

20 Apr 2010

# 12 year initial Ore Reserve for Big Hill Tungsten Deposit Highlights

- □ An initial Ore Reserve has been estimated for Hazelwood's 100% owned Big Hill Tungsten Deposit in Western Australia, recovering approximately 2.1 million metric tonne units of tungsten concentrate over a 12 year mine life.
- □ 75% of the Ore Reserve is in the Proved category. This significantly de-risks the project and confirms Big Hill as a leading contender in the global tungsten industry.
- ☐ The extra value created by Hazelwood's vertical integration has allowed a bulk mining scenario for Big Hill with indicated life of mine strip ratios of less than 2.2 to 1 and has enabled the mining and processing to low cut-off grades. Strip ratios during the first three years of operation are less than 1 to 1.
- □ Big Hill is expected to provide between 1/3<sup>rd</sup> to 2/3<sup>rds</sup> of the feedstock for Hazelwood's majority owned ferrotungsten project that is currently under construction in Vietnam
- ☐ The Ore Reserve is one of the final elements of the pre-feasibility study for Big Hill.

  A detailed mine schedule is being integrated into the pre-feasibility financial model which is expected to be released around the end of April 2010.
- □ Further results from Hazelwood's recently completed intensive drilling campaign are expected to provide increases to the Resource base and lead to further increases to the Ore Reserve during the definitive feasibility study.
- □ Together with Hazelwood's 100% owned Big Hill Tungsten Deposit, the new ferrotungsten project positions Hazelwood as a global player in the tungsten industry and Australia's only vertically integrated tungsten company.

#### Big Hill Tungsten Deposit Ore Reserve

	Mt	% WO <sub>3</sub>	mtu
Proved Reserve	18.78	0.11	2,516,618
Probable Reserve	6.43	0.11	1,249,123
Total	25.21	0.11	4,807,434
Ore Processed (with dilution)	28.59	0.10	2,897,733
Concentrate Recovered (mtu)		2,095,500	
Overall Recovery to Concentrate		72.5%	

### **Ore Reserve Statement**

The Ore Reserve estimate for the Big Hill Tungsten Deposit was conducted by Orelogy Pty Ltd based on pit optimisation studies using Whittle 4x software and a minimum mill feed (cut off) grade of 0.05% WO<sub>3</sub>

	Mt	% WO <sub>3</sub>	mtu
Proved Reserve	18.78	0.11	2,076,399
Probable Reserve	6.43	0.11	731,515
Total Ore	25.21	0.11	2,807,914
Waste Mined:	55.33	Strip Ratio:	2.19: 1
Concentrate Recovered (mtu)	2,095,500		

The pit optimisation applied an exchange rate of AUD/USD = 0.85 and discount rate of 6.8% corresponding to Hazelwood's cost of equity capital as calculated by the CAPM and adjusted to real terms. A royalty of 2.5% is applied to all concentrate sold.

A mine life of 12 years is indicated, recovering between 170,000 to 230,000 metric tonne units of tungsten concentrate per annum.

#### Mineral Resource

The Ore Reserve is a subset of the Indicated and Measured Mineral Resource reported by the Company on 26 March 2010. A summary of the Mineral Resource, stated at various % WO3 cut-off grades is presented below;

0.05% cut-off	Mt	% WO <sub>3</sub>	mtu
Measured	22.94	0.11	2,516,618
Indicated	11.95	0.10	1,249,123
Inferred	12.54	0.08	1,041,755
Total	47.43	0.10	4,807,434

0.1% cut-off	Mt	% WO <sub>3</sub>	mtu
Measured	9.51	0.16	1,540,678
Indicated	4.51	0.16	704,635
Inferred	2.21	0.14	297,232
Total	16.22	0.16	2,542,619

#### **Price Assumption**

The price assumption uses a net pricing mechanism, which applies the projected ferrotungsten price minus conversion costs, transport costs and minority interests in the ferrotungsten project. The long term net price assumption for the purpose of ore reserve estimation is approximately \$US406/mtu,

