EXPANDING U.S. URANIUM PRODUCTION CAPACITY

Corporate Presentation │ June 2019
Disclaimer & Competent Person

This presentation is provided on the basis that the Company nor its representatives make any warranty (express or implied) as to the accuracy, reliability, relevance or completeness of the material contained in the Presentation and nothing contained in the Presentation is, or may be relied upon as, a promise, representation or warranty, whether as to the past or the future. The Company hereby excludes all warranties that can be excluded by law. The Presentation contains material which is predictive in nature and may be affected by inaccurate assumptions or by known and unknown risks and uncertainties, and may differ materially from results ultimately achieved.

The Presentation contains “forward-looking statements”. All statements other than those of historical facts included in the Presentation are forward-looking statements including estimates of resources, timing of permit and license amendments, and rates of uranium extraction and recovery. However, forward-looking statements are subject to risks, uncertainties and other factors, which could cause actual results to differ materially from future results expressed, projected or implied by such forward-looking statements. Such risks include, but are not limited to, uranium price volatility, currency fluctuations, increased production costs and variances in ore grade or recovery rates from those assumed in mining plans, as well as political and operational risks and governmental regulation and judicial outcomes. The Company does not undertake any obligation to release publicly any revisions to any “forward-looking statement” to reflect events or circumstances after the date of the Presentation, or to reflect the occurrence of unanticipated events, except as may be required under applicable securities laws. All persons should consider seeking appropriate professional advice in reviewing the Presentation and all other information with respect to the Company and evaluating the business, financial performance and operations of the Company. Neither the provision of the Presentation nor any information contained in the Presentation or subsequently communicated to any person in connection with the Presentation is, or should be taken as, constituting the giving of investment advice to any person.

This presentation shall not constitute an offer to sell or solicitation of an offer to buy securities of the Company, and the securities of the Company may not be offered or sold in any jurisdiction in which their offer or sale would be unlawful.

Please note that Production Targets within this presentation are based on a proportion of inferred resources. There is a low level of geological confidence associated with inferred mineral resources and there is no certainty that further exploration work will result in the determination of indicated mineral resource or that the production target itself will be realised.

Competent Person Statement

The information in this presentation that relates to Exploration Results, Mineral Resources or Ore Reserves and Metallurgical Results at Peninsula’s Lance Projects is based on information compiled by Mr. Jim Guilinger. Mr. Guilinger is a Member of a Recognised Overseas Professional Organisation included in a list promulgated by the ASX (Member of Mining and Metallurgy Society of America and SME Registered Member of the Society of Mining, Metallurgy and Exploration Inc). Mr. Guilinger is Principal of independent consultants World Industrial Minerals. Mr. Guilinger has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking as a Competent Person as defined in the 2012 Edition of the ‘Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves’. Mr. Guilinger consents to the inclusion in the presentation of the matters based on his information in the form and context in which it appears.
Cautionary & Inferred Resources Notice

The Feasibility Study completed for the Lance Projects includes measured and indicated resources and an assumed resource conversion of 60% (inferred to indicated or greater). The purpose of the Feasibility Study is to demonstrate the Lance Projects economic viability and the robustness of the planned low pH operations over an extended mine life beyond the existing Ross production area.

The Feasibility Study itself is based on various assumptions, including homogeneity of the delineated ore body contained within the Lance Projects. This is considered reasonable by the Company’s technical consultants, competent persons and independent external consultants. The Company believes that it has a reasonable basis upon which to prepare and release these Feasibility Study results, particularly given that the Lance Projects have been in operation since December 2015. Whilst the Company considers that all the material assumptions underpinning the Feasibility Study are based on reasonable grounds, there is no certainty that they will prove to be correct or that the outcomes indicated by the Feasibility Study will be achieved.

The Company believes it has a reasonable basis for providing the forward-looking statements and production targets included in this announcement. The material assumptions are included in Appendix 1 of this announcement and in the JORC table disclosures appended. The detailed assumptions regarding the resources are outlined in the ASX announcement released on 17 September 2018.

