



TECH Project Pre-Feasibility Study





December 2019





Disclaimer

COMPANY DISCLAIMER: The information in this presentation is an overview and does not contain all information necessary for investment decisions. In making investment decisions in connection with any acquisition of securities, investors should rely on their own examination and consult their own legal, business and/or financial advisers.

This document has been made available for information purposes only and does not constitute a prospectus, short form prospectus, profile statement or offer information statement. This document is not subject to the disclosure requirements affecting disclosure documents under Chapter 6D of the Corporations Act 2001 (Cth). The information in this document may not be complete and may be changed, modified or amended at any time by Pure Minerals Limited ("the Company"), and is not intended to, and does not, constitute representations and warranties of the Company.

Queensland Pacific Metals Pty Ltd does not have a significant operating history on which to base an evaluation of its business and prospects. Therefore, the information contained in this document is inherently speculative. Further, securities of companies such as the Company generally involve a higher degree of risk and are more volatility than securities of more established companies. Accordingly, an investment in the Company must be considered as speculative.

The information contained in this document has been prepared in good faith, neither the Company, Queensland Pacific Metals Pty Ltd, or any of their respective directors, officers, agents, employees or advisors give any representation or warranty, express or implied, as to the fairness, accuracy, completeness or correctness of the information, opinions and conclusions contained in this document. Accordingly, to the maximum extent permitted by law, none of the Company, Queensland Pacific Metals Pty Ltd, their respective directors, employees or agents, advisers, nor any other person accepts any liability whether direct or indirect, express or limited, contractual, tortuous, statutory or otherwise, in respect of, the accuracy or completeness of the information or for any of the opinions contained in this document or for any errors, omissions or misstatements or for any loss, howsoever arising, from the use of this document.

This document may contain statements that may be deemed "forward looking statements". Forward risks, uncertainties and other factors, many of which are outside the control of the Company can cause actual results to differ materially from such statements.

The Company makes no undertaking to update or revise such statements, but has made every endeavour to ensure that they are fair and reasonable at the time of making this document. Investors are cautioned that any forward-looking statements are not guarantees of future performance and that actual results or developments may differ materially from those projected in any forward-looking statements made.

COMPETENT PERSON STATEMENT: Information in this presentation relating to the processing and metallurgy is based on technical data compiled by Mr Boyd Willis, an Independent Consultant trading as Boyd Willis Hydromet Consulting. Mr Willis is a Fellow and Chartered Professional of The Australasian Institute of Mining and Metallurgy (AusIMM). Mr Willis has sufficient experience which is relevant to metal recovery from the style of mineralisation and type of deposits in New Caledonia where the ore will be sourced (from third parties pursuant to an ore supply agreement) and to the activity which they are undertaking to qualify as a Competent Person under the 2012 Edition of the 'Australasian Code for reporting of Exploration Results, Mineral Resources and Ore Reserves'. This includes over 21 years of experience in metal recovery from Laterite ores. Mr Willis consents to the inclusion of the technical data in the form and context in which it appears.





Townsville Energy Chemical Hub - "TECH Project"

- Criticism of the Australian Resources Sector is the lack of downstream processing
- TECH Project to reverse this trend by processing external ore sources to produce value-added chemicals for the emerging
 battery sector

New Caledonia: Importation of up to 600ktpa high grade Ni-Co ore



Townsville: New modern refinery supported by infrastructure and rich history of nickel production

EV Market:

26,000+ tpa Ni sulphate & 3,000+ tpa Co sulphate & Valuable co-products



Source: Company





What will we produce?





DNi ProcessTM

MHP

Ni-Co Saleable Concentrate (~80% payable)

66% Fe Iron Ore Fines (Premium pricing) Magnesia Domestic market A\$450/t Aluminium Hydroxide Domestic market US\$160/t



Sulphate Refinery



Nickel Sulphate (120% payable)

Cobalt Sulphate (100% payable)



4N HPA US\$20,000+/t

Under investigation PFS commenced

Input

Intermediary product

Main product

Co-product





TECH Project – Key PFS Results

 Lead consultant Lycopodium supported by Boyd Willis Hydromet Consulting, Xenith Consulting and Saunders Havill Group

Physicals			
Plant design life	30 years		
Annual ore processed	565,714 (wet) tpa		
Ni Grade	1.60%		
Co Grade	0.18%		
Fe Grade	46.6%		
Mg Grade	3.02%		
Al Grade	1.69%		
Nickel sulphate	26,398 tpa (5,953t metal)		
Cobalt sulphate	3,097 tpa (657t metal)		
Hematite	327,665 (wet) tpa		
Magnesia	20,079 tpa		
Aluminium Hydroxide	9,920 tpa		

