



# The Model for Tungsten

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# Investments Highlight

- ✿ Tungsten is the right sector to be in, with sound fundamental drivers giving strong demand and firm pricing
- ✿ **Tungsten Mining** offers the best value investment in the tungsten space:
  - High grade tungsten deposits
  - A thorough understanding of tungsten and its market
  - Ability to deliver a profitable tungsten business in the shortest possible timeframe
  - Significant project book value within a year
  - Profit multiplier via a broad project pipeline

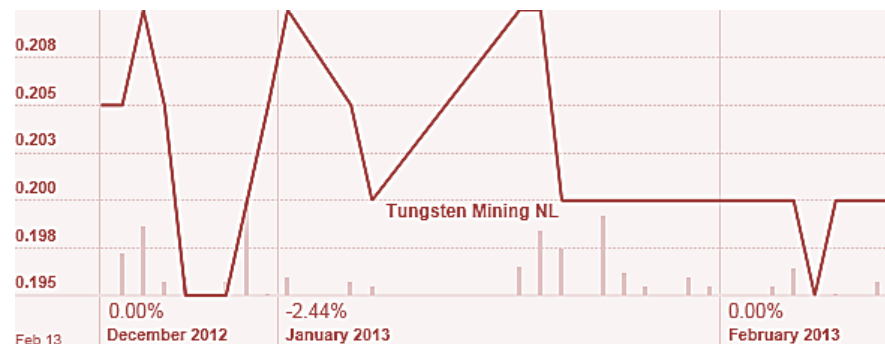


# Corporate Overview

## ☀ Company Information

<b>Ticker:</b>	TGN
<b>Listing:</b>	ASX (December 2012)
<b>Shares in issue:</b>	79,054,379
<b>Market Cap:</b>	A\$15.8 million (as of 20 Feb 2013)
<b>Options:</b>	15,000,000
<b>Cash:</b>	A\$4.3 million
<b>Debt:</b>	Nil
<b>Directors:</b>	Patrick McManus Paul Berndt Francis Loh

## ☀ Share Price Performance



## ☀ Top 5 Shareholders

Poh Yeo Siak	7.59%
Northern Minerals Ltd	5.06%
SM3 Res PL	5.06%
Ocean State Entps Ltd	5.06%
Hilux Res Pl	4.43%

# Experienced Leadership

## **Paul Berndt** - Managing Director of Tungsten Mining

- A Metallurgist with a strong background in project development, mining operations and process engineering
- 38-year career in Australia, China, Indonesia, Peru, Spain and Venezuela
- Enterprises involving tungsten, base metals, coal, diamonds, gold, industrial minerals, platinum-group metals and diamonds
- **Tungsten experience:**
  - Managing Director and General Manager of a tungsten mining operation in Spain
  - A very similar skarn orebody to Kilba and about 3x the size of Kilba's proposed operation, but with a lower recovery rate and lower overall tungsten output
  - Established a profitable operation and readied it for sale
- **Mining Development:**
  - As VP Development, responsible for the Jianchaling gold mine in Shaanxi Province, China
  - Project Manager for the Queensland Magnesite Project, for the engineering company that built the project
  - Developed the Parambahan coal mine in Indonesia and the Ebenezer and Baralaba coal mines in Queensland
  - Numerous engineering studies at all levels, from conceptual to detailed engineering

# Strong Board & Management



## **Patrick McManus – Non-Executive Chairman**

- Metallurgist and Industrial minerals specialist with over 35 years experience
- CEO and MD of Potash West NL
- Founding Director and former MD of Corvette Resources



## **Francis Loh – Non-Executive Director**

- Accountant (Level 2 ACCA), experienced in SE Asian capital markets and significant commercial experience with Singaporean companies
- Ex-Finance Manager for Oriental Group Ltd, a Singaporean listed entity from 2005 to 2012
- Currently, director with a corporate advisory firm, providing personal investment planning and company restructuring services to a variety of clients



## **Robert Van der Laan – CFO**

- Qualified accountant with more than 25 years experience in public and private companies
- Also sole director of Richmond Resources Pty Ltd, vendor of the 20% interest in the Callie Soak Project, which Tungsten Mining has acquired





