

Cautionary Statement and Inferred Resources Notices

The August 2022 Definitive Feasibility Study (the Study) completed for the Ross and Kendrick Production Areas within the Lance Projects includes Measured and Indicated resources, and based on historical experience at Lance, utilizes a resource conversion factor of 61% to convert Ross and Kendrick Area Inferred resources to Indicated or greater quality for use in this study. The purpose of the Definitive Feasibility Study is to demonstrate the economic viability of the Ross and Kendrick portion of the Lance Projects and the robustness of the planned low pH operations over an extended mine life beyond the fully licensed Ross Production Area.

The Definitive Feasibility Study itself is based on various material assumptions as noted in Appendix 2. This includes the homogeneity of the delineated ore body contained within the Lance Projects which is considered reasonable by the Company's technical consultants, competent persons and independent external consultants. The Company believes that it has a reasonable basis upon which to prepare and release these Definitive Feasibility Study results, particularly given that the Ross Production Area was first placed into production in December 2015. Whilst the Company considers that all material assumptions underpinning the Definitive Feasibility Study are based on reasonable grounds, there is no certainty that they will prove to be correct or that the outcomes indicated by the Definitive Feasibility Study will be achieved.

The Company believes it has a reasonable basis for providing the forward-looking statements and production targets included in this announcement. The JORC table disclosures have been included in Appendix 3 and the detailed assumptions regarding the included resources are outlined in the ASX announcement released 14 November 2018.

Investors should also note that there is no certainty that the Company will be able to raise the amount of funding for the Lance Projects when it is required or on terms that are not overly dilutive or that are favorable to the value of the Company's existing shares.

This announcement has been prepared in accordance with the JORC Code (2012) and the ASX Listing Rules. There is a low level of geological confidence associated with Inferred mineral resources and there is no certainty that further exploration and delineation work will result in the determination of Indicated mineral resources or that the production target itself will be realized. Financial information contained in this announcement is preliminary in nature and is in-part based on low-level technical and economic assessments and is insufficient to support the estimation of reserves or to provide assurance of economic development.

Under the Definitive Feasibility Study mine plan, the first five (5) years production can be sourced almost entirely from Measured and Indicated Resources. If the Inferred Resources are excluded from the Study, the economic analysis still forecasts a positive financial performance. Therefore, the Company is satisfied that the use of Inferred Resources is not a determining factor in overall Project viability, and it is reasonable to include Inferred Resources in the Definitive Feasibility Study, particularly given that the Lance Projects have previously been an operating entity that produced uranium for almost seven years.

In accordance with the relevant regulations governing the disclosure of mineral projects, readers are cautioned that mineable resources based on Inferred Resource material are considered too speculative geologically to enable them to be classified as reserves.

15 August 2022

Companies Announcement Office
Via Electronic Lodgement

DFS FOR THE ROSS AND KENDRICK PROJECTS AT LANCE CONFIRMS A GLOBALLY COMPETITIVE URANIUM ISR OPERATION

HIGHLIGHTS

- Peninsula's Lance Projects (Ross, Kendrick, and Barber) host a fully permitted Uranium In-Situ Recovery (ISR) facility and a JORC (2012) compliant resource base of 53.7Mlb U₃O₈
- A Definitive Feasibility Study (DFS) has been completed for the Ross and Kendrick Production Areas, excluding the Barber Resource Area
- The DFS is based on the resources of Ross and Kendrick which total 21.8Mlb U₃O₈, highlighting the opportunity for significant future growth
 - The Ross and Kendrick resource base is robust, holding a majority of the Lance Projects current Measured and Indicated Resources
 - Peninsula retains the contiguous Barber Resource Area with the opportunity to further develop the quality of Barber's current 31.9Mlb U₃O₈ resource
- The DFS incorporates findings from technical de-risking activities, including the MU1A Field Demonstration
- Key results from the Ross and Kendrick DFS include:
 - Life-of-Mine production of 14.4Mlb U₃O₈
 - Gross revenue of US\$895 million (2022 real)
 - Steady state production rate of 2.0Mlb/annum from year 4
 - Pre-tax Net Present Value (NPV₈) 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)
- 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
- Peninsula will host an investor conference call at 7am (AWST) / 9am (AEST) on Thursday 18 August. Details outlined further below

Peninsula Energy Limited (**Peninsula** or the **Company**) (**ASX:PEN, OTCQB:PENMF**) along with its wholly owned U.S. subsidiary Strata Energy, Inc. (**Strata**), are pleased to announce the completion of a Definitive Feasibility Study (DFS) for the Ross and Kendrick Production Areas at its flagship, 100%-owned Lance Projects (“Lance”) located in Wyoming, USA. The Study was prepared by Western Water Consultants, Inc. d/b/a WWC Engineering, a leading US-based consulting and engineering firm with significant Uranium In-Situ Recovery (“ISR”) expertise.

Commenting on the excellent results of the DFS, Peninsula Managing Director and Chief Executive Officer Wayne Heili said, *“We have been focused on methodically and efficiently applying the low pH ISR process to our flagship project. Peninsula has a unique competitive advantage in being the only US-based uranium company authorised to use the industry leading low pH ISR method. Based on the advanced development stage of the Ross Production Area, Peninsula has a rapid speed-to-market pathway opportunity that will allow the Company to leverage current uranium market opportunities.*

Peninsula has been working towards a Final Investment Decision in 2022 to recommence uranium operations at Lance, and completion of this DFS was a key deliverable to allow the Company’s Board and Management to assess the economics and long-term potential of the Project.

The DFS is underpinned by a quality resource and detailed technical evaluations. The results highlight the exciting economic potential of Lance. The feasibility conclusion is supported by a combination of very low capital intensity, low operating costs, competitive all-in sustaining costs, a short timeline to production and fully de-risked technical and regulatory regimes. Importantly, the results confirm that the Company is exceptionally well positioned to move ahead towards a development decision within the current dynamics of the uranium market.

The Board is extremely pleased with the results and would like to thank our staff and contractors for their commitment and hard work. Importantly, the findings have re-affirmed that Peninsula possesses a globally competitive uranium production centre at the Lance Projects and that the pathway back to production for Lance is well defined and low risk.”

ROSS AND KENDRICK AREA DEFINITIVE FEASIBILITY STUDY OUTCOMES

A Definitive Feasibility Study has been completed for the Ross and Kendrick Production Areas at Lance. The DFS is based on a total resource base of 21.8Mlb U₃O₈. The Ross and Kendrick resource 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 resource base and highlights the opportunity for significant future growth for the Lance Projects.

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

Key Economic Outcomes	
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 Economic Outcomes

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

With a mine operating life of 11 years and an average production rate of 1.3Mlb U₃O₈ per year, the Project yields an NPV₈ of US\$124.8 million (2022 real) and an IRR of 43%. The determined average sales price of US\$62.38/lb U₃O₈ 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.

Production Metrics	Total
Estimated LoM Production (Mlb U ₃ O ₈)	14.35
Steady State Production Rate	
- Stage 1 (Mlb U ₃ O ₈ p.a.)	0.82
- Stage 2 (Mlb U ₃ O 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 U₃O₈.

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.

OVERVIEW OF CHANGES FROM THE 2018 LANCE PROJECTS FEASIBILITY STUDY

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.

Barber contains a large resource of 31.9 Mlb U₃O₈ with a high percentage of Inferred Resources. 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.

The 2018 Lance Low pH Feasibility Study (the 2018 Study) included Barber, and this is one of the most significant changes in base assumptions, driving substantial changes in the overall resource base for the DFS, along with changes to production levels, unit costs and overall project economic outcomes when comparing the current DFS to the 2018 Study.

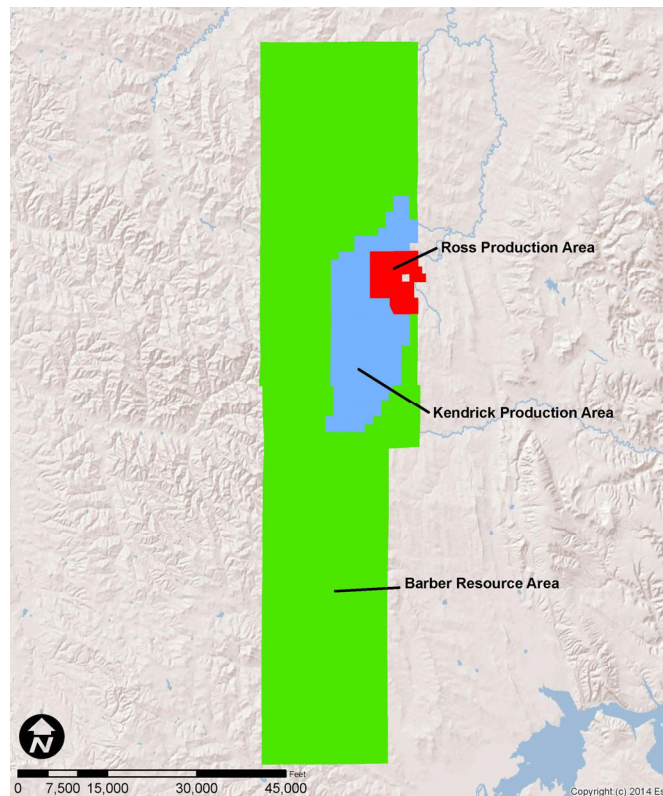


Figure 1: The Lance Projects, Ross, Kendrick, and Barber

The 2018 Study included a three-stage expansion scenario. Stage-3 expansion was designed to include the full development of a satellite plant and corresponding wellfields within the Barber Resource Area. The expansion into Barber allowed the Company to achieve a production rate of 3.0 Mlb/annum at Lance (maximum license condition). Exclusion of Barber from the DFS results in a planned production rate limit of 2.0Mlb/annum achieved in two stages.

