

Lotus Resources Ltd (LOT)

Rating: Buy | Risk: High | Price Target: \$0.47

28 June 2023

Kayelekera - the next uranium project to reach FID

Key Information

Current Price (\$ps)	0.18
12m Target Price (\$ps)	0.47
52 Week Range (\$ps)	0.16 - 0.30
Target Price Upside (%)	168.4%
TSR (%)	168.4%
Reporting Currency	AUD
Market Cap (\$m)	235
Sector	Materials
Avg Daily Volume (m)	0.9
ASX 200 Weight (%)	0%

Fundamentals

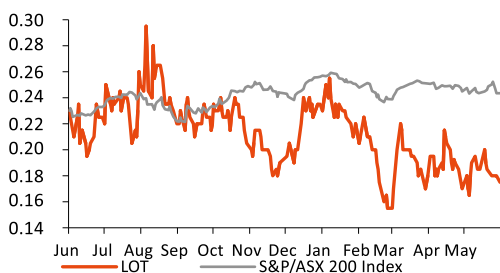
YE 30 Jun (AUD)	FY22A	FY23E	FY24E	FY25E
Sales (\$m)	0	0	0	95
NPAT (\$m)	(12)	(5)	(5)	37
EPS (cps)	(1.1)	(0.4)	(0.3)	2.1
EPS Growth (%)	(89.5%)	64.6%	15.4%	735.1%
DPS (cps) (AUD)	0.0	0.0	0.0	0.0
Franking (%)	0%	0%	0%	0%

Ratios

YE 30 Jun	FY22A	FY23E	FY24E	FY25E
P/E (x)	(19.4)	(44.6)	(52.8)	8.3
EV/EBITDA (x)	(18.7)	(43.7)	(42.8)	4.4
Div Yield (%)	0.0%	0.0%	0.0%	0.0%
Payout Ratio (%)	0.0%	0.0%	0.0%	0.0%

Price Performance

YE 30 Jun	1 Mth	2 Mth	3 Mth	1 Yr
Relative (%)	3.7%	0.2%	10.8%	(28.4%)
Absolute (%)	2.9%	(2.8%)	12.9%	(20.5%)
Benchmark (%)	(0.8%)	(3.0%)	2.1%	7.9%



Price performance indexed to 100

Source: FactSet

Major Shareholders

Davey Holdings & Management	11.2%
Sachem Cove	7.0%
Arnott Capital	6.0%
Terra Capital	6.0%

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Event

Lotus Resources is planning to restart operations at the Kayelekera uranium mine in Malawi post a Final Investment Decision (FID) which is expected in 2H23. In our view, Lotus is the cheapest of the ASX listed uranium mine restart stories. The mine is expected to produce ~2.5Mlb of uranium per annum from FY26, but Lotus' market capitalisation is only \$242m. As a comparison, Boss Energy will produce about the same, but has a market cap of A\$1.075m. The market is perhaps underestimating the significant operational improvements that Lotus has identified since Kayelekera was last producing.

Highlights

- Lotus Resources is intending to re-start operations of the fully permitted Kayelekera project in Malawi. The Kayelekera project was put on care and maintenance by Paladin in 2014 after five years of operations, 10.9M lb of U₃O₈ production, and ~US\$200m of capex. Peak production occurred in 2013 at ~3.0Mlbs U₃O₈.
- LOT released a Definitive Feasibility Study in 2022 which provides low-cost development pathway for the re-start of Kayelekera. Key features of the DFS include:
 - Open cut mine pit requiring low total initial capital expenditure of US\$88m due to Kayelekera's existing infrastructure.
 - A quick development period for refurbishment for a re-start; approximately 15 months to production from a Final Investment Decision.
 - 10-year life-of-mine production of 19Mlbs U₃O₈ at an average head grade of 790ppm and production rate of 2.4Mlb/yr (av. LoM).
 - Cash costs of US\$29.1/lb and all-in sustaining costs of US\$36.2/lb for the first seven years of production.
- Lotus is planning to make significant improvements to Kayelekera including the use of ore sorting, connection to the national grid, a new acid plant with associated co-generation plant and nanofiltration to improve acid recovery. These improvements will result in significantly lower operating costs than the assets historical performance.
- We carry a notional A\$100m in 'Exploration / Other' in our company valuation to account for the potential uranium exploration upside at the nearby Livingstonia deposit and rare earth oxide upside at Milenje Hills. In our view exploration success at Livingstonia and potential further opportunities around the current Kayelekera resource demonstrate potential to extend the LOM past 10 years (DFS).
- Lotus is advancing a number of key areas ahead of a Final Investment Decision (FID) which we expect in 2H23. The key workstreams include:
 - Finalisation of the Mining Development Agreement (MDA) with the Malawi Government and its advisers.
 - Finalisation of a power agreement with ESCOM for connection of the mine to the national grid.
 - Offtake agreements with US and European utilities. Lotus has been very clear that it will not advance the project until uranium prices are sustainably higher. In our view Lotus will be looking to sign contracts with utilities above US\$60/lb, with suitable escalation clauses and exposure to strengthening uranium markets.
- The balance sheet is debt free and carries a cash balance of A\$33m (Mar23q).

