



**Investor Presentation**  
**29 April 2015**  
Russell Clark, Managing Director



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# Wolf Minerals Limited

Focused on delivering returns to shareholders



- Wolf is currently developing a **world class tungsten mine** in the UK.
- Wolf will specialise in **Tungsten** and other specialty metals.
- Wolf exists to deliver **superior returns to shareholders**.
- Wolf is actively reviewing organic and step out **growth opportunities**.





# Hemerdon Project

A world-class, UK tungsten and tin mine under construction



- **On schedule** – first production mid 2015.
- **Fully permitted.**
- **Fully funded** through to positive cash flow.
- UK operations **team established.**
- Operational and reserve extension **upside.**



# Tungsten

Critical to industrial, mining and agricultural production – no substitutes

- Hard
- Heavy
- High Melting Point
- Non Corrosive
- No Substitutes
- Critical & Strategic – China has majority of reserves.
- Demand growth has exceeded GDP growth for past 10 years.
- Expected extra demand for  $WO_3$  is forecast to be 4-5,000 tpa<sup>1</sup>.
- Supply constraints are evident.
- Current APT (Ammonium Paratungstate) price US\$250-265/mtu<sup>2</sup>.



**Market needs at least one “Hemerdon” coming on line each year to meet demand.**

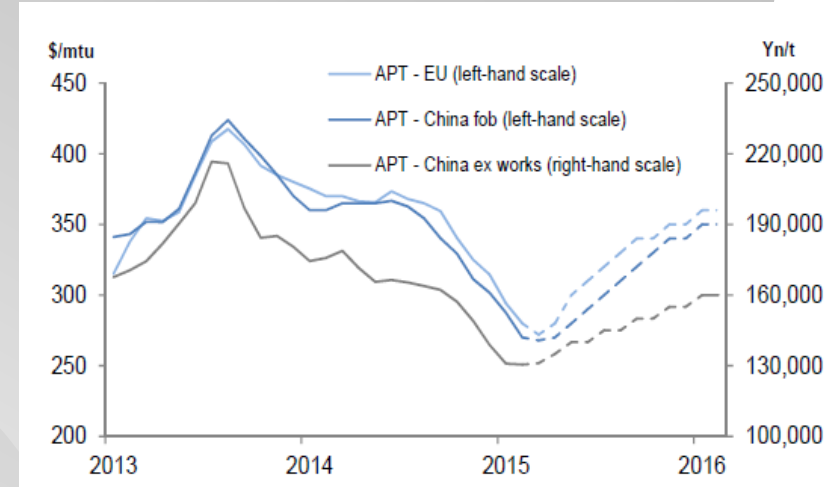
# The Tungsten Market

Structural supply deficit – potentially leading to higher prices



## Supply

- **Wolf's Hemerdon (UK) is the only project being built.** Others don't have development funding solutions in place or have incomplete feasibility studies – significant supply risk, particularly at current prices.
- Tungsten production dominated by China:
  - Declining grades from existing Chinese producers.
  - China holds 60% of known tungsten reserves (USGS) and accounts for +60% of demand and +80% of supply.
- Existing stockpiles close to depletion and producers don't have the capacity to increase production.
- Most significant tungsten projects are at least 18 months to 2 years away from commercial production.
- Some existing production is shutting down.



APT Price outlook: Steady/strengthening  
(Argus Tungsten Monthly Outlook March 2015)

## Demand

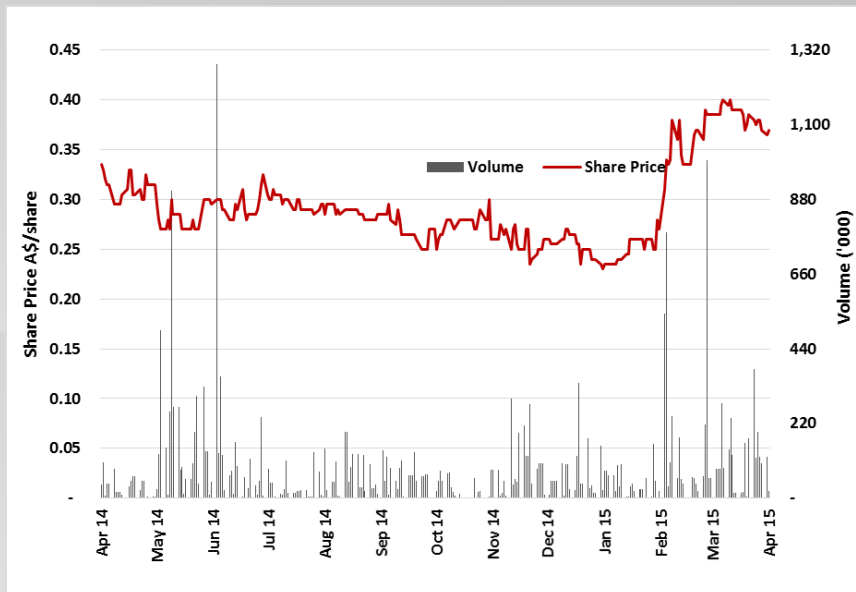
- Demand growth for tungsten has exceeded GDP growth for the past 10 years.
- Demand currently ~90,000 tonnes  $WO_3$  per annum, ~30% from recycled material.
- New capacity required to meet global demand.
- Hemerdon Project will produce about 3.5% of forecast world demand in 2016.