Stage 1 is the transition of the current facility operations to achieve production at a nameplate rate of 820,000 lb./annum. The Stage 1 nameplate capacity has been revised downward from 1.15 Mlb/annum due to the planned reconfiguration of the ion exchange section of the Ross Plant. Stage 2 is the expansion of the Ross Plant facilities to a nameplate capacity of 2.0 Mlb/annum, the addition of backend plant processes to generate a final yellowcake product rather than loaded resins, and the addition of corresponding new wellfield capacity to produce at a steady state rate of 2.0 Mlb/annum.

Uranium Market in 2022

Renewed interest in nuclear power continues to gain momentum and support with a growing list of countries working towards achieving aggressive net-zero carbon emission targets. A push to firmly enplace policies and initiatives that support clean energy goals has recently brought greater attention to the critical need for nuclear energy and the important role innovative technologies such as small modular reactors can play. Additionally, concerns surrounding energy imports and security of energy supply have emerged following Russia's unprovoked invasion of Ukraine in February 2022. Combined, these factors have motivated nations to consider expanding the use of nuclear energy and reconsider extending the operational lifespan of existing nuclear fleets. Several key changes to uranium market fundamentals have emerged from these developments.

Over the past year, the front end of the nuclear fuel cycle has shifted from a market characterised by comparatively low uranium, conversion, and enrichment prices to one of higher prices and increased volatility. Preliminary estimates of the 2021 uranium supply and demand balance suggest a primary production level around 130Mlb U₃O₈, while requirements including stock building exceeded 190Mlb. With the contribution of secondary supply accounted for, the 2021 deficit equated to over 35 Mlb. 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 incorporates 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 U₃O₈ to 53.5 lbs H₂SO₄/lb U₃O₈ 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. Inflationary pressures corresponding to current supply chain issues have been noted in the US markets since early 2022. Cost estimates have been prepared during a period of near record high inflation with some inputs exceeding 20% inflation since the release of the 2018 Study. Peninsula's team and advisers have integrated the likely long-term impact of these more recent developments into the DFS.

The current pricing for sulfuric acid, a key component of the low-pH operating costs (OPEX), is double the price assumption for sulfuric acid contained in the 2018 Study. Current pricing has been used as a basis for Stage-1 operations. The high pricing of acid has started to weaken with sulphur prices dropping precipitously in recent months. The price for acid during Stage-2 operations is projected to hold slightly above normal historical levels. Overall, during the life-of-mine, sulfuric acid is projected to contribute \$4.77/lb to the OPEX versus a \$4.69/lb result in the 2018 Study.

DETAILED STUDY OUTCOMES



Image 1: The Ross Process Plant at the Lance Projects, Wyoming USA

The Definitive Feasibility Study for the Ross and Kendrick Production Areas at Lance was completed to provide updated technical and economic assumptions, and has been prepared for Strata by WWC, in accordance with the guidelines set forth under the Joint Ore Reserve Committee (JORC) (2012) for the submission of technical reports on mineral properties.

The Ross and Kendrick Areas are estimated to generate net cash flow over the 14-year LoM, before income tax, of US\$238.8 million. The Project has a calculated before tax IRR of 43% and a before tax NPV of \$124.8 million, applying an eight percent discount rate.

The direct operating cash cost (C1) during steady state production of at least 2.0Mlb/annum (Year 4 through Year 8) is estimated at \$13.93/lb. The estimated C1 cost over the full LoM is \$16.34/lb. and the AISC over the LoM is estimated to be \$39.08/lb.

Updated capital costs were developed for the two-stage capital-efficient project. The capital investment required for the transition of the Ross facilities to a low-pH ISR operation is US\$5.7 million. Additional

capital required to reach full Stage 1 production flow capacity is US\$2.7 million. Mine Unit 3 will require a Sustaining Capital investment of US\$16.3 million during Stage 1 operations between Year 0 and Year 2. Stage 2 plant capital investment is US\$24.1 million and the expansion of wellfield capacity to reach the flow objective for Stage 2 is US\$45.8 million. Over the life of Stage 2, a total of US\$196.0 million is invested in sustaining capital.

The mineral resources incorporated into the DFS are comprised of the JORC compliant resources located in the Ross and Kendrick Production Areas. Approximately 58% of the mineral resources across the Ross and Kendrick Production Areas are classified as Measured and Indicated. The balance of the resource is classified as Inferred, which has been discounted by the author of the Mineral Resource Estimation (WWC Engineering, 2022) and additionally discounted in the conversion to an addressable (placed under production pattern) resource used for the economic analysis in the DFS. The estimated DFS Resource and overall, Lance Projects Resource are presented in Table 3, along with the estimated production derived from the Ross and Kendrick Production Areas. The Barber Resource Area was not included in the development of the DFS and provides both resource growth and LoM extension potential.

Project Area	Commence Production	Estimated Resources (lbs U ₃ O ₈) ⁽¹⁾	Estimated Production (lbs U ₃ O ₈) ⁽²⁾
Ross	Year 0	5,882,000	4,104,000
Kendrick	Year 2	15,930,000	10,247,000
DFS Area	Sub-Total	21,812,000	14,351,000
Barber Resource ⁽³⁾	N/A	31,859,000	N/A
Lance Projects	Total	53,672,000	N/A

(1) Refer to Appendix 3 for detailed JORC disclosures.

(2) Overall recovery is estimated at 65.8% of the total estimated resource.

(3) Barber resources are a portion of the Lance Projects, but recovery of these resources is not included in the DFS.

Table 3: Estimated Resources (as at commencement of Low pH operations) and Production

Note: There is a low level of geological confidence associated with inferred mineral resources and there is no certainty that further exploration and delineation work will result in the determination of indicated mineral resources or that the production target itself will be realized.

The DFS estimates that 90% of resources placed under wellfield pattern will be recovered over the course of 20 pore volumes of mining solution during low pH operations. In the DFS, Strata estimated that 89% of Measured Resources and 79% of Indicated Resources will be placed under wellfield patterns. Only 61% of Inferred Resources are estimated to be placed under pattern. Thus, the estimate of produced resources assumes a net mineral resource recovery factor of 69.8% for Ross and 64.3% for Kendrick, with an overall recovery factor of 65.8%.

TECHNICAL DETAIL

This Definitive Feasibility Study is based on production from the Ross and Kendrick Production Areas.

The following Stages are envisioned in the Study for development of Ross and Kendrick:

- **Stage 1:** Includes changeover of the current facility and wellfields to utilize low pH solutions at the flow capacity of 2,500 gallons per minute (GPM) through the IX circuit, which will result in a production capacity limit of approximately 820,000 lbs. U₃O₈ per year at an average head grade

of 76 ppm, with elution, precipitation and drying outsourced under a toll milling arrangement. Stage 1 is anticipated to begin operation in the 2nd half of Year 0 with upfront plant and wellfield CAPEX expenditures of US\$8.4 million occurring in Year 0. Mine Unit 3 will require a Sustaining Capital investment of US\$16.3 million during Stage 1 operations between Year 0 and Year 2.

- **Stage 2:** Includes expansion of the current facility allowing production flow of up to 6,250 GPM from Ross and Kendrick combined, along with addition of elution systems for stripping uranium from the IX resins and addition of yellowcake precipitation and drying capacity. Stage 2 changes will result in a production rate of approximately 2.0Mlb U₃O₈ per year at an average head grade of 76 ppm. Stage 2 changes will also allow for production of dried yellowcake at the Ross plant site, negating the need for toll milling agreements. Stage 2 expansion CAPEX is estimated to be US\$ 69.9 million. Stage 2 operations are anticipated to begin in Year 2. Steady state production following the commissioning and ramp up of Stage 2 will occur in Year 4.

Strata's existing permits and licenses allow for processing of up to 3.0Mlb of dry yellowcake (U₃O₈) per year.

The DFS has applied two sources of revenue. The first revenue stream assumes various sales prices per pound of U₃O₈ over the LoM, based on existing long-term contracts that the Company currently has in place. In 2022-dollar terms, the contracts have average sale prices of US\$52.57/lb. U₃O₈ (\$2022).

The second stream assumes that production which is not committed to existing contracts is sold at a weighted average price of US\$65.49/lb. U₃O₈ (\$2022), with the first delivery commencing in Year 1. The pricing structure used for currently uncontracted sales was prepared for Peninsula by TradeTech and considers multiple Forward Availability Models and producer price variations.

Based on these assumptions, the weighted average sales price used in the Study is US\$62.38/lb. U₃O₈ (\$2022).

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 NPV₈. See **Figure 2** for a summary of the sensitivity to OPEX.

Capital will be employed into the Project in three discrete stages. Pre-production, a capital investment estimated at US\$5.7 million is required to prepare the existing facilities for low-pH ISR operations. A Stage-1 capital investment of US\$2.7 million will bring the project to a production rate of 0.82Mlb/annum. A capital investment of US\$70 million would bring the facilities to a Stage-2 production rate of 2.0Mlb/annum. Including the sustaining capital required to maintain a steady state production rate through the life-of-project, the total capital deployed is projected to be US\$291 million or \$20.25/lb. of produced U₃O₈.

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 NPV₈. See **Figure 3** for a summary of the sensitivity to CAPEX.

