



A Clear Pathway to Uranium Production

H.C. Wainwright Mining Conference
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Virtual Conference



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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 were recently operating and produced uranium for over three 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.

A Restart Ready Uranium Producer



- ◉ Led by a highly experienced and technically sound Board and Management Team
- ◉ Peninsula is funded for future activities with an established uranium contract book generating significant long-term revenue
- ◉ Flagship Lance Project, located in Wyoming, is the **only** US-based uranium project authorised to use the industry leading, low-cost, low pH ISR process
- ◉ Extremely low capital requirement for restart of the Lance Project
- ◉ A six month pathway to production following a Final Investment Decision
- ◉ Field demonstration currently underway with ongoing optimisation testing
- ◉ US producer-specific market opportunities





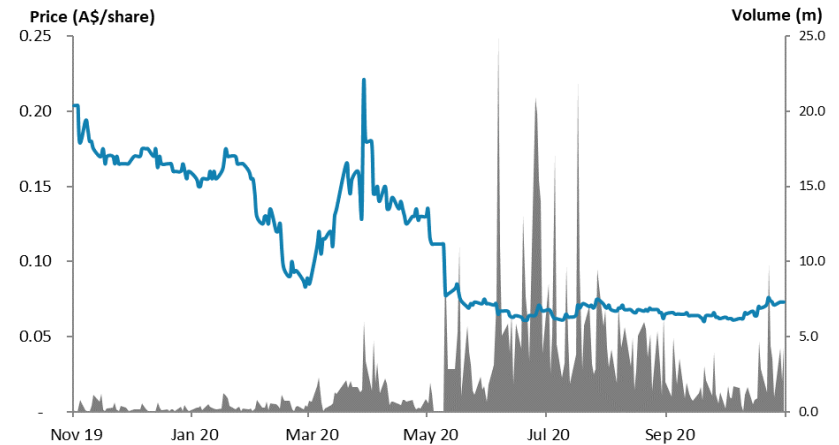
Key Details

Shares on Issue	891.7m
Share Price (25 Nov 20)	A\$0.073
Market Capitalisation	A\$65.1m
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 Modern, Large Scale and Long-Life Asset



- ④ **Lance is one of the largest US uranium projects in size and scale**
 - ④ 53.6M lbs U₃O₈ JORC (2012) compliant resource base¹
 - ④ Current market capitalisation undervalues the resource base when compared to peer group
- ④ **Lance is licensed to produce up to 3M lbs U₃O₈ per annum**
 - ④ Current (Stage-1) plant capacity of 1.15M lbs U₃O₈ per annum
- ④ **Modern processing and wellfield production facilities, constructed in 2015 or later**
 - ④ Lance production is currently paused awaiting a transition to low pH ISR
- ④ **Estimated 6-month lead time to return to production (post re-start decision)**
 - ④ Re-start decision depends on sustained improvement in market conditions and a satisfactory progression of current low pH optimisation activities

1) See Appendix 1

Applying Industry-Leading Low pH ISR Process



Low pH ISR is the leading method of uranium production globally

- 57% of global uranium produced in 2019 was 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 the industry leading low pH ISR method

The Lance Low pH ISR Feasibility Study¹

- Low pH ISR transition and re-start
 - CAPEX US\$6 million
- Stage 1 ramp up to capacity of 1.15 million lbs p.a.
 - AISC of \$41/lb
 - Working capital ~US\$15 million (includes mine unit 3)
- Stage 2 expansion to capacity of 2.3 million lbs p.a.
 - AISC of \$31/lb
 - CAPEX US\$43 million

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.

Building Blocks to Low pH ISR Production



SEP 2018

Publication of low pH ISR Feasibility Study (FS) with positive results

JAN 2019

Commencement of field leach trial in a previously mined area using low pH lixiviant

APR 2019

Successful completion of the field leach trial

SEP 2019

Commencement of low pH de-risking and optimisation activities

JAN 2020

Preparation of MU1A field demonstration in unmined area

JUL 2020

MU1A field demonstration commences

DEC 2018

Column leach tests confirm validity of FS head grade and recovery parameters

MAR 2019

Wyoming Department of Environmental Quality (WDEQ) approves modification of Permit to Mine to allow use of low pH mining solutions

JUL 2019

Source Materials License approved by WDEQ allowing use of low pH

NOV 2019

WDEQ approves Interim Operations Report allowing low pH ISR in existing mining units

