

HONEYMOON URANIUM PROJECT

South Australia



INVESTOR PRESENTATION
October 2016

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The information in this document relating to the Expansion Study is extracted from the announcements entitled 'Positive Expansion Study Results Progress The Honeymoon Uranium Project To PFS' dated 28 September 2016. The information in this document relating to the Mineral Resources is extracted from the announcements entitled 'Substantial Increase And Upgrade In Honeymoon Uranium Resource' dated 20 January 2016, 'Boss Increases Honeymoon Uranium Project Resource' dated 8 April 2016, 'Maiden Resource of 5.2Mlb for Jason's Deposit' dated 14 June 2016 and is available to view on www.bosresources.com.au. The information relating to the Exploration Target is extracted from the announcement entitled 'Honeymoon Project Exploration Update' and dated 8 December 2015. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and that, in the case of Mineral Resources or Ore Reserves, all the material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements.


The Exploration Target is conceptual in nature as there has been insufficient exploration to define a Mineral Resource. It is uncertain if further exploration will result in the determination of a Mineral Resource under the JORC Code 2012. The Exploration Target is not being reported as part of any Mineral Resource or Ore Reserve.

WHY URANIUM?

Nuclear Power: The Best Solution

- Nuclear power provides the best solution for a non-polluting 24:7 base load power source
- Zero carbon emissions
- Over 440 existing nuclear plants, focused in Europe, North America, Russia, South Korea and Japan
- 1.7 billion of the world's population is still without electricity
- Emerging economies will need to implement a combination of nuclear, coal, gas and renewables to meet their growing power requirements
- Nuclear power needs to be made readily accessible and affordable to the emerging economies to ensure that non-polluting sources are chosen in the hunt for more power





CLIMATE CHANGE REQUIRES NUCLEAR ENERGY INVOLVEMENT

“There’s really only one technology that we know of that supplies carbon-free power at the scale modern civilization requires, and that is **nuclear power**”

- Ken Caldeira of Stanford University's Department of Global Ecology

MARKET DEMAND

Global Reactor Growth

- Global nuclear power generation capacity will increase 70% over the next decade from 374,067MWe to 636,693MWe
- Annual uranium demand will increase from 177mlbs to 280mlbs by 2020, representing a 58% increase
- Additional 390mlbs will be needed for new initial cores

64 UNDER CONSTRUCTION

- **Generation Capacity:** 74,886 MWe
- **Annual Uranium Demand:** 13,000 tonnes U

441 OPERABLE REACTORS
DECEMBER 2013

- **Generation Capacity:** 374,067 MWe
- **Annual Uranium Demand:** 64,978 tonnes U

173 PLANNED REACTORS

- **Generation Capacity:** 187,740 MWe
- **Annual Uranium Demand:** 32,600 tonnes U



CHINA



223mlbs U3O8 purchased since 2009

Breaking ground on 6-8 new units per year (increasing to 10 per year post-2020)

Air Quality Imperative – moratorium on new coal plants

CURRENT NUCLEAR GROWTH PLAN

2020

58 GWe

2025

97 GWe

2040

160 GWe



INDIA



Official Plan – 15 GWe installed by 2025

Uranium buying spree (long term contracts) – Canada, Kazakhstan, Uzbekistan

Establishment of “Strategic Uranium Reserve” of between 13 and 39mlbs U3O8

21

REACTORS OPERATING

With installed capacity of 6 GWe

6

UNDER CONSTRUCTION

Capacity of 6 GWe

4

PLANNED

Totalling 24 GWe



JAPAN



20-22%
NUCLEAR POWER
PLANNED

Government approved

26

APPLICATIONS

NRA has received 26 reactor restart applications

5

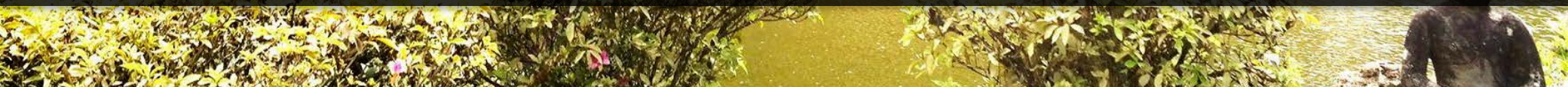
APPROVED

Five reactors approved for restart

4

RESTARTED

Four reactors have started



HONEYMOON HIGHLIGHTS



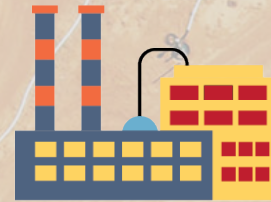
PERMITTED

Fully permitted uranium operation
(1 of only 4 in Australia)