Recommendation

We maintain our BUY recommendation and upgrade our price target to \$0.47ps (from \$0.30ps) due to a higher-for-longer uranium price view and an increase in our price target multiple to 1.3x our DCF valuation (see separate sector report published today).

Lotus Resources Ltd

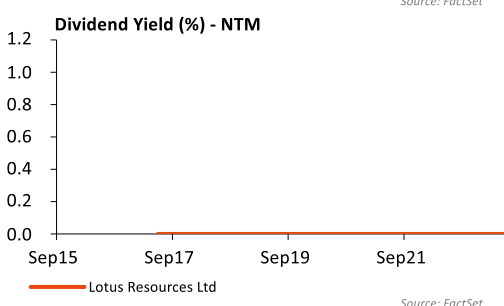
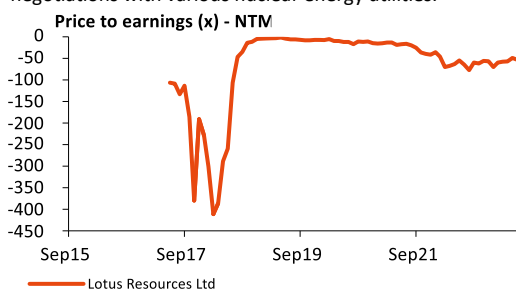
**Materials
Materials**

FactSet: LOT-AU / Bloomberg: LOT AU

Key Items	Data
Recommendation	BUY
Risk	HIGH
Price (\$ps)	0.18
Target Price (\$ps)	0.47
52 Week Range (\$ps)	0.16 - 0.30
Shares on Issue (m)	1,344
Market Cap (\$m)	235
Enterprise Value (\$m)	219
TSR (%)	168.4%

Valuation NPV	Data
Valuation (\$m)	0
Valuation per share (cps) (AUD)	0.00

Lotus Resources is looking to re-start operations of the fully permitted Kayelekera Uranium Project in Malawi (LOT 85%). The company recently completed a Definitive Feasibility Study (DFS) for the re-start of Kayelekera. The Restart DFS has confirmed Kayelekera as one of the lowest capital cost uranium projects globally whilst also having the ability to quickly recommence production (15 months development) once a Final Investment Decision (FID) has been made. The company believes it is possible for an FID to be made as early as this half, pending offtake negotiations with various nuclear energy utilities.



