



Arafura Resources Limited (ASX:ARU)

“Emerging as Australia’s Next NdPr Producer”

May 2019

Investor Presentation

Important Notice – Disclaimer



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Mineral Resources and Ore Reserves

The information in this presentation that relates to Mineral Resources was released in an ASX announcement dated 7 June 2017 (Detailed Resource Assessment Completed) and was completed in accordance with the guidelines of the JORC Code (2012). The information in this presentation that relates to Ore Reserves was released in an ASX announcement dated 7 February 2019 (Nolans Project Definitive Feasibility Study) and was completed in accordance with the guidelines of the JORC Code (2012). Arafura Resources 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 original market announcements continue to apply and have not materially changed. Arafura Resources confirms that the form and context in which the Competent Person's findings are represented have not been materially modified from the original market announcement.

Production Targets and Financial Information

Information in relation to production targets and financial information included in this presentation is extracted from an ASX announcement dated 7 February 2019 (Nolans Project Definitive Feasibility Study). Arafura Resources confirms that all material assumptions underpinning the production target and financial information set out in the announcement released on 7 February 2019 continue to apply and have not materially changed.

Investment Highlights

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- Arafura Resources Limited ASX listed company developing its 100% owned Nolans Rare Earths (NdPr) Project located in the Northern Territory, Australia.
- Wesfarmers (ASX:WES, Mkt Cap \$40bn) recently announced conditional A\$1.5 billion proposal to acquire Lynas Corporation (ASX:LYC, Mkt Cap \$1.3bn) invites investors to have a more positive view of the NdPr price outlook.
- Independent forecasters such as Roskill are predicting a 10 year price range for NdPr oxide of US\$66 to US\$90/ kg (and as high as \$150/kg) from 2020 to 2030 – such a price puts Arafura’s project in the zone.
- Government approvals in place to construct and operate Arafura’s Australian domiciled Rare Earth extraction facility.
- Arafura is planning to accelerate endeavours relating to engineering activities to target being “shovel ready” coincident with the alignment of forecast NdPr price increases from 2020
- Planning a targeted drilling and metallurgical program aimed at substantially extending the current mine life of 23 years and further reduce operating costs. Timing and extent of activities subject to funding.

Rare earths in corporate spotlight

Favourable price outlook

Australian mine & processing facility

Accelerating engineering activities

Drill program to extend mine life & further reduce OPEX

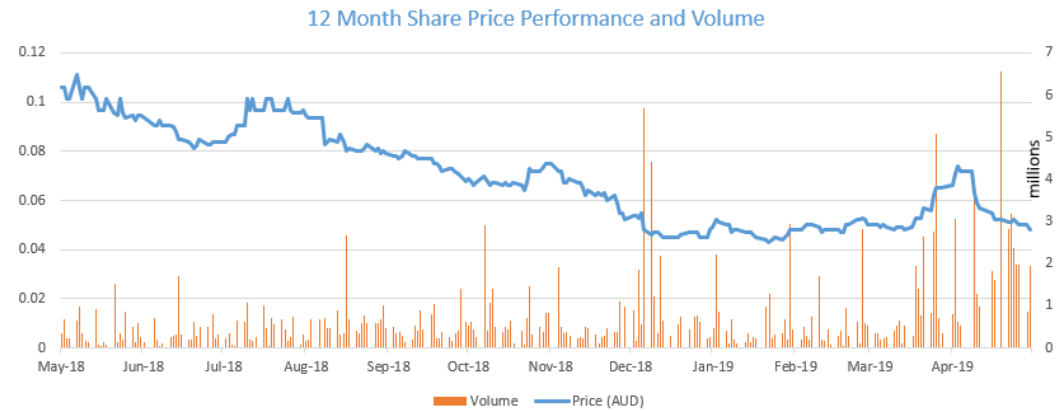
Refer ASX announcement 7 February 2019: Nolans Project Definitive Feasibility Study

Corporate Snapshot

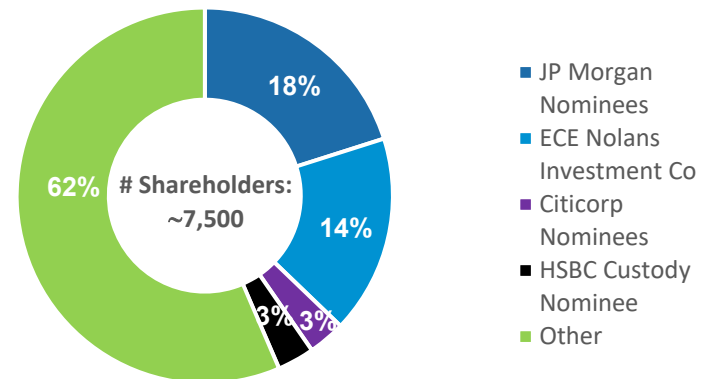


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Capital Structure	
ASX Code	ARU
ASX Share Price (13 May 19)	\$0.05
Shares on Issue	781m
Market Capitalisation	\$39.0m
12 Month Liquidity	\$13.8m
Cash	\$7.9m
Debt	Nil
Enterprise Value	\$31.1m



Board	Position
Mark Southey	Chairman
Gavin Lockyer	MD
Chris Tonkin	NED
Quansheng Zhang	NED



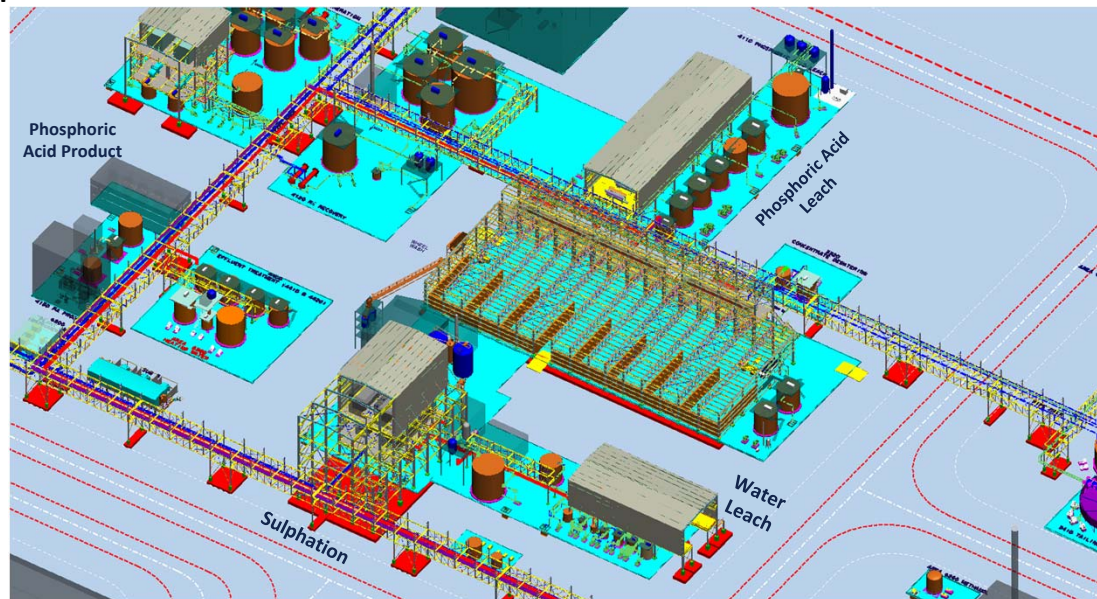
*Cash as at 31 March '19 plus share placement; EV as at 31 March '19.