TARGET

Significant exploration target
Huge 80+ km potentially mineralised strike
2,600km² underexplored uranium province
57.8mlb U₃O₈ JORC Resource



INFRASTRUCTURE

\$170m plant and infrastructure in place

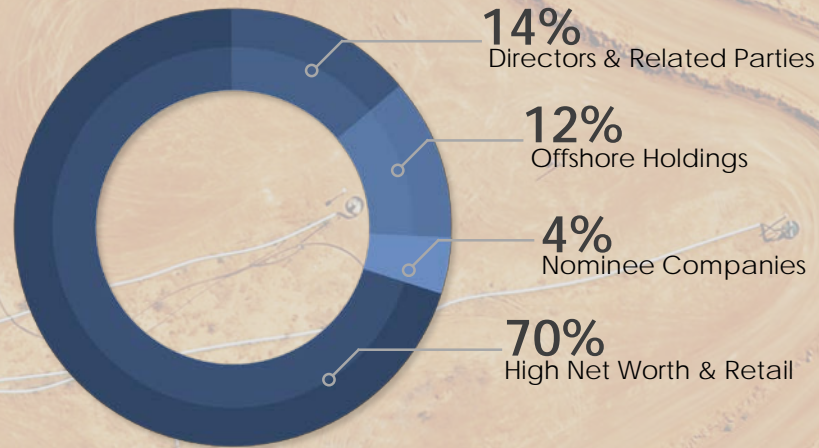


LOW CAPEX

Expansion Study highlights low CAPEX expansion
US\$57M to 2mlbpa and AISC of US\$24/lb
Further expansion to 3.6mlbpa

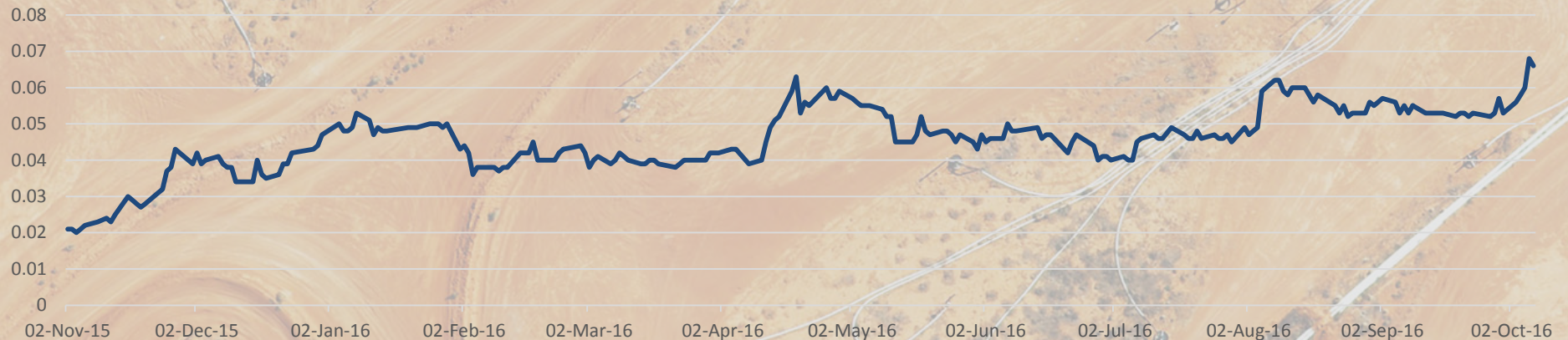
CORPORATE STRUCTURE

Shareholder Breakdown



Existing Shares (ASX:BOE)	903 million
Performance Rights*	58 million
Options (\$0.02 Aug 18)	10 million
Cash (30 June 2016)	~ \$3 million
Market Capitalisation (at \$0.055)	~\$50 million
Top 100 Shareholders	~ 80%

Share Price Movement



*10 million rights convert if share price is greater than 7.5c for 20 consecutive ASX trading days. 3.4 million rights convert if share price is greater than 8.5c for 20 consecutive ASX trading days. 13.3 million rights convert on discovery and decision to mine of 75kt Ni JORC resource on Scandinavian Project. 13.3 million rights convert on discovery and decision to mine of 125kt Ni JORC resource on Scandinavian Projects

