



Arafura Resources Limited

Accelerating Towards Final Investment Decision

November 2018

AGM Presentation

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Agenda



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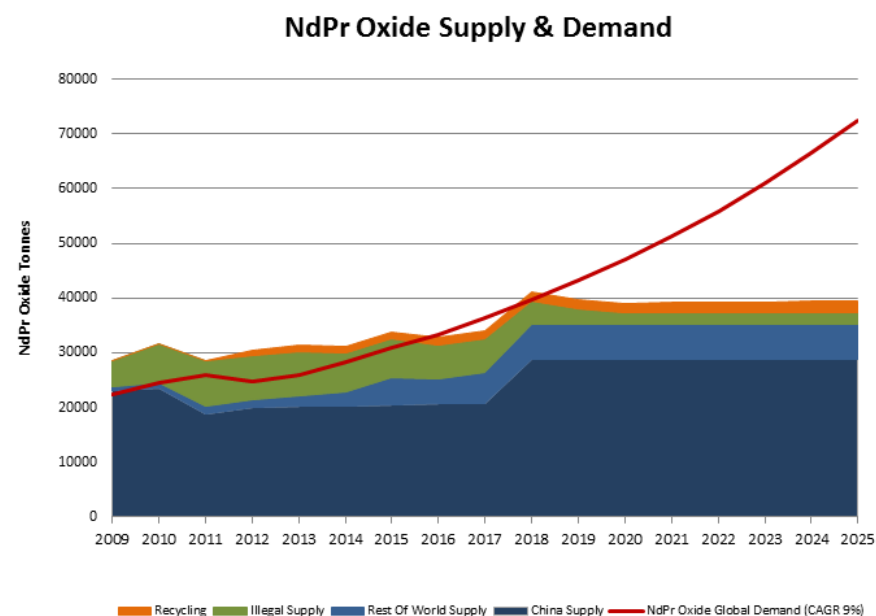
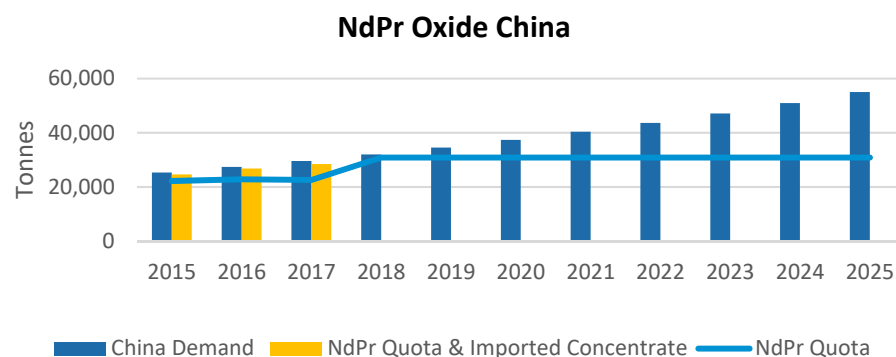
1. NdPr Market Update
2. Project Review
3. Timeline

NdPr Market Update

China Becoming a Net Importer of NdPr

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- China's domestic NdPr consumption will increase by over 30% in the next 5 years as it pursues clean energy objectives and global leadership in EV manufacturing
- Supply reforms, industry consolidation and higher environmental standards will constrain China's ability to rapidly increase NdPr production
- ROW supply is being sourced from Malaysia, China imported concentrate and notionally illegal China sources
- Increased NdPr consumption combined with constrained supply could result in China moving from being the world's major source of NdPr to a net importer by the early 2020s
- With overall NdFeB magnet growth at 9% CAGR additional non-Chinese supply will be required to meet demand as China struggles to maintain additional supply year-on-year



Source: ACREI, Adamas Intelligence, Asian Metal and Shanghai Metals Market

China's NdPr Supply – Capital Constrained?

