HONEYMOON URANIUM PROJECT

South Australia

BOSS RESOURCES LIMITED

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.bossresources.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

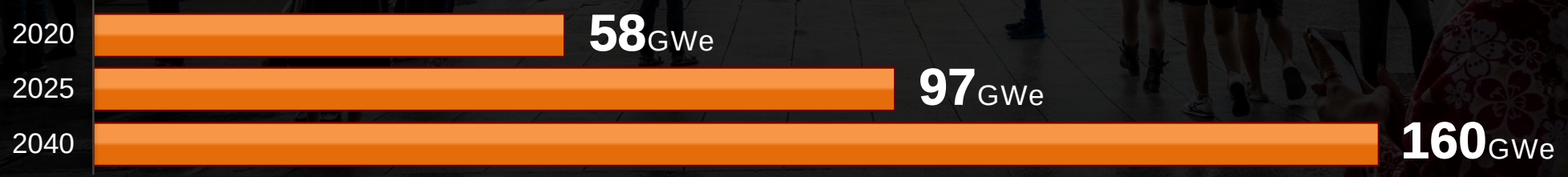
CHINA

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



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)

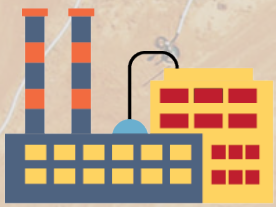
TARGET

Significant exploration target

Huge 80+ km potentially mineralised strike

2,600km^2 underexplored uranium province

57.8mlb U_3O_8 JORC Resource



INFRASTRUCTURE

$170m plant and infrastructure in place

LOW CAPEX

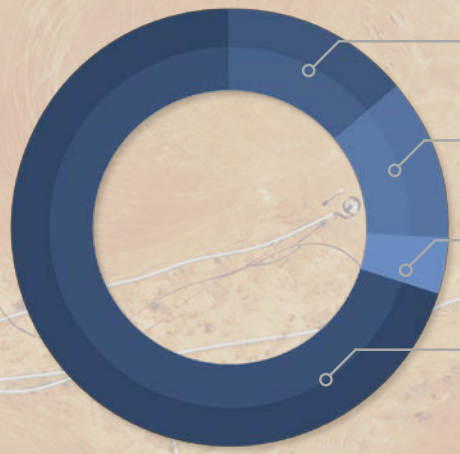
Expansion Study highlights low CAPEX expansion

