

09 January 2023

Companies Announcement Office
Via Electronic Lodgement

PENINSULA END-OF-YEAR UPDATE

HIGHLIGHTS

- Strong End of Year Cash and Inventory Balances
- Lance Projects phased approach to production restart implemented
 - Engineering and Design work substantially complete
 - Materials and supplies ordered
 - Construction contractors engaged
 - Wellfield preconditioning flows initiated
- Production operations at Lance on track to commence in Q1 2023
- Comprehensive package of applications lodged with Wyoming regulatory authorities to expand the fully authorised Lance mining area to include the Kendrick Production Area
- Planning underway for drill programmes at Kendrick and Barber, with a primary focus on growing the Lance Projects in size and scale

Peninsula Energy Limited (“**Peninsula**” or “**the Company**”) is pleased to share an end-of-year update on corporate activities and recent developments at the Lance Projects (“**Lance**” or “**the Project**”).

Peninsula’s Managing Director and CEO, Mr Wayne Heili said, “*We are excited to continue the systematic advancement of our flagship project with the active preparation of Lance for commercial production. An important milestone has been achieved by commencing wellfield pre-conditioning flow. Peninsula places a strong emphasis on constantly meeting the high environmental standards of the State of Wyoming and strives to be a responsible contributor to the quality of life in our local communities.*

Actions focused on the future of the Lance Projects have also seen measurable progress with the submittal of a request to extend the permit boundaries. Incorporating the Kendrick area will provide opportunities for resource and production expansion at Lance. I would like to recognize the hard work and dedication of our regulatory staff and consultants in preparing these comprehensive documents.

With a strong cash position at year-end, we look forward to continuing our good work into 2023 and delivering on our biggest milestone to date, which will be commencing uranium ISR operations at Lance in Q1 2023.”

Corporate Overview

At 31-December 2022 the Company balance sheet reflected a cash balance of US\$24.8 million plus uranium inventory consisting of ~510,000 pounds. The Company does not carry any long-term debt.

The Company acquired 200,000 pounds of U₃O₈ from the market at the end of December 2022 in anticipation of 1Q CY2023 sales of 500,000 pounds. Sales are scheduled with the US DOE (300,000 pounds (see 16-Dec-2022 announcement; Peninsula Awarded Supply Contract for US Strategic Uranium Reserve) and with existing customers (200,000 pounds). The payment for the acquired 200,000 pounds of U₃O₈ has been scheduled to occur in 1Q CY2023 to align with the sales receipt from the US DOE. The company also holds a previously executed purchase contract with pricing below current spot market levels to acquire new inventory of 200,000 pounds late in 1Q CY2023.

Production Activities Update

The Company is also pleased to share a progress update on the announced restart of production activities at Lance (see 24-Nov-2022 announcement; Peninsula to Restart the Lance Uranium Project Operations with A\$35m Equity Raise).

Throughout December, the Lance Projects site team has been actively engaged in preparations to systematically return the Project to commercial production. The Company has substantially completed the engineering and design work for the process changes required to transform the operations to become a low-pH ISR facility. Items with longer lead-time have been ordered with deliveries expected during 1Q-CY2023. Ongoing plant modifications are progressing on-schedule with the expectation that the recovery plant modifications will be completed in advance of the date needed. Contractors for the facility modification works are being screened and pre-qualified. Bids will be solicited in early January 2023.

Limited circulation of low pH solution and oxidant has been established between Mine Unit 1 and the process plant in December. The production stream is being chemically fortified at the plant and returned to the well field where it is injected into uranium bearing horizons. No uranium will be recovered in the ion-exchange system until the production stream reaches chemical target objectives and the process plant modifications are completed. The flow rate of the circulating stream will be ramped up throughout 1Q CY2023 as equipment and supplies are received and installed at the site. Commercial uranium production grades within the pre-circulated wellfield areas are projected to be achieved by late in the quarter and plant recovery operations will commence at that time.

Licensing Action

Peninsula's wholly owned US subsidiary Strata Energy Inc ("**Strata**") has submitted applications with the Wyoming Department of Environmental Quality ("**WDEQ**") that would expand the approved license area of the Lance Projects, with the inclusion of the Kendrick Production Area ("**Kendrick**"). An acceptance review of the amendment package documents will be conducted by the WDEQ as the next step of the regulatory process. The review and approval process for amendments of this nature are considered procedural and typically take eighteen to twenty-four months to complete.

The Company is currently fully authorized to conduct uranium In-Situ Recovery ("**ISR**") operations within the defined boundaries of the Ross Production Area ("**Ross**") of the district-scale Lance Projects (see Figure-1). Ross holds 5.9 million pounds of JORC (2012) compliant Measured, Indicated and Inferred U₃O₈ Resources¹, a licensed and constructed uranium ISR production facility, and two fully developed mine units (or wellfields). A third mine unit is currently under development at Ross and the Company anticipates the area will hold up four or five mining units when completed.

Applications have now been lodged with the WDEQ Land Quality Division to expand the Permit to Mine area and with the WDEQ Uranium Recovery Program to expand the area covered under the Source Material License. The amended permits and licenses will incorporate the Kendrick Production Area.