Financial Year End: 30 June

Investment Summary (AUD)	FY21A	FY22A	FY23E	FY24E	FY25E
EPS (Reported) (cps)	(0.6)	(1.1)	(0.4)	(0.3)	2.1
EPS (Underlying) (cps)	(0.6)	(1.1)	(0.4)	(0.3)	2.1
EPS (Underlying) Growth (%)	27.9%	(89.5%)	64.6%	15.4%	735.1%
PE (Underlying) (x)	(32.5)	(19.4)	(44.6)	(52.8)	8.3
EV / EBIT (x)	(37.1)	(16.9)	(43.7)	(42.8)	4.8
EV / EBITDA (x)	(37.1)	(18.7)	(43.7)	(42.8)	4.4
DPS (cps) (AUD)	0.0	0.0	0.0	0.0	0.0
Dividend Yield (%)	0.0%	0.0%	0.0%	0.0%	0.0%
Franking (%)	0%	0%	0%	0%	0%
Payout Ratio (%)	0.0%	0.0%	0.0%	0.0%	0.0%
Free Cash Flow Yield (%)	(4.2%)	(4.7%)	(3.0%)	(27.8%)	(5.2%)
Profit and Loss (AUD) (m)	FY21A	FY22A	FY23E	FY24E	FY25E
Sales	0	0	0	0	95
Other Operating Income	0	3	0	0	0
EBITDA	(6)	(12)	(5)	(5)	49
EBITDA Margin (%)	nm	nm	nm	nm	52.2%
Depreciation & Amortisation	0	(1)	0	0	(4)
EBIT	(5.9)	(13.0)	(5.0)	(5.1)	45.1
EBIT Margin (%)	nm	nm	nm	nm	47.6%
Net Interest	0	0	0	0	(2)
Pretax Profit	(6)	(13)	(5)	(5)	43
Minorities	(1)	(1)	0	0	6
NPAT Underlying	(5)	(12)	(5)	(5)	37
Significant Items	(1)	0	0	0	0
NPAT Reported	(4)	(12)	(5)	(5)	37
Cashflow (AUD) (m)	FY21A	FY22A	FY23E	FY24E	FY25E
EBIT	(6)	(13)	(5)	(5)	45
Tax Paid	0	0	0	0	0
Net Interest	0	(0)	0	0	(2)
Change in Working Capital	0	0	(2)	0	(6)
Depreciation & Amortisation	0	1	0	0	4
Other	(1)	2	0	0	0
Operating Cashflow	(7)	(10)	(7)	(5)	41
Capex	0	(1)	0	(70)	(57)
Acquisitions and Investments	0	0	0	0	0
Disposal of Fixed Assets/Investments	0	2	0	0	0
Other	(1)	(3)	(10)	(3)	(3)
Investing Cashflow	(1)	(2)	(10)	(73)	(60)
Free Cashflow	(7)	(11)	(7)	(75)	(16)
Equity Raised / Bought Back	21	1	25	71	0
Dividends Paid	0	0	0	0	0
Change in Debt	0	0	0	40	40
Other	0	0	0	0	0
Financing Cashflow	21	1	25	111	40
Exchange Rate Effect	(0)	1	0	0	0
Net Change in Cash	13	(10)	9	34	22
Balance Sheet (AUD) (m)	FY21A	FY22A	FY23E	FY24E	FY25E
Cash	15	5	13	47	69
Accounts Receivable	0	0	0	0	0
Inventory	0	0	0	0	0
Other Current Assets	1	1	1	1	1
PPE	0	0	0	63	110
Total Assets	89	67	78	184	261
Accounts Payable	1	2	0	0	0
Short Term Debt	0	0	0	0	0
Long Term Debt	0	0	0	40	80
Total Liabilities	67	52	43	83	123
Total Shareholder Equity	22	15	35	101	144
Ratios	FY21A	FY22A	FY23E	FY24E	FY25E
ROE (%)	(33.9%)	(63.8%)	(19.6%)	(7.4%)	30.5%
Gearing (%)	(204.7%)	(45.7%)	(60.7%)	(7.5%)	7.6%
Net Debt / EBITDA (x)	2.5	0.4	2.7	1.4	0.2
Price to Book (x)	8.1	17.6	6.8	3.0	2.1

Lotus Resources – plans to restart Kayelekera

Lotus Resources is planning to re-start operations of the fully permitted Kayelekera project in Malawi (LOT 85%). A low upfront capital requirement of ~US\$88m is appealing.

The Kayelekera project was put on care and maintenance by Paladin in 2014 after five years of operations, 10.9M lb of U₃O₈ production, and ~US\$200m of capex. Peak production occurred in 2013 at ~3.0Mlbs U₃O₈.

LOT acquired 65% equity in Kayelekera from Paladin in March 2020 and bought out partner Grant Davey (LOT Director) in August 2021 to increase its stake to 85%. LOT is free carrying its project partner The Government of Malawi (15%).

LOT released a Definitive Feasibility Study in August 2022 which provides a low-cost development pathway for the re-start of Kayelekera. Key features of the DFS include:

- Open cut mine pit requiring low total initial capital expenditure of US\$88m due to Kayelekera's existing infrastructure.
- A quick development period for refurbishment for a re-start; approximately 15 months to production from a Final Investment Decision.
- 10-year life-of-mine production of 19Mlbs U₃O₈ at an average head grade of 790ppm and production rate of 2.4Mlb/yr (av. LoM).
- Cash costs of US\$29.1/lb and all-in sustaining costs of US\$36.2/lb for the first seven years of production.

Operational improvements will drive lower operating costs

Lotus is planning significant improvements to Kayelekera which are probably not yet widely appreciated by the market. Kayelekera historically operated with relatively high operating costs of US\$55-60/lb due to high power costs and the need to truck in sulphuric acid for the leach circuit.