# Kilba – Flagship Project



- ✿ 100% owned
- ✿ Explored by Union Carbide up to the 1980s
- ✿ Target pits: 1.3-1.4Mt @+0.7-0.9% WO<sub>3</sub>
- ✿ JORC compliant resources is on the way
- ✿ Coarse mineralogy and simple metallurgy ~ 84% recovery
- ✿ Equivalent to 5g/t Au deposit
- ✿ Situated on a granted mining lease
- ✿ Company's short-term goal is to develop a mine at the Kilba Well

# Kilba Well Phase I Drilling Results

Kilba Project, Zone 11 Prospect, HQ Diamond Drilling– (>1.5m at 0.10 % WO<sub>3</sub>)

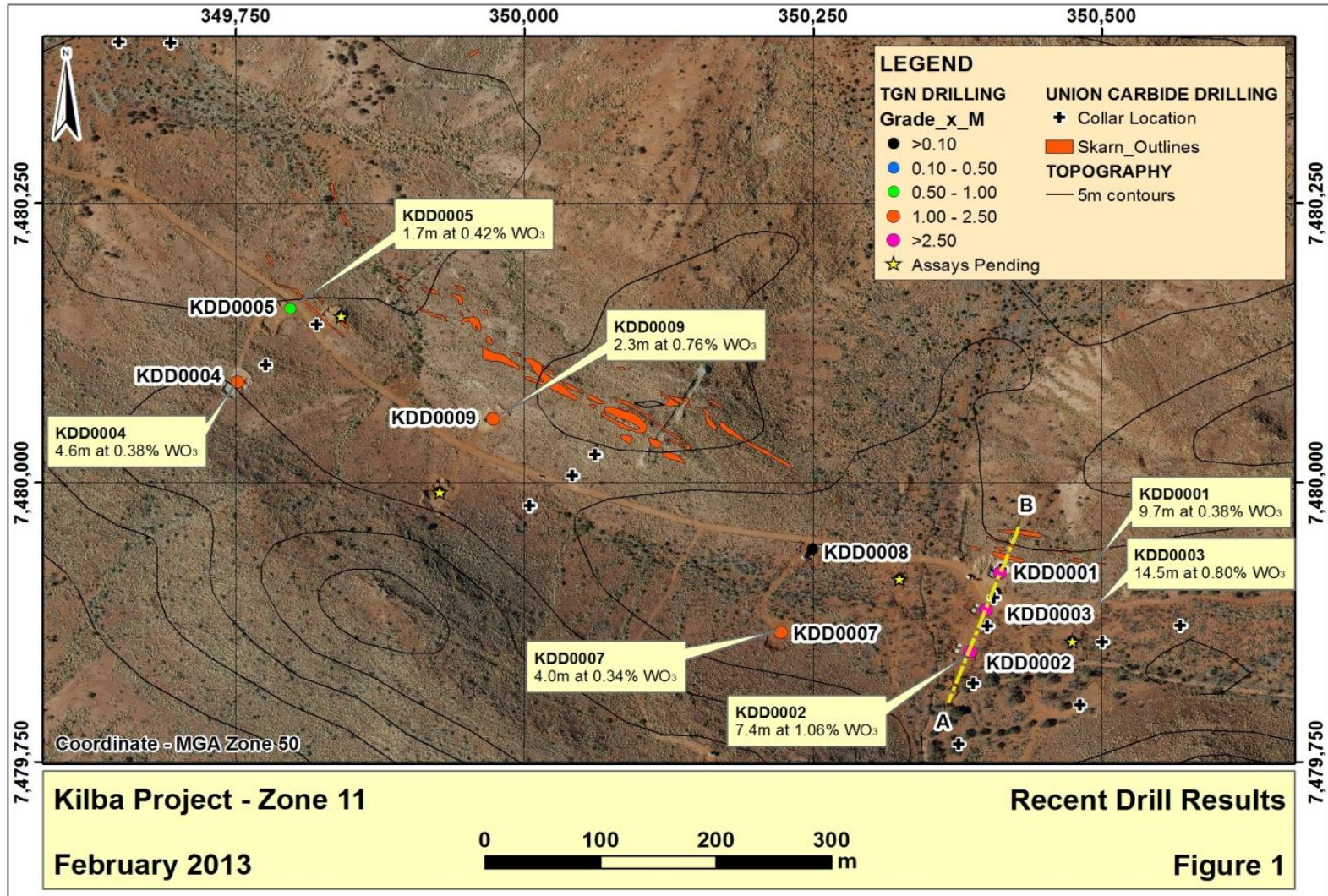
Hole No	MGA Z50 Coordinates				Intersections			
	Easting (m)	Northing (m)	Dip/ Azim	Depth (m)	From (m)	To (m)	Interval (m)	WO <sub>3</sub> %
<b>KDD0001</b>	350,406	7,479,911	-60/020	54.6	9.9	19.6	9.70	0.38
				Incl.	9.9	13.15	3.25	0.95
<b>KDD0002</b>	350,383	7,479,853	-60/020	106.7	82.8	90.2	7.4	1.06
				Incl.	89.3	90.2	0.9	5.12
<b>KDD0003</b>	351,439	7,480,053	-60/020	78.03	42.5	57	14.5	0.80
				Incl.	42.9	50.5	7.6	1.24
				Incl.	54.5	55.15	0.65	1.90
<b>KDD0004</b>	349,751	7,480,090	-60/035	179.2	120.45	125	4.55	0.38
				Incl.	120.45	120.9	0.45	3.25
<b>KDD0005</b>	349,797	7,480,155	-60/035	118.9	59.3	61	1.7	0.42
<b>KDD0007</b>	350,222	7,479,866	-60/020	121.8	100.95	105	4.05	0.34
<b>KDD0009</b>	349,976	7,480,052	-60/035	106.9	73.4	75.7	2.3	0.76

