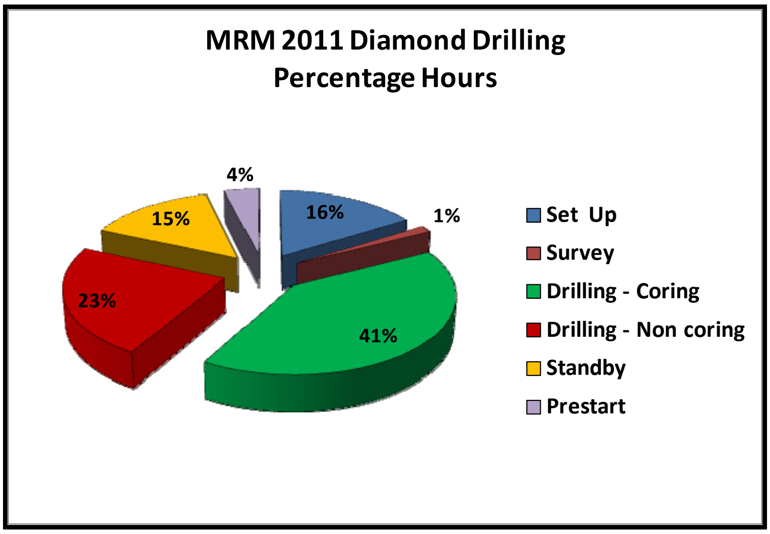
[5] Based on drill core logged.
[6] October 24 to December 18, but excluding December 10 to 15 when the rig was utilised by the mine.
[7] This is a difficult number too estimate from the invoices as some of the metres are charged on a metre basis and others on an hourly slow drilling rate.



Graph 4: Diamond drilling metres drilled per day



Graph 5: Diamond drilling by dollars



Graph 6: Diamond drilling hours

The diamond drilling encountered difficulties and fell short of it's objectives with the major issues being;

- The reverse circulation holes were drilled using a 133 mm reducing to 127 mm hammer, which was required to supply sufficient air to ensure dry and high sample return. This resulted in the 114 mm outside diameter PQ2 diamond drill rods being unsupported and drill rod "slap" increasing drilling torque, markedly decreasing the metre rate and threatening to snap the drill rods.

- The reverse circulation holes commonly deviated up to 15 or more degrees in the top 50 plus metres of the hole. For example the dip in hole 3_9 lifted 9 degrees and the azimuth moved 22 degrees over the top 87 metres of the hole (Appendix B). The strain on the diamond rods was too much in some holes and the rods snapped, usually near the surface corresponding with the depth with the greatest rate of deviation (see Hole 3_9).

- In order to obtain sufficient sample for metallurgical testing, HQ2 casing wedges were used to supplement the core from the PQ2 primary hole. The wedge was placed near the top of 8 orebody, a procedure involving;
    - Pulling out the PQ2 drill rods
    - Running the PQ2 drill rods and placing a wooden plug below the proposed level of the wedge
    - Pulling out the PQ2 rods and waiting 5-6 hours for the plug to swell
    - Running the PQ2 drill rods down the hole with the wedge attached, inserting the bottom of the wedge into the wooden block
    - Running the HQ2 rods down the hole with a 1.5 metre core barrel and slowly drilling several metres until full diameter core was obtained
    - Pulling the HQ2 drill rods and replacing the 1.5 metre barrel with a 3 metre barrel
    - Finally running the HQ2 rods back down the hole.

  This is a time consuming and therefore expensive process, which took about 20 hours in hole 1_1A and 24 hours in hole 3_2 A. The second wedge was achieved by simply pulling the HQ2 rods, lifting the PQ2 rod string above the wooden wedge, rotating it 180 degrees, and then drilling with a 1.5 and 3 metre HQ2 core barrel.

- With the exception of holes 3_8 and 3_8B, the diamond holes intersected mining related voids. Holes 1_1 (and its two wedges), 3_9 and 4_4 hit a void in 4 orebody. Holes 1_7, and 3_2 and its wedges entered a void in or near the bottom of 3 orebody (Table 3 or Appendix A). This was mainly due to the holes deviating and missing their targets.

- The mineralised interval in several of the holes was faulted and parts of the orebody were missing. In addition the mineralisation in the north of the deposit was impacted by sedimentary breccia, especially at the 5 and 6 orebody level.

Some of the drilling difficulties may have been avoided if a single drilling contractor was used, preferably using a multipurpose drill rig. In addition a multipurpose drill may have been able to drill angled precollars using mud, thereby allowing angled holes to be drilled through the alluvium, which in turn minimises the deviation due to bedding.

Drill hole deviation is difficult to manage however it maybe possible to use directional drilling such as navi-drilling[8] or to estimate and allow for the deviation based on nearby holes close to the proposed hole. Another possibility is to follow up hole 4_5 drilled this year which remained vertical when drilled with PQ rods. This is the only vertical hole known to the author which has not deviated.

Drill Hole Surveys

Drill hole collars were located by MRM using differential GPS and down hole surveys were measured using single shot digital instruments supplied by the drilling companies (Appendices A and B).

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[8] There is no sample return from navi drilling

2.2 Drill Hole Details

The reverse circulation holes were geologically logged (Appendix C) and sampled in one metre intervals at the drill site. Geological logs and core tray photographs of the diamond core comprise Appendices D and E. An explanation of the stratigraphy discussed below is provided in Appendix F. In the discussion below, unless stated otherwise drilling comprises reverse circulation.

Section 1500 North - Figure 3

Reverse Circulation and Diamond Hole 3_9 - H14/19

Hole 3_9	*J14/19*	*1499.8N*	*7416.9E*	*10012.7RL*	*270 Azim(G)*	*-70 Dip*	*203.0m TD*

The hole was drilled north of the Woyzbun Fault for waste rock characterisation. It was collared in the Upper Pyritic Shale unit, intersected Black Bituminous Shale between about 40 and 100 metres and stopped in the Lower Pyritic Shale unit at 177.8 metres, 4.7 metres above the 8 orebody hangingwall.

The hole was deepened with PQ2 diamond core for metallurgical sampling. It intersected an un-faulted sequence to the middle of 4 lower orebody, when it was abandoned at 203.0 metres when the rods snapped at 24 metres, probably due to deviation in the top 60 metres of the reverse circulation hole. The orebodies comprise very nodular shale with weak mineralisation, characteristic of the southern parts of the deposit.

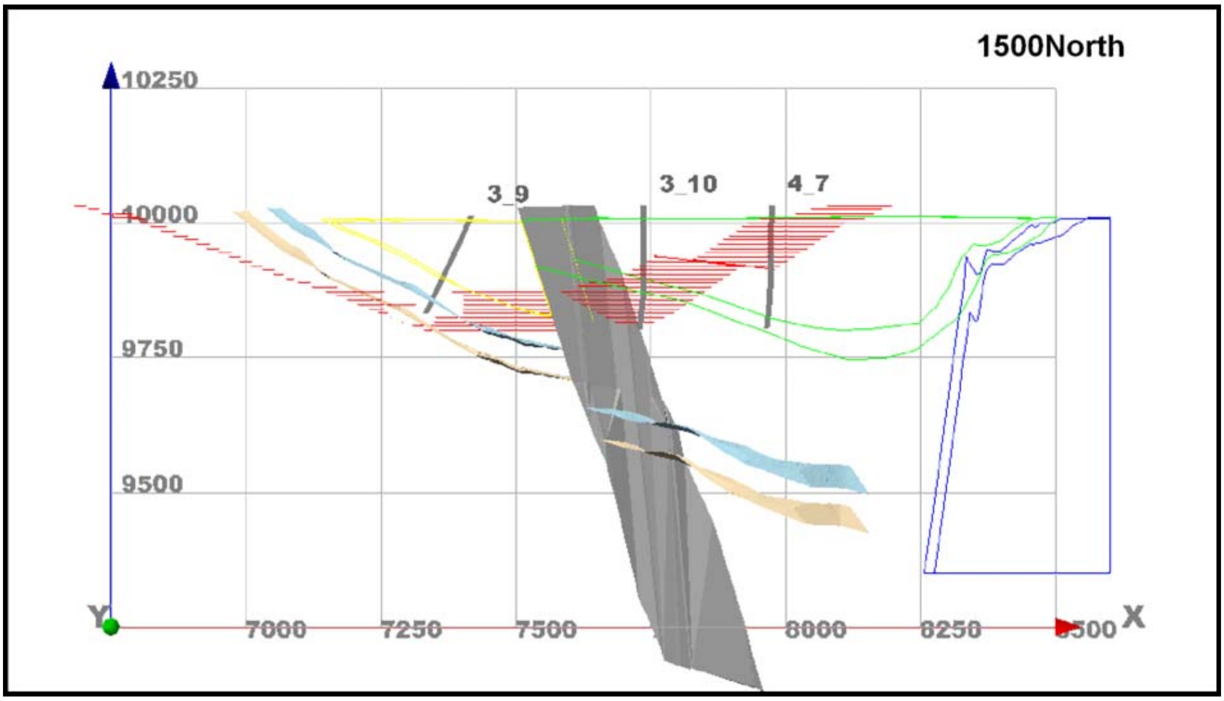

Figure 3: Cross section 1500 North (± 50 metres) looking north, with 2011 drill holes in black, 8 orebody hanging wall surface (cyan), 2 orebody footwall surface (pale brown), Woyzbun Fault plane surface (grey), Cooley Dolomite (blue mesh), proposed open pit shell (red mesh), Upper Stylolite Marker (yellow mesh), footwall of the upper breccia (green mesh) and intense hanging wall pyrite along the eastern side of the pit (black mesh). Note that geological surfaces are based on 2003 data.