# Corporate Snapshot



## WOLF MINERALS<sup>1</sup>

<b>Stock Codes</b>	AIM:WLFE	ASX:WLF
<b>Share Price</b>	AIM: £0.20 <sup>1</sup>	ASX: A\$0.385 <sup>1</sup>
<b>Issued shares</b>	808.6 Million	
<b>Options</b>	6.6 Million	
<b>Market Cap</b>	~£161M	~A\$311M
<b>Key Personnel</b>	Managing Director – Russell Clark Chairman – John Hopkins OAM CFO – Richard Lucas	



## SUBSTANTIAL SHAREHOLDERS Holding Background

Resource Capital Fund Group	41.7%	Mining focused private equity firm.
TTI (NZ) Limited	32.2%	Wholly owned subsidiary of Todd Corporation Limited, a major private NZ based company with a diversified portfolio of business interests.
Traxys Projects LP	6.9%	Global leader in financing, marketing, distribution and financial services for the mining, metals and minerals industries.

Notes:

<sup>1</sup> As at 20<sup>th</sup> April 2015.

# Experienced Board



**John Hopkins OAM**  
Non Executive Chairman  
(Australia based)

Experienced professional company director and chairman, legal background.



**Russell Clark**  
Executive Managing Director

Mining Engineer (RSM), 35 years of operating and development experience with Renison Goldfields, Normandy, Newmont, Grange Resources and Azimuth Resources.



**Ronnie Beevor**  
Non Executive Director  
(Australia based)

Chartered accountant with 30 years experience in investment banking. Experienced company director and chairman.



**Nick Clarke**  
Non Executive Director  
(UK based)

Mining Engineer (CSM) with over 40 years of mining experience in production, consulting and corporate activity. Currently CEO of Central Asia Metals Plc (AIM)



**Chris Corbett**  
Non Executive Director  
(Australia based)

Engineer (Mechanical & Mining) with extensive experience in mining, corporate business development and investment management. Currently a Principal with Resource Capital Funds.



**Don Newport**  
Non Executive Director  
(UK based)

Banker with over 35 years experience, 25 years spent in the mining and resource sector. Previously head of Standard Bank's Global Mining Finance Business and previously led the Barclays Capital Mining Sector Team.



**Michael Wolley**  
Non Executive Director  
(Australia based)

Engineer (Chemical), Vice President, Minerals and Coal for Todd Corporation. Extensive engineering and operating experience with Mobil Oil.



# Executive Management Team



**Russell Clark**  
**Executive Managing Director**

Mining Engineer (RSM), 35 years of operating and development experience with Renison Goldfields, Normandy, Newmont, Grange Resources and Azimuth Resources. Previously MD and CEO of Grange Resources and Azimuth Resources. FAICD



**Richard Lucas**  
**Chief Financial Officer and Joint Company Secretary (Australia based)**

Chartered Accountant. Previously a Director at PWC. Commercial Manager at Lihir Gold and CFO of the Geotech Group.



**Rupert McCracken**  
**Project Manager (UK based)**

Mechanical Engineer with over 25 years of global experience in the development, construction and commissioning of mineral processing projects. Previously an engineer with Bechtel, Transfield & Minproc Engineers, and a project manager for Comet Resources, Ticom South Africa, BHP Billiton and Resolute Mining.



**Jeff Harrison**  
**Operations Manager (UK based)**

Mining Engineer (Nottingham, RSM) with over 35 years of global mining and mineral processing experience. Has been a senior manager for Imerys, the china clay operator in Devon and Cornwall and is well known to the local Plymouth community. He is a Chartered Engineer, a Fellow of the AusIMM and a member of the Institute of Quarrying.



**Andy Bond**  
**Mine Manager (UK based)**

Geologist/Mining Engineer (Camborne) with over 29 years of mining industry experience in Devon and Cornwall.



