

28 July 2021

30 JUNE 2021 QUARTERLY ACTIVITIES REPORT

HIGHLIGHTS

LANCE PROJECT – MU1A FIELD DEMONSTRATION

- Field operations continue to run consistently with improvements across all key focus areas
 - Oxygen Reduction Potential level approximately 400 mv supporting higher uranium production grades
 - Recovery composite stream uranium grade at approximately 40 ppm
 - Rate of acid addition reduced to a rate sufficient to maintain current pH levels
 - Performance of ion exchange uranium recovery processes improved with the upward trending uranium concentration, achieving loading results that are consistent with typical levels for low pH lixiviant applications
- Continued evaluation of several alternative uranium capture/recovery process options which may improve upon standard ion exchange performance

CORPORATE

- Completion of A\$13.4 million Placement at 15c, well-supported by new and existing international and domestic institutions
- Funds raised from Placement used to purchase 300,000 pounds of uranium at a price of US\$31.35 per pound
 - Strategic purchase of uranium assists Peninsula as it transitions the Lance Project to a low pH ISR operation
- Completion of A\$2 million Share Purchase Plan (SPP) at 15c, after receiving over A\$7.6 million in applications
- Sale of 200,000 pounds of U₃O₈ at a realised cash price of US\$49.57 per pound U₃O₈ generating a net cash margin of US\$3.5 million realised in July 2021
- Available cash of US\$6.7 million at 30 June 2021 plus 309,507 pounds of uranium in converter accounts valued at US\$9.9 million

LANCE PROJECT, WYOMING

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

Peninsula continued to focus on the progression of the MU1A low-pH field demonstration (“field demonstration”) at the Company’s flagship, 100% owned Lance Project (“Lance”) located in Wyoming, USA.

The 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.

During the June 2021 quarter the Company continued to take actions across key focus areas to enhance performance, including further changes to the configuration of the injection and recovery well patterns. The field operations have run consistently during the quarter and the response has indicated favourable trends.

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Operational Overview

Field demonstration operations continued in the June 2021 quarter without significant disruption.

The pH and free acid concentration of the recovery composite stream reached target levels during the quarter. With an Oxygen Reduction Potential (“ORP”) level now being maintained at approximately 400 mv, the recovery stream appears to be sufficiently close to the target range of 450 to 600 mv to support higher uranium production grades.

The recovery composite stream uranium grade increased to approximately 40 ppm during the quarter, and has been maintained post quarter end, compared to the uranium concentration of between 20 and 25 ppm in mid-May.

Achieving and then maintaining the correct operational pH and ORP for the process solutions is critical to successful low-pH ISR uranium operations. With the pH and free acid target achieved, the rate of acid addition has been reduced to a rate sufficient to maintain current pH levels. As previously reported, a change in the type of oxidant utilised delivered significant improvement in the injection and recovery stream ORP levels.

Uranium Capture - Ion Exchange

Ion exchange (“IX”) uranium recovery processes have widely recognised limitations in low pH applications. The success of IX processes is concentration driven and the system technical performance is known to improve with increasing uranium grades.

A pilot scale IX system has been on-line since March. The performance of the IX has improved with the upward trending uranium concentration and is achieving loading results that are consistent with typical levels for low pH lixiviant applications.

The Company continues to evaluate several alternative uranium capture/recovery process options which may improve upon standard ion exchange performance.

Evaluations of two proprietary innovative concepts have been advanced with completed desktop evaluations. A laboratory benchtop assessment of one technology is planned to be completed in the September 2021 quarter. If successful, the testing may be advanced to pilot scale demonstrations that could be run in conjunction with the current field demonstration. These advanced technologies have the potential to significantly enhance downstream processing performance while reducing operating costs.

CORPORATE

A\$13.4 Million Equity Raise for Uranium Purchase

Peninsula completed an A\$13.4 million Placement at 15 cents, which was well-supported by new and existing international and domestic institutions.

The funds raised from the Placement were used to purchase 300,000 pounds of uranium at a price of US\$31.35 per pound.

Settlement was completed in June 2021 and the uranium has been stored at the Cameco Facility located in Ontario Canada.

The Board of Peninsula believes the acquisition of physical uranium is strategically aligned with the planned preparations for the transition of the Lance Project to low pH ISR operations. The acquired uranium inventory may ultimately provide a source of funding for the restart of operations at Lance following a final investment decision. Working inventory of uranium also creates flexibility in securing the supplementary offtake arrangements required for a restart decision and efficiencies in managing the Company’s current long-term sales contract book.

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The Board also believes that holding physical uranium during a period when there is a focused and continued drive by the United States Government to support and revitalise the domestic nuclear industry, is a low-risk strategy that has the potential to deliver considerable upside value for shareholders.

Peninsula is already in a unique position for a uranium junior with long-term sales contracts extending until 2030 at prices significantly above current levels. Uranium purchase agreements have already been arranged to provide material for the earlier of the existing sales commitments.