Emerging as a Fully Integrated Australian Producer



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- **Portfolio of Australian assets**
 - 100% ownership of Nolans Rare Earth Project
 - Processing plant to be built in Australia
 - Considerable intellectual property validated through large scale pilot program completed in early 2019
 - Government approvals in place to construct and operate Rare Earths extraction facility
 - Native Title Agreement and Mining Licence expected 2019
- **Building long term relationships**
 - Key target markets identified
 - Non-binding offtake agreements for 20% of high value NdPr product
 - Offtake discussions underway for balance of NdPr, other rare earths and phosphoric acid
- **Arafura is positioned to create shareholder value as it emerges as a global low cost rare earths producer coinciding with forecast NdPr price increases from 2020**

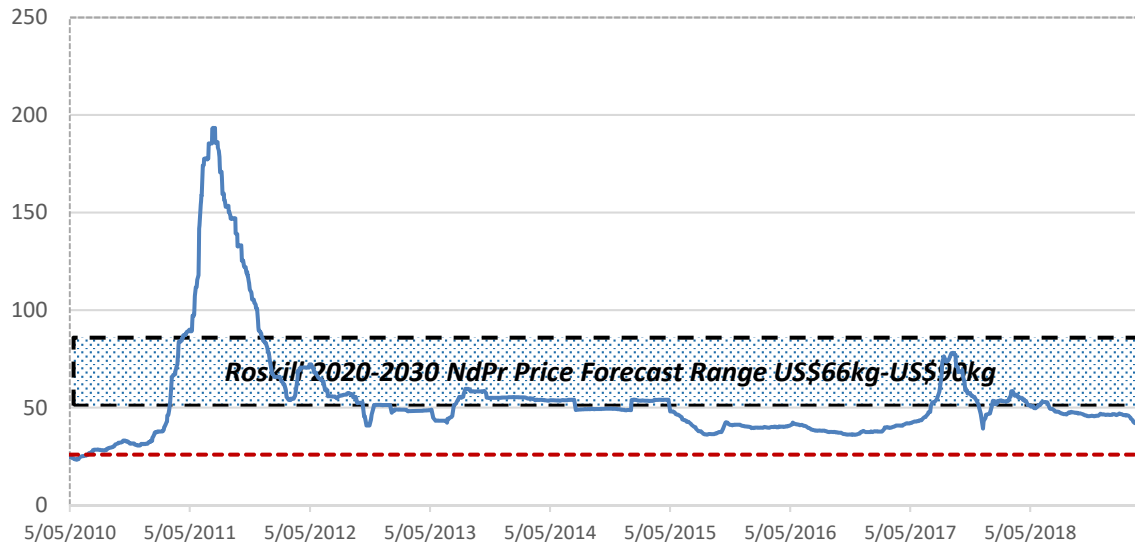


NdPr Forecast Puts Arafura in the “Zone”



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NdPr Oxide China Domestic US/ kg & Nolans



— NdPr Oxide China Domestic US/kg - - - Operating Cost US\$25.94/ kg NdPr

Source:
 Metal Pages- NdPr Oxide China Domestic RMB\$/ kg
 Federal Reserve- USD: RMB Exchange Rate
 Roskill Consulting (November 2018) Rare Earths Market Analysis

FINANCIAL REVIEW

Chanticleer

— Chanticleer

Lynas proves value of its Malaysian plant



Chanticleer is Australia's pre-eminent business column.

Apr 16, 2019 — 11:42am

CLSA has a 12 month price target for Lynas of \$3.50 a share based on a forecast for NdPr prices of \$US68 a kilogram by 2021.

Rare earth oxide prices will hit between **\$US60/kg and \$US150/kg after 2020**, according to consultancy Roskill. Kelly says the assumption for longer term NdPr price that appears to be built into the proposed Wesfarmers offer of \$2.25 a share is \$US50 a tonne.

THE AUSTRALIAN

Huge potential helps fuel Wesfarmers play for Lynas



ROBERT GOTTLIEBSEN
 Follow @BGottliebse

By ROBERT GOTTLIEBSEN, BUSINESS COLUMNIST
 6:48PM APRIL 23, 2019 • 90 COMMENTS

On the surface Wesfarmers' chairman Michael Chaney and CEO Rob Scott seem to have taken an incredible risk in bidding for rare earths producer Lynas. But then step back and you realise that Chaney and Scott have isolated the next boom — much greater electrification. Lynas takes Wesfarmers into the raw materials required for batteries and new appliances but it also has the potential, longer term, to be a supplier of a fuel for a developing power generation system.

Australia's Wesfarmers hints takeover battle for Lynas not over



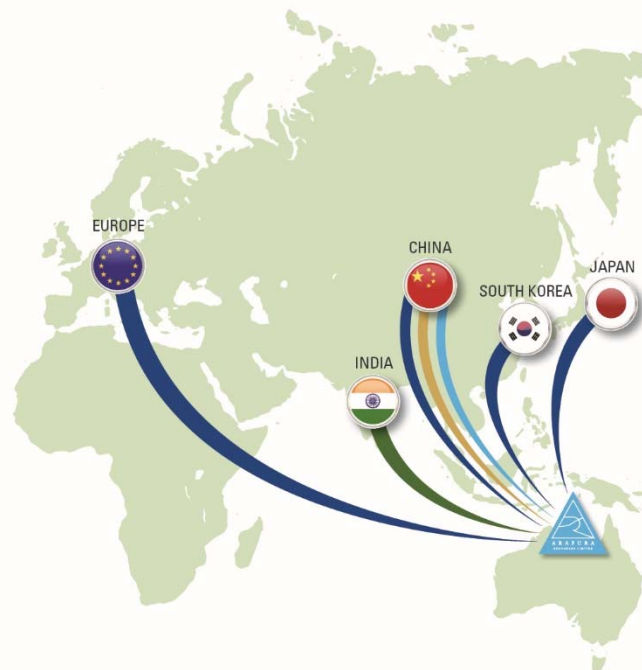
Melanie Burton, Paulina Doran

MELBOURNE/SYDNEY (Reuters) - Australia's Wesfarmers Ltd remains keen on buyout talks with rare earths miner Lynas Corp Ltd, the retail-to-chemicals conglomerate said on Friday, despite its A\$1.4 billion (\$992 million) approach being rejected earlier this week.









Offtake Strategy

FOR EXPORT TO INTERNATIONAL CUSTOMERS

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CHINA
JAPAN
SOUTH KOREA
EUROPE
- 
CHINA
- 
CHINA
JAPAN
- 
INDIA



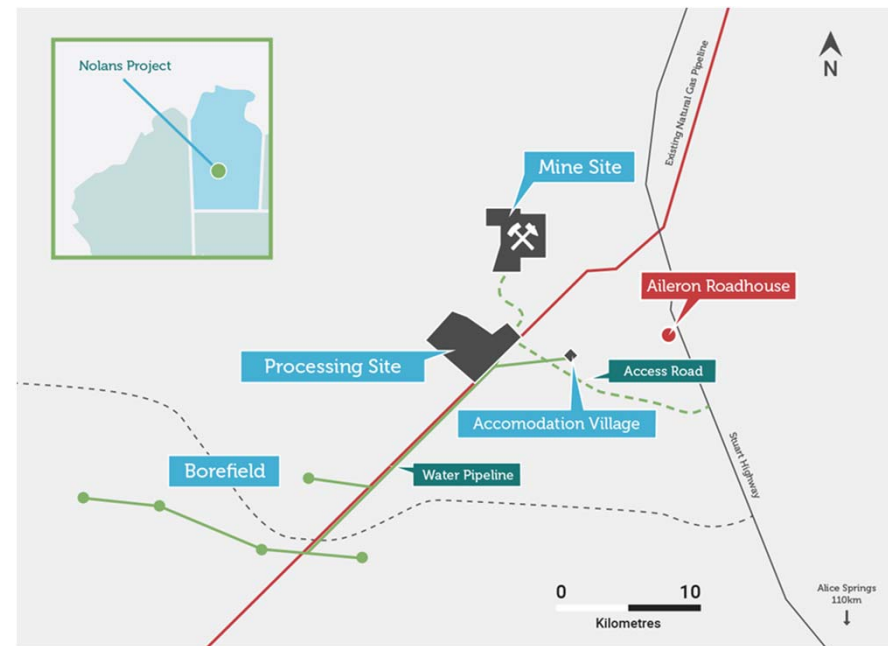
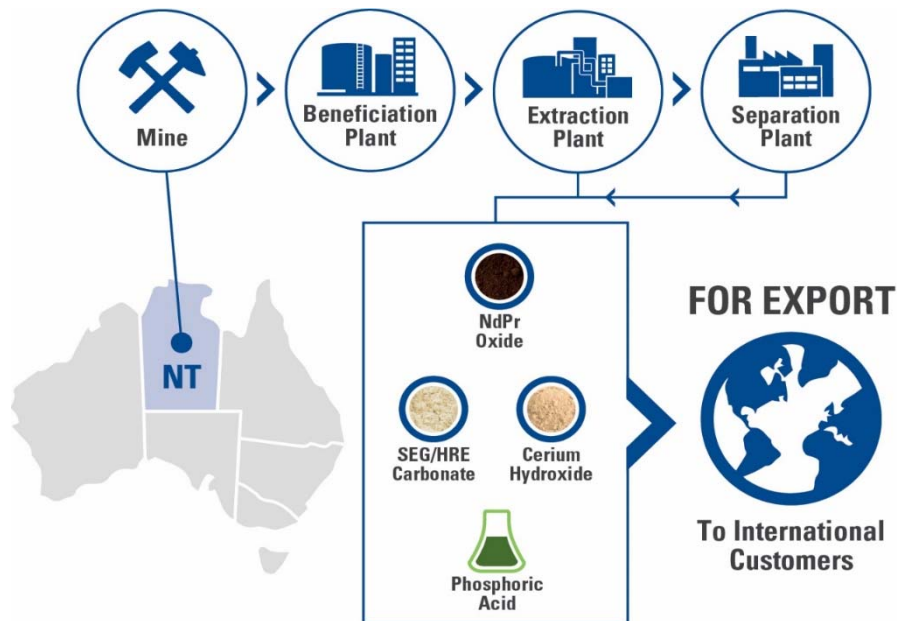
- Offtake agreements to underpin project funding
- Customer engagement targeted at NdPr users not aligned with China 2025 strategy
- Japan – NdFeB magnet manufacturers
- Europe & Korea – automotive OEMs and wind turbine makers
- China – NdFeB magnet manufacturers with significant export markets