AUSTRALIAN URANIUM PROJECTS

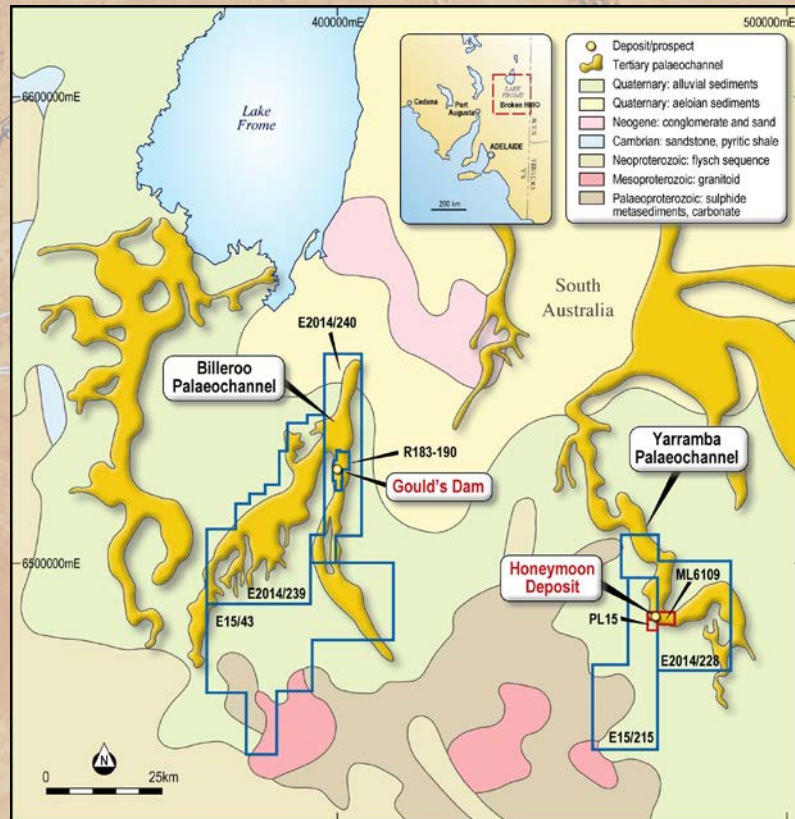


HONEYMOON URANIUM PROJECT

- One of the highest grade un-mined uranium resources in Australia
- 1 of only 4 fully permitted uranium projects in Australia
- Curnamona Basin – a significant underexplored uranium province
- Targeting >100mlbs resource
- Low CAPEX and OPEX costs
- Currently on care and maintenance

HONEYMOON

URANIUM PROJECT



- Located 75Km NW of Broken Hill, in the Curnamona Region of South Australia
- Resources amenable to ISL recovery
- Mineralisation occurs at 90-120m depth
- Over 5,300 drill holes in data base
- Multiple styles of uranium mineralisation identified

