

26 April 2021

## 31 MARCH 2021 QUARTERLY ACTIVITIES REPORT

### HIGHLIGHTS

#### LANCE PROJECT – MU1A FIELD DEMONSTRATION

- Test modifications have delivered favourable results
  - Modified test patterns improve response time
  - Target pH levels are close to being achieved
  - New oxidant is delivering results
  - Uranium in recovery solution increases
- Pilot uranium recovery circuit has been activated
- Field Demonstration expected completion in 1H-2022

#### CORPORATE

- Peninsula entered into binding purchase agreements of 450,000 lbs U<sub>3</sub>O<sub>8</sub> for delivery in CY2022
- Uranium sales activities forecast to secure net cash margin of US\$8 million to US\$9 million in CY2022
- CY2021 and CY2022 sales underpin funding for completion of MU1A field demonstration and other optimisation activities ahead of a production restart decision at the Lance Project
- Commencement of trading on the OTCQB Venture Market under the ticker symbol “PENMF” on February 17, 2021

### LANCE PROJECT, WYOMING

#### Low-pH Field Demonstration Update – Test Adjustments Deliver Favourable Results

Peninsula continues to advance its MU1A low-pH field demonstration at the Company’s flagship, 100% owned Lance Project (“Lance”) located in Wyoming, USA.

The Lance field demonstration of low-pH In-Situ Recovery (ISR), which started in August 2020, is designed to provide key data on pattern configurations, pH adjustment, acid consumption, solids handling and oxidants ahead of a decision to restart production at the Project.

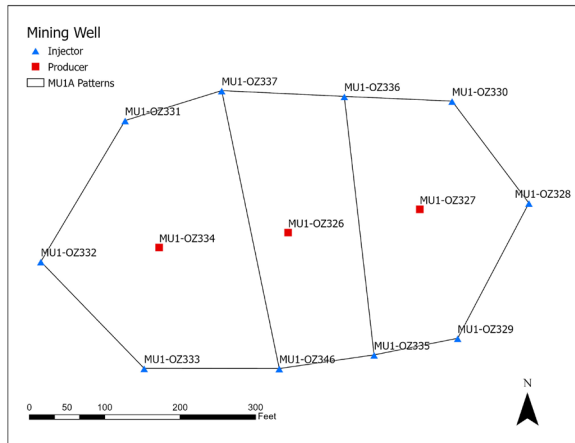
Following the update on 26 February 2021, Peninsula implemented a number of test modifications which have now delivered favourable results.

#### Revised Pattern Configuration

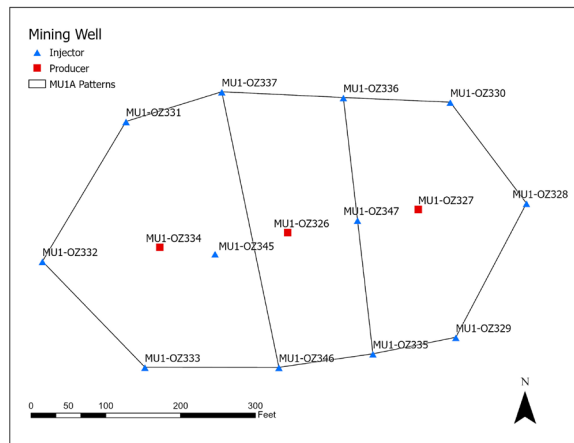
Three contiguous full-scale ISR patterns (injection wells feeding a centrally located production well) are operating within a previously unmined area of Mine Unit 1 (collectively “MU1A”). The chemical parameters within the original field demonstration patterns responded to injection, but at a slower than optimal rate.

Peninsula adjusted the pattern configuration by installing and activating two new injection wells between each pair of recovery wells (see Figures 1A and 1B). The result has been a considerably improved response for the key chemical parameters.

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**Figure-1A:** Original test pattern configuration



**Figure-1B:** Test patterns with additional wells

Once completed, the field demonstration will have generated comprehensive data on the influence of this design criteria, which will in turn inform the optimal design for commercial scale production ISR patterns and the corresponding screen interval selection methodology.