Lotus is planning to make four significant operational improvements when Kayelekera is restarted:

1. Ore sorting has been successfully trialed and is expected to lift the feed grade to around 900ppm which will result in less acid and power consumption.
2. The operation is going to be connected to national grid and utilize relatively cheap and clean hydropower. This should result in power costs dropping from ~US30c/kWh to ~US6-8c/kWh. Power makes up 25-30% of the cost base.
3. Lotus will be installing a new acid plant with an associated co-generation plant. This will eliminate the need to truck in acid and provide the added benefit of reducing external power requirements.
4. Lotus is installing nanofiltration at the back end of the plant to improve acid recovery.

Next catalysts

Lotus is continuing to advance a number of key areas ahead of a Final Investment Decision (FID) which we expect in 2H23. The key workstreams include:

- Finalisation of the Mining Development Agreement (MDA) with the Malawi Government and its advisers.
- Finalisation of a power agreement with ESCOM for connection of the mine to the national grid.
- Offtake agreements with US and European utilities. Lotus has been very clear that it will not advance the project until uranium prices are sustainably higher. In our view Lotus will be looking to sign contracts with utilities above US\$60/lb, with suitable escalation clauses and exposure to strengthening uranium markets.
- Financing discussions with lenders and sources of equity capital. In our modelling we assume a A\$70m equity raise in FY24 and \$80m in debt finance.

Kayelekera overview

The Kayelekera sandstone uranium deposit is located in northern Malawi, southern Africa, 52km west (by road) of the township of Karonga. The resource was discovered by the Central Electricity Generating Board of Great Britain (CEGB) in the early 1980s.

In 1998 Paladin acquired a 90% interest in Kayelekera through a Joint Venture with Balmain Resources, which then held exploration rights over the project area. In July 2005 Paladin acquired the remaining 10% interest held by Balmain.

After completing the Development Agreement with the Malawi Government, the BFS and a full Environmental Impact Assessment, a mining licence was granted in April 2007.

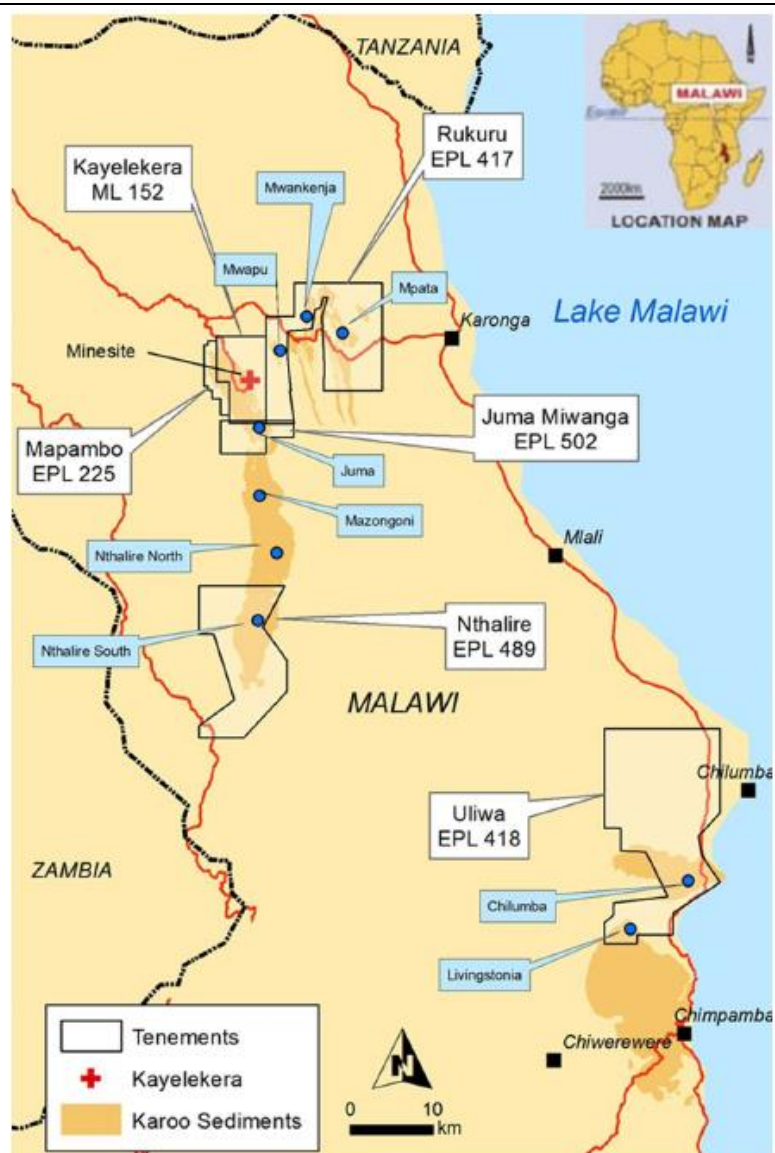
Construction started in 2007 and open pit mining commencing in 2008. In July 2009, Paladin issued 15% equity in the project to the Government of Malawi.