Investors should also note that there is no certainty that the Company will be able to raise the amount of funding for the Lance Projects when it is required or on terms that are not overly dilutive or that are favourable to the value of the Company’s existing shares.

This announcement has been prepared in accordance with the JORC Code (2012) and the ASX Listing Rules. There is a low level of geological confidence associated with inferred mineral resources and there is no certainty that further exploration and delineation work will result in the determination of indicated mineral resources or that the production target itself will be realised. Financial information contained in this announcement is preliminary in nature and is in-part based on low-level technical and economic assessments and is insufficient to support the estimation of reserves or to provide assurance of economic development.

Under the Feasibility Study mine plan, the first 5 years production can be sourced almost entirely from Measured and Indicated Resources. If the Inferred Resources are excluded from the Feasibility Study, the economic analysis still forecasts a positive financial performance. Therefore, the Company is satisfied that the use of Inferred Resources is not a determining factor in overall Project viability and that it is reasonable to include Inferred Resources in the Feasibility Study, particularly given that the Lance Projects is an operating project that has been producing uranium for over three years.

In accordance with the relevant regulations governing the disclosure of mineral projects, readers are cautioned that mineable resources based on inferred resource material are considered too speculative geologically to enable them to be classified as reserves.
The Uranium Market

Source: UxC
Supply Factors Favour Higher Prices

➢ The current market prices are well below the average cost of production globally

Global Production Restraint

• The world's producers cut primary production to 138M lbs in 2018 – off ~30M lbs/year

• Primary producers have become significant spot market buyers in lieu of producing

• Available inventory stockpiles are decreasing

Peninsula’s Lance Project is Leveraged to Rising Prices

NPV vs Variable Uranium Price

- NPV (REAL) (US$M)
- Variation in Uranium Price

<table>
<thead>
<tr>
<th>Uranium Price</th>
<th>NPV (REAL) (US$M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$35</td>
<td>$10</td>
</tr>
<tr>
<td>$40</td>
<td>$59</td>
</tr>
<tr>
<td>$45</td>
<td>$108</td>
</tr>
<tr>
<td>$50</td>
<td>$157</td>
</tr>
<tr>
<td>$55</td>
<td>$206</td>
</tr>
<tr>
<td>$60</td>
<td>$254</td>
</tr>
<tr>
<td>$65</td>
<td>$303</td>
</tr>
</tbody>
</table>
The global concern over climate change has led to greater support for expanding carbon-free nuclear power generation.

Strong Demand Fundamentals

- Nuclear energy growth has pushed demand beyond pre-Fukushima (2011) levels
- Primary demand estimated at 195M lbs U3O8 for CY2019 (Source: UxC Q1 2019 UMO)
- Forecasts continue to show primary/utility base demand growth through 2035
- New investment funds are buying and holding physical uranium inventories

Uncovered Requirements

Source: UxC Market Outlook Q1 2019
The uranium market as a whole has been in a “wait and see” mode pending a critical US governmental decision.

- **The Section 232 Investigation**
  - The United States is currently considering the national security implications of excessive reliance on foreign sources for uranium.
  - The DOC completed its report with recommendations in April, 2019.
  - Pres. Trump will make a decision on actions to take by July 13, 2019.