**Chemical Parameter Response**

Achieving and maintaining the correct pH and oxidation-reduction potential (“ORP”) of the process solutions is paramount to successful uranium in-situ recovery operations.

At the time of the February update, only one of the demonstration patterns reached the target pH of approximately 2.0 standard units (“S.U.”). Subsequently, and without further adjustment to acid solution addition rates or concentrations, the two lagging patterns responded favourably, yielding a current composite recovery stream pH of 2.3 S.U. The rate of pH response in the test patterns appears to have been a function of the selected pattern dimensions and design.

As previously reported, the field demonstration exhibited a trend toward consuming more acid than was modelled and subsequently projected in the 2018 Feasibility Study. This too is understood to be a function of the selected pattern dimensions and screening design, which cannot be simulated in laboratory testing. The higher level of acid consumption is not a function of acid consuming mineral content, which had been assessed prior to the start of the field operations. The Company will continue to closely monitor the progression of the system pH and will evaluate opportunities to optimise the pattern design criteria and its impact on chemical requirements before commencement of commercial operations.

Gaseous oxygen was selected as the initial oxidant to adjust ORP levels, as an oxygen addition system was already in place at Lance. However, gaseous oxygen addition was not bringing the system ORP to the required range rapidly enough. In February 2021, an addition system for hydrogen peroxide, as used in our laboratory studies, was commissioned, and has proven effective. Subsequently, the recovery stream ORP responded, increasing from where it had plateaued around 200 millivolts (“mv”) up to approximately 400 mv. The Company is confident that the ORP will continue to increase to the target range of 450 to 600 mv.

**Pilot Uranium Recovery Circuit Activated**

Although target levels for pH and ORP have not yet been fully achieved, the uranium concentration in the field demonstration recovery stream is responding positively to the current pH and ORP levels.

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Since late February, the recovery stream uranium grade has doubled and is now in the 20 to 25 mg/L range, which is in line with expectations relative to the dimensions of the patterns and the number of pore volumes processed since commencing acidification.

With increasing uranium grades, the Company activated the pilot ion exchange uranium recovery circuit. Currently the ion exchange circuit has not operated long enough to obtain meaningful performance data. Ion exchange resin testing will continue, and the performance will be reported in the future as meaningful data becomes available.

The Company will continue technical evaluations related to the potential for application of membrane separation systems to enhance resin performance. Enhanced resin loading has the potential to significantly reduce downstream processing and operating costs. A laboratory scale test is planned on production solutions from the field demonstration in the coming months.

Peninsula will provide updates on the MU1A low-pH field demonstration as additional meaningful results become available.

### Managing Solids

To date, there have been no significant issues with fine solids in the production stream. Use of a settlement pond as part of the solids management system is performing to expectations. Fine solids presented a significant challenge during the 2019 FLT. This system has the beneficial effect of minimising filtration costs, waste disposal costs and worker exposures.

### Oxidant License Amendment

A permit/license amendment was submitted in September 2020 to the regulatory authorities in Wyoming requesting approval for the use of a suite of oxidants in conjunction with the low pH injection stream. During the quarter, the Company responded to requests for additional information submitted by the regulatory agencies. This regulatory action is expected to be completed by the end of CY 2021, before the field demonstration activities are scheduled to be completed.

## CORPORATE

### Binding Purchase Agreements for CY2022 Sales

Peninsula strengthened its long-term contract book agreeing to multiple binding purchase agreements to procure natural uranium concentrates (“U<sub>3</sub>O<sub>8</sub>”) sufficient to meet the entirety of its calendar year 2022 committed sales of 450,000 pounds U<sub>3</sub>O<sub>8</sub>.

When combined with the existing calendar year 2021 purchase agreements, the Company has secured a forecast net cash margin of US\$7 million to US\$8 million on uranium sales in CY2021 and US\$8 million to US\$9 million on uranium sales in CY2022.

The forecast net cash margin is based on the difference between the fixed purchase price and the likely sales price based on customer agreements. The price to be paid under the purchase agreements is confidential but closely aligned with market reported prices of U<sub>3</sub>O<sub>8</sub> for similar future deliveries. The agreed purchase pricing is fixed and is not subject to any form of escalation or future adjustment.

