

ASX: CXO

Equity Research

4th August 2021

SPECULATIVE BUY

Price Target **\$0.44**
Share Price **\$0.28**

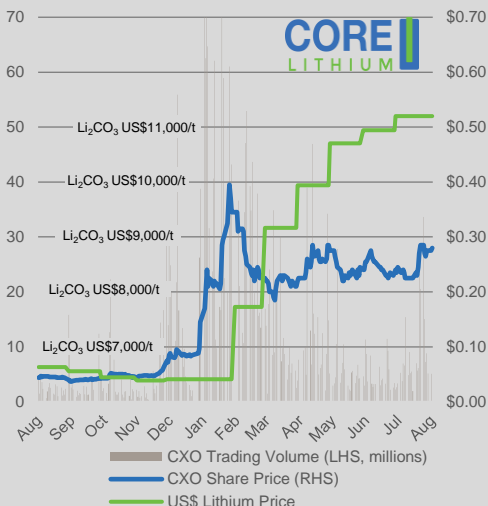
52-Week Range \$0.035 - \$0.42
CXO Shares Outstanding 1,174.1m
CXOAA Performance Rights 22.8m
CXOAB Options (various) 23.3m
CXOAC Options (\$0.45, 12th Feb 2023) 81.0m
Market Capitalisation \$328.8m
Cash (30th June 2021) \$38.2m
Enterprise Value \$290.6m

Board & Management:

Greg English Chairman
Stephen Biggins Managing Director
Heath Hellewell Non-Executive Director
Malcolm McComas Non-Executive Director
Jarek Kopias Company Secretary
Simon Iacopetta Chief Financial Officer
Robert Sills Commercial Marketing Manager
Blair Duncan Chief Operating Officer
Sean Buxton Finnis Project Manager
David Rawlings Exploration Manager

Major Shareholders:

Yahua 5.9%
Board & Management 1.7%
Top 20 shareholders 23.8%



Core Lithium Ltd (ASX: CXO) is one of the most advanced lithium developers on the ASX. CXO's flagship project is the 100% owned Finnis Lithium Project, located 25km south of Darwin Port, for which a Definitive Feasibility Study was released in July 2021, aiming for a Final Investment Decision in 2021. All regulatory approvals have been received and the project is ready to enter the construction phase, subject to funding a modest A\$89m capital expenditure to produce 175,000 tpa of coarse grain spodumene concentrate at 5.8% Li₂O.

CORE LITHIUM LTD

Development Ready Project at the Right Time

Definitive Feasibility Study: The DFS results demonstrate a robust project with some enviable characteristics: simple flow chart, low capex, low capital intensity, low operating costs, quality product and proximity to port and markets, resulting in an excellent NPV/capex ratio.

Coarse Grain Mineralisation: The coarse grain nature of the pegmatite essentially composed of spodumene, quartz and feldspar has multiple benefits: 1. With most particle sizes between 0.5mm and 6.3mm, no flotation of fines is required, which means lower capex, lower opex and lower associated risks. 2. Product quality should be easier to achieve and maintain.

Financing: The completion of the DFS opens the path to financing which is likely to be predominantly a combination of debt project finance from mining banks, prepayment or other financing arrangements linked to product off-take and possibly some low-cost debt finance from government agencies. We have assumed a debt funding of A\$80 million.

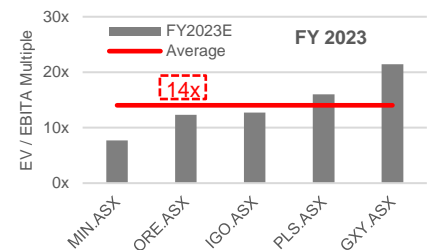
Permitting: CXO has already secured Mining Leases and environmental approvals to allow for an orderly start of the project.

Finniss Project Valuation: We have run the Stage 1 DFS scenario as well as an extended scenario (18 years mine life) assuming the conversion of a portion of the Exploration Target to additional mining inventory.

Scenario / Spodumene Price	US\$751/t	US\$850/t	US\$1,000/t
Initial Capex	\$89m	\$89m	\$89m
Stage 1 DFS			
NPV _{8%} pre-tax	A\$203m	A\$308m	A\$468m
NPV _{8%} post-tax	A\$189m	A\$266m	A\$381m
IRR post-tax	64%	87%	121%
Extension + New Mining Inventory			
NPV _{8%} post-tax	A\$406	A\$536	A\$732
IRR post-tax	66%	88%	121%

CXO Valuation: Our sum of the parts valuation assumes an equity capital raising of \$25 million @ \$0.23 to complement the debt and to derive a price target of \$0.44, fully funded.

Once the Finnis has reached commercial production, CXO valuation could increase further considering an EV/EBITDA multiple of 10x FY2023E (average of ASX peers is 14x) resulting in a market value of \$1 billion and a share price of \$0.78.



News flow: We anticipate several share price catalysts including financing and off-take deals, leading to final investment decision and start of construction before year-end.

Spodumene pricing: among the lithium products, spodumene is currently closing the gap with value-added lithium chemicals. Contract prices have increased from US\$500/t in April to more than US\$650/t currently with the spot price reaching US\$925/t (FOB Australia). The last time the spodumene price reached such level (late 2017 - early 2018), lithium chemicals were US\$22,000-24,000/t, they are only US\$12,000/t to US\$14,000/t currently.

Investment Perspective: Mining is cyclical and timing is critical. After experiencing multiple successive boom and bust cycles, CXO appears very well positioned to benefit from a stronger and longer lithium market cycle as the EV market growth is accelerating on a global scale and will reach mass production level and adoption within the next five years.

