



ASX: PEN

Peninsula Energy Limited
ABN 67 062 409 303

Directors

John Harrison - Non-Exec Chairman
Wayne Heili - MD/CEO
David Coyne - Non-Exec Director
Harrison Barker - Non-Exec Director
Mark Wheatley - Non-Exec Director

Management

Wayne Heili - MD/CEO
Ralph Knöde - CEO, Strata Energy Inc
Ron Chamberlain - CFO/Co Secretary
Jonathan Whyte - Co Secretary

Head Office

Suite 22, 44 Kings Park Road
West Perth WA 6005
Telephone: +61 8 6263 4461
Facsimile: +61 8 6263 4444

Website

www.pel.net.au

Capital Structure at 31 December 2020

893.35 million shares
24.45 million \$0.46 2022 options
2.975 million \$0.51 2022 options

Available Cash at 31 December 2020

US\$8.4 million

Market cap at 31 December 2020

A\$102.7 million

For further information please
contact:
info@pel.net.au



31 DECEMBER 2020 QUARTERLY ACTIVITIES REPORT

25 January 2021

HIGHLIGHTS

LANCE PROJECT – MU1A LOW pH FIELD DEMONSTRATION

- Successfully maintained three new full-scale in-situ recovery patterns at a total design flow rate of 75 gallons per minute
- Groundwater system pH has dropped from above 8.0 to below 4.0 enroute to target 2.0 with bicarbonate now successfully eliminated from the production stream
- Stronger oxidants, as used in the laboratory studies, will be tested as a means to enhance the rate of oxidation change as necessary to achieve the ideal conditions for uranium solubility
- Solids management system is performing to expectations with no significant fine solids issues observed

ESTABLISHMENT OF U.S. STRATEGIC URANIUM RESERVE

- US Government approved budget funds the establishment of a US Strategic Uranium Reserve
- US\$75 million allocated for uranium purchasing in the initial year of the proposed ten-year undertaking
- Only US-produced uranium will make up the Reserve, providing a major boost to the US domestic production industry
- Peninsula is the only ASX-listed uranium company positioned to immediately benefit from the establishment of the US Strategic Uranium Reserve

CORPORATE

- Ongoing cashflow generated through Peninsula's strong, long-term existing contract book – with a net cash margin from sales of US\$1.4 million realised in the December 2020 quarter
- Binding purchase agreement to procure 400,000 lbs U₃O₈ underpins Peninsula's forecast net cash margin of US\$6 million to US\$8 million from uranium sales for CY2021
- Available cash as at 31 December 2020 of US\$8.4 million
- Peninsula is well-funded to advance Lance towards a low-capital resumption of production



LANCE PROJECT, WYOMING

(Peninsula Energy 100%)