Reverse Circulation Hole 3_10 - M14/36

Hole 3_10	*M14/36*	*1469.5N*	*7736.7E*	*10031.8RL*	*0 Azim(G)*	*-90 Dip*	*232m TD*

Hole 3_10 was collared by BoresNT south of the Woyzbun Fault for waste rock characterisation. It intersected the Upper Breccia unit to about 145 metres and stopped in weakly pyritic dolomitic sediments of the Upper Dolomitic Shale unit at 232 metres.

The hole remained essentially vertical within the Upper Breccia, but lifted 15 degrees towards the north-northwest in the shales below 145 metres.

Reverse Circulation Hole 4_7 - O15/728

Hole 4_7	*O15/72*	*1527.6N*	*7973.4E*	*10032.6RL*	*0 Azim(G)*	*-90 Dip*	*232m TD*

The hole was collared by BoresNT south of the Woyzbun Fault. It intersected the Upper Breccia unit to 105 metres, weakly pyritic shale belonging to the Upper Dolomitic Shale unit to about 190 metres and variably pyritic shale of the Upper Pyritic Shale unit to 232 metres.

It remained vertical until the bottom of the Upper Breccia and then flattened 15 degrees to the north-northwest in the shale.

Section 1600 North - Figure 4

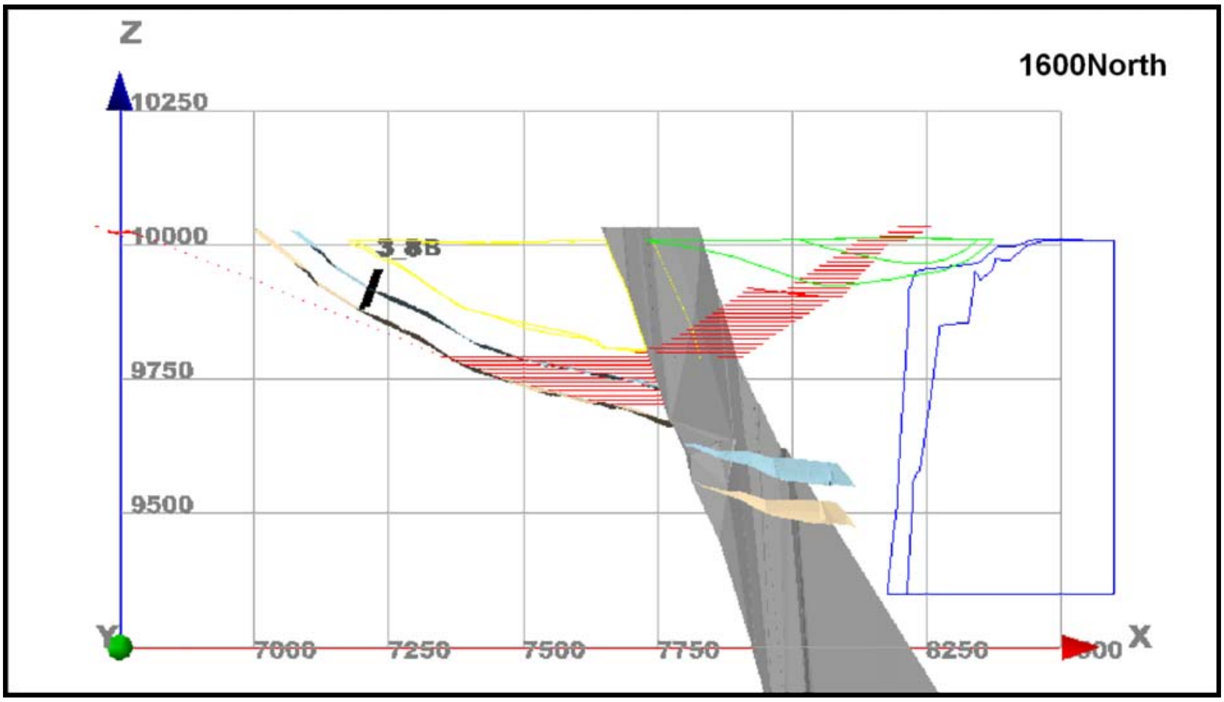

Figure 4: Cross section 1600 North (± 50 metres) looking north, with 2011 drill holes in black, 8 orebody hanging wall surface (cyan), 2 orebody footwall surface (pale brown), Woyzbun Fault plane surface (grey), Cooley Dolomite (blue mesh), proposed open pit shell (red mesh), Upper Stylolite Marker (yellow mesh), footwall of the upper breccia (green mesh) and intense hanging wall pyrite along the eastern side of the pit (black mesh). Note that geological surfaces are based on 2003 data.

Diamond Hole 3_8 - H15/29

Hole 3_8	*H15/29*	*1599.4N*	*7227.4E*	*9952.6RL*	*270 Azim(G)*	*-70 Dip*	*79.9m TD*

The hole was diamond drilled from surface using PQ2 in the southeastern corner of the current pit, to provide samples for metallurgical testing. Faulting has removed most of 8 orebody, with the faulted top of the mineralised sequence commencing 0.8 metres above the 7/8 beds. The remainder of the mineralised sequence is present, albeit some of the internal orebody subdivisions are difficult to identify due to thinned breccia and tuff beds.

The hole stopped in the Lower Dolomitic Shale unit, 9.2 metres below 2 orebody.

Diamond Hole 3_8B - H15/29

Hole 3_8B	*H15/39*	*1596.8N*	*7234.2E*	*9952.6RL*	*270 Azim(G)*	*-70 Dip*	*73.3m TD*

Hole 3_8B was drilled close to hole 3_8 to provide additional metallurgical samples from the southern end of the deposit. It was cored from surface using PQ2. The mineralised sequence is disrupted by faulting at;

- 44.55 metres where 8 lower juxtaposes probable bottom of 6 orebody: 7 and most of 6 orebodies are missing
- 68.4 metres between 3LD and I23, however 3LD is probably almost complete
- 71.0 metres where I23 abuts 2 orebody, however, 2 orebody is almost complete

The hole entered a void at 73.3 metres, close to the bottom of 2 orebody.

Section 1700 North - Figure 5

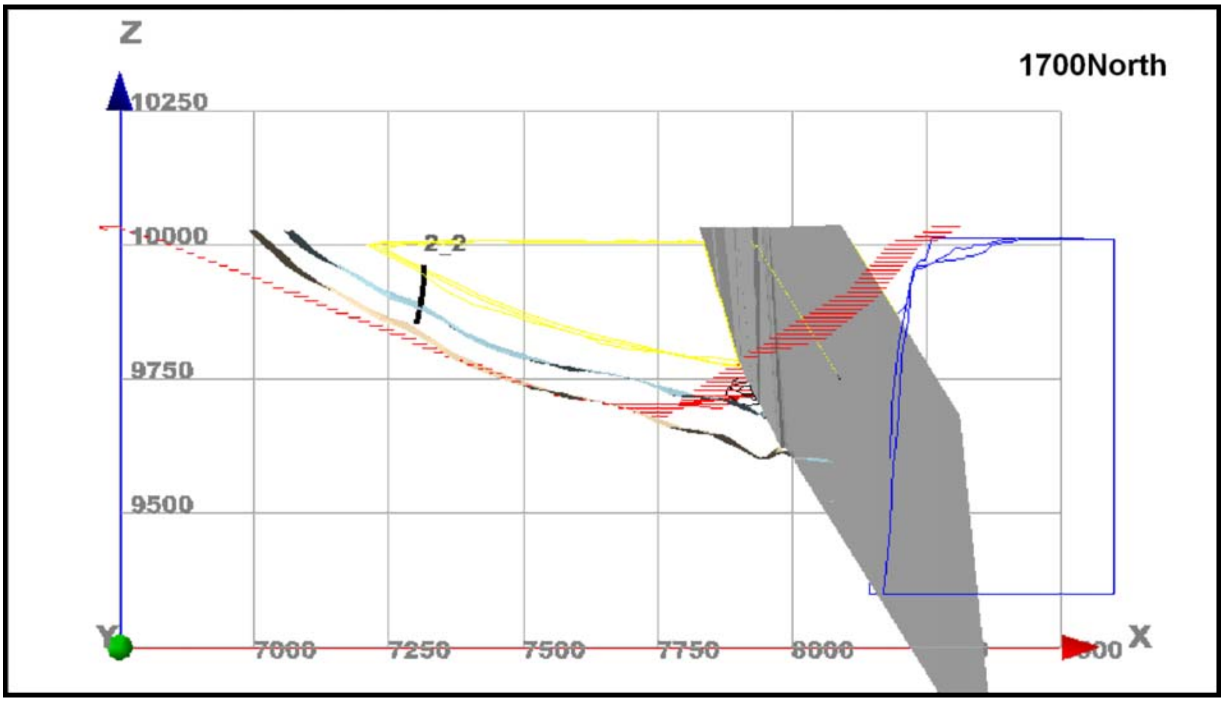

Figure 5: Cross section 1700 North (± 50 metres) looking north, with 2011 drill holes in black, 8 orebody hanging wall surface (cyan), 2 orebody footwall surface (pale brown), Woyzbun Fault plane surface (grey), Cooley Dolomite (blue mesh), proposed open pit shell (red mesh), Upper Stylolite Marker (yellow mesh), footwall of the upper breccia (green mesh) and intense hanging wall pyrite along the eastern side of the pit (black mesh). Note that geological surfaces are based on 2003 data.