Peak production in 2013 was ~3.0Mlb U₃O₈. In 2014 - after five years of operations, 10.9Mlbs of U₃O₈ production, and ~US\$200m of capex - the mine was put on care and maintenance. Paladin noted difficult uranium market conditions as the primary reason for mine closure.

In March 2020, Lotus Resources (formerly Hylea Metals) and Kayelekera Resources (an entity controlled by Grant Davey) acquired Paladin's 85% stake (65:20) in the project in a vehicle called Lily Resources. The asset was consolidated in August 2021 to be 85% owned by Lotus Resources via the issuance of 226m shares to Grant Davey's vehicle.

Figure 1: Kayelekera – project location & associated exploration licences

The tenement package is large, at 157km², with significant exploration potential, and hosts a high-grade resource with an existing open pit mine.



Source: Company reports

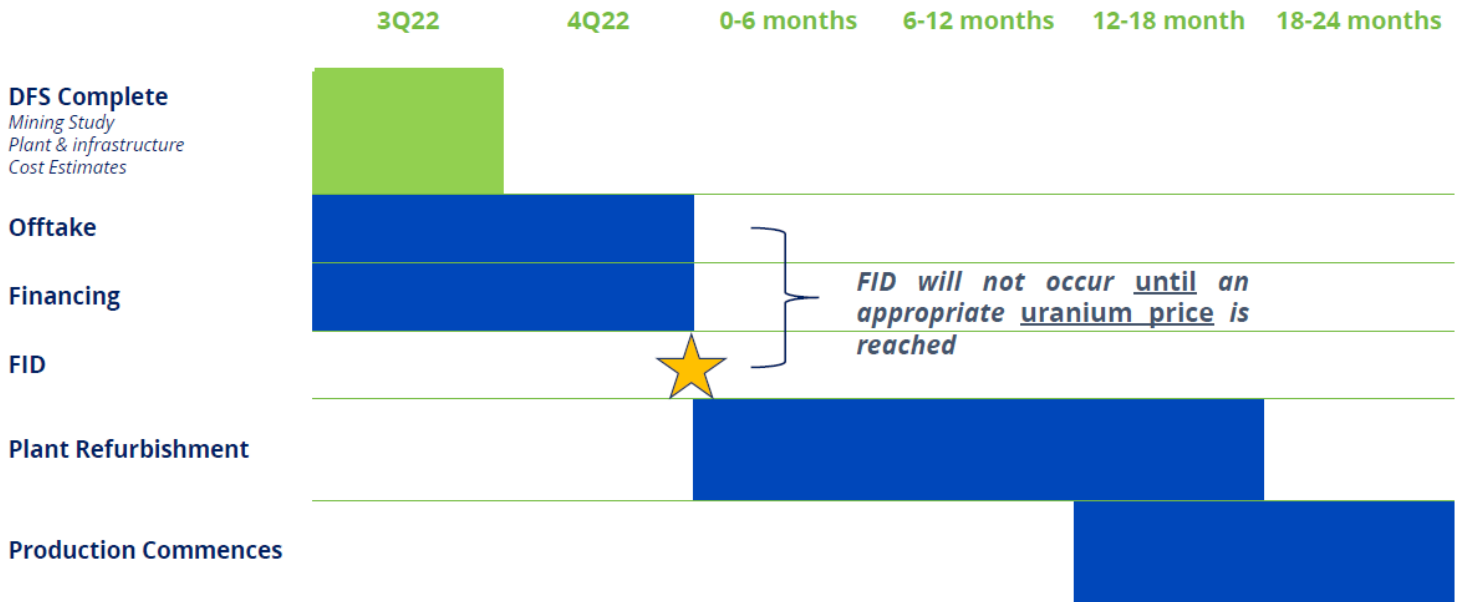
Figure 2: The Kayelekera mine and associated infrastructure

Peak production at Kayelekera was in 2013 at ~3.0Mlb U₃O₈. In 2014 - after five years of operations, 10.9Mlbs of U₃O₈ production, and ~US\$200m of capex - the mine was put on care and maintenance. The mine and infrastructure remain in good condition.



