

ON TRACK TO BECOME A WORLD
CLASS URANIUM PRODUCER IN A
TIER-1 JURISDICTION

April 2024

ASX: PEN; OTCQB: PENMF



Important Disclosures and Disclaimers

Summary

This Presentation contains summary information about the current activities of Peninsula Energy Limited (the "Company") as at the date of this Presentation. The information in this Presentation is of a general nature and does not purport to be complete. This Presentation does not purport to contain all the information that an investor should consider when making an investment decision nor does it contain all the information which would be required in a disclosure document or prospectus prepared in accordance with the requirements of the Corporations Act 2001 (Cth). It should be read in conjunction with the Company's other periodic and continuous disclosure announcements lodged with the Australian Securities Exchange, which are available at <https://www2.asx.com.au/>. To the extent permitted by law, the Company, its representatives, affiliates, related bodies corporate, officers, employees, agents and advisers make no representation or warranty (express or implied) as to the currency, accuracy, reliability, relevance or completeness of the material contained in the Presentation and disclaim all responsibility and liability for the information (including, without limitation, liability for negligence). This Presentation is not intended to form the basis of any investment decision by a prospective investor, but simply to provide an overview to allow prospective investors to decide whether to carry out their own independent investigations and seek their own advice before making a decision whether to invest in the Company. Investors must rely on their own examination of the Company including the merits and risks involved and should consult with their professional advisers.

Forward Looking Statements

The Presentation contains "forward-looking statements". All statements other than those of historical facts included in the Presentation are forward-looking statements including statements regarding the timetable and outcome of the offer, the results of the 2022 Definitive Feasibility Study and 2023 Revised Life of Mine plan, statements regarding the Company's ability to fund its operations, exploration and production targets, estimates of resources, timing of permit and license amendments, timing of uranium production, 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 laws or regulations (including the ASX Listing Rules). 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.

The Company believes it has a reasonable basis for providing the forward-looking statements and production targets included in this Presentation. The material assumptions and JORC disclosures are included in the appendices to the 2022 Definitive Feasibility Study announcement on 15 August 2022 and the 2023 Revised Life of Mine plan announcement on 31 August 2023. The detailed assumptions regarding the JORC resources are outlined in the ASX announcements released on 14 November 2018 and 23 October 2023. The Company confirms that there have been no material changes to the determination of the resources since these dates. Investors outside Australia should note that while ore reserve and mineral resource estimates of the Company in this document comply with the JORC Code (such JORC Code-compliant ore reserves and mineral resources being "Ore Reserves" and "Mineral Resources" respectively), they may not comply with the relevant guidelines in other countries and, in particular, do not comply with (i) National Instrument 43-101 (Standards of Disclosure for Mineral Projects) of the Canadian Securities Administrators (the "Canadian NI 43-101 Standards"); or (ii) Item 1300 of Regulation S-K, which governs disclosures of mineral reserves in registration statements filed with the United States Securities and Exchange Commission. Information contained in this document describing mineral deposits may not be comparable to similar information made public by companies subject to the reporting and disclosure requirements of Canadian or US securities laws. You should not assume that quantities reported as "resources" will be converted to reserves under the JORC Code or any other reporting regime or that the Company will be able to legally and economically extract them.

This Presentation is for information purposes only and is not a prospectus, disclosure document, product disclosure document, product disclosure statement or other offering document under Australian law or any law (and will not be lodged with the Australian Securities and Investments Commission). This Presentation is not and should be considered 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.

Cautionary & Inferred Resources Notice

The August 2023 Life of Mine plan (LoM) completed for the Ross and Kendrick Production Areas within the Lance Projects includes Measured and Indicated resources, and based on historical experience at Lance, utilizes a resource conversion factor of 60% to convert Ross and Kendrick Area Inferred resources to Indicated or greater quality for use in this revised LoM.

The revised LoM itself is based on various material assumptions as noted in Appendix 1 of the 23 October 2023 ASX announcement. This includes the homogeneity of the delineated ore body contained within the Lance Projects which is considered reasonable by the Company's technical consultants, competent persons and independent external consultants when preparing the 2022 Definitive Feasibility Study. The Company believes that it has a reasonable basis upon which to prepare and release these revised LoM results, particularly given that the Ross Production Area was first placed into production in December 2015. Whilst the Company considers that all material assumptions underpinning the LoM are based on reasonable grounds, there is no certainty that they will prove to be correct or that the outcomes indicated by the revised LoM will be achieved.

Detailed assumptions regarding the included resources are outlined in the ASX announcement released 14 November 2018 and 23 October 2023 and the Company confirms that there have been no material changes to the determination of the resources since these dates. The production target in this Presentation is underpinned by measured and indicated resources (comprising 70% of the production target) and inferred resources (comprising 30% of the production target).