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- China's growth in production
 - From 1980 to 2000 China's rare earth production **increased** by an average 14% annually
 - From 2005 to 2011 China's NdPr production **increased** by an average of 4.5% annually
 - 2011 to 2015, China's NdPr production **reduced** by an average of 5.7%
- China's supply has not always been driven by demand. Policy and access to finance have been significant drivers of NdPr supply capacity.
- Recent policy has seen NdPr supply from China continue to contract through the removal of unsustainable production
- Access to traditional sources of funding for China-based NdPr producers has changed
- China's capital investment is moving along the value chain. In the 10 years since the GFC China's share in medium- to high-tech production has tripled to 32%. It is now the world's dominant producer.
- It is likely the US trade war will encourage China to increase its focus of moving along the supply chain and make them more competitive in this space
- Future growth in China's NdPr production through supportive policy and access to capital will happen but only to the extent that it is aligned with its strategy of moving along the supply chain

Nolans Project Review

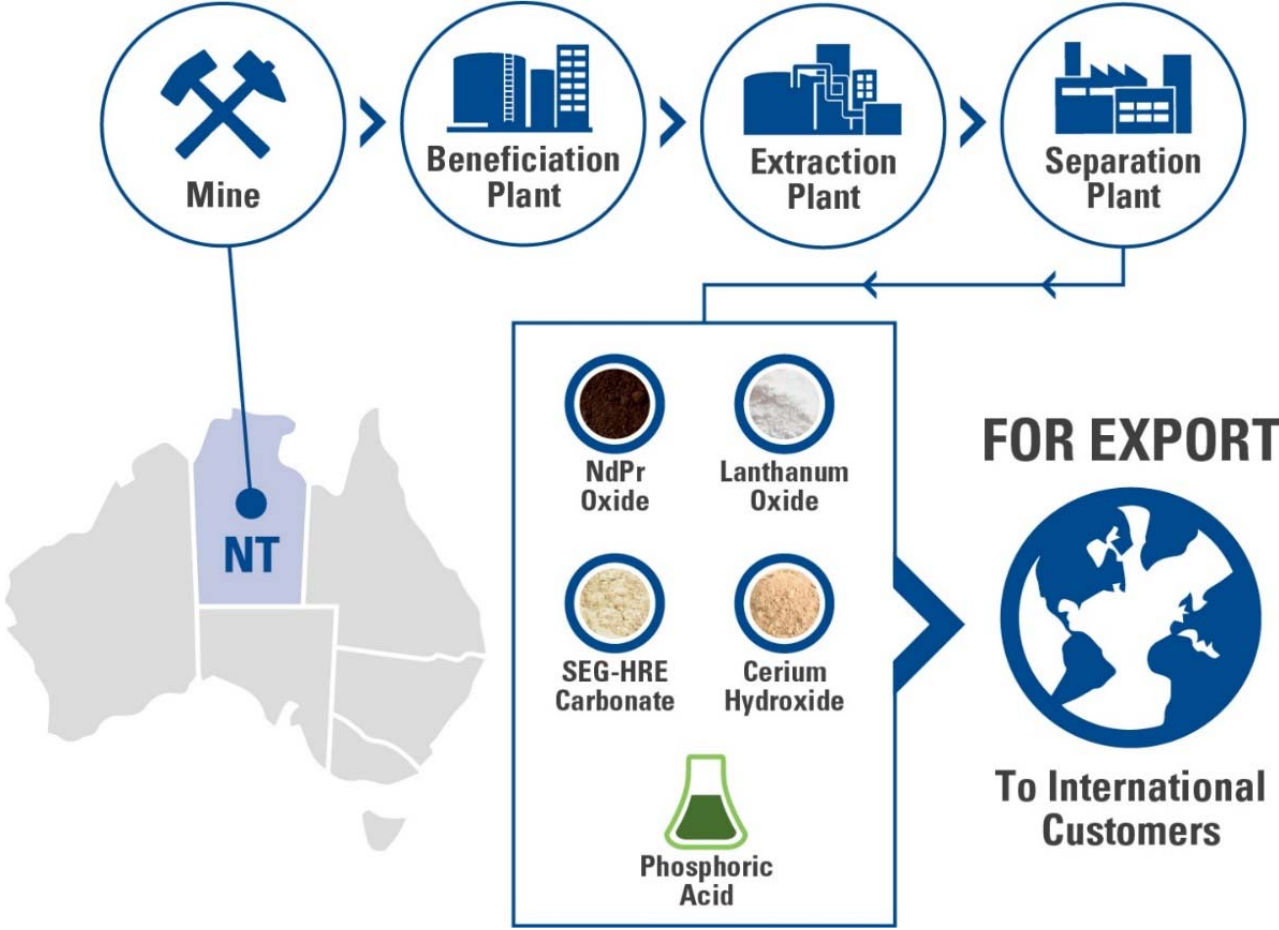
Project Review

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1. Configuration
2. Permitting/Regulatory Approvals
3. Flowsheet Piloting
4. Definitive Feasibility Study
5. Sales & Marketing
6. Funding

1. Configuration

Configuration Confirmed



2. Approvals

Approvals

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Permitting/Regulatory Approvals – expected completion first half 2019

- Environmental Approval
 - Completed for NT EPA and Commonwealth EPBC
- Water Extraction Licence