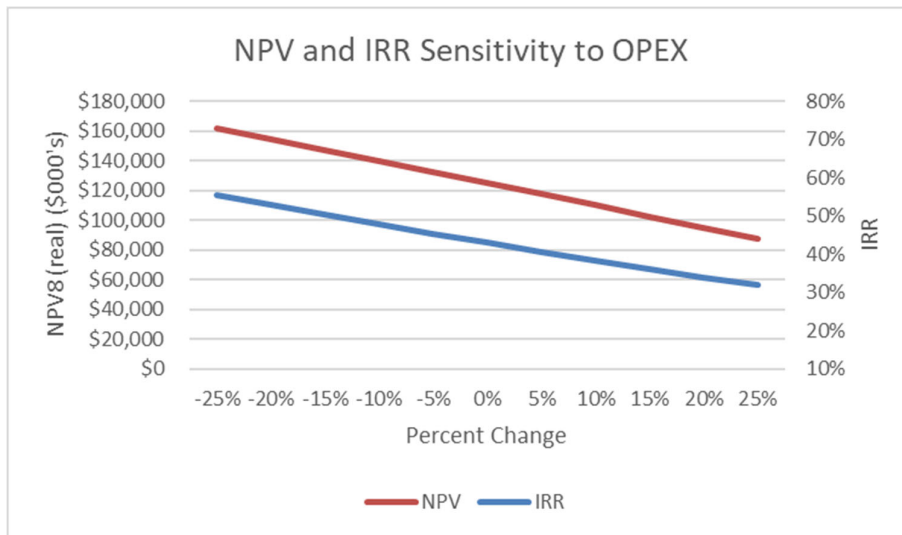


Figure 2: NPV and IRR Sensitivity to OPEX

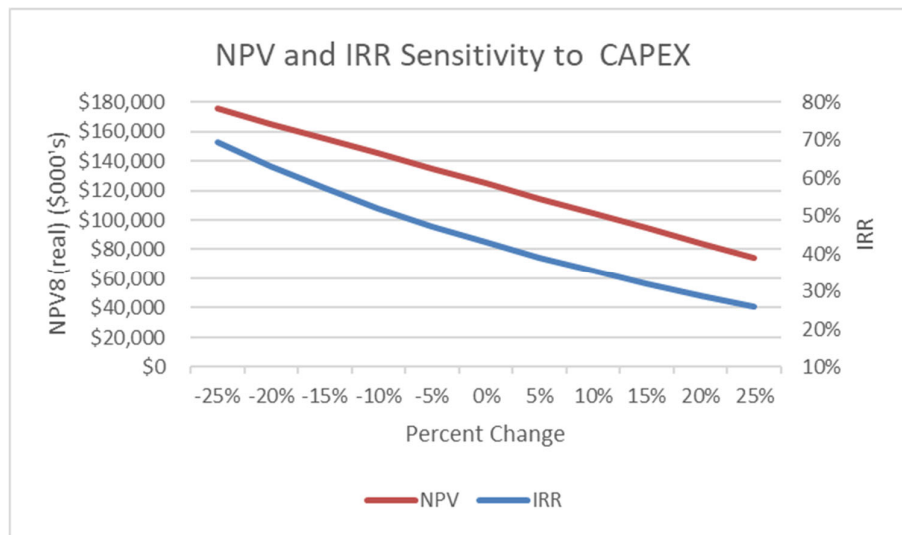


Figure 3: NPV and IRR Sensitivity to CAPEX

The DFS used an average sales price for produced product sold outside of existing contracts of US\$65.49/lb. U₃O₈ (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 NPV₈ by US\$59 million, to US\$184 million.

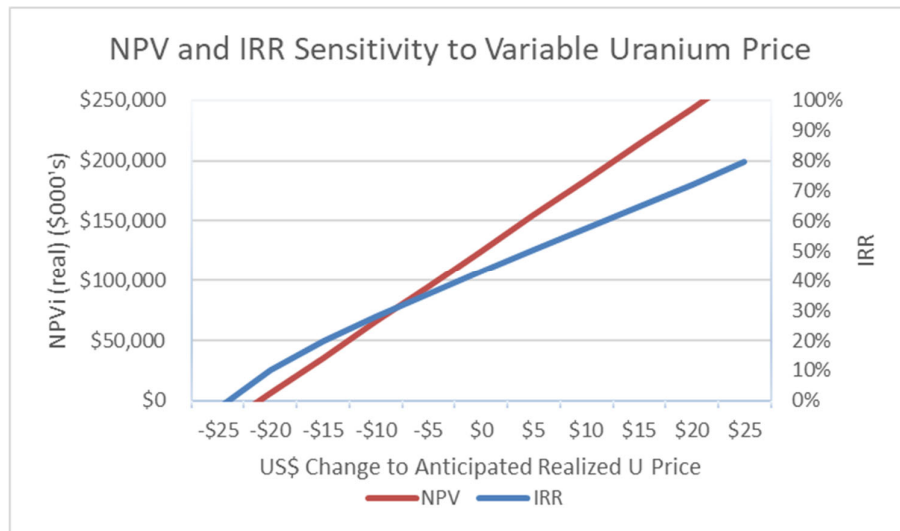


Figure 4: NPV and IRR Sensitivity to Uranium Price (contracted sales not variable)

NEXT STEPS

As noted in Peninsula's release dated 17 February 2022, the Board approved a supplementary budget of US\$3.4 million through June 2022 to be applied to early preparatory works in relation to a potential Lance Projects commercial production restart, with workstreams commenced in 1Q CY2022.

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 have been approved to continue as a part of the September 2022 quarter expenditures. The preparatory works programme will continue uninterrupted and can 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 recent months and the fluid circulation programme has been concluded in early-August 2022.

The approved September 2022 quarter expenditures include ordering of long lead time materials and supplies which will be needed for resumption of production at Lance. The Company will continue to aggressively prepare Lance for low-pH production activities in advance of a final investment decision (FID).

The Company's Board anticipates considering a FID on resuming commercial production operations using the low-pH ISR method in 2H of CY22. The decision will be based upon the conclusions of this DFS, prevailing uranium market conditions and project finance options.

CONFERENCE CALL

Peninsula will host an investor conference call at 7am (AWST) / 9am (AEST) on Thursday 18 August 2022. To view and listen to the presentation please log into the following link - <https://webcast.openbriefing.com/9033/>

If you wish to ask questions, please pre-register for the conference call - <https://s1.c-conf.com/diamondpass/10024350-dys7fd.html> - and you will be sent a calendar invite with a unique code to join.

An archive of the webcast will be available on the Peninsula website following the event.

This announcement was approved and authorised by the Board of Peninsula Energy Ltd.

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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.

APPENDIX 1

1.0 EXECUTIVE SUMMARY

1.1 Introduction

This report presents the results of an independent Definitive Feasibility Study (DFS) for the Ross and Kendrick Areas at Lance as prepared by Western Water Consultants, d/b/a WWC Engineering (WWC), and commissioned by Strata Energy, Inc. (Strata), a wholly owned subsidiary of Peninsula Energy Limited (Peninsula), 2929 New Haven Rd. Oshoto, WY in March 2022. Strata is the Issuer of this DFS (Technical Report).

The Competent Person has relied on, and takes responsibility for, information provided by Strata and third parties in good faith and has, to the extent possible, confirmed the accuracy of that information and data provided including data associated with the Ross and Kendrick Areas at Lance geology and mineral resource estimates.

This DFS presents results of the economic evaluation based on differing levels of confidence in accordance with the amount of design and geological information that is available for each Production Area. The identification of and discrimination between the project Production Areas by levels of confidence is important for differentiating the confidence the Competent Person has for realizing the results of the economic analysis.

The Lance projects (Figure 1) are made up of the Ross Production Area (Ross), Kendrick Production Area (Kendrick), and the Barber Resource Area. The Joint Ore Reserve Committee (JORC) compliant mineral resources at the Barber Resource Area were not included in the economic evaluation and this DFS is focused on the resources and economics of Ross and Kendrick as they are the Production Areas with the most data and are planned to be developed first. A Feasibility Study was prepared in 2018 (Woodard and Curran, Inc., 2018), that included Barber as a Stage 3 expansion, which is not included in this DFS. Strata's long-term plans at the Lance Projects include development of the Barber Resource Area, however, the timeframe for development is unknown at this time. Additionally, as the Barber Resource Area contains a large percentage of inferred mineral resources, removing the Barber Resource Area from the resource pool for this DFS increases the quality of the resource base evaluated in this DFS.

