# Mining a cleaner tomorrow

Company update, March 2018 Mike Young, CEO





Vimy's vision and mission



### Mining a cleaner tomorrow

#### Vimy aims to become a reliable and respected uranium producer



## Vimy – an early mover in changing U market dynamics



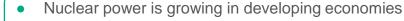
- Nuclear power growth estimated at 3% CAGR in Vimy's Base Case
- Decreasing U supply due to supply-side reaction to unsustainable low prices
  - Long term contracts protecting higher cost producers demand-supply divergence coming
  - Cameco-Kazatomprom-Orano reaction to uranium price 'reality gap'
- Vimy to capitalise as 'first mover' through production and inorganic growth



### Vimy is ready to mine uranium



Uranium is on the brink of under-supply



- Limited new production available to meet forecast demand increases
- The 'spot market' is NOT a clearing house metal market driven by arbitrage

A world class project in a first world nation



The Mulga Rock Uranium Project is 100% owned by Vimy - +90Mlbs U<sub>3</sub>O<sub>8</sub>

- Western Australia is a stable mining jurisdiction; 2016 Fraser Institute rank #3
- Simple geology, simple mining, simple metallurgy → low risk mining operation

People who deliver mines



Proven track record in building mines and exceptional uranium experience

'Can do' culture, supportive shareholders and outstanding project fundamentals has led to consistent milestone achievement

Funding expertise and strong supporters



Société Générale mandated to seek funding partners

Shareholders include Resource Capital Fund (US Private Equity),
 Forrest Family Investments (providing A\$50m+ in capital thus far)

Further advanced than peers



Mulga Rock is one of the world's premier uranium development projects

- Vimy is next in line to provide uranium into the pending supply shortage
- Limited comparable leveraged uranium exposures on the ASX or globally

**Pipeline of projects** 

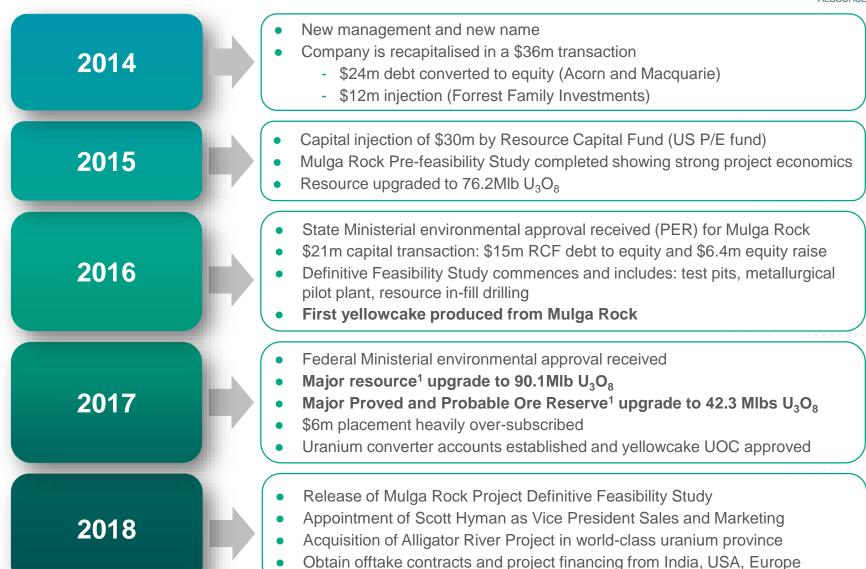


Acquisition of Alligator River Project from Cameco Australia for A\$6.5m

- Largest granted exploration package in world-class uranium province
- Reliability of supply for long-term offtake customers

## Vimy – a 'can do' company





### Vimy's people who 'can do'





Hon. Cheryl Edwardes AM

Non-Executive Chairman

Significant networks in Government and in Asia's business community

Former State Government Minister holding Ministries of Environment, Labour Relations and Attorney General



Mike Young

CEO and Managing Director

**Building mines** 

Founding Managing Director of BC Iron Ltd.
First drill hole to first ore on ship in under 4 years
Uranium experience in Canada and Australia



**Julian Tapp** 

**Executive Director** 

Expertise in regulatory approvals

Previous Head of Government Relations and Director of Strategy at Fortescue Metals Group. Expert commodities economist



**Tony Chamberlain** 

**Chief Operating Officer** 

Considerable experience with Australian uranium projects

Extensive operational and capital delivery experience. Experience with several global uranium projects



**Scott Hyman** 

Vice President Sales and Marketing

30 years' experience in both the sale and procurement of uranium

US-based uranium marketing professional with significant experience at Dominion Energy and Cameco Corporation



Ron Chamberlain

**CFO** and Company Secretary

Finance professional with uranium experience

Significant experience in funding and development of uranium projects – Former CFO at Paladin

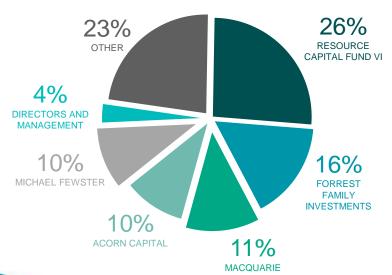
### Strong balance sheet and shareholder base



Capital structure	
	26 February 2018
Shares on issue	360 million
Share price	\$ 0.14
Market capitalisation	\$ 50.4 million
Cash (31 December 2017)	\$ 7.3 million
Options (unlisted)	2.9 million @ 35c (June 2018)
	8.7 million @ 154c (Dec 2018)
	8.7 million @ 70c (Dec 2018)
	1.4 million @ 80c (Dec 2019)