This Presentation 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 realized. 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 revised LoM plan, the first five (5) years production can be majority sourced from Measured and Indicated Resources. If the Inferred Resources are excluded from the revised LoM, 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 it is reasonable to include Inferred Resources in the revised LoM, particularly given that the Lance Projects have previously been an operating entity that produced uranium for almost seven 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.

Given the uncertainties involved, investors should not make any investment decision based solely on the results of the revised LoM.

Competent Person Statement

Only the information in this Presentation that specifically relates to Exploration Targets, Exploration Results, Exploration Potential, Mineral Resources or Ore Reserves at the Lance Projects is based on information compiled by Mr Benjamin Schiffer. Mr Schiffer is a Registered Professional Member of the Society of Mining, Metallurgy and Exploration (Member ID #0417081). Mr Schiffer is a professional geologist employed by independent consultant Western Water Consultants, Inc. d/b/a WWV Engineering. Mr Schiffer has sufficient experience which is relevant to the style of mineralization and type of deposit under consideration and to the activity which he is 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 Schiffer consents to the inclusion in the Presentation of the matters based on his information in the form and context in which it appears.

This Presentation was approved by the Board of Peninsula Energy Limited

Company Highlights



Lance Projects: A world-class, scalable, near-term uranium production asset in a tier-1 jurisdiction



Construction on-track for production in late Q4 2024



Well-funded, multiple avenues available to secure additional working capital



Favourable uranium market dynamics



Multiple growth avenues, with exciting opportunities at Kendrick, Barber and Dagger Projects

Corporate Overview



A\$222m

Market Capitalisation

A\$0.105

Share Price (As of 26 Apr 2024)

2.12B

Shares on Issue (26 Apr 2024)

343.7m

Options¹ (26 Apr 2024)

US\$49.6m

Cash (31 Mar 2024)

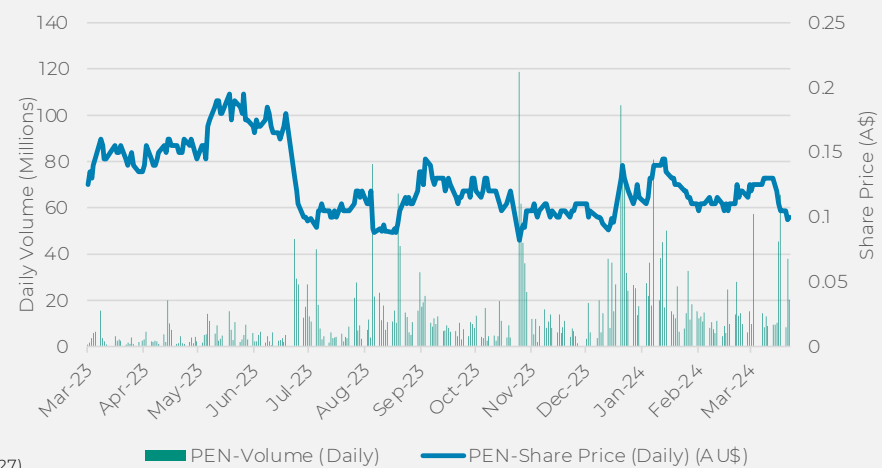
Nil

Term Debt

Board of Directors

Mr John Harrison	Non-Executive Chairman
Mr Wayne Heili	Managing Director
Mr Mark Wheatley	Non-Executive Director
Mr Harrison Barker	Non-Executive Director
Mr Brian Booth	Non-Executive Director
Mr David Coyne ²	Non-Executive Director

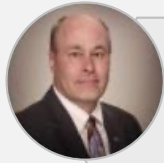
Share Price Performance



Notes: (1) Options on issue are 339.6m (strike \$0.10 expiry Mar 25) and 4.1m (strike \$0.30 expiry Nov 27)
 (2) Mr David Coyne will join the Board as Non-Executive Director effective 1 May 2024.

Experienced Management Team

Experienced in design, construction and operation of Uranium ISR facilities in Wyoming, USA



Wayne Heili
Managing Director

Mr Heili has spent the bulk of his 35+-year professional career in the uranium mining industry.

Previous Roles –

- *President & CEO of Ur-Energy, Inc. where he successfully oversaw the design, construction, commissioning and ramp-up of the Lost Creek in-situ uranium project in Wyoming USA.*
- *President of the Uranium Producers of America*



Willie Bezuidenhout
Interim CFO, VP – Corporate Development

Accomplished Chartered Accountant with a strong strategic focus in the development and execution of strategic initiatives.

Previous Roles –

- *Vice President Business Development for Uranium One Inc. and Executive Director and CEO of Peninsula's South African subsidiary*



Ralph Knode
CEO – Strata (Project Co)

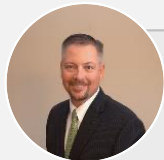
Prior to his time with Strata, Mr. Knode served as Senior Vice President for Projects for Uranium One.