	Unit	Total or Average	FY2021 0	FY2022 1	FY2023 2	FY2024 3	FY2025 4	FY2026 5	FY2027 6	FY2028 7	FY2029 8
PHYSICALS											
OPEN PIT											
Waste mined	bcm	25,809,569		6,499,191	5,844,268	759,850	0	0	7,588,293	4,564,955	553,012
Waste tonnes	tonnes			17,631,531	15,838,029	2,060,846	0	0	20,368,576	12,357,510	1,497,016
Ore mined	bcm	1,192,608		186,912	313,384	290,138			57	197,736	204,381
Total mined	bcm	27,002,177		6,686,103	6,157,652	1,049,988	0	0	7,588,350	4,762,691	757,393
Density				2.7	2.7	2.7			2.7	2.7	2.7
Ore mined	tonnes	3,231,945		507,070	849,274	786,905			153	535,279	553,264
Ore Grade	% Li2O	1.36%		1.48%	1.40%	1.45%			0.98%	1.19%	1.25%
UNDERGROUND											
Boxcut	t	2,000,000			2,000,000						
Development	m	15,918			787	4,066	4,128	3,500	3,084	353	
Development Waste	t	859,167			71,605	259,316	214,718	133,101	173,279	7,148	
Development Ore	t	290,242				42,246	121,813	58,558	49,212	18,413	
Development Ore Grade	% Li2O	1.32%				1.37%	1.45%	1.33%	1.06%	1.07%	
Stope Production											
Total Ore Production	t					271,801	965,769	1,118,069	792,268	772,058	
Production Ore Grade	% Li2O					1.38%	1.31%	1.47%	1.11%	1.05%	
Total Ore Mined	t	7,442,152		507,070	849,274	1,100,952	1,087,582	1,176,627	841,633	1,325,750	553,264
Ore Grade	% Li2O	1.31%		1.48%	1.40%	1.43%	1.33%	1.46%	1.11%	1.11%	1.25%
PROCESSING											
Processed Ore	t	7,442,151		85,000	1,080,000	1,090,000	1,100,000	1,100,000	1,097,500	1,140,000	749,651
Head Grade	% Li2O	1.31%		1.47%	1.43%	1.43%	1.33%	1.45%	1.19%	1.09%	1.23%
Recovery	%			71.7%	71.7%	71.7%	71.7%	71.7%	71.7%	71.7%	71.7%
DMS Output Calculated	t	1,206,136		15,446	190,920	192,688	180,857	197,175	161,452	153,611	113,987
CXO Output	t	1,206,606		15,514	190,486	192,734	180,226	197,037	162,446	154,017	114,146
Concentrate Grade	% Li2O	5.80%		5.80%	5.80%	5.80%	5.80%	5.80%	5.80%	5.80%	5.80%
SALES											
Concentrate Shipped	t	1,206,605		12,500	182,500	192,500	187,500	192,500	170,000	152,000	117,105
Concentrate Grade	% Li2O	5.80%		5.80%	5.80%	5.80%	5.80%	5.80%	5.80%	5.80%	5.80%
FINANCIALS											
Pricing											
Lithium Price	US\$/dmt	2		751	751	751	751	751	751	751	751
Exchange rate	x	0.70		0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Sea Freight Adjustment	US\$/dmt			(20.0)	(20.0)	(20.0)	(20.0)	(20.0)	(20.0)	(20.0)	(20.0)
Revenues											
Revenues	US\$m	883		9.1	133.6	140.9	137.3	140.9	124.4	111.3	85.7
Revenues	A\$m	1,262		13.1	190.8	201.3	196.1	201.3	177.8	158.9	122.5
Costs											
OP Mining Cost	US\$/t mined	(4.4)		(4.4)	(4.4)	(4.4)	(4.4)	(4.4)	(4.4)	(4.4)	(4.4)
UG Mining Cost	US\$/t mined	(41.0)		(41.0)	(41.0)	(41.0)	(41.0)	(41.0)	(41.0)	(41.0)	(41.0)
Processing	US\$/t proc.	(16.7)		(16.7)	(16.7)	(16.7)	(16.7)	(16.7)	(16.7)	(16.7)	(16.7)
Haulage & Logistics	US\$/t conc.	(12.0)		(12.0)	(12.0)	(12.0)	(12.0)	(12.0)	(12.0)	(12.0)	(12.0)
Site G&A	US\$/t conc.	(11.0)		(11.0)	(11.0)	(11.0)	(11.0)	(11.0)	(11.0)	(11.0)	(11.0)
OP Mining Cost	A\$m	(182.8)		(44.1)	(42.1)	(9.7)	0.0	0.0	(47.8)	(32.1)	(7.0)
UG Mining Cost	A\$m	(229.3)		0.0	0.0	(15.9)	(56.5)	(65.4)	(46.3)	(45.2)	0.0
Processing	A\$m	(177.5)		(2.0)	(25.8)	(26.0)	(26.2)	(26.2)	(26.2)	(27.2)	(17.9)
Haulage & Logistics	A\$m	(20.7)		(0.2)	(3.1)	(3.3)	(3.2)	(3.3)	(2.9)	(2.6)	(2.0)
Site G&A	A\$m	(19.0)		(0.2)	(2.9)	(3.0)	(2.9)	(3.0)	(2.7)	(2.4)	(1.8)
Total costs	A\$m	(629.3)		(46.5)	(73.9)	(58.0)	(88.9)	(98.0)	(125.9)	(109.5)	(28.7)
OP Mining Cost	US\$/t conc.	(106.0)									
UG Mining Cost	US\$/t conc.	(133.0)									
Processing	US\$/t conc.	(103.0)									
Haulage & Logistics	US\$/t conc.	(12.0)									
Site G&A	US\$/t conc.	(11.0)									
Royalties											
Royalty rate	%			5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Royalty amount	A\$m	(63.1)		(0.7)	(9.5)	(10.1)	(9.8)	(10.1)	(8.9)	(7.9)	(6.1)
Operating cash flow	A\$m	632.5		(33.5)	117.0	143.3	107.2	103.3	51.9	49.5	93.8
Capex											
Non-Sustaining Capex	A\$m	(156.6)		(88.9)	(10.3)	(4.7)	(5.7)		(47.0)		
Sustaining Capex	A\$m	(67.9)			(3.6)	(33.5)	(29.2)		0.0	(1.6)	
Cash flow before tax	A\$m	344.9	0.0	(123.0)	93.5	95.1	62.5	93.3	(4.0)	39.9	87.6
Discount factor	x	8%	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08
NPV (start of period)	A\$m		203.0	219.3	359.8	295.1	223.6	179.1	100.1	112.1	81.1
NPV from CXO	A\$m		221.0								
IRR pre-tax	%		65%								
IRR from CXO	%		54%								
Tax											
Tax payable	A\$m			0.0	0.0	0.0	0.0	0.0	0.0	(1.9)	(26.3)
Cash flow after tax	A\$m	316.7	0.0	(123.0)	93.5	95.1	62.5	93.3	(4.0)	38.1	61.3
NPV (start of period)	A\$m		188.9	204.0	343.3	277.3	204.4	158.3	77.7	87.9	56.8
IRR post-tax	%		64%								

Source: CXO and Evolution Capital Advisors estimates

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All currencies are in Australian dollars unless otherwise specified.