Customer / Target Region	Amount (tonnes p.a.)	Offtake Status	Proportion of Revenue
JingCi Material Science Co. 	900	Mtu	96%
China 	3,457	In progress	
Japan 			
South Korea 			
Europe 			
SEG-HRE Carbonate – targeting contracts with rare earth processors			
China 	606 (TREO equivalent)	In progress	1%
Japan 			
Cerium Hydroxide – targeting contracts with rare earth processors			
Baotou Xinyuan Rare Earth Hi-tech 	8,383 (TREO equivalent)	Mtu	3%

Proportion of revenue for rare earth products only

100% Australian Domiciled Project

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- Tailings and process residues permanent disposed at site.
- Product traceability and waste management certainty.
- DFS includes fully costed permanent disposal and rehabilitation of waste residues at site.
- One in Three permanent magnets sold are sourced from activities with little respect for the environment (Source: Curtin University)
- Stuart Highway is 10 km east.
- Alice Springs railyard, airport and other services are 135 km south.
- Amadeus natural gas pipeline is adjacent to project site.
- Water supply is 30 km south.

Key Government Approvals Secured



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ntepa Northern Territory
Environment Protection Authority

ASSESSMENT REPORT 84

NOLANS PROJECT ARAFURA RESOURCES LTD

December 2017



Approval
Nolans Rare Earth Project, 135 km North-West of Alice Springs, Northern Territory (EPBC 2015/7436)
This decision is made under sections 130(1) and 133 of the *Environment Protection and Biodiversity Conservation Act 1999*.

Proposed action

person to whom the approval is granted Arafura Resources Limited

proponent's ACN 080 933 455

proposed action To construct and operate an open pit rare earths mine, intermediate processing facility using a phosphoric acid pre-leach process and associated support infrastructure, approximately 135 km north-west of Alice Springs, Northern Territory [See EPBC Act referral 2015/7436 and variation received 16 August 2016].

Approval

Controlling Provision	Decision
Listed threatened species and communities (sections 18 & 18A)	Approved
Nuclear actions (sections 21 & 22A)	Approved

conditions of approval

This approval is subject to the conditions specified below.

expiry date of approval

This approval has effect until 31 December 2069

Decision-maker

name and position Gregory Manning
Assistant Secretary
Assessments (WA, SA, NT) and Post Approvals Branch

signature

date of decision 11 May 2018

GPO Box 787 Canberra ACT 2601 • Telephone 02 6274 1111 • www.environment.gov.au
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NT Environment Protection Authority (EPA) Recommends Environmental Approval

“The NT EPA considers that the Project can be managed in a manner that avoids significant or unacceptable environmental impacts and risks.”

Assessment completed for mining, beneficiation and extraction processing at the Nolans site

DFS Completed February 2019



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Mining & Processing		
Mine Life (years)	23	
Concentrate (tpa)	293,000	
Production		
TREO equivalent (tpa)	13,343	
NdPr Oxide (tpa)	4,357	
Cerium Hydroxide (tpa TREO basis)	8,383	
SEG-HRE Carbonate (tpa TREO basis)	603	
Phosphoric Acid (tpa 54% P ₂ O ₅ MGA)	135,808	
Financial		
	US\$	A\$
Capital Cost (\$m)	726	1,006
Rare Earth Sales Revenue (\$m pa)	379	539
Phosphoric Acid Sales Revenue (\$m pa)	35	50
Mining Costs (\$m pa)	(30)	(43)
Processing Costs (\$m pa)	(103)	(148)
General & Administration Costs (\$m pa)	(15)	(21)
EBITDA (\$m pa)	266	377
KPI Analysis		
	US\$	A\$
Operating Cost \$/kg NdPr	34.07	48.40
Operating Cost \$/kg NdPr with MGA credit	25.94	36.85
NPV ₁₀ after tax (\$m)	497	729
IRR after tax (%)	17.43%	
After tax payback	Year 5	
IRR 15% @ US\$/kg NdPr	76	
IRR 10% @ US\$/kg NdPr	59	

* Production and financial data is calculated as the annual average following a three year ramp-up and excluding the partial final year production

23 year mine life

4,357 tonnes NdPr p.a.

EBITDA A\$377m p.a.

Ultra low OPEX of US\$25.94/kg NdPr

Capital payback in year 5

Highly leveraged to NdPr price

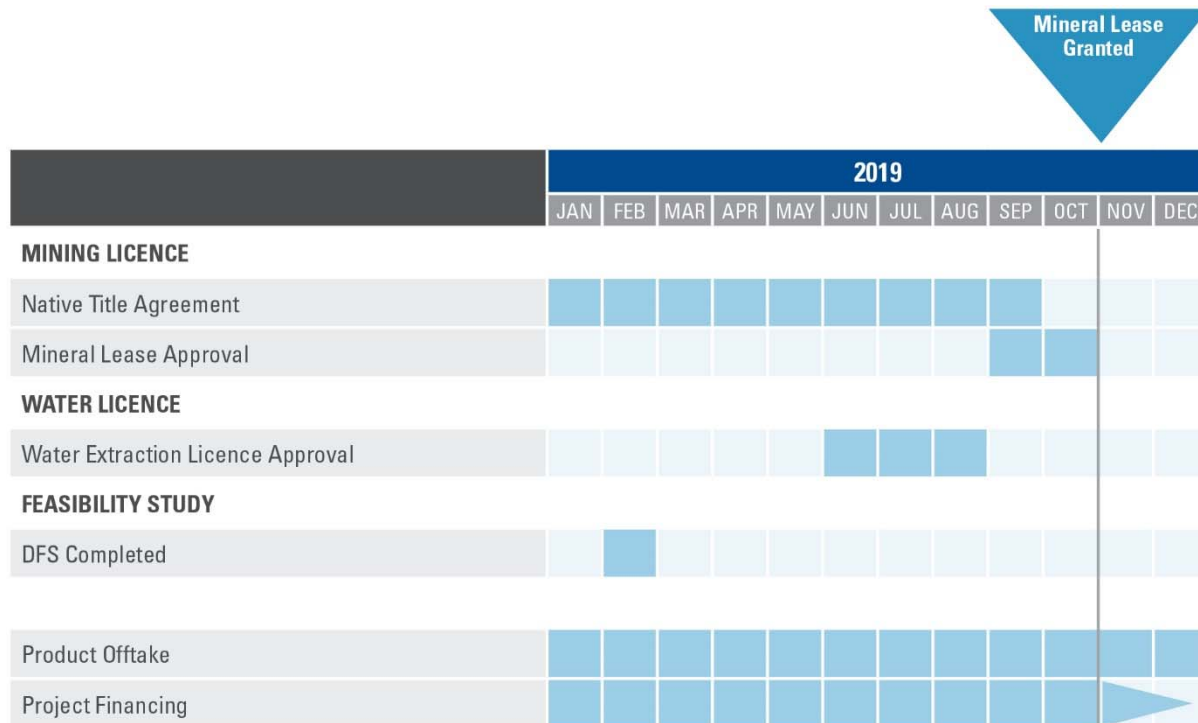
Refer ASX announcement 7 February 2019: Nolans Project Definitive Feasibility Study

Strong News Flow



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- Native Title Agreement, Mining Lease and Water Licence.
- Progress for product offtake agreements and project funding.
- Subject to funding, accelerated activities will target; drilling results, early contractor involvement appointment, securing second hand camp, final contractor selection, life of mine upgrade and FEED.



Estimates of times are indicative only and are subject to change



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May 2019

Investor Presentation

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Appendices

Experienced Board

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MARK SOUTHEY
NON-EXECUTIVE DIRECTOR

Mark Southey has previously held senior executive positions with Honeywell and ABB both in Australia and internationally, and more recently was part of the global executive leadership team within WorleyParsons, where he held the position of Group Managing Director for the Minerals, Metals and Chemicals Sector.