Over the past decade, Mr. Knode has held several high-ranking positions with major uranium developers and now brings this extensive experience to the Strata team.



Dave Hofeling
CFO – Strata (Project Co)

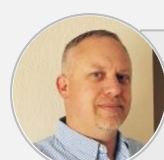
>20 years' experience. During his 16 years with Rio Tinto, Mr. Hofeling was responsible for financial oversight including global finance, governance, compliance, tax optimization & risk management at numerous domestic and international aluminium, copper, gold and nickel capital and exploration projects. Mr. Hofeling also worked for six years in Nevada gold operations.



Brian Pile
VP – Project Development

>22 years of project experience ranging from development of feasibility studies, engineering, and construction through operational start-up, related to in-situ recovery of uranium in Wyoming, Nebraska, and Kazakhstan.

Mr. Pile's primary responsibility is the evaluation of the learnings from the MUIA field demonstration and Project studies.



Jay Douthit
VP – Operations (Strata)

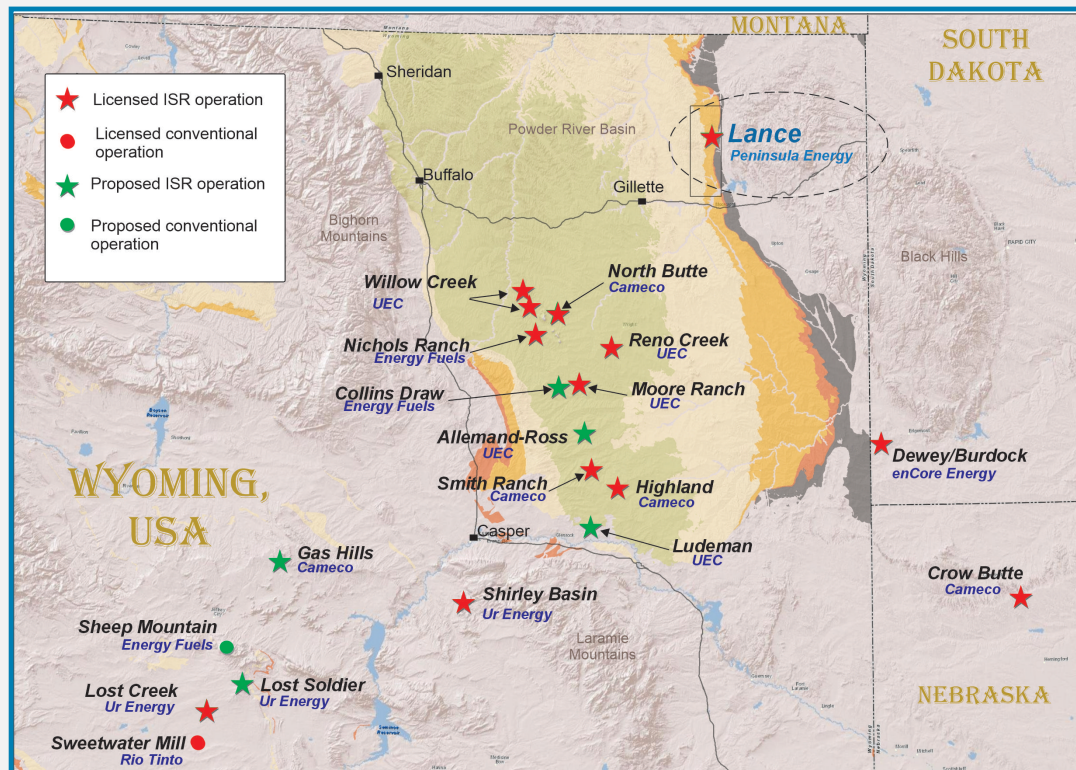
>22 years in the uranium-specific mining industry. He served as Wellfield Operation Superintendent for Ur-Energy Inc., where he oversaw the wellfield construction and design of the project as well as operational startup and commissioning.

Mr. Douthit also has experience in operations and restorations during his time with Ur-Energy and Cameco Resources.



