



Kayelekera
Proven Uranium
Producer

Definitive Feasibility Study
August 2022

LOT.ASX OTCQB: LTSRF

Important Notice



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Assumptions have been made regarding, among other things: the uranium market information, the Company's peers, the Company's ability to carry on its future exploration, development and production activities, the timely receipt of required approvals, the price of uranium, the ability of the Company to operate in a safe, efficient and effective manner and the ability of the Company to obtain financing as and when required and on reasonable terms. Readers are cautioned that the foregoing list is not exhaustive of all factors and assumptions which may have been used.

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DEFINITIVE FEASIBILITY STUDY

For information in this document relating to the Restart Definitive Feasibility Study, refer to ASX announcement dated 10 August 2022. The Company confirms that in relation to the Definitive Feasibility Study announced on 10 August 2022, it is not aware of any new information or data that materially affects the information included in the original market announcement and that all material assumptions underpinning the forecast financial information included in that announcement continue to apply and have not materially changed.

ORE RESERVE (JORC 2012)

For information relating to the Ore Reserve Estimate in this document, refer to ASX announcements dated 11 August 2022. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and that all material assumptions and technical parameters underpinning the estimates in the relevant market announcements 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 announcements; and that the information in the announcement relating to exploration results is based upon, and fairly represents the information and supporting documentation prepared by the named Competent Persons.

DFS Confirms – Low capital, quick re-start uranium asset



Quick Re-Start

15 months from Final Investment Decision

Low Initial Capital

US\$88m - one of the lowest in the industry

Improved Opex

C1 costs US\$29.10/lb¹
AISC of US\$36.20/lb¹

Robust Mine life

10 yrs 19.3Mlbs U₃O₈
2.4Mlbs U₃O₈ pa¹

Permitted

Environmental & Mining Licences

Reduced Emission

CO₂ emissions reduced by over 72%²

High Certainty

96% of mine production is from Ore Reserves

Simple Operation

Mining - 1.8:1 SR Proven flowsheet

1 – Years 1 to Year 7 – excluding ramp up

2 – power related, compared to power generation in the historical operation

DFS addresses historical issues at Kayelekera



A number of legacy issues from the historical operation have been identified and rectified through the DFS.

Open pit bench & inter-ramp stability

- Mine design and scheduling based on extensive geotechnical work
- Slope configuration changes to best secure the ramp systems,
- The wide concave slope geometry is also favourable for stability

Tailings dam dynamic stability

- Upgraded design incorporates GISTM requirements
- Downstream wall construction with inclusion of liners on walls to minimise seepage

Plant terrace stability

- Extensive geotechnical field work and analysis (including 3D finite element modelling) has determined route causes and identified optimal solutions
- Installing a pile wall retention system (3 fences) and unloading the slope by removing stockpiles on top

Initial Capital Cost – one of the lowest in the industry



Item	Capital Cost Estimates (US\$M)
Initial Capital	
Mining Contractor	0.60
Plant Refurbishment	13.46
Acid Plant (with Steam Turbine)	15.29
Nanofiltration Upgrade	1.53
Front-end Upgrade (ore sorting)	5.99
Plant Terrace Ground Stabilisation	9.45
Tailings Dam (TSF1 first lift)	2.47
Surface Water Infrastructure	1.75
Sub-Total	50.54
Owners Costs	
Camp and Office Refurbishment	3.22
Mobile Equipment	3.57
Grid Connection	12.98
First Fill	4.19
Owner's Direct Costs	3.79
Sub-Total	27.75
Contingency	9.46
Total	87.75

Low initial capital cost

- US\$88M ranks the Project as one of the lowest capital cost uranium projects globally
 - *Initial capital intensity of US\$37/lb*
- Plant Refurbishment estimate remains inline with original estimates in Scoping study (US\$50m)
- All capital estimates include current high inflation environment

New Capital items drive lower Opex

New capital items have increased the total cost, but result in lower operating costs (trade off)

- *New acid plant and steam turbine upgrade (US\$15.3M),*
- *Nanofiltration upgrade (US\$1.5M)*
- *Connection to the national grid (US\$13.0M)*
- *Upgrade to the front-end processing circuit to incorporate ore sorting (US\$6.0M)*

Driving operating costs lower through innovation



- Cash Costs are US\$29.1/lb and AISC of US\$36.2/lb during the first 7 years of production (excluding ramp-up)
 - LOM cash costs of US\$30.1/lb with LOM AISC of US\$37.7/lb
- Despite the current high inflation environment, operating costs are lower compared to the historical operations and Re-Start Scoping Study estimates due to:
 - Increased feed grades from ore sorting, lower power costs from grid power and improved acid utilisation from nanofiltration