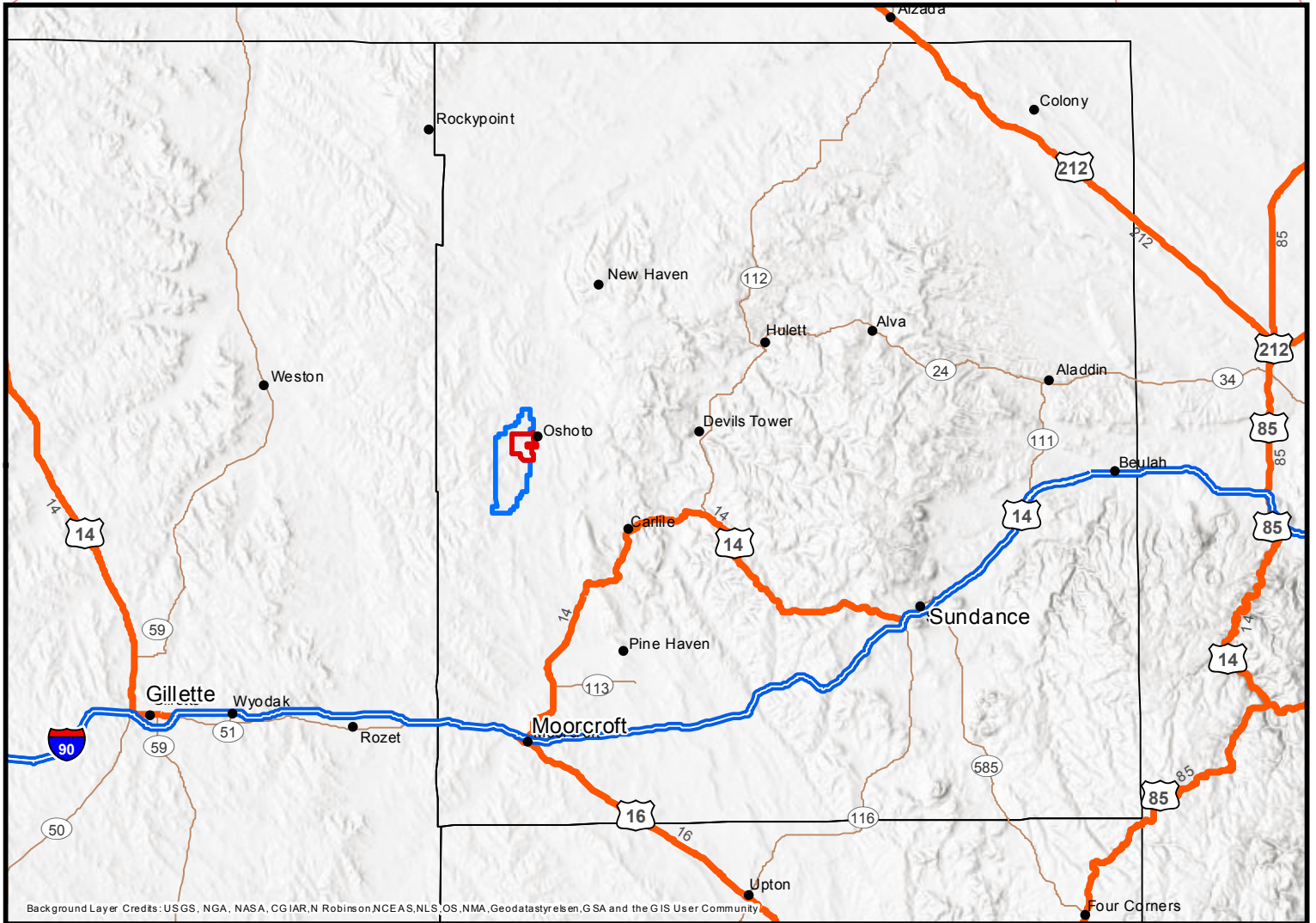
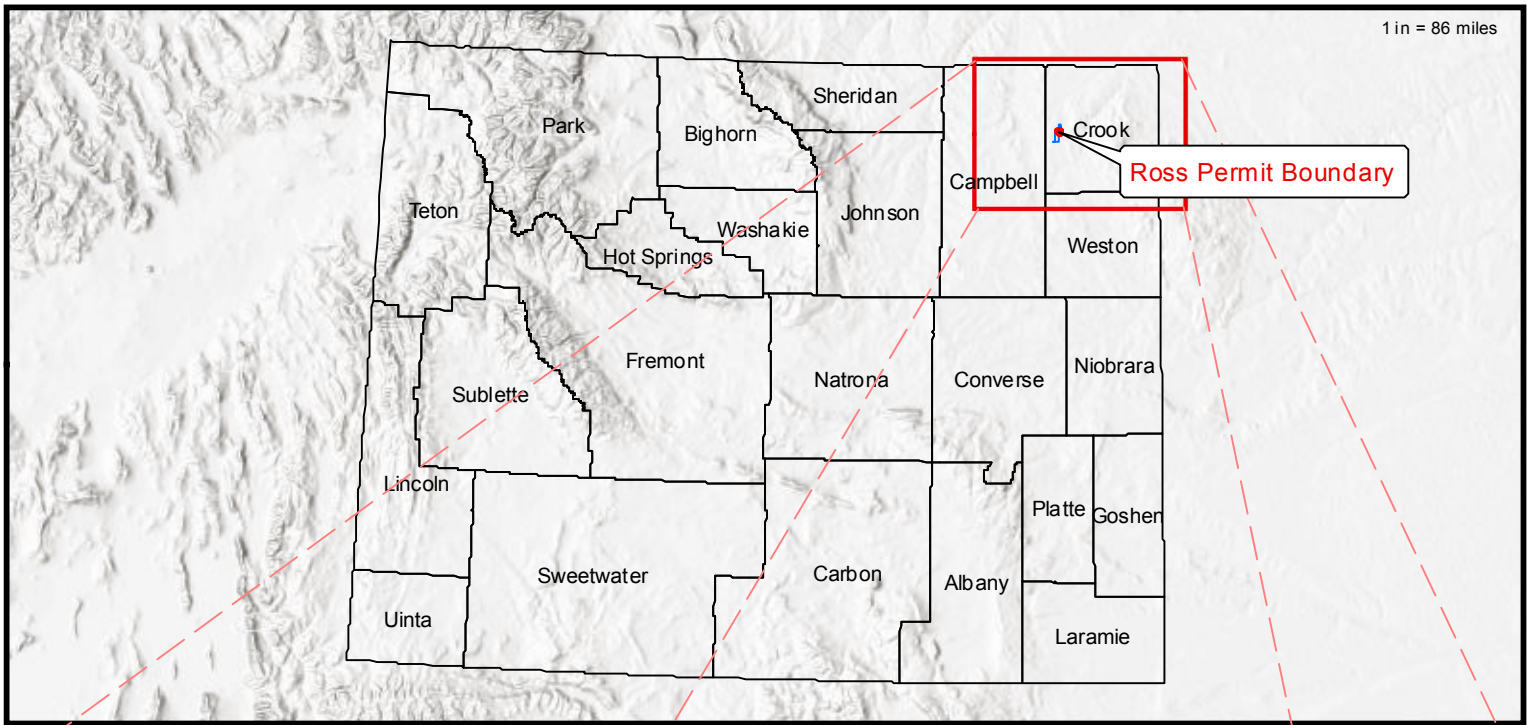
The DFS cost estimates have been prepared during a period of near record high inflation with some inputs exceeding 20% inflation since the release of the 2018 Feasibility Study. The U.S. Federal Reserve long-term target inflation rate is stated at 2%. Although this document does not discuss the U.S. or global economic outlook, it should be appreciated that the cost estimates are conservative in respect to long-term target U.S. inflation rates.

This independent DFS for the Ross and Kendrick Areas at Lance, has been prepared for Strata by WWC, in accordance with the guidelines set forth under JORC for the submission of technical reports on mineral properties.

1.2 Background

1.2.1 Lance Projects

The DFS addresses two Production Areas located within the Lance Projects area - Ross and Kendrick. The JORC compliant resources in Barber, which were included in the 2018 Feasibility Study, but are not included in this DFS, are predominantly inferred resources. By removing



Background Layer Credits: USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, GSA and the GIS User Community

<p>Figure 1 General Location Map</p>	Ross Permit Boundary	Interstate Highway	 N 1 in = 12 miles	 STRATA ENERGY <small>AN IRVING-CLOUD COMPANY</small>
	Kendrick Expansion Area	US Highway		
	Wyoming Counties	State Highway		Date: August 28, 2018

Barber from the resource pool for this DFS, the quality of the resource base is greatly improved, with only 42 percent of the resource base being in the inferred resource category.

The Lance Projects are located in Crook County, in northeastern Wyoming, approximately 31 miles east northeast of the town of Gillette and extend over a strike length of 23 miles to the north, and over a strike width of 5 miles. Ross is located at a latitude and longitude of approximately 44 degrees, 35 minutes, 14 seconds North by 104 degrees, 58 minutes, 10 seconds West. Kendrick is located at a latitude and longitude of approximately 44 degrees, 32 minutes, 1 second North by 104 degrees, 59 minutes, 7 seconds West.

Within the Lance Projects area, there are several existing land uses including agricultural production consisting of both crop production and livestock grazing, oil production, recreation, communication and power lines, and a network of roads.

The Ross Permit Area consists of approximately 1,681 acres with approximately 61 acres of wellfields currently installed and operational and an additional 180 acres to be developed.

Kendrick encompasses approximately 7,838 acres total with approximately 720 acres of proposed wellfields.

1.2.2 Project History

In December 2015, Strata commenced uranium recovery operations at the Lance Projects, utilizing an alkaline based mining solution. The ore deposit at the project proved only moderately amenable to these alkaline solutions. While flow rates from the individual recovery wells were consistent with what was initially predicted, overall uranium recovery was lower than anticipated due to lower than anticipated head grades returned from the wellfield. Operating results showed that the alkaline based production method did not provide for a viable operation under current and projected uranium market prices. Significant efforts to increase production solution uranium concentrations were only moderately successful.

In response to these challenges, the Company conducted a series of research initiatives aimed at improving the operating performance at the Project. The Company initially conducted a series of bench-scale tests in 2017, which showed a significantly improved grade and recovery rate using low concentrations of sulfuric acid (1.5% or less). Laboratory tests using lower pH solutions (mild acids) returned increased peak uranium solution grades averaging nearly 1.0 g/L (~ 1,000 ppm) with uranium recoveries typically over 90%.

These initial laboratory test results were followed with column leach tests, which more accurately simulate in-situ recovery, which also showed positive results with low pH solutions. Additionally, these column leach tests indicated that the quality of affected groundwater could be returned to existing approved target restoration values following the uranium recovery with the use of lower pH solutions.