THE LANCE URANIUM IN-SITU RECOVERY PROJECT

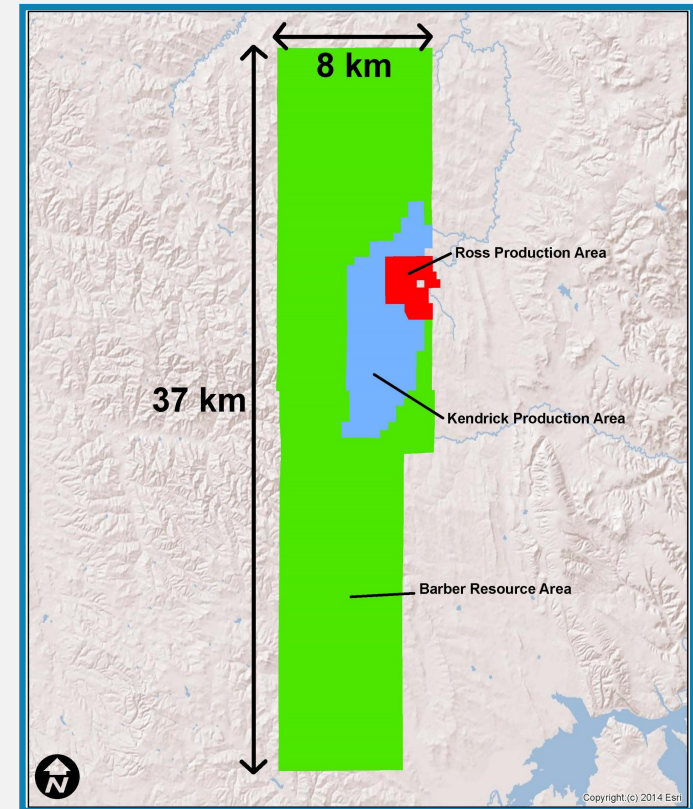
Lance – A Premier ISR Uranium Project & Location



Located in Wyoming USA, a leading US uranium extraction jurisdiction

The Lance Projects – Wyoming, USA

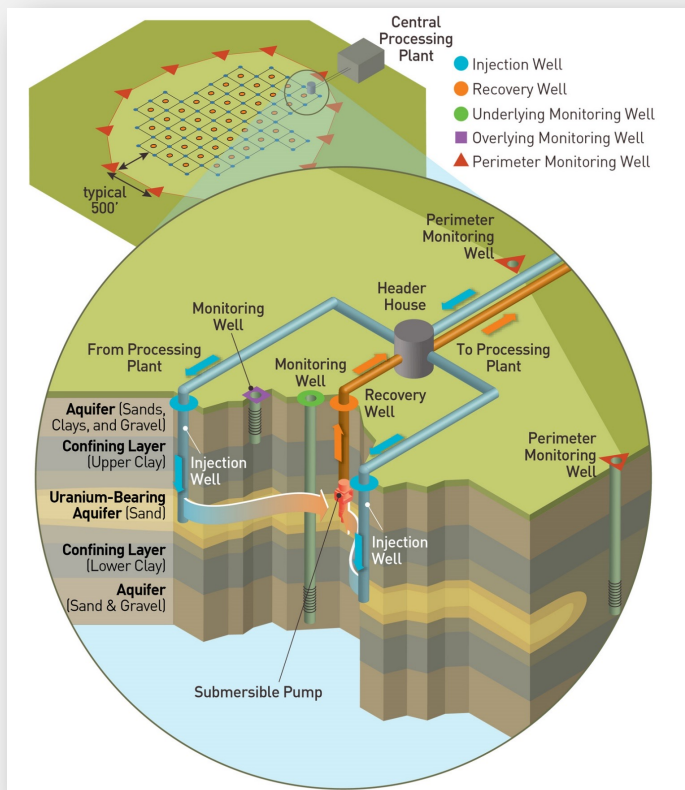
- **Ross Production Project Area**
 - Fully licensed Uranium ISR production project
 - Home of the project facilities and central process plant
 - Estimated remaining Resource of 5.9 MIbs U₃O₈
 - 2 previously operated Mine Units (MU-1 and MU-2), with potential for an additional 2-3 Mine Units
- **Kendrick Development Project Area**
 - Estimated Resource of 15.9MIbs U₃O₈
 - Next sequential production area
 - Amendments to add Kendrick into the Ross production licenses and permits undergoing regulatory review
- **Barber Exploration Project Area**
 - Under-delineated resource area
 - Holds ~32 MIbs of predominantly Inferred Resources
 - Potential for resource growth through exploration



The District Scale Lance Projects

In-Situ Recovery (ISR) Method

Concept Design



Low-pH ISR is a proven, efficient and effective method to recover uranium from the underground environment

- Eco-friendly uranium recovery method
- Temporary surface disturbance, no ground excavations and tailings generated
- Chemically fortified groundwater is injected through the host formation to dissolve and carry uranium to nearby production wells
- Uranium rich solution is pumped to the surface and uranium is recovered at a process plant
- ISR projects account for ~60% of global uranium production

The Lance ISR Project Background

Initial Construction & Operation: 2015-2018



Mine Unit 2 at Lance



Lance Satellite Plant Ion Exchange System

- The Project is licensed to produce up to 3.0 Mlbs U₃O₈ per year. It was first constructed in 2015 as a satellite facility capable of producing uranium-loaded ion exchange resins and relying on a third party for toll processing to produce saleable dry yellowcake (U₃O₈)
- The Project was placed on standby status in mid-2019

Lance Project Upgrade Activities (2019-Present)