US$57M to 2mlbpa and AISC of US$24/lb

Further expansion to 3.6mlbpa

CORPORATE STRUCTURE

Shareholder Breakdown



14% Directors & Related Parties

12% Offshore Holdings

4% Nominee Companies

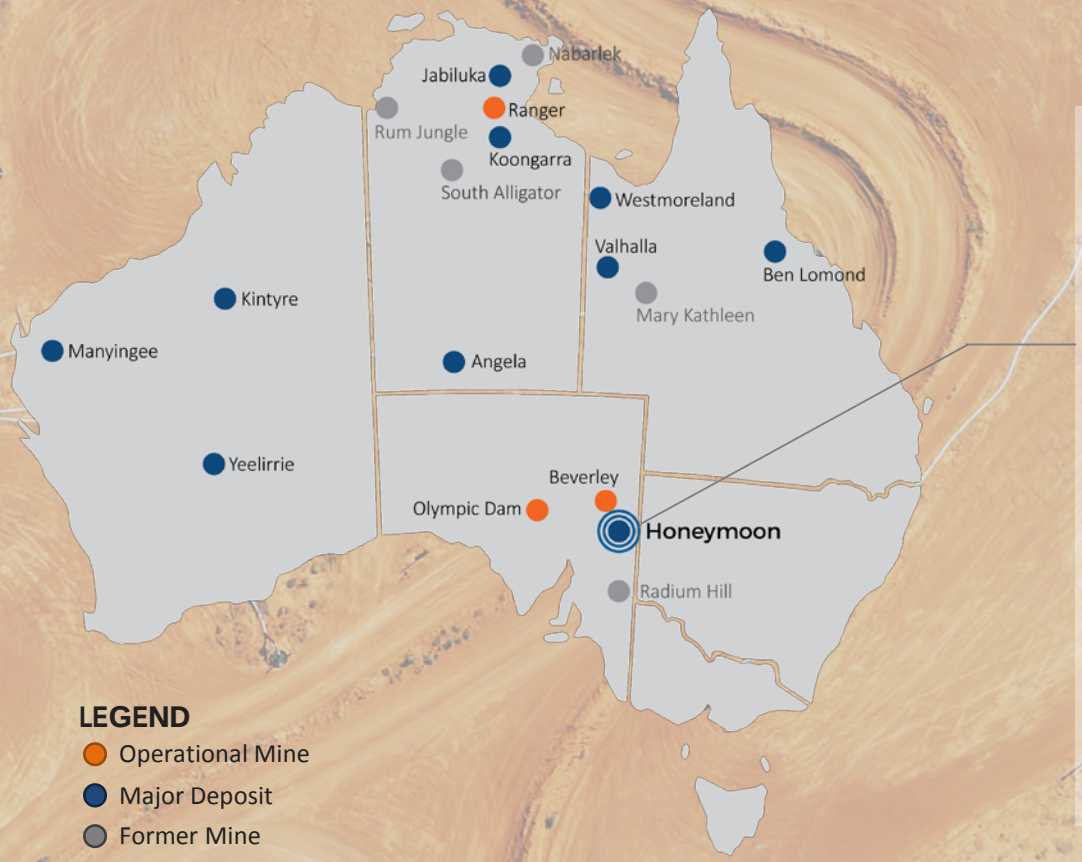
70% High Net Worth & Retail

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. 3.3 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