#### **Significant shareholders**





Mining focussed private equity firm – proven track record of supporting emerging mining companies

#### **FORREST FAMILY INVESTMENTS**

Investment entity within Andrew Forrest's Minderoo Group

- long term equity holder



Metals and Energy capital division
- long term debt and equity supporter of Vimy



Mulga Rock Project – Definitive Feasibility Study and Project Finance

### Mulga Rock Project DFS highlights





## LONG MINE LIFE AND SECURE SOURCE OF URANIUM

The Mulga Rock Project is the largest advanced uranium development project in Australia

Total Ore Reserve of 42.3Mlbs  $U_3O_8$  from 22.7Mt at 845ppm  $U_3O_8$ 

Total resource estimate of 71.2Mt at 570ppm  $U_3O_8$  for a contained 90.1Mlbs  $U_3O_8$ 

Life-of-Mine of 15 years with an estimated total production of 47.1Mlbs U<sub>3</sub>O<sub>8</sub>



### LOW RISK AND LOW-COST MINING PROCESS

Shallow, simple open pit mining operation with an average depth of 43 metres

Over 90% uranium mining inventory for first 10 years supported by Ore Reserves

Process plant to use low-cost atmospheric acid leaching and resin-in-pulp

State and Federal Ministerial approvals received and secondary permitting well advanced



#### LOW CASH COST, ROBUST FINANCIALS

Cash operating cost for Life-of-Mine of US\$27.95/lb U<sub>3</sub>O<sub>8</sub>

Robust pre-tax NPV $_8$  of A\$530M, 25% IRR and a 3.1 year payback at US\$60/lb  $\rm U_3O_8$ 

Breakeven price of US\$44.58/lb U<sub>3</sub>O<sub>8</sub> (capital payback @ 8% discount rate)

The project generates A\$134M free cash flow per year (EBITDA) after royalties

### Mulga Rock key physicals and financial metrics





Key Metric	Unit	DFS
Life-of-Mine (LOM)	Years	15
Run-of-Mine (ROM) Uranium Grade (Years 1-5)	ppm U <sub>3</sub> O <sub>8</sub>	1,010
ROM Uranium Grade (LOM)	ppm U <sub>3</sub> O <sub>8</sub>	770



Annual Uranium Production	Mlbs U <sub>3</sub> O <sub>8</sub> pa	3.50
Total Uranium Production (LOM)	Mlbs U <sub>3</sub> O <sub>8</sub>	47.1



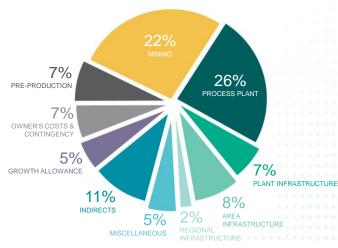
Uranium Cash Operating Cost (Years 1-5)	US\$/lb U <sub>3</sub> O <sub>8</sub>	25.11
Uranium Cash Operating Cost (LOM)	US\$/lb U <sub>3</sub> O <sub>8</sub>	27.95
Uranium AISC Operating Cost (LOM)	US\$/lb U <sub>3</sub> O <sub>8</sub>	34.00



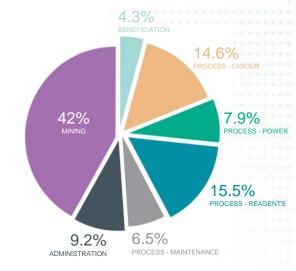
A\$ million	36.3
A\$ million	415.0
A\$ million	41.7
A\$ million	493.0
	A\$ million A\$ million



Contract Uranium Price (from 2021 onwards)	US\$/lb U <sub>3</sub> O <sub>8</sub>	60
Project NPV <sub>8</sub> (inclusive of Royalties, pre-tax)	A\$ million	530
Project IRR (inclusive of Royalties, pre-tax)	%	25.3
Payback from Start of Production	Years	3.1



#### Capital Cost Breakdown



**LOM Cash Operating Costs by Area** 

## Mulga Rock Project timeline to first uranium



	20	17	20	18		2018		
Activity	Q3	Q4	Q1	Q2		2H		
State environmental approval								
Federal environmental approval			.1.4					
Resource and Ore Reserve update	Completed				Board			
Definitive Feasibility Study					approval to proceed			
Secondary permits and licences							Final	
Uranium marketing							Investment Decision	t
Project construction financing							(FID)	
Final Investment Decision (FID)							1111	

Project construction	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
Engineering and procurement								
Civils and site infrastructure								
Plant fabrication								
Pre-strip and ore mining								
Commissioning								
Hand-over and first U <sub>3</sub> O <sub>8</sub>								

#### Marketing and financing strategy

#### **Project financing**

- Targeting 50:50 debt:equity mix
- Secure offtake to underpin financing
- Offtake can be underpinned by strategic offtake partner
- Explore strategic partnerships for offtake + finance + EPC
- Explore wider nuclear industry partnerships

#### **Key market dynamics**

- Key demand markets USA, China, India, non-OECD
- Key offtake markets India, USA, Europe, Middle East

#### **Finance strategy**

- Offtake contracts
  - > Scott Hyman VP Sales and Marketing appointed
  - > Underpin offtake with US contracts
- Mandate with Société Générale uranium "know how"
  - > Bank to provide 'bankable floor price'
  - > Debt-equity depends on % offtake and counter-parties
- Strong backing from RCF and FFI