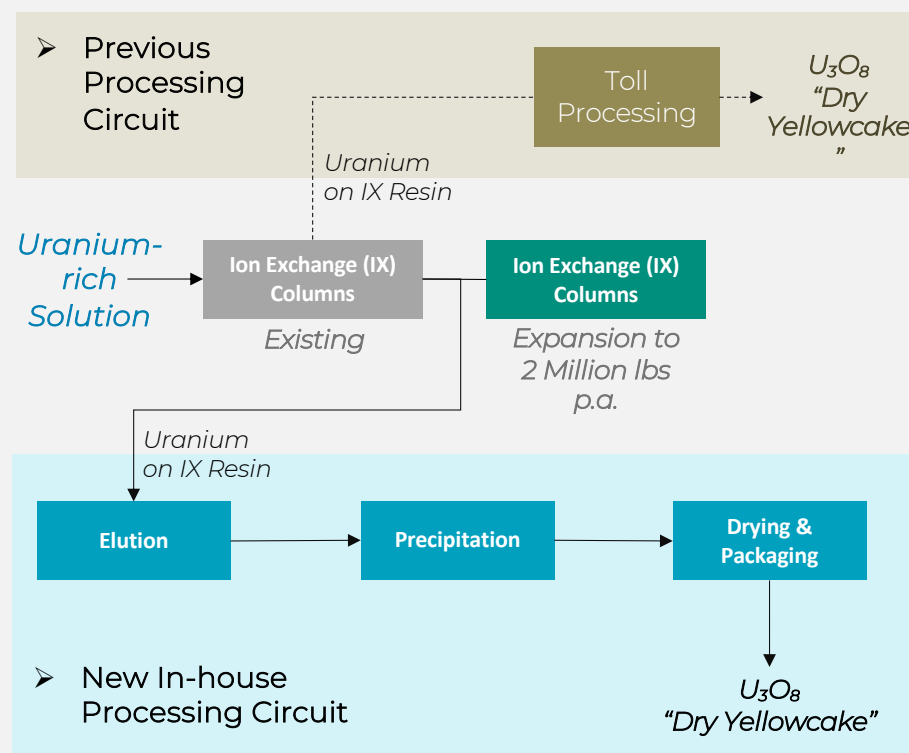
1. Transition to low-pH recovery - Complete

- Low-pH uranium in-situ recovery is proven effective and is the most widely utilized method for uranium production
- The Company completed comprehensive field-scale demonstrations of low-pH ISR in 2020 and 2021, which delivered greater total recoveries and recovery rates over the previously utilized alkaline recovery chemistry
- A Definitive Feasibility Study was completed in September 2022

2. Expanded Production Capacity and Capability - Ongoing

- The Company updated the Life of Mine Plan in August 2023 to
 - Accelerate the planned Stage 2 expansion from existing 0.8 million lbs per annum to 2 million lbs per annum production capacity
 - Expand the capability of the process plant from a satellite facility to a fully independent facility producing dry yellowcake

Process Plant Stage-2 Upgrade



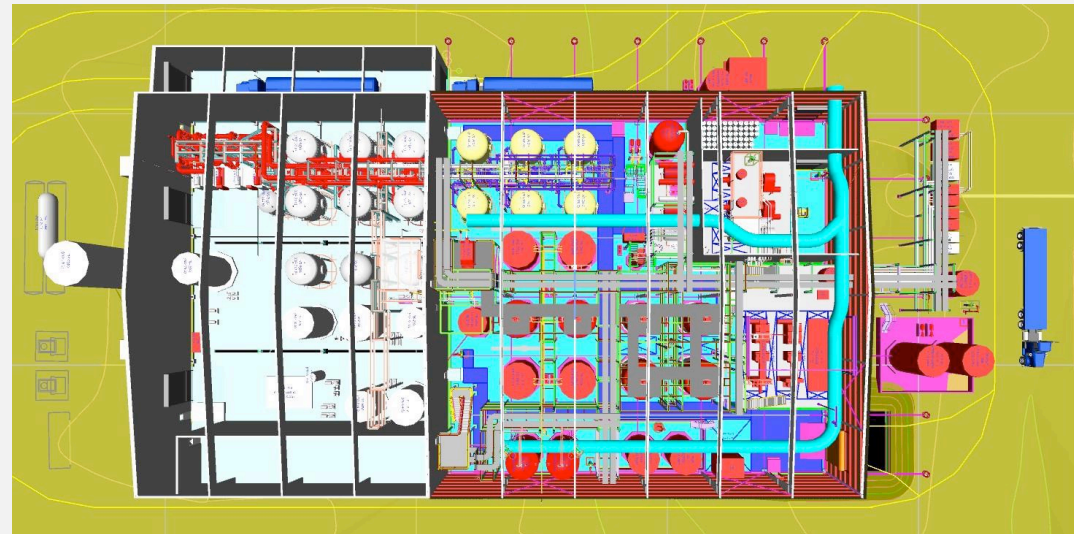
Plant Expansion Design

Plant Expansion Update

- Plant design **capacity** to be expanded in 2024 to 2.0 Mlbs U3O8 per year
 - Design incorporates ability for future expansion to 3.0 Mlbs/yr
- Plant **capability** to be expanded to include resin processing, precipitation, filtration and product drying
- Fully independent production of saleable product, dry yellowcake

Image:

The existing Satellite Plant at Lance (light blue) with the Stage-2 expanded process facilities depicted in cyan/red.