**Charlie Northfield**  
**Process Manager (UK based)**

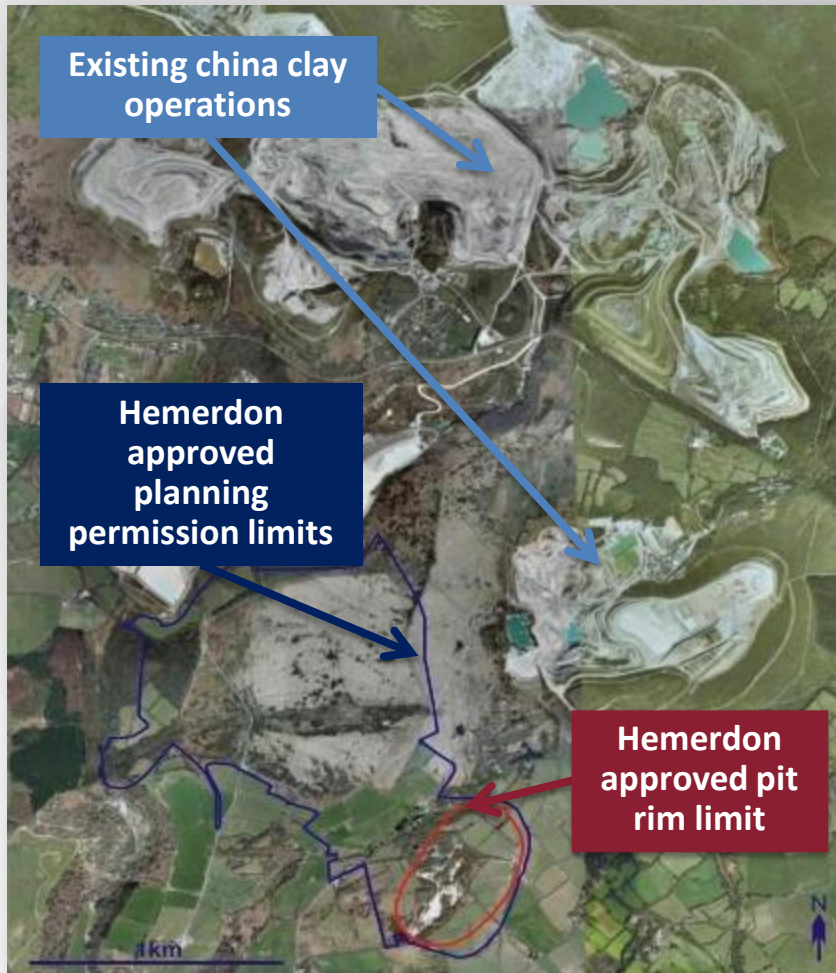
Metallurgist (Camborne) with over 30 years of experience including managing process plants recovering tungsten and tin in Thailand and Zimbabwe.

# Hemerdon Project



# Hemerdon Project

Access to world-class infrastructure in a mining friendly area



- 40 year lease term
  - 2% NSR royalty to landowners who own all metal mineral rights
- Plymouth 10 kilometres away
  - Excellent transport links
  - 250,000 population
  - Power & water infrastructure
- China clay mines adjacent
- Project will generate approximately 300 direct and indirect jobs during the operational phase
- £10 – 13 million per annum in salaries and wages during the operational phase



# Hemerdon Mineral Resources and Ore Reserves<sup>4</sup>



**35.7Mt reserves depleted during mine life,  
58.6Mt in Measured & Indicated resources offers significant upside potential.**

MINERAL RESOURCES	TONNAGE (Mt)	WO <sub>3</sub> GRADE (%)	Sn GRADE (%)
Measured	39.9	0.18	0.02
Indicated	18.7	0.16	0.02
<b>Subtotal: Measured + Indicated</b>	<b>58.6</b>	<b>0.17</b>	<b>0.02</b>
Inferred	86.6	0.14	0.02
<b>Total: Measured + Indicated + Inferred</b>	<b>145.2</b>	<b>0.15</b>	<b>0.02</b>

ORE RESERVES	TONNAGE (Mt)	WO <sub>3</sub> GRADE (%)	Sn GRADE (%)
Proved	27.9	0.19	0.03
Probable	7.8	0.15	0.02
<b>Total: Proved &amp; Probable</b>	<b>35.7</b>	<b>0.18</b>	<b>0.03</b>

**Notes:**

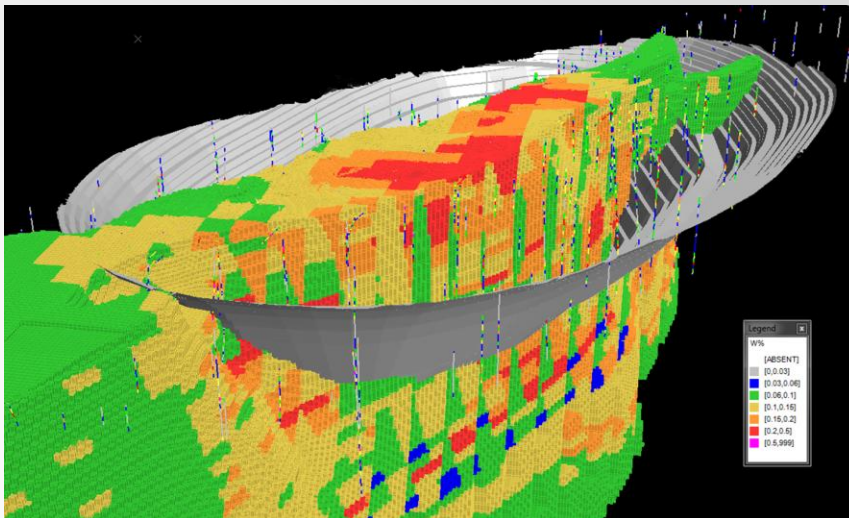
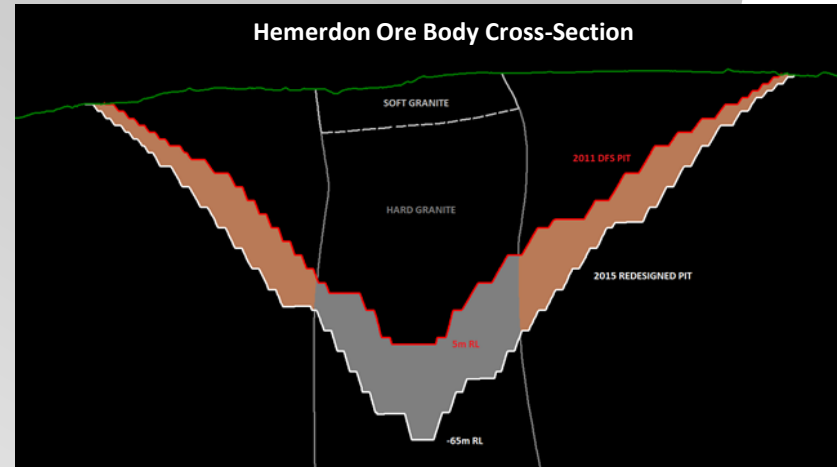
1. Mineral Resources are inclusive of Ore Reserves.
2. Mineral Resources reported at a cut-off grade of 0.063% WO<sub>3</sub>.
3. Refer to the Competent Person's Statement at the end of this presentation.
4. Mineral Resources and Ore Reserves per ASX/AIM announcement 25 March 2015 (JORC 2012).