- **A Strong Case for Pro-active Remedies**
  - Uranium was designated a “Critical Mineral” by the US Dept. of Interior.
  - US uranium production is down to its lowest level since 1949.
  - US mine production in 2019 will be less than 1 percent of U.S. annual requirements - not enough to power even one nuclear reactor.
## A Prime Uranium Investment Opportunity

<table>
<thead>
<tr>
<th>Investment Criteria</th>
<th>Peninsula</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active US uranium production asset – with a major project transformation in progress</td>
<td>✔️</td>
</tr>
<tr>
<td>The only ASX-listed company with direct exposure to Section 232 outcomes</td>
<td>✔️</td>
</tr>
<tr>
<td>Strong leverage to rising uranium market prices</td>
<td>✔️</td>
</tr>
<tr>
<td>Long term sales contract protection</td>
<td>✔️</td>
</tr>
<tr>
<td>Ability to rapidly expand production capacity</td>
<td>✔️</td>
</tr>
<tr>
<td>Low current CAPEX requirements</td>
<td>✔️</td>
</tr>
<tr>
<td>Experienced technical, commercial &amp; financial team</td>
<td>✔️</td>
</tr>
<tr>
<td>Attractive valuation when compared to ISR peers</td>
<td>✔️</td>
</tr>
</tbody>
</table>
Corporate Overview

Capital Structure

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shares on issue*</td>
<td>247m</td>
</tr>
<tr>
<td>Share price (6-Jun-19)</td>
<td>A$0.265</td>
</tr>
<tr>
<td>Market capitalisation (6-Jun-19)</td>
<td>A$65m</td>
</tr>
<tr>
<td>Enterprise Value (6-Jun-19)</td>
<td>A$81m</td>
</tr>
<tr>
<td>Available Cash (31-Mar-19)</td>
<td>US$6.4m</td>
</tr>
</tbody>
</table>

Shareholding*

<table>
<thead>
<tr>
<th>Shareholder</th>
<th>Holding (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PARADICE</td>
<td>9.7%</td>
</tr>
<tr>
<td>Resource</td>
<td>9.1%</td>
</tr>
<tr>
<td>Collins</td>
<td>2.5%</td>
</tr>
<tr>
<td>orano</td>
<td>2.3%</td>
</tr>
</tbody>
</table>

Top 20 Shareholders 57.0%

Share Price & Volume History

Ticker: ASX:PEN

Research Coverage

- Patersons
- H.C. Wainwright & Co.
- Roth Capital Partners
- BMO Capital Markets
- VIII Capital

- Cam Hardie
- Heiko Ihle
- Joe Reagor
- Alex Pearce
- Dave Talbot

*Undiluted as at 6 June 2019
Investment Upside – Low EV/lb vs Peers

Imminent share price re-rate events in 2019

- Completion of low pH Permit amendments
  - First re-rate event occurred with approval of Permit to Mine Amendment
  - Second likely catalyst is nearing with Source Materials License Amendment

- News flow from low pH field trials

- US Section 232 decision

Peer group leading contract revenue base

- Investment grade customer base

- In-the-money contracts hold realisable asset value

- Substantial leverage to uranium price recovery with only 20% of LOM production under contract
- Wyoming is a “can do” state
Wyoming is a leading US uranium extraction jurisdiction, hosting multiple projects. Lance is one of the largest in-size and scale.
Lance - Our Flagship Project

**Exceptional Asset**
- Lance holds the largest defined uranium resource of any currently producing project in the United States
- 53.9M lbs U3O8 JORC (2012) compliant resource base²

**Home-grown Success**
- Peninsula developed the Lance Project from its conception into a producing asset
- Spent US$140M over 12 years on development of the project

**Scalable Production**
- Lance is licensed to produce up to 3M lbs U3O8 per annum – Would be the #1 ISR producer in the US & Top 10 globally
- Current (Stage-1) plant capacity of 1.15M lbs U3O8 per annum

2 – See Appendix 2
Lance – Maintaining Production Capacity

- Demonstrating cost control while continuing production during low pH transition
  - FY19 production guidance of 85,000 – 90,000 lbs
  - Production significantly cut back to preserve developed well fields for low pH operations
  - Tightly controlled production expenditures

