



A Clear Pathway to Uranium Production

121 Mining Investment
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Please note that Production Targets within this presentation are based on a proportion of inferred resources. There is a low level of geological confidence associated with inferred mineral resources and there is no certainty that further exploration work will result in the determination of indicated mineral resource or that the production target itself will be realised.

Competent Person Statement

The information in this presentation 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’. Mr. Schiffer consents to the inclusion in the presentation of the matters based on his information in the form and context in which it appears.

This presentation was approved by the Managing Director/CEO

Cautionary & Inferred Resources Notice



The Feasibility Study completed for the Lance Projects includes measured and indicated resources and an assumed resource conversion of 60% (inferred to indicated or greater). The purpose of the Feasibility Study is to demonstrate the Lance Projects economic viability and the robustness of the planned low pH operations over an extended mine life beyond the existing Ross production area.

The Feasibility Study itself is based on various assumptions, including homogeneity of the delineated ore body contained within the Lance Projects. This 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 Feasibility Study results, particularly given that the Lance Projects have been in operation since December 2015. Whilst the Company considers that all the material assumptions underpinning the 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 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 material assumptions are included in Appendix 1 of this announcement and in the JORC table disclosures appended. The detailed assumptions regarding the resources are outlined in the ASX announcement released on 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 favourable to the value of the Company's existing shares.

This presentation 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 realised. 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 Feasibility Study mine plan, the first 5 years production can be sourced almost entirely from Measured and Indicated Resources. If the Inferred Resources are excluded from the Feasibility 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 that it is reasonable to include Inferred Resources in the Feasibility Study, particularly given that the Lance Projects is an operating project that has been producing uranium for over two 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.

US - Focused Uranium Producer with Rapid Re-Start Potential



- Term debt-free and well-funded with just over US\$9m in cash
- Direct access to an improving uranium market
- Low-capital pathway and rapid re-start potential following Final Investment Decision (FID) for Lance
- Applying a low pH extraction process to transition Lance into a significant, low-cost, long-life uranium operation
- Led by a highly experienced Board of Directors, with a broad mix of skills across investment banking, metallurgical and chemical engineering, nuclear fuels and corporate finance
- Established uranium contract book generating CY21 net cash margin of US\$6-8 million, backed with binding purchase agreement





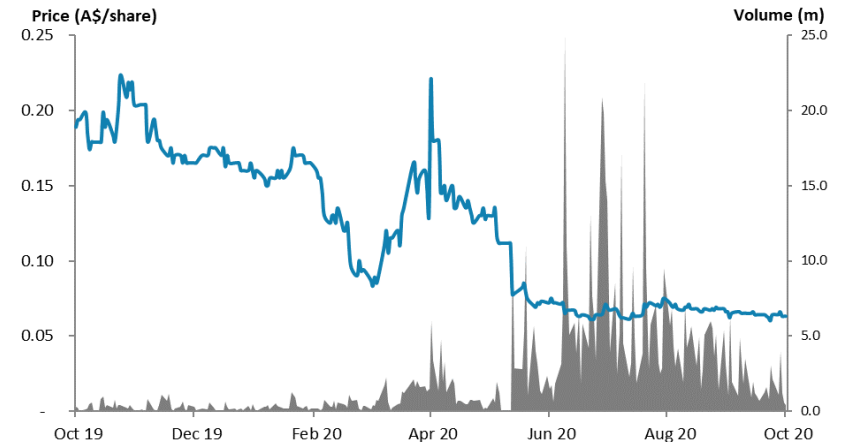
Key Details

Shares on Issue	891.7m
Share Price (23 Oct 20)	A\$0.062
Market Capitalisation	A\$55m
Term Debt	Nil
Cash (as of 30 Sept 2020)	US\$9.4m

Board of Directors

Mr John Harrison	Non-Executive Chairman
Mr Wayne Heili	Managing Director / Chief Executive Officer
Mr Harrison Barker	Non-Executive Director
Mr Mark Wheatley	Non-Executive Director
Mr David Coyne	Non-Executive Director

Share Price Chart



Management Team

Combined 150-plus years of uranium mining experience

- Wayne Heili
- Ron Chamberlain
- Ralph Knode
- Mike Griffin
- Mike Brost
- Jay Douthit
- David Hofeling