1. CXO Valuation

Spodumene Pricing

Among the lithium products, spodumene is currently closing the gap with value-added lithium chemicals. Contract prices have increased from US\$500/t in April to more than US\$650/t currently with the spot price reaching US\$925/t (FOB Australia). The last time the spodumene price reached such level (late 2017 - early 2018), lithium chemicals were US\$22,000-24,000/t, they are only US\$12,000/t to US\$14,000/t currently.

According to the 29th July 2021 ASX announcement from Pilbara Minerals Ltd (ASX: PLS), spot pricing has reached higher values. For its inaugural spodumene concentrate auction held via its Battery Material Exchange (BMX) on the same day, a total of 62 online bids ranging from US\$700/dmt to US\$1,250/dmt FOB Port Hedland, were received for a 'spot' 10,000dmt cargo (SC 5.5%) of spodumene concentrate from the Pilgangoora operation. Note PLS has accepted the highest bid of US\$1,250/dmt.

In this context, the pricing scenario used by CXO appears conservative. As well as a flat value of US\$751/dmt reflecting the average price of the Roskill price forecast used for the DFS, we have run our model with flat prices of US\$850/dmt and US\$1,000/dmt.

Finniss NPV Valuation

Table 1.1 summarises the results of the NPV valuation for the Finniss project. Once our financial model had been validated to provide results similar to the values disclosed in the DFS announcement, the model was extended including:

- The inclusion of the inferred material, extending the mine life to 10 years; and
- The assumption that the 9.8 to 16.2 million tonnes Exploration Target would convert in time to a mining inventory similar to the one defined with the current Mineral Resource of 15 Mt @ 1.3 % Li₂O, converting to an Ore Reserve of 7.4 Mt @ 1.3% Li₂O, hence extending the mine life to 18 years.

Table 1.1 – Finniss NPV Valuation

Scenario / Spodumene Price	Unit	US\$751/t	US\$850/t	US\$1,000/t
Stage 1 DFS				
NPV @ 8% pre-tax	A\$m	203	308	468
IRR pre-tax	%	65%	89%	126%
NPV @ 8% post-tax	A\$m	189	266	381
IRR post-tax	%	64%	87%	121%
Extension + New Mining Inventory				
NPV @ 8%	A\$m	513	695	971
IRR pre-tax	%	67%	90%	126%
NPV @ 8% post-tax	A\$m	406	536	732
IRR post-tax	%	66%	88%	121%

Source: Evolution Capital Advisors estimates

Project Financing

We assumed that the combination of project finance debt, prepayment and other forms of debt financing would provide CXO with A\$80 million.

On top of the existing cash balance of \$38 million as at 30 June 2021, we assumed that CXO would raise another \$25 million @ \$0.23 (or 108,695,652 shares) resulting in a total of 1,282,812,906 shares.

CXO Sum of the Parts Valuation

Table 1.2 summarises the sum of the parts valuation for Core Lithium Ltd (CXO).

Table 1.2 – CXO Sum of the Parts Valuation

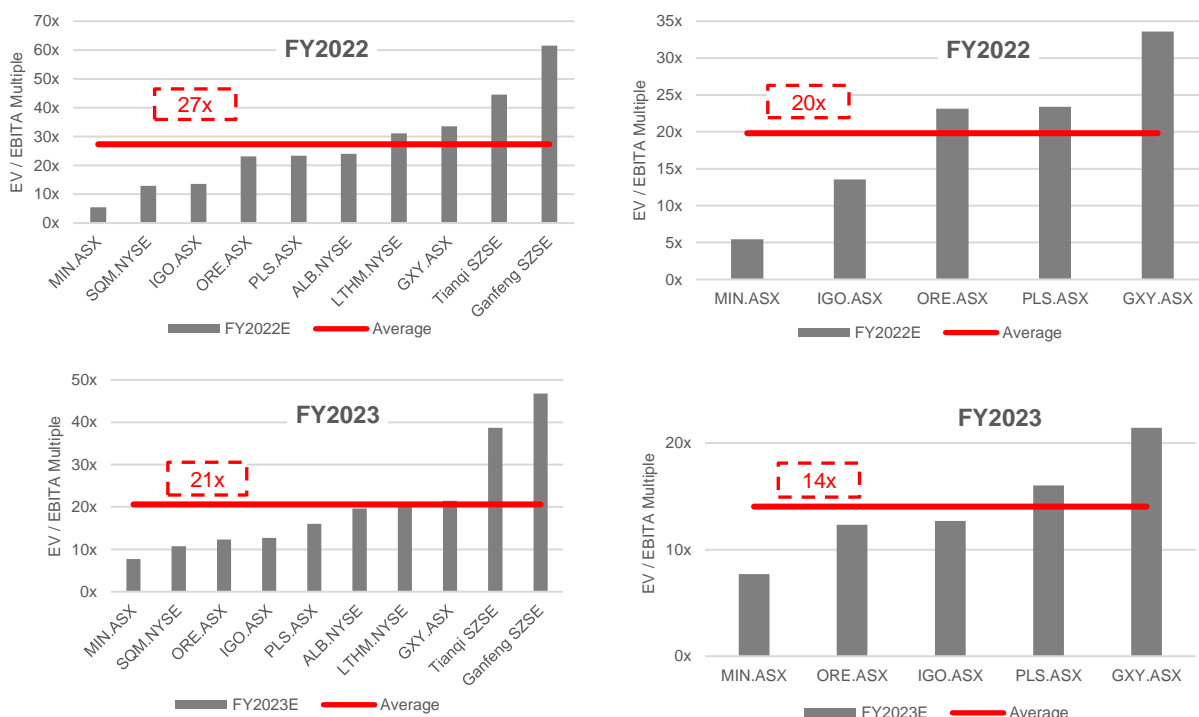
Asset	Value Range	Preferred	Per Share
Finniss Project Stage 1 DFS	\$189-\$381m	\$285.0m	\$0.222
Finniss Project Extension + New Mining Inventory	\$406-\$732m	+\$284.0m	\$0.221
Bynoe Gold Project	\$5-\$15m	\$10.0m	\$0.008
Cash (30 th June 2021)		\$38.1m	\$0.030
Modern Manufacturing Initiative Grant		\$6.0m	\$0.005
New Equity (\$25m @ \$0.23)		\$25.0m	\$0.019
Project Debt		(\$80.0m)	(\$0.062)
Corporate costs		(8.1m)	(\$0.006)
Total		\$560.0m	\$0.437