Reverse Circulation Hole 2_2 - I16/29

Hole 2_2	*I16/29*	*1690.1N*	*7315.9E*	*9960.2RL*	*0 Azim(G)*	*-90 Dip*	*110m TD*

The hole was collared in interbedded weakly pyritic shale and dolomite breccia of the Lower Pyritic Shale unit. The cross section indicates the hole was drilled about 30 metres into the ore zone.

Section 1800 North - Figure 6

Reverse Circulation Hole 3_7 - M17/98

Hole 3_7	*M17/98*	*1789.1N*	*7795.4E*	*10029.3RL*	*0 Azim(G)*	*-90 Dip*	*298m TD*

The hole was collared by BoresNT and drilled for waste rock characterisation sampling. The geological cross section indicates it was collared in the Upper Dolomitic Shale unit, intersecting the Upper Pyritic Shale unit at about 65 metres, Black Bituminous Shale unit at about 150 metres and Lower Pyritic Shale unit at about 190 metres. The planned diamond tail was not drilled. It is recommended the bottom of the hole be cemented prior to diamond drilling in case rubble fell into the hole during wet season access preparation using waste rock.

The geological logging of the chips indicates that trace to weakly pyritic shale occurs down to 55 metres, weakly to moderately pyritic shale down to 230 metres and interbedded weakly to moderately pyritic shale and sedimentary breccia to the bottom of the hole at 298 metres. This is compatible with the expected lithologies from the geological cross section.

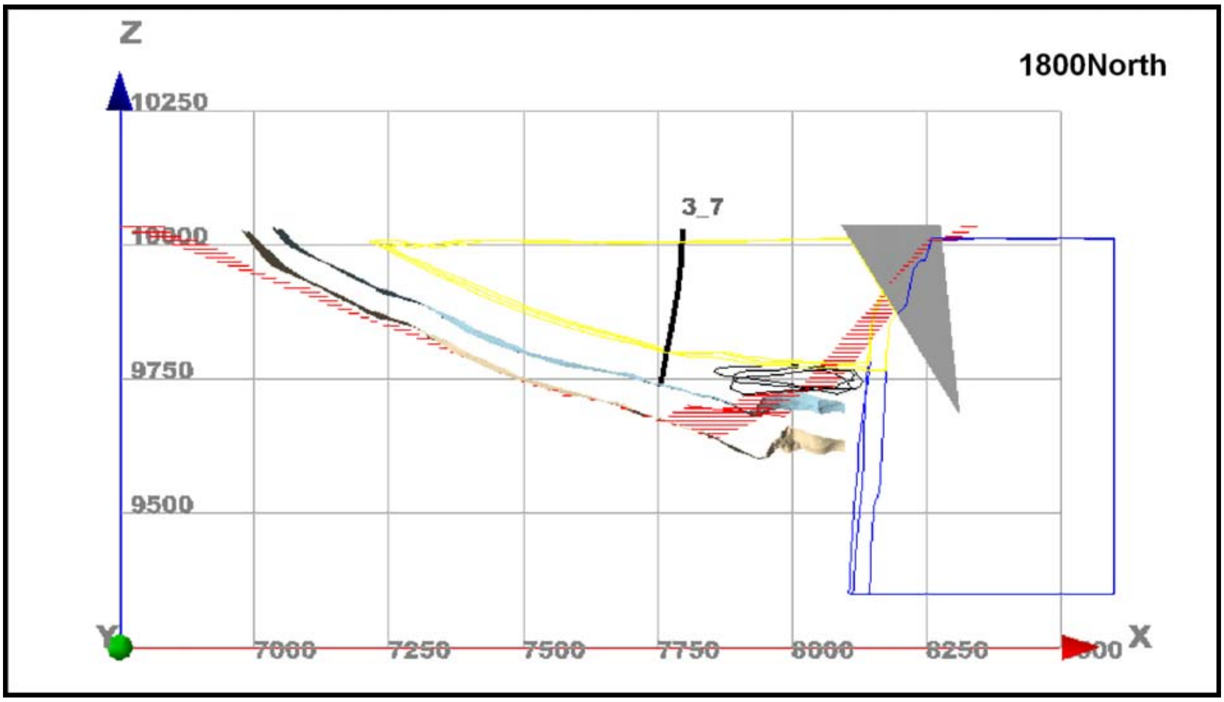

Figure 6: Cross section 1800 North (± 50 metres) looking north, with 2011 drill holes in black, 8 orebody hanging wall surface (cyan), 2 orebody footwall surface (pale brown), Woyzbun Fault plane surface (grey), Cooley Dolomite (blue mesh), proposed open pit shell (red mesh), Upper Stylolite Marker (yellow mesh), footwall of the upper breccia (green mesh) and intense hanging wall pyrite along the eastern side of the pit (black mesh). Note that geological surfaces are based on 2003 data.

Section 1900 North - Figure 7

Diamond Hole 4_5 - J18/99

Hole 4_5	*J18/99*	*1890.1N*	*7497.1E*	*10010.6RL*	*0 Azim(G)*	*-90 Dip*	*219.65m TD*

Hole 4_5 was diamond drilled from the surface to provide waste rock characterisation samples from the hanging wall sequence and metallurgical samples from the ore horizon. It was drilled with PQ2 to 170.5 where bad ground conditions dictated a change to HQ2. Unlike most holes drilled into the hanging wall sequence it did not lift perpendicular to the bedding but remained vertical.

It is interpreted to have intersected the Black Bituminous Shale unit from the start of the hole down to 65 metres, then the Upper Pyritic Shale unit to the hanging wall of 8 orebody at 193.3. The Upper Stylolite Marker occurs between 126.4 and 131.4 metres. The ore sequence is complete down to the pyritic 4 upper unit where the hole entered a void at 219.65 metres. Attempts to drill through the void resulted in snapping off the core barrel and the hole was abandoned.

A wedge was placed at 159.6 metres, but after drilling 3.1 metres of sedimentary breccia was abandoned when the barrel snapped off.

The core was quartered down to 192 metres for waste rock sampling.

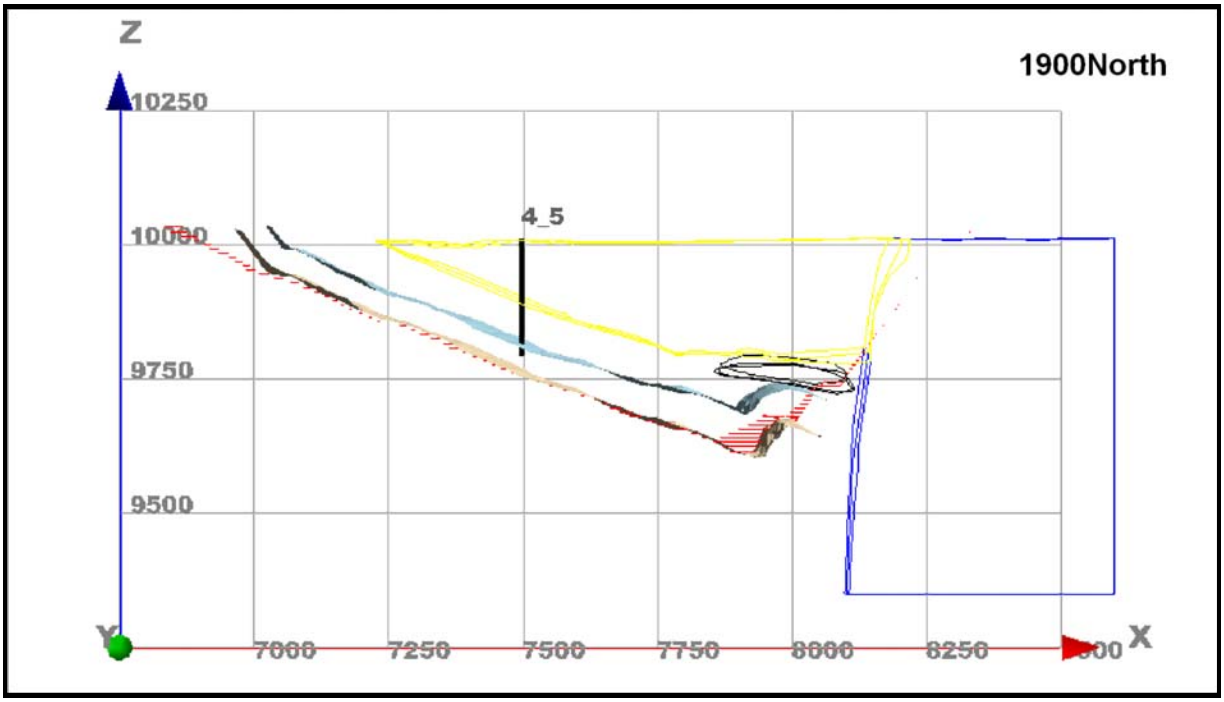

Figure 7: Cross section 1900 North (± 50 metres) looking north, with 2011 drill holes in black, 8 orebody hanging wall surface (cyan), 2 orebody footwall surface (pale brown), Woyzbun Fault plane surface (grey), Cooley Dolomite (blue mesh), proposed open pit shell (red mesh), Upper Stylolite Marker (yellow mesh), footwall of the upper breccia (green mesh) and intense hanging wall pyrite along the eastern side of the pit (black mesh). Note that geological surfaces are based on 2003 data.