Financials			
Capex	US\$300M (A\$441M)		
Contingency	US\$49M (A\$72M)		
Revenue ¹	A\$279M		
Operating Expenditure	A\$155M		
EBITDA	A\$124M		
Unit costs (net of co-products and sulphate premium) ²	US\$0.56/lb nickel metal		
Pre-Tax NPV ³	A\$880M		
Pre-Tax IRR	25.7%		
Post Tax NPV ³	A\$568M		
Post Tax IRR	20.1%		

- 1. Refer to page 6 for assumptions
- 2. Refer to page 7 for assumptions
- 3. Discount rate 8%

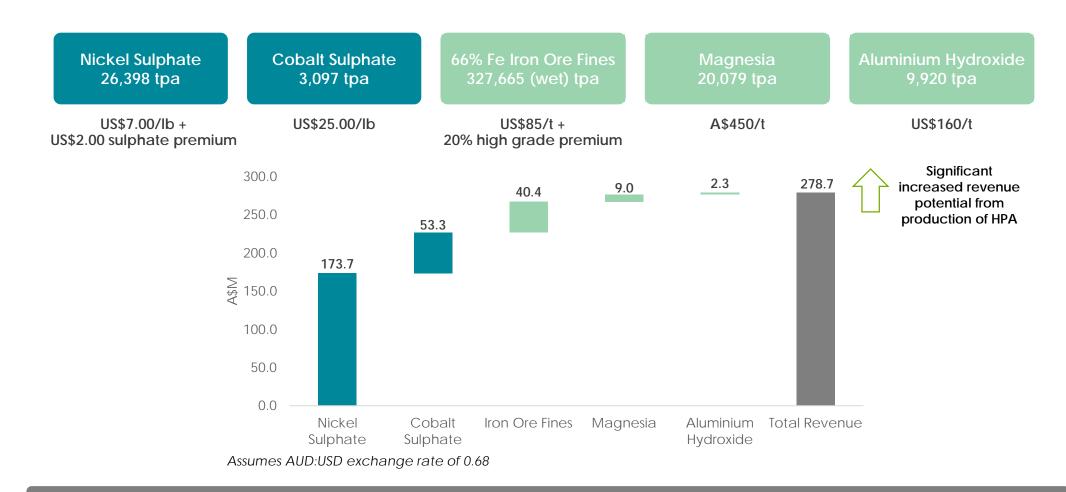
Modest scale project expected to deliver strong financial returns





Revenue and Production

Pure Minerals Limited



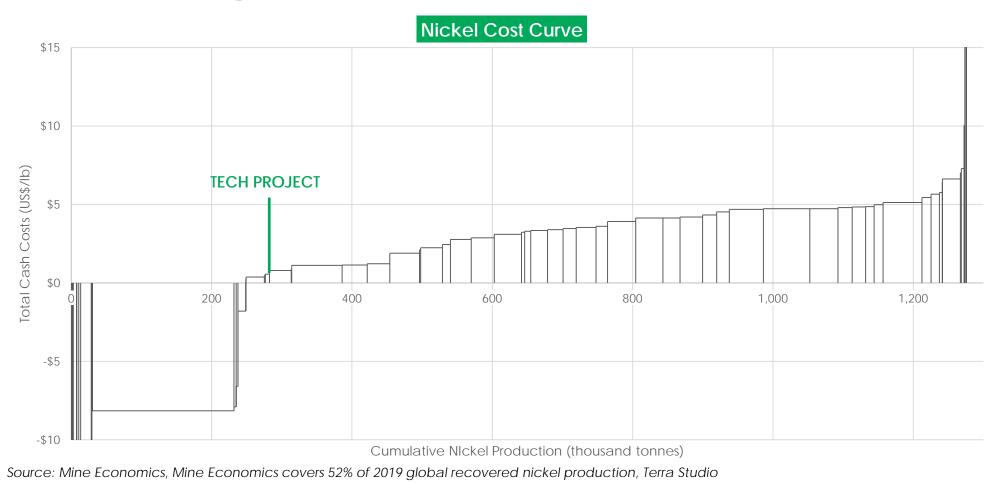
Risk diversification with revenue from various products





Benchmarking

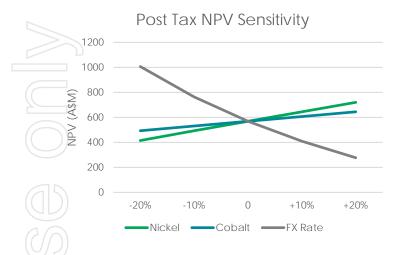
Pure Minerals Limited

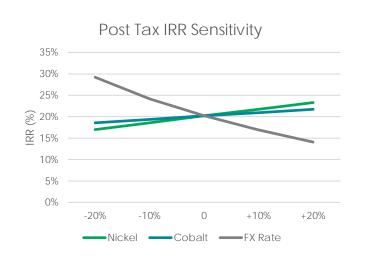


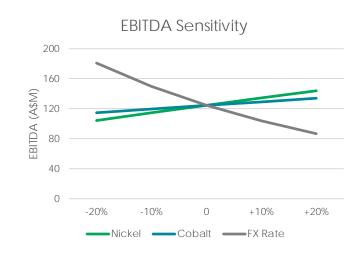
Potential to become a first quartile nickel cost producer - \$0.56/lb after credits



