26 October 2022

SEPTEMBER 2022 QUARTERLY ACTIVITIES REPORT

HIGHLIGHTS

SUCCESSFUL COMPLETION OF DEFINITIVE FEASIBILITY STUDY FOR THE ROSS AND KENDRICK PRODUCTION AREAS AT THE LANCE PROJECTS

- Key outcomes from the DFS included:
  - Life-of-Mine production of 14.4Mlb U_3O_8
  - Gross revenue of US$895 million (2022 real)
  - Steady state production rate of 2.0Mlb/annum from year 4
  - Pre-tax Net Present Value (NPV_8) of US$125 million
  - Internal Rate of Return (IRR) of 43%
  - Average sales price of US$62.38/lb
  - Uncontracted production of 10.9Mlb (76% of LoM) sold at US$65.49/lb
  - Capital efficient two-stage project
  - Life-of-Mine All-In Costs (AIC) of US$45.74/lb
  - All-in Sustaining Costs (AISC) of US$39.08/lb
  - Direct Operating Cash Costs of US$16.34/lb (excluding restoration/reclamation)
- Barber Resource Area with its 31.9Mlb U_3O_8 resource (mostly in the inferred classification) excluded from the DFS with future drilling for resource expansion and upgrade to be planned
- Lance preparatory works programme continues to be funded from current cash holdings
- Final Investment Decision (FID) on production restart to be considered in 2H CY2022

CORPORATE

- Revenue of US$10.8 million on sale of 200,000 pounds of U_3O_8 at US$54.15 per pound during the quarter pursuant to a long-term sales contract
- Received formal notice of purchase option exercise (post quarter end) from an existing sales portfolio customer, increasing the quantity of firmly committed pounds to be sold during the calendar years 2024 through 2026 by 250,000 pounds U_3O_8 per annum
- 310,000 pounds of uranium in converter accounts at 30 September 2022, with a spot market value of US$14.9 million (US$48.25 per pound U_3O_8) providing financial flexibility to continue progressing the Lance Projects
- Available cash of US$8.1 million at 30 September 2022

LANCE PROJECTS, WYOMING

Definitive Feasibility Study for the Ross and Kendrick Production Areas at Lance

A Definitive Feasibility Study (DFS) has been completed for the Ross and Kendrick Production Areas at Lance. The Ross Production Area includes Mining Units 1 and 2 in which the Company undertook alkaline based in-situ recovery (ISR) mining before pausing production with the intention of converting to low pH ISR based mining. The DFS is based on a total resource[1] base of 21.8Mlb U_3O_8. The Ross and Kendrick resource[1] base is robust, accounting for a majority of the Lance Projects current Measured and Indicated Resources.

The DFS excludes the contiguous Barber Resource Area with its 31.9Mlb U_3O_8 resource[1] base and highlights the opportunity for significant future growth for the Lance Projects.

The DFS reveals robust economic outcomes for production from Ross and Kendrick. The Project reaches positive cash flow after 2.5 years following a US$60 million investment in early operations and expansion

of the production capacity. Current corporate cash and liquid assets (e.g., inventory) may be utilised to meet a portion of this investment requirement.

With a mine operating life of 11 years and an average production rate of 1.3Mlb U_3O_8 per year, the Project yields an **NPV_8** of US$124.8 million (2022 real) and an IRR of 43%. The determined average sales price of US$62.38/lb U_3O_8 generates a life-of-mine revenue of US$895 million. The all-in-sustaining cost (ASIC) for the limited-scope project is US$39.08/lb and the fully loaded All in Cost (AIC) is US$45.74/lb.

A summary of the DFS key economic outcomes and metrics is shown below in Tables 1 and 2.