Construction Progress at Lance

Plant Expansion Update

- Samuel appointed Engineering/Procurement/Construction Management (EPCM) contractor
- A detailed construction estimate was generated by Samuel
- Site preparation and procurement work is underway
- Target completion and commissioning in December 2024



Images:

Top: Start of concrete work for capital expansion project

Left: Piping systems within the existing process plant

Right: Bulk acid storage facilities at Lance



MU-3 Construction Progress

Wellfield Development Update

- Mine Unit 3 (MU-3) is the first production wellfield at Lance specifically designed for the low-pH in-situ recovery method.
- MU-3 is anticipated to be operationally available in 3Q-2024
- 10 drilling rigs actively installing production pattern wells
- Company construction crew is preparing the first Header House in MU-3



Images:

TOP: Fabricating piping systems within a new header house

Left: New header house placed in MU-3 near trunklines

Right: Drill rigs working in MU-3.

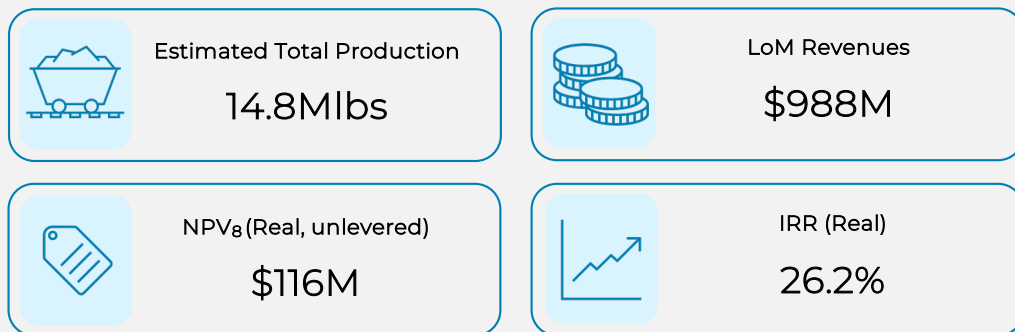


Timeline to Production Restart

Activity	Indicative Date
Selection of Plant EPCM Contractor	April 2024
Commencement of Plant Expansion Construction	April 2024
Resource Expansion Drilling	May-Aug 2024
MU-3, First Header House Installation Complete	August 2024
Commence Wellfield Pre-conditioning	Q3 2024
Low pH-ISR Production Start	End of 2024
First Delivery of Produced Yellowcake	Q2 2025
Project Achieves Sustainable Positive Free Cash Flow	Q3 2025



August 2023 Life-of-Mine (LoM) Plan – Key Details



Key Operational Outcomes	
Uranium ISR Plant Flowrate Capacity	5,000 gallon per minute (GPM)
Annual U ₃ O ₈ Production Capacity	Up to 2.0 Mlbs
Estimated Production Life	9.5 years
Estimated Total U ₃ O ₈ LoM Production	14.8 Mlbs