# Uranium market dynamics

#### Why uranium?



#### <u>Demand</u> is being driven by non-OECD growth in nuclear power

#### Vimy's modelling of new capacity (Base Case)

- 359 GWe currently producing electricity
- + 62 GWe under construction currently
- + 136 GWe net increase over next ten years
- 3% CAGR

#### **CHINA DOMINATES DEMAND**

- 38 reactors
- 20 under construction, +53%
- 39 planned, +105%
- 143 proposed, +376%

Driven by air pollution crisis

Limit to number of new coal plants



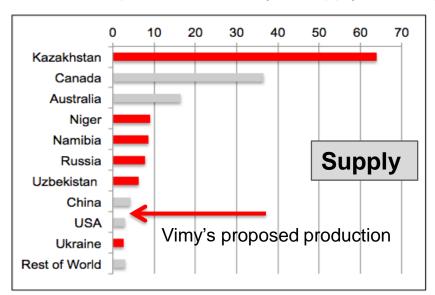
Nanjing, China - February 2017 - taken by Mike Young

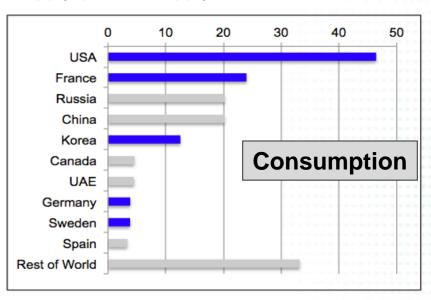
### Why now?



#### Demand and supply dynamics

- Price of UOC is a small part of a reactor's overall costs
- Utilities' priorities: security of supply, diversity of supply, price of supply





#### KAP and CCO – taking the lead on supply-side dynamics

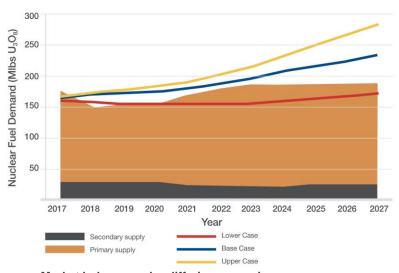
- CCO and KAP taking lead in U market dynamics cutting ~17% global production
  - > Kazatomprom 20% production cuts over next three years
  - > Cameco McArthur River mine 10-month shut-down
- Will NOT return to market unless market dynamics are compelling
  - > Won't write loss-making contracts GOOD THINKING!

#### Uranium demand: development scenarios

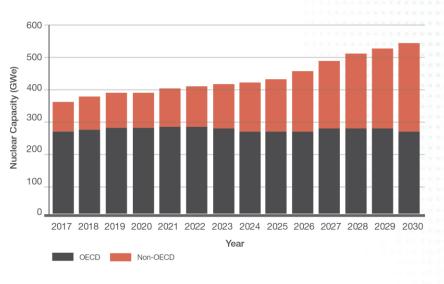


#### Vimy has three development scenarios:

- Compares new build programs and planned developments against expected retirements
- Base Case fundamentally conservative, modelled on outcome with lowest nuclear capacity (i.e. build times), factors in delays
- Lower Case assumes all green-left political posturing put into effect (France, Korea), modelled possible delays to Japanese restarts and new builds
- Upper Case assumes no politically-based closures and assumed new builds, refurbishments and Japanese restarts exactly as scheduled