CHRIS TONKIN
NON-EXECUTIVE DIRECTOR

Chris Tonkin has over 35 years' experience as a senior business executive with a broad industry background in business generation, management, and strategy development. He is a member of Arafura Resources' Remuneration and Nomination and Audit and Risk Committees and is also Chairman of Lakes Oil NL.



GAVIN LOCKYER
MANAGING DIRECTOR

Gavin Lockyer's diverse, global experience has provided management and leadership opportunities in a range of disciplines including; Accounting, Financial & Investment Banking, Major Resource Development & Operations, and Global Bank Treasuries. Over the past 20 years his career has exposed him to business practices in North America, Europe, and Australasia.



QUANSHENG ZHANG
NON-EXECUTIVE DIRECTOR

Quansheng Zhang holds a Doctoral degree in Engineering and a Masters degree in Geophysical Prospecting. He is based in Nanjing in the Peoples Republic of China and is the General Manager of Hong Kong East China Non-Ferrous Mineral Resources Co Ltd (HKECE). Quansheng has over 30 years of mineral prospecting and exploration experience, and expertise in mineral resource surveys and geophysics.

Experienced Management



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RICHARD BRESCIANINI
GENERAL MANAGER EXPLORATION &
DEVELOPMENT

Richard has over 30 years' experience in the minerals industry. He worked with BHP Minerals on base and precious metals exploration programs throughout Australasia and North America, contributing to significant economic discoveries at Eloise (copper-gold) and Cannington (silver-lead-zinc). Thereafter he led the Northern Territory Government's Geological Survey as its Director from 2003 to 2007 before joining Arafura.



LLOYD KAISER
GENERAL MANAGER SALES & MARKETING

Lloyd has more than 10 years' experience in the sales and marketing of industrial minerals into high value sector markets including the nuclear, automotive, and advanced ceramics sectors. Prior to joining Arafura, he held several senior positions in account management, business development and marketing across a diverse range of commodities and chemicals including alumina, coal, industrial minerals, refractories, and ceramics.



PETER SHERRINGTON
CHIEF FINANCIAL OFFICER & COMPANY
SECRETARY

Peter commenced employment with Arafura in 2008 as Commercial Manager and was appointed Chief Financial Officer in July 2013. He has more than 20 years' experience in professional and corporate roles in Perth. Prior to working with Arafura, he held senior finance and commercial positions with several ASX and public unlisted entities. He has also worked in public practice for 10 years in the areas of business services and corporate advisory.



BRIAN FOWLER
GENERAL MANAGER NT & SUSTAINABILITY

Brian has worked for over 40 years in private sector mineral companies developing a range of commodities, including rare earths, base metals, and gold. Brian is a member of the Northern Territory Mining Board, Management Board of the Northern Territory Minerals Council of Australia, and a member of Work Health & Safety Advisory Council of the Northern Territory.



STEWART WATKINS
GENERAL MANAGER PROJECTS

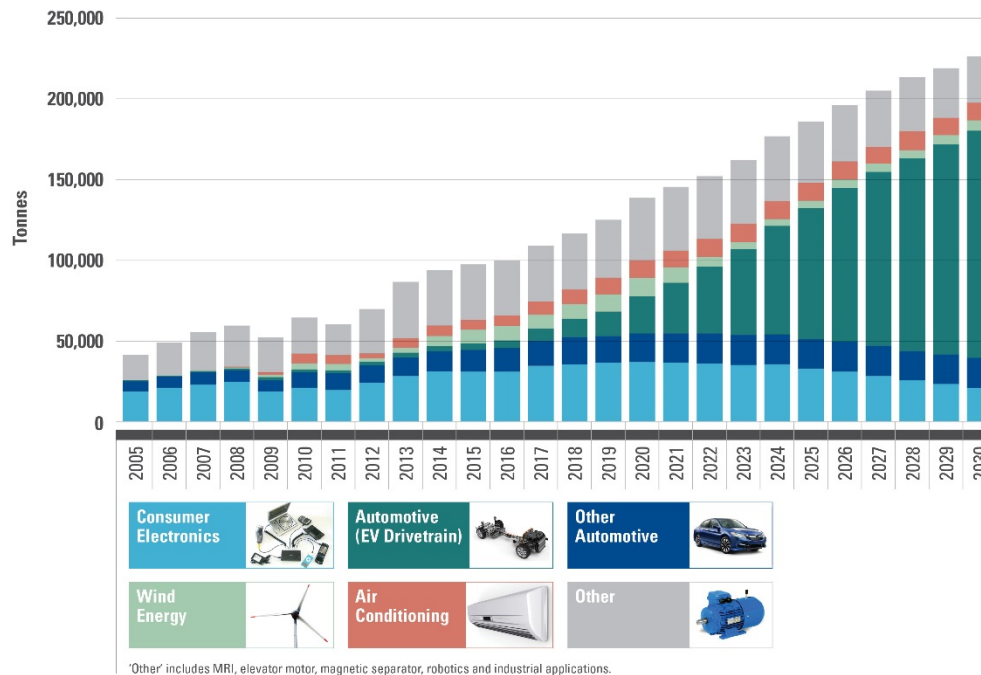
Stewart has 25 years' experience in many facets of the mining industry including operations, engineering consulting, project development and management. Stewart is a Fellow of the AusIMM.

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NdPr Market Opportunity

NdPr Market Opportunity

NdFeB Magnet Demand by Application



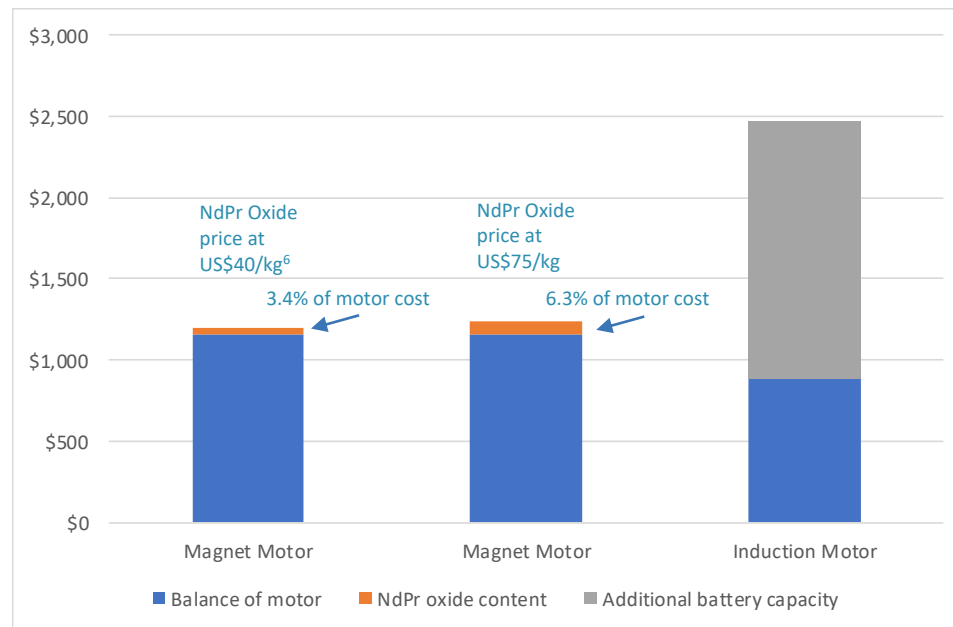
- Underlying demand for NdFeB magnets across all applications is forecast to grow by 6% p.a. over the period to 2030
- NdFeB demand growth for EV applications is more dramatic and forecast to grow by 24% p.a.
- Supply-demand balance achieved through demand destruction in lower quality applications and technology innovations that achieve better use of NdPr in magnet manufacturing
- Demand in applications for consumer electronics and wind turbines will reduce during the forecast period. For some applications substitution will be traded off against reduced performance and cost.
- EV applications require high quality and efficient motors using NdFeB magnets
- New supply will not come on stream fast enough to meet demand from all applications – NdFeB magnets and NdPr oxide will move to the best value in use

Source: Roskill Consulting (November 2018) – Rare Earths Market Analysis

NdPr Magnet Substitution - EV

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Modelled effect of increase in NdPr price, NdFeB Magnet v Induction Motor and incremental Li-ion battery pack



- Chevrolet Bolt: 150 kW NdFeB magnet motor with 60 kWh lithium-ion battery pack.¹
- NdFeB magnet motor cost based on US\$8 per kW.²
- Estimate of 1 kilogram of NdPr metal per NdFeB motor magnet.²
- Induction motor cost calculated as 76% of NdFeB magnet motor.³
- Efficiency of induction motor 15% less than NdFeB magnet motor.⁴ To compensate, an extra 6 kWh of battery capacity has been allowed for.
- Lithium-ion battery pack costs of US\$176 per kWh applied.⁵

¹ www.chevrolet.com

² UBS, "UBS Evidence Lab Electric Car Teardown – Disruption Ahead?", www.ubs.com/investmentresearch, May 2017.