Water Treatment Plant

INFRASTRUCTURE

\$170M EXISTING INFRASTRUCTURE IN PLACE

Production Well Fields

Admin Buildings

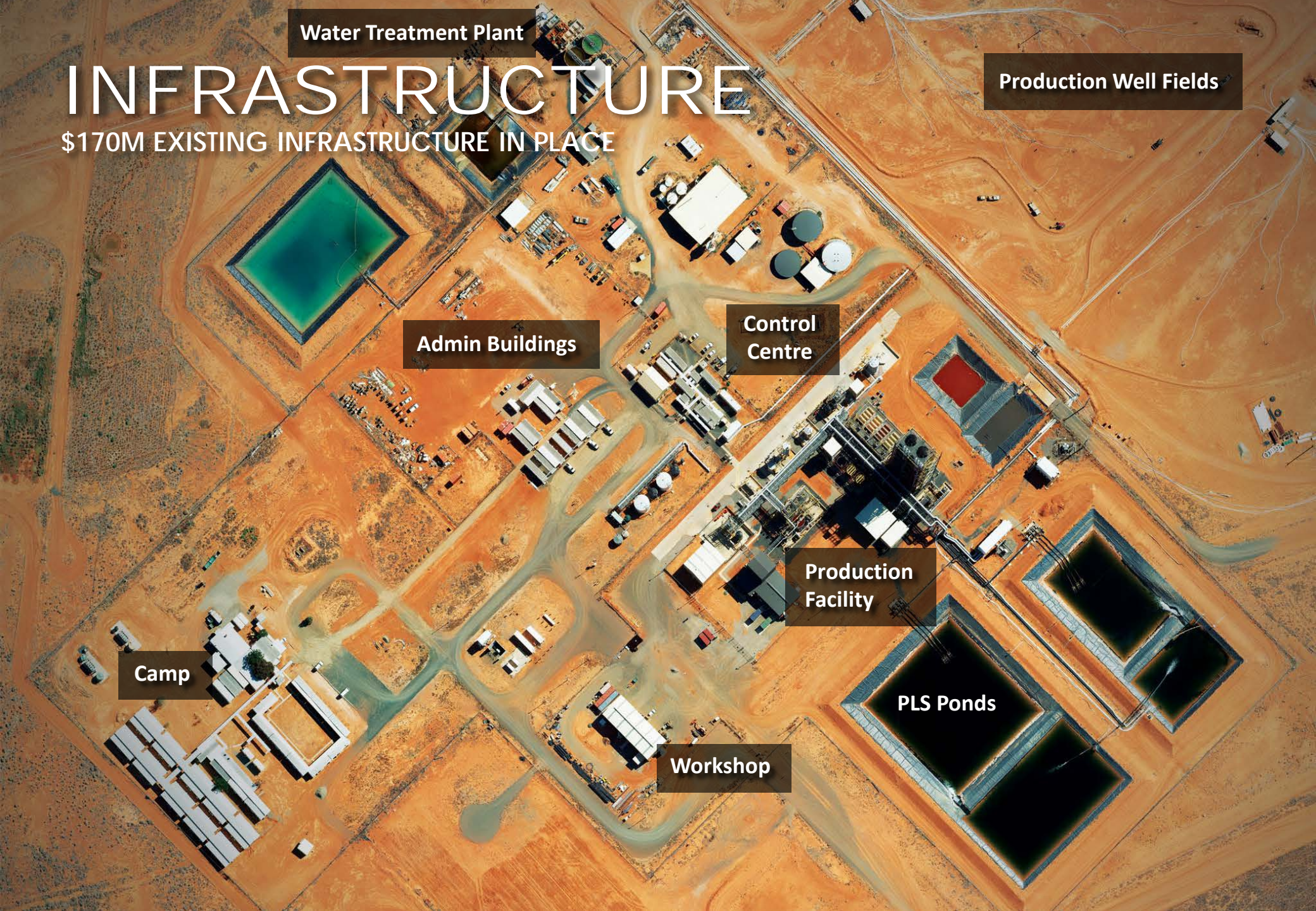
Control Centre

Production Facility

Camp

Workshop

PLS Ponds



HONEYMOON RESOURCE

SIGNIFICANT EXISTING HIGH GRADE RESOURCES – HIGHEST GRADE AMONGST ASX-LISTED PEERS

Classification	Million Tonnes	U ₃ O ₈ ppm	Contained U ₃ O ₈ (Mkg)	Contained U ₃ O ₈ (Mlb)
Measured	1.7	1720	2.95	6.5
Indicated	5.9	810	4.80	10.6
Inferred	32.5	569	18.50	40.7
Total	40.1	654	26.24	57.8

Note: Figures have been rounded. Quoted resources have been adjusted to exclude previous production of approximately 335t of U₃O₈ covering the Eastern and Western Tenement Regions. Reported Above a preferred 250ppm U₃O₈ lower cut-off