# Mine Design

Open pit mine, low strip ratio, extension potential

- Open pit mining, 10 year mine life<sup>1</sup>.
- Pit 800m long x 400m wide x 260m deep.
- Low life of mine strip ratio.
- 3Mt of ore mined per annum<sup>1</sup>.
- Open at depth and along strike.



Drilling indicates mineralisation is open at depth to +400m below surface, ~140m below final pit bottom.

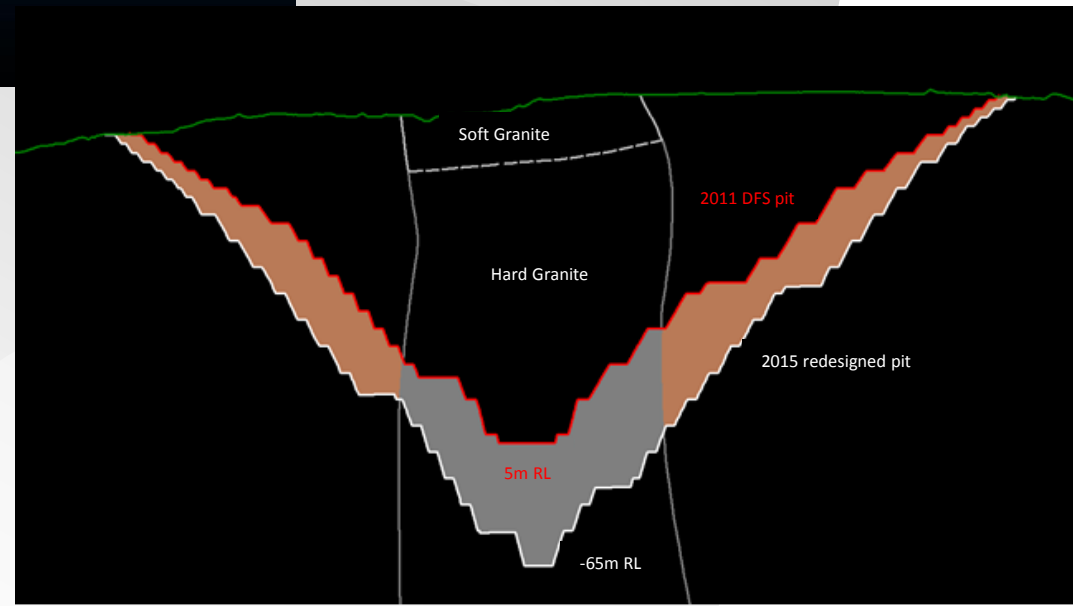
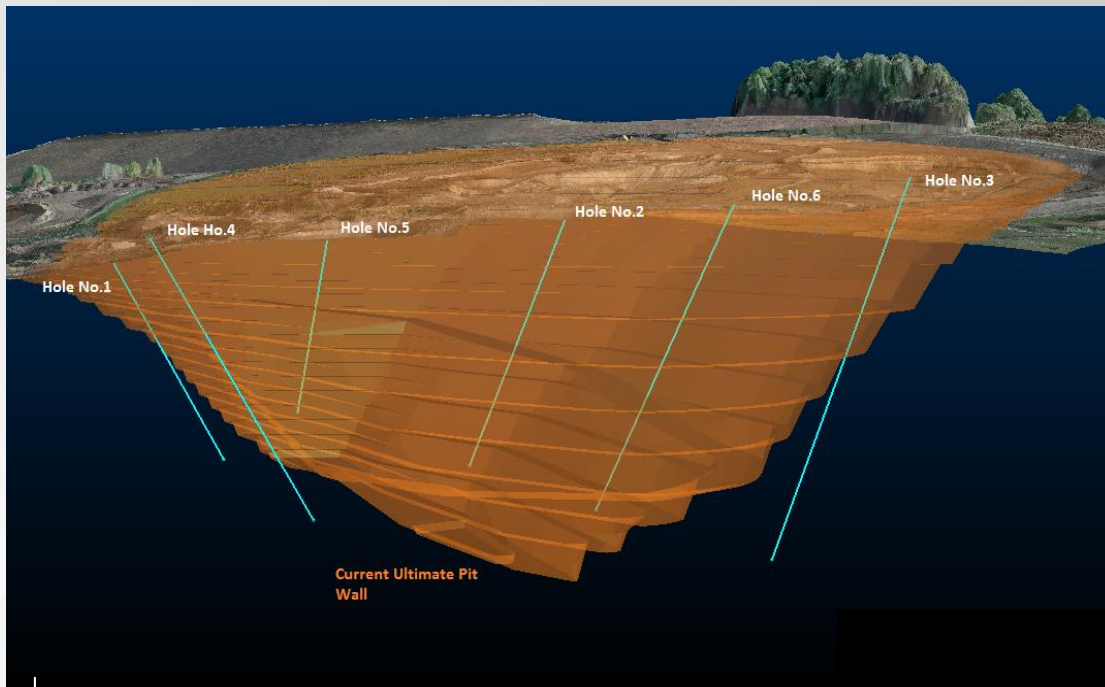
<sup>1</sup> Assumes extension of current planning permissions beyond 2021 and 5.5 days per week operation