Source: Evolution Capital Advisors estimates

CXO EV/EBITDA Valuation

Considering the volatility of the lithium/spodumene prices and the change of status of CXO from developer to producer, an EV/EBITDA multiple valuation method appears also appropriate. As a number of ASX-listed producers such as GXY and ORE have generate negative or insignificant earnings up to recent times, consensus forecast estimates from Capital IQ were used to derive the following charts:

Figure 1.1 – EV/EBITDA Multiples for FY2022E and FY203E



Source: Capital IQ / S&P Global consensus estimates

While the charts on the left hand side provide a global view, the charts on the right hand side are focused on companies listed on the Australian Securities Exchange. Selecting a conservative multiple of 10x FY2023 would derive the valuation detailed in Table 1.3. CXO could reach such valuation when the Finniss project has reached commercial production in FY2023.

Table 1.3 – EV/EBITDA Multiple Valuation

Item	Preferred
FY2023E EBITDA Estimate	\$105.7m
EV/EBITDA Multiple	10x
EV	\$1,057.4m
Assumed Cash	\$25.0m
Project Debt	(\$80.0m)
Market Value	\$1,002.4m
Market Value per Share	\$0.78

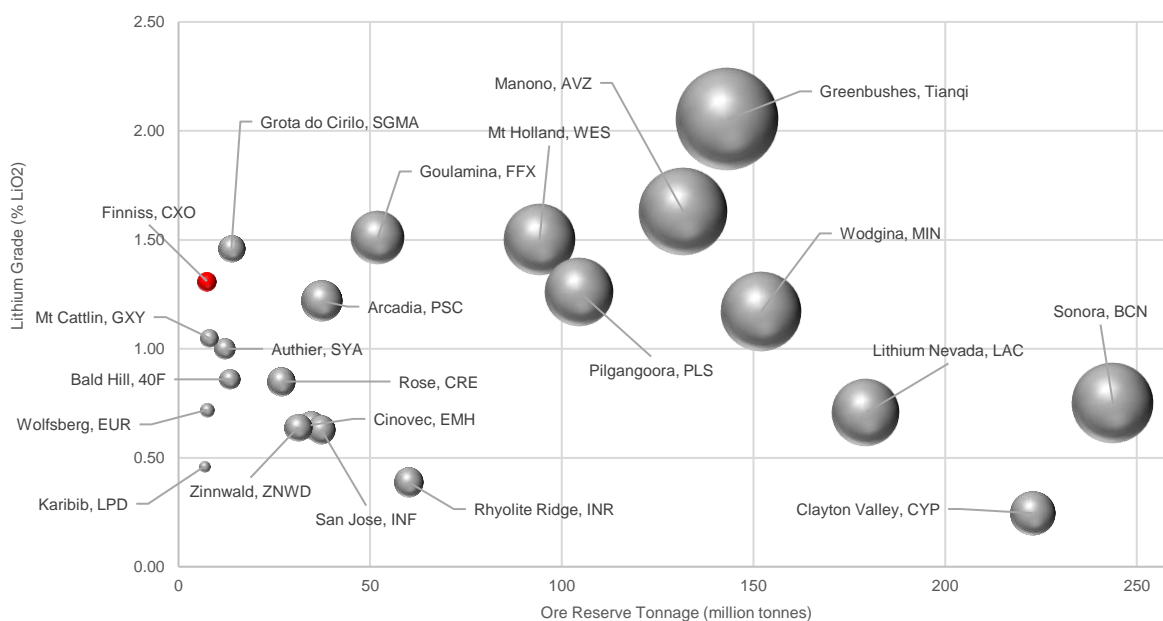
Source: Evolution Capital Advisors estimates

2. Finnis Project Benchmarking

Ore Reserve

Figure 2.1 displays the position of the Finnis ore reserve compared to its hardrock peers. In some way, it reflects the strategy of CXO, which has been to focus on progressing the project towards production rather than build an extensive mineral resource. The Bynoe Pegmatite Field is fertile and CXO should extent its mining inventory once it has reach production status.