- Half HQ core samples
- Analysis is XRF determination by Ultra Trace Laboratory, Perth
- Lower cut-off grade 0.10% WO<sub>3</sub>, no top cut grade, up to 3.0m of internal waste
- Grid coordinates are MGA Zone 50



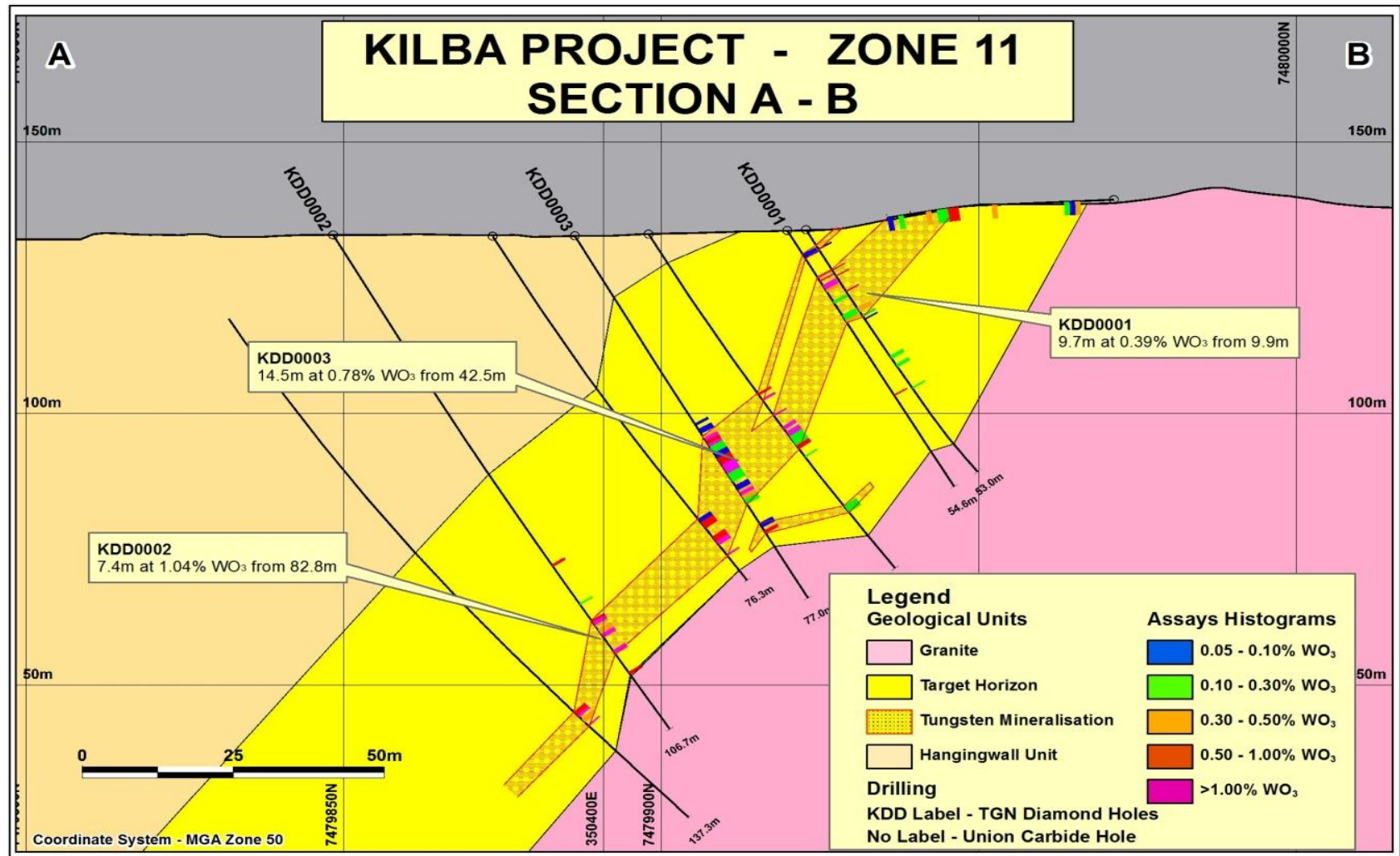


# Kilba Zone 11 Drilling Highlights





# Phase I Drilling Results: Cross-Section



# Kilba Exploration Camp, Feb 2013





# Drilling at