 - Application submitted with regulator awaiting confirmation of NT legislative changes prior to licensing
- Native Title Agreement (NTA)
 - Draft agreement with Central Land Council
- Mining Licence
 - Application submitted awaiting completion of NTA

3. Pilot Program

Flowsheet Piloting Nearing Completion

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Phase 1 Beneficiation	Phase 2 Phosphate Extraction	Phase 3 Bulk Pre-Leach	Phase 4 Acid Bake	Phases 5 & 6 Rare Earth Processing	Phase 7 Rare Earth Separation
<ul style="list-style-type: none"> • 5,000 kg high-phosphate concentrate • >82% NdPr recovery • >90% P2O5 recovery • Met performance objectives 	<ul style="list-style-type: none"> • Merchant grade phosphoric acid suitable for fertilizers • 3% TREO losses to gypsum waste • Met performance objectives 	<ul style="list-style-type: none"> • 2,000 kg pre-leach residue • Met performance objectives 	<ul style="list-style-type: none"> • Successful use of paddle dryer technology • Met performance objectives 	<ul style="list-style-type: none"> • Phase 5 underway • Phase 6 constructed 	<ul style="list-style-type: none"> • Planning well advanced
SUCCESSFULLY COMPLETED	SUCCESSFULLY COMPLETED	SUCCESSFULLY COMPLETED	SUCCESSFULLY COMPLETED	ADVANCED	ADVANCED

- Pilot program reduces execution risk by addressing all key engineering and operational considerations **prior to commissioning of the commercial facility**
- Draws on independent expert advice from specialist consultants and equipment vendors



Beneficiation Pilot Plant



Phosphate Extraction Pilot Plant



Bulk Pre-Leach Pilot Plant



Acid Bake Pilot Plant



Rare Earth Processing Pilot Plant

4. Definitive Feasibility Study

DFS Nearing Completion

- Definitive Feasibility Study **on track for reporting end of 2018**
- Activities with independent expert advice from specialist consultants