Figure 2.1 – Hardrock Lithium Ore Reserve Benchmarking

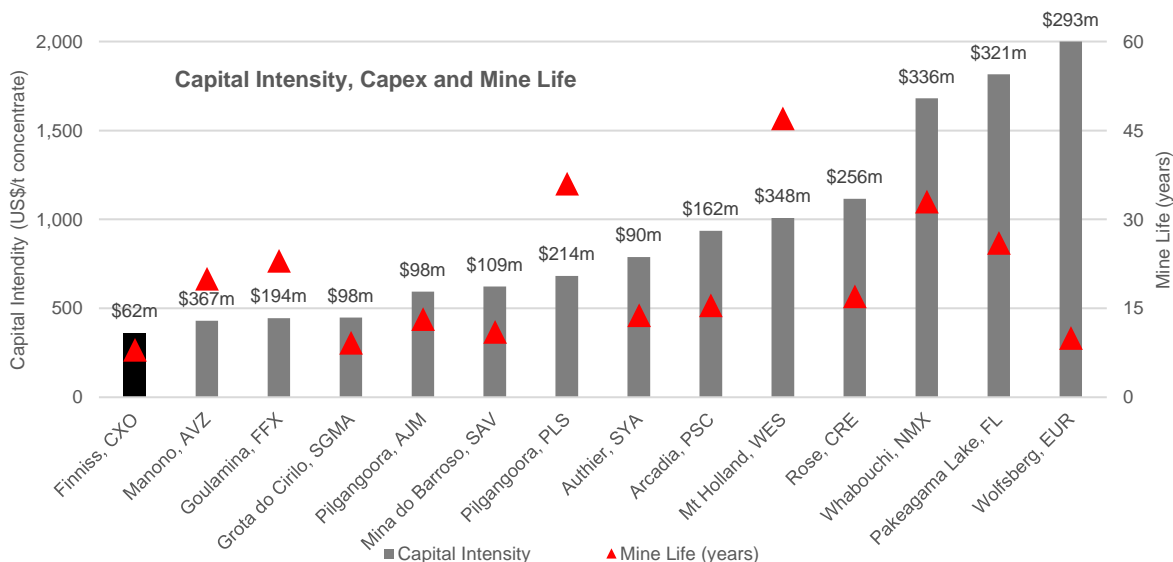


Source: S&P Global Market Intelligence

Capital Intensity and Mine Life

One of the key competitive advantage of the Finnis project is its mineralogy. The pegmatite is coarse grained, which results in a simple processing flow chart without flotation circuit. This also reduces the initial capital expenditure quite significantly compared to other projects and results in the lowest capital intensity.

Figure 2.2 – Capex, Capital Intensity and Mine Life



Source: S&P Global Market Intelligence

3. CXO Strategy

With the DFS now completed, the key focus of CXO is financing and additional off-take for the Finnis Lithium Project.

With regards to financing, we can expect a combination of traditional debt from a mining bank, some prepayment from one or more off-takers and possibly some funding from a government agency.

Once the Finnis project is up and running, a spin-off of the Bynoe Gold Project is likely.

4. Finniss Lithium Project

Location and Infrastructure

Core Lithium owns 100% of the Finniss Lithium Project, located just 25km south of Darwin Port in the Northern Territory.

The flagship Finniss Project lies within one of the most prospective areas for lithium in the NT - the Bynoe Pegmatite Field - and covers over 500km² of granted tenements.

The Finniss Project has substantial infrastructure advantages; being close to grid power, gas and rail and only 88km trucking distance by sealed road to Darwin Port – Australia’s nearest port to Asia.

Figure 4.1 – Finniss Lithium Project Location



Source: CXO

The Project is in proximity to Darwin allowing access to critical operational infrastructure. The Project is located within:

- 0.5km of sealed road connecting to Darwin Port
- 4km of an existing 400,000kl Process Water Dam
- 10km of NT Electricity Grid connection
- 15km of 310MW Gas Fired Power Station
- 20km of Zoned Industrial Park
- 25km of Port Darwin (88km by road)
- 1 hour drive from Darwin Airport and City.

Environment Approvals

Key approvals necessary for the Finniss Lithium Project are Environmental Approval administered by the NT EPA and a Mining Approval administered by the Department of Industry, Tourism and Trade (Formerly Department of Primary Industry & Resources).

The Finniss Lithium Project approvals have been secured for seven years through the Notice of Alteration which outlined the proposed future contributions of the BP33, Carlton & Hang Gong prospects. The Notice of Alteration allows for contributions from these four mines with Crushing/Screening/Concentration/Tailings all approved for seven years at the Grants processing facility.

Mining Approval

The tenure required to carry out the company's activities is all at granted status as follows:

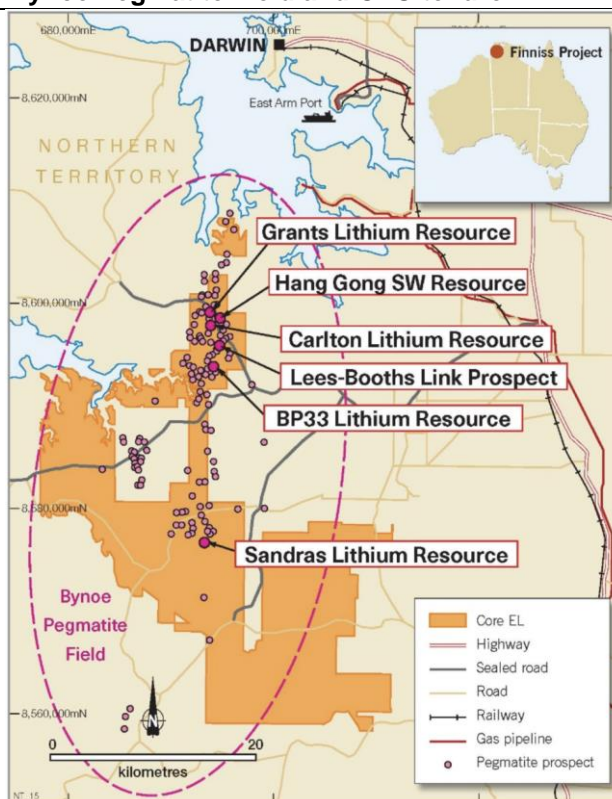
- ML31726 - Grants Mineral Lease
- ML32346 - BP33 Mineral Lease
- ML32074 - Ancillary Mineral Lease allowing the operating activities between Grants, BP33 & OHD
- ML32278 - Ancillary Mineral Lease allowing the C5 mine water dam to be constructed and operated

The Mining Authorisation for Grants was issued in April 2020. Once the security deposit required by the Mining Authorisation is established all other approvals/licences are sufficiently advanced to allow an orderly start to the project.

Geology

The Grants Lithium Deposit is hosted within a rare element pegmatite that is a member of the Bynoe pegmatite field. The Bynoe Pegmatite Field is situated 15km south of Darwin and extends for up to 70km in length and 15 km in width. Individual pegmatites vary in size from a few metres wide and tens of metres long up to larger bodies tens of metres wide and hundreds of metres long.

Figure 4.2 – Bynoe Pegmatite Field and CXO tenure



Source: CXO

The pegmatites are classified as LCT (Lithium-Caesium-Tantalum) type and are believed to have been derived from the ~ 1845 Ma S-Type Two Sisters Granite which outcrops to the west.

Fresh pegmatite at Grants is composed of coarse grained spodumene, quartz, albite, microcline and muscovite. Spodumene, a lithium bearing pyroxene ($\text{LiAl}(\text{SiO}_3)_2$), is the predominant lithium bearing phase and displays a diagnostic red-pink UV fluorescence. The pegmatite is not strongly zoned, apart from a thin (1-2m) quartz-mica-albite wall facies. Overall, the lithium content throughout the pegmatite is very consistent.