# Geotechnical Program Completed

- Steeper wall slopes now possible



New pit design results in 34% more ore reserve<sup>1</sup>.



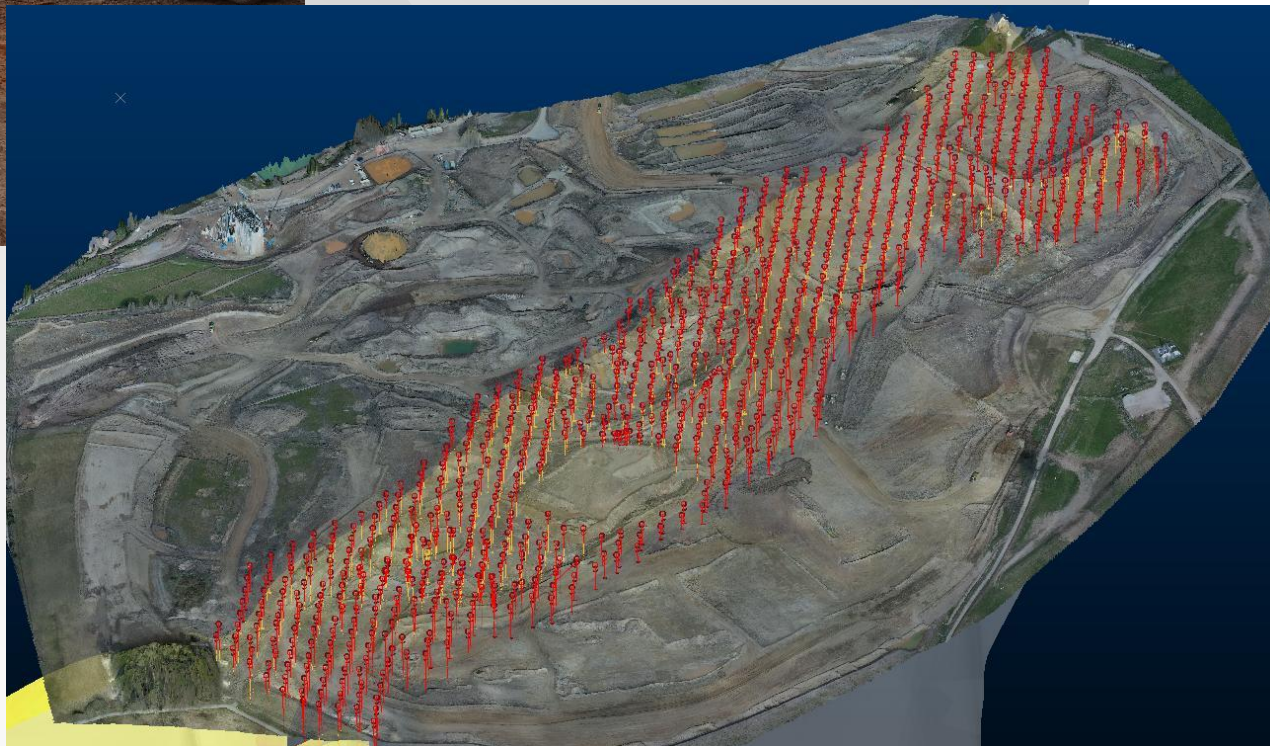
<sup>1</sup> per ASX/AIM announcement 25 March 2015