To change from an alkaline based mining solution to a low pH solution required the approval of amendment requests for the existing permit to mine and Radioactive Material License, which, at the time, only authorized the use of alkaline solutions with an oxidant in the in-situ recovery (ISR) process. Preparation of the permit and license amendment submissions commenced during December 2017 and on 6 April 2018 Strata formally submitted a request to the WDEQ to amend its existing Permit to Mine (PTM) and on October 1, 2018 submitted a Source and Byproduct Material License amendment request, both to allow for the use of a low-pH recovery solution

within the Permit Area of the Lance Projects. On March 19, the WDEQ approved the Permit to Mine amendment and on August 1, 2019 approved the Source Material License amendment, conditionally authorizing the use of low-pH mining solutions.

In late 2018, Strata converted the infrastructure of a small area of the Ross wellfield that had previously been mined with alkaline chemistry to test the ability to mine the remaining uranium with low pH chemistry. This test satisfied a condition of the approved permit amendment for low pH mining with the State of Wyoming. The trial consisted of adding sulfuric acid to this portion of the wellfield to verify the ability to bring the groundwater in the mining zone to a pH of 2.0 S.U. or less then return the groundwater pH back to near neutral. The test was successful and proved that the pH in previously mined areas could be controlled and returned to a near neutral state for future restoration purposes.

It was subsequently determined that to prove-out the technical feasibility of low pH leaching, as well as to technically de-risk the project, a Field Demonstration should be completed in an area that had not been previously operated with alkaline ISR chemistry. To begin the Field Demonstration, a pattern of wells was installed near, but not in, previously mined areas with existing wellfield infrastructure, identified as Mine Unit-1A (MU1A). The demonstration commenced with injection of sulfuric acid and gaseous oxygen, starting in August of 2020. The progress of the Field Demonstration closely followed the results of the column leach test work in relation to the consumption of acid per volume of groundwater. The demonstration also showed that using gaseous oxygen was not as effective as the hydrogen peroxide used in the lab testing, so the Field Demonstration was switched to utilize hydrogen peroxide as an oxidant. The use of hydrogen peroxide as an oxidant has been approved in the Permit to Mine and the Source Material License by WDEQ.

Additional changes were made throughout the process to test different arrangements of wells, well spacing, flows, etc. Uranium recovery during the Field Demonstration also reacted very similarly to the laboratory testing. In all, over 20 pore volumes of solution were run during the Field Demonstration, proving that three pore volumes of conditioning with a slightly higher dose of sulfuric acid were needed prior to an operational phase. After the initial conditioning, 90% of the uranium was recovered in the following 17 pore volumes with an average grade of 76 parts per million (ppm). The Field Demonstration was concluded in late 2021, providing sufficient information to inform this DFS.

1.2.3 Basis of the Definitive Feasibility Study

This DFS builds upon existing infrastructure at Ross with revisions made to materials and processes required to accommodate the low pH solutions. The major changes include immediate replacement of the small quantity of incompatible materials used in the existing alkaline process, adjustments to reagent processes, and revision to the life of mine plan and resources.

This DFS is based on surface facilities and/or wellfields at Ross and Kendrick. The existing infrastructure, including the Central Processing Plant (CPP), Storage Ponds, Reagent Storage, Wellfields, Header Houses, pipelines and monitor wells are all within the Ross.

The re-start and ramp-up of the project will be completed in two stages. In Stage 1, the CPP will be modified for operating the Ion Exchange (IX) system in trains of three columns, which will limit total flow to 2,500 gallons per minute (gpm). Additionally, new reagent storage

systems will need to be installed as well as conversion of incompatible materials where required. At the Stage 1 flow rate and anticipated uranium recovery grade of 76 ppm, annual production capacity will be 820,000 pounds per year (lbs/yr). During Stage 1, loaded resin from the IX system will be transported to another facility for toll milling under existing contracts and agreements.

Stage 2 will consist of expanding the current CPP building, expanding the IX system to increase the flow capacity of the CPP to 6,250 gpm, addition of the elution, precipitation and drying circuits, as well as the additional wellfields and infrastructure to operate at the higher flow rate. At the Stage 2 flow rate and anticipated uranium recovery grade, annual production capacity will be approximately 2 million pounds per year (mlbs/yr). Stage 2 flow rates will require wellfields within the Kendrick Production area to be built, which will require an amendment to both the Permit to Mine and the Radioactive Materials License.

1.3 Mineral Resources

The uranium deposits present in the Lance Projects are roll front in nature and hosted in 22 stacked mineralized sandstone units separated from different aquifers by impermeable mudstones/siltstones. A review of numerous electric logs indicates the best grades and thicknesses of mineralization are in clean, relatively thick sandstones. Where grades are generally low and thicknesses of mineralized horizons are minimal, the sandstones are interbedded with thin shale and mudstone. Zones of consistent mineralization are characterized by broad widths of clean sandstone bounded on top and bottom by shale beds. The bounding shale horizons are present in all areas where logs were available for review. This configuration is ideal for ISR of uranium.

The primary elements associated with the uranium are molybdenum (Mo), selenium (Se), and vanadium (V). Uranium is generally in the form of uraninite, coffinite, autenite or uranophane; molybdenum as molybdenite; selenium as ferro-selenite; and vanadium as vanadenite or carnotite.

Approximately 42% of the mineral resources in Ross and Kendrick (Table 1) are classified as Inferred which have been discounted by the author of the Mineral Resource Estimation (WWC Engineering, 2022) and additionally discounted in the conversion to a resource used for the economic analysis in this DFS. Strata has estimated that 89% of Measured and 79% of Indicated resources for all new header houses will be placed under wellfield pattern and has estimated that only 61% of Inferred resources will be placed under wellfield pattern. These values are a direct result of mine planning developed following the experience of the Field Demonstration, with patterns designed in a hybrid version of a traditional line-drive. Strata estimates that 90% of resources placed under wellfield pattern will be recovered over the course of 20 pore volumes of mining solution during low pH operations (see Section 13). Thus, the estimate of produced resources assumes a net mineral resource recovery factor of 69.8% for Ross and 64.3% for Kendrick with an overall recovery factor of 65.8% (Table 2). The mineral resource estimate for the Barber Resource Area (not evaluated in this DFS) is shown in Table 3.

Table 1: Ross and Kendrick Classified Resource Summary as of 31 December 2021⁽¹⁾

Ross Production Area	Grade (ppm U ₃ O ₈)	eU ₃ O ₈ lbs (X 1,000)	Average Thickness (ft)	Average GT (grade*thickness)
Measured	516	1,586	9.1	0.47
Indicated	462	2,862	9.1	0.42
Inferred	451	1,434	9.1	0.41
Total		5,882		
Kendrick Production Area	Grade (ppm U ₃ O ₈)	eU ₃ O ₈ lbs (X 1,000)	Average Thickness (ft)	Average GT (grade*thickness)
Measured	535	1,411	10.3	0.55
Indicated	583	6,860	10.0	0.58
Inferred	510	7,659	10.8	0.55
Total		15,930		
Total	Grade (ppm U ₃ O ₈)	eU ₃ O ₈ lbs (X 1,000)	Average Thickness (ft)	Average GT (grade*thickness)
Measured	525	2,997	9.7	0.51
Indicated	547	9,722	9.7	0.53
Inferred	501	9,093	10.5	0.53
Total		21,812		

Grades in the Total section are calculated from total pounds and total tonnes.

(1) From the JORC-compliant Lance Uranium Project Technical Report and Mineral Resource Estimate prepared by WWC, July 2022. JORC Table 1 included in a Peninsula Energy Limited announcement to the Australian Stock Exchange 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.

Table 2: Estimated Resources (as at commencement of Low pH operations) and Production Schedule

Production Area	Commencement of Production	Estimated Resources (lbs) ⁽¹⁾	Estimated Production (lbs) ⁽²⁾
Ross	Year 1	5,882,000	4,104,000
Kendrick	Year 6	15,930,000	10,247,000
	Study Total	21,812,000	14,351,000

(1) From the JORC-compliant Lance Uranium Project Technical Report and Mineral Resource Estimate prepared by WWC, July 2022. JORC Table 1 included in a Peninsula Energy Limited announcement to the Australian Stock Exchange 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.

(2) Overall recovery estimate is 65.8% of the estimated resource.

Table 3: Estimated Resources at Barber Resource Area (Not Evaluated in This DFS)⁽¹⁾

Barber Expansion Area	Grade (ppm U ₃ O ₈)	eU ₃ O ₈ lbs (X 1,000)	Average Thickness (ft)	Average GT (grade*thickness)
Measured	479	710	8.8	0.42
Indicated	427	2,415	8.3	0.35
Inferred	485	28,734	9.8	0.48
Total		31,859		

(1) From the JORC-compliant Lance Uranium Project Technical Report and Mineral Resource Estimate prepared by WWC, July 2022. JORC Table 1 included in a Peninsula Energy Limited announcement to the Australian Stock Exchange 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.

The resource estimate is based on a database containing over 4,500 historic drill holes together with over 3,000 holes completed by Peninsula between 2008 and December 31, 2021.

The drilling density in the primary development areas at Ross and Kendrick, together with the presence of demonstrated confined aquifers, which are a requirement for successful ISR mining, and positive historic ISR recovery test work, support the classification of a portion of the total resource as measured and indicated. Geological modeling of the extensive downhole geophysical data has accurately defined the impermeable shales and mudstones that form the confining seals to the mineralized aquifers (WWC Engineering, 2022).