Lance Uranium In-Situ Recovery (ISR) Project *Wyoming, USA*



A Tier-One, Long-Life Operation



- 🌀 Lance is one of the largest US uranium projects in size and scale
 - 🌀 53.6M lbs U₃O₈ JORC (2012) compliant resource base¹
 - 🌀 Current market capitalisation reflects only a modest valuation of ~A\$1.03 per pound of resources
- 🌀 Lance is licensed to produce up to 3M lbs U₃O₈ per annum
 - 🌀 Current (Stage-1) plant capacity of 1.15M lbs U₃O₈ per annum
- 🌀 Modern processing and wellfield production facilities constructed in 2015 or later
- 🌀 Lance production is currently paused while the Project transitions to a low pH ISR
- 🌀 Estimated 6-month lead time to return to production (post FID)
- 🌀 Re-start decision depends on sustained improvement in market conditions and progression of current optimisation activities

¹) See Appendix 1

Applying Industry-Leading Low pH Process



Historically US uranium ISR projects utilised alkaline extraction method

- Lance was originally licensed for alkaline ISR
- Laboratory testing in 2017 proved operational costs and production rates at Lance would significantly benefit from a low pH process

Low pH ISR is the leading method of global ISR uranium production

- 57% of global uranium mined in 2019 was extracted via low pH ISR
- Lowest quartile cash cost uranium mines are all low pH ISR
- **Lance is the only US-based uranium project authorised to use industry leading low pH ISR method**

September 2018 Low pH ISR Feasibility Study¹

- Low pH ISR transition CAPEX ~US\$6 million
- ~US\$15 million to construct Mine Unit 3 and ramp-up to Stage 1
- Stage 1 (production rate 1.15Mlbs p.a.) AISC of US\$41/lb
- Stage 2 (2.3Mlbs p.a.) CAPEX of US\$43 million & AISC of US\$31/lb

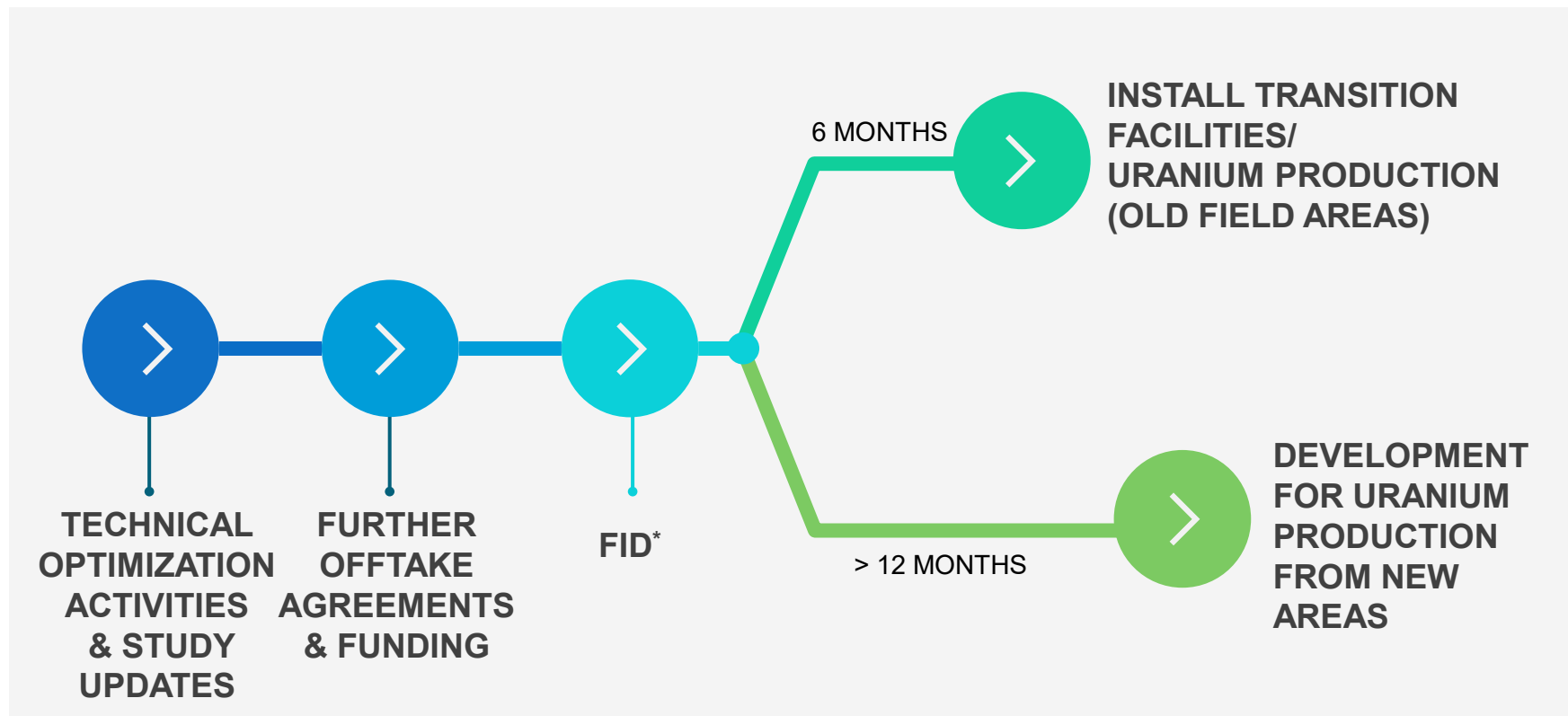
1) There is a low level of geological confidence associated with inferred mineral resources and there is no certainty that further exploration and delineation work will result in the determination of indicated mineral resources or that the production target itself will be realised.