# Grade Control drilling

Excellent Correlation to resource model



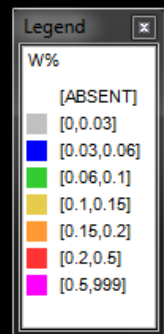
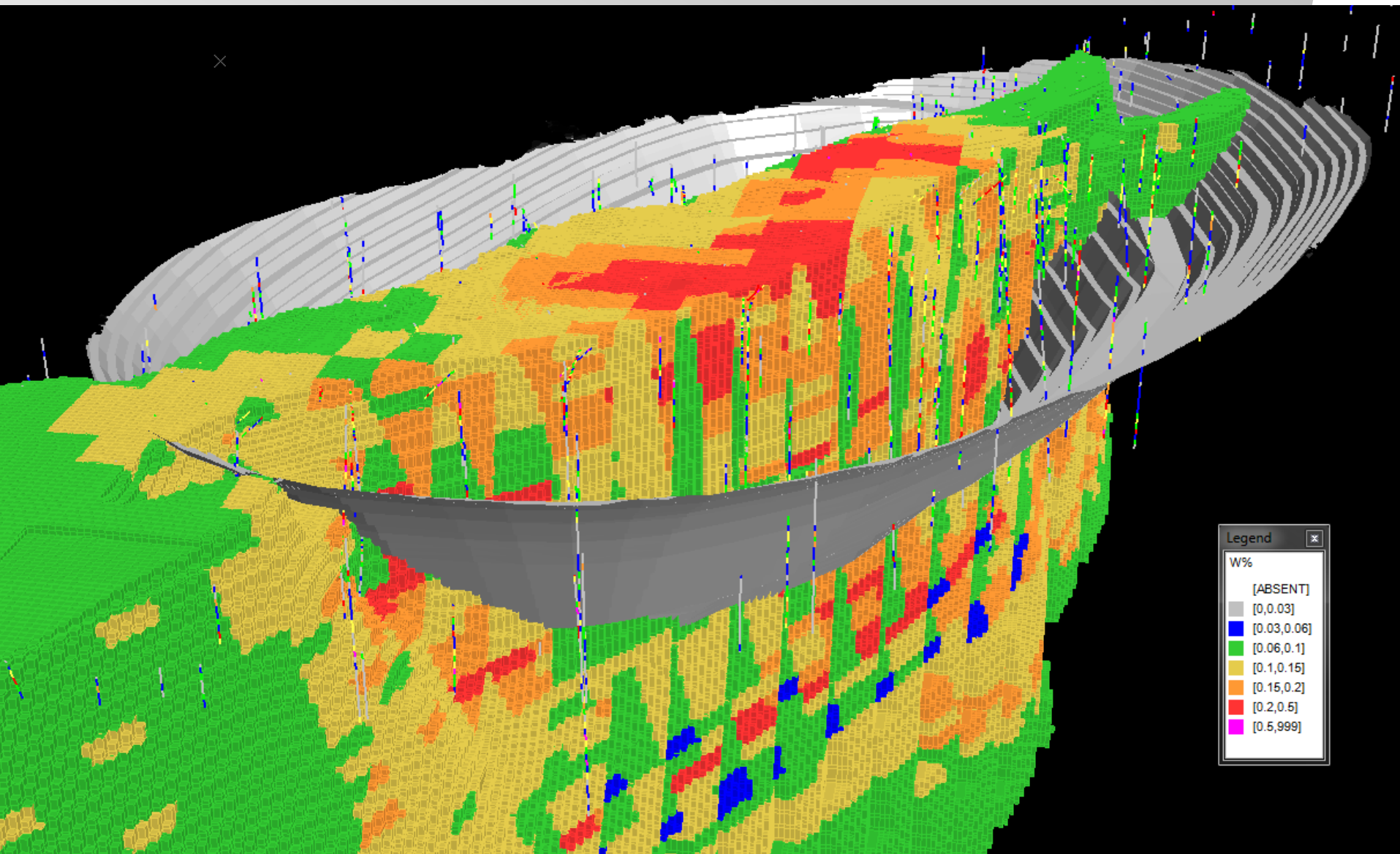
- Grade control drilling 88% complete.
- 20,000m drilled to date.
- Excellent correlation with resource model.
- Additional data collected has significantly increased resolution of orebody.