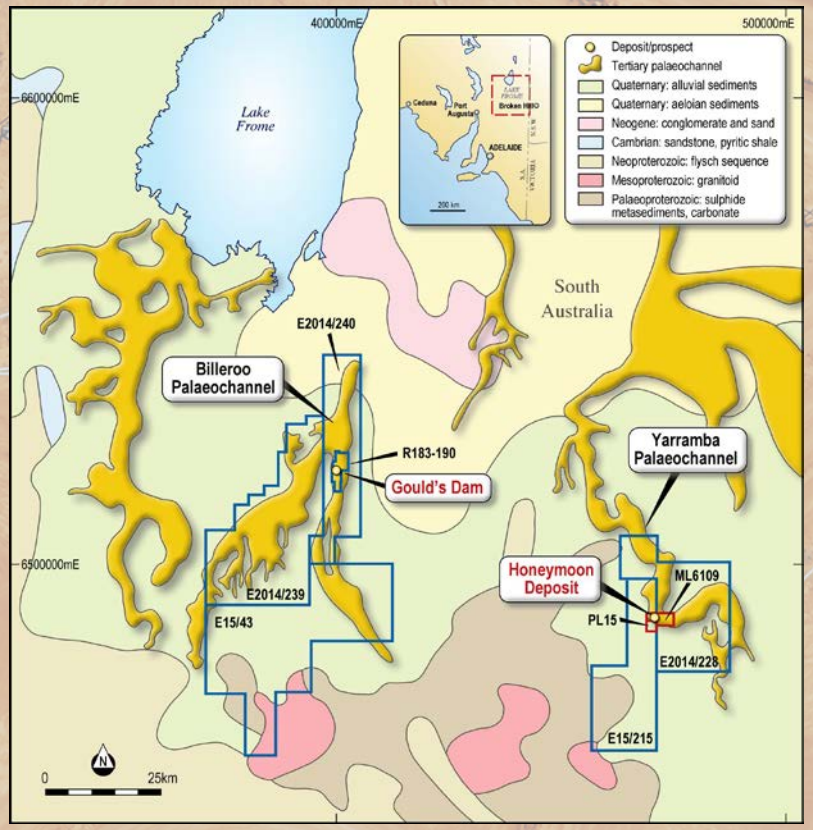


HONEYMOON URANIUM PROJECT

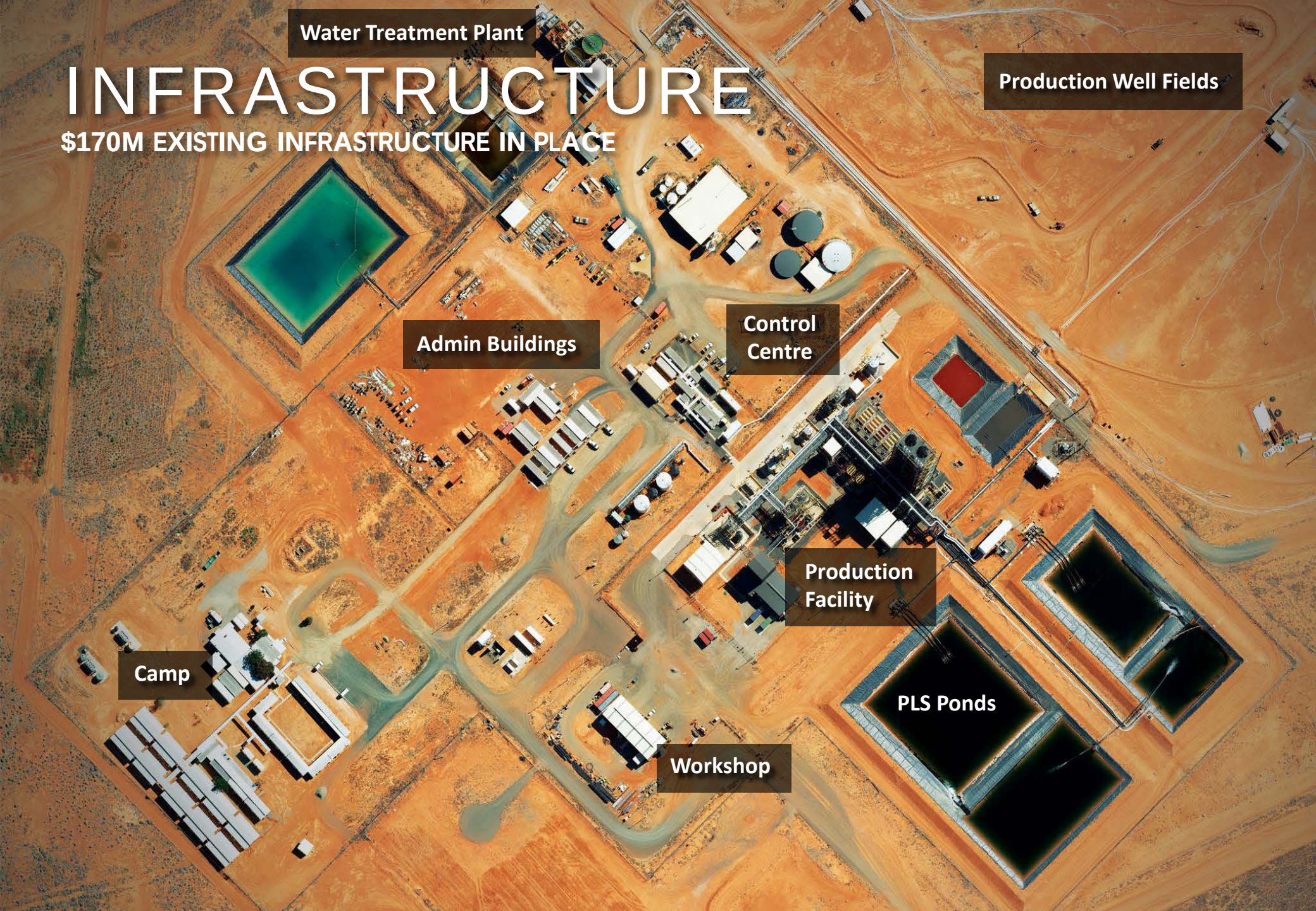
- One of the highest grade un-mined uranium resources in Australia
- 1 of only 4 fully permitted uranium projects in Australia
- Curnamona Basin – a significant underexplored uranium province
- Targeting >100mlbs resource
- Low CAPEX and OPEX costs
- Currently on care and maintenance