³ Parker Hannifin, "Comparing AC Induction with Permanent Magnet motors in hybrid vehicles and the impact on the value proposition", 2013.

⁴ Adamas Intelligence, "Spotlight on Dysprosium", www.adamasintel.com/spotlight-on-dysprosium/, April 2018.

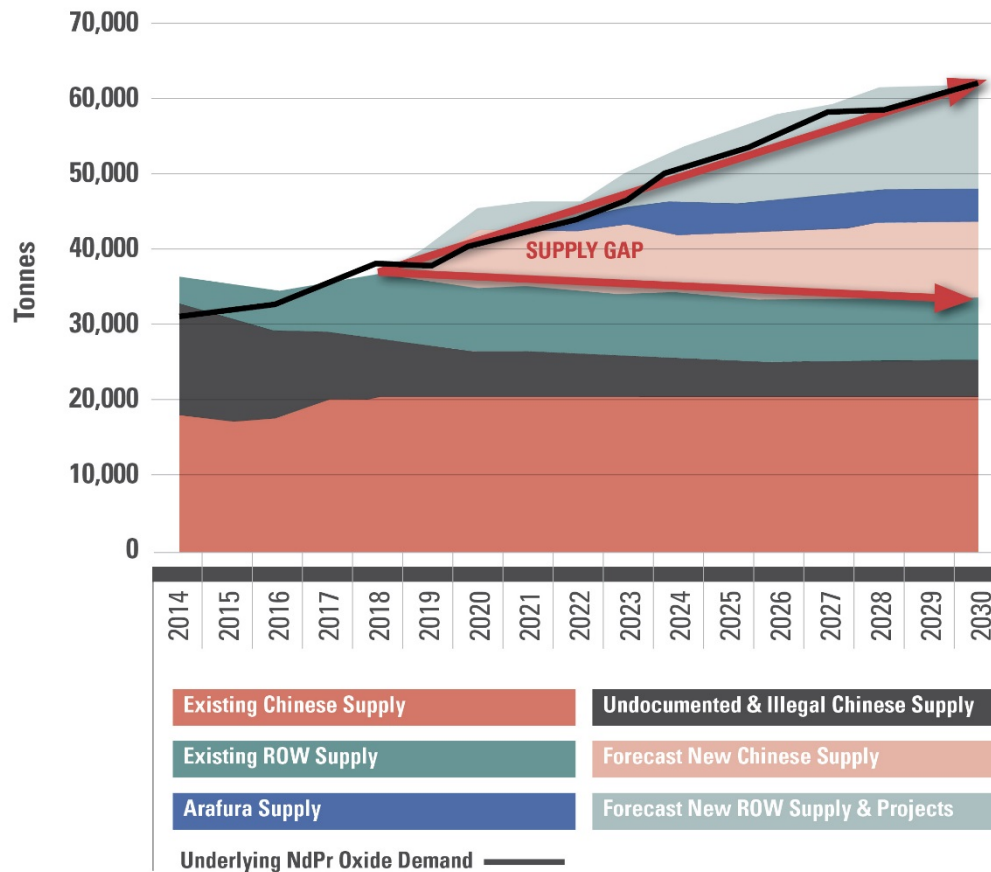
⁵ Bloomberg New Energy Finance, "A Behind the Scenes Take on Lithium-ion Battery Prices", March 2019.

⁶ Average NdPr oxide EXW China price for April 2019. www.asianmetal.com

Supply & Demand Balance



NdPr Oxide Supply & Demand



- China continues to dominate the global supply chain being the world's largest producer accounting for about 80% of NdPr for global NdFeB magnet production
- Supply reforms, industry consolidation and higher environmental standards will constrain China's ability to rapidly increase NdPr production
- Supply growth of 20,000 tonnes of NdPr oxide required in the next decade
- Lynas Corporation (ASX:LYC) is the only significant miner and processor of rare earth materials outside China enjoying a market capitalisation in excess of \$1bn
- China remains the dominant supplier, however analysts forecast China to become a net importer by the early 2020s

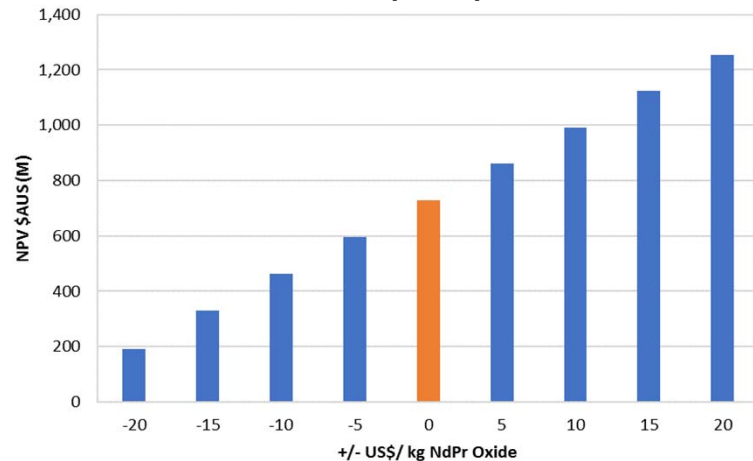
Source: Roskill Consulting (November 2018) – Rare Earths Market Analysis

Favourable NdPr Pricing Outlook

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- 80% of Nolans revenue derived from NdPr oxide
- New supply pipeline will not be sufficient to meet demand
- EV drivetrains rely on high quality and high efficiency NdFeB magnets
- Roskill forecast a tight market and escalating NdPr oxide prices driven by EVs being introduced to the mass market
- Nolans is highly leveraged to the NdPr oxide price – US\$5/kg change moves NPV by A\$130m

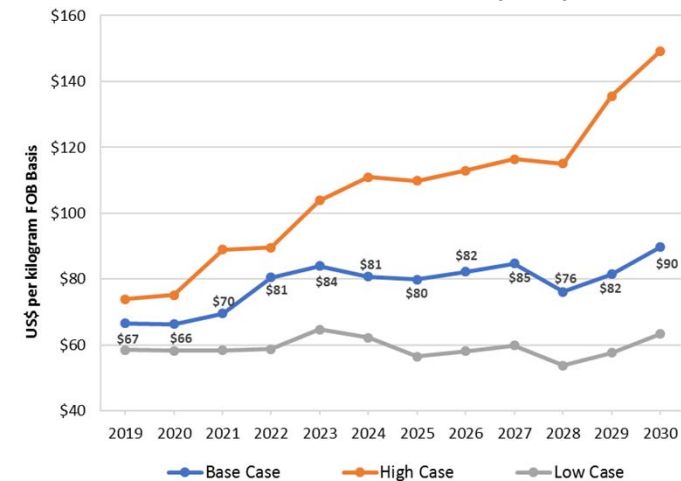
Sensitivity Analysis



Historical NdPr Oxide Price



Forecast NdPr Oxide Price (Real)



Refer ASX announcement 7 February 2019: Nolans Project Definitive Feasibility Study

Source: Roskill Consulting (November 2018) – Rare Earths Market Analysis

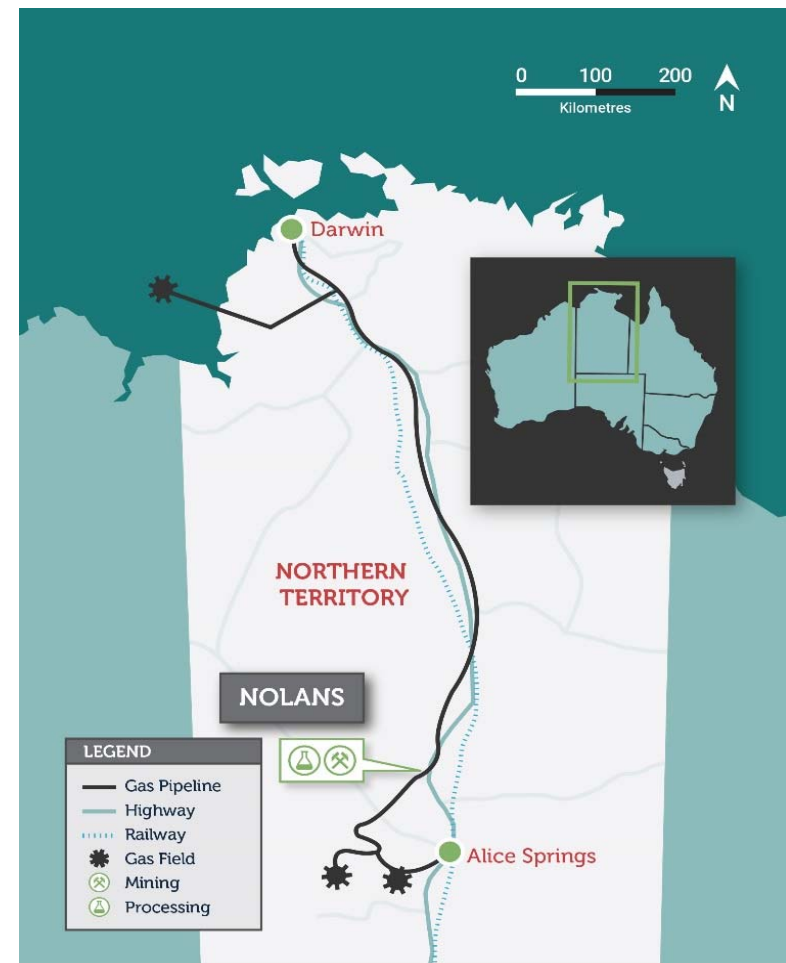
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Nolans Project