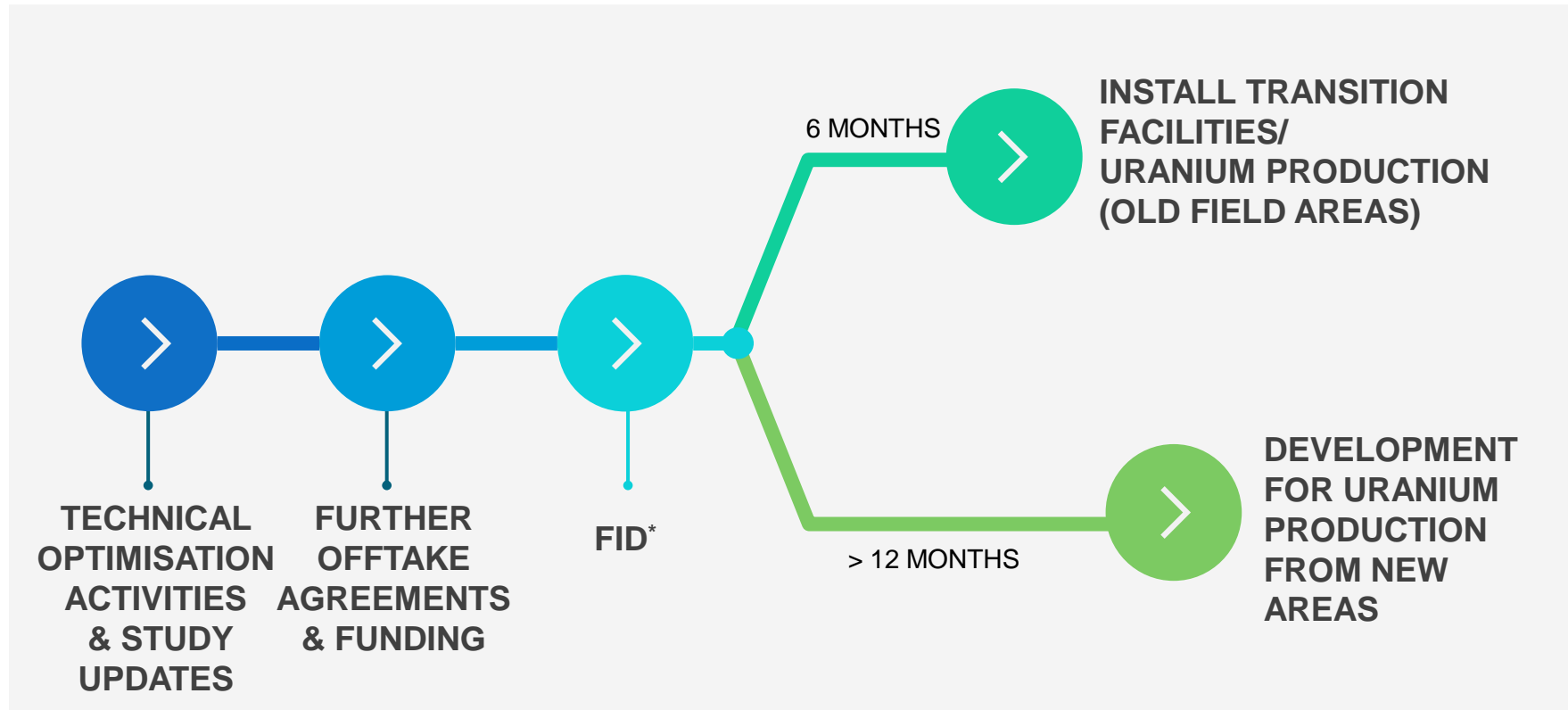
APR 2020

WDEQ approves Interim Restoration Report allowing development of new low pH mining units

AUG 2020

Column leach tests confirm uranium extraction from new areas at rates consistent with FS (with addition of an oxidant)

A Well-Defined Pathway to Production



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

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



Continuation of the MU1A field demonstration (12-18 months)



- Uranium grade curves
- Hard acidification uranium recovery curve
- Performance of test oxidant
- Acid consumption and wellfield flow rates
- Results from use of ponds for fines management



Testing of low pH ion exchange resin



Optimisation of uranium recovery processes



Permitting of wellfield oxidant addition

Uranium Sales and Marketing



Established Uranium Sales Contract Book



- ☞ **The only junior uranium producer with long-term sales contracts extending to 2030**
 - ☞ Representing ~15% of projected Lance FS LOM production

- ☞ **Uranium sales Net Cash Margin of US\$6-8 million secured in CY2021**
 - ☞ Matching binding contract sales with market purchase agreements

- ☞ **Current contracts in place for up to 5.5M lbs at US\$51-\$53 / lb U3O8 with major utilities in both the US and Europe**
 - ☞ 75,000 lbs U3O8 of December 2020 quarter deliveries have been met 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 serve as a base for future business opportunities**

Nuclear Fuel Market Drivers



Key US Uranium Market Opportunities



🔊 US Uranium Reserve – A Key NFWG Policy Recommendation

- 🔊 Bipartisan support for a long-term buying program from US uranium mines
- 🔊 US Budget proposal for appropriation of **US\$150 million** to purchase US produced U_3O_8
- 🔊 Legislation introduced in US Senate to support Advanced Nuclear Energy Initiatives including the Strategic Uranium Reserve purchases

🔊 Extended RSA – Another Key NFWG Policy Recommendation

- 🔊 Extended and Amended Russian Suspension Agreement (RSA) – signed 5 October 2020
- 🔊 Limits Russian origin uranium and opens market opportunities for US Uranium Producers

🔊 What does this mean for Peninsula?

- 🔊 Peninsula is the only ASX-listed uranium company that has the immediate ability to take advantage of these US government programs that support US uranium mines

A Compelling Proposition



**Low capex
requirement of \$6m
and 6-month re-start
potential for the Lance
Project**

**Transitioning to low
pH ISR method to
provide significant
operational and
financial upside**

**Lance is the only US-
based uranium project
authorised to use
industry leading low pH
ISR method**

**MU1A field
demonstration
underway – Near-term
catalysts**

**Ongoing cashflow
underpinned by
established uranium
contract book**

**Positive outlook for US
domestic sector
through Government
backed US\$150 million
per annum uranium
purchase program**



**Experienced Board and management team in place with a broad and
proven technical and uranium skill set**

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FURTHER INFORMATION

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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.