Section 2000 North - Figure 8

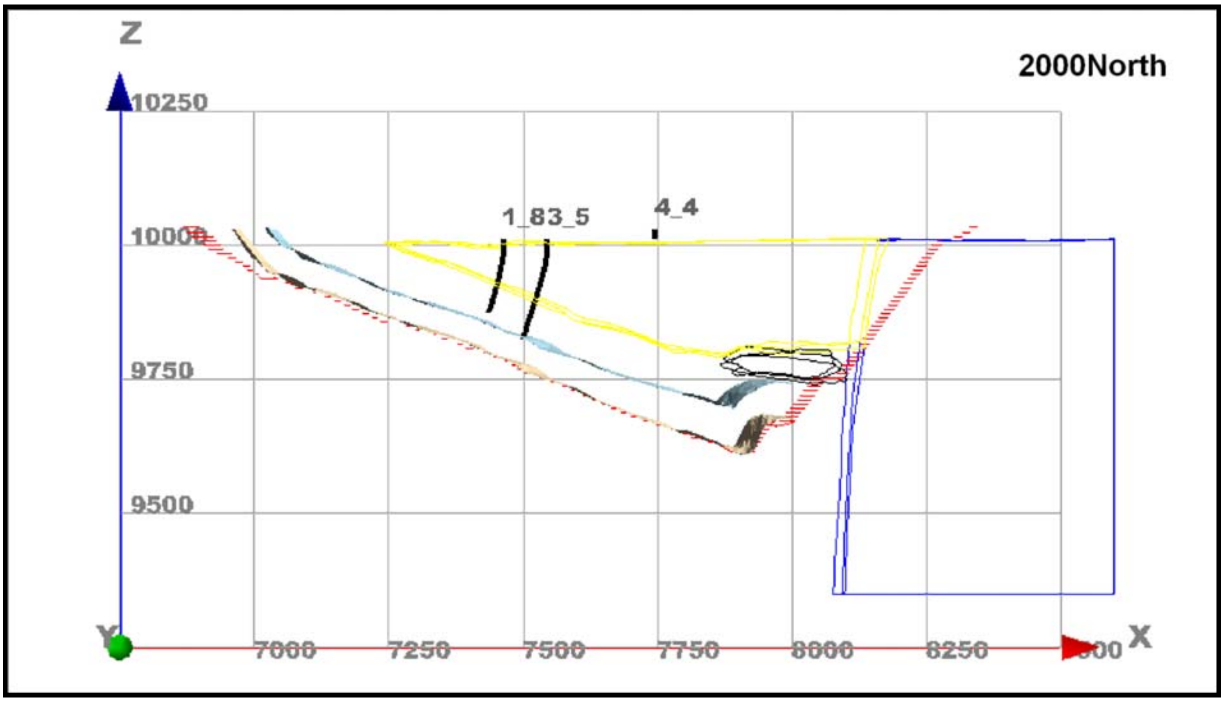

Figure 8: Cross section 2000 North (± 50 metres) looking north, with 2011 drill holes in black, 8 orebody hanging wall surface (cyan), 2 orebody footwall surface (pale brown), Woyzbun Fault plane surface (grey), Cooley Dolomite (blue mesh), proposed open pit shell (red mesh), Upper Stylolite Marker (yellow mesh), footwall of the upper breccia (green mesh) and intense hanging wall pyrite along the eastern side of the pit (black mesh). Note that geological surfaces are based on 2003 data.

Reverse Circulation Hole 1_8 - J19/69

Hole 1_8	*J19/69*	*1998.4N*	*7464.4E*	*10010.7RL*	*0 Azim(G)*	*-90 Dip*	*142m TD*

Hole 1_8 was drilled to provide waste rock characterisation samples. It was collared in variable pyritic shale of the Lower Pyritic Shale unit with interbedded sedimentary breccia and pyritic shale below 80 metres.

Reverse Circulation Hole 3_5 - K19/49

Hole 3_5	K19/49	1995.3*N*	7545.4*E*	10011.0*RL*	*0 Azim(G)*	*-90 Dip*	*196m TD*

The hole was drilled for waste rock characterisation sampling. It was collared in the Black Bituminous Shale unit but drilled largely in the Lower Pyritic Shale unit. Variably pyritic shale occurs down to 109 metres, then interbedded sedimentary breccia and pyritic shale to the bottom of the hole.

Reverse Circulation Hole 4_4 - M19/48

Hole 4_4	*M19/48*	*1987.8N*	*7745.5E*	*10028.5RL*	*0 Azim(G)*	*-90 Dip*	*20m TD*

The hole was collared by BoresNT and steel casing cemented into the bedrock. It was not drilled due to access difficulties following early rain.

Section 2100 North -Figure 9

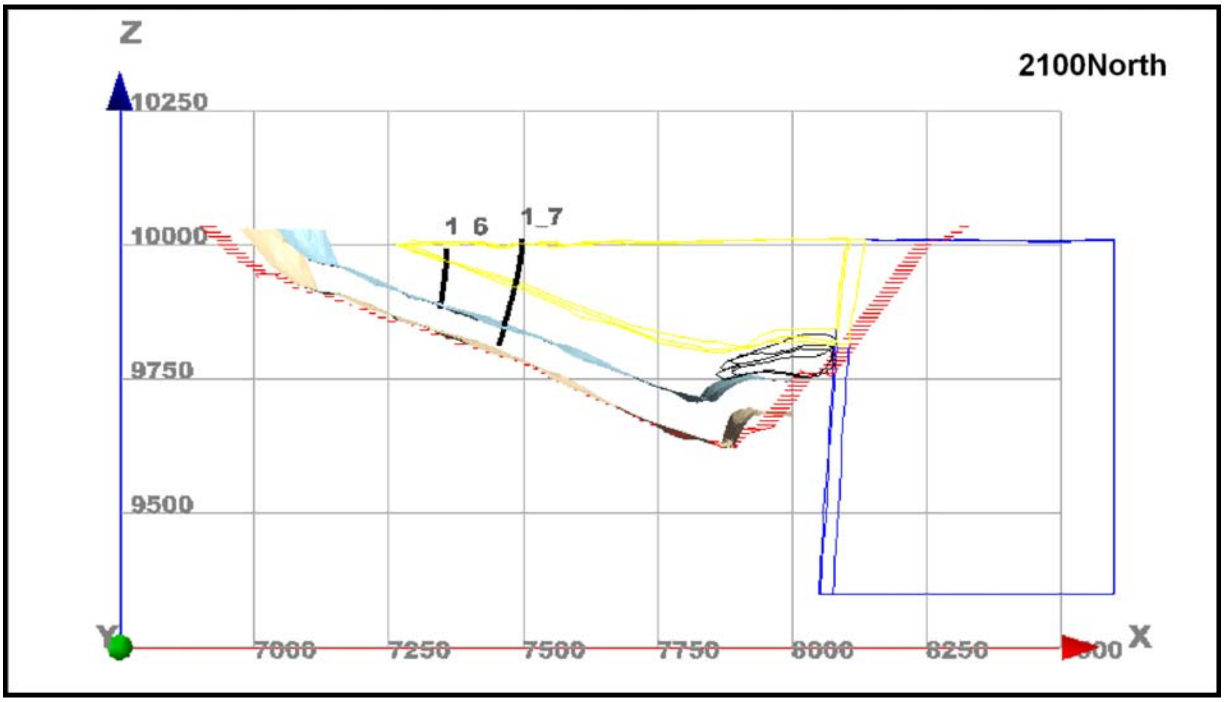

Figure 9: Cross section 2100 North (± 50 metres) looking north, with 2011 drill holes in black, 8 orebody hanging wall surface (cyan), 2 orebody footwall surface (pale brown), Woyzbun Fault plane surface (grey), Cooley Dolomite (blue mesh), proposed open pit shell (red mesh), Upper Stylolite Marker (yellow mesh), footwall of the upper breccia (green mesh) and intense hanging wall pyrite along the eastern side of the pit (black mesh). Note that geological surfaces are based on 2003 data.

Reverse Circulation Hole 1_6 - I21/51

Hole 1_6	*I21/51*	*2115.0N*	*7357.9E*	*9991.9RL*	*0 Azim(G)*	*-90 Dip*	*112m TD*

The hole was drilled in the Lower Pyritic Shale unit for waste rock characterisation sampling. It intersected variably pyritic shale to 42 metres then interbedded sedimentary breccia and pyritic shale.

Reverse Circulation and Diamond Hole 1_7 - J20/97

Hole 1_7	*J20/97*	*2071.2N*	*7497.5E*	*10011.0RL*	*0 Azim(G)*	*-90 Dip*	*207.1m TD*

The hole was drilled by reverse circulation down to 160 metres for waste rock characterisation samples and then deepened to 207.1 metres with diamond drilling for metallurgical samples. The cross section suggests that it was collared near the base of the Black Bituminous Shale unit and then went into the Lower Pyritic Shale unit. The drill log indicates that variably pyritic shale occurs to 82 metres then interbedded dolomitic siltstone (sedimentary breccia?) and pyritic shale.

PQ2 diamond coring commenced at 159.6 metres, with 8 orebody hangingwall at 168.15 metres. The hole was abandoned at 207.1 metres in 3LB after the rod string snapped at 24 and 48 metres on consecutive night shifts, probably due to a 14 degree lift in the hole between the collar and 57 metres. The drill string was recovered in both instances. The ore sequence was not significantly faulted.