#### **Ferrotungsten Price**

Minus: transport costs of Big Hill concentrate to Vietnam

Minus: conversion costs to ferrotungsten

Minus: minority interests in ferrotungsten business unit

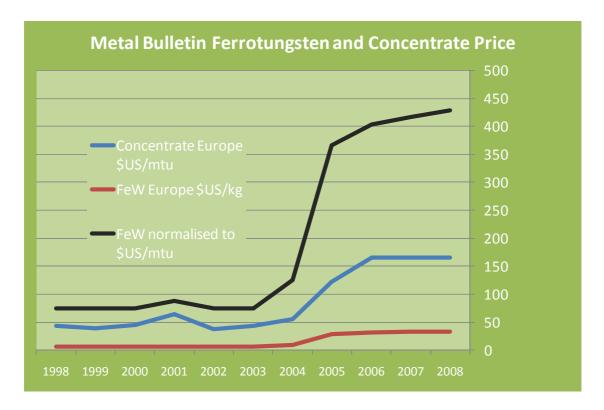
Plus: transfer price of Big Hill concentrate to ferrotungsten business unit

= Net Price (metal payable) used for pit optimisation & Ore Reserve

The transfer price of concentrate between Big Hill, which is 100% owned by Hazelwood, and the ferrotungsten business is based on price projections by independent market analysis group CRU covering the period 2011 to 2013. The 2013 concentrate price forecast (in real terms) is applied for years beyond 2013.

Due to copyright and intellectual property protection, year by year concentrate price projections provided by CRU are not disclosed here in detail. The average concentrate price under CRU's strong growth scenario over the forecast period 2011 to 2013 is \$US198 per metric tonne unit (real dollars 2009 base year). At the time of this announcement, Chinese tungsten concentrates are approximately \$US170 per metric tonne unit.

The ferrotungsten and concentrate price relationship has been analysed by a regression analysis of concentrate and ferrotungsten over a ten year period. The price series show strong correlation.



The ferrotungsten price projections are derived from the regression model applied to concentrate price forecasts by CRU. The derived net price projections used for pit optimisation and Ore Reserve estimation (in real \$US base year 2009) are presented below. The data have been normalised to metric tonne units.



# **Open Pit Design Criteria & Mining Costs**

Open pit design criteria are based on information provided by Chris Orr of George Orr and Associates, following a review of drill core and geotechnical data from the Big Hill Deposit. Hazelwood has drilled six dedicated geotechnical core holes which are currently being reviewed to further develop pit design criteria for the definitive feasibility study.

Design criteria for the Open Pit mine are tabulated below

design assumptions			
Double pass ramp	22m		
single pass ramp	15m		
ramp gradient	1:10		
material within no	n footwall material		
flitch height	5m		
vertical distance between berms	15m		
Berm	8m		
face angle	80 degrees		
extra width berm	12m		
vertical distance between extra			
width berms	45m		
material within footwall material			
flitch height	5m		
vertical distance between berms	5m		
Berm	6m		
face angle	80 degrees		
extra width berm	12m		
vertical distance between extra			
width berms	45m		

The current mine design does not mine into the footwall. Part of the Mineral Resource is known to extend into the footwall and future mining studies may exploit the footwall zone and lead to increased mine life. The crest of the final pit extends across Cookes Creek, and a re-alignment of the creek may be required after the third year of mining.

A detailed mine schedule is currently being developed and is based on drill & blast, load haul dump using 100 tonne excavators and 85 tonne mining trucks and contractor mining.

Life of mine mining costs are approximately \$A3.14 per tonne of material delivered to the ROM pad. Grade control, rehabilitation and fixed mining costs are built into the processing cost section.

Ore recovery of 95% and dilution of 10% has been assumed.