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



INFRASTRUCTURE

$170M EXISTING INFRASTRUCTURE IN PLACE

HONEYMOON RESOURCE

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

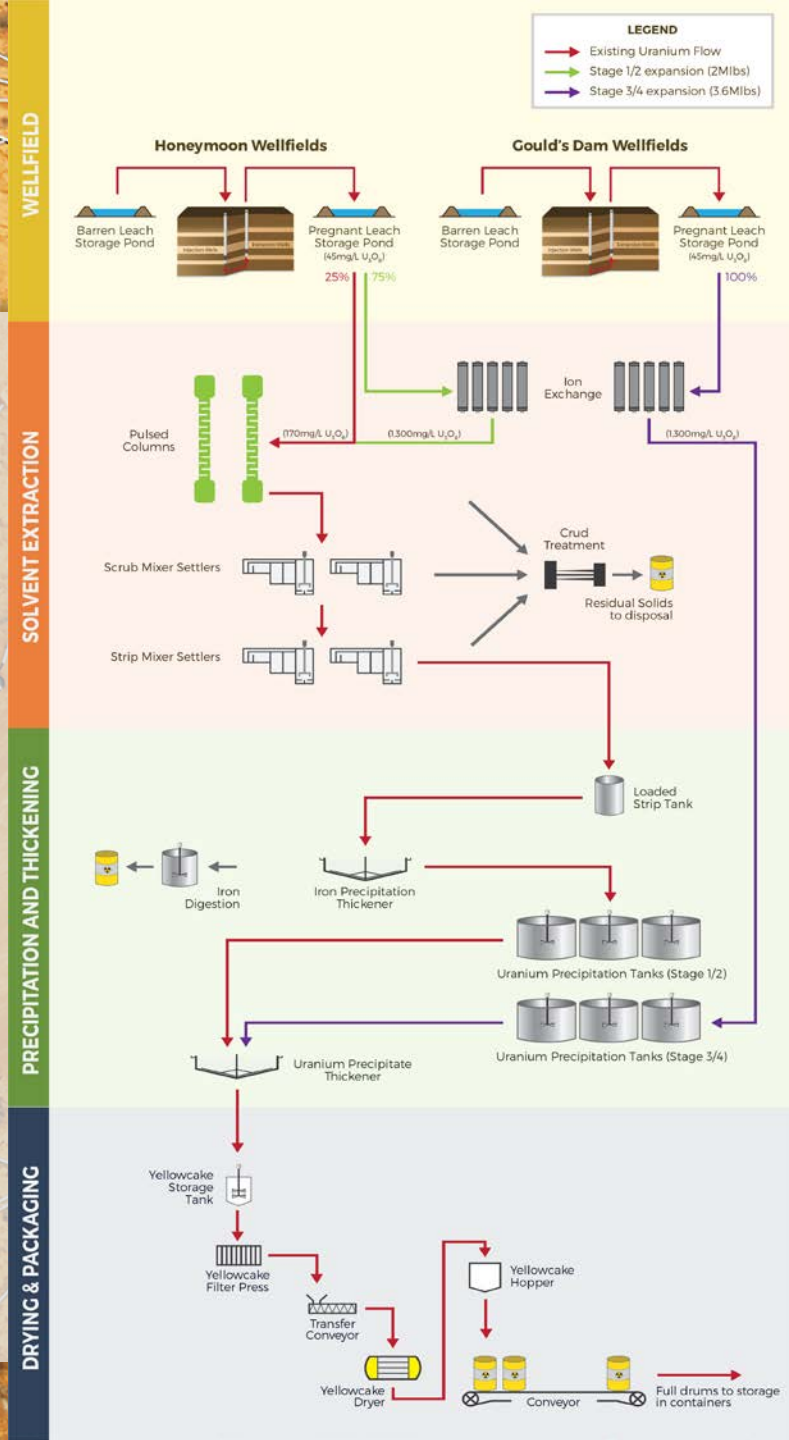
Classification	Million Tonnes	U_3O_8 ppm	Contained U_3O_8 (Mkg)	Contained U_3O_8 (Mlb)
Measured	1.7	1720	2.95	6.5
Indicated	5.9	810	4.80	10.6
Inferred	32.5	569	18.50	40.7
Total	**40.1**	**654**	**26.24**	**57.8**