Key Economics	
Estimated Life of Mine (LoM)	14 years
LoM Project Revenue (real) (US$ M)	895.2
Average Sales Price Received (US$/lb)	62.38
Average Price Received for Uncontracted Production (US$/lb)	65.49
LoM Operating Cashflow (before tax) (US$ M)	527.1
Investment to Reach Positive Cashflow (US$ M)	60.0
NPV_8 (US$ M)	124.8
IRR (%)	43%
AISC - All in Sustaining Cost (US$/lb)	39.08
AIC - All in Cost (US$/lb)	45.74

Table 1: Key Economics

Production Metrics	**Total**
Estimated LoM Production (Mlb U_3O_8)	14.35
Steady State Production Rate	
- Stage 1 (Mlb U_3O_8 p.a.)	0.82
- Stage 2 (Mlb U_3O_8 p.a.)	2.0
LoM Global Resource Recovery (%)	65.8%
OPEX (US$M)	
C1 Direct Operating Cost (excluding Restoration)	234.4
Total OPEX (including Restoration)	283.0
OPEX Unit Cost (US$/lb)	
C1 Direct Operating Cost (excluding Restoration)	16.34
Total OPEX (including Restoration)	19.72
CAPEX (US$M)	**Total**
LoM CAPEX	290.6
- Low pH Transition CAPEX	5.7
- Stage 1 Up-Front CAPEX	2.7
- Stage 1 Wellfield Replacement & Sustaining CAPEX	16.3
- Stage 2 Plant & Wellfield Expansion CAPEX	69.9
- Stage 2 Wellfield Replacement & Sustaining CAPEX	196.0
CAPEX Unit Cost (US$/lb)	
LoM CAPEX	20.25
- Low pH Transition CAPEX	0.39
- Stage 1 Up-Front CAPEX	0.19
- Stage 1 Wellfield Replacement & Sustaining CAPEX	1.14
- Stage 2 Expansion CAPEX	4.87
- Stage 2 Wellfield Replacement & Sustaining CAPEX	13.66

Table 2: Production Metrics, OPEX and CAPEX Summary

Over the LoM, the Ross and Kendrick Production Areas are projected to yield a total of 14.4Mlb of U_3O_8.

The C1 direct production cost (excluding mine restoration and reclamation costs) is projected at US$16.34/lb. Total OPEX including restoration and reclamation is US$19.72/lb.

Project Area Included

The Definitive Feasibility Study is based on production from two of the three Lance Project areas (see Figure 1). The Ross Production Area (Ross) and the Kendrick Production Area (Kendrick) were included in the DFS while the Barber Resource Area (Barber) was not because most of its resources[1] are classified as inferred.

Barber contains a large resource[1] of 31.9 Mlb U_3O_8 with 28.7 Mlb U_3O_8 classified as inferred resources[1]. Although not included in the DFS, the Barber Resource Area remains an important part of the Lance Projects and provides significant opportunity for future resource growth and enhancement of the global quality of the Lance Projects resource.