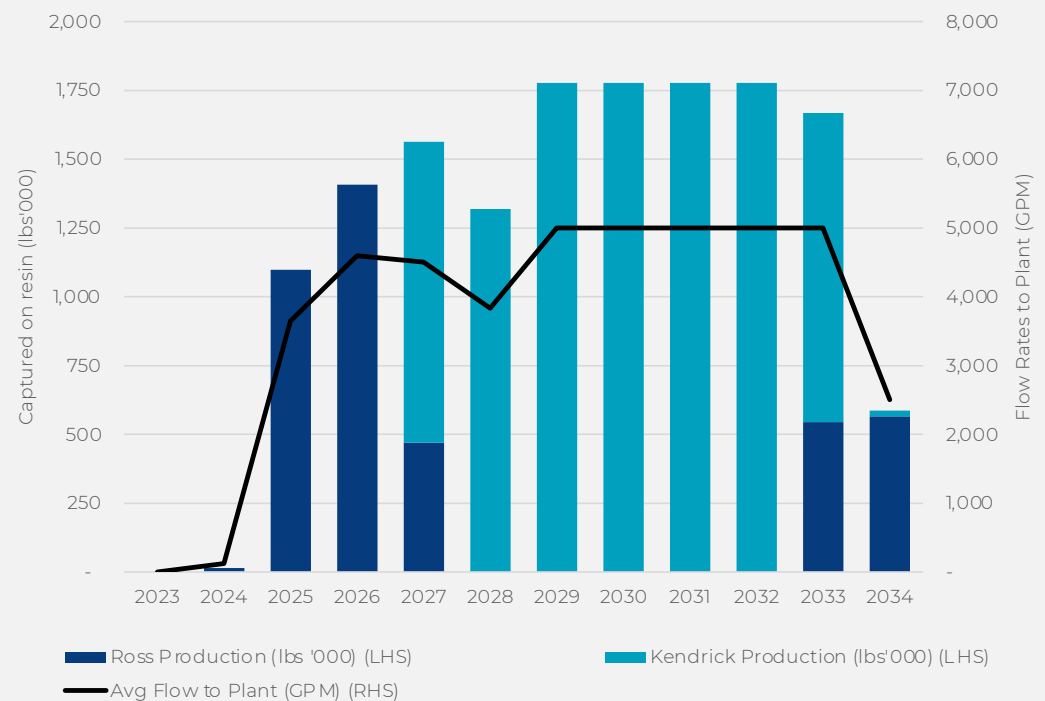
- Production plan is based on a total Resource base of 21.8 Mlbs U₃O₈ contained within the Ross and Kendrick production areas, less than 40% of the current total Lance Resources at Lance
- LoM plan developed for steady-state production of 1.8 Mlbs U₃O₈ per year from Ross and Kendrick areas
- Uranium forward price forecast utilized in August 2023 LOM is conservative in view of subsequent market movement.
- Project expected to achieve sustainable monthly positive cash flow during first full year of production – from Q3-2025

Key Financial Metrics (real)	US\$
Average Realised Price	67.07/lb
AISC (Steady State)	42.46/lb
LoM Revenues	988M
LoM Operating Cashflow	258 M
LoM Sustaining CAPEX	215 M
NPV ₈ Real (unlevered)	116 M
IRR (levered, post-tax)	26.2%

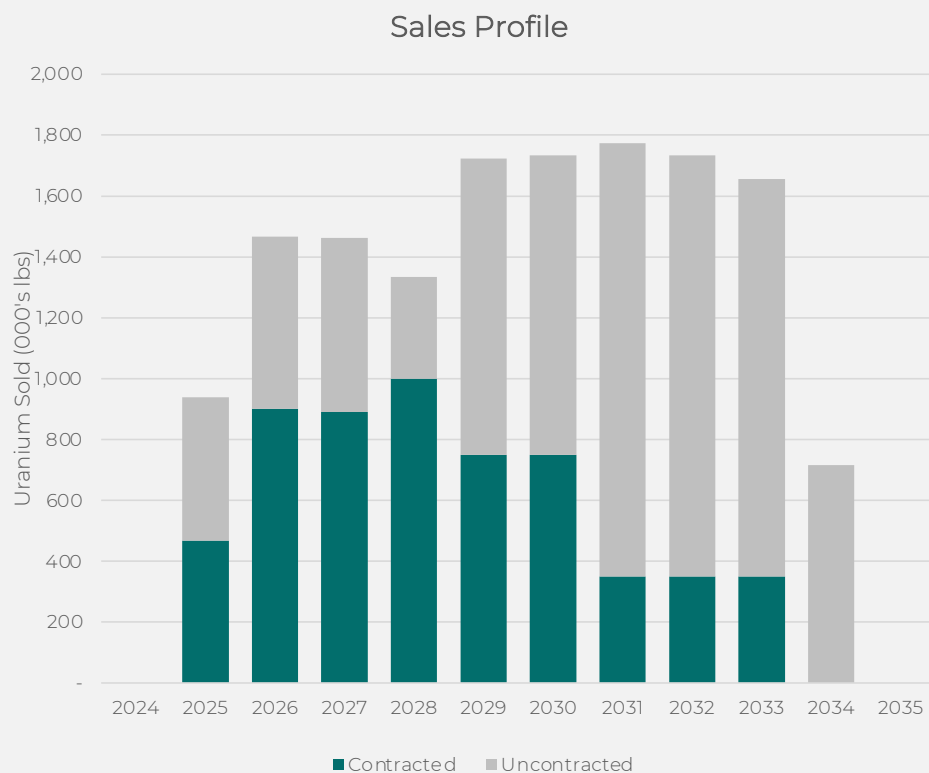
Potential to Become one of the Largest U.S. Uranium Producers

- Estimated 14.8 Mlbs produced over 10-year Life-of-Mine
- 2.0 Mlb p.a. plant design capacity provides platform for substantial production rates
- Steady state production rate of 1.8 Mlbs per annum
- Lance production restart target of late 2024