Section 2200 North -Figure 10

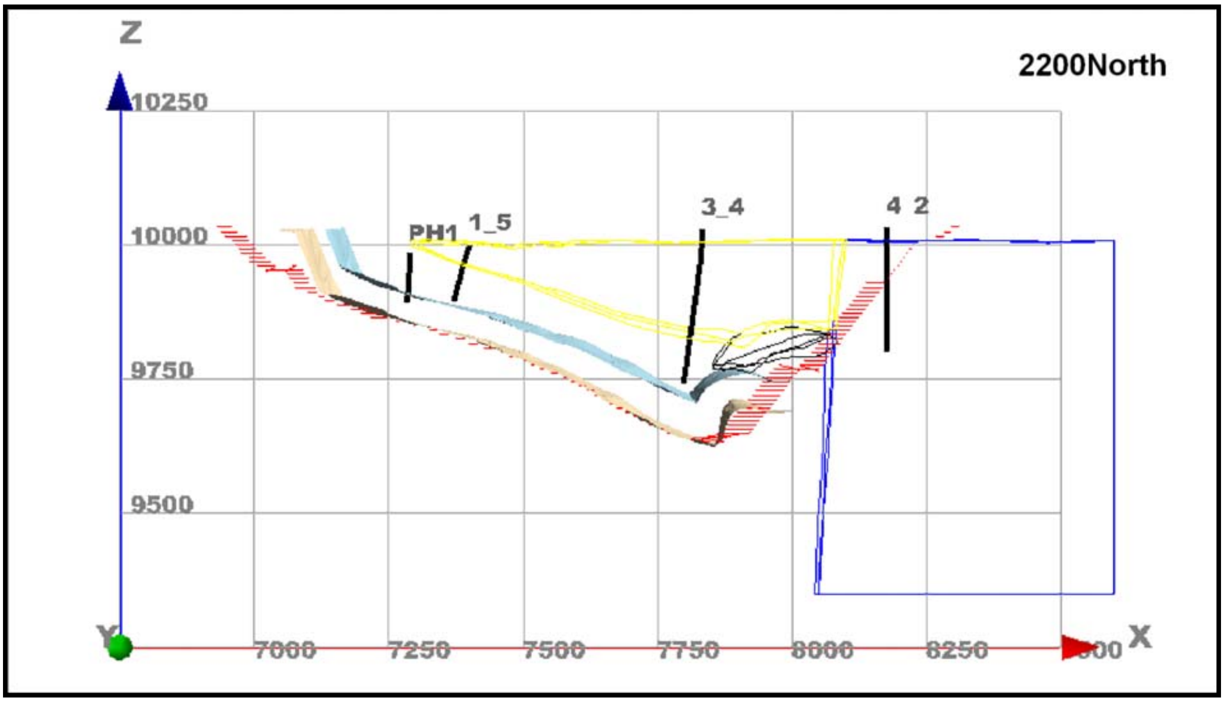

Figure 10: Cross section 2200 North (± 50 metres) looking north, with 2011 drill holes in black, 8 orebody hanging wall surface (cyan), 2 orebody footwall surface (pale brown), Woyzbun Fault plane surface (grey), Cooley Dolomite (blue mesh), proposed open pit shell (red mesh), Upper Stylolite Marker (yellow mesh), footwall of the upper breccia (green mesh) and intense hanging wall pyrite along the eastern side of the pit (black mesh). Note that geological surfaces are based on 2003 data.

Reverse Circulation Hole PH1 - H22/83

Hole PH1	*H22/83*	*2238.0N*	*7288.2E*	*9984.3RL*	*0 Azim(G)*	*-90 Dip*	*94m TD*

The hole was added to the original program at the request of MRM engineers to test the depth to a void. The void was intersected at 94 metres and the rods lowered to 106 metres without reaching the bottom of the void.

The hole intersected variably pyritic shale to 58 metres then interbedded sedimentary breccia and pyritic shale. It was sampled for waste rock characterisation.

Reverse Circulation Hole 1_5 - J22/01

Hole 1_5	*J22/01*	*2212.4N*	*7401.4E*	*10000.2RL*	*270 Azim(G)*	*-70 Dip*	*112m TD*

The hole was drilled for waste rock characterisation to 112 metres. It was collared in the Lower Pyritic Shale unit, intersecting pyritic shale to 30 metres then interbedded breccia and pyritic shale.

The hole was planned to be 132 metres but outside air was lost at 101 metres and it was abandoned at 112 metres when considered too risky to continue.

Reverse Circulation Hole 3_4 - N21/39

Hole 3_4	*K23/20*	*2197.4N*	*7832.4E*	*10028.5RL*	*0 Azim(G)*	*-90 Dip*	*290m TD*

The hole was collared and steel casing cemented to bed rock by BoresNT. It was drilled by reverse circulation to 290 metres for waste rock characterisation and left open for diamond drilling. Due to budgetary and time constraints the diamond drilling has not been completed. It is recommended the bottom of the hole be cemented prior to diamond drilling because rubble fell into the hole during access preparation using waste rock. Down hole azimuths were not measured because stainless steel rods were not used. Azimuths in the data base are set to 260 degrees grid, compatible with adjacent holes.

Based on geological cross sections 3_4 was collared in the Upper Pyritic Shale unit, intersected the Black Bituminous Shale unit at about 80 metres and the top of the Lower Pyritic Shale unit at about 110 metres. It intersected variably pyritic shale to 198 metres and then interbedded sedimentary breccia and pyritic shale.

Reverse Circulation Hole 4_2 - Q22/70

Hole 4_2	*Q22/70*	*2206.6N*	*8175.0E*	*10030.8RL*	*0 Azim(G)*	*-90 Dip*	*232m TD*

The hole was collared and steel casing cemented to bed rock by BoresNT. It tested the Cooley Dolomite for waste rock characterisation.

Down hole azimuths were not measured because stainless steel rods were not used. Azimuths in the data base are set to zero degrees (north) as the dip of the hole remained essentially vertical.

Section 2300 North -Figure 11

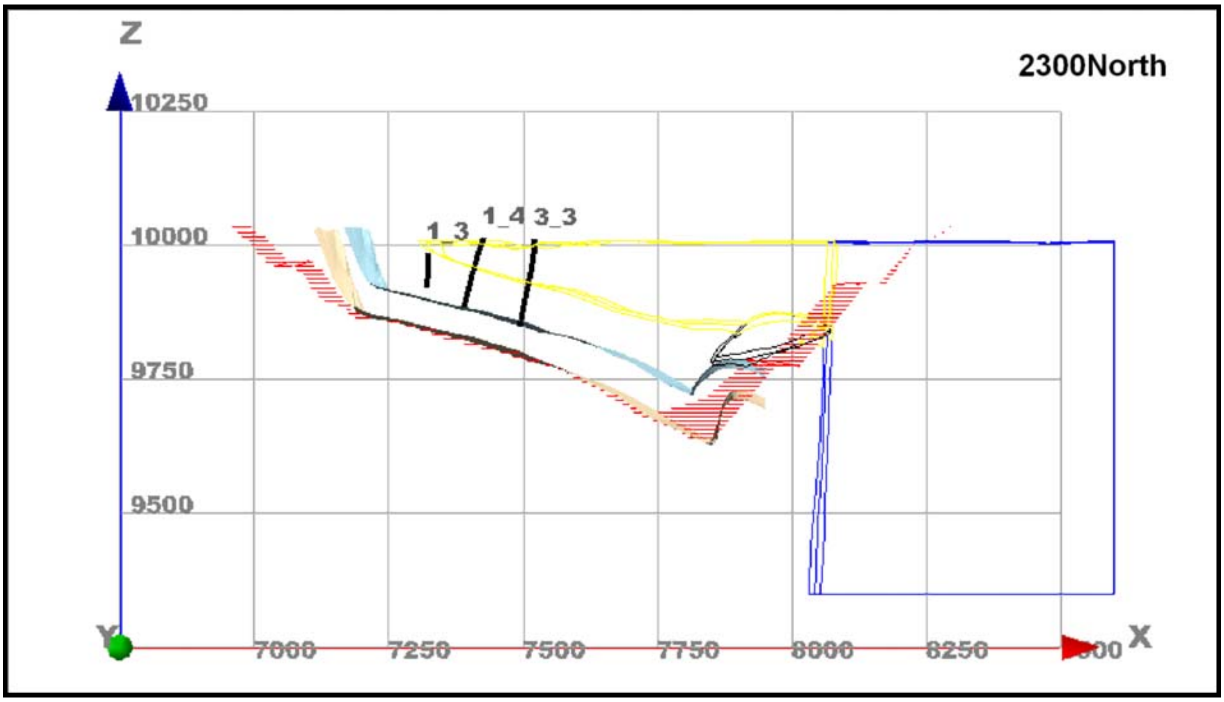

Figure 11: Cross section 2300 North (± 50 metres) looking north, with 2011 drill holes in black, 8 orebody hanging wall surface (cyan), 2 orebody footwall surface (pale brown), Woyzbun Fault plane surface (grey), Cooley Dolomite (blue mesh), proposed open pit shell (red mesh), Upper Stylolite Marker (yellow mesh), footwall of the upper breccia (green mesh) and intense hanging wall pyrite along the eastern side of the pit (black mesh). Note that geological surfaces are based on 2003 data.