Process plant,
infrastructure and lead
study engineer

HATCH

Mining planning and Ore
Reserves



Tailings storage facility design,
geotechnical and surface water
management

Geotechnical site evaluation
complete



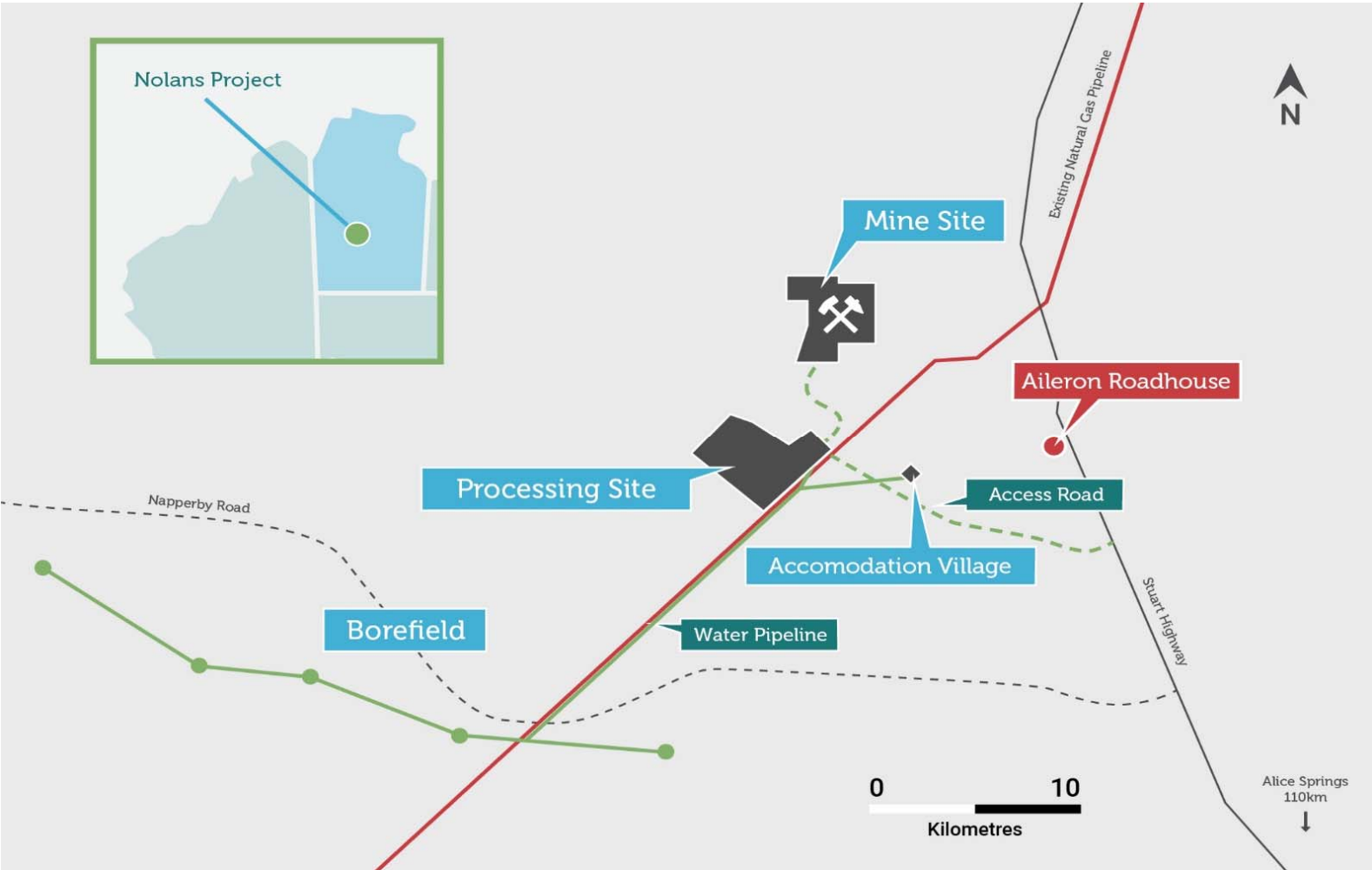
Hydrogeology and water supply
studies advanced and
environmental approval secured