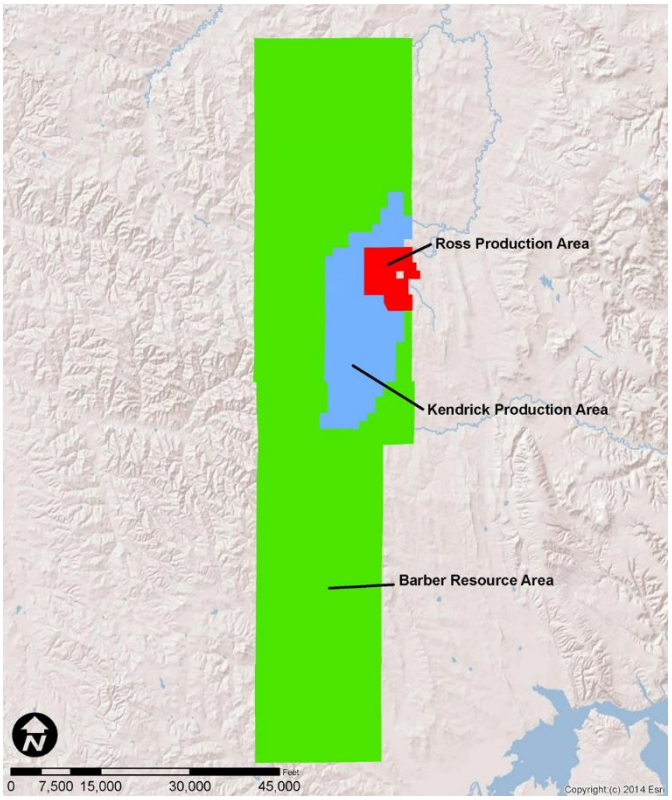

Figure 1: The Lance Projects, Ross, Kendrick, and Barber

Uranium Market in 2022

Preliminary estimates of the 2021 uranium supply and demand balance suggest a primary production level around 130Mlb U_3O_8, while requirements including stock building exceeded 190Mlb. With the contribution of secondary supply accounted for, the 2021 deficit equated to over 35Mlb. Additional supply sources will need to be developed to bridge the deficit gap and meet the expanding requirements associated with the revitalisation of the green nuclear energy industry.

Acknowledging the growing complexities and positive long-term demand fundamentals for the nuclear fuel markets, Peninsula engaged TradeTech, LLC, a respected nuclear fuel price reporting and analysis firm, to prepare a proprietary model forecasting forward-looking uranium prices. TradeTech's model incorporated impacts of the growing pressures to meet carbon-reduction goals, increasing uncertainty surrounding the import of Russian nuclear fuel, growing supply deficit (which is amplified by investors sequestering material through spot market purchases) and the necessity of the long-term market pricing to meet the financial needs of emerging producers. TradeTech's uranium price forecast was incorporated without alteration into the DFS's sales and production model, to generate the revenue forecast outcomes.

Basis of Assumptions

To develop a robust technical basis, the DFS incorporated operational parameters observed in the MU1A Low-pH Field Demonstration. The DFS utilises updated grade and recovery curves, ISR pattern design parameters, and reagent requirement models for both sulfuric acid and hydrogen peroxide that are based on the Field Demonstration outcomes. Process designs have also been updated according to the learnings of the Field Demonstration. Key changes include:

- A more conservative recovery curve has been modelled in the Ross and Kendrick DFS. The DFS extended the recovery curve by 5 pore volumes (approximately 33%) to achieve a uranium recovery rate of 90%.
- The average modelled distance between production wells and recovery wells in future wellfields was reduced from 125 feet to 100 feet.
- Based on the Field Demonstration, an adjustment in the projected consumption of sulfuric acid from 58 lbs H2SO4/lb U_3O_8 to 53.5 lbs H2SO4/lb U_3O_8 was incorporated.
- The capital investment and additional operating costs associated with the inclusion of a hydrogen peroxide addition system were included.
- The capital purchase of new ion exchange resin that is better suited to the application has been included. The positive impact of the resin performance on operating costs were also included.

The cost model has been updated with current pricing data for capital equipment, materials, and supplies.

Sensitivity Analysis

Sensitivity analysis was prepared to better appreciate the impact of OPEX, CAPEX and Uranium Price on the DFS NPV and IRR.

The results indicate that the project is least sensitive to OPEX, and that a 5% reduction in OPEX costs would yield an increase of US$7.4 million in **$NPV_8$**. See Figure 2 for a summary of the sensitivity to OPEX.

