

17 February 2022

Companies Announcement Office
Via Electronic Lodgement

EARLY PREPARATORY WORKS COMMENCE AT LANCE

HIGHLIGHTS

- Budget of US\$3.4 million allocated for low-pH ISR transition preparatory work programme, ahead of a potential final investment decision for the start of low pH ISR operations at Lance. Spending includes:
 - Preparation and operational readiness activities in Mine Units 1 and 2
 - Commencement of Mine Unit 3 drilling activities
 - Front-end engineering and design for low pH ISR process modifications
- Project staffing planned to be expanded to 37 employees by end of 2Q2022, up 28%
- Peninsula is progressing a detailed technical evaluation of MU1A Field Demonstration performance, with an expected completion date by the end of Q1 CY2022

Peninsula Energy Limited (“**Peninsula**” or “**the Company**”) (ASX:PEN, OTCQB:PENMF) is pleased to provide an update on key preparatory activities for the flagship 100%-owned Lance Project (“Lance” or “the Project”) located in Wyoming, USA.

Operational activities related to the MU1A low-pH in-situ recovery (ISR) Field Demonstration concluded in late 2021. The Company is currently analysing the data obtained from the demonstration to draw conclusions and evaluate input parameters for updating operating and process capital cost assessments.

Additionally, the Board has approved a supplementary budget of US\$3.4 million to be invested in an early preparatory works programme designed to facilitate an accelerated re-start of Lance production operations, should a final investment decision be approved. The supplementary budget applies to expenditures slated to occur prior to the end of the current fiscal year (end June 2022).

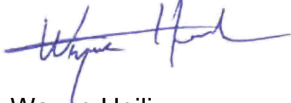
The supplementary budget provides funding to increase the Lance Project staffing levels by eight employees to support the work programmes. Under the early preparatory works programme the following key workstreams will be undertaken:

- **Mining Unit 3 Development**
 - Preparation for uranium production from a new mining area at Lance
 - The planned Mine Unit 3 area carries an estimated measured and indicated uranium resource of 1.59 million pounds of JORC compliant uranium resources plus an additional 0.35 million pounds of JORC compliant inferred resources. These resources are included within the Lance Project JORC Code 2012 compliant mineral resource estimate of 53.6¹ million pounds U₃O₈.
 - The Mine Unit 3 resource estimate is based on the interpretation of over 540 historic drill holes
 - Planned activities include re-entry of the historical drill holes that require abandonment to updated standards for an ISR operational area, drilling of approximately 30 additional holes to test the outer limits of the Mine Unit 3 resource area, and the drilling and installation of interior and perimeter monitoring wells
 - Drilling activities have commenced at Lance and will continue to ramp up in the coming weeks

- **Initiate Low pH Conversion of Current Facilities**
 - Preparation of final engineering designs and modifications for the wellfield and recovery plant low-pH ISR process facilities
 - Wellfield construction activities including well workovers and header house conversions in Mine Units 1 and 2 as necessary for the change in ISR chemistry
- **Limited Production Operations within Mining Units 1 and 2**
 - Operational readiness preparations for uranium production from the existing areas at Lance that were previously operated using the alkaline ISR chemistry and still contain recoverable resources that are included within the Lance Project JORC Code 2012 compliant mineral resource of 53.6¹ million pounds U₃O₈
 - Planned activities include limited duration operations of each Header House within the existing wellfields without addition of reagents
 - Portions of Mine Unit 2 have been restarted and are currently being operated at a flow rate of approximately 700 gallons per minute
 - Produced streams bearing residual uranium are being directed to the Ross Recovery Plant for uranium recovery

Commenting on the importance of recent developments at Lance, Peninsula Managing Director and Chief Executive Officer Wayne Heili said *“We made significant developmental strides at Lance in 2021 with the early completion of the MU1A Field Demonstration. The year 2022 is a pivotal year as we advance the Project preparations in parallel to completing our technical assessment studies. The early preparatory works budget is a modest but important investment that can lead to an accelerated resumption of production. We want to position Lance for the best opportunity to resume commercial production operations quickly, efficiently, and successfully, in the event that a final investment decision to restart the Project is made in the coming year.”*

Sincerely Yours,



Wayne Heili
Managing Director / CEO

The Board of Directors have approved this release.

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ABOUT PENINSULA ENERGY LIMITED

Peninsula Energy Limited (PEN) is an ASX listed uranium mining company which commenced in-situ recovery operations in 2015 at its 100% owned Lance Projects in Wyoming, USA. Peninsula is embarking on a project transformation initiative at the Lance Projects to change from an alkaline ISR operation to a low-pH ISR operation with the aim of aligning the operating performance and cost profile of the project with industry leading global uranium production projects.

1 Lance Projects Classified JORC-Compliant Resource Estimate (U₃O₈) as at 31 December 2020

Resource Classification	Tonnes Ore (M)	U ₃ O ₈ kg (M)	U ₃ O ₈ lbs (M)	Grade (ppm U ₃ O ₈)	Location
Measured	3.4	1.7	3.7	489	Wyoming, USA
Indicated	11.1	5.5	12.1	496	Wyoming, USA
Inferred	36.2	17.2	37.8	474	Wyoming, USA
Total	50.7	24.4	53.6	480	

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.

Competent Persons Statement

The information in this report that relates to Exploration Results, 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 #04170811). Mr Schiffer is a professional geologist employed by independent consultant WWC Engineering. Mr Schiffer has sufficient experience which is relevant to the style of mineralisation 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’.