Kilba Well, Feb 2013

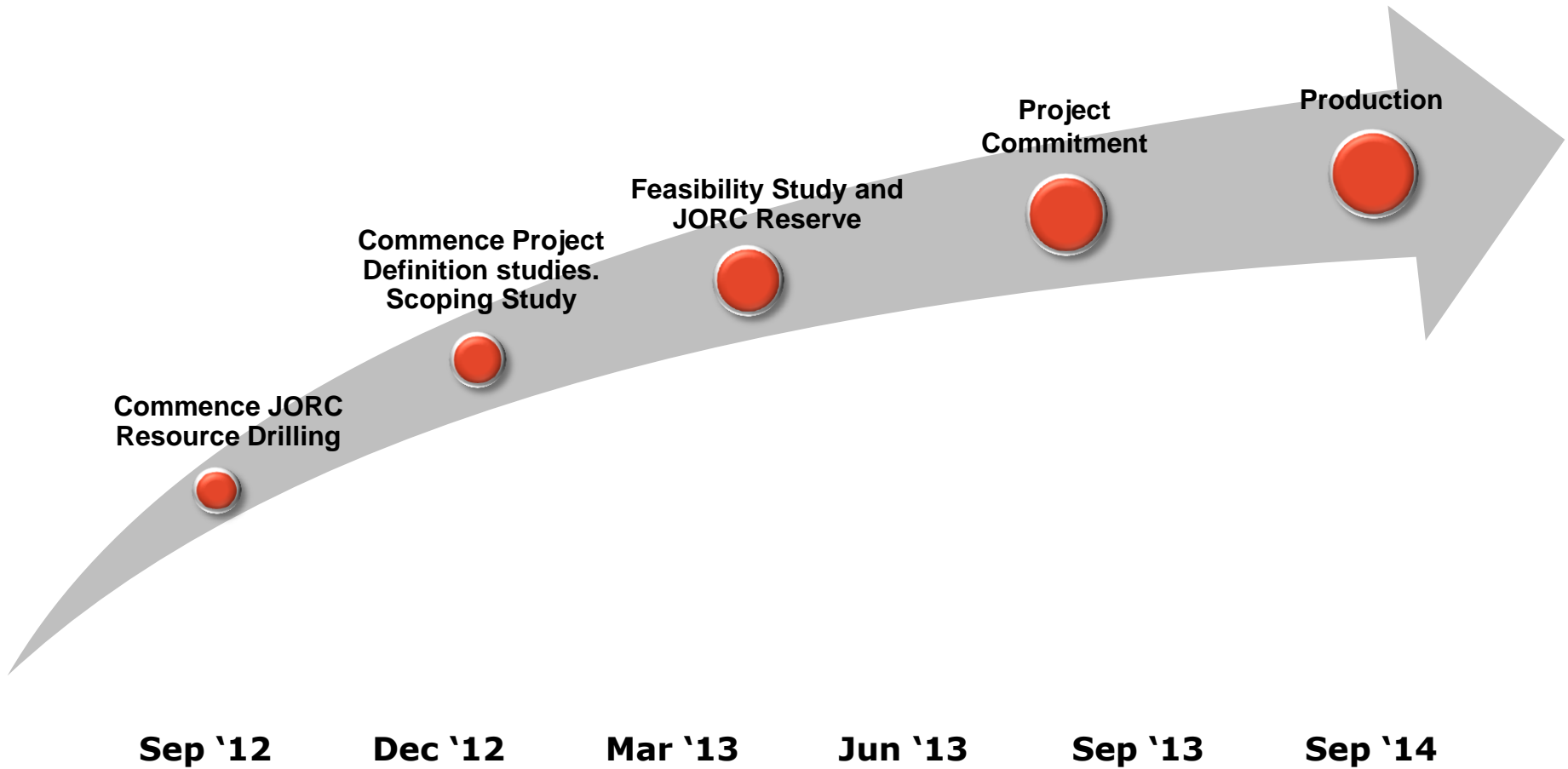




# Core logging, Kilba

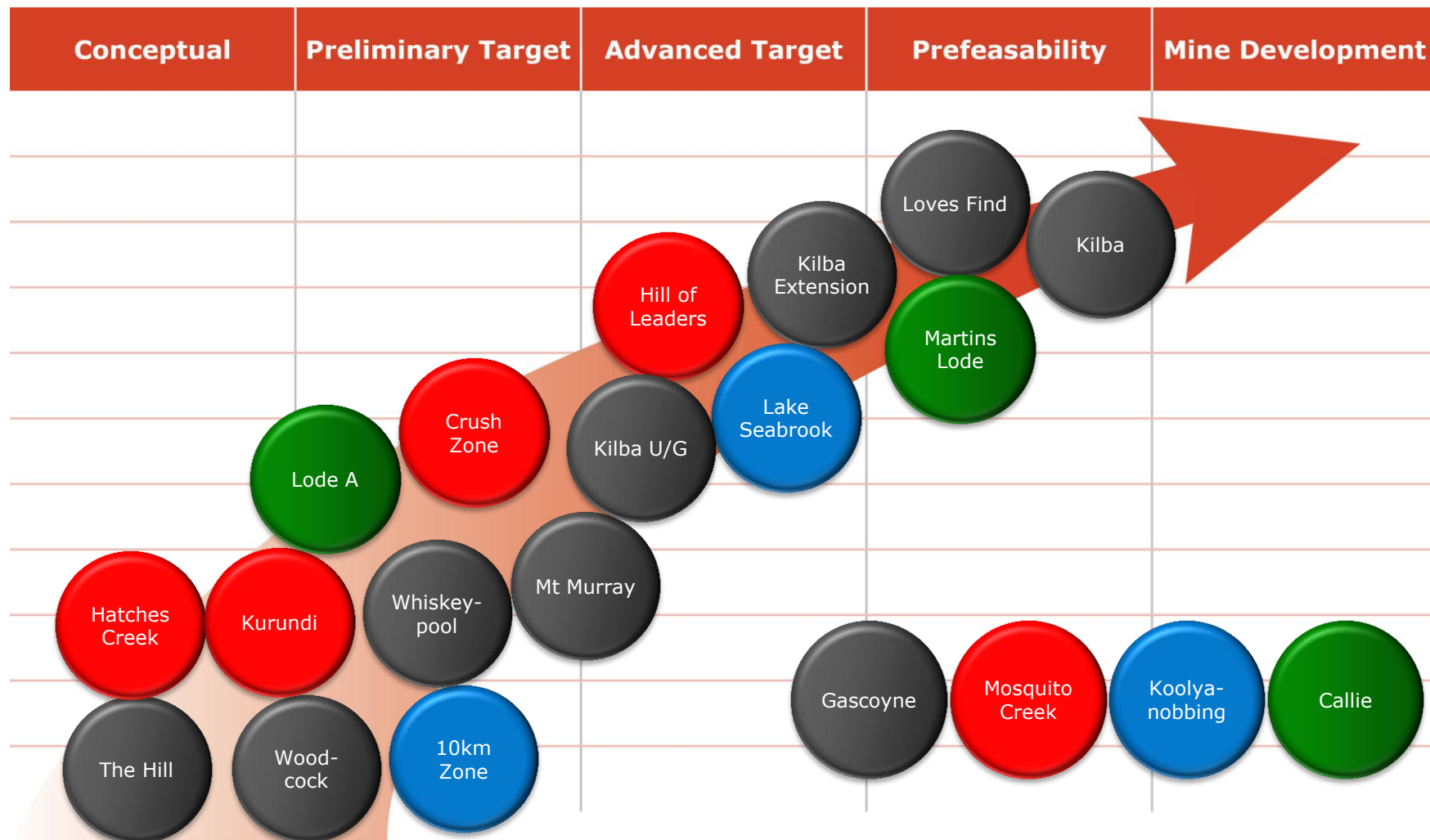


# Kilba Milestones





# Project Pipeline



# Tungsten Mining Summary

- ✿ Listed successfully on ASX during December, 2012
- ✿ Environmental base line studies complete, with no issues noted
- ✿ Fully operational base camp established at Kilba site