Note: Figures have been rounded. Quoted resources have been adjusted to exclude previous production of approximately335t of U_3O_8.
Covering the Eastern and Western Tenement Regions. Reported Above a preferred 250ppm U_3O_8 lower cut-off

EXPANSION STUDY

LOWEST CAPEX URANIUM PLAY ON ASX WHILST MAINTAINING LOW OPEX

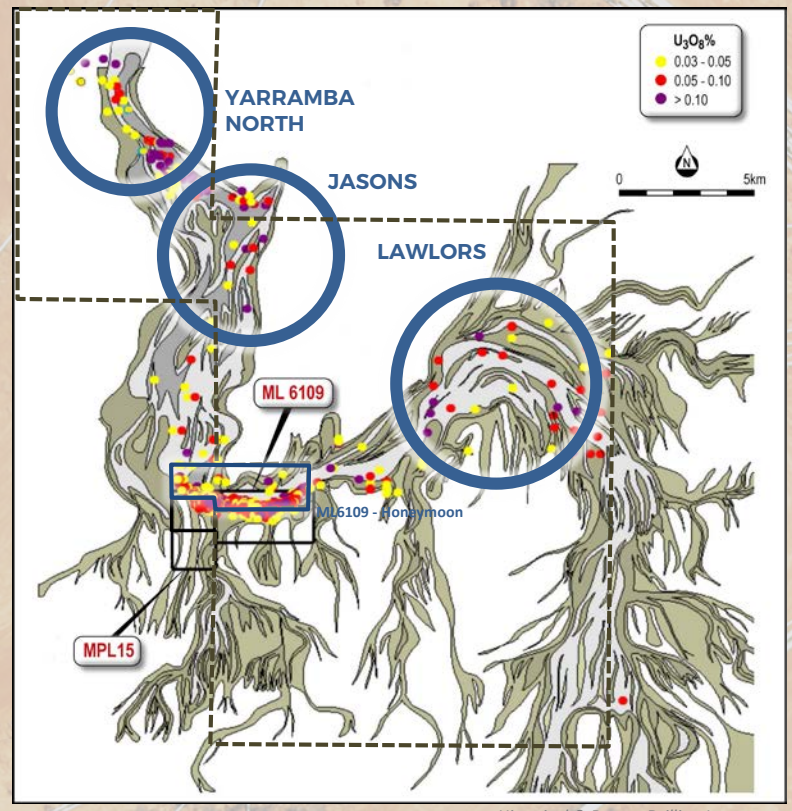
- Completed September 2016 by **GR Engineering** and **ANSTO**
- The Expansion Study was based on **results from past production operations**
- A hybrid ELUEX process utilizing **$170m existing infrastructure**
- **Low CAPEX** required - US$7 million for plant re-start plus US$57 million for the expansion to 2mlbs / annum
- Steady state **AISC are ~US$24/lb** U_3O_8
- **Further expansion to 3.6mlbs** / annum U_3O_8 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



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**
  - İnfill drill program to increase resources substantially