Mineral Resource

On 15th June 2020, CXO announced 52% increase to the Finniss mineral resource estimate. This estimate was later adjusted as part of the DFS, converting some inferred resource to the measured and indicated categories.

Table 4.1 – Finniss Project Mineral Resource Estimate summary

Category	Oxidation	Tonnes	Li ₂ O
Measured	Fresh	4,090,000 t	1.48%
Indicated	Fresh	4,180,000 t	1.36%
Measured + Indicated	Fresh	8,270,000 t	1.42%
Inferred	Fresh	6,450,000 t	1.19%
Total	Fresh	14,720,000 t	1.32%

Source: CXO, 0.75% Li₂O for all deposits except Sandras 0.6%, Hang Gong and Booth/Lees 0.7%

The Finniss mineral resource is made of the following deposits: Grants, BP33, Sandras, Carlton, Hang Gong, Booths & Lees.

Ore Reserve

The Ore Reserve Estimate for open pit and underground is summarised in the Table 3.2 below.

Table 4.2 – Finniss Project Ore Reserve

OPEN PIT

Deposit	Category	Tonnes	Li ₂ O	Contained Li ₂ O
Grants	Proved	1.8 Mt	1.5%	26,400
	Probable	0.3 Mt	1.4%	4,700
	Total	2.1 Mt	1.4%	31,000
Hang Gong	Proved	0.0 Mt	0.0%	-
	Probable	1.1 Mt	1.2%	13,300
	Total	1.1 Mt	1.2%	13,300
Total OP	Proved	1.8 Mt	1.5%	26,400
	Probable	1.4 Mt	1.3%	17,900
	Total	3.2 Mt	1.4%	44,300

UNDERGROUND

Deposit	Category	Tonnes	Li ₂ O	Contained Li ₂ O
Grants	Proved	0.0 Mt	1.0%	200
	Probable	0.2 Mt	1.5%	3,400
	Total	0.3 Mt	1.4%	3,600
BP33	Proved	1.3 Mt	1.4%	18,400
	Probable	1.0 Mt	1.4%	13,800
	Total	2.3 Mt	1.4%	32,200
Carlton	Proved	0.6 Mt	1.2%	7,100
	Probable	1.0 Mt	1.0%	10,700
	Total	1.6 Mt	1.1%	17,800
Total UG	Proved	1.9 Mt	1.3%	25,700
	Probable	2.3 Mt	1.2%	27,800
	Total	4.2 Mt	1.3%	53,600

ALL MINING METHODS

ALL	Proved	3.8 Mt	1.4%	52,100
	Probable	3.7 Mt	1.2%	45,800
	Total	7.4 Mt	1.3%	97,900

Source: CXO

The open pit Ore Reserve was estimated using 0.75% Li₂O cut-off, and the underground reserve was estimated using 0.61% Li₂O cut-off which was based on the Mineral Resource being a geologically domained resource; and the geological model being modified for ore loss and dilution and evaluated to determine which blocks produced cash surplus when treated as ore.

Metallurgical Recovery

To determine the amenability of the Finnis pegmatites to concentration through density separation techniques, test work was conducted on composited core samples with Heavy Liquid Separation (HLS) and Dense Media Separation (DMS) test work being performed on feed streams at various size distributions.

The test work identified two (2) stage DMS on two separate size fractions, 6.3 - 2mm and 2 - 0.5mm (including DMS on the re-crushed 6.3 - 2mm stage 2 float material) produces a high- grade concentrate, at a high recovery. This configuration presents the greatest capacity for handling variability in process plant performance and feed composition, and the greatest capacity to accommodate adverse effects of scale-up from laboratory-scale test work.

Table 4.3 – Nagrom Test work Campaign

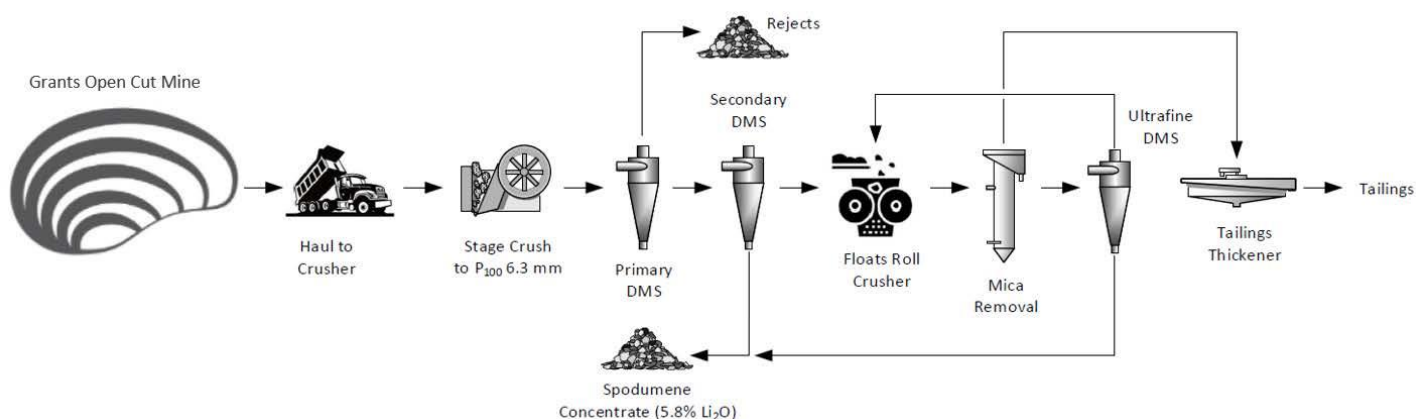
Method	DMS with Reflux Classification		
Details	-6.3mm +2mm ; -2mm +0.5mm with re-crush		
	Li ₂ O	Overall Recovery	Notes
Test work Results	6.07%	69.8%	
Interpolated Results			
Target Grade	6.0%	70.0%	
Target Grade	5.5%	71.7%	
Target Grade	5.0%	73.7%	

Source: CXO

Processing

The proposed Finnis Lithium Project Gravity Plant has been designed to treat a nominal 1.0 million tonnes of spodumene bearing pegmatite at a head grade of between 1.4% and 1.5% Li₂O and targeting production of a spodumene concentrate containing an average 5.8% Li₂O.