Reverse Circulation Hole 1_3 - I23/20

Hole 1_3	*I23/20*	*2300.2N*	*7322.8E*	*9983.86RL*	*0 Azim(G)*	*-90 Dip*	*65m TD*

The hole was drilled by reverse circulation for waste rock characterisation samples. It was designed to be drilled to 83 metres but was abandoned at 65 metres when it hit a positively pressurised void which spouted water for several minutes. The rods were then lowered to 70 metres without reaching the void bottom, estimated to be about 13 metres above the predicted depth to the top of 8 orebody

Reverse Circulation Hole 1_4 - J23/21

Hole 1_4	*J23/21*	*2311.8N*	*7426.2E*	*10012.2RL*	*270 Azim(G)*	*-70 Dip*	*136m TD*

The hole was designed to sample the Lower Pyritic Shale unit for waste rock characterisation. It intersected variably pyritic shale to 52 metres, then interbedded sedimentary breccia and pyritic shale.

Reverse Circulation Hole 3_3 - K23/20

Hole 3_3	*K23/20*	*2306.0N*	*7520.9E*	*10010.5RL*	*0 Azim(G)*	*-90 Dip*	*166m TD*

The hole was drilled by reverse circulation for waste rock characterisation samples. It intersected variably pyritic shale to 74 metres, then interbedded sedimentary breccia and pyritic shale.

Section 2400 North - Figure 12

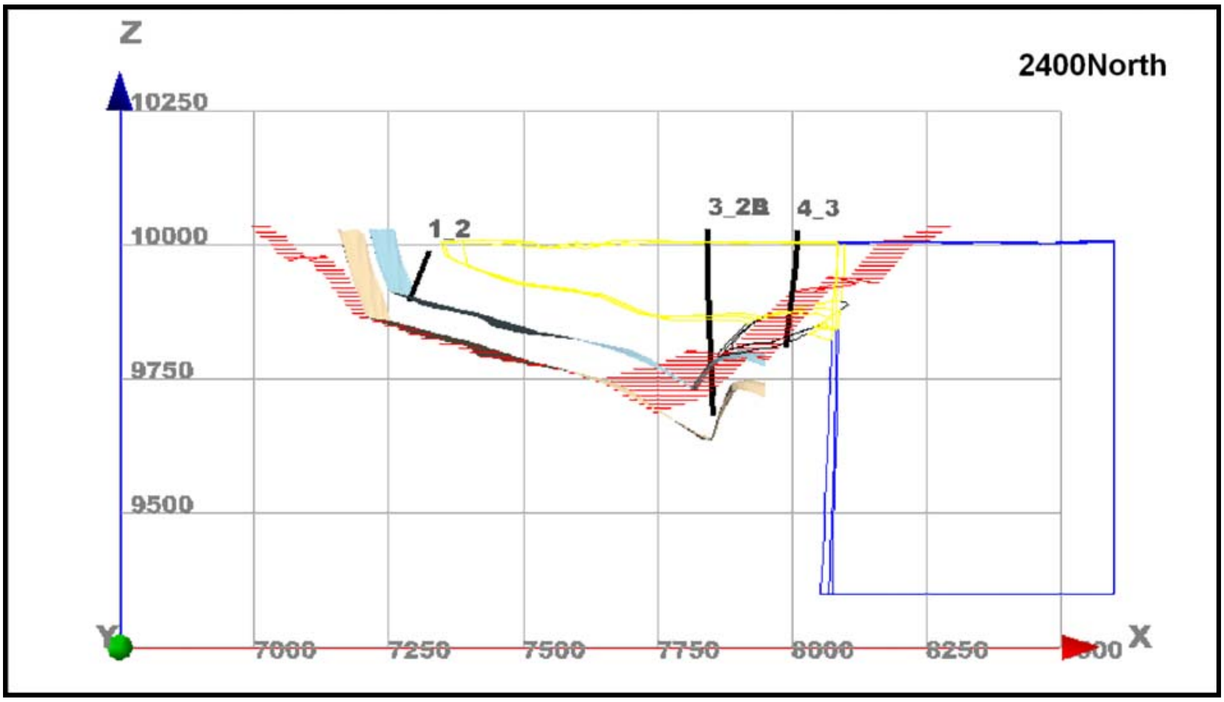

Figure 12: Cross section 2400 North (± 50 metres) looking north, with 2011 drill holes in black, 8 orebody hanging wall surface (cyan), 2 orebody footwall surface (pale brown), Woyzbun Fault plane surface (grey), Cooley Dolomite (blue mesh), proposed open pit shell (red mesh), Upper Stylolite Marker (yellow mesh), footwall of the upper breccia (green mesh) and intense hanging wall pyrite along the eastern side of the pit (black mesh). Note that geological surfaces are based on 2003 data.

Reverse Circulation Hole 1_2 - I24/21

Hole 1_2	*I24/21*	*2413.5N*	*7325.3E*	*9988.01RL*	*270 Azim(G)*	*-70 Dip*	*101m TD*

Hole 1_2 was drilled by reverse circulation for waste rock characterisation. It was collared in the Lower Pyritic Shale unit.

Reverse Circulation and Diamond Hole 3_2 - N24/42

Hole 3_2	*N24/42*	*2418.1N*	*7844.3E*	*10028.5RL*	*0 Azim(G)*	*-90 Dip*	*313.4m TD*

The hole was collared by BoresNT, drilled by reverse circulation to 220 metres for waste rock characterisation and deepened with PQ2 and two HQ2 wedges for metallurgical sampling.

The geological sections indicate that the hole was collared in the Upper Pyritic Shale unit, intersected Black Bituminous Shale from about 60 to 100 metres and stopped in the Lower Pyritic Shale unit 18 metres above the top of 8 orebody. It intersected variably pyritic shale to 158 metres then interbedded pyritic shale and sedimentary breccia.

The reverse circulation hole was deepened to 313.4 metres with PQ2 core as hole 3_2. The hole intersected a sedimentary breccia influenced mineralised sequence typical of the northern end of the deposit. Core bedding angles are between 15 and 35 degrees below 264 metres, the middle of 5 orebody. Hole 3_2 intersected;

- A normal 7 to 8 orebody sequence
- Only 0.9 metres of 6 orebody, which is probably displaced by sedimentary breccia
- A 5 upper orebody which is contorted and disrupted by sedimentary breccia beds and isolated breccia clasts.
- A reverse fault at 295.2 metres, about 1.2 metres below the upper 4 orebody tuff, which repeats about 4.5 metres of 4 orebody

The hole stopped at 313.4 metres, 3.3 metres (true thickness about 1.6 metres) below the top of 3 orebody, when it hit a positively pressured cavity expelling significant water and air.

Hole 3_2A is a non-directional wedge which commenced full coring at 229.0 metres, 8.9 metres above the top of 8 orebody. It stopped at 347.3 metres close to the bottom of 3 orebody. Below the middle of 5 orebody the core bedding angles are about 30 degrees. The hole is similar to 3_2, with the exception of the reverse fault. It was stopped when water circulation was lost.

Hole 3_2B is a non-directional wedge set by rotating the 3_2A wedge 180 degrees, from the same level. Full coring commenced at 229.0 metres, 8.7 metres above the top of 8 orebody. It intersected a similar sequence to 3_2A, stopping at 311.1 metres, about one metre (true thickness) below the top of 3 orebody when the rods hit a negatively pressurised void.

Reverse Circulation Hole 4_3 - P24/00

Hole 4_3	*P24/00*	*2406.8N*	*8009.1E*	*10026.7RL*	*0 Azim(G)*	*-90 Dip*	*220m TD*

The hole was collared by BoresNT then drilled by reverse circulation for waste rock characterisation sampling. It targeted the highly pyritic hangingwall zone along the eastern edge of the deposit. Based on geological cross sections the hole was collared in the Upper Pyritic Shale unit, entered the Black Bituminous shale unit at about 60 metres and the Lower Pyritic Shale unit at about 100 metres.

The geological drill log indicates it intersected variable pyritic shale to 170 metres and interbedded pyritic shale and sedimentary breccia to the bottom of the hole. The pyrite content between 130 and 190 metres was estimated at 30% to 70%, corresponding with the highly pyritic interval in the hanging wall along the eastern side of the deposit.

Down hole azimuths were not measured because stainless steel rods were not used. Azimuths in the data base are set to 260 degrees grid, compatible with adjacent holes.

Section 2500 North - Figure 13

Reverse Circulation and Diamond Hole 1_1- K24/48 Figure

Hole 1_1	*K24/48*	*2484.7N*	*7547.5E*	*10011.1RL*	*0 Azim(G)*	*-90 Dip*	*213.8m TD*

Planned hole 1_1 was moved 42 metres SSE to replace waste rock and metallurgical hole 3_1, which was abandoned at 94 metres. It was collared in the Black Bituminous Shale unit and stopped at 175 metres in the Lower Pyritic Shale unit, 5.6 metres above the top of 8 orebody.

Hole 1_1 was deepened by diamond drilling to 213.8 metres for metallurgical sampling. It was drilled with PQ2 from 175.1 to 183.1 metres and then HQ2 to the bottom of the hole. It was abandoned in a void at the top of 4 upper horizon. The mineralised sequence is complete, with thickened sedimentary breccia beds reflecting the holes northing.

Hole 1_1A is an HQ2 non-directional wedge which was cored from 178.6 metres, 1.9 metres above the top of 8 orebody. It hit a void at 215.5 metres, within the 4 middle breccia. The rods were lowered to 219.0 metres confirming the presence of a void. The hole was extended 0.7 metres past the void intersecting possible 2 orebody before being stopped due to drilling difficulties caused by the void.

Hole 1_1B is second HQ2 non-directional wedge completed from the same depth as 1_1A by turning the wedge 180 degrees. It cored from 178.4 metres, 2.2 metres above the top of 8 orebody. The wedge was abandoned at 215.5 in a void, within the 4 middle breccia.