Source: Company reports

Figure 3: Pathway to recommence production at Kayelekera



Source: Company reports

2022 Definitive Feasibility Study (DFS)

Lotus released a Definitive Feasibility Restart Study in August 2022 which built on the October 2020 Scoping Study and incorporates several years of additional technical work. It provides a low-cost development pathway for the re-start of Kayelekera, an open cut mine pit which requires total initial capital expenditure of US\$88m to refurbish.

The DFS outlines a development scenario for a quick re-start (15 months to production from FID) for a total 10-year Life of Mine (LOM) with production of 19Mlbs U₃O₈ (vs a total Resources of 51Mlbs) at an average annual production rate of 2.0Mlbs.

The first seven years of production are from higher grade ore before production is sourced from stockpiles in the final three years. The first seven years of operation assume All-in Sustaining Costs of US\$36/lb and an average production of 2.4Mlbs U₃O₈ per annum.

Despite the current high inflation environment, operating costs are slightly lower in the DFS compared to the historical operations and 2020 Re-Start Scoping Study due to:

- Increased feed grades from ore sorting,
- Lower power costs from grid power; and
- Improved acid utilisation from nanofiltration.

In our view exploration success at Livingstonia and potential further opportunities at Chilumba and around the current Kayelekera resource demonstrate potential to extend the LOM past the 10 years.

Figure 4: Lotus Mineral Resource Inventory – June 2022

Project	Category	Mt	Grade (U ₃ O ₈ ppm)	U ₃ O ₈ (M kg)	U ₃ O ₈ (M lbs)
Kayelekera	Measured	0.9	830	0.7	1.6
Kayelekera	Measured – RoM Stockpile ⁹	1.6	760	1.2	2.6
Kayelekera	Indicated	29.3	510	15.1	33.2
Kayelekera	Inferred	8.3	410	3.4	7.4
Kayelekera	Total	40.1	510	20.4	44.8
Kayelekera	Inferred – LG Stockpiles ¹⁰	2.4	290	0.7	1.5
Kayelekera	Total - Kayelekera	42.5	500	21.1	46.3
Livingstonia	Inferred	6.9	320	2.2	4.8
Total	All uranium resources	49.4	475	23.3	51.1

Source: Company reports

Figure 5: Ore Reserve, 100% basis (based on a 200ppm cut-off grade for arkose and a 390ppm cut-off grade for mudstone).

