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Companies Announcement Office
Via Electronic Lodgement

SUCCESSFUL MINING PHASE OUTCOMES FROM LOW pH FIELD DEMONSTRATION

Peninsula Energy Limited (**Peninsula or Company**) is pleased to provide an update on the progress of the low pH field demonstration currently being conducted by its wholly owned subsidiary, Strata Energy Inc **(Strata)**, at the Lance Projects in Wyoming (**Lance Projects**).

The low pH field demonstration commenced in December 2018 following the approval of a non-significant revision to the Permit to Mine (**PTM**) and the determination by a Safety and Environmental Review Panel that a low pH field demonstration could be conducted under the existing Source Materials License (**SML**). The field demonstration area consists of three adjoining recovery patterns which were previously operated utilising alkaline In-Situ Recovery (**ISR**) solutions.

As advised previously, the low pH field demonstration plan consists of mining and restoration phases. At the outset of the mining phase, the field trial area was operated for a period of three weeks without introducing low pH solutions in order to collect important baseline operational data. The injection of low pH solutions in the trial area commenced in late December 2018.

Beyond observing the uranium recovery behaviour while employing the low pH test solutions, a key technical performance objective of the mining phase demonstration was to lower the local mining zone pH to the targeted level of approximately 2.0 standard units (**S.U.**) without compromising the ability to move lixiviant through the mining zone. Peninsula is pleased to report that this performance objective has been successfully achieved. Average injection and extraction well flow rates have been maintained in line with the low pH Feasibility Study parameters.

The three test recovery patterns had previously been operated to economic exhaustion using alkaline lixiviant but are now yielding substantially elevated solution uranium grades and correspondingly higher recovery rates. Once the pH levels were reduced in the test patterns, uranium head grades increased to an average between 35 and 45 mg/L, with a peak composite grade of ~ 50 mg/L recorded. These grades are significantly above the post alkaline ISR head grades (< 10 mg/L) observed during the 3-week baseline data gathering period ahead of the commencement of low pH solution injection. The recorded uranium head grades obtained from all three test patterns have tracked ahead of the Feasibility Study parameters.

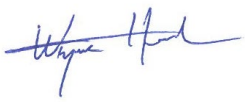
The reduced pH levels were achieved in less than three pore volumes, consistent with the low pH Feasibility Study parameters. Acid injection rates and consumption metrics were also consistent with the low pH Feasibility Study parameters for areas previously subject to alkaline mining.

As the mining phase of the low pH field demonstration has successfully demonstrated all key technical objectives, it will be discontinued in the coming weeks so that the Company can proceed to the restoration phase activities of the demonstration. During the initial restoration demonstration phase, the main technical objective is to return the pH in the mining zone to above 5.0 S.U.'s. At this pH level, industry standard groundwater restoration techniques can be employed to complete the groundwater rehabilitation.

The recently approved PTM amendment, as announced on 21 March 2019, allows the implementation of low pH operations within the Ross Permit Area at the Lance Projects in four progressive phases. Phase 1, being the mining and initial restoration within the low pH field demonstration area which is currently being conducted. At the conclusion of the Phase 1 activities, Strata will prepare an Interim Operation Report that summarises the results for submittal to the WDEQ. Test results will be compared by the WDEQ with predetermined criteria and performance metrics. The successful completion of the Phase 1 demonstrations is a precondition to proceeding with Phase 2, being the commencement of commercial scale operations throughout the entirety of existing previously operated areas of Mine Units 1 and 2.

Wayne Heili, Peninsula's Managing Director/CEO, commented, "We are very pleased with the results to date from our low pH field demonstration, with the mining phase of the demonstration meeting all key performance objectives and validating the Company's extensive laboratory results which demonstrated that substantially increased amounts of uranium can be extracted efficiently from this orebody using low pH chemistry. We now look forward to continuing with the initial restoration stage of the demonstration and, subject to the receipt of the remaining regulatory approvals, the Company anticipates commercial low pH operations commencing at Lance in the second half of this year, 2019."

Yours Sincerely,



Wayne Heili
Managing Director/CEO

For further information, please contact our office on +61 8 9380 9920
during normal business hours.

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. Peninsula is aiming to have all required approvals in place to enable the commencement of commercial-scale low pH operations during the 2019 calendar year. With an existing operation and infrastructure, and a significant long term contract portfolio underpinning its future uranium sales profile, Peninsula is positioned to grow into a mid-tier US uranium mining company over the next 2-3 years.