1.4 Capital and Operational Costs

The evaluation in this DFS is based on an initial maximum flow rate capacity of up to 2,500 gpm through the IX circuit once the existing infrastructure is converted to be compatible with the low pH solutions. However, Strata's license/permit applications and existing permits and licenses for the CPP are for the processing of up to 7,500 gpm (3.0 mlbs) of dry yellowcake per year. The following Stages are envisioned in this DFS for the further development of the project:

- Stage 1 will include the changeover of the current facility and wellfields to utilize low pH solutions at the flow capacity of 2,500 gpm through the IX circuit, which will result in a production capacity limit of approximately 820,000 pounds U₃O₈ per year at an average head grade of 76 ppm, with elution, precipitation and drying outsourced under a toll milling arrangement. Stage 1 is anticipated to begin operation in the 2nd half of Year 0 with changeover CAPEX expenditures occurring in Year 0.
- Stage 2 will include expansion of the current facility allowing production flow up to 6,250 gpm from Ross and Kendrick combined, addition of elution systems for stripping uranium from the IX resins, addition of precipitation and drying capacity. Stage 2 changes will result in a production rate of approximately 2.0 mlbs U₃O₈ per year at an average head grade of 76 ppm. Stage 2 changes will also allow for the production of dried yellowcake on site, negating the need for toll milling agreements. Stage 2 operations are anticipated to begin in Year 2. Although Ross and the CPP are currently fully permitted, Stage 2 will require a permit amendment for operation of wellfields within Kendrick. Steady state production following the commissioning and ramp up of Stage 2 will occur in Year 4.

Table 4 provides an estimated inventory of header houses and wells included in the Ross and Kendrick Areas at Lance by Production Area.

Table 4: Header House and Well Inventory by Production Area

Item	Production Area			
	Ross Existing	Ross Additional	Kendrick	Total
Header Houses	10	6	28	44
Injection Wells	488	547	2,618	3,653
Recovery Wells	267	292	1,400	1,959
Monitoring Wells	157	288	1,152	1,597
Disposal Wells	1	3	0	4

The process has been designed to recycle and reuse most of the solutions inside each circuit. A bleed will be taken from the overall process to ensure that slightly less water is injected back into the wellfield than was initially recovered to maintain an inward groundwater gradient toward the wellfield. This bleed solution will be treated via reverse osmosis and the brine routed to the waste disposal well(s).

CAPEX costs were developed by WWC based on the current operation, actual costs of construction of the current facility, and quantities and unit costs obtained from various sources. The estimated costs for the major items identified in this study have been sourced in the United States.

OPEX cost estimates were developed with actual operational costs and by evaluating each Production Area operation and associated operating services (power, water, air, waste disposal), infrastructure (offices, change rooms, shop), salary plus burden, and environmental control (heat, air conditioning, monitoring). The OPEX estimate is based on Strata's development plan and associated Production Areas, deliverables, process flow sheets, process design, materials balance and project manpower schedule. The Annual OPEX and Closure cost summary is provided in Section 21.

The revenue for the cash flow estimate is based on the mineral resources estimate (WWC Engineering, 2022) after applying conversion and recovery factors to the gross mineral resource as described in Section 1.3.

The Ross and Kendrick Areas at Lance are estimated to generate net pre-tax cash flow over its life, before income tax, of \$238.8 million (Table 5). The Ross and Kendrick Areas at Lance have a calculated before tax Internal Rate of Return (IRR) of 43% and a before tax Net Present Value (NPV) of \$124.8 million applying an eight percent discount rate. The net direct cash cost (C1) operating cost, during steady state production of at least 2.0 million pounds per year (Year 4 through Year 8) is estimated at \$13.93/lb. The estimated C1 operating cost of the overall project is \$16.34/lb (Table 6). The All-In Sustaining Cost of the project is estimated to be \$39.08/lb. CAPEX, OPEX and cash flow are discussed in detail in Sections 21 and 22 of this DFS.

The CAPEX and OPEX estimates as well as the economic analysis are based on total production of 14.35 mlbs of U₃O₈, with a maximum annual production rate of 2.0 mlbs. CAPEX and OPEX

costs are presented in 2022 US dollars (Tables 6 and 7). No allowance for escalation has been provided.

Table 5: Key Financial Outcomes of the 2022 Definitive Feasibility Study Economics (Pre-tax)

Ross and Kendrick at Lance Summarized Pre-tax Cash Flow	
Description	Total Life of Mine \$'000
Gross Sales	895,205
Less: Surface and mineral royalties	49,236
Less: Ad Valorem, Severance & Property taxes	35,808
Net Sales	810,160
Operational Costs	
Total Operational Costs	234,466
Restoration and Rehabilitation	48,595
Operational Cash Flow	527,099
Capital and Other Costs	
Capital Costs	290,646
Bond Cash Backing ⁽¹⁾	(2,371)
CUMULATIVE CASH FLOW	238,824

(1) Negative value due to cash amount already held for existing infrastructure by WDEQ which will eventually be returned

Table 6: Life of Mine Operational Costs

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

Using the estimated CAPEX, OPEX and closure costs presented herein, a cash flow statement has been developed and is provided in Section 22. The statement assumes no price escalation, no debt, no debt interest or capital repayments and no depreciation or income tax costs. The sale price for the produced uranium is assumed to vary according to existing long-term uranium concentrate sale and purchase agreements held by Strata or other related entities within the Peninsula group of companies, and the outcome of the market analyses conducted by TradeTech, a recognized uranium industry analyst, for the purpose of the DFS. Based on the

uranium price forecast report prepared by TradeTech, this DFS assumes that uncontracted U₃O₈ production is sold at a variable cost per pound ranging from \$63/lb to \$70/lb (TradeTech, 2022).

Table 7: Life of Mine Capital Costs

CAPEX (US\$M)	Total
Life of Mine 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)	
Life of Mine 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

This DFS assumes the Ross and Kendrick Areas at Lance start date for the commencement of low pH transition is in the second half of January 2022, Year 0. The start date is used in the economic analyses presented herein as the demarcation between costs and sunk costs. The start date is used only for purposes of the economic analysis. It does not define the start of construction or the start of low pH production, both of which will occur after the start date utilized herein.

The start of production is assumed to be in the 2nd half of Year 0 with mining through Year 10 and end of restoration and stabilization in Year 12, with closure activities extending into Year 14. The production plan is subject to change as a consequence of differences between actual and assumed: license/permit amendment approval timing, development schedules, variations with uranium recovery, plant construction/operation schedule and demand/price for uranium, etc.

The Ross and Kendrick Areas at Lance have a total additional capital costs of \$290.6 million including: \$5.7 million to transition to low pH (plant, wellfield and DDW modification costs), CPP expansion of \$24.1 million, mining well construction cost of \$117.6 million; header house, trunkline and power construction cost of \$51.2 million, monitoring well construction cost of \$36.5 million and Deep Disposal Well (DDW) cost of \$11.4 million. These capital costs represent the most significant items through Stage 2.

Restoration and reclamation will commence 24 months after initiation of wellfield acidification and will continue beyond the end of production for approximately 2.5 years at Ross and Kendrick. The overall mine life is approximately 14 years from initiation of construction activities to completion of restoration and decommissioning/reclamation.

The financial projections are based on the estimated CAPEX, OPEX and closure costs and assumptions presented in this DFS. Additionally, the financial results are based on an average uranium solution grade of 76 ppm and the development schedule presented herein. It should be noted that recovery is based on both site-specific laboratory recovery data as well as the experience of the Field Demonstration during 2020 and 2021. These recovery levels are also in-line with Strata personnel experience with other, similar, operating facilities. There can be no assurance that recovery at this level will continue to be achieved during production. In addition, the economic analysis includes mineral resources which may not be recoverable at the rates indicated herein.

1.5 Market Analysis and Revenues

This DFS has applied two sources of revenue. The first stream assumes various sales prices per pound for U_3O_8 over the life of the Ross and Kendrick Areas, based on existing long-term contracts that the Company currently has in place. In 2022\$ terms, these term contracts have sale prices of between US\$42/lb U_3O_8 and US\$54/lb U_3O_8 (weighted average nominal price is US\$52.57/lb U_3O_8).

The second stream assumes that production not already committed to existing contracts is sold at a weighted average price of approximately US\$65/lb U_3O_8 (2022\$), with the first delivery commencing in 2022, Year 0. The pricing structure used for currently uncontracted sales was prepared for Peninsula by TradeTech, an established and trusted name in uranium markets analysis, and takes into account multiple Forward Availability Models and producer price variations.

Based on these assumptions, this DFS assumes a variable sales price per pound for U_3O_8 over the life of the Ross and Kendrick Areas of US\$42 to US\$70, derived from the existing sale contracts and analysis performed for the Company (TradeTech, 2022). The weighted average sales price used in the DFS is US\$62.38/lb U_3O_8 (2022\$, unescalated).

1.5.1 Existing Uranium Sales Contracts

The Company has five long-term uranium concentrate sale and purchase agreements. The agreements are with operators of nuclear power plants located in North America and in Western Europe.

The contracts have committed deliveries over the remainder of 2022 and until the end of 2030 of 3,450,000 pounds U_3O_8 . Optional deliveries, at the election of the respective customer, between 2024 and 2026 total 450,000 pounds U_3O_8 . The weighted average delivery price of these contracts, in nominal terms, is US\$52.57/lb U_3O_8 . The delivery price for the options does not deviate significantly from the delivery price of the committed pounds and therefore the price model is not sensitive to the election of the customers in this regard.

1.5.2 Uncontracted Production

Given that current uranium prices (spot and long-term) are at levels that are below the price required for a significant portion of existing production to remain economically viable, and the probably bi-furcation of the Uranium market due to geopolitical issues, it is not unreasonable to expect uranium prices to increase over the near to medium term. Based on projected all-in uranium production costs for global uranium mining projects over the next 10 years (sourced from TradeTech), Peninsula believes that the use of a base sales price of at least US\$63/lb U₃O₈ (2022\$ basis) in 2022 and beyond is reasonable for all uncontracted production.