Nolans DFS Complete

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- Confirms Nolans as a world class NdPr project
- Annual NdPr production 4,357 tonnes p.a.
- Ultra-low cost producer at US\$25.94/kg NdPr
- Robust economics with average EBITDA A\$377m p.a., NPV₁₀ A\$729m, IRR 17.43%
- Highly leveraged to NdPr (96% of RE revenue) – US\$5/kg increases NPV by A\$130m
- Long-life asset – 23-year mine life based on Ore Reserves only with potential to extend production
- Globally strategic asset – 100% Australian-domiciled mine and processing operation with environmental approval
- Well positioned to feed into forecast NdPr supply shortfall – targeting project commissioning in 2022



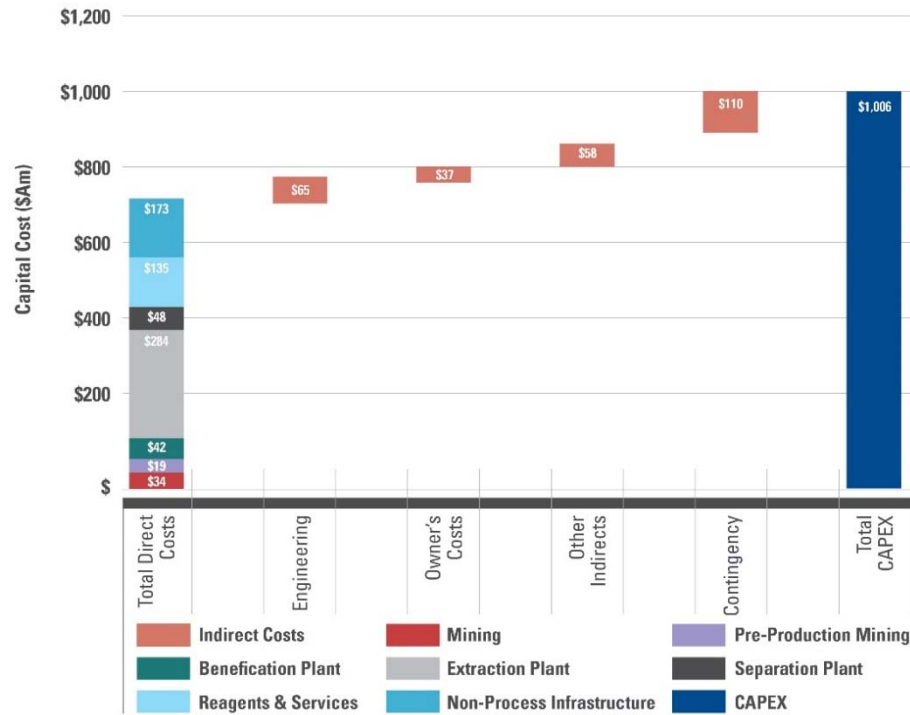
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Capital Cost Breakdown & NPV Sensitivity

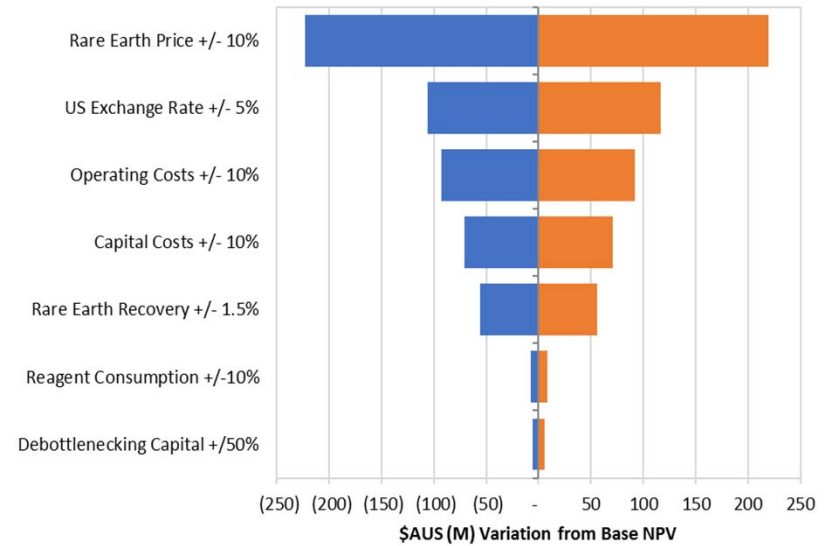


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Capital Expenditure Breakdown



Key Sensitivities



Refer ASX announcement 7 February 2019: Nolans Project Definitive Feasibility Study

Long Life Asset



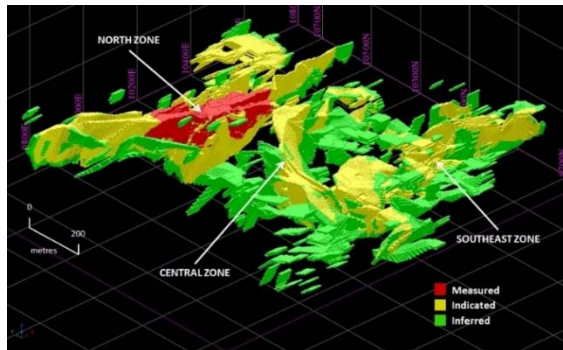
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RESOURCES	TONNES (m)	RARE EARTHS TREO %	PHOSPHATE P ₂ O ₅ %	NdPr Enrichment %
Measured	4.9	3.2	13	26.1
Indicated	30	2.7	12	26.4
Inferred	21	2.3	10	26.5
TOTAL	56	2.6	11	26.4

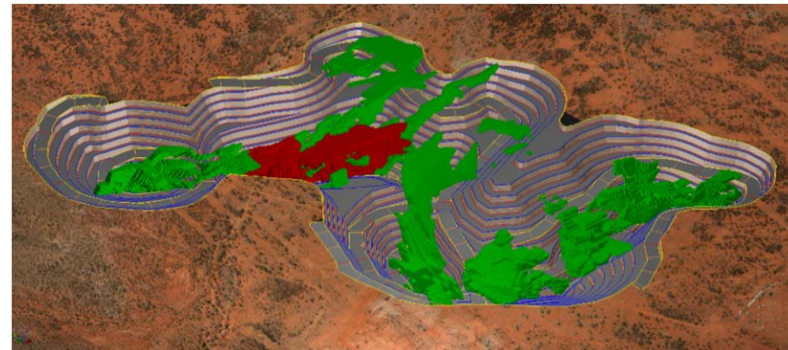
As announced on 7 June 2017. 1.0% TREO cut-off grade. Numbers may not compute exactly due to rounding. "NdPr enrichment" is the proportion of TREO comprising Nd₂O₃ and Pr₆O₁₁.

RESERVES	TONNES (m)	RARE EARTHS TREO %	PHOSPHATE P ₂ O ₅ %	NdPr Enrichment %
Proved	4.3	3.1	13	26.1
Probable	14.9	2.9	13	26.5
TOTAL	19.2	3.0	13	26.4

As announced on 7 February 2019. Numbers may not compute exactly due to rounding. "NdPr enrichment" is the proportion of TREO comprising Nd₂O₃ and Pr₆O₁₁.