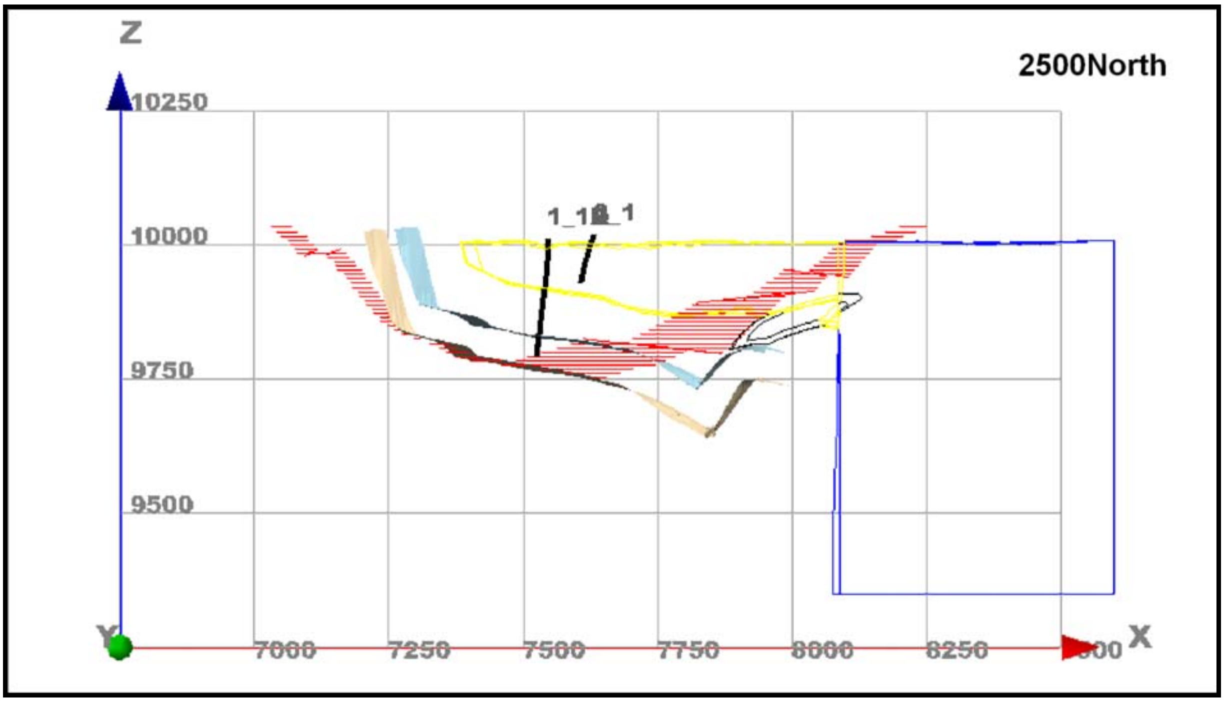

Figure 13: Cross section 2500 North (± 50 metres) looking north, with 2011 drill holes in black, 8 orebody hanging wall surface (cyan), 2 orebody footwall surface (pale brown), Woyzbun Fault plane surface (grey), Cooley Dolomite (blue mesh), proposed open pit shell (red mesh), Upper Stylolite Marker (yellow mesh), footwall of the upper breccia (green mesh) and intense hanging wall pyrite along the eastern side of the pit (black mesh). Note that geological surfaces are based on 2003 data.

Reverse Circulation Hole 3_1 - L25/30

Hole 3_1	L25/30	2502.9*N*	7631.9*E*	10017.3*RL*	*270 Azim(G)*	*-70 Dip*	*94m TD*

The hole was collared in alluvium and sampled for waste rock characterisation. The collar was lost when the hole was at 94 metres. The hole probably sampled the Black Bituminous Shale unit.

Section 2600 North

There were no holes drilled on this section.

Section 2700 North - Figure 14

Reverse Circulation Hole 4_1 - K26/56

Hole 4_1	*K26/56*	*2667.7N*	*7554.9E*	*10013.5RL*	*270 Azim(G)*	*-70 Dip*	*58m TD*

The hole was drilled for waste rock characterisation. It was abandoned in the Black Bituminous Shale unit when the collar was lost at 58 metres.

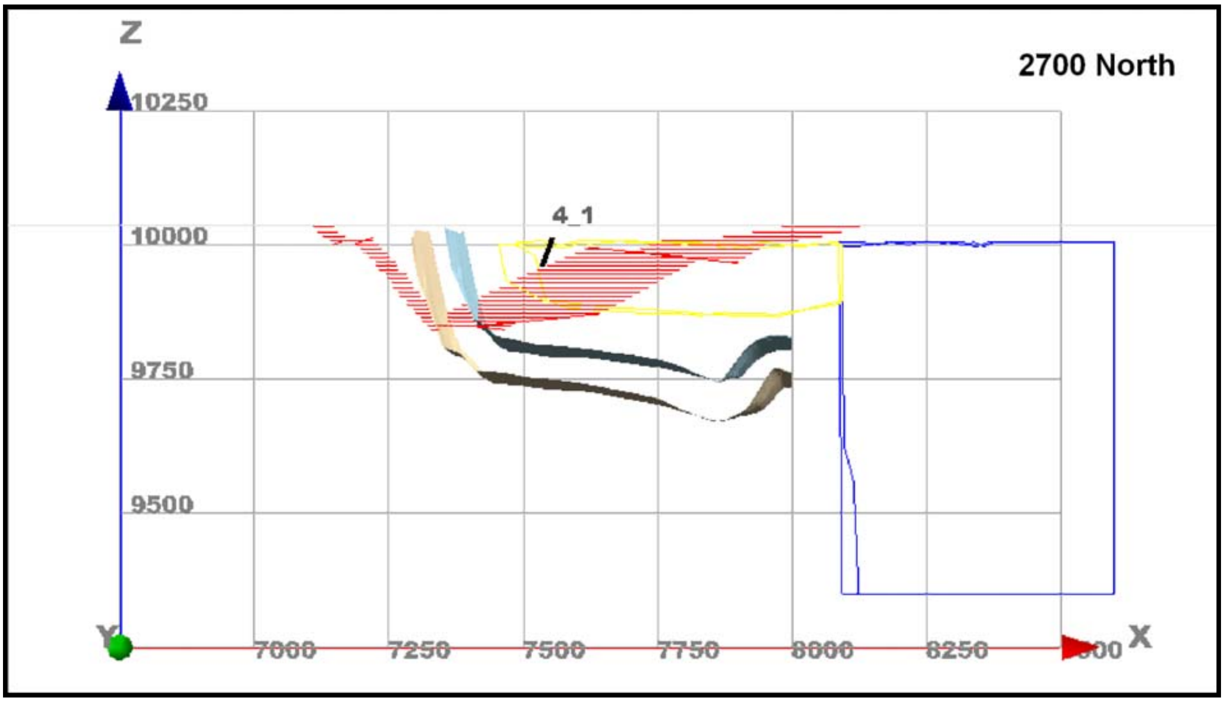

Figure 14: Cross section 2700 North (± 50 metres) looking north, with 2011 drill holes in black, 8 orebody hanging wall surface (cyan), 2 orebody footwall surface (pale brown), Woyzbun Fault plane surface (grey), Cooley Dolomite (blue mesh), proposed open pit shell (red mesh), Upper Stylolite Marker (yellow mesh), footwall of the upper breccia (green mesh) and intense hanging wall pyrite along the eastern side of the pit (black mesh). Note that geological surfaces are based on 2003 data.

3 WASTE ROCK CHARACTERISATION SAMPLING

One diamond and 22 reverse circulation drill holes were sampled for waste rock characterisation (Figure 1 and Table 2). Despite many of the holes producing significant amounts of water via outside return, samples were generally dry and with a good sample recovery due to the use of a booster and second compressor. Sample details are provided in Appendix G.

Initial attempts to composite the samples on geology were abandoned due to the monotony of the geological sequence and the resulting difficulty in picking meaningful geological boundaries from rock chips. Samples were therefore generally composited over five by one metre intervals, with each one metre interval represented by an equal sample weight. Samples were sent to MET Serve in Brisbane for processing.