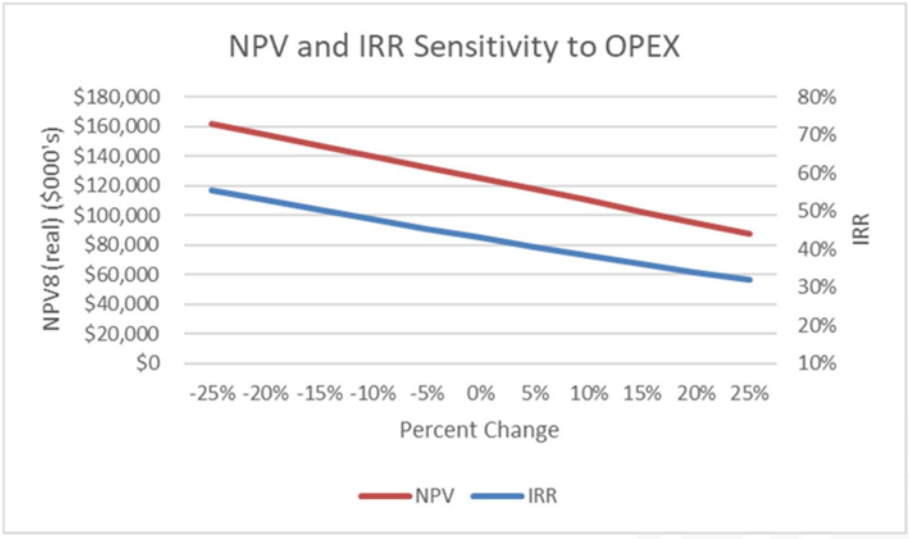

Figure 2: NPV and IRR Sensitivity to OPEX

The results indicate that the project is more sensitive to CAPEX, and that a 5% reduction in CAPEX costs would yield an increase of US$10.1 million in **$NPV_8$**. See Figure 3 for a summary of the sensitivity to CAPEX.

The DFS used an average sales price for produced product sold outside of existing contracts of US$65.49/lb. U_3O_8 (2022 real $ basis). Like most mineral commodity projects, Lance is most sensitive to

the variability in commodity prices. A range of sensitivities have been run on the sales price for uncontracted production (see Figure 4 below). A US$10 increase in the realised uranium price of non-committed production increases the **NPV_8** by US$59 million, to US$184 million.