EXPANSION STUDY

LOWEST CAPEX URANIUM PLAY ON ASX WHILST MAINTAINING LOW OPEX

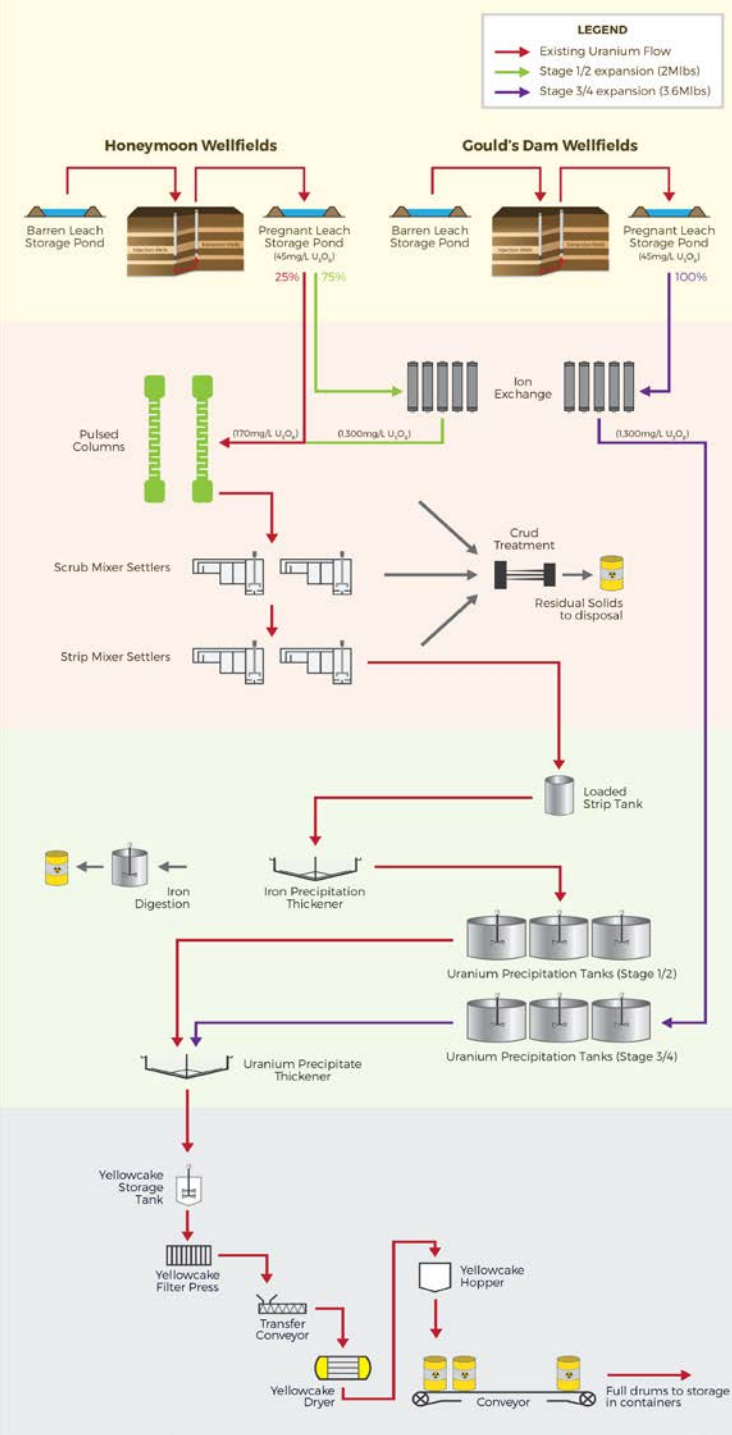
- Completed September 2016 by **GR Engineering** and **ANSTO**
- The Expansion Study was based on **results from past production operations**
- A hybrid ELUEX process utilizing **\$170m existing infrastructure**
- **Low CAPEX** required - US\$7 million for plant re-start plus US\$57 million for the expansion to 2mlbs / annum
- Steady state **AISC** are **~US\$24/lb U₃O₈**
- **Further expansion to 3.6mlbs / annum U₃O₈** in years 4-5
- Next phase to include exploration on other identified targets deferring need to develop Gould's Dam resource
- See ASX announcement (ASX: BOE 28 September 2016) for further details