Logistics study for transport and
storage of reagents from port to
site



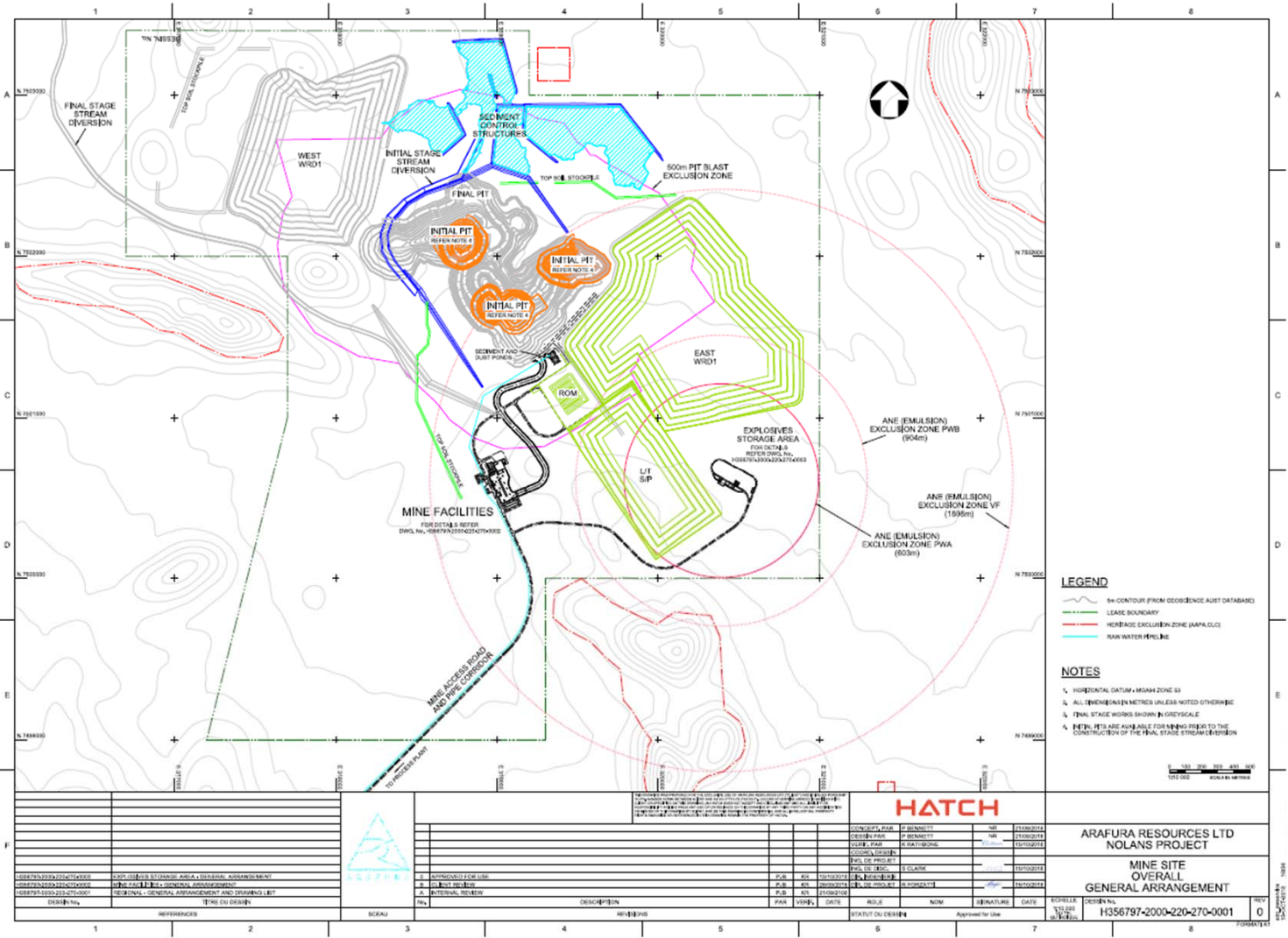
Site Layout



Mine Site

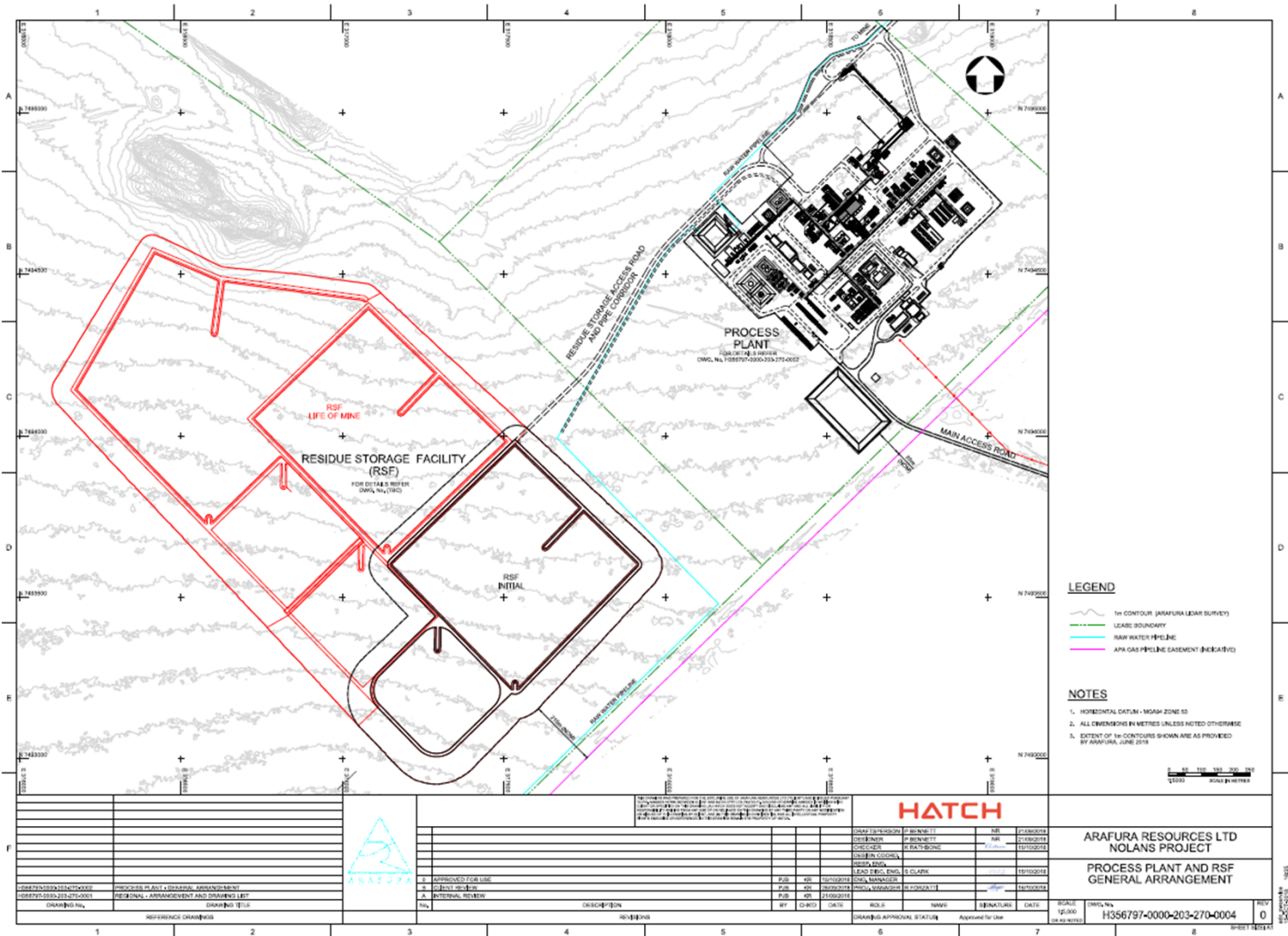


- Pit optimisation and mine planning nearing completion
- Ore Reserves expected in coming weeks



Processing Site

- RSF now staged allowing easier rehabilitation



5. Sales & Marketing

Offtake



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- Alignment with offtake and strategic partners critical to funding to remove some market risk
- Offtake contracts need to be engineered to manage downside price risk
- Phase 7 (separation) piloting to provide additional material for qualification
- Customers seeking traceability for product and waste management certainty
 - Environmental approval considered an advantage
 - **Process residue management at site considered socially responsible**
- **First non-binding NdPr offtake MoU** executed with Tier 1 Chinese magnet manufacturer JingCi Material Science Co.
- More offtake MoUs to come (NdPr, other rare earths, phosphoric acid)

6. Funding

Funding New Supply Is Challenging

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- NdPr market is niche, research and data is limited, no commodity exchange
- Price volatility, historically not demand-supply driven
- China has a legacy position as the dominant producer
- Project debt and equity financiers have a perceived technology and environmental risk for new producers, heightened by experiences outside of China, which require additional piloting and engineering cost