- ✿ Phase I drilling results supported the Kilba resource hypothesis
- ✿ In-fill drilling underway and expected complete by Apr, 2013
- ✿ Diagnostic ore tests for process design to start Feb, 2013
- ✿ On target for mine commitment decision during 3Q 2013



# Appendix: Overview of Tungsten



# Tungsten

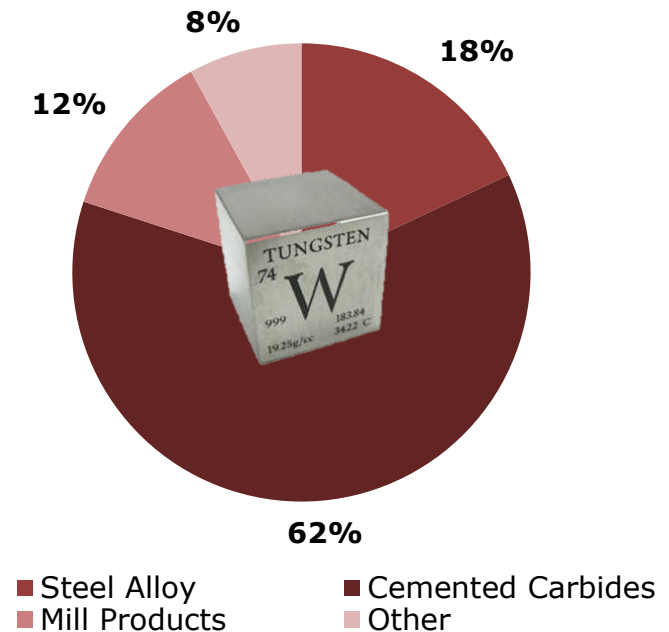
❁ Tungsten is unique in its extreme qualities and difficult to replace:

- **Very hard**
  - Only diamonds are harder
  - 100x harder than steel
- **Very heat resistant**
  - Highest melting point
  - Lowest expansion
- **Very dense**
  - Greater than lead or uranium

❁ Tungsten uses:

- Heavy construction machinery
- Drilling for mining, oil and gas
- Pipelines
- High temperature equipment and parts
- Electronics
- Heavy artillery and missiles
- Automotive
- Light bulbs