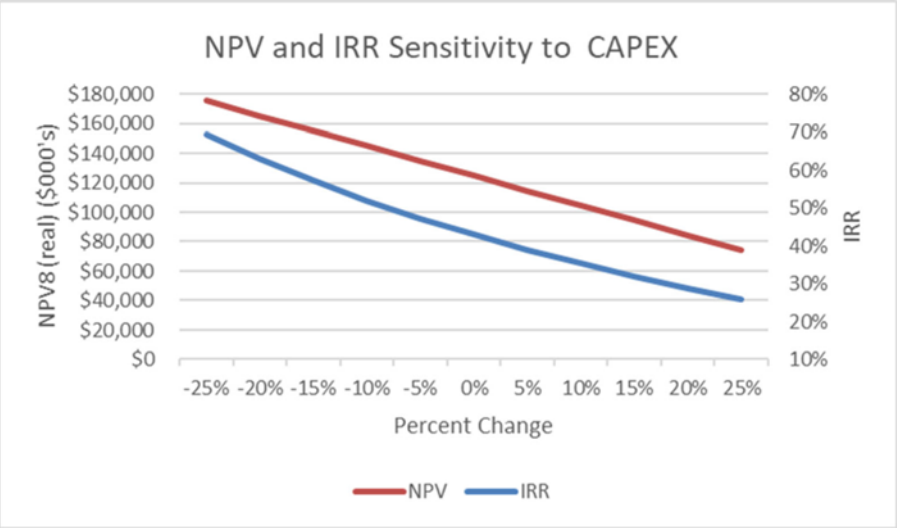

Figure 3: NPV and IRR Sensitivity to CAPEX

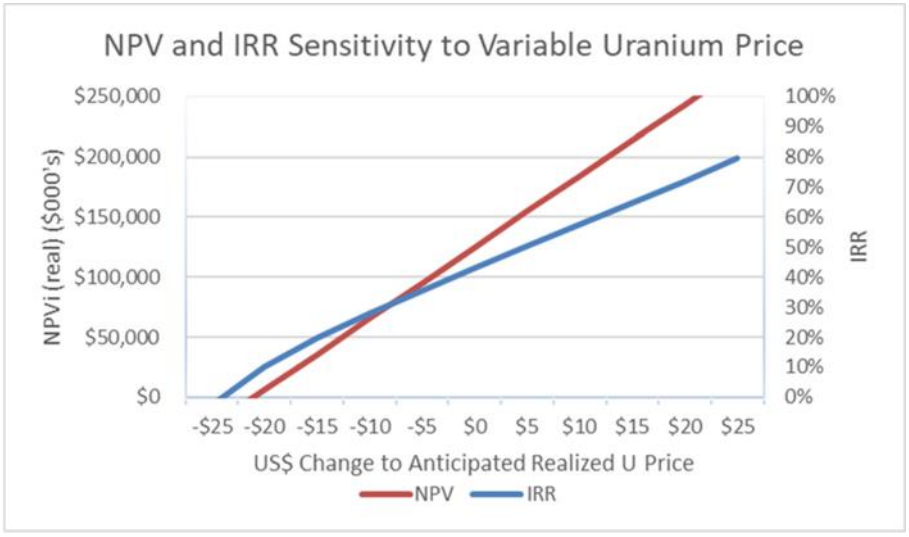

Figure 4: NPV and IRR Sensitivity to Uranium Price (contracted sales not variable)

Early Preparatory Works Continue at Lance

The Company continued to prepare Lance for low-pH production activities in advance of a final investment decision (FID).

Under the early preparatory works programme the following key workstreams are being undertaken:

1. Development Drilling at Mining Unit 3
2. Preparation of Mining Units 1 and 2 for low pH operations
3. Re-establishment of flow capacity and fluid circulation within Mining Units 1 and 2

The Company has experienced delays related to both supplies and contract labour which has impacted completion of the programmes. The development drilling at Mining Unit 3 and preparation of Mine Units

1 and 2 for low pH operations continued as part of the September 2022 quarter expenditures.

The preparatory works programme continues to be funded entirely out of the Company's existing cash reserves. Both Mine Units 1 and 2 have been operated at flow rates up to 1,000 GPM during the period and the fluid circulation programme concluded in early August 2022.

The Board approved ordering of long lead time materials and supplies which will be needed for resumption of production at Lance.

Having achieved regulatory approval for low pH mining at Lance, the Company's Board anticipates considering a final investment decision (FID) on resuming commercial production operations using the low-pH ISR method in 4Q of CY22. The decision will be based upon the conclusions of the DFS, prevailing uranium market conditions and project finance options.

CORPORATE

Uranium Sales

Peninsula sold 200,000 pounds of U_3O_8 pursuant to a long-term sales contract during the quarter, at a realised cash price of US$54.15 per pound, for total sales revenue of US$10.83 million which was received during the quarter. The delivery was ultimately met from corresponding purchase agreements of 200,000 pounds of U_3O_8 which resulted in the uranium inventory balances remaining unchanged at 310,000 pounds.

In the December 2022 quarter, the Company has a scheduled sale of 50,000 pounds U_3O_8 pursuant to a sales contract and corresponding purchase agreement of 50,000 pounds of U_3O_8 which will be used to maintain the uranium inventory balances.

Portfolio of Uranium Sales and Purchase Agreements

After quarter end the Company received a formal option exercise notice from one of its current customers. The option exercise increases the quantity of firmly committed pounds by a total of 750,000 pounds U_3O_8, to be sold during the calendar years 2024 through 2026, under a pricing structure that includes exposure to the spot market price. These deliveries may be satisfied with either company production or market-sourced material. This option exercise strongly supports the Company on its path to future production at the Lance Projects.

At 19 October 2022, after receiving the formal option exercise notice, the Company's portfolio of uranium concentrate sale agreements is for sales volumes up to 4.6 million pounds U_3O_8, with 4 million pounds of firmly committed sales and up to 0.6 million pounds of optional sales remaining at the election of a customer.

At 19 October 2022, pricing for the 4 million pounds of firmly committed sales is subject to a blend of base-escalated price structures and uranium market based pricing metrics, including both floor and ceiling price limits. The sales subject to a base-escalated price structure have a projected sales price average of US$60 per pound. The remaining sales are structured with market-based prices which could range between a floor of US$45 and a ceiling of US$80 per pound U_3O_8.

Of the 4 million pounds of firmly committed sales, 1 million pounds can be satisfied with market sourced material ("**open origin**"). The balance of 3 million pounds are to be supplied from Company produced uranium, with deliveries starting in the second half of CY2023.