WELLFIELD

SOLVENT EXTRACTION

PRECIPITATION AND THICKENING

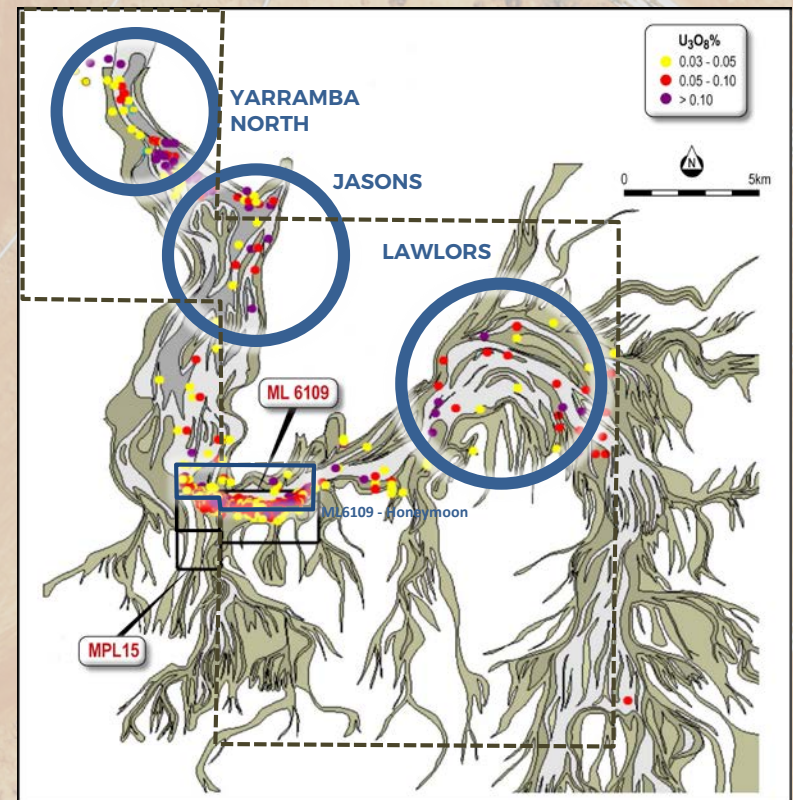
DRYING & PACKAGING



EASTERN TENEMENTS

EXPLORATION POTENTIAL

- Eastern Tenement Resource of 32.8mlb U_3O_8
- Additional regional Exploration Target of 18-47mlb U_3O_8
- 30 strike km of potential mineralisation
- Drill ready targets - historical drilling shows numerous >1,000ppm U_3O_8
- Three priority regions – Yarramba, Jasons and Lawlors
 - Early potential for resource definition
- Drilling to commence on Jason's Deposit Q4 2016
 - Current resource ~5mlbs U_3O_8
 - Infill drill program to increase resources substantially

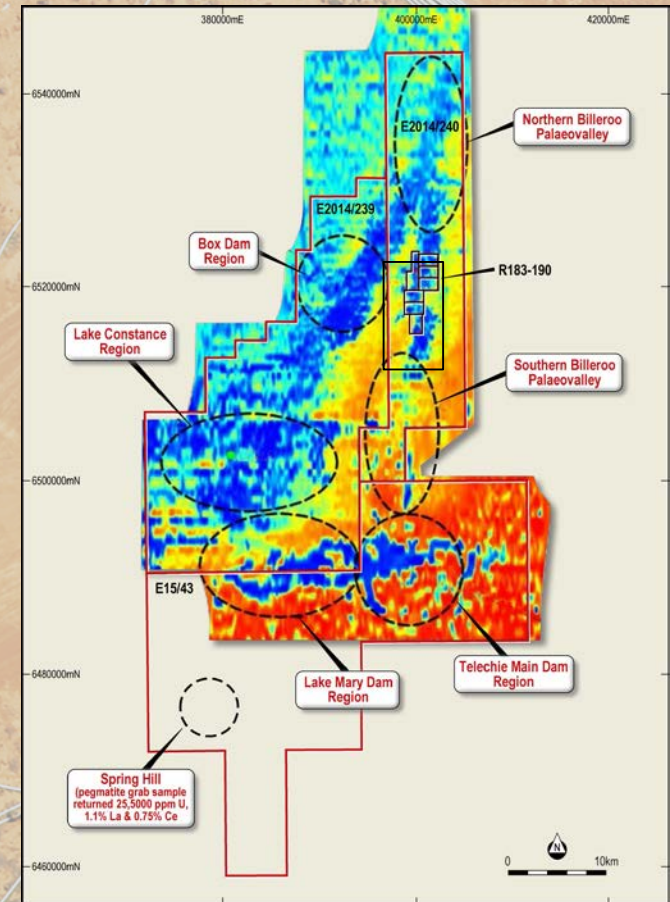


Historical & Recent Drilling Intercepts

WESTERN TENEMENTS

EXPLORATION POTENTIAL

- Western Tenement Resource of 25mlb U_3O_8
- Additional regional Exploration Target of 24-53mlb U_3O_8
- 54 strike km of potential mineralisation
- **Goulds Dam / Billeroo system underrated:**
 - 12km strike length
 - Under drilled highly prospective ground
 - Further resource upgrades estimated from further drilling
- Other **pegmatite hosted mineralisation** up to 3.5% U_3O_8 identified
- Potential for new styles of mineralisation similar to Beverly / 4 Mile
- Grades of up to 1% U_3O_8 reported from historical drilling