Technical Optimization Activities



Q2 '20	Q3 '20	Q4 '20	Q1 '21	Q2 '21	Q3 '21	Q4 '21
<ul style="list-style-type: none"> • Preparation of the MU1A field demonstration area • Additional laboratory scale testing 	<ul style="list-style-type: none"> • Further optimize low pH transition planning • MU1A field demonstration commenced <ul style="list-style-type: none"> • Will operate for 12 to 18 months 					
	<ul style="list-style-type: none"> • Enhance future operations <ul style="list-style-type: none"> • Permit wellfield oxidant addition • Permit use of ponds for fines management 					
	<ul style="list-style-type: none"> • Low pH ion exchange resin selection • Additional optimization test work 					

A Well-Defined Pathway to Production



* Low pH implementation FID decision could be made concurrent to optimization activities

- FID based on uranium market conditions
- FID also based on progression of optimization activities and study updates

An Established Uranium Contract Book





- 🌀 Sales Net Revenue of US\$6-8 million **secured** in CY21, through established uranium contract book
 - 🌀 Binding purchase agreement to procure 400,000 lbs U3O8
- 🌀 The only junior uranium producer with long-term sales contracts extending to 2030, representing ~20% of projected Lance FS LOM production
- 🌀 Current contracts in place for up to 5.5M lbs at US\$51-\$53 / lb U3O8 with major utilities across both the US and Europe
 - 🌀 75,000 lbs U3O8 of December 2020 quarter deliveries will be met from contracted purchases at a fixed price of <US\$27/lb U3O8, generating a net cash margin of \$US1.4 million
 - 🌀 450,000lbs to be delivered in each of CY2021 and CY2022
- 🌀 Strong existing relationships with preferred customers will act as a base for new business

A Dynamic Uranium Market





- 🌀 The COVID-19 Pandemic significantly impacted global uranium production
 - 🌀 Kazatomprom implemented major mine-site restrictions with lower production rates projected into CY2021
 - 🌀 Cameco suspended Cigar Lake production from March through September 2021
- 🌀 Meanwhile, uranium demand has been quite resilient
- 🌀 A renewed emphasis on supply diversity and security of supply is developing
- 🌀 **Uranium spot prices have risen ~27% to US\$30/lb since mid-March 2020**



🔊 US DOE “Strategy to Restore American Nuclear Energy Leadership”

- 🔊 A comprehensive outline of potential actions designed to **revive the capabilities of the US uranium mining, milling and conversion industries**
 - 🔊 Strategy has strong bipartisan support

🔊 Key NFWG Policy Recommendations

- 🔊 Establish US Uranium Reserve with budget appropriation required of **US\$150 million per year, for 10 years** to purchase US produced uranium
- 🔊 Extend and Amend the Russian Suspension Agreement – signed 5 October 2020

🔊 What does the NFWG Report mean for Peninsula?

- 🔊 Bipartisan support for a long-term buying program from US uranium mines
- 🔊 **Peninsula is the only ASX-listed uranium company that has the immediate ability to take advantage of this US government buying program**

Fully-Funded, Right-Team, Right Location



Company is term-debt free and fully funded to meet all ongoing low pH ISR optimization activities into CY2022

Peninsula is led by a highly-experienced and proven team with outstanding technical, operational and uranium experience

Cash-flow generated by strong existing contract book

- Binding purchase agreement netting a cash margin of US\$6 million to US\$8 million in CY2021

Immediate focus of demonstrating process improvements and delivering long-term value at the low pH ISR Lance Project

Rapid production re-start potential – 6 months post FID

- If markets warrant, re-start FID decision can be made in parallel to optimization activities

Direct exposure to NFWG and proposed US Government uranium purchase program

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FURTHER INFORMATION

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Appendix 1 – Resources



Lance Projects Resource Estimate as at 31 December 2019				
Classification	Tonnes (million)	U3O8(kg)	Grade (ppm U3O8)	U3O8(lbs)
Measured	3.4	1.7	489	3.7
Indicated	11.1	5.5	496	12.1
Inferred	36.2	17.2	474	37.8
Total	50.7	24.4	480	53.6

1) 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.