Simple, well understood mining and geology



- Simple open pit mining method
- Well understood mineralisation
- Design incorporates geotechnical constraints
- Low strip ratio – 1.8:1
- 4 stages of mining over 6 year of mining
 - 10-year LOM includes 4 years stockpile treatment
- Max depth 160m, average pit slope angle 22 deg
- Contract mining
- Ore Reserves are 96% of DFS mine production plan



Proven processing methodology with advancements



- Original processing plant operated successfully for five years
 - Produced 11Mlbs uranium
- Plant remains in good condition
 - Refurbishment (US\$50m) vs. new build (US\$300M)

Innovation through technological advancements

- Same core processing method will be used, but front-end circuit will be modified to include the ore sorting
- Metallurgical recoveries range 71%-80% (including ore sorting)
- Ore sorting improves the head grade by on average 30% (600 ppm to 800ppm)
- Acid recovery reduces acid consumption by 25% (60tpd)



Infrastructure at site remains in good standing



Being a historical operation there is significant infrastructure at site. The Study however aimed to improve on two key areas:

Power

- New hybrid power supply split
 - 28% from co-gen (acid plant)
 - 39% from grid
 - 25% from solar/BESS
 - 8% from diesel gensets
- Grid connection US\$13M
- US\$0.106/kWh (excluding capital rebate for grid)

Tailings

- Expand existing TSF for 7 ½ years storage
- GISTM compliance process underway
- Design improvements with increased factors of safety (FoS)



Aiming to become a uranium industry leader regarding ESG

Kayelekera will be one of the lowest carbon emitting process plants¹ of its size across any commodity in the world

- Forecasted power related carbon emissions are 8,029 tCO₂ p.a.
 - *This is a 72% (~21,000tpa) reduction compared to the historical operation (diesel gensets)*
 - *By comparison, other 1.4Mtpa operations produced an average of 73,000tpa*

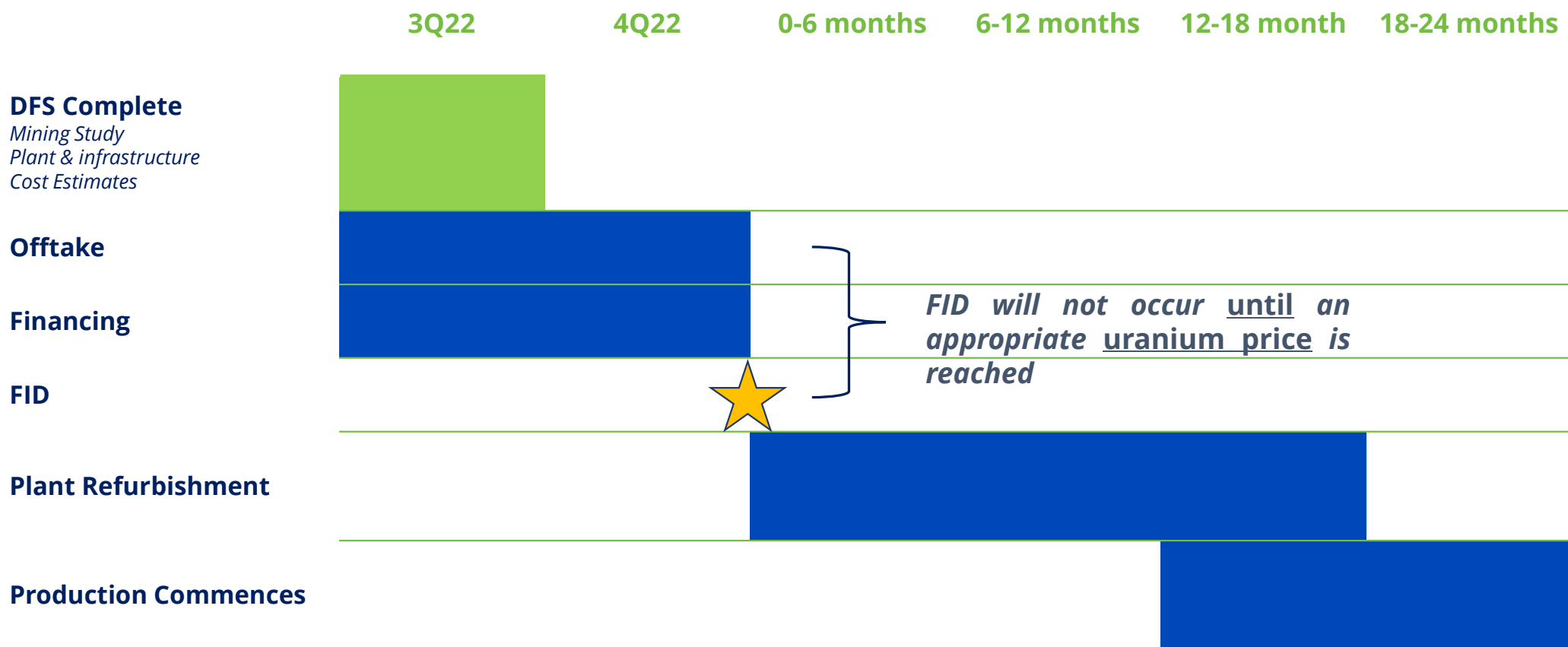
Lotus aspires to be a responsible uranium producer, building strong local communities, a safe and healthy work environment and making a positive contribution to a carbon free future²