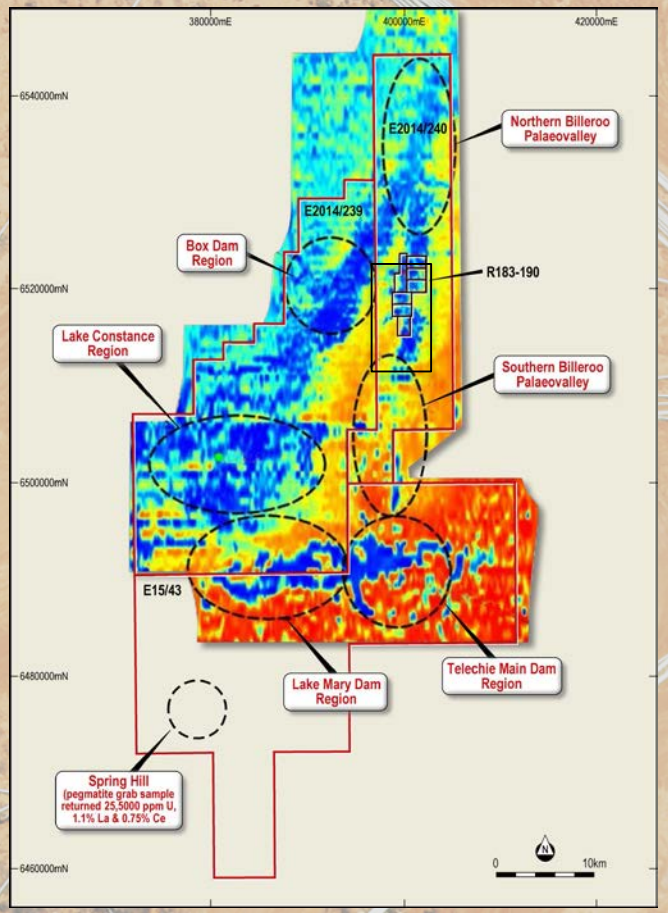


Historical & Recent Drilling Intercepts

WESTERN TENEMENTS

EXPLORATION POTENTIAL

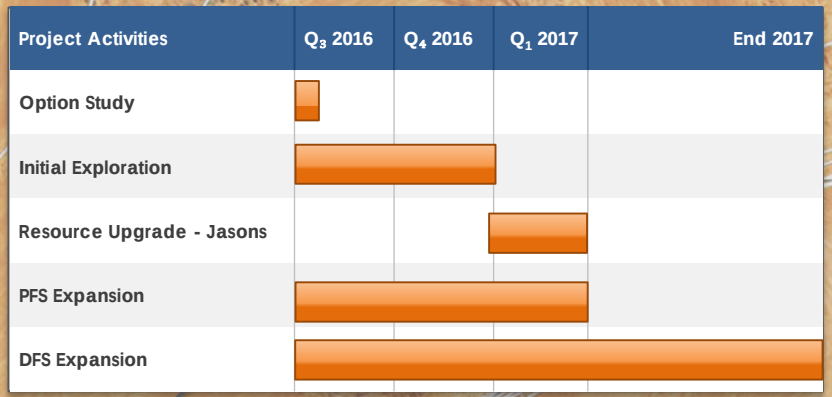
- **Western Tenement Resource** of **25mlb U_3O_8**
- **Additional** regional Exploration Target of **24-53mlb U_3O_8**
- **54 strike km** of potential mineralision
- **Goulds Dam** / Billeroo system **underrated**:
  - **12km strike length**
  - Under drilled highly prospective ground
  - **Further 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

- [x] **Project Acquisition**
  Lowest cost per lb acquisition in recent history
- [x] **Resource Upgraded**
  Total resource of 57.8mlb U3O8 @ 654ppm – 3.5 times the resource at acquisition in December 2015
- [x] **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