# Mining Opportunities

Depth potential points to future mine life extensions

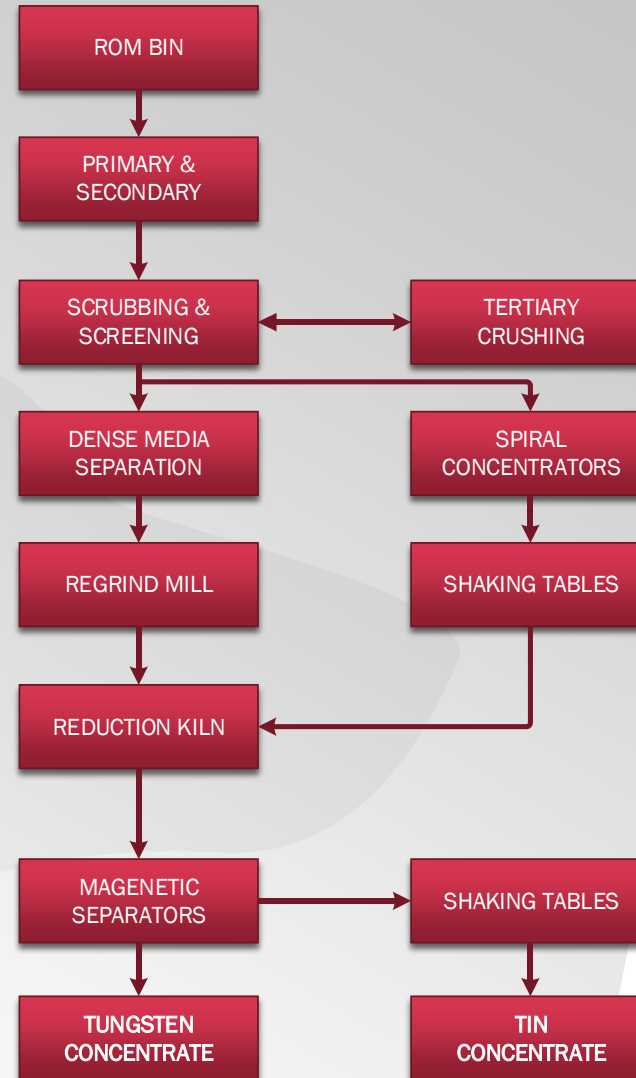




# Processing

## Simple gravity circuit using proven technology

- Proven technology.
- Gravity circuit using DMS, tables, spirals.
- Initial fines removal and DMS upgrades headgrade from 0.19%  $WO_3$  to ~1%  $WO_3$ .
- Throughput of 3 Mtpa
  - Tungsten recovery ~66%.
- Production:
  - ~3,450 tpa  $WO_3$  in concentrate<sup>1</sup>.
  - ~460 tpa tin in concentrate<sup>1</sup>.
- Product shipped by container ~100 tonnes per week<sup>1</sup>.



<sup>1</sup> Assumes 5.5 days per week operation

# On Site Laboratory – SGS

Rapid turnaround of grade control and process plant samples



- SGS Laboratory equipment now arriving daily with shift chemist and technicians onsite to oversee the installation.
- Sample numbers to ramp-up once plant commissioning starts in June; laboratory testing from May.
- Samples to include both plant samples and grade control samples.



# Opportunities – Being Realised

## Mine Life

- Additional mine life potential through:
  - Steepening walls, mining deeper - ***DFS Ore Reserve increased by 34%, March 2015.***
  - Known extensions to the south.
  - Ore body is open at depth - underground potential.

## Processing

- Increased production through:
  - Improved  $\text{WO}_3$  recoveries – currently 66%.
  - Greater plant availability – ***6 month trial of 24/7 operation approved, March 2015.***
  - Sale of aggregate.

## Financial

- Processing upside opportunities may result in increased production with no additional Capex.



# Community & Social Responsibility





# Environmental

## Extensive monitoring, mitigation and reporting



### EXTENSIVE MONITORING, MITIGATED IMPACTS, TRANSPARENT REPORTING

- ✓ Certified ISO 14001 Environmental Management System – “Pending Certificate”.
- ✓ Ecological mitigations for construction phase – 90% complete.
- ✓ Tree planting of 30,000 seedlings – 100% complete.
- ✓ Devon stone walling – 100% complete.
- ✓ Isolation of Biodiversity Enhancement Zones – 100% complete.
- ✓ Protected Species replacement roosts – 100% complete.
- ✓ Extensive monitoring and reporting in accordance with regulator approved plans:
  - Ground and Surface Water
  - Noise
  - Dust
  - Ecology
  - Vibration



# EPC contract to GR Engineering

Fixed term, fixed price EPC with globally experienced firm



- £75 million Engineering Procurement & Construction (EPC) contract.
- Globally experienced firm in EPC project execution.
- Solid reputation for on time, on budget delivery.
- Commissioning and performance guarantees included.
- Completion scheduled for 3<sup>rd</sup> quarter 2015.





# Strategic Off-taker Support

Fixed term, fixed volume, floating price



- 80% of tungsten concentrate off-take with GTP & Wolfram Bergbau und Hutten.
- Five year delivery schedule.
- Partial guarantee for senior debt, along with German Government under UFK scheme.
- Tin marketing agreement with Traxys.



Global Tungsten & Powders (Plansee)



Wolfram Bergbau und Hutten (Sandvik)

# Low cost producer, excellent margins<sup>4</sup>

## Funded through construction and into positive cash flow



<b>COST (AISC)</b>	<b>US\$/mtu</b>
<b>Mining cost</b>	64
<b>Processing cost</b>	53
<b>Site administration cost</b>	12
<b>Tin Credits <sup>1</sup></b>	(20)
<b>Royalties</b>	15
<b>Rehabilitation</b>	4
<b>All In Sustaining Costs ("AISC") <sup>3</sup></b>	<b>128</b>
<b>Add: Debt service costs</b>	42
<b>AISC + Debt Service</b>	<b>170</b>

- Project fully funded through to earnings.
- Capital cost £123M <sup>2</sup>.
- £75 million of senior debt including £5 million project bond facility, 5.5 year repayment term.
- Drawdown commenced in September 2014.
- Fixed price/term EPC contract.
- First production 3<sup>rd</sup> quarter 2015.
- Strong earnings potential.