Peninsula enters into binding purchase agreements from time to time with a diverse pool of suppliers to procure open origin material with delivery dates timed to satisfy those sales obligations.

The Company currently purchases uranium to satisfy open origin sales deliveries and the recent purchases do not impact timing with respect to a decision on a production restart at the Lance facility.

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### Sales and Marketing

Peninsula sold no pounds of U<sub>3</sub>O<sub>8</sub> pursuant to long-term contracts during the quarter.

At 31 March 2021, the Company holds a portfolio of uranium concentrate sale agreements with major utilities for up to 5.45 million pounds U<sub>3</sub>O<sub>8</sub> at average pricing of US \$51 to \$53 per pound with 4.1 million pounds of firmly committed sales and up to 1.35 million pounds of sales optional at the election of the customers.

Delivery obligations under the contracts continue through to 2030 with a weighted average future sales price at the upper end of the guided US\$51-\$53 per pound range.

Of the committed U<sub>3</sub>O<sub>8</sub> sales, 1.1 million pounds can be satisfied with market sourced material (“**open origin**”) in the next three years, with the balance to be supplied from Lance Project origin uranium.

31 March 2021 Summary of Sale Agreements Over the Next Five Years <sup>(1)</sup> :	
Calendar Year	Pounds U <sub>3</sub> O <sub>8</sub>
2021	450,000
2022	450,000
2023	650,000
2024	850,000
2025	850,000

(1) This disclosure includes both pounds of U<sub>3</sub>O<sub>8</sub> committed under sale agreements and optional at the election of customers.

At 31 March 2021 the Company has a portfolio of U<sub>3</sub>O<sub>8</sub> uranium concentrate purchase commitments totalling 900,000-pounds.

Purchased uranium will be delivered in allotments during the year to align with the timing of deliveries to customers. The agreed purchase pricing is fixed and is not subject to any form of escalation or future adjustment. Payment for the purchased uranium is also aligned with the receipt of proceeds from the sales.

31 March 2021 – Summary of Purchase Agreements:	
Calendar Year	Pounds U <sub>3</sub> O <sub>8</sub>
2021	450,000
2022	450,000

In the June 2021 quarter the Company has scheduled open origin committed sales of 200,000 pounds of U<sub>3</sub>O<sub>8</sub> pursuant to long-term contracts which will be sourced from its existing portfolio of binding purchase agreements.

### Peninsula Commences Trading on the OTCQB Venture Market

Peninsula was upgraded to the OTCQB Venture Market and commenced trading under the ticker “PENMF” on February 17, 2021.

The Company sought the upgrade to the OTCQB Market in response to strong trading volumes following the initiation of trading on the OTC Pink Market.

The OTCQB Venture Market is a more transparent trading platform that offers a cost-effective method for North American investors to access Peninsula’s securities. Investors can find Real-Time quotes

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(denominated in US dollars) and market information for Peninsula shares at [www.otcmarkets.com/stock/PENMF/quote](http://www.otcmarkets.com/stock/PENMF/quote) along with current company news. Peninsula's securities will continue to be listed and traded on the ASX.

Admission to the OTCQB Venture Market is non-dilutive, as no additional capital is required to be raised and no new shares will be issued in conjunction with inclusion on the OTCQB Market.

### US Paycheck Protection Program Loan – Second Round

During the March 2021 quarter Strata Energy Inc (Peninsula's wholly owned US subsidiary that directly owns Lance) received US\$0.560 million under the second round of the US COVID-19 Paycheck Protection Program. This is a US government sponsored program and consists of a forgivable loan to Strata specifically designed to help businesses keep their workers on the payroll during the COVID-19 pandemic. The Company expects to apply for 100% forgiveness of this loan and accrued interest in the June 2021 quarter.

### Strategic Uranium Reserve

A major domestic sector milestone was achieved late last year with the United States Government funding the establishment of a U.S. National Strategic Uranium Reserve as a part of the passage of the Fiscal Year 2021 Budget. The US budget directs the U.S. Department of Energy ("US DOE") to allocate US\$75 million toward the establishment of a programme to procure US domestically produced uranium and conversion services in the establishment of a uranium reserve.

No progress was reported on this new programme during the March 2021 quarter because of the leadership change to the Biden Administration earlier this year.