## Tungsten Demand

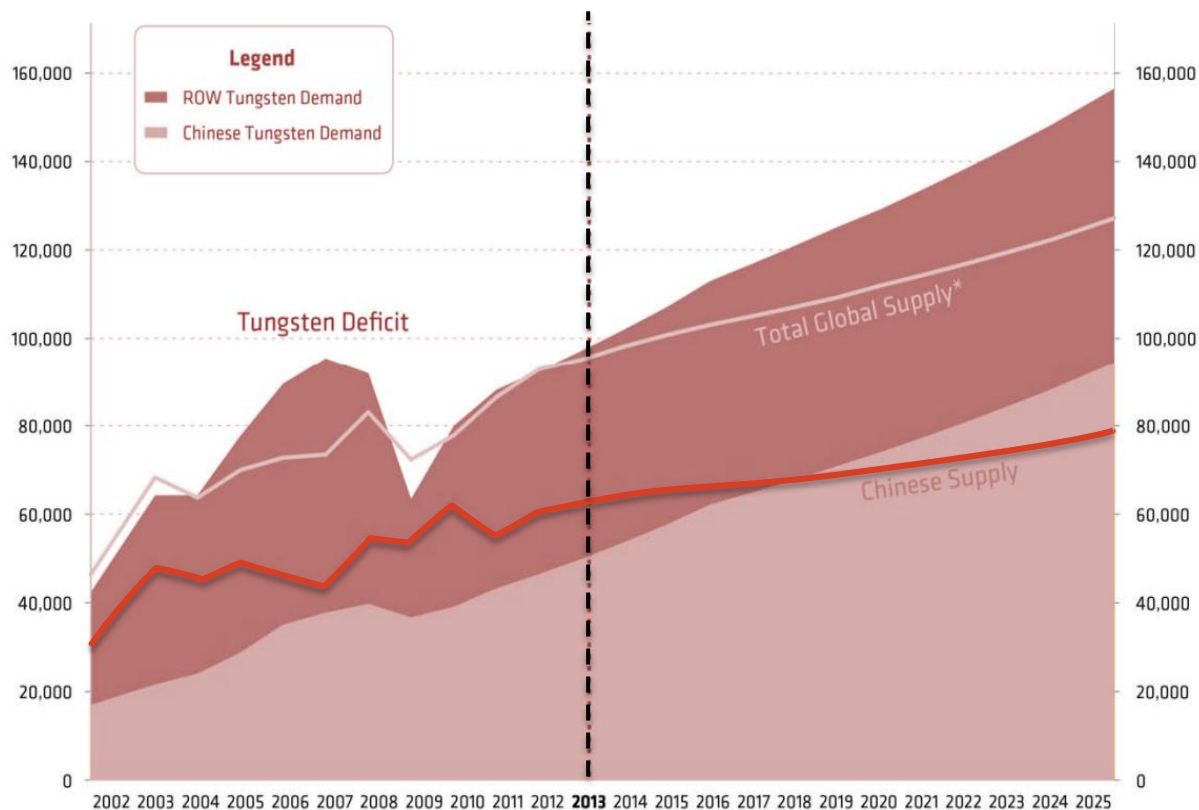


Source: Roskill Information Services (2012), Minor Metals Association, Vanitec

☀ China is the major supplier, producing 86% of global tungsten in 2012

# Global Tungsten Market

## Global Supply vs. Demand



Source: Roskill Information Services (2012)

\* Assuming no new ROW (Rest of the World) capacity

☀ China's decision to serve growing domestic demand brings decrease in Chinese tungsten export quotas

☀ Like with REE, this presents a significant potential for new non-Chinese supply to fill a growing ROW tungsten supply-demand gap

☀ Delays in projects being commenced will likely keep tungsten prices elevated



# Tungsten Pricing

- ✿ Tungsten is relatively price inelastic, and commercially sensitive
- ✿ China is effectively the “price setter”
  - One province now sets monthly “guiding” prices for the sale of APT (*Ammonium Para-Tungstate, a chemical that most mine concentrate is converted into*)
  - The tungsten concentrate price is about 80% of the price of APT
  - Europe and US prices tend to follow Chinese APT price
  - Not exchange traded
  - Prices published by Metal Bulletin and Platt’s Metals Week
  - CIF Europe price rarely changes
- ✿ Tungsten production costs rising globally
  - Chinese producers sensitive to rising energy, labour, equipment and reagent costs
  - Chinese operating costs are estimated in the \$90 to \$110 per mtu, net of by-product credit (1mtu = 10kg)
  - Significant reduction in illegal mining
- ✿ Current APT price is \$350/mtu, with Roskill’s forecast of \$440/mtu to 2016

Source: Roskill Information Services (2012), HK free market price, Metal Bulletin, 11 Jan, 2013



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