Like most mineral commodity projects, the Ross and Kendrick Areas at Lance are sensitive to variability in commodity prices. A range of sensitivities have been run on the price for uncontracted production. A US\$10 increase in the realized uranium price of non-committed production increases the NPV8 (Real) by US\$59 million, to US\$184 million.

Transition to the use of a low pH lixiviant will make the Ross and Kendrick Areas at Lance a much more cost competitive uranium mine than that which is possible using the existing alkaline lixiviant. The All-In Cost for production required over the remaining life of mine is US\$45.74/lb U₃O₈.

1.6 Alternative Scenarios

Two alternate development scenarios have been evaluated:

1. A life of mine plan excluding all inferred resources.
2. A life of mine plan that only mines Ross and Kendrick at the Stage 1 wellfield flowrate and process plant capacity.

Each alternate scenario uses the base case, life of mine parameters modified only for the specifics of each scenario. A brief description of each alternate development scenario and summary of the life of mine outcomes is presented in Section 22.7. These scenarios were prepared to demonstrate feasibility of the project without the use of inferred resources, and by doing so, demonstrate that inferred resources can be used in this DFS, while also proving that project viability with extremely low capital investment. Both scenarios produced a positive NPV (at an 8% discount rate) and an IRR greater than 8%, making both viable scenarios.

1.7 Risk Assessment and Mitigation

The Lance Projects are located in a state where ISR projects have historically operated successfully utilizing alkaline leach chemistry. ISR technology has been proven effective in geologic formations within Wyoming. Strata has received approval from regulatory agencies for utilizing a low pH leach chemistry under existing laws and regulations. The basic infrastructure necessary to support an ISR mining operation - power, water and transportation, are currently available at the site.

Bench-scale, low pH tests have been performed on core samples from the Lance Projects (7 agitation leach tests and 11 column leach tests). Pilot-scale low pH operations have been successfully performed through the Field Leach Trial and the Field Demonstration. A significant potential risk to meeting the production and thus financial results presented in this DFS will be

associated with the success of the wellfield operation and extraction of uranium from the targeted host sands. Changing geochemical or hydrologic conditions could affect recovery rates. Based on the laboratory testing and field work completed to date, the overall risk of these factors should be minimal. Technical assumptions and mitigating factors used in the DFS are based on the outcomes of this testing. Continual monitoring of lixiviant quality, tank bottoms, chemistry and uranium product will be performed to optimize the process and provide for acceptable quality of the final product. Process variation risk has predominantly been mitigated through the Field Demonstration, as uranium was recovered through ion exchange throughout the Field Demonstration, that uranium was successfully stripped from the IX resin, and yellowcake was precipitated, so the baseline chemistry is well known.

Another substantial risk to obtaining the results of this DFS is obtaining the necessary permit and license amendment for expansion into Kendrick. Currently, the WDEQ is the sole regulatory body involved with the Permit to Mine and the Source Material License, and they are aware of the plans to expand into the Kendrick area. Outstanding issues that could impact this process would be the potential existence of sage grouse leks in an area that could be influenced by operations and public notice periods required for any amendments. Continual discussions with the regulatory bodies and public outreach should mitigate these risks.

Restoration and reclamation of wellfields after mining has been completed provides a level of risk to achieving the results of this DFS. If the amount of time, or volumes of solution, extend beyond the time frames used in this DFS, the costs associated with additional time would influence the financial data presented here-in. In order to mitigate this risk, the cost for restoration and reclamation are bonded with the State of Wyoming and include higher levels of contingency than other costs in this DFS.

The marketability of uranium and acceptance of uranium mining is subject to numerous factors beyond the control of Strata. The price of uranium may experience volatile and significant price movements over short periods of time. Factors known to affect the market and the price of uranium include demand for nuclear power; political and economic conditions in uranium mining, producing and consuming countries; costs; interest rates, inflation and currency exchange fluctuations; governmental regulations; availability of financing of nuclear plants, reprocessing of spent fuel and the re-enrichment of depleted uranium tails or waste; sales of excess civilian and military inventories (including from the dismantling of nuclear weapons) by governments and industry participants; production levels and costs of production in certain geographical areas such as Kazakhstan, Russia, Africa and Australia; and changes in public acceptance of nuclear power generation as a result of any future accidents or terrorism at nuclear facilities. These factors are considered and accounted for in the TradeTech Uranium Market Update commissioned by Peninsula and used in the preparation of this DFS.

1.8 Conclusions and Recommendations

Cautionary Statement:

This DFS includes mineral resources, mineral resources that are not mineral reserves do not have demonstrated economic viability. There is increased risk and uncertainty to commencing and conducting production without established mineral reserves that may result in economic and technical failure which may adversely impact future profitability. The estimated mineral recovery used in this DFS is based on field testing, site-specific

laboratory recovery data, as well as Strata personnel and industry experience at similar facilities. There can be no assurance that recovery of mineral resources at this level will be achieved. There is no certainty that the economic assessment will be realized.

The Competent Person has assumed Strata's operations at the Lance Projects will continue to be conducted in conformance with applicable laws, regulations and requirements of the various federal and state agencies. It is also assumed that organization and management controls will be maintained to ensure compliance and further implement Strata's policy for providing a safe working environment including the philosophy of maintaining radiation exposures as low as reasonably achievable (ALARA).

The Competent Person finds that the Ross and Kendrick Areas at Lance are technically and economically viable based on the assumptions contained herein. There is no certainty that the mineral recovery or the economics presented in this DFS will be realized. This DFS is based on the assumptions and information presented herein.

Based on the findings herein, the Competent Person recommends Strata continue to pursue this Project. This report also identifies a number of additional recommendations including:

- Continue to acquire surface and manage sub-surface leases/titles as needed,
- Continue working with reagent suppliers for more favorable future pricing,
- Evaluate the feasibility of developing sulfuric acid production to reduce overall production costs,
- Continue research and development work evaluating new technologies and processes that will improve operating costs,
- Undertake additional delineation drilling in areas (including the Barber Resource Area) containing indicated and inferred Mineral Resources to support the conversion of inferred resources to measured or indicated resources,
- Evaluate testing methods to efficiently measure the carbonate content of future wellfield mine units host sandstones to capture potential variability in acid consumption,
- Undertake further drilling along the mineralization trends to define any additional target areas within the Lance Projects,
- Evaluate byproduct mineral production opportunities related to the low pH transition,
- Evaluate other potential ISR uranium projects that would benefit from the centrally located processing plant, i.e., the Barber Resource Area, other satellite plants, or toll processing, and
- Continue work on license and permit amendments required to operate Kendrick.

APPENDIX 2

Material Assumptions

Material assumptions used in the estimation of the production targets and associated financial information relating to the Definitive Feasibility Study of the Ross and Kendrick Areas at Lance discussed in this announcement are set out in the following table.

Criteria	Commentary
Study status	The information and production targets presented in this announcement are based on a Definitive Feasibility Study. The Definitive Feasibility Study is a comprehensive study on the technical viability of converting the Ross and Kendrick portions of the Lance Projects from its existing alkaline mining method to a low pH mining method. Existing mining facilities and infrastructure will be re-configured for low pH compatibility and used in the life of mine plan. Cost estimates used in the study have been largely sourced from development experience, field scale demonstrations and operating experience from the existing mining operations.
Mineral resource estimate supporting production targets	Information regarding resources are contained in the Company's announcement dated 14 November 2018.
Cut-off factors	Mineral resource cut-off of the lower of 200 ppm U ₃ O ₈ or 0.2 GT (grade thickness) has been used.
Mining factors or assumptions	<p>At the commencement of production operations, approximately 21.8 million lbs U₃O₈ is projected to be available for mining, with another 31.7million lbs U₃O₈ in the adjacent Barber Resource Area. This Definitive Feasibility Study assumes that for all new mining areas, 89% of measured and 79% of indicated resources will be placed under wellfield pattern and be available for extraction. For all new mining areas, 61% of inferred resources are assumed to be placed under wellfield pattern and be available for extraction.</p> <p>When resources are placed under wellfield pattern, 90% of the available uranium is assumed to be recovered (refer "Metallurgical factors or assumptions" below). This results in 80% of measured, 71% of indicated resources, and 55% of inferred resources being recovered. Over the life of mine, 65.8% of the total mineral resources available at the commencement of low pH operations are assumed to be produced, resulting in uranium recovery of approximately 14.35 million lbs U₃O₈.</p> <p>The current process plant is licensed to process up to 7,500 gpm of flow from wellfields and produce up to 3.0m lbs U₃O₈ per annum.</p>
Classification	<p>Production targets referred to in this announcement are based on mineral resources which are classified as 14% measured, 45% indicated, and 41% inferred. Production comprises 65% from measured and indicated resources and 35% from inferred resources.</p> <p>The Company has already mined in the Ross Production Area and will resume mining this area before commencing mining in the Kendrick</p>

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1. Average sales price is weighted average price of existing contracts (US\$52.57/lb) and uncontracted production (US\$65.49/lb)
2. Average sales price indicated is exclusive of existing contracts (approximately US\$65.49/lb)