Peninsula believes that the establishment of the Uranium Reserve will provide a substantial opportunity to secure new uranium offtake agreements with the US DOE. Additional sales agreements are a key consideration in the Company's decision-making process regarding the restart of production activities at Lance. This would supplement the Company's existing portfolio of uranium concentrate sale agreements which are with major utilities.

### Withdrawal from Karoo Projects

During the quarter, the South African National Nuclear Regulator approved the rehabilitation plans submitted by the Company for the historical trial mining areas at Ryst Kuil and Riet Kuil. The Department of Water and Sanitation also issued the required Water Use License for planned remedial activities at Riet Kuil. Rehabilitation activities at Riet Kuil are scheduled to commence in the June 2021 quarter.

The Company continues to progress the sale of the remaining freehold farmland previously held in the Karoo Basin, with proceeds still expected to be sufficient to cover remaining rehabilitation costs.

### RakiRaki Joint Venture, Fiji

All licences associated with the RakiRaki Joint Venture in Fiji have now been relinquished and therefore the Company no longer holds an interest in this project.

### Cash Position

The Company's available cash at the end of the quarter was **US\$ 6.8 million**.

Within the amount for the March 2021 quarter disclosed in Item 6.1 of the Appendix 5B, US\$0.149 million was paid to related parties and their associates. These amounts solely relate to employment agreements or non-executive director appointments as described within the audited Remuneration Report section of the Company's most recently published 2020 Annual Report. The Company has disclosed US\$0.021

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million in exploration and evaluation payments for the March 2021 quarter in Item 1.2(a) of the Appendix 5B. This expenditure was on miscellaneous activities at the Karoo Project in South Africa that the Company is in the process of exiting.

Peninsula is term debt free and well-funded to advance the Lance Projects towards a low-capital resumption of production.

### FOR FURTHER INFORMATION, PLEASE CONTACT:

**Wayne Heili**  
**Managing Director/Chief Executive Officer**  
**Telephone: +61 6263 4461**

*This release has been approved by the Board.*

### Lance Projects Classified JORC-Compliant Resource Estimate (U<sub>3</sub>O<sub>8</sub>) as at 31 December 2019

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

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'.

SCHEDULE OF INTERESTS IN MINING TENEMENTS AT 31 MARCH 2021

**Lance Projects, Wyoming, USA**

Location / Project Name	Tenement	Percentage
Private Land (FEE) – Surface Access Agreement	Approx. 2,401 acres	100%
Private Land (FEE) – Mineral Rights	Approx. 10,361 acres	100%
Federal Mining Claims – Mineral Rights	Approx. 13,445 acres	100%
Federal – Surface Access – Grazing Lease	Approx. 40 acres	100%
State Leases – Mineral Rights	Approx. 10,584 acres	100%
State Leases – Surface Access	Approx. 914 acres	100%
Strata Owned – Surface Access	Approx. 315 acres	100%

**Karoo Projects, South Africa**

Permit Number/ Name	Holding Entity	Initial Rights Date	Renewed/ Signed/ Validity (e.g. Valid, Under PR Application, Under Mining Right Application, Closure Submitted/Issued)	Area (km <sup>2</sup> )	Current Expiry	Commodity Group	Original PR Status
WC 10085 MR	Tasman Lukisa JV	TBD	Mining Right Application	689	TBD	U, Mo	In Progress*
EC 10029 MR	Tasman Lukisa JV	TBD	Mining Right Application	345	TBD	U, Mo	In Progress*
WC 10248 PR	Beaufort West Minerals	TBD	Prospecting Application Right	509	TBD	U, Mo	In Progress*
WC 10249 PR	Beaufort West Minerals	TBD	Prospecting Application Right	298	TBD	U, Mo	In Progress*
WC 10250 PR	Beaufort West Minerals	TBD	Prospecting Application Right	570	TBD	U, Mo	In Progress*
WC 10251 PR	Beaufort West Minerals	TBD	Prospecting Application Right	347	TBD	U, Mo	In Progress*
EC 07 PR	Tasman Lukisa JV	14/11/2006	Under MR Application – Environmental Closure Application Submitted	48	10/06/2015	U, Mo	Expired
EC 08 PR	Tasman Lukisa JV	14/11/2006	Under MR Application - Environmental Closure Application Submitted	47	10/06/2015	U, Mo	Expired
EC 09 PR	Tasman Lukisa JV	14/11/2006	Under MR Application - Environmental Closure Application Submitted	94	10/06/2015	U, Mo	Expired
EC 12 PR	Tasman Lukisa JV	14/11/2006	Under MR Application - Environmental Closure Application Submitted	36	10/06/2015	U, Mo	Expired
EC 13 PR	Tasman Lukisa JV	14/11/2006	Under MR Application - Environmental Closure Application Submitted	69	10/06/2015	U, Mo	Expired
WC 25 PR	Tasman Lukisa JV	17/10/2007	Under MR Application	7	12/11/2014	U, Mo	Expired
WC 33 PR	Tasman Lukisa JV	01/12/2006	Under MR Application	68	04/07/2016	U, Mo	Expired