Figure 4.3 – Process Flow Chart



Source: CXO

Thanks to the coarse grain nature of the ore, the key difference with other hard rock lithium producers is the absence of a flotation circuit. This reduces the capital expenditure significantly as well as reduces processing cost and risks.

Capital Costs

Table 4.4 summarises the initial capital costs

Table 4.4 – Initial Capital Cost

Item	A\$
Density Media Separation (DMS) Plant	\$37.9m
Power and Water Supply	\$7.5m
Site Establishment and Setup	\$1.1m
Tailings Storage Facility (TSF) and Water Management	\$6.4m
Mobilisation, Utilities and Services	\$1.7m
Roads	\$0.6m
Total Start-Up and Construction Capital Costs	\$55.0
Pre-strip Grants Open Pit	\$33.9
Total Initial Capital Cost	\$88.9m

Source: CXO

The initial capital cost are particularly low as the processing flow chart does not require a flotation circuit.

The project also benefits from a connection to grid power and as most personal will be able to commute from Darwin, to site accommodation is required.

Operating Costs

The operating costs are summarised in Table 4.5 below.

Table 4.5 – Operating Costs Assumptions

LOM Average Unit Operating Costs	US\$/t concentrate
Open pit mining costs	106
Underground mining cost	133
Processing cost	103
Haulage & Logistics	12
Site General & Administration	11
C1 Operating Costs	364
Royalties	36
Sustaining & UG Development Capex	41
All-in Sustaining Cost (FOB)	441

Source: CXO

From those values, unit costs such as mining cost per tonne mined (US\$4.40/t open pit and US\$41/t underground), and processing cost per tonne processed (US\$16.7/t) were back calculated. The royalties rate has been assumed at 5% resulting in the operating cost of US\$36/t of concentrate indicated in the table above.

Corporate Tax

As disclosed by CXO in its DFS announcement, A corporate tax rate of 30% was used in our financial model. In addition, tax losses of A\$75.3 million were also included.

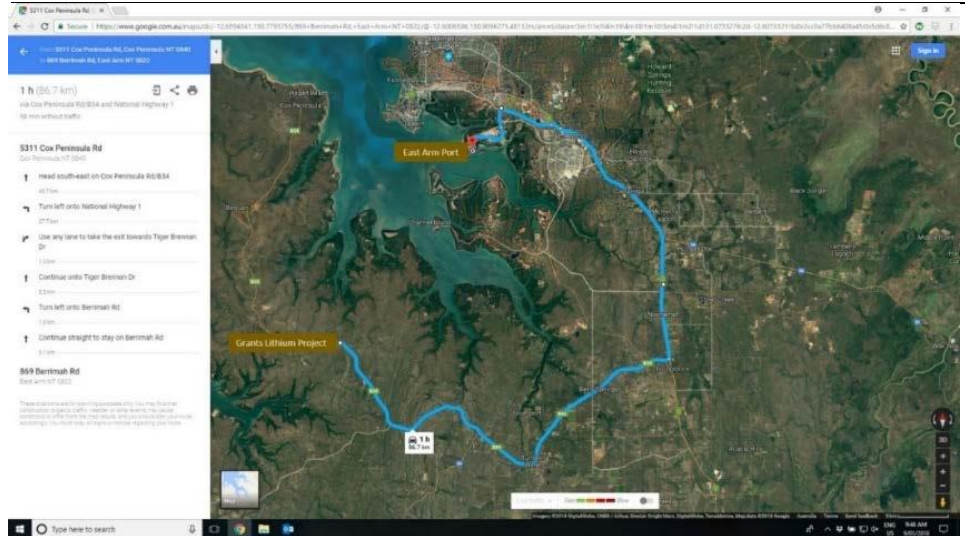
Concentrate Product Haulage

The DMS concentrate saleable product will be loaded into road trains for transport to Darwin Port (East Arm or EAW). The proposed trucking route will be along the sealed Cox Peninsula Road, through to the Stuart Highway, along the Stuart Highway to Tiger Brennan Drive and then Berrimah Road, to the East Arm Port.

The total travel distance to the East Arm Wharf for Route 1 is calculated to be 88.31km.

Each road train has a 95-tonne capacity. It is estimated that ten road train movements per day will be required at nameplate production rates.

Figure 4.4 – Haulage Road



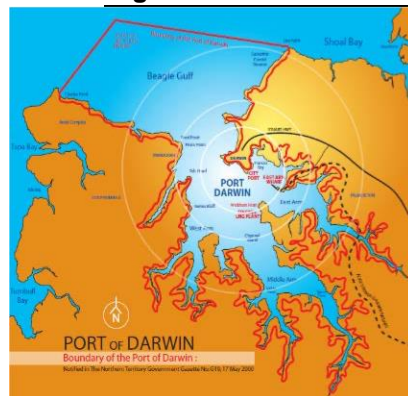
Source: CXO

Darwin Port

Darwin Port Operations (DPO) is a multi-user facility with 4 berths spaced along 865 metres of quay line. Berth 2 is used for bulk ore exports and has a rail mounted dry bulk ship loader.

In May 2021, CXO announced it had entered into a Port Operating Agreement (POA) with DPO. The POA will allow CXO to access and use the DPO facilities to export its lithium products. The agreement contemplates Direct Ship Ore (DSO) and spodumene concentrate.

Figure 4.5 – Darwin Port Location and Facilities



Boundary of Darwin Port



East Arm Port



Proximity of Darwin Port to major trading ports



Berth 2 bulk berth (ship docked)

Source: CXO

5. Directors & Management Team

Greg English, Chairman

Qualifications: B.E. (Hons) Mining, LLB

Greg is a qualified mining engineer and lawyer with over 20 years' experience in multi-commodity projects throughout Australasia. Greg is a partner of Piper Alderman Lawyers and specialises in mining, commercial and securities law. He is also a qualified mining engineer, with experience on a wide variety of mining projects. Greg is also a director of ASX-listed companies Archer Exploration and Leigh Creek Energy.