Criteria	Commentary
	<p>Production Area. Measured and indicated resources remaining in Ross and Kendrick comprise 81% and 59% respectively for each area with Inferred resources comprising the balance. Measured and indicated resources form the majority of the mineral resource being mined during the first five (5) years of low pH operations.</p>
<p>Metallurgical factors or assumptions</p>	<p>The metallurgical process is to change from the injection of an alkaline based solution to the use of a low pH (mild sulfuric acid) solution. Laboratory testwork in the form of agitation leach tests and column leach tests have been performed on core samples taken from both Ross and Kendrick. Testing did not identify instances of gypsum precipitation that would impede the flow of lixiviant through the wellfields (a key risk for low pH ISR projects).</p> <p>A Field Leach Trial was conducted to determine the ability to control pH of areas previously mined with alkaline solutions, which was successful in reducing the pH to approximately 2.0 S.U, then brought back up to near neutral.</p> <p>A Field Demonstration was also conducted in an area that had no previous mining activity, yielding 90% pattern recovery in 20 pore volumes and a consumption of approximately 53.5 pounds of sulfuric acid per pound U₃O₈ recovered. The average recovery grade during the recovery portion of the Demonstration (pore volumes 4 through 20) was 76 parts per million (ppm).</p> <p>Grade and recovery curves have been developed by the Company based on interpretation of lab and field test data, and the uranium ISR experience within the management team of the Company. Material assumptions that form the basis of the Definitive Feasibility Study are:</p> <ul style="list-style-type: none"> • Recovery of 90% of the mineral resource in 20 pore volumes (approximatey 20 months); • Average acid utilisation of 53.5 pounds per pound of U₃O₈ extracted; and • Average recovery grade of 76 ppm.
<p>Environmental</p>	<p>As part of the permitting and licensing activities prior to the commencement of mining operations, the Company completed a number of environmental studies including an environmental impact statement for the Ross Production Area. The Company will be required to undertake additional environmental studies to complete amendments to the existing Permit to Mine and Radiological Material License to allow production from the Kendrick Production Area. Based on the success of the permit and licensing actions for the Ross Production Area, the Company has a reasonable expectation that outcomes of future environmental studies at Kendrick will be generally consistent with studies completed for the Ross Production Area.</p>
<p>Infrastructure and logistics</p>	<p>Existing plant and wellfield infrastructure at the Lance Projects is largely amenable to low pH operations. Minor modifications are required to convert the wellfield and process plant infrastructure to low pH compatibility.</p> <p>As the site has previously been in operations, all required services and infrastructure (power, water, roads, etc) necessary to support a resumption of operations are already in place.</p>

Criteria	Commentary
Capital costs	<p>Capital expenditure for the low pH transition and process plant expansion have been estimated by WWC. Predicted level of accuracy for the process plant costs is +/- 5%, and a contingency of 5% has been allowed for all process plant capital expenditure.</p> <p>Wellfield development costs have been estimated by WWC using wellfield planning information and recent actual wellfield costs provided by the Company. Wellfield development costs in Ross have a predicted level of accuracy of +/-5%. Since parts of the Kendrick wellfield designs are conceptual at this point in time, the level of accuracy for this area is +/-10%.</p> <p>A 5% contingency has been applied to all wellfield development costs with the exception of abandoning historic bore-holes, trunkline booster stations and deep disposal wells, which all carry a 10% contingency. Overall contingency applied to capital expenditure is 5.33%.</p> <p>Expenditure by each major stage, including contingency, is:</p> <ul style="list-style-type: none"> • Stage 1 Low pH Transition – US\$5.7M; • Stage 1 Up-Front – US\$2.7M; • Stage 1 Wellfield Replacement & Sustaining – US\$16.3M; • Stage 2 Plant Expansion – US\$24.1M; • Stage 2 Wellfield Expansion – US\$45.8M; and • Stage 2 Wellfield Replacement & Sustaining – US\$196.0M <p>Wellfield development costs over the remaining life of mine have been based on a spacing of 100 feet (~30 metres) between wells and approximately 400,000 lbs U₃O₈ being placed under wellfield pattern for each new header house.</p>
Operating costs	<p>Operating costs were built up from base principles, primarily using existing operating cost information and have an accuracy range of +/- 5%. Operating costs include the estimated cost of restoration and rehabilitation of the above surface processing facilities, trunklines, infield piping and below surface wellfield restoration.</p> <p>The most substantial operating cost over the life of mine is sulfuric acid. Using industry forecast information, a price of US\$310/t in Stage 1 and US\$150/t in Stage 2, delivered to site, has been used. An average cost contingency of 5% has been applied to all operating costs.</p> <p>All-in sustaining cash costs for the life of mine is US\$39.08/ lb U₃O₈</p>
Revenue factors	<p>The Company has up to 3.45 million lbs U₃O₈ currently under contract for delivery between now and the end of 2030 at a weighted average price in 2022\$ (unescaled) of approximately US\$52.57/lb U₃O₈. Sales under existing contracts comprise approximately 24% of the low pH life of mine planned production.</p> <p>Remaining production is currently uncontracted and is assumed to be sold at a weighted average of US\$65.49/lb U₃O₈ (2022\$, unescalated). The first sale of uncontracted U₃O₈ is scheduled to occur in CY 2022 (Year 0).</p>
Schedule and timeframe	<p>Regulatory approval of amendment requests to licenses and permits have been received which enable the commencement of low pH operations for Stage 1. Subject to uranium market conditions, license and permit amendments (where required) and access to appropriate</p>

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Criteria	Commentary
	funding, the Definitive Feasibility Study assumes that Stage 2 will be commissioned in Year 2.
Market assessment	<p>Sale of uranium is generally negotiated between buyer and seller using one of three price forms – i) spot transactions which are generally for one-off deliveries of uranium, ii) mid-term market for 1 or more deliveries over 1 to 5 years; and iii) term contract transactions that contain multiple deliveries often spread over a 5 to 10-year time period. As an existing producer of uranium, the Company is an active participant in the global uranium market.</p> <p>The average price of US\$65.49/lb U₃O₈ has been used for uncontracted production (deliveries commencing in 2022) following an analysis by TradeTech (commissioned by Peninsula) of the factors driving supply, demand and prices in the global uranium market, and taking into account the likely bifurcation of the market due to current geopolitical issues.</p>
Funding	<p>To achieve the initial transition to low pH operations within the existing plant and wellfield facilities at Ross will require a capital investment of US\$5.7 million. To develop Mine Unit 3 which allows for the ramp-up of production in Years 2 and 3 will likely require an additional US\$21.2 million in staged additional funding. This amount is net of revenue earned from the sale of uranium during this time period.</p> <p>Additional funding is not required as one lump sum amount and may be obtained progressively by the Company over a 3-year time period.</p> <p>It is anticipated that additional finance will be sourced through a combination of the sale of strategic uranium inventory, equity and debt instruments from existing shareholders, new equity investment and debt providers from overseas. It is important to note that no additional funding arrangements have yet been put in place.</p> <p>The Board of Peninsula believes that there is a reasonable basis to assume that the required funding will be available as and when required by the Company to meet the development and production schedules based on the following:</p> <ul style="list-style-type: none"> • Operational and support infrastructure is already in place and in operation; • The Company, its Board and executive management team have a successful track record of raising financing for mining projects; • Existing long-term contracts for the sale of uranium held by the Company at prices viewed favourably by potential financiers and investors due to the stable and predictable revenue generated from these contracts; • That the outcomes of this Definitive Feasibility Study demonstrate the Lance Project's potential to deliver favourable economic outcomes; and • Other operators of North American uranium ISR projects have recently been successful in raising similar amounts of capital. <p>Stage 2 expansion is expected to be funded via a combination of equity and debt instruments, and cash from operations.</p>

Criteria	Commentary
Economic	All cash flows, revenues and costs have been determined using unescalated amounts expressed in 2022\$. A discount rate of 8.0% (real) has been applied to unescalated pre-tax cash flows. Corporate income taxes or similar taxes on profit, financing costs and funding inflows are excluded from the economic analysis.
Exchange rate	All amounts are presented in United States dollars. As the Lance Projects are located in Wyoming, USA, all expenditure is denominated in United States dollars. Existing contracts for the sale of uranium held by the Company are also denominated in United States dollars and the Company expects that any further agreements for the sale of uranium will also be denominated in United States dollars.
Social	This Definitive Feasibility Study contemplates using the existing process plant facilities and installed wellfield infrastructure, together with progressive expansion and development of each over time. There are no known community issues that the Company has identified as being a likely material impediment to the progressive development and expansion of process plant facilities and wellfield infrastructure.
Other	There are several material risks to the Lance Projects transition to low pH operations including i) additional conditions from regulators; ii) mild acid concentrations not extracting uranium from the mining zone at a rate generally consistent with that projected; iii) access to sufficient funding and uranium prices; and iv) demand remaining at levels that do not support increases in production in the timeframes forecast in this Definitive Feasibility Study.
Classification	Mineral resources have been determined in accordance with JORC 2012 guidelines. As is common for in-situ recovery projects, no conversion of resources to reserves has been undertaken.
Audits or reviews	This Definitive Feasibility Study was internally reviewed by Peninsula. No material issues were identified by the reviewers.

APPENDIX 3

Lance Projects Mineral Resource Estimate & Competent Person Statement

Lance Projects (Inclusive of Barber Resource Area) Mineral Resource Estimate as of 31 December 2021¹

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	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	Wyoming, USA

Note: Due to rounding, total values may not appear to equal the sum of the estimated resource.

Competent Person Statement

The information in this announcement that relates to Exploration Results, Mineral Resources or Ore Reserves and Metallurgical Results at Peninsula's Lance Projects is based on information compiled by Mr. Ben Schiffer. Mr. Schiffer is a Member of a Recognised Overseas Professional Organisation included in a list promulgated by the ASX (SME Registered Member of the Society of Mining, Metallurgy and Exploration Inc member ID #04170811). Mr. Schiffer is Principal of independent consultants Western Water Consultants, Inc. d/b/a 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 they are 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'. Mr. Schiffer consents to the inclusion in the announcement of the matters based on his information in the form and context in which it appears.

¹ Resources included from an updated technical report prepared by WWC Engineering in July 2022. JORC Table 1 included in a Peninsula Energy Limited announcement to the Australian Stock Exchange 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.

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