MILESTONES

- Project Acquisition**
Lowest cost per lb acquisition in recent history
- Resource Upgraded**
Total resource of 57.8mlb U3O8 @ 654ppm – 3.5 times the resource at acquisition in December 2015
- Expansion Study**
Low CAPEX and OPEX study completed
2m – 3.6mlb per annum
AISC ~US\$24/lb
Expansion CAPEX US\$57m
- Commence drilling Q4 2016**
Target known mineralised areas for low cost additional resource
- Expansion PFS completed Q1 2017**
- Expansion DFS completed Q4 2017**
- Commencement of Expanded Production estimated mid 2019**

FEASIBILITY PLANNING SCHEDULE

Project Activities	Q ₃ 2016	Q ₄ 2016	Q ₁ 2017	End 2017
Option Study	■			
Initial Exploration	■	■		
Resource Upgrade - Jasons			■	
PFS Expansion	■	■	■	
DFS Expansion	■	■	■	■

DIRECTORS

EXPERIENCE BOARD AND MANAGEMENT

- **Mark Hohnen** **Chairman**
Mr Hohnen has extensive international business experience in a wide range of industries. He is currently a Board member of Swakop Uranium and was the founding Executive Chairman of Kalahari Minerals Plc.
- **Marat Abzalov** **Executive Director - Geology**
Dr Abzalov has a PhD in Geology. Marat has recently completed an invited study of ISL styles of mineralization, including those in Australia. He is also an ex-Exploration manager for Rio Tinto Eurasia, with extensive experience in Kazakhstan uranium projects.
- **Evan Cranston** **Corporate Director**
Mr Cranston is a corporate lawyer with experience in publicly listed entities including capital raisings, offerings, and liaison with market analysts and investors.
- **Grant Davey** **Executive Director**
Mr Davey is a mining engineer with 20 years of senior management and operational experience in the construction and operation of Uranium, gold, platinum and coal mines in Africa, Australia, South America and Russia.
- **Peter Williams** **Non Executive Director**
Mr Williams is an explorationist/geophysicist with over 30 years experience. He has extensive experience in West Africa, Australia, Fennoscandia, and Canada.
- **Neil Inwood** **Geology Manager**
Mr Inwood has 22 years' international multi-commodity project and consulting experience and has consulted on uranium projects in Australia, Africa, the USA and South America. Mr Inwood is a Fellow of the Australian Institute of Mining and Metallurgy and holds a Master's Degree in Geology (UWA), a BSc in Geology (Curtin University) and a Graduate Certificate in Geostatistics (ECU).
- **Keith Bowes** **Project Manager**
Mr Bowes is a process engineer with 20 years' experience in metallurgy, project management and operations. He has worked in Africa, South America and Australia for the major mining houses on projects and plants covering a wide range of commodities and processes. He has been involved in a number of technology developments and has successfully incorporated these into various projects and operating plants.

COMPETITIVE ADVANTAGE

BOSS RESOURCES



TEAM

Executives with project management, development, financing, and operational experience



ASSETS

Honeymoon Uranium asset in South Australia

Underestimated uranium province

Significant exploration target



APPROVALS

All approvals are in place

Only non-producing project in Australia which is fully licensed and able to be brought into production