**Quarterly Production and Expenditure**

<table>
<thead>
<tr>
<th>Q2'17</th>
<th>Q3'17</th>
<th>Q4'17</th>
<th>Q1'18</th>
<th>Q2'18</th>
<th>Q3'18</th>
<th>Q4'18</th>
<th>Q1'19</th>
</tr>
</thead>
<tbody>
<tr>
<td>U3O8 Captured</td>
<td>U3O8 Dried and Drummed</td>
<td>Production Expenditure</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Bar chart showing production and expenditure over quarters.)
Unlocking the Full Potential of Lance

- Low pH ISR transformation initiative is being actively advanced

**High Potential**
- Set to transform the performance and cost profile
- Feasibility Study released in September 2018
- Low pH field demonstration operating since December 2018

**Short Timeline**
- Two regulatory approvals required. Final regulator decision expected in mid-CY2019
- Plant and wellfield modifications can be implemented while production from alkaline ISR operations continues

**Low Capital Cost**
- $5.3M CAPEX required for process equipment modifications
- Initial low pH operations will occur in existing wellfields
Lance Low pH Demonstration

- FLT Operations started Dec-2018
- Three production patterns in test area
- Includes resin optimisation testing

Sulfuric Acid Addition Pump

Test Pattern Map (in MU-1)
The Company has successfully achieved all key technical performance objectives for the Phase 1 mining step of the low pH Implementation Plan.

- pH reduced to commercial operating levels throughout the area
- Acid injection and consumption metrics consistent with projections
- Injection and production well flow rates, and pressures, have been maintained in line with the Low pH Feasibility Study (FS) parameters
- Observed substantially elevated uranium recovery rates and solutions grades consistent with the FS parameters
- No environmental or safety concerns have been observed to date

In mid-April 2019, the Company transitioned the field demonstration operations to the Phase 1 Initial Restoration activities.
**Lance Low pH FS Summary**

**LOM Production**
- 33.4 million lbs $U_3O_8$
- 17 year minelife

**Financial Metrics**
- LOM AISC of US$31.77/lb
- NPV8 US$157M at US$49/lb

**Three Stage Expansion Plan**

<table>
<thead>
<tr>
<th>Stage</th>
<th>Year</th>
<th>Capacity Mlbs/yr</th>
<th>Expansion CAPEX</th>
<th>Production Cost $/lb.</th>
<th>AISC $/lb.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>2019</td>
<td>1.15</td>
<td>$5.3M</td>
<td>$14.67</td>
<td>$40.58</td>
</tr>
<tr>
<td>Stage 2</td>
<td>2024</td>
<td>2.3</td>
<td>$43.1M</td>
<td>$8.93</td>
<td>$31.52</td>
</tr>
<tr>
<td>Stage 3</td>
<td>2026</td>
<td>3.0</td>
<td>$70.3M</td>
<td>$9.16</td>
<td>$30.36</td>
</tr>
</tbody>
</table>

**Very low conversion CAPEX of only US$5.3M**

*Note: There is a low level of geological confidence associated with inferred mineral resources and there is no certainty that further exploration and delineation work will result in the determination of indicated mineral resources or that the production target itself will be realised.*
Lance Feasibility Study Take-Away Points

Technical Basis
- Over 12 months of comprehensive laboratory testing
- Almost 50% of global uranium mined using this method

LOM Production
- 17 year mine life
- 33.4 million lbs U3O8 production potential

Leveraged to U₃O₈ price
- Each US$10/lb increase in U3O8 price assumption for uncontracted production increases NPV8 by almost US$100m

Cost Competitive
- $31.77 / lb U3O8 LOM all-in sustaining cash cost
- $34.00 / lb U3O8 break-even price for uncontracted production

Existing Contracts
- 20% of LOM production already under contract
- Contracted revenue stream to assist financing activities
Uranium Sales Portfolio
Long-Term Contract Portfolio

- **Five sales agreements with major utilities**
  - Weighted sales price between US$51-53/lb U₃O₈
  - Contract portfolio carries through year 2030

- **Up to 6.3 million pounds U₃O₈ remaining under contract**
  - 4.4 million lbs U₃O₈ committed deliveries
  - Up to 1.9 million lbs U₃O₈ optional at customer election between 2021 & 2026

- **Material origin clauses allow blending production with purchased U₃O₈**
  - Contracted to purchase 225,000 lbs U₃O₈ in 2019/20 at fixed purchase prices averaging US$23.69/lb U₃O₈

- **Sales portfolio represents ~20% of projected Lance LOM production**
Conclusion

“Peninsula (ASX:PEN) will be one of the most exciting uranium production companies to follow in 2019.”