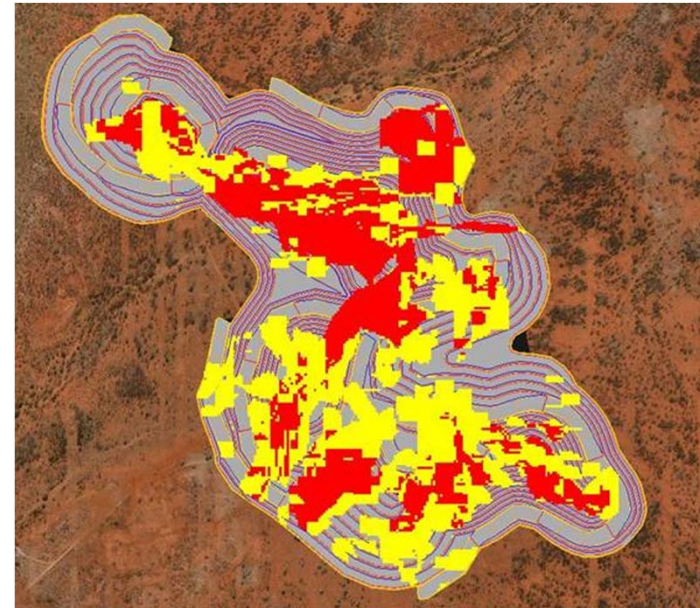
Mineral Resources



Ore Reserves

Drill & Metallurgical Program

- DFS completed in February 2019 included a mine life of 23 years based on reserves only but includes the costs of mining inferred resources within the LOM pit.
- Targeted drill and metallurgical program aims to substantially increase the current mine life beyond 23 years and further reduce operating costs.
- Targeting the conversion of Inferred Mineral Resources into Indicated and Measured categories and improve conversion of Measured and Indicated Resources into Reserves.
- Nolans ore body also remains open at depth.



Nolans DFS Pit Design

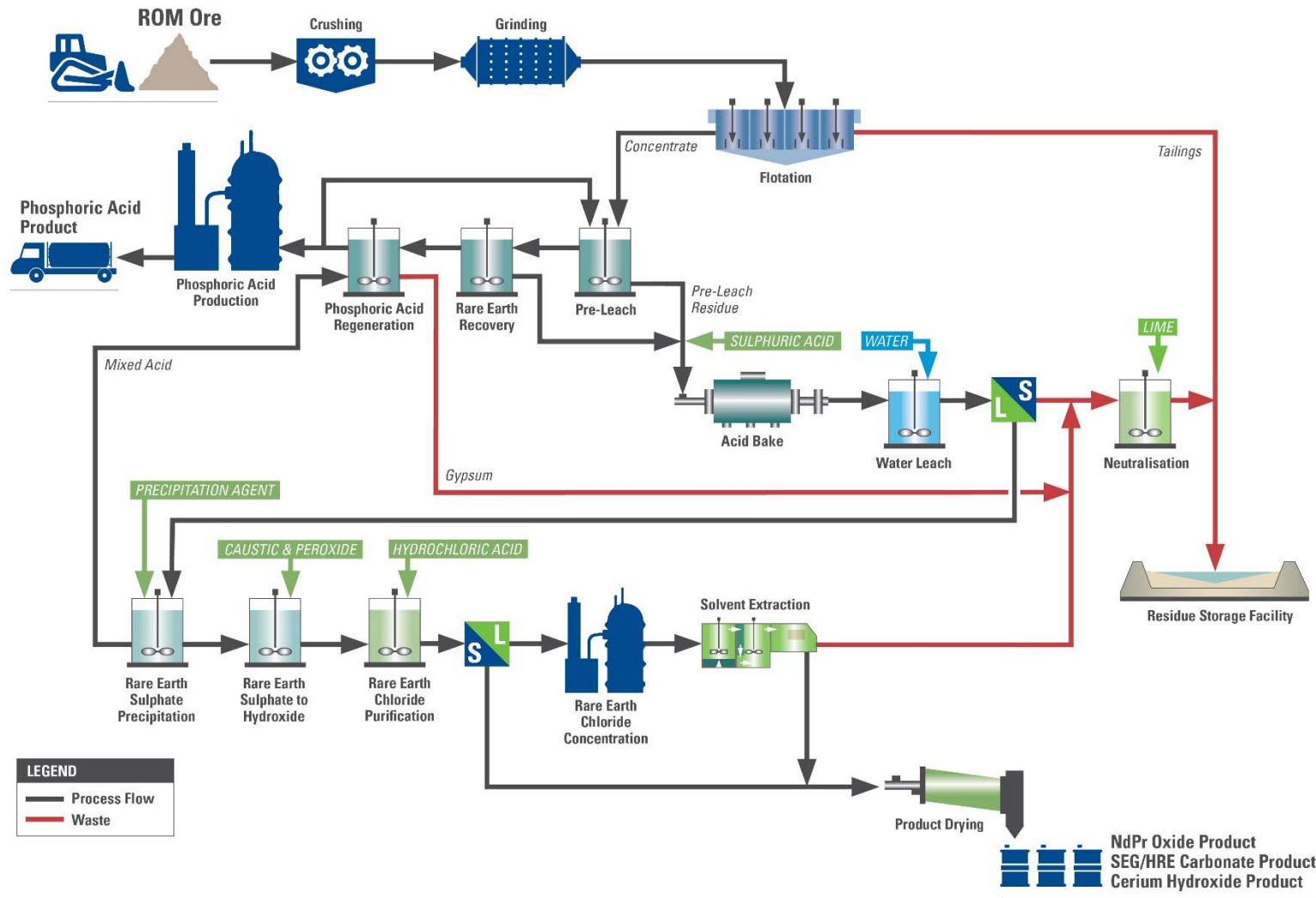
- Mineral Reserves
- Inferred Mineral Resource not converted to Reserve

Refer ASX announcement 7 February 2019: Nolans Project Definitive Feasibility Study

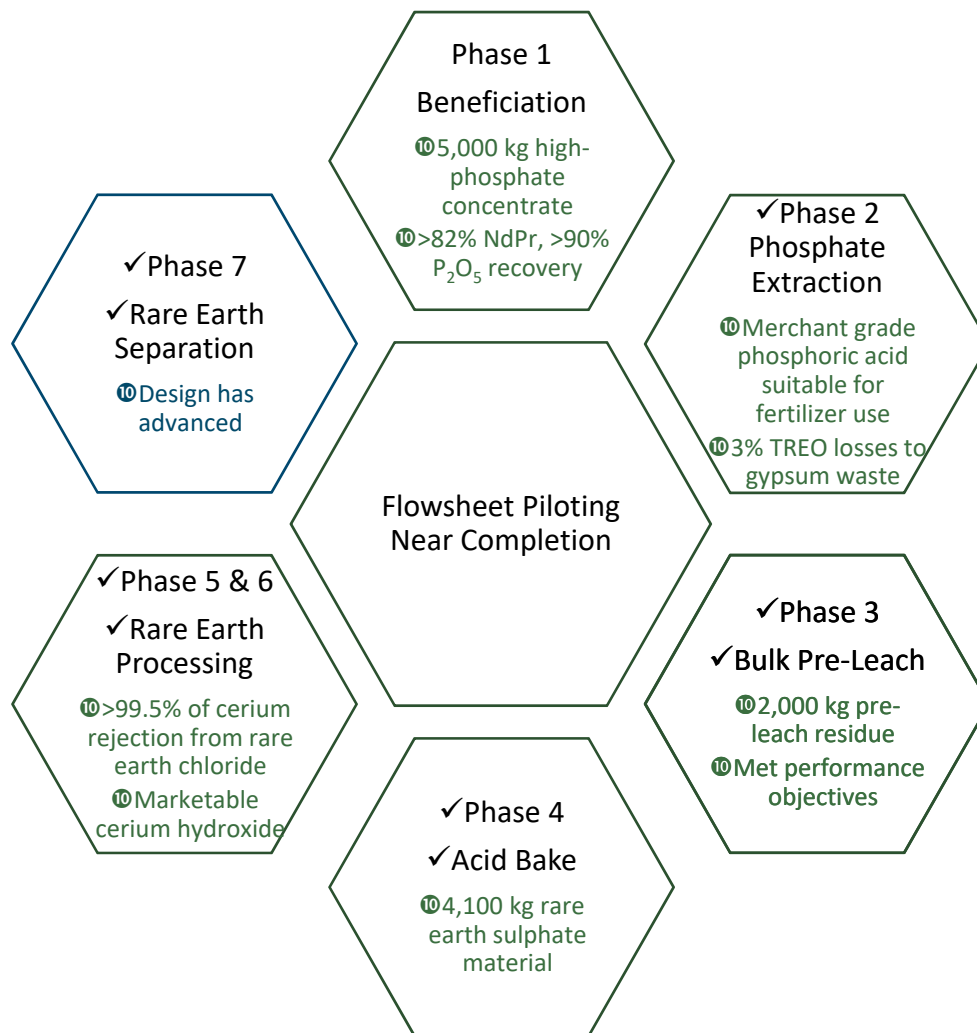
Process Flowsheet Supported by Successful Pilot