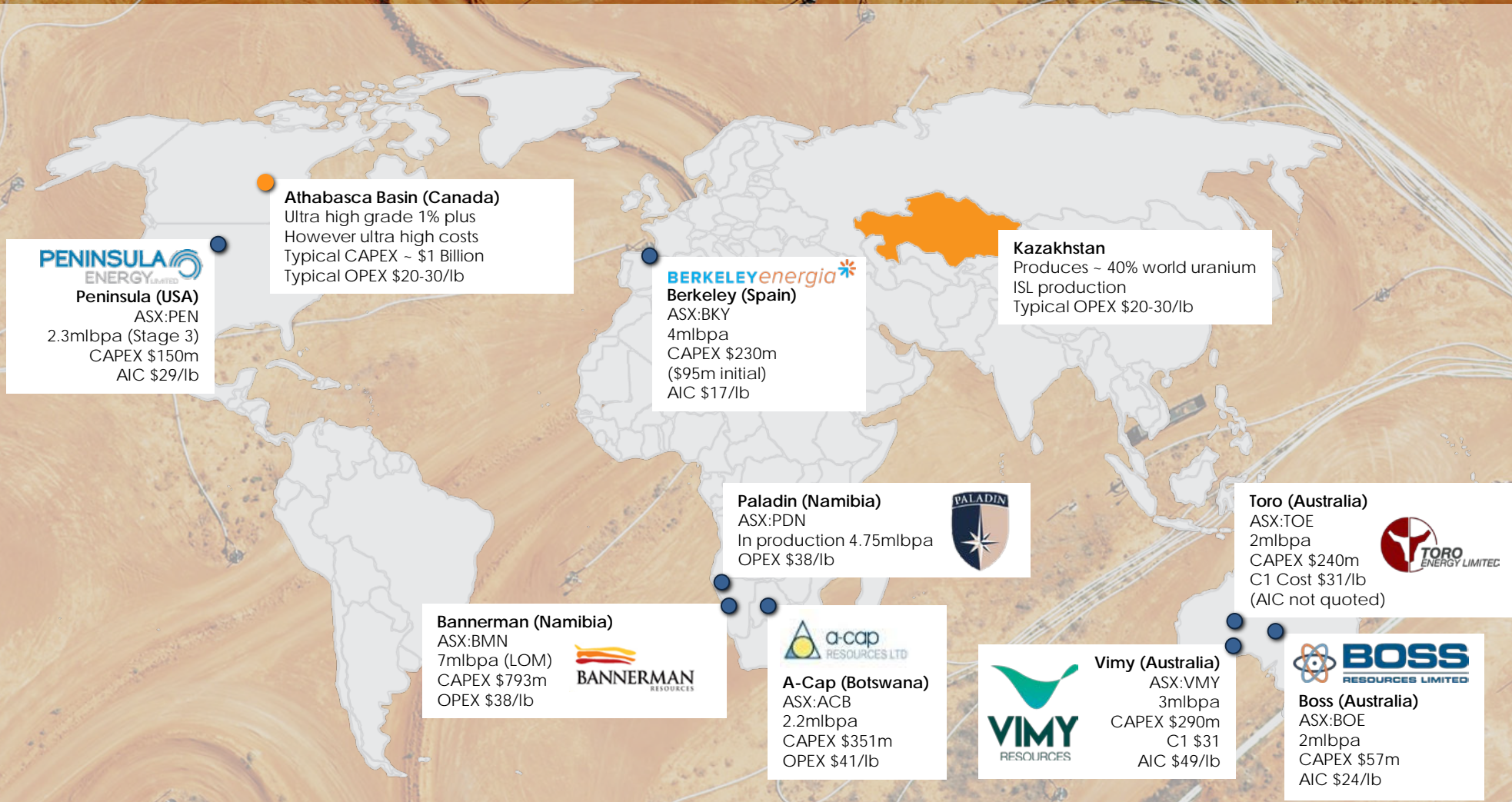
LOW COST

Expansion Study highlights low CAPEX expansion (US\$57m)

2mlbpa and AISC of US\$24/lb

URANIUM PEERS

COST ANALYSIS – ASX Uranium Companies



PEER COMPARISON

ASX LISTED STOCKS

Company	Initial Capex (US\$)	Mining Permit	Resource mlb	Grade ppm	Mining Type	Market Cap (AUD\$)	\$ Resource Valuation/lb	C1 Costs US\$/lb
Toro Energy (ASX:TOE)	\$315m	X	84	482	Bulk surface	\$100m	\$1.94	\$31
Vimy (Energy & Minerals) (ASX:VMY)	\$378m	X	76	520	Surface	\$73.6m	\$1.06	\$31
Peninsula Resources (ASX:PEN)	\$46m (stage 1)	✓	54	476	ISL	\$123m	\$1.61	\$29
Berkeley Resources (ASX:BKY)	\$169m	✓	89	514	Hard rock Open pit	\$176m	\$1.40	\$13.3
Boss Resources (ASX:BOE)	Constructed Expansion \$57m	✓	58	654	ISL	\$50m	\$0.72	\$16





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