Greg's experience in the mining industry, particularly in capital raising, tenement acquisition, project management and business development, and his industry knowledge and business relationships, enables Core to manage and develop its existing tenement portfolio and to identify and secure other high-quality exploration assets.

Stephen Biggins, Managing Director

Qualifications: MBA, BSc (Hons) Geol, MAusIMM

Stephen has 25 years' experience as a geologist and as an executive in both the mining industry in Australia and internationally.

He has applied his Honours Degree in Geology and MBA as the founding Managing Director of several ASX-listed companies.

As Managing Director of Core Lithium (ASX: CXO), Stephen led the Company to the acquisition, discovery and definition of the first lithium Resources in the Northern Territory, which is one of the highest-grade lithium resources in Australia.

Stephen previously served as founding director of Southern Gold (ASX: SAU) from 2005 to 2010 and led the acquisition and discovery of the Cannon Gold Mine in Western Australia, which is currently in production. Stephen was also a founding Director of Investigator Resources Ltd (ASX: IVR) which has discovered a high-grade Paris Silver Resource in South Australia on its founding projects.

Stephen has built prospective portfolios of lithium, gold, uranium and base metal exploration projects in Australia, Asia and Africa..

Heath Hellewell, Non-Executive Director

Qualifications: BSc (Hons) MAIG

Heath is an exploration geologist with over 20 years of experience in gold, base metals and diamond exploration predominantly in Australia and West Africa.

Heath has previously held senior exploration positions with a number of successful mining and exploration groups including DeBeers Australia and Resolute Mining. Heath joined Independence Group in 2000 prior to the Company's IPO and was part of the team that identified and acquired the Tropicana project area, eventually leading to the discovery of the Tropicana and Havana gold deposits.

Most recently, Heath was the co-founding Executive Director of Doray Minerals, where he was responsible for the Company's exploration and new business activities.

Following the discovery of the Andy Well gold deposits, Doray Minerals was named "Gold Explorer of the Year" in 2011 by The Gold Mining Journal and in 2014 Heath was the co-winner of the prestigious "Prospector of the Year" award, presented by the Association of Mining and Exploration Companies.

Malcolm McComas, Non-Executive Director

Qualifications: BEc, LLB, SF Fin, FAICD

Malcolm is an experienced company director with more than 20 years' experience.

He has worked with many growth companies within the resources sector over his career, most recently he was a director of BC Iron and Consolidated Minerals.

He joins the board as Core continues to strengthen its capabilities and skills at both management and board levels.

Malcolm has previously been an investment banker with leadership in several global organisations, including head of investment banking at County NatWest (now Citi Group) for 10 years, and a director of Grant Samuel for a similar period.

Currently, he is also chairman of Pharmaxis Limited and Fitzroy River Corporation Limited, and a director of Actinogen Medical Limited and Royalco Resources Limited.

Jarek Kopias, Company Secretary

Qualifications: BCom, CPA, AGIA, ACIS

Jarek is a qualified certified practising accountant who has worked extensively in the resources sector in various corporate and mine site roles. He holds a Bachelor of Commerce Degree, is a chartered secretary and a member of the Institute of Certified Practising Accountants in Australia.

Simon Iacopetta, CFO

Qualifications: CA, BCom (Corporate Finance & Accounting), GCert (Applied Finance & Investment), Dale Carnegie Human Relations Management, MAICD

Simon is a mining executive with broad experience in precious and base metals development and mining companies with projects in Australia, North America and Africa.

Simon has worked for and consulted to ASX listed companies in various financial and operational capacities.

He was most recently Chief Financial Officer and Company Secretary of ASX listed precious and base metals developer Terramin Australia Limited and previously Chief Financial Officer of gold miner Ramelius Resources Limited. As a senior executive he was responsible for corporate strategy, funding and capital management, treasury, organic and acquisition expansion opportunities, governance and risk management.

Previously, he held senior management roles with an international accounting firm specialising in the provision of corporate finance and assurance services primarily focusing on publicly listed companies.

Blair Duncan, Chief Operating Officer

Qualifications: Bachelor of Engineering (Mining), MBA

Blair is a degree-qualified mining engineer which he earned from the University of Wollongong and has a Master of Business Administration earned from Charles Sturt University.

Blair's extensive mining background has been gained in the commodities of coal, gold, copper, nickel, vanadium, iron ore and lithium.

He has held senior operations management and executive C-suite roles with significant business unit responsibility in open pit and underground mines, gold CIL /CIP processing plants, nickel concentrators, heap leach operations, copper SXEW cathode production facilities and Iron ore developments.

Blair has successfully managed a number of significant greenfield and brownfield developments during his career. His Australian mining experience has included significant time spent in NSW, WA, NT and SA.

His international mining experience has included extensive mining business travel throughout Brazil, North America and China.

6. Investment Risks

CXO is exposed to a number of risks including:

- **Geological risk:** the actual characteristics of an ore deposit may differ significantly from initial interpretations.
- **Resource risk:** all resource estimates are expressions of judgement based on knowledge, experience and industry practice. Estimates, which were valid when originally calculated may alter significantly when new information or techniques become available. In addition, by their very nature, resource estimates are imprecise and depend to some extent on interpretations, which may prove to be inaccurate.
- **Commodity price risk:** the revenues CXO will derive mainly through the sale of lithium concentrate exposing the potential income to metal price risk. The price of lithium fluctuates and is affected by many factors beyond the control of CXO. Such factors include supply and demand fluctuations, technological advancements and macro-economic factors.
- **Exchange Rate risk:** The revenue CXO derives from the sale of metal products exposes the potential income to exchange rate risk. International prices of lithium are denominated in United States dollars, whereas the financial reporting currency of CXO is the Australian dollar, exposing the company to the fluctuations and volatility of the rate of exchange between the USD and the AUD as determined by international markets.
- **Mining risk:** A reduction in mine production would result in reduced revenue.
- **Processing risks:** A reduction in plant throughput would result in reduced revenue. In all processing plants, some metal is lost rather than reporting to the valuable product. If the recovery of metal is less than forecast, then revenue will be reduced.
- **Operational cost risk:** an increase in operating costs will reduce the profitability and free cash generation of the project.
- **Management and labour risk:** an experienced and skilled management team is essential to the successful development and operation of mining projects.

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