The open origin deliveries scheduled in CY2022 and CY2023 have been fully hedged with fixed price uranium concentrate purchase commitments (refer Table 3). Purchased uranium will be received in allotments during the coming quarters with the purchase timing closely aligned with the timing of deliveries

to customers. The agreed purchase pricing is fixed and payment terms for the purchased uranium are also aligned closely with the receipt of proceeds from the sales.

19 October 2022 Summary of Committed Sale and Purchase Agreements		
Calendar Year	**Committed Sale Pounds U_3O_8**	**Committed Purchase Pounds U_3O_8**
2022	50,000	50,000
2023	400,000	200,000
2024	650,000	-
2025	650,000	-
2026	650,000	-
2027	400,000	-
2028	400,000	-
2029	400,000	-
2030	400,000	-
TOTAL	**4,000,000**	**250,000**

Table 3: Committed Sale and Purchase Agreements

The combined portfolio of committed uranium concentrates sale and purchase agreements underpin a forecast net cash margin of US$0.6 million to US$0.7 million on secured uranium sales in Q4 CY2022 and US$2.2 million to US$2.3 million on secured uranium sales in H1 CY2023. The Company's available cash of US$8.1 million at 30 September 2022 does not include the benefit of these future net cash margins which are based on the difference between the fixed purchase price and the likely sales price based on the customer agreements.

19 October 2022 Summary of Customer Option Agreement [(1)]:	
Calendar Year	**Maximum Pounds U_3O_8**
2024	200,000
2025	200,000
2026	200,000
TOTAL	**600,000**

Table 4: Customer Option Agreements

(1) The option agreement pounds of U_3O_8 relate to the maximum pounds optional at the election of the customer under contract. The option has an exercise date prior to the end of Q1 CY2023.

At 19 October 2022, pricing for the 0.6 million pounds of U_3O_8 customer option agreement is subject to a base escalated price, with the average price of $44 per pound.

The Company continues to engage with its existing and potential new customer base regarding possible new long-term uranium concentrate sale and purchase agreements targeting pricing mechanisms that would support resuming commercial production operations at the Lance Projects using the low-pH ISR method.

Uranium Inventory

At 30 September 2022 Peninsula holds legal title to 310,000 pounds of U_3O_8 at converter accounts, which is unchanged from 30 June 2022.

The total spot market value of the Company's 310,000 pounds of uranium inventory at 30 September 2022 is US$14.9 million (US$48.25 per pound U_3O_8). This inventory provides financial flexibility to continue the progress towards re-start and ramp-up of Lance Projects production, should a final investment decision be approved.

US Strategic Uranium Reserve

During the quarter the DOE released a request for proposal for the purchase of uranium to satisfy the US$75 million Uranium Reserve budget allocation. The Company submitted a qualifying bid under the proposal after entering into commercial arrangements with a third party.

The outcomes from the proposal have been delayed and the Company now expects to be informed of the status of its qualifying bid by the end of October 2022.

Withdrawal from Karoo Projects in South Africa

During the quarter the Company continued the processes to apply for closure of the Karoo Projects with the South African regulators which are expected to take some time to finalise. Remedial work at Riet Kuil was completed on identified areas where uranium contamination levels exceeded the National Nuclear Regulator's public release limits.

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 any remaining exit costs.

Issue of Shares under Short Term Incentive Scheme

1,376,430 shares were issued to employees (non-related parties) on 2 September 2022 under the Company's Short Term Incentive Scheme.

Cash Position

The Company's available cash at the end of the quarter was **US$8.1 million**.

The Company has disclosed US$0.245 million in payments to related parties and their associates for the September 2022 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 2022 Annual Report.

FOR FURTHER INFORMATION, PLEASE CONTACT:

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This release has been approved by the Board.