August 2023 Ross and Kendrick LOM Model
Production & Flow rate



Offtake Contracts & Sales Profile



Offtake Contracts

- Peninsula has 6 existing offtake contracts covering ~40% of production over LOM
- Committed to deliver 6.0 Mlbs between 2025 and 2033
- Strong leverage to Uranium spot price upside
- Offtake pricing mechanisms include a mix of:
 - fixed base price with escalation; and
 - market linked pricing formulas
- **Market linked offtakes provide floor price protection, above AISC**
- Peninsula retains full flexibility to maximise value from the sale of any future production from Barber and Dagger



AN EMERGING NEAR-TERM URANIUM PRODUCER

Company Milestones for 2024

- ✓ Initiation of plant expansion construction and subsequent progress reports
- ✓ Wellfield development activity updates for Mine Unit-3 and beyond
- ✓ Resource expansion drilling activities and updates for Lance and Dagger
- ✓ Securing additional funding through multiple avenues
- ✓ Commencement of Uranium production

Contact Details

REGISTERED OFFICE

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Subiaco, Western Australia 6008
Australia
Phone: +61 8 9380 9920

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FURTHER INFORMATION

Wayne Heili Managing Director/CEO
email: info@pel.net.au



Appendix 1 – Resources

Lance Projects Resource Estimate as at 31 December 2022¹

Classification	Tonnes (million)	U ³ O ₈ (Mkg)	Grade (ppm U ³ O ₈)	U ³ O ₈ (Mlbs)
Measured	3.5	1.7	489	3.8
Indicated	11.3	5.5	492	12.2
Inferred	36.2	17.2	474	37.8
Total	51.0	24.4	479	53.8

Dagger Resource Estimate as at 23 October 2023¹

Classification	Tonnes (million)	U ³ O ₈ (kTonnes)	Grade (ppm U ³ O ₈)	U ³ O ₈ (Mlbs)
Inferred	3.0	3.1	1037	6.9
Total	3.0	3.1	1037	6.9

Note: (1) JORC Table 1 included in an announcement to the ASX released on 14 November 2018: "Revised Lance Projects Resource Tables", updated in the "Annual Report to Shareholders" released on 29 September 2023 and ASX Announcement released on 23 October 2023: "Peninsula Establishes Significant New Uranium Development Project". 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.

Appendix 1 – Continued Resource By Project Area

Permit Area	Grade (ppm U ₃ O ₈)	U ₃ O ₈ lbs	Average Thickness (ft)	Average GT
Ross				
Measured	510	1.7	9.2	0.47
Indicated	460	2.6	9.2	0.42
Inferred	450	1.7	9.2	0.41
Total		6.1		
Kendrick				
Measured	535	1.4	10.3	0.55
Indicated	583	6.9	10.0	0.58
Inferred	510	7.7	10.8	0.55
Total		15.9		
Barber				
Measured	479	0.7	8.8	0.42
Indicated	427	2.4	8.3	0.35
Inferred	485	28.7	9.8	0.48
Total		31.9		
Total				
Measured	488	3.9	9.5	0.46
Indicated	495	11.9	9.5	0.47
Inferred	476	38.1	10.0	0.48
Total Lance		53.8		

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.

2) Please note that in accordance with Clause 17 of the JORC (2012) Code, the potential quantity and grade of the "Exploration Target" in this presentation must be considered conceptual in nature as there has been insufficient exploration to define a Mineral Resource and it is uncertain if further exploration will result in the determination of a Mineral Resource. Refer Appendix 2.

Appendix 2 - Lance Exploration Target Additional Disclosure

Exploration Target¹

The Lance Projects cover a significant proportion of the Powder River Basin. Cretaceous sandstones of Wyoming, which are believed to represent an Exploration Target of between 104 and 163 Mlbs eU₃O₈

Lance Projects Exploration Target (excluding the existing JORC (2012) Code Compliant Resource)

Exploration Target	Tonnes (million)		Grade (ppm eU ₃ O ₈)		eU ₃ O ₈ (Mlbs)	
	From	To	From	To	From	To
Range	118	145	426	530	104	163
Total						

Note: (1) Please note that in accordance with Clause 17 of the JORC (2012) Code, the potential quantity and grade of the "Exploration Target" in this Presentation must be considered conceptual in nature as there has been insufficient exploration to define a Mineral Resource and it is uncertain if further exploration will result in the determination of a Mineral Resource.

Note (2) : Detailed information with regard to the Exploration Target including the Basis of the Exploration Target, Exploration results underpinning the Exploration Target, Proposed Exploration Programs and Activities designed to test the validity of the Exploration Target and the Basis of the Grade and Tonnage Range is included in Appendix 2 of the Presentation released to ASX on 9 October 2023. Peninsula confirms that it is not aware of any new information or data that materially affects the information included in this Presentation and that all material assumptions and technical parameters underpinning the exploration target 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.