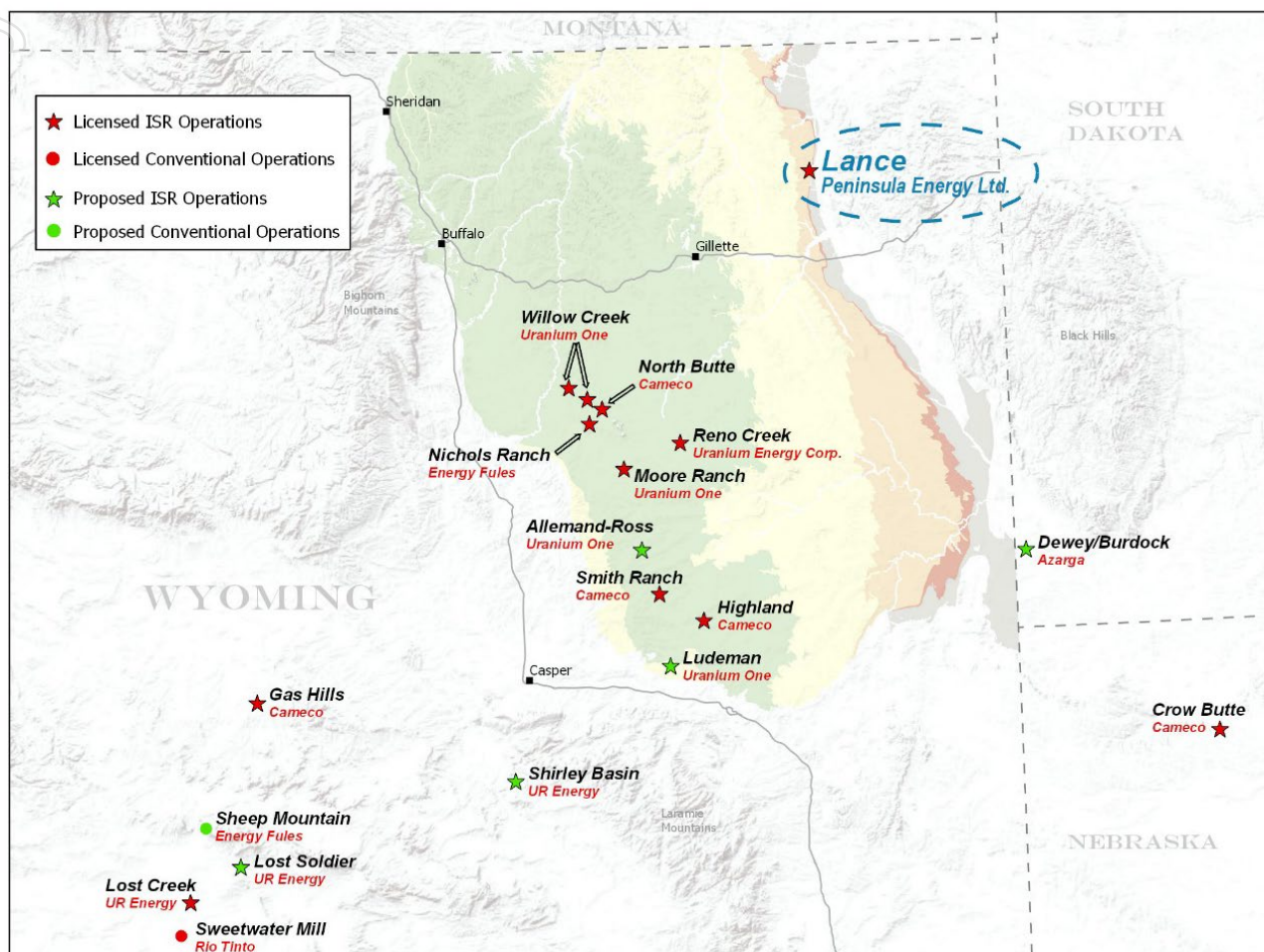


Figure 1: Lance Projects Location, Wyoming USA

Lance Project Background

The Lance Project ("Lance") holds a large defined JORC Compliant uranium mineral resource¹ of 53.6M lbs U₃O₈.

Lance was licensed and constructed by Peninsula's wholly owned US subsidiary Strata Energy Inc (Strata), with commercial uranium production operations commencing in 2015.

Commercial operations were suspended midway through 2019, to allow the on-site team to focus on preparing for a transformation of the Project process chemistry applications. The Strata team has successfully obtained the necessary amendments to its regulatory authorisations which allow Lance to operate using a low pH ISR process in addition to the originally authorised alkaline ISR process.

Approximately 57% of uranium produced globally in 2019 was extracted via the low pH ISR process. Companies which utilise this process operate within the lowest quartile of cash costs for global uranium producers. Importantly, Lance is the only US-based uranium project authorised to use this industry leading method.

MU1A Low pH Field Demonstration

A low pH field demonstration commenced in the September 2020 quarter focusing on an unmined area of Mine Unit 1 (MU1A). It is expected that the field demonstration will run for 12-18 months.

MU1A contains an estimated JORC Code 2012 compliant resource¹ of 44,000 lbs U₃O₈.

The primary objective of the MU1A low pH field demonstration is to confirm the optimal operating conditions as indicated by the laboratory studies completed in 2019 and 2020. MU1A will be used to:

- **Demonstrate acid consumption requirements on a full-scale production pattern basis**
- **Demonstrate the effectiveness of oxidant addition with the low pH lixiviant**
- **Demonstrate the use of existing ponds as the preferred, lowest cost option of managing solids typically encountered during the acidification process at low pH ISR operations**
- **Demonstrate the use of the preferred ion exchange resin under low pH operating conditions using uranium rich solutions sourced from MU1A; and**
- **Continue to evaluate other value accretion optimisation concepts for future low pH commercial operations, including activities aimed at increasing the uranium concentration level supplied to ion exchange columns and recovery of sulphuric acid to reduce future acid requirements and costs**

The overall performance of the MU1A field demonstration to date has been meeting expectations and the exercise is providing meaningful technical results which will be directly applicable to future commercial operations.