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

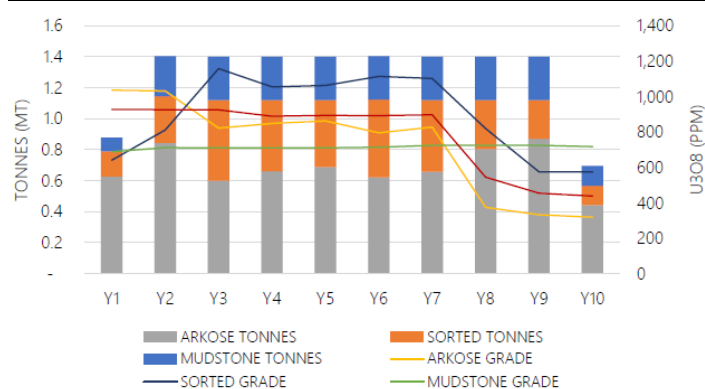
Source: Company reports

Figure 6: Key DFS project outputs

Production	LOM total / Avg.
Mine Life (Years)	9.5
Total Material Mined (Mt)	40.5
Strip Ratio	1.8
Ore Tonnes (Mt)	14.3
Ave Mined Grades (ppm U ₃ O ₈)	648
Total U ₃ O ₈ Mined (MLbs)	20.5
Existing Stockpiles	
Tonnes (Mt)	4.1
Grade (ppm U ₃ O ₈)	470
Plant	
Crusher Feed (Mt)	18.4
Crusher Feed Grade (ppm U ₃ O ₈)	609
Ave Feed Upgrade factor	1.30
Ave Ore Sorting Recovery (%)	77.8
Mill Feed (Mt)	12.8
Average Mill Feed Grade (ppm U ₃ O ₈)	792
Process Plant Recovery (%)	86.7
Av. Annual Production (MLbs)	2.03
Steady State Annual Production (MLbs)	2.42
LOM Production (MLbs)	19.3
Operating costs	
Mining Costs (US\$ / t mined)	3.04
Processing Costs ⁷ (US\$ / t ore)	27.60
G&A Costs (US\$M pa)	11.10
Cash costs (US\$ / lb)	30.10
AISC (US\$ / lb)	37.70
Initial Capital costs	
Initial Capital (US\$M)	78.3
Contingency (US\$M)	9.5
Pre-Production (US\$M)	11.5

Source: Company reports

Figure 7: Mill Feed – quantity and uranium grade by material type



Source: Company reports

Figure 8: Yellowcake output (MLb)



Source: Company reports

Kayelekera financial modelling assumptions

Our financial model is broadly in line with the operating assumptions in the DFS.

Figure 9: Kayelekera financial model (A\$m)

Kayelekera (A\$m)	2022	2023f	2024f	2025f	2026f	2027f	2028f	2029f	2030f	2031f	2032f
Ore processed (kt)				500	1,400	1,400	1,400	1,400	1,400	1,400	1,400
Grade of mill feed (ppm)				900	900	900	900	900	900	900	900
U3O8 (Mlb) - sold				0.9	2.4	2.4	2.4	2.4	2.4	2.4	2.4
Revenue				95	278	278	278	273	265	270	277
Expenses				36	105	107	109	111	113	116	156
EBITDA				58	173	170	168	161	151	154	120
D&A				4	12	12	12	12	12	12	12
EBIT				54	160	158	156	149	139	142	108
Net Operating Assets	12	12	81	134	131	128	125	137	135	132	127
Capex	0	0	70	57	9	9	9	25	10	10	7
EBITDA Margin (%)				62%	62%	61%	61%	59%	57%	57%	43%
EBIT / Assets (%)				40%	123%	124%	125%	109%	103%	108%	85%
Realised U3O8 (US\$/lb)	46	53	63	81	85	85	85	84	81	83	85
AUD/USD	0.72	0.68	0.72	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Revenue (A\$/lb)				110	115	115	115	113	109	112	114
Expenses (A\$/lb)				42	43	44	45	46	47	48	65
EBITDA (A\$/lb)				68	71	71	70	67	63	64	50
D&A (A\$/lb)				5	5	5	5	5	5	5	5
EBIT (A\$/lb)				63	66	65	65	62	58	59	45
Nominal Tax @ 27.5%	0	0	0	0	0	0	0	0	0	0	0
Non-cash inventory movement	0	0	0	-6	-17	-17	-17	-17	-17	-17	24
Cash Flow	0	0	-70	-5	147	145	142	120	125	128	138

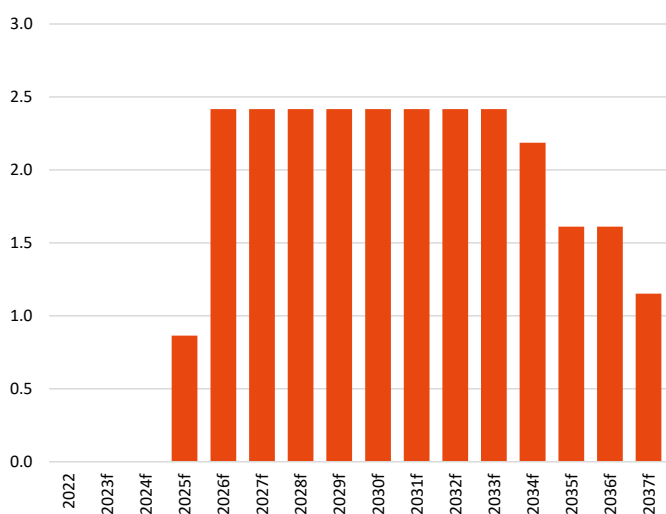
Source: Company reports, Shaw analysis

Figure 10: LOT fully diluted valuation

Lotus Resources Valuation - diluted	US\$m	A\$m	A\$ps
Kayelekera	324	483	0.28
Net cash / (debt)	22	33	0.02
Exploration upside	67	100	0.06
Cash from raise	48	71	0.04
Corporate costs	-10	-15	-0.01
Total Valuation	450	672	0.40