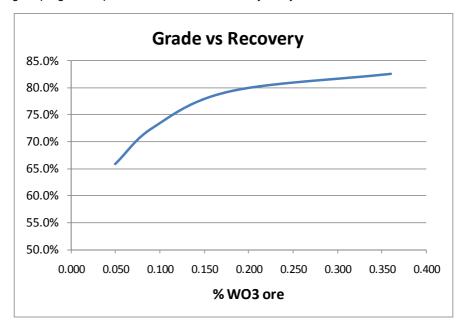
The information in this report that relates to ore reserve estimation has been compiled by Mr Steve Craig of Orelogy Pty Ltd. Mr Craig has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he has undertaken to qualify as a competent person as defined in the 2004 edition of the Australasian Code for the reporting of exploration results, mineral resources and ore reserves. Mr Craig consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

# **Metallurgical Recovery**

Extensive metallurgical testwork programs have been completed at both bench scale and pilot scale on several tonnes of representative samples of ore from Big Hill. The ore is amenable to concentration by gravity separation methods. Testwork has been reviewed by recognised independent experts in gravity processing technology.

Six separate representative drill core samples of ore were subject to variability testwork from which a grade-recovery relationship was derived. Process recovery of up to 82% is indicated. Life of mine process recovery for all ore processed is 72.5%.

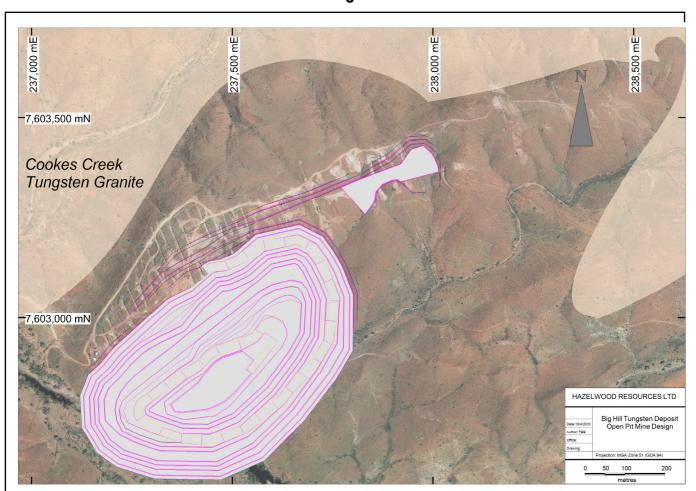
On-going pilot scale testwork is being conducted on bulk samples of excavated ore and large diameter core samples of ore as part of the metallurgical program required for a definitive feasibility study.



# **Processing Costs**

Processing costs were estimated to +/20% accuracy as a result of work completed by GR Engineering Services during October 2009. The processing costs of \$8.92/tonne were based on a crushing, ore sorting and gravity beneficiation flowsheet with a nominal throughput of 2.1 to 2.3 Mtpa of ore. Fixed mining overheads, grade control and rehabilitation costs have been added.

Ore Sorting Option	\$A/tonne
Crushing & X-ray Sorting	1.63
Ore Storage and Reclaim	0.03
Milling & Classification	1.88
Gravity Separation	0.29
Concentrate Dewatering	0.03
Tailings Disposal	0.09
Reagent Mixing	0.01
Services	0.52
Administration	4.44
Subtotal	8.92
Rehab, Grade Control, Fixed Mining Overheads	2.49
Total	11.39

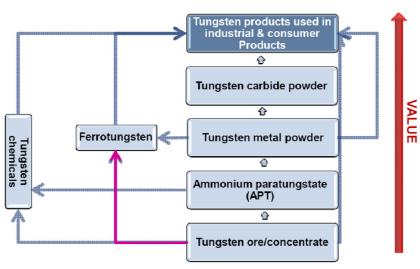


# tungsten value chain



tungsten is our game

	unit of sale	Current Price \$US	\$US/mtu equivalent	Value add coefficient	
Tungsten Concentrate	mtu	168	168	1.00	Hazelwood's Big Hill Deposit
APT	mtu	212	212	1.26	XTC toll processing arrangement
Tungsten Oxide	tonne	21,500	215	1.28	
Tungsten Carbide Powder	kg	28.5	359	2.14	
Ferrotungsten	kg	31.5	397	2.36	Hazelwood's majority stake in ATC



**ASX Announcement 20 April 2010**