Table 2: Holes and sample numbers sampled for waste rock characterisation

Hole	Grid Name	From	To	Samples	Sample Numbers	
Reverse Circulation drilling						
1_1	K24/48	4	175	34	82407	82440
1_2	I24/21	4	101	19	82441	82459
1_3	I23/20	5	65	12	82395	82406
1_4	J23/21	4	136	27	82460	82486
1_5	J22/01	4	112	22	82487 85351	82500 85358
1_6	I21/51	5	112	22	82373	82394
1_7	J20/97	4	160	31	85553	85583
1_8	J19/69	4	142	28	85525	85552
2_2	I16/19	6	110	24	82349	82372
3_1	L25/30	10	94	17	82263	82279
3_2	N24/41	20	220	46	82045 82073	82070 82092
3_3	K23/20	4	166	32	85437	85468
3_4	N21/39	19	290	68	82145	82212
3_5	K19/49	4	196	38	85469	85506
3_7	M17/98	18	298	57	82292	82348
3_9	J14/19	4	178	35	85359	85393
3_10	M14/36	21	232	43	85394	85436
4_1	K26/56	4	58	12	82280	82291
4_2	Q22/70	19	232	44	82001	82044
4_3	P24/00	20	220	50	82094 82117	82115 82144
4_7	O15/72	22	232	50	82213	82262
PH1	H22/83	4	94	18	85507	85524
			Total RC samples	**729**		
Diamond Drilling						
4_5	J18/99	5	191	186	85701	85886
			Total DD samples	**186**		

The sampling protocol for the reverse circulation drilling was specified by Mining and Energy Technical Services Pty Ltd (MET Serve) Brisbane, and comprised;

- For every one metre interval drilled, 12.5% of the sample return was collected in a calico bag from the rig mounted 3 tier cyclone splitter.
- Approximately 200 grams of each one metre sample were composited into a single sample representing 5 metres of drilling. No allowance was made for varying sample return, however, for most intervals sample return was good and generally dry. Each composited sample weighs between 1 and 1.5 kilograms.
- In the first few holes attempts were made to vary the drill length of the composited sample based on geology, however, this was not practical due to the general broad similarity of the geology being drilled. The composited samples which represent less than 5 metres were made up to the nominal 1 kilogram weight.
- The composited sample is in a calico bag with the drill hole name, sample depth, and sample number written on the outside, and a numbered sample tag inside the bag. The calico bag is inside a plastic bag which also has the sample number written on it in two locations

The sampling method produces a non-representative composite sample because each one metre drill interval is sampled by weight and not percentage. This results in samples with low recovery being over represented and those with high recovery under represented in the composite.

Hole 4_5 was diamond cored from surface. Samples comprise cut quartered core bagged in one metre intervals.

4 METALLURGICAL DIAMOND DRILLING

Samples for metallurgical sampling were obtained from 3 PQ2 holes drilled from surface, 3 PQ2/HQ3 tails from reverse circulation holes and 4 HQ2 wedges from PQ2 holes. Hole 3_8 was the only hole not to intersect a void (Table 3).

Core was stored in a refrigerated container set at +5 degrees, and full core sent to JKTech in Brisbane for processing (Table 4).

The drill core was geologically logged (Appendix D) and ore lens boundaries clearly defined with crayon. Drill core tray photographs are in Appendix E.

Estimated sample weights, using 18 kilograms/metre for PQ2 core and 10 kilograms/metre for HQ2 core, are listed in Table 5.

Table 3: Holes drilled for metallurgical sampling

Hole	Grid Name	East	North	RL	AzimG	Dip	Start	Finish	Start Core	Top 8 O/B	EOH	Metres	Ended In
1_1	K24/48	7547.504	2484.773	10011.091	0	-90	8-Nov-11	18-Nov-11	174.9	180.5	213.8	38.9	4UA
1_1A	K24/48A	7547.504	2484.773	10011.091	0	-90	18-Nov-11	20-Nov-11	178.6	180.5	219.7	41.1	4MA
1_1B	K24/48B	7547.504	2484.773	10011.091	0	-90	20-Nov-11	21-Nov-11	178.4	180.6	215.5	37.2	4MA
1_7	J20/97	7497.548	2071.188	10010.974	0	-90	29-Nov-11	9-Dec-11	159.6	168.2	207.1	47.5	3LB
3_2	N24/41	7844.304	2418.060	10028.530	0	-90	13-Oct-11	4-Nov-11	219.8	237.9	313.4	93.6	3UA
3_2A	N24/41A	7844.304	2418.060	10028.530	0	-90	5-Nov-11	8-Nov-11	229.0	237.9	347.3	118.3	3LD
3_2B	N24/41B	7844.304	2418.060	10028.530	0	-90	8-Nov-11	11-Nov-11	228.0	237.7	311.1	83.1	3UA
3_8	H15/29	7227.406	1599.469	9952.663	270	-70	13-Nov-11	15-Nov-11	0.5	35.6	79.9	79.4	LdH
3_8B	H15/39	7234.241	1596.822	9952.556	270	-70	4-Dec-11	5-Dec-11	0.0	42.1	73.3	73.3	2C
3_9	J14/19	7416.957	1499.849	10012.724	270	-70	15-Dec-11	16-Dec-11	177.8	182.5	203.0	25.2	4LA
4_5	J18/99	7497.118	1890.109	10010.579	0	-90	23-Nov-11	2-Dec-11	0.0	193.4	219.7	219.7	4UA
												857.2	

Table 4: Core trays sent to JKTech for metallurgical testing

Hole	Trays	Number of Trays
1_1	3 to 13	11
1_1A	1 to 11	11
1_1B	1 to 11	11
1_7	4 to 18	15
3_2	7 to 37	31
3_2A	4 to 35	32
3-2B	4 to 25	22
3_8	15 to 29	15
3_8B	17 to 29	13
3_9	1 to 9	9
4_5	72 to 79	8
	Total	**178**

Table 5: Estimated sample weights of metallurgical samples

Hole	1.1		K24/48	7547.504 E	2484.773 N	10011.091RL		
			1_1	PQ/HQ	1_1a	HQ	1_1b	HQ
Body	Total Weight		Length	Weight	Length	Weight	Length	Weight
8	207.5		6.1	86.5	6.1	61	6	60
7	138		4.55	45.5	4.65	46.5	4.6	46
6	61		2	20	2.1	21	2	20
5U	63.5		0.6	6	3.9	39	1.85	18.5
5M	32		1.05	10.5	1	10	1.15	11.5
5L	13.5		0.45	4.5	0.35	3.5	0.55	5.5
4U	13		0.6	6	0.4	4	0.3	3
4L	0		0	0		0		0
3U	0		0	0		0		0
3MA	0		0	0		0		0
3L	0		0	0		0		0
2	0		0	0		0		0

Note: The 8 orebody intersection in hole 1_1 is partly PQ2 and HQ2 core

Hole	Hole 1_7		J20/97	7497.5E	2071.1N	10010.9RL
			1_7	PQ		
Body	Total Weight		Length	Weight		
8	71.1		3.9	71.1		
7	68.4		3.8	68.4		
6	36.0		2.0	36.0		
5U	41.4		2.3	41.4		
5M	12.6		0.7	12.6		
5L	8.1		0.5	8.1		
4U	9.0		0.5	9.0		
4L	71.1		4.0	71.1		
3U	54.0		3.0	54.0		
3MA	27.9		1.6	27.9		
3L	29.7		1.7	29.7		
2	0.0		0.0	0.0		

Hole	Hole 3_9		J14/19	7416.9E	1499.8N	10012.7RL
			3_9	PQ		
Body	Total Weight		Length	Weight		
8	84.6		4.7	84.6		
7	88.2		4.9	88.2		
6	36.9		2.1	36.9		
5U	57.6		3.2	57.6		
5M	16.0		0.9	16.0		
5L	4.5		0.3	4.5		
4U	3.6		0.2	3.6		
4L	36.0		2.0	36.0		
3U	0.0			0.0		
3MA	0.0			0.0		
3L	0.0			0.0		
2	0			0		

Table 5: Estimated sample weights of metallurgical samples (continued)

Hole	3_2		N24/41	7844.304E	2418.06N	10028.53RL		
			Hole 3_2	PQ	Hole 3_2A	HQ	Hole 3_2B	HQ
Body	Total Weight		Length	Weight	Length	Weight	Length	Weight
8	200.2		5.2	92.7	5.5	54.5	5.3	53.0
7	174.8		4.6	82.8	4.4	44.0	4.8	48.0
6	50.2		0.9	16.2	2.0	20.0	1.4	14.0
5U	72.2		1.9	34.2	2.5	25.0	1.3	13.0
5M	60.5		1.5	27.0	1.7	17.0	1.7	16.5
5L	33.2		0.9	16.2	0.8	8.0	0.9	9.0
4U	88.7		2.7	47.7	0.9	9.0	3.2	32.0
4L	459.1		12.5	224.1	12.2	122.0	11.3	113.0
3U	139.4		3.3	59.4	5.5	55.0	2.5	25.0
3MA	39.0		0.0	0.0	3.9	39.0	0.0	0.0
3L	140		0	0	14	140	0	0
2	0		0	0	0	0	0	0

Hole	Hole 3_8		H15/29	7227.4E	1599.4N	9952.6RL
	Hole 3_8B		H15/39	7234.2E	1596.8N	9952.5RL
			3_8	PQ	3_B	PQ
Body	Total Weight		Length	Weight	Length	Weight
8	58.5		0.8	14.4	2.5	44.1
7	73.8		4.1	73.8	0.0	0.0
6	70.2		2.9	51.3	1.1	18.9
5U	138.6		3.9	70.2	3.8	68.4
5M	40.5		0.9	15.3	1.4	25.2
5L	9.9		0.5	8.1	0.1	1.8
4U	34.2		0.9	16.2	1.0	18.0
4L	121.5		3.1	55.8	3.7	65.7
3U	70.2		1.1	19.8	2.8	50.4
3MA	56.2		1.4	25.2	1.7	31.0
3L	207.9		6.2	111.6	5.4	96.3
2	81.0		2.4	43.2	2.1	37.8

Hole	Hole 4_5		J18/99	7497.1E	1890.1N	10010.5RL
			4_5	HQ		
Body	Total Weight		Length	Weight		
8	45.5		4.6	45.5		
7	39.5		4.0	39.5		
6	20.0		2.0	20.0		
5U	28.0		2.8	28.0		
5M	9.0		0.9	9.0		
5L	5.0		0.5	5.0		
4U	7.0		0.7	7.0		
4L	30.0		3.0	30.0		
3U	0.0		0.0	0.0		
3MA	0.0		0.0	0.0		
3L	0.0		0.0	0.0		
2	0.0		0.0	0.0		