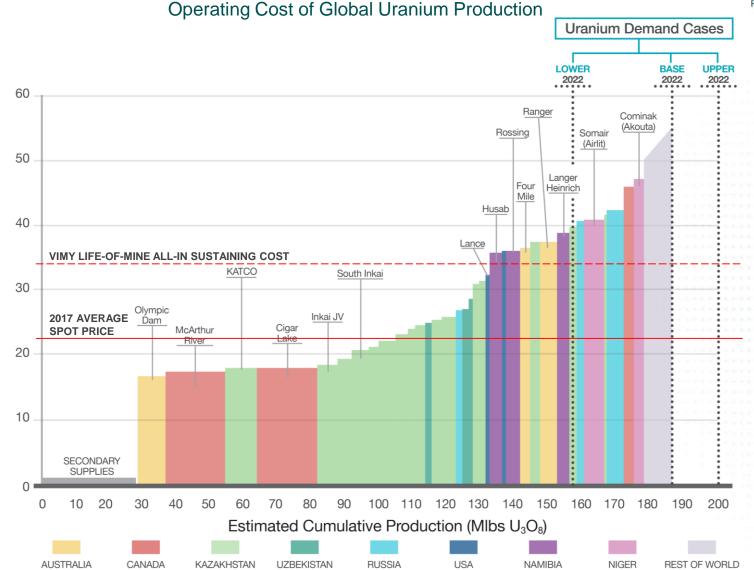




Base Case Growth (Gwe) in Nuclear Capacity OECD vs Non-OECD

## All-in cost of production vs spot price





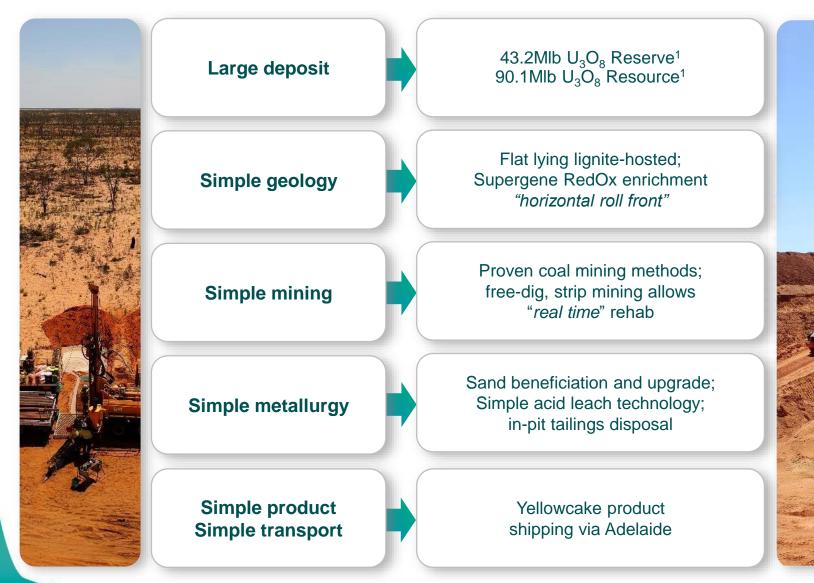
Estimated 2017 'All-In Sustaining Cost' of Global Uranium Production showing Vimy's Demand Cases (Upper, Base, Lower)



# Technical information – Mulga Rock Project

### Mulga Rock Project – simple, low risk





### Mulga Rock Project

VIMY

- State and Federal Government Ministerial approvals granted
- All required tenure (Mining Leases) granted
- Annual production target of 3.5Mlb U<sub>3</sub>O<sub>8</sub> per year
- Australia's largest advanced uranium project

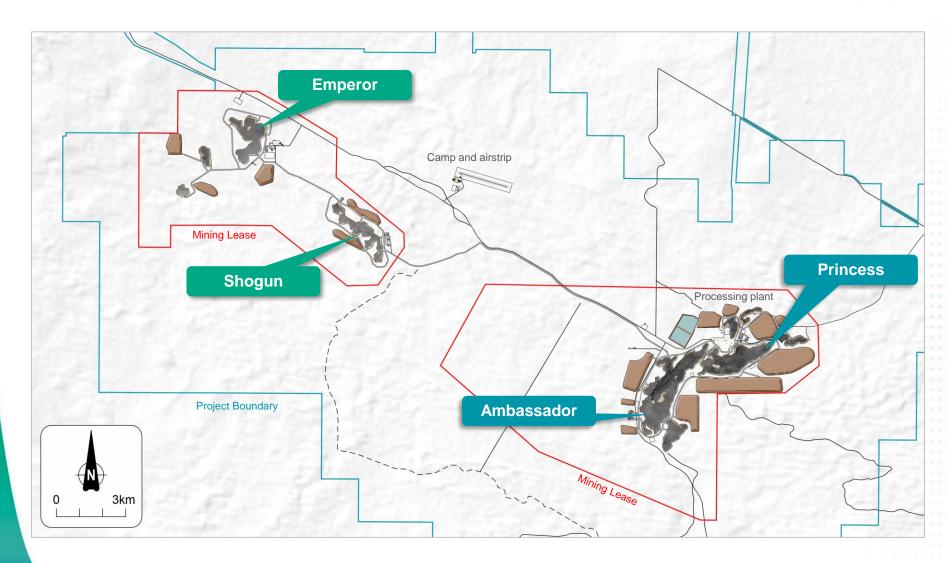


Western Australia is a stable mining jurisdiction. In the 2016 Fraser Institute ranking of most attractive jurisdictions for mining investment, WA was ranked third in the world.