- Over 600 jobs will be created for the local community
- Committed 0.45% of gross revenue to community development projects
- Community Development Agreement in progress to support development of our qualified communities



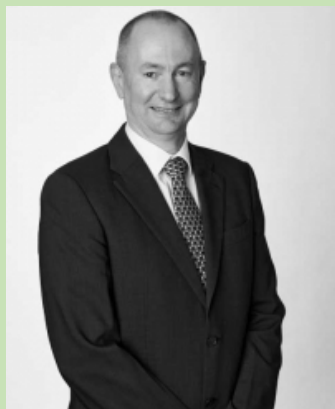
1. Scope 1 & 2 Emissions
2.. ASX Announcement 9 December 2021

15 months development prior to first production



Experienced Board and Management Team

Production, offtake, redevelopment and financing experience in uranium industry



Keith Bowes
Managing Director

Mr. Bowes is a highly regarded mining executive with over 30 years of experience working on project development and operations in Africa, South America and Australia across a range of commodities and processes.



Michael Bowen
Non-Executive Chairman

Mr Bowen is a partner of the national law firm Thomson Geer. He practices primarily in corporate, commercial and securities law with over 40 years of experience and emphasis on mergers, acquisitions, capital raisings and resources.



Dixie Marshall
Non-Executive Director

Ms Marshall has more than 38 years' experience in media, advertising, politics, and communications across a range of platforms, including television, radio, newspapers, and digital. She has won awards for journalism, and more recently advertising.



Grant Davey
Non-Executive Director

Mr Davey is an entrepreneur with 30 years of senior management and operational experience in the development, construction and operation of precious metals, base metals, uranium and bulk commodities throughout the world.



Mark Hanlon
Non-Executive Director

Mr Hanlon has over 25 years of experience in the resources and resource services sector, as well as in commercial and merchant banking.



Management Team

building a strong management team both corporately and at site

Keith Bowes Managing Director

Mr. Bowes is a highly regarded mining executive with over 20 years of experience working on project development and operations in Africa, South America and Australia across a range of commodities and processes.

Mr Bowes project managed Boss Resources' redevelopment program for the Honeymoon Uranium Mine, including all study phases and commercial trials of the new processing technology.

Michael Ball Chief Financial Officer

Michael is a qualified Chartered Accountant and Fellow of the Governance Institute of Australia with over 20 years experience in finance roles, including the last 10 years as Chief Financial Officer for ASX listed resource companies.

He brings significant operational experience, including project development through construction and into production, in addition to significant capital markets experience, being involved in leading and managing several project financings. He also has considerable expertise in feasibility study preparation, operational optimisation, commodity and currency risk management and contract tendering.

Robert Rich Marketing Executive

Robert is based in the United States and has over 30 years' experience working as a Nuclear Fuel Consultant. During this time, he has advised a number of major US utilities in the procurement of nuclear fuels and worked with a wide range of producers in securing offtake agreements. During his career, Robert has overseen the sale of over 60Mlbs of uranium from producers and been responsible for the purchase of over US\$100M annually of U3O8, conversion and enrichment for utilities. Robert received his PhD and Masters in Geology from Harvard University before becoming a Post-Doctoral Research Fellow for the US Department of Energy (previously ERDA) also at Harvard University.

Theo Keyter General Manager

Theo Keyter is a highly experienced Mine General Manager with 39 years of experience working on operations in South Africa, Sierra Leone, Malawi and Saudi Arabia across a range of commodities. Theo worked as the Project Manager on The Mponeng Deepening Project in South Africa, which is currently the deepest mining operation in the world. Theo has been the driver behind out recent cost improvement initiatives and has developed good working relations with government and other stakeholders.