The field demonstration commenced in early August 2020 with three new full-scale ISR (in-situ recovery) patterns prepared within a previously unmined area of our Mine Unit 1. The design flow rate is 25 gallons per minute (GPM) per pattern or 75 GPM in total, and this has been successfully maintained.

Acid is used to decompose naturally occurring carbonate minerals and the bicarbonate contained in the local groundwater system to reach the pH target of 2.0, the point where uranium solubility is readily achieved. Within the MU1A field demonstration area the groundwater system pH has been lowered from above 8.0 to below 4.0 and bicarbonate is no longer present in the production stream.

An oxidant (gaseous oxygen) is being introduced to elevate the oxidation potential of the groundwater system in order to achieve the ideal conditions for uranium solubility. Gaseous oxygen was selected as the initial oxidant in the field demonstration as the addition system was present and available from prior alkaline ISR operations at the site. The oxidation potential target has not yet been achieved and an addition system for an alternative stronger oxidant, as used in our laboratory studies, is being prepared to enhance the rate of oxidation potential change.

There have been no significant issues with fine solids generation in the production stream and the use of a settlement pond as part of the solids management system is performing to expectations.

Uranium solubility and production solution grades are expected to increase as the MU1A field demonstration nears the target pH and oxidation levels and at that point the uranium recovery ion exchange demonstration plant will be activated.

The COVID-19 pandemic is presently widespread in the United States including Wyoming where the MU1A field demonstration is being undertaken. Despite this fact Strata has managed to run the field demonstration without an overall impact, with strict social distancing and isolation procedures being followed to ensure the safety and wellbeing of all employees and contractors.

The Company will provide progress updates on the test programme as meaningful results become available.



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. The regulatory agencies are processing the amendment request with review expected to be completed by mid-year 2021.

US GOVERNMENT PRIORITISES DOMESTIC FOCUS ON URANIUM

US Congress Funds Strategic Uranium Reserve and Budget Approved

A major domestic sector milestone was achieved 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 operate a uranium reserve.

The uranium reserve is being established, with cross-party support, as a manifestation of the stated priority of preserving existing assets of U.S. nuclear infrastructure. This programme provides a welcome boost for the uranium mining sector, and Washington is expected to build on it over the coming years. The Uranium Reserve budget comes on the back of the 20-year extension and amendment of the Russian Suspension Agreement which strengthens the limitations on the importation of Russian uranium. The approved budget also contains language that provides a Congressional backstop to this important trade agreement, establishing long term protections for American energy security.

Background

In April 2020, the US Secretary of Energy released recommendations from the U.S. Nuclear Fuel Working Group (NFWG). The NFWG report stated that the U.S. government will take bold action to revive and strengthen the domestic uranium mining industry.

Included within the NFWG recommendations was the direct purchases of uranium and nuclear fuel services to expand five-fold the American Assured Fuel Supply strategic inventory stockpile by purchasing 17 to 19 million pounds of US produced U_3O_8 (the Uranium Reserve) over a 10-year period.

The initial US Senate proposal for appropriation of Uranium Reserve-backed purchase of US-produced U_3O_8 was US\$150 million. However, during the budget negotiations, Congress adjusted the initial year funding to US\$75 million. The approval of the revised amount still signals a significant impetus for the US domestic industry and the start of a longer-term uranium buying programme.

Offtake Agreement Benefit

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.

Lance Project Opportunity

Peninsula is the only ASX-listed uranium company that has the immediate ability to take advantage of outcomes from the NFWG in the form of US government actions that support US uranium mines.

US Congress Codifies the Amended Russian Suspension Agreement

In December 2020, the US Congress passed an Omnibus Appropriations Bill codifying the amended Russian Suspension Agreement (RSA).

The US Department of Commerce announced the completion and signing of an agreement extending and amending the terms of the RSA on 5 October 2020. The amended agreement limits the level of Russian participation in the US nuclear fuel markets through to the year 2040. This is another measure taken by the US Government that is intended to create a more level playing field for US domestic uranium production.



CORPORATE

Sales and Marketing

Peninsula sold 75,000 pounds of U_3O_8 pursuant to long-term contracts during the quarter at an average realised cash price of US\$45.06 per pound U_3O_8 . The delivery was completed using uranium purchased in the market generating a net cash margin of US\$1.4 million.