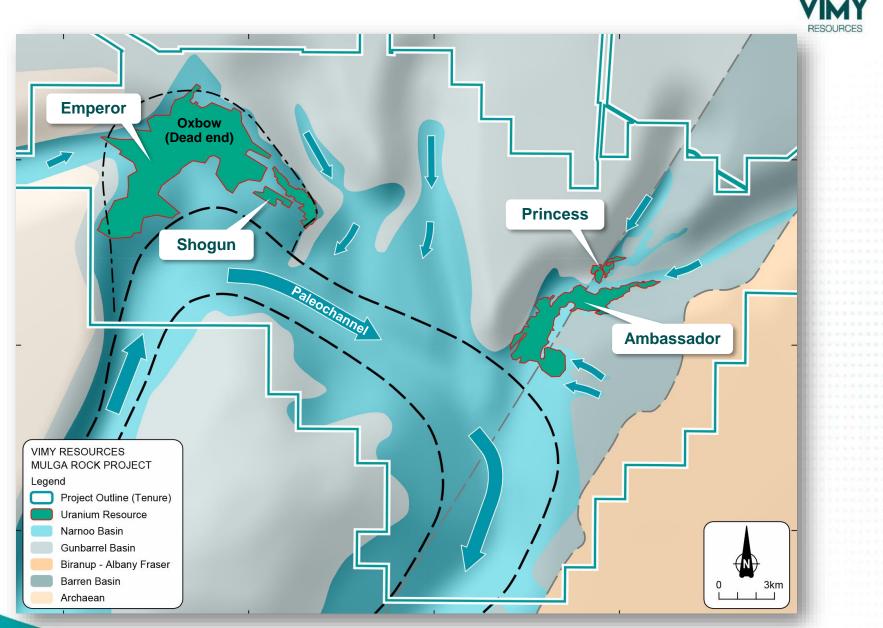


## Mulga Rock Project



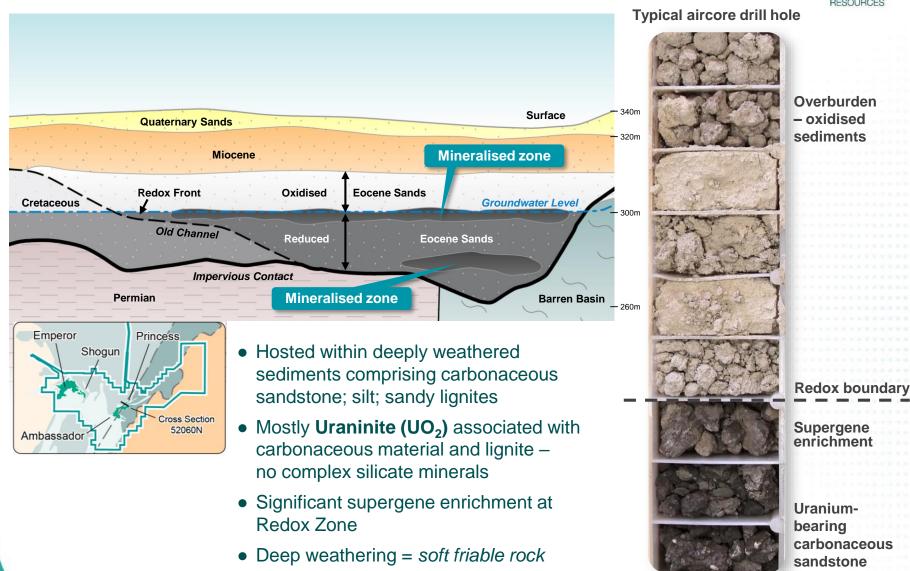


## Mulga Rock geology



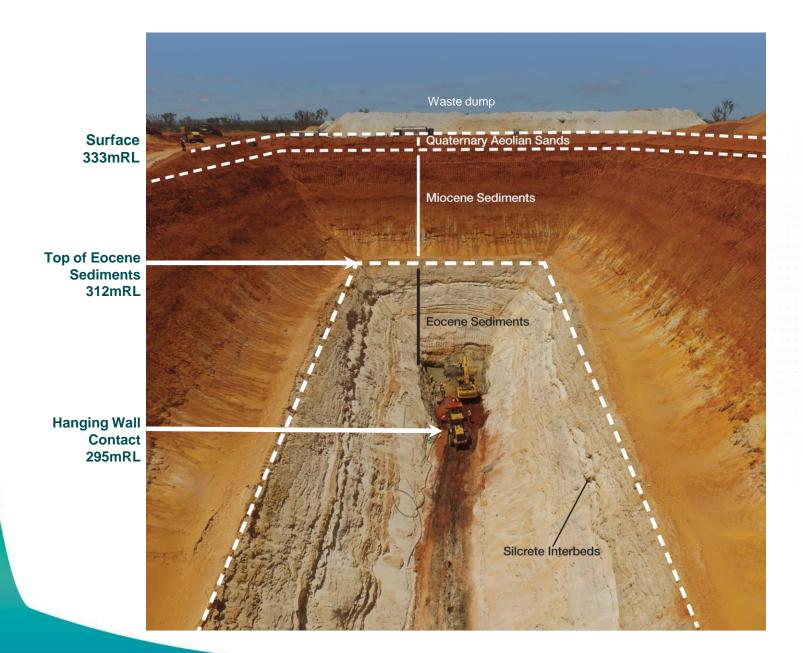
### Geology – carbon-rich sediment host rock





## Ambassador East test pit - stratigraphy of overburden





## Mining – simple, established mining methods



- Geotechnical investigation trenches confirm:
  - Free digging nature of overburden and ore
  - Clear demarcation of upper ore contact
- Bulk mining methods for overburden excavation
- Strip mining method results in in-pit waste disposal and 'real time' rehabilitation – key environmental factor
- Pit voids to be used for tailings disposal and management – key environmental factor





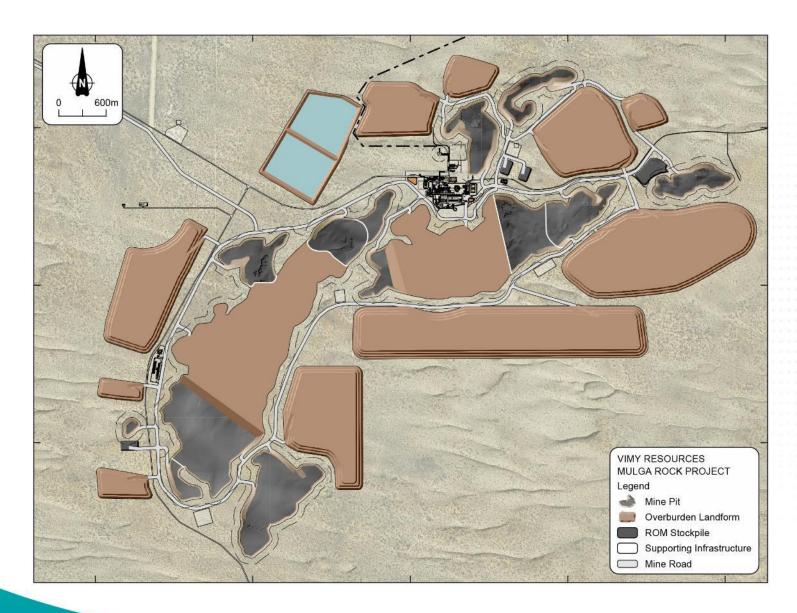


Close-up in Japanese test pit (1980s) showing carbon-rich ore and free dig nature of material