Wayne Heili – CEO
Next Steps for Peninsula

Amendment Progression
- Permit to Mine amendment granted
- Source Material License amendment advancing

Testing & Planning
- Continue restoration in low pH field demonstration
- Maintain alkaline based mining to meet near term sales contract requirements

Mine Unit 3 Funding
- Investment in Mine Unit 3 wellfields planned for H2 CY2019
- MU3 sustaining development CAPEX cost ~US$9M
- Various funding options currently being progressed

Customer Base
- Continue to engage with our existing & potential new customers
- Seek opportunities for new long term contracts at acceptable prices
Peninsula Energy Take-Away Points

- **U.S. Domestic Producer**
  - Peninsula is positioned to benefit from ongoing corporate initiatives and current market trends, including Sec.232 outcomes

- **Long Life Project**
  - Lance has the largest defined US uranium resource currently in production
  - Low pH transition expected to transform production & cost base

- **Valuable Contract Book**
  - Total sales of up to 6.3M lbs sales at weighted price between US$51-53/lb $U_3O_8$

- **Financial Strength**
  - Robust cash position with peer group leading revenue base

- **Attractive Valuation**
  - Low EV/lb resource compared to peer group with substantial share price re-rating events forecast throughout 2019
Contact Details

REGISTERED OFFICE
Unit 32/33, Level 3, 22 Railway Road
Subiaco, Western Australia 6008
Australia

www.pel.net.au
info@pel.net.au

FURTHER INFORMATION
Wayne Heili  Managing Director +61 8 9380 9920
David Coyne  Finance Director / CFO +61 8 9380 9920
Appendix 1 - Board and Management

Board

John Harrison, Non-Executive Chairman  Capital Markets
Wayne Heili, Managing Director & CEO  Exec. Leadership & Technical
David Coyne, Finance Director & CFO  Finance & Risk Management
Harrison Barker, Non-Executive Director  Nuclear Fuel Markets
Mark Wheatley, Non-Executive Director  Mining CEO & ISR Technical

Management Team

Ralph Knode  CEO USA
David Hofeling  CFO USA
Mike Brost  VP Geology USA
Jay Douthit  VP Operations USA
Mike Griffin  VP Permitting, Regulatory & Environment USA
### Lance Projects Resource Estimate as at 31 December 2017

<table>
<thead>
<tr>
<th>Classification</th>
<th>Tonnes (million)</th>
<th>U3O8(kg)</th>
<th>Grade (ppm U3O8)</th>
<th>U3O8(lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measured</td>
<td>3.8</td>
<td>1.8</td>
<td>488</td>
<td>3.9</td>
</tr>
<tr>
<td>Indicated</td>
<td>10.9</td>
<td>5.4</td>
<td>495</td>
<td>11.9</td>
</tr>
<tr>
<td>Inferred</td>
<td>36.3</td>
<td>17.3</td>
<td>476</td>
<td>38.1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>51.0</strong></td>
<td><strong>24.5</strong></td>
<td><strong>479</strong></td>
<td><strong>53.9</strong></td>
</tr>
</tbody>
</table>

1) JORC Table 1 included in an announcement to the ASX released on 14 November 2018: “Revised Lance Projects Resource Tables”. Peninsula confirms that it is not aware of any new information or data that materially affects the information included in this announcement and that all material assumptions and technical parameters underpinning the estimates 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 announcement.