DR Grain Malunga Country Manager

Dr Malunga's has extensive experience in mineral resource development/evaluation, strategic environmental management, investment analysis and government business. Grain served as a Member of Parliament for Chikwawa North Constituency between May 2009 and May 2014 and as Minister of Natural Resources, Energy and Environment in Malawi from June 2009 to August 2011. He was Principal Secretary for Ministry of Irrigation and Water Development, from August 2005 to January 2007, after serving as Secretary for Industry Science and Technology from August 2004 to August 2005.

Ore Reserve



Category	Mt	Grade (U ₃ O ₈ ppm)	U ₃ O ₈ (M kg)	U ₃ O ₈ (M lbs)
Open Pit - Proved	0.6	902	0.5	1.2
Open Pit - Probable	13.7	637	8.7	19.2
RoM Stockpile – Proved	1.6	760	1.2	2.6
Total - Kayelekera	15.9	660	10.4	23.0

Ore Reserves are reported based on a dry basis. Proved Ore Reserves are inclusive of RoM stockpiles and are based on a 200ppm cut-off grade for arkose and a 390ppm cut-off grade for mudstone. Ore Reserves are based on a 100% ownership basis of which Lotus has an 85% interest



Next Step towards production



Prior to a Final Investment Decision (FID), the Company will continue to advance a number of key areas including:

1. Kayelekera Mine Development Agreement;
2. Uranium offtake agreements;
3. Financing negotiations;
4. Agreement with ESCOM for the connection of the mine site to the national grid;
5. Preparation of an Operational Readiness Plan;
6. Scope and costs for FEED in conjunction with a program for site based early works.

A\$290M

US\$203M
MARKET CAP
At \$0.24 / share

A\$20M

US\$13.5M
CASH – JUNE 2022
Unrestricted (A\$5m/US\$3.5M)
Restricted (A\$15m/US\$10M)

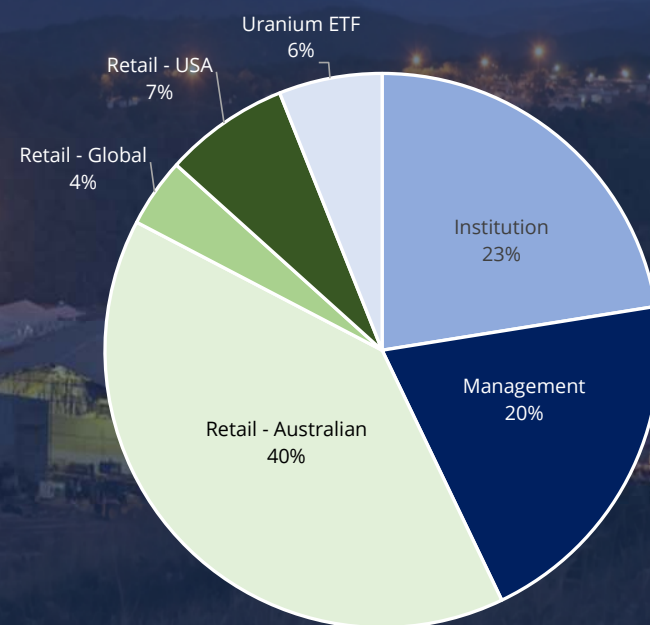
1,207M

SHARES ON ISSUE

47M

OPTIONS
Inc. 15M employee options

CAPITAL STRUCTURE





CONTACT

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Managing Director

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Perth, WA
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For further information visit:
www.lotusresources.com.au



Appendix 1 - Emissions Comparison



- Lotus is forecast to produce substantially lower GHG emissions at their the Kayelekera Uranium Project than other miners with a similar 1.4mtpa throughput rate and processing techniques.
- The Kayelekera feasibility study shows an estimated carbon emissions of ~8,000 t CO₂ p.a. for power generation plus ~7,500 t CO₂ pa for vehicle fleet
- The Project will significantly reduce CO₂ emissions by ~21,000t p.a. as a result of the combination of grid power with solar and battery.

Company	Plant	Scope 1&2 Emissions (t CO ₂ p.a.)
Company 1	- Gold Operations (Australia) 1.4mtpa processing plant with ball-mill and carbon-in-leach (CIL) - Majority power source – natural gas and diesel	87,000
Company 2	- Gold Operations (Australia) 1.4mtpa processing hub with crushing and CIL - Majority power source – diesel	68,868
Company 3	- Gold Operation (Australia) 1.4mtpa mill with grinding and CIL - Majority power source – diesel	53,814
Company 4	- Gold Operation (Mali) 1.4mtpa plant with crushing and CIL - Majority power source – diesel	82,069