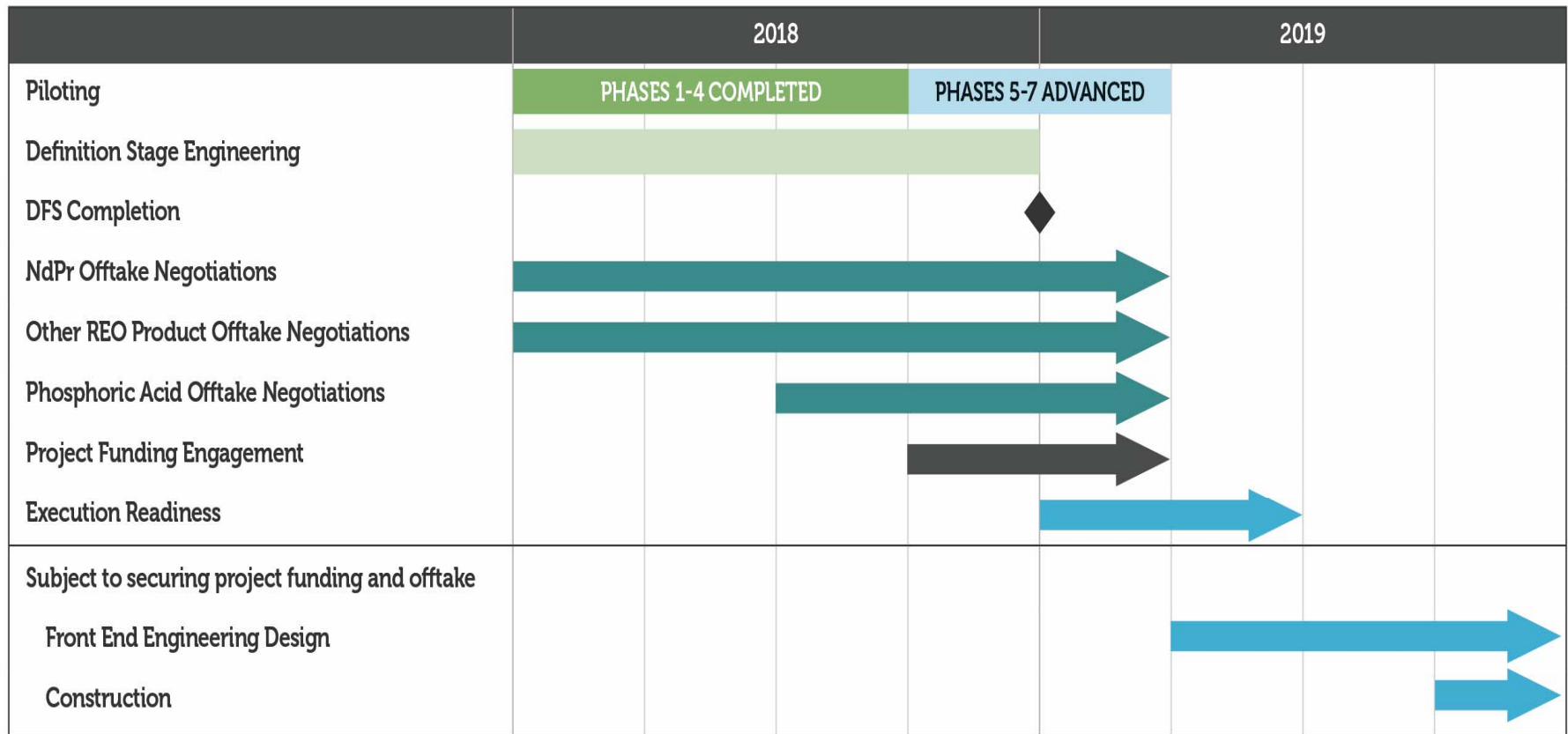
Funding – Our Targets For Success

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- Accelerating discussions with offtake and strategic partners to remove some market risk
- Capital equipment supply and construction contracts linked to ECA funding
- Successful completion of flowsheet piloting to reduce materials handling, materials of construction and commissioning risk
- Environmental permitting provides financiers traceability for product and waste management certainty
- NdPr is a strategic input; leverage this through commercial and Government discussions to access funding: ECAs, industry and commercial banks
- NT and Australian Government public support of Nolans through closer consultation and Arafura's application for relevant grants e.g. NAIF, NT Local Jobs Fund, EFIC etc
- Project sell down may also be a source of project equity
- **Securing sufficient short term funding (e.g. underwritten SPP) to enable seamless movement from DFS to execution readiness and project finance**

Targets

Timeline and Targets



Thank You