No U_3O_8 sales deliveries are scheduled under Peninsula's long-term contracts during the March 2021 quarter.

At 31 December 2020, the Company holds a portfolio of uranium concentrate sale agreements with major utilities for up to 5.45 million pounds U_3O_8 , with 4.1 million pounds of U_3O_8 committed and up to 1.35 million pounds of U_3O_8 optional at the election of customers. Of the U_3O_8 committed sales, 1.1 million pounds can be satisfied with open origin uranium in the next 3 years, with the balance to be supplied from Lance Project origin uranium.

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.

31 December 2020

Summary of Sale Agreements Over the Next Five Years⁽¹⁾:

Calendar Year	Pounds U_3O_8
2021	450,000
2022	450,000
2023	650,000
2024	850,000
2025	850,000

(1) This disclosure includes both pounds of U_3O_8 committed under sale agreements and optional at the election of customers.

The Company continues to engage with its existing and potential new customer base on new long-term uranium concentrate sale agreements, targeting pricing mechanisms that would support increased production scenarios under the planned transition to low pH ISR mining at Lance.

Peninsula enters into binding purchase agreements intermittently to procure pounds of U_3O_8 to satisfy its open origin sales delivery obligations.

As of 31 December 2020, the Company holds a 400,000-pound U_3O_8 uranium concentrate purchase commitment.

Purchased uranium will be delivered in allotments during the year to align with the timing of deliveries to customers.

Payment for the purchased uranium is also aligned with the receipt of proceeds from the sales. The price to be paid under the purchase agreements is confidential, but in line with market reported prices at the time they are entered into, are fixed and not subject to any form of escalation or adjustment.

31 December 2020 – Summary of Purchase Agreements:

Calendar Year	Pounds U_3O_8
2021	400,000

The purchase agreement underpins Peninsula's forecast net cash margin of US\$6 million to US\$8 million on uranium sales in CY2021, based on the difference between the purchase pricing and the sales price of the Company's agreements with customers.

OTC Market

Due to increasing North American based investor interest, subsequent to the end of the quarter the Company has commenced trading on the US OTC (over-the-counter) Pink Market under the code PKC:PENMF. Admission to the OTC Market is non-dilutive, as no additional capital is required to be raised and no new shares will be issued. The Company has submitted an application to upgrade its trading to the OTCQB Venture Market tier.

The ASX is the Company's only listing, however entry into the OTC markets offers a cost-effective method to provide North American investors access to Peninsula securities, providing a nexus to the largest capital market globally. OTCQB companies that submit their home country disclosures in English are not required to report to the Securities and Exchange Commission and can avoid costly compliance processes.

US Paycheck Protection Program Loan Forgiven

During the June 2020 quarter Strata received US\$0.516 million under a US COVID-19 Paycheck Protection Program. This is a US government sponsored program and consisted of a forgivable loan to Strata specifically designed to help businesses keep their workers on the payroll during the COVID-19 pandemic.

Strata applied for and received approval for this loan and accrued interest to be 100% forgiven during the December 2020 quarter. This results in the Company having no outstanding loan under the US Paycheck Protection Program as at 31 December 2020.

Inclusion in Global X Uranium ETF

Subsequent to the end of the quarter the Company has been included in the index composition for the Global X Uranium ETF (NYSE:URA) which tracks the Solactive Global Uranium & Nuclear Components Total Return Index. Solactive has announced that the Company will be included in an ordinary index rebalancing that will be implemented effective 1 February 2021.

Cash Position

The Company's available cash at the end of the quarter was **US\$8.4 million**.

Within the amount for the December quarter disclosed in Item 6.1 of the Appendix 5B, US\$0.159 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\$0.024 million in exploration and evaluation payments for the December 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 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 Managing Director / CEO.

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'.

¹ Lance Projects Classified JORC-Compliant Resource Estimate (U₃O₈) as at 31 December 2019

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.

Schedule of Interests in Mining Tenements at 31 December 2020
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 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 Right Application	509	TBD	U, Mo	In Progress*

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 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
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

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 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
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

RakiRaki Joint Venture, Fiji

Location / Project Name	Tenement	Percentage
RakiRaki (Geopacific JV)	SPL 1231	50%
RakiRaki (Geopacific JV)	SPL 1373	50%
RakiRaki (Geopacific JV)	SPL 1436	50%

Closure applications have been submitted for the relinquishment of the 3 tenements in Fiji.