Quotation of Placement shares on the ASX was completed on 3 June 2021.

A\$2 Million Share Purchase Plan Completed

Peninsula completed an A\$2 million Share Purchase Plan (“SPP”) to eligible shareholders.

The SPP was announced on 28 May 2021 following the A\$13.4 million Placement and was offered at the Placement price of 15 cents per share.

The SPP sought to raise up to a maximum of A\$2.0 million and allowed eligible shareholders to each subscribe for up to A\$30,000 worth of new ordinary shares in the Company (SPP Shares), subject to any scale back.

The SPP closed on Friday 18 June 2021 with 600 applications received for a total of over A\$7.6 million in SPP Shares. The strong demand for the SPP necessitated a scale-back of valid applications from eligible shareholders to the SPP maximum of A\$2.0 million on a pro-rata basis.

Quotation of SPP shares on the ASX was completed on 29 June 2021.

Sales and Marketing

Peninsula sold 200,000 pounds of U₃O₈ pursuant to long-term contracts during the quarter at a realised cash price of US\$49.57 per pound U₃O₈. The delivery was completed using uranium purchased in the market generating a net cash margin of US\$3.5 million which was realised in July 2021.

At 30 June 2021, the Company holds a portfolio of uranium concentrate sale agreements with major utilities for up to 5.25 million pounds U₃O₈ at average pricing of US \$51 to \$53 per pound with 3.9 million pounds of firmly committed sales and up to 1.35 million pounds of sales optional at the election of the customers.

30 June 2021	
Summary of Sale Agreements Over the Next Five Years ⁽¹⁾ :	
Calendar Year	Pounds U ₃ O ₈
2021	250,000
2022	450,000
2023	650,000
2024	850,000
2025	850,000

(1) This disclosure includes both pounds of U₃O₈ committed under sale agreements and optional at the election of customers.

Of the committed U₃O₈ sales, 0.9 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.

At 30 June 2021 the Company has a portfolio of U₃O₈ uranium concentrate purchase commitments totalling 0.7 million-pounds.

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Purchased uranium will be delivered in allotments during the year and aligns closely with the timing of deliveries to customers. The agreed purchase pricing is fixed and payment for the purchased uranium is also aligned closely with the receipt of proceeds from the sales.

30 June 2021 – Summary of Purchase Agreements:	
Calendar Year	Pounds U ₃ O ₈
2021	250,000
2022	450,000

The portfolio of uranium concentrate sale and purchase agreements have secured a forecast net cash margin of US\$7 million to US\$8 million on uranium sales in CY2021 (all in the second half and including the US\$3.5 million already received in early July) 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.

In the September 2021 quarter the Company has scheduled open origin committed sales of 200,000 pounds of U₃O₈ pursuant to long-term contracts which will be sourced from its existing portfolio of binding purchase agreements.

Uranium Inventory

At 30 June 2021 Peninsula has 309,507 pounds of uranium held in converter accounts after completing the purchase 300,000 pounds of uranium at a price of US\$31.35 per pound during the quarter.

The total value of uranium held at 30 June 2021 is US\$9.9 million.

Withdrawal from Karoo Projects

During the quarter rehabilitation activities at the Riet Kuil trial mining site commenced after the South African National Nuclear Regulator approved the rehabilitation plan and the Department of Water and Sanitation issued the required Water Use License for the planned remedial activities.

The rehabilitation plan at Riet Kuil involves back filling of the historical trial mining area and is scheduled to be completed in the September 2021 quarter. Once completed this will leave only rehabilitation work on the Ryst Kuil area outstanding which is planned subject to receipt of a Water Use License from the Department of Water and Sanitation.

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.

Cash Position

The Company's available cash at the end of the quarter was **US\$6.7 million**, excluding the US\$3.5 million net cash margin from the sale of 200,000 pounds of U₃O₈ received by the Company in early July.

The Company has disclosed US\$0.166 million in payments to related parties and their associates for the June 2021 quarter in Item 1.2(a) of the Appendix 5B. These amounts relate to payments made under the Managing Director/Chief Executive Officer employment agreement and Non-Executive Director fees as described within the audited Remuneration Report section of the Company's most recently published 2020 Annual Report.

The Company has disclosed US\$0.025 million in exploration and evaluation payments for the June 2021 quarter in Item 1.2(a) of the Appendix 5B. This expenditure relates to miscellaneous activities at the Karoo Project in South Africa that the Company is in the process of exiting.

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FOR FURTHER INFORMATION, PLEASE CONTACT:

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This release has been approved by the Board.

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’.

SCHEDULE OF INTERESTS IN MINING TENEMENTS AT 30 JUNE 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%

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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 ²)	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 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	Rehabilitation Planned	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
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

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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 ²)	Current Expiry	Commodity Group	Original PR Status
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	Rehabilitation in Progress	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
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.