Kendrick is planned to be the next sequential production area at Lance after Ross. The Kendrick Production Area holds 15.9 million pounds of JORC (2012) compliant Measured, Indicated and Inferred U₃O₈ Resources¹.

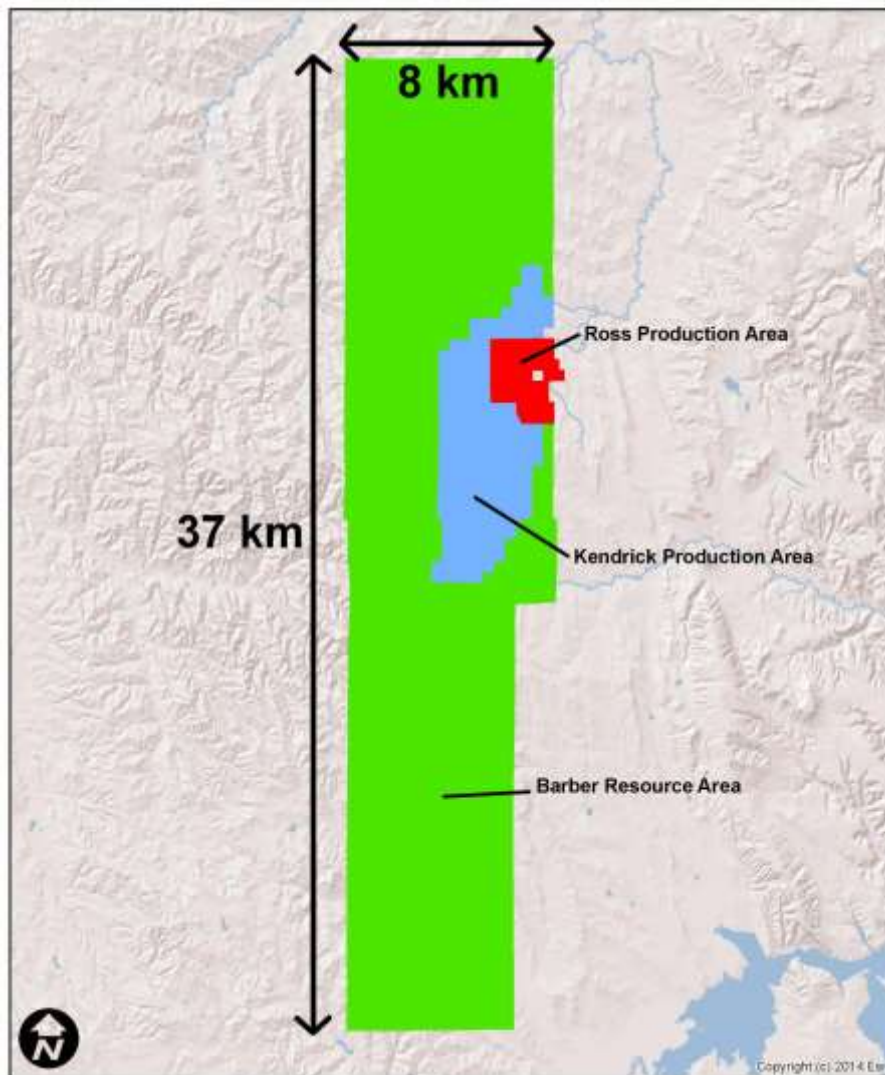


Figure 1: The Lance Projects

Resource Development

The Company is embarking on a programme to systematically expand and enhance the Lance Projects Resources. Including the Barber Resource Area (“**Barber**”), the Lance Projects’ JORC compliant mineral resource estimate stands at 53.7 million pounds of Measured, Indicated and Inferred U₃O₈ Resources¹.

A drilling programme is planned in 2023 to conduct resource quality enhancement drilling within Kendrick. Additional programmes are being designed within Barber to better define the mostly inferred resources within the area with closer spaced drilling.

¹ Refer Appendix A.

Yours sincerely

Wayne Heili
Managing Director / CEO

This release has been approved by Peninsula's Board of Directors.

For further information, please contact:

Peninsula Energy
+61 8 9380 9920
info@pel.net.au

or

Citadel-MAGNUS
Michael Weir - +61 402 347 032
Cameron Gilenko - +61 466 984 953

ABOUT PENINSULA ENERGY LIMITED

Peninsula Energy Limited (PEN) is an ASX-listed uranium mining company which has made the decision to restart its 100% owned Lance Projects in Wyoming, USA. This is the final step in a project transformation initiative at Lance to transition from an alkaline ISR operation to a low pH ISR operation. Lance is one of the largest uranium development projects in the United States and once in production, Peninsula will be in strong position to supply a growing market, as the importance of nuclear power continues to gain momentum and support, as a critical part of the green energy mix.

APPENDIX A – JORC COMPLIANT RESOURCE

Lance Projects Resource Estimate as at 31 Dec 2021

Classification	Tonnes (million)	U ₃ O ₈ (kg)	Grade (ppm U ₃ O ₈)	U ₃ O ₈ (Mlbs)
Measured	3.4	1.7	491	3.7
Indicated	11.1	5.5	496	12.1
Inferred	36.2	17.2	474	37.8
Total	50.7	24.3	480	53.7

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.