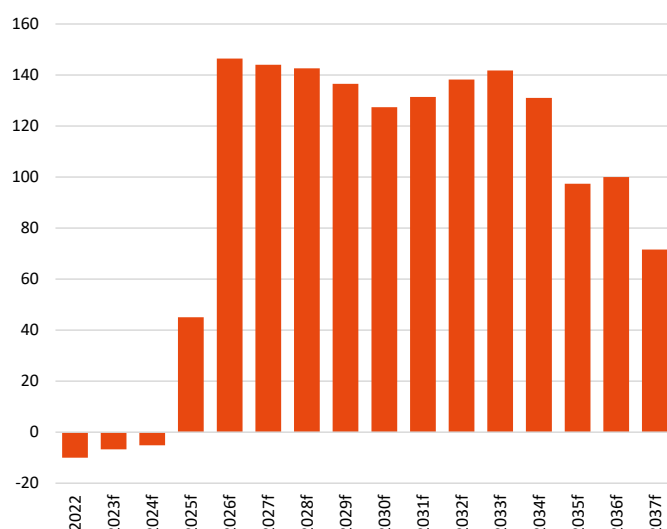
Source: Company reports, Shaw and Partners analysis

Figure 11: Uranium production (Mlbs)



Source: Company reports, Shaw forecasts

Figure 12: Operating cash flow (A\$m)



Source: Company reports, Shaw forecasts

Key risks

As a small mining company broadly exposed to a single commodity and a single asset, we consider an investment in Lotus Resources to be high risk. The key risks include:

- The U₃O₈ market is relatively opaque and difficult to forecast. The actual uranium price may differ substantially from our forecasts.
- Operations for LOT have not yet started and there is a risk that they may be unable to bring Kayelekera to production in line with expectations. Costs may be higher and operations may not be as expected.
- LOT will need to recapitalise to fund the commencement of operations. There is a risk that capital markets are not willing to fund the project.
- LOT is operating in Malawi. According to the World Bank, Malawi is one of the poorest third world countries. Political conditions can change unfavourably for a range of reasons. The economy is heavily dependent on agriculture and it is vulnerable to external shocks, particularly climatic shocks.
- Forecasting future operating costs has considerable uncertainty. Our forecasts may prove to be too optimistic. If each company's costs are higher than we expect then our cash flow forecasts will be too high.
- Smaller companies carry more significant 'key personnel' risk than larger organisations. If senior management depart it could delay projects or exacerbate operational risks.
- Safe and reliable production from operations once projects are operational. The inability to maintain safe and reliable operations may result in a sustained, unplanned interruption to production and impact the company's licence to operate and financial performance. Production facilities are subject to operating hazards associated with major accident events, cyber-attack, inclement weather and disruption to supply chain, that may result in a loss of uranium (radioactive material) containment, harm to personnel, environmental damage, diminished production, additional costs, and impacts to reputation or brand.

Core drivers and catalyst

- Lotus Resources is looking to re-start operations of the fully permitted Kayelekera project in Malawi (LOT 85%). A low upfront capital requirement of ~US\$88m is appealing.
- The Kayelekera project was put on care and maintenance by Paladin in 2014 after five years of operations, 10.9M lb of U₃O₈ production, and ~US\$200m of capex. Peak production occurred in 2013 at ~3.0Mlbs U₃O₈.
- LOT acquired 65% equity in Kayelekera from Paladin in March 2020 and bought out partner Grant Davey (LOT Director) in August 2021 to increase its stake to 85%. LOT is free carrying its project partner The Government of Malawi (15%).
- LOT released a Definitive Feasibility Study in 2022 which provides low-cost development pathway for the re-start of Kayelekera. Key features of the DFS include:
 - Open cut mine pit requiring low total initial capital expenditure of US\$88m due to Kayelekera's existing infrastructure.
 - A quick development period for refurbishment for a re-start; approximately 15 months to production from a Final Investment Decision.
 - 10-year life-of-mine production of 19Mlbs U₃O₈ at an average head grade of 790ppm and production rate of 2.4Mlb/yr (av. LoM).
 - Cash costs of US\$29.1/lb and all-in sustaining costs of US\$36.2/lb for the first seven years of production.
- Lotus is planning significant improvements to Kayelekera including the use of ore sorting, connection to the national grid, a new acid plant with associated co-generation plant and nanofiltration to improve acid recovery.