Ambassador test pits – February 2016

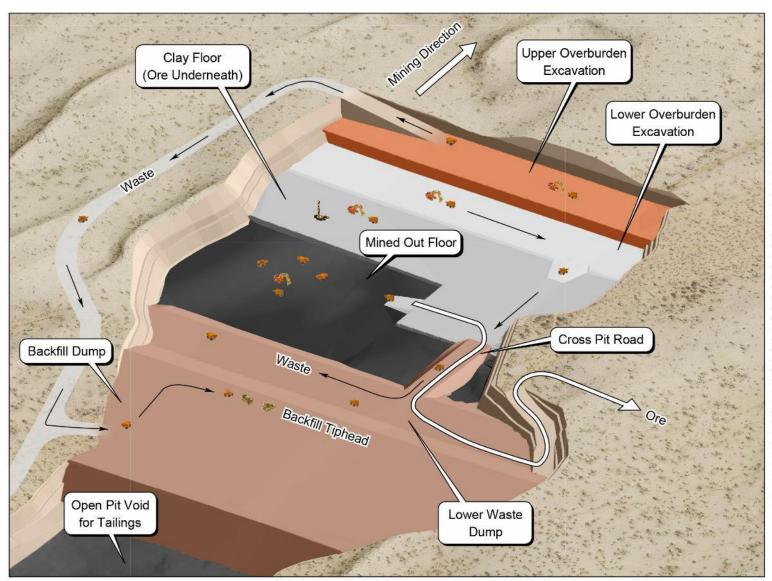
## Mulga Rock Project – Year 14





## Mulga Rock Project – mining method





## Pilot plant flow sheet



**Beneficiation** 



**Leach circuit** 



Resin-in-pulp circuit



Uranyl Peroxide (produced by Vimy)



**U** precipitation

### Mulga Rock Project plant layout



#### Four stage process

- Beneficiation removes gangue sands
- Sulphuric acid leach
- Resin-in-pulp ion exchange
- Uranium precipitation and packaging







Acquisition of Cameco's Alligator River Project, Northern Territory

## Vimy acquires project in world-class project in a world-class uranium province

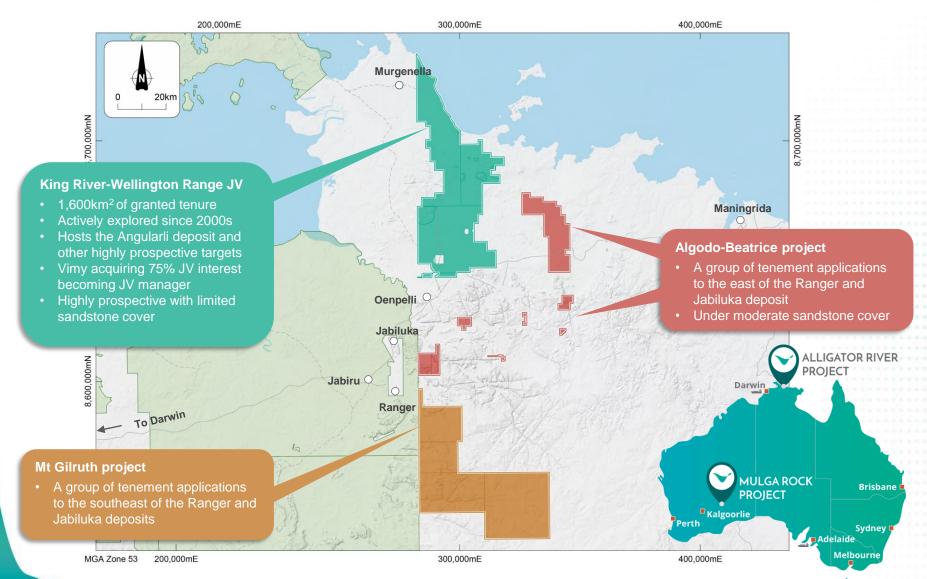


- Vimy to acquire Cameco's Alligator River Project in Australia's Northern Territory for A\$6.5M (staged over 30 months)
- Located in a world-class uranium province with over 750Mlbs in mineral resources
- Vimy will have the largest granted exploration tenement package in the Alligator River uranium province – three separate packages covering a total area of 3,865km²
- Vimy's holding has several advanced targets requiring immediate follow-up
- Alligator River deposits are unconformity style unique to Alligator River and Athabasca Basin in Canada – noted for large size and exceptional grades
- Tenements on Aboriginal land vested in Arnhem Land Aboriginal Land Trust and managed by the Northern Land Council on behalf of Traditional Landowners
- All granted exploration licences have associated Aboriginal deeds permitting exploration and setting out the terms governing future mining