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Technology Program



Beneficiation Pilot Plant



Phosphate Extraction Pilot Plant



Bulk Pre-Leach Pilot Plant



Rare Earth Processing Pilot Plant



Acid Bake Pilot Plant

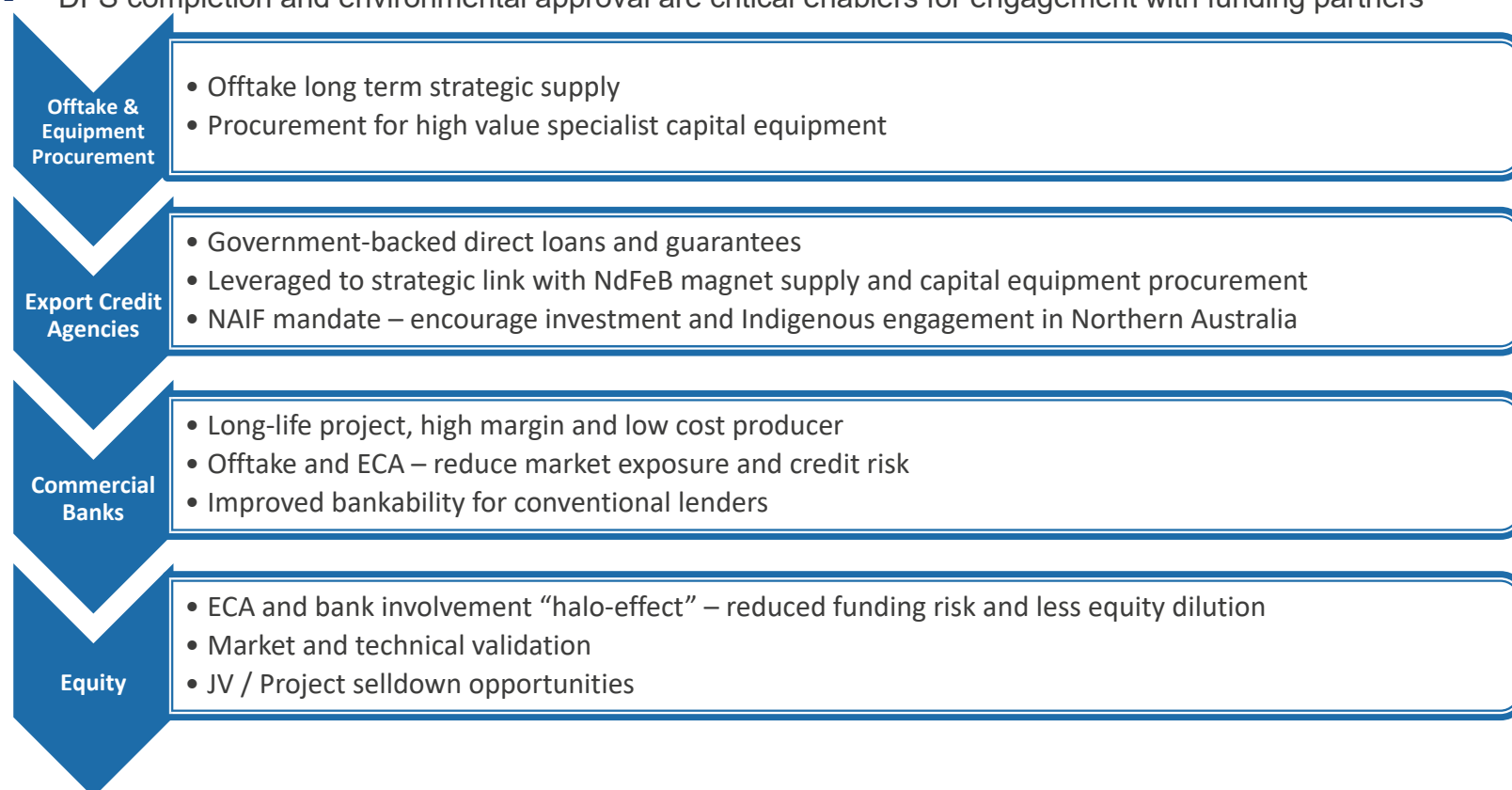
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Project Implementation

Project Funding Strategy

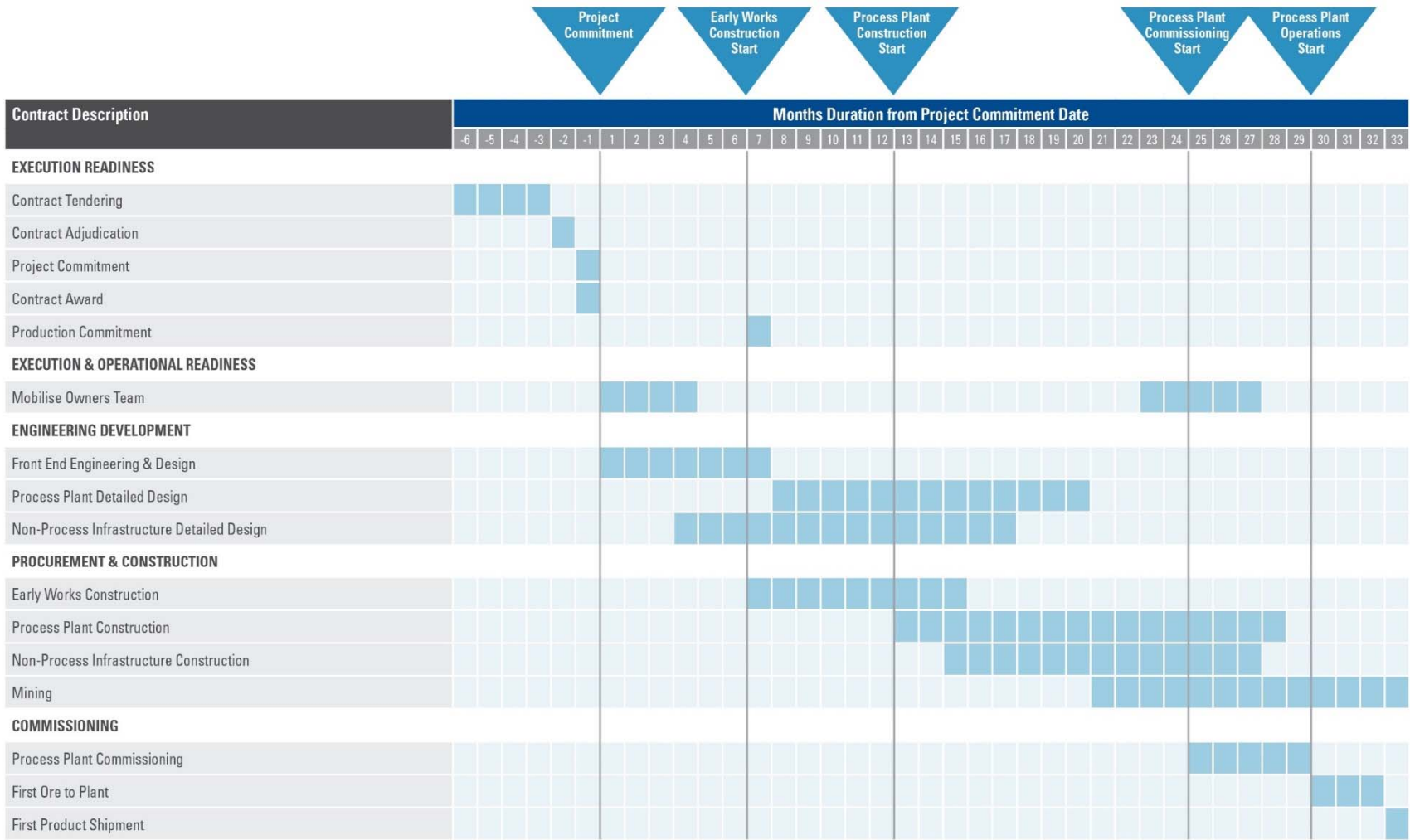
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- Arafura looking to secure a A\$1,146m₍₁₎ in new funding to execute the Nolans Project
- Potential sources of funding include equity, debt, JV and/or project selldown with a strategic investor
- DFS completion and environmental approval are critical enablers for engagement with funding partners



(1) Expected peak funding includes pre-production capital, sulphuric acid plant, working capital and capital escalation. Excludes financing costs.

Indicative Production Timeline



Estimates of times are indicative only and are subject to change