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 (U_3O_8) as at 31 December 2021

Resource Classification	Tonnes Ore (M)	U_3O_8 kg (M)	U_3O_8 lbs (M)	Grade (ppm U_3O_8)	Location
Measured	3.4	1.7	3.7	491	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**	**24.3**	**53.7**	**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 SEPTEMBER 2022

Lance Projects, Wyoming, USA

Location / Project Name	Tenement	Percentage
Private Land (FEE) – Surface Access Agreement	Approx. 2,397 acres	100%
Private Land (FEE) – Mineral Rights	Approx. 10,361 acres	100%
Federal Mining Claims – Mineral Rights	Approx. 13,445 acres	100%
Federal Surface – Grazing Lease	Approx. 40 acres	100%
State Leases – Mineral Rights	Approx. 11,544 acres	100%
State Leases – Surface Access	Approx. 314 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
EC 07 PR	Tasman Lukisa JV	14/11/2006	MR Application rejected – Environmental Closure Application Submitted	48	10/06/2015	U, Mo	Expired
EC 08 PR	Tasman Lukisa JV	14/11/2006	MR Application rejected - Environmental Closure Application Submitted	47	10/06/2015	U, Mo	Expired
EC 12 PR	Tasman Lukisa JV	14/11/2006	MR Application rejected - Environmental Closure Application Submitted	36	10/06/2015	U, Mo	Expired
EC 13 PR	Tasman Lukisa JV	14/11/2006	MR Application rejected - Environmental Closure Application Submitted	69	10/06/2015	U, Mo	Expired
WC 25 PR	Tasman Lukisa JV	17/10/2007	MR Application lapsed - Rehabilitation Completed - Environmental Closure Application being prepared	7	12/11/2014	U, Mo	Expired
WC 33 PR	Tasman Lukisa JV	01/12/2006	MR Application lapsed – Environmental Closure Application Submitted	68	04/07/2016	U, Mo	Expired
WC 34 PR	Tasman Lukisa JV	01/12/2006	MR Application lapsed - Environmental Closure Application Submitted	34	01/08/2015	U, Mo	Expired
WC 35 PR	Tasman Lukisa JV	01/12/2006	MR Application lapsed - Environmental Closure Application Submitted	69	01/08/2015	U, Mo	Expired
WC 47 PR	Tasman Lukisa JV	04/09/2008	MR Application lapsed - Environmental Closure Application Submitted	36	04/07/2015	U, Mo	Expired
WC 59 PR	Tasman Lukisa JV	01/12/2006	MR Application lapsed - Environmental Closure Application Submitted	40	01/08/2015	U, Mo	Expired
WC 60 PR	Tasman Lukisa JV	01/12/2006	MR Application lapsed - Environmental Closure Application Submitted	56	01/08/2015	U, Mo	Expired

WC 61 PR	Tasman Lukisa JV	01/12/2006	MR Application lapsed - Environmental Closure Application Submitted	69	01/08/2015	U, Mo	Expired
WC 95 PR	Tasman-Lukisa JV	17/04/2007	Closure Submitted	5	23/03/2013	U, Mo	Expired
WC 127 PR	Tasman Lukisa JV	30/11/2006	MR Application lapsed - Environmental Closure Application Submitted	59	10/12/2017	U, Mo	Expired
WC 137 PR	Tasman Lukisa JV	30/11/2006	MR Application lapsed - Environmental Closure Application Submitted	73	04/07/2016	U, Mo	Expired
WC 152 PR	Tasman-Lukisa JV	01/12/2006	MR Application lapsed - Rehabilitation Completed - Environmental Closure Application being prepared	189	04/07/2016	U, Mo	Expired
WC 156 PR	Tasman Lukisa JV	30/11/2006	MR Application lapsed - Environmental Closure Application Submitted	69	04/07/2014	U, Mo	Expired
WC 158 PR	Tasman Lukisa JV	23/01/2007	MR Application lapsed - Environmental Closure Application Submitted	57	12/11/2014	U, Mo	Expired
WC 167 PR	Tasman Lukisa JV	30/11/2006	MR Application lapsed - Environmental Closure Application Submitted	21	12/11/2015	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
EC 28 PR	Tasman Pacific Minerals	15/11/2006	Closure Submitted	225	26/03/2015	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