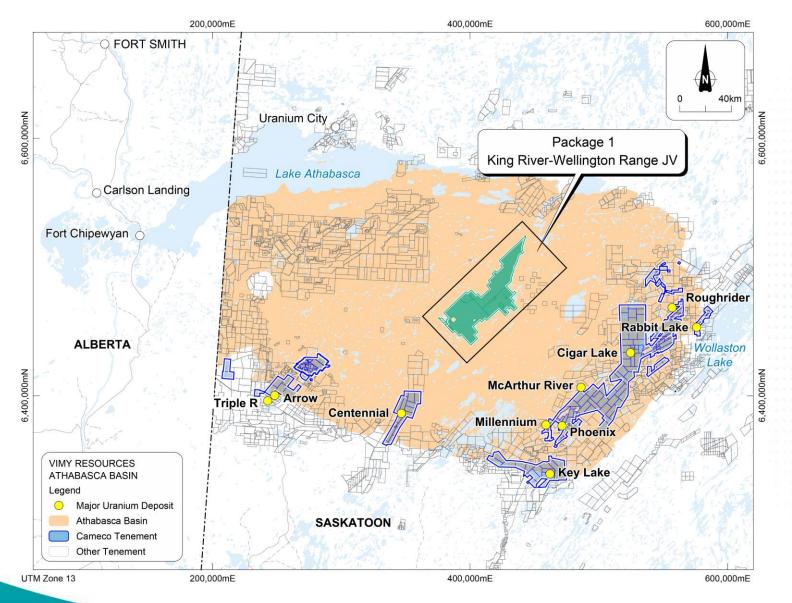
### 3 tenement packages in top uranium exploration district





## Vimy's King River joint venture holding overlain on Cameco's Athabasca Basin holdings

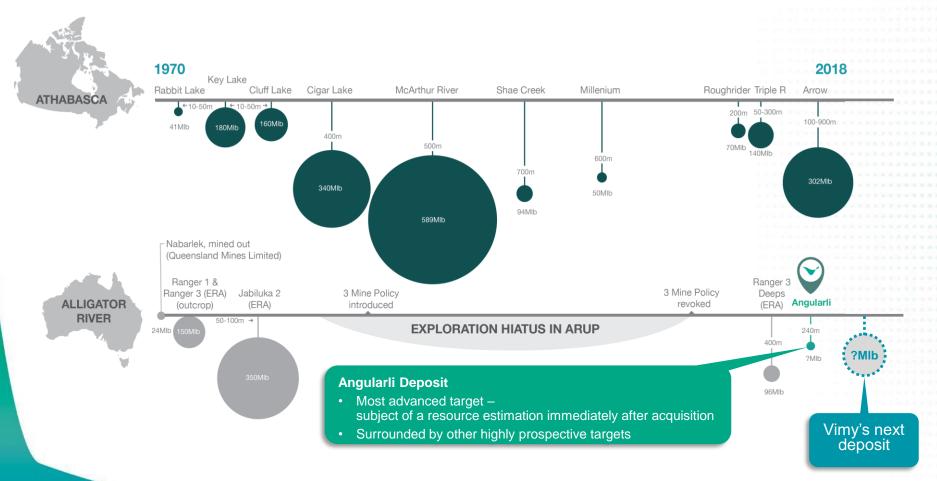




### Exploration hiatus in sharp contrast to Athabasca Basin



- Australia's Three-Mine Policy (1984-1996) resulted in limited exploration in Alligator River area
- All exploration licences held in moratorium during this period, followed by moderate exploration only
- Canada's Athabasca Basin experienced amazing growth over the same period



#### Summary



People with track record and vision

- "can do" attitude

Excellent commodity opportunityundervalued asset class

Strong balance sheet and stakeholder support

Mulga Rock – globally significant uranium deposit – size and scale

Low technical risk, low approval risk

– "it all works"

Further advanced than most peers

-"mine ready"

Pipeline of uranium projectsreliability of supply



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Cautionary statements: The information in this presentation that relates to the Definitive Feasibility Study (DFS), including production targets and forward-looking financial information based on the production targets, was released to the ASX on 30 January 2018. Vimy confirms that all the material assumptions underpinning the production targets and forward-looking financial information in the DFS continue to apply and have not materially changed.

#### No new information:

The Resource Estimate referred to in this presentation was released to the ASX on 12 July 2017. Vimy is not aware of any new information, or data, that affects the information in that announcement and confirms that all material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed.

The Reserve Estimate referred to in this presentation was released to the ASX on 4 September 2017. Vimy is not aware of any new information, or data, that affects the information in that announcement and confirms that all material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed.



Biographies – Board and management Mulga Rock Resources and Reserves

### People – The Board





#### The Hon. Cheryl Edwardes AM – Non-Executive Chairman

- Former WA State Government Minister holding Ministries of Environment, Labour Relations and Attorney General
- Providing statutory and approvals advice to Atlas Iron, Hancock Prospecting, FTI Consulting
- Significant networks in State and Federal Government and broad experience and networks in China's business community



#### Mike Young – Chief Executive Officer and Managing Director

- Founding Managing Director of BC Iron Limited from 2006 2013. BC Iron went from first drill hole to first ore on ship in under four years
- Experienced mining consultant Resource modelling and estimation with Golder Associates
- Founding director of uranium developer Bannerman Resources and currently non-executive Chairman of Cassini Resources
- Studied at Queens University, Ontario and worked on uranium exploration projects and mines in Canada



#### Julian Tapp - Executive Director

- Head of Government Relations and Director of Strategy at Fortescue Metals Group until 2012 with special responsibility for expediting approvals
- Trained as an economist in London, lectured at a number of universities including the London School of Economics
- Chief Economist for Ford Europe, BP and Rover Group before transitioning into role as Director, New Business Development