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

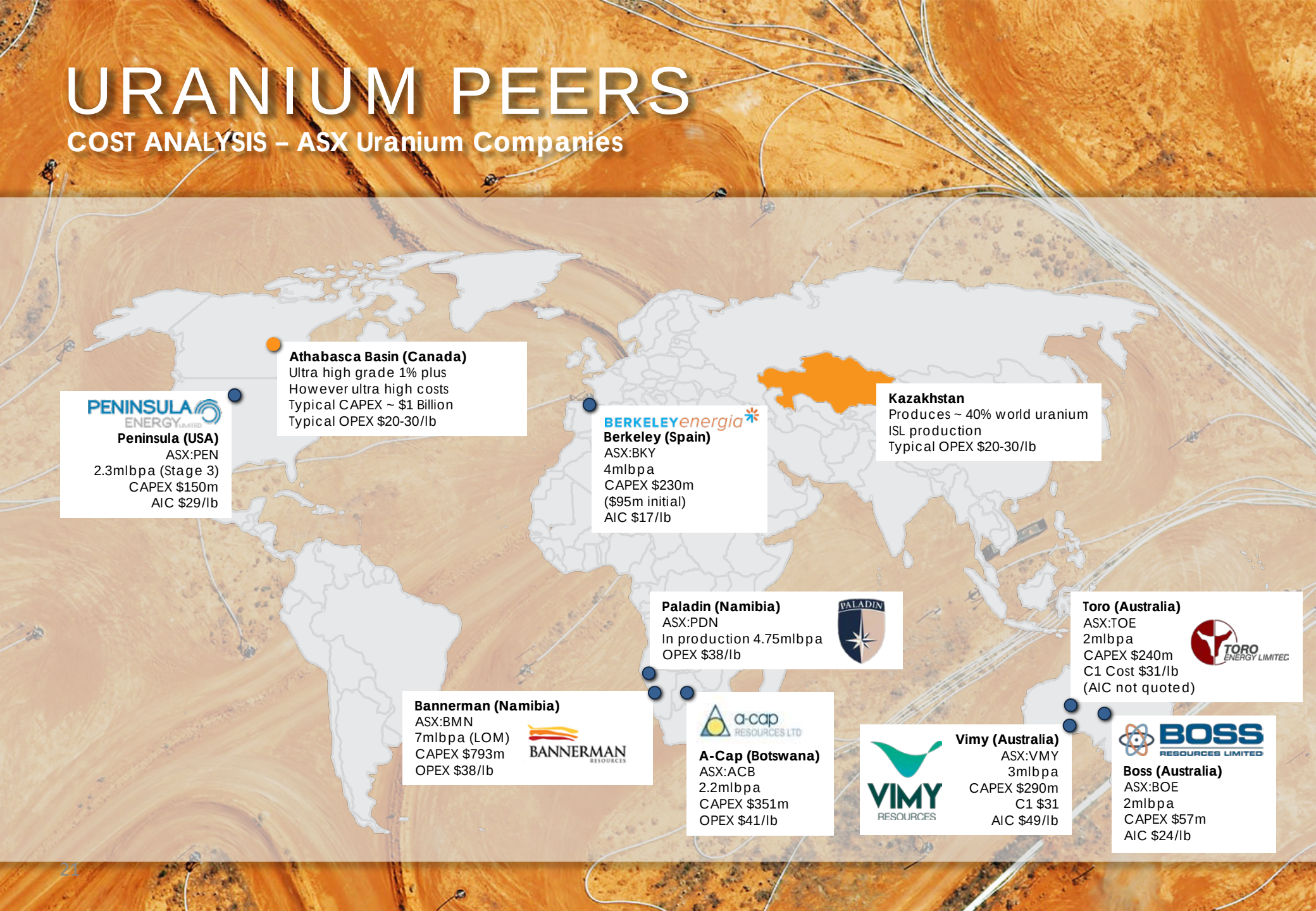
LOW COST

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

2mlbpa and AISC of US$24/lb

URANIUM PEERS

COST ANALYSIS – ASX Uranium Companies



Athabasca Basin (Canada)
Ultra high grade 1% plus
However ultra high costs
Typical CAPEX ~ $1 Billion
Typical OPEX $20-30/lb

Peninsula (USA)
ASX:PEN
2.3mlbpa (Stage 3)
CAPEX $150m
AIC $29/lb

Berkeley (Spain)
ASX:BKY
4mlbpa
CAPEX $230m
($95m initial)
AIC $17/lb

Kazakhstan
Produces ~ 40% world uranium
ISL production
Typical OPEX $20-30/lb

Paladin (Namibia)
ASX:PDN
In production 4.75mlbpa
OPEX $38/lb

Toro (Australia)
ASX:TOE
2mlbpa
CAPEX $240m
C1 Cost $31/lb
(AIC not quoted)

Bannerman (Namibia)
ASX:BMN
7mlbpa (LOM)
CAPEX $793m
OPEX $38/lb

A-Cap (Botswana)
ASX:ACB
2.2mlbpa
CAPEX $351m
OPEX $41/lb

Vimy (Australia)
ASX:VMY
3mlbpa
CAPEX $290m
C1 $31
AIC $49/lb

Boss (Australia)
ASX:BOE
2mlbpa
CAPEX $57m
AIC $24/lb

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	✗	84	482	Bulk surface	$100m	$1.94	$31
Vimy (Energy & Minerals) (ASX:VMY)	$378m	✗	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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