1. Based on spot tin price US\$20,000/t

2. See ASX Release 19 March 2014 for detailed breakdown

3. AISC: On site mining, waste stripping & processing costs + site general and administration costs + royalties + community and permitting costs + 3<sup>rd</sup> party refining and transport costs + by-product credits + corporate costs + rehabilitation costs + exploration costs and sustaining capital costs

4. Assumes 5.5 days per week operation



# Live photos and streaming video @

<http://www.wolfminerals.com.au/irm/content/live-streaming-video.aspx?RID=326>



**Wolf Minerals Limited**  
Drakelands Mine, Plymouth, Devon

Exit Fullscreen

20 APRIL 2015 19:00:00

1 2 VIEW ALL LATEST

April 2015						
Su	Mo	Tu	We	Th	Fr	Sa
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Time Lapse Video



# Production Forecast for Q3 2015










## FULLY FUNDED, FULLY PERMITTED, ADVANCED CONSTRUCTION\*

- ✓ Demolition of pre-existing plant complete.
- ✓ Haul road complete.
- ✓ Top soil removal complete.
- ✓ Concrete complete.
- ✓ Equipment delivery 100% complete.
- ✓ Structural steel erection 100% complete.
- ✓ Mine Waste Facility progressing well.
- ✓ HV power connected.

\* As at end of April 2015 (from internal reporting)

### Hemerdon Project Timeline

	2014	H1 2015	H2 2015
Design			
Earthworks			
Construction			
Dry Commissioning			
Wet Commissioning			
Ore processing			
Offtake			

# Peer Comparison

Wolf is the only major tungsten listed company with a funding solution in place and construction underway



Company	Market Cap A\$m	Ore Reserves		Comment
		Tonnes (M)	Grade % WO <sub>3</sub>	
Wolf Minerals	295.1	35.7	0.18	Commissioning Hemerdon
Carbine Tungsten	44.7			Resources only, treating tailings
Almonty	33.2	3.9	0.28	Producer –Los Santos, Spain
Ormonde	27.6	8.7	0.3	Seeking funding solution
King Island Scheelite	25.1			Resources only
Woulfe Mining	22.2	13.3	0.43	Seeking funding solution
W Resources	18.7			Resources only
Northcliffe	16.5	334.4	0.07	Undertaking studies
Vital Metals	12.8	21.3	0.15	Seeking funding solution
North American Tungsten	10.1	12.6	1.13	Mining Cantung, Canada
Tungsten Mining	9.6			Resources only



# Summary

## Hemerdon Project



- First new metal mine in England for over 40 years.
- Globally significant deposit of a strategic metal - **Ore Reserve increase 34% March 2015.**
- One of the largest western world tungsten mines.
- Experienced management team.
- Fully permitted and funded to positive cashflows.
- Strong local and regional support for project.
- Strong strategic and institutional shareholder base.
- Construction approaching completion – production forecast for Q3 2015.
- Tungsten offtake agreements with two of world's largest end-users.
- Significant potential to increase production and mine life - **6 month trial of 24/7 operation given the go ahead in March 2015.**
- Tungsten price forecast to strengthen<sup>1</sup>

1. (Argus Tungsten Monthly Outlook - March 2015)

## Clarification of production and capital cost forecast assumptions stated in this presentation

Wolf Minerals Limited (ASX: WLF, AIM: WLFE) (“Wolf” or “the Company”) wishes to clarify where production forecasts for its Hemerdon Tungsten and Tin project released in its presentations are sourced.

On 16<sup>th</sup> May 2011, Wolf Minerals issued an ASX announcement “Hemerdon Tungsten and Tin Project Definitive Feasibility Study Results” in which the Minerals Resources and Reserves were stated. In addition the mining method and associated assumptions, and the concentrator flow sheet, tin and tungsten recoveries and resultant annual production figures for tin and tungsten were also stated. These continue to form the basis of the production forecasts included in the company’s presentations.

Following the 16<sup>th</sup> May 2011 announcement, capital and operating costs and the project time line were re-assessed.

On 20<sup>th</sup> January 2014, Wolf Minerals issued an ASX announcement “Hemerdon Tungsten Project Pre-Construction Update” in which it updated DFS estimates of the project timetable, the capital costs of the project and the operating costs associated with the project. These continue to form the basis of the project capital expenditure forecasts and the project timeline that are included in the company’s presentations.

On 25<sup>th</sup> March 2015, Wolf Minerals issued an ASX announcement “Wolf Minerals Announces 34% Increase in Ore Reserves at Hemerdon Tungsten and Tin Project” in which it announced a Mineral Resource Estimate compliant to the JORC code 2012, and an Ore Reserve which had been revised following a successful geotechnical drilling program which resulted in steeper pit slope design and increased ore reserves.

# Competent Persons Statement



The Mineral Resource Estimate reported is above a 0.05% W (0.063%  $\text{WO}_3$ ) cut-off and is based on work done by Mr Daniel Guibal, who is a Chartered Professional Fellow of The Australasian Institute of Mining and Metallurgy. Mr Guibal is employed by SRK Consulting and takes responsibility for the Mineral Resource Estimate. He has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for reporting of Exploration Results, Mineral Resources and Ore Reserves" (JORC, 2012). Mr Guibal consents to the inclusion of the Mineral Resource Estimate based on his information in the form and context in which it appears.

The 2015 Ore Reserve is based on work done by Mr Rick Taylor, who is a Chartered Professional Member of The Australasian Institute of Mining and Metallurgy. Mr Taylor is a full time employee of Wolf Minerals Limited, and takes responsibility for the Ore Reserves. He has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for reporting of Exploration Results, Mineral Resources and Ore Reserves" (JORC, 2012). Mr Taylor consents to the inclusion of the Ore Reserve based on his information in the form and context in which it appears.





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