#### **David Cornell - Non-Executive Director**

- Founding director of the Element Group with significant commercial and financial experience in the mining and oil and gas sectors
- Previously an associate director at the LinQ group which managed Australia's largest listed resource fund
- Specialist in providing corporate and professional services to both WA junior explorers and international mining companies



#### Andy Haslam - Non-Executive Director

- Highly qualified mining executive, with significant experience in project development and operations for both miners and mining contractors
- Currently Non-Executive Director of BC Iron and industry representative on WA Quarry Managers' Board of Examiners
- Holds Diplomas in Mining and Extractive Industries Management from University of Ballarat, Victoria and SEM College in Western Australia



#### Mal James - Non-Executive Director

- Resources company director with extensive background in finance and accounting
- Strong focus on uranium, developed over ten years at Peninsula Energy as Executive Director responsible for daily operations through to finance
- Holds a Bachelor of Business (Accounting) from RMIT Melbourne, Fellow of Australian Institute of Company Directors and is a Member of AusIMM



#### Dr Vanessa Guthrie - Non-Executive Director

- Former Managing Director of WA-based uranium developer Toro Energy
- More than thirty years' experience in resources sector, in diverse roles such as operations, environment, community and indigenous affairs, corporate development and sustainability
- Qualifications in geology, environment, law and business management including a PhD in Geology

### People – The Team





#### Ron Chamberlain – Chief Financial Officer and Company Secretary

- Financial professional with over 25 years' experience in resources companies exploration through to mine closure
- Significant experience with uranium companies as inaugural CFO for Paladin Energy and Extract Resources
- Bachelor of Commerce from UWA and Fellow of Chartered Accountants Australia and New Zealand



#### **Tony Chamberlain – Chief Operating Officer**

- Solid technical experience in the management, development and delivery of projects, particularly uranium projects, around the world
- Held senior operational and management roles with WMC Resources and BHP Billiton, spending significant time in China as Development Manager for BHP Billiton Stainless Steel Material Group
- Holds a PhD in Metallurgy from Curtin University



#### Scott Hyman - Vice President Sales and Marketing

- US-based marketing professional with 30 years' experience in the sale and procurement of uranium
- Extensive experience at Cameco Inc. as Vice President Marketing Americas providing regional and global direction and managemen for marketing and sales activities
- Intimate knowledge of the nuclear industry gained through initial career with Dominion Energy



#### **Xavier Moreau – Geology and Exploration**

- General Manager of Geology and Exploration at Vimy since February 2010
- Valuable uranium project management experience with Areva and U3O8 Limited
- Solid experience in uranium and gold exploration with Areva and Afmeco with significant time spent on Goldfields projects
- Educated in France and Canada and holds an Honours degree in Geology



#### Adam Pratt - Environment, Health and Safety Manager

- Twenty years' national and international experience in the mining industry as an EHS professional
- Extensive experience in mining approvals and mine rehabilitation and closure, including the development and implementation of mine closure plans and environmental impact assessments
- Experience in the development and implementation of environmental management and OH&S systems



### Mulga Rock – Mineral Resource Update – July 2017



Deposit	Resource Estimate Classification	Cut-off grade (ppm U <sub>3</sub> O <sub>8</sub> )	Tonnes (Mt)	U <sub>3</sub> O <sub>8</sub> (ppm)	Total metal U <sub>3</sub> O <sub>8</sub> (Mlb)
Mulga Rock East	Measured	150	5.2	1,100	12.6
	Indicated	150	16.8	800	29.6
	Inferred	150	15.5	420	14.3
Sub-total			37.4	680	56.4
Mulga Rock West	Indicated	150	2.2	680	3.2
	Inferred	150	31.7	440	30.4
Sub-total			33.8	450	33.6
Total Resource			71.2	570	90.1

This resource estimate was released to the ASX on 11 July 2017.

- Mulga Rock Project now at 90.1Mlbs U<sub>3</sub>O<sub>8</sub> being 71.2Mt at 570ppm U<sub>3</sub>O<sub>8</sub>
- High-grade at Mulga Rock East comprises 25Mlbs at 1,500ppm U<sub>3</sub>O<sub>8</sub>
- A 30% increase in Mulga Rock East resource since November 2016
- 50% of the global Mineral Resource is in Measured and Indicated status

### Mulga Rock Ore Reserve – September 2017



Deposit / Resource	Classification	Cut-off grade (ppm U₃O <sub>8</sub> )	Tonnes (Mt)	U <sub>3</sub> O <sub>8</sub> (ppm)	Total metal U <sub>3</sub> O <sub>8</sub> (Mlb)
		Mulga Rock E	ast		
Ambassador	Proved	150	5.3	1,055	12.3
	Probable	150	14.1	775	24.0
Princess	Probable	150	1.7	870	3.3
Sub-total			21.1	850	39.6
		Mulga Rock W	/est		
Shogun	Probable	150	1.6	760	2.7
Sub-total			1.6	760	2.7
Total Reserve			22.7	845	42.3

This Reserve estimate was released to the ASX on 4 September 2017.

- Ore Reserves now at 42.3Mlbs U<sub>3</sub>O<sub>8</sub> from 22.7Mt at 845ppm U<sub>3</sub>O<sub>8</sub>
- Maiden Proved Ore Reserve of 12.3Mlbs from 5.3Mt at 1,055ppm U<sub>3</sub>O<sub>8</sub>
- Ore Reserve metal increases 36% from last update in November 2016
- Vimy expects material improvements in project economics