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WC 34 PR	Tasman Lukisa JV	01/12/2006	Under MR Application - Environmental Closure Application Submitted	34	01/08/2015	U, Mo	Expired
WC 35 PR	Tasman Lukisa JV	01/12/2006	Under MR Application - Environmental Closure Application Submitted	69	01/08/2015	U, Mo	Expired
WC 47 PR	Tasman Lukisa JV	04/09/2008	Under MR Application - Environmental Closure Application Submitted	36	04/07/2015	U, Mo	Expired
WC 59 PR	Tasman Lukisa JV	01/12/2006	Under MR Application - Environmental Closure Application Submitted	40	01/08/2015	U, Mo	Expired
WC 60 PR	Tasman Lukisa JV	01/12/2006	Under MR Application - Environmental Closure Application Submitted	56	01/08/2015	U, Mo	Expired
WC 61 PR	Tasman Lukisa JV	01/12/2006	Under MR Application - Environmental Closure Application Submitted	69	01/08/2015	U, Mo	Expired
WC 127 PR	Tasman Lukisa JV	30/11/2006	Under MR Application - Environmental Closure Application Submitted	59	10/12/2017	U, Mo	Expired
WC 137 PR	Tasman Lukisa JV	30/11/2006	Under MR Application - Environmental Closure Application Submitted	73	04/07/2016	U, Mo	Expired
WC 156 PR	Tasman Lukisa JV	30/11/2006	Under MR Application - Environmental Closure Application Submitted	69	04/07/2014	U, Mo	Expired
WC 158 PR	Tasman Lukisa JV	23/01/2007	Under MR Application - Environmental Closure Application Submitted	57	12/11/2014	U, Mo	Expired
WC 167 PR	Tasman Lukisa JV	30/11/2006	Under MR Application - Environmental Closure Application Submitted	21	12/11/2015	U, Mo	Expired
WC 95 PR	Tasman-Lukisa JV	17/04/2007	Closure Submitted	5	23/03/2013	U, Mo	Expired
WC 152 PR	Tasman-Lukisa JV	01/12/2006	Closure Submitted	189	04/07/2016	U, Mo	Expired
WC 187 PR	Tasman Lukisa JV	01/12/2006	Closure Submitted	24	01/08/2014	U, Mo	Expired
WC 168 PR	Tasman Pacific Minerals	13/12/2006	Closure Submitted	332	05/05/2014	U, Mo	Expired
WC 170 PR	Tasman Pacific Minerals	13/12/2006	Closure Submitted	108	05/05/2014	U, Mo	Expired
NC 330 PR	Tasman Pacific Minerals	08/06/2007	Closure Submitted	481	19/04/2019	U, Mo	Relinquished
NC 331 PR	Tasman Pacific Minerals	08/06/2007	Closure Submitted	205	17/11/2018	U, Mo	Relinquished
NC 347 PR	Tasman Pacific Minerals	08/06/2007	Closure Submitted	634	17/11/2018	U, Mo	Relinquished



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EC 28 PR	Tasman Pacific Minerals	15/11/2006	Closure Submitted	225	26/03/2015	U, Mo	Expired

Note: \* JV Partner consent requested to withdraw application

**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. Following a positive feasibility study, 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.*