Sensitivity Analysis







A\$M	-20%	-10%	Base Case	+10%	+20%
Nickel	413	491	568	644	720
Cobalt	493	530	568	605	642
FX Rate	1,005	762	568	409	276

%	-20%	-10%	Base Case	+10%	+20%
Nickel	17.0%	18.6%	20.1%	21.7%	23.3%
Cobalt	18.6%	19.4%	20.1%	20.9%	21.7%
FX Rate	29.2%	24.2%	20.1%	16.9%	14.1%

A\$M	-20%	-10%	Base Case	+10%	+20%
Nickel	104	114	124	134	144
Cobalt	114	119	124	129	134
FX Rate	181	149	124	104	86

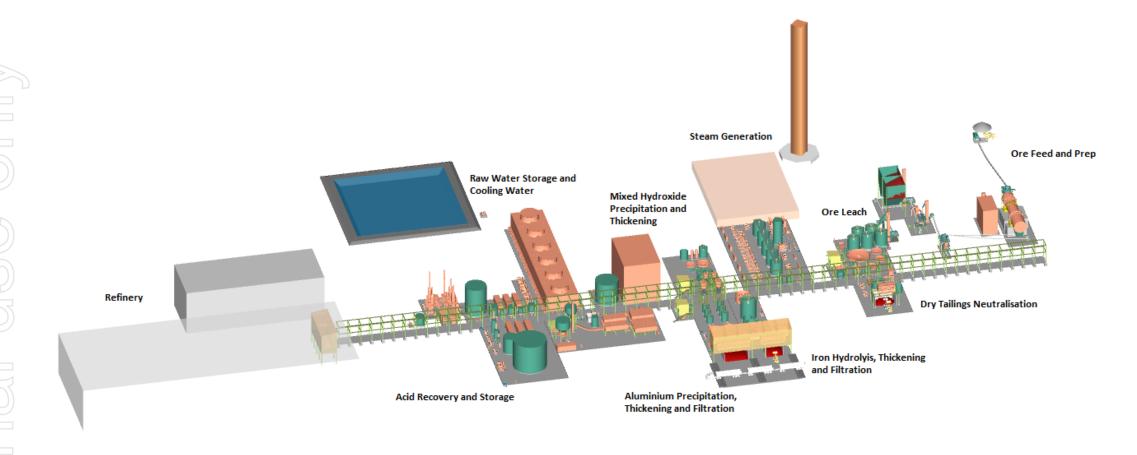
Significant exposure to upside whilst remaining financially robust in downward cycle





Plant Layout

Pure Minerals Limited





DNi ProcessTM vs HPAL

	DNi Process TM	HPAL	Benefit
Acid Leach	Nitric acid leachAtmospheric conditionsAcid is recycled	Sulphuric acid leachHigh pressure and temperature	Reduced capex "off the shelf" equipment used for plant construction. No exotic materials required Reduced opex - ~95% acid recovery
Co- Products	 Recovery of all valuable metals in laterite ore 	 Only recovers nickel and cobalt 	Revenue – increased revenue and greater diversification
Tailings	 Benign residue ~50% of ore reports to tailings 	 Residue must be neutralised with the addition of lime and limestone Resultant tailings footprint is greater than input ore 	Environmental – friendlier solution with no requirement of tailings dam due to acid recovery Reduced capex – no capex required for tailings dam Reduced bonding – no significant environmental bond required for tailings dam
Scale	 Modest scale plant can be feasible 	 Typically required large scale to be economic 	Modest scale – reduced risk profile, less funding required, modular construction possible





Opportunities to Add Value

- The PFS identified a number of opportunities to optimise the project and add value which will be investigated as part of ongoing work programs:
 - Production of HPA from aluminium hydroxide co-product (PFS commenced)
 - Upgrading hematite to pig iron
 - Assessment of various process and infrastructure options to reduce capex
 - Evaluation of alternatives for recovery of energy to reduce costs
 - Assessment of the use of residue for earthworks and engineering applications
 - Recovery of scandium to produce scandium oxide
 - Production of tailored nickel-cobalt-manganese (NCM) or nickel-cobalt-aluminium (NCA) precursor products for supply direct to battery manufacturers





Achievements and Next Steps



Secured high grade Ni-Co Ore supply agreement



Land allocation in Townsville for plant development



Strong macro fundamentals in nickel and EV market



Produced nickel and cobalt sulphate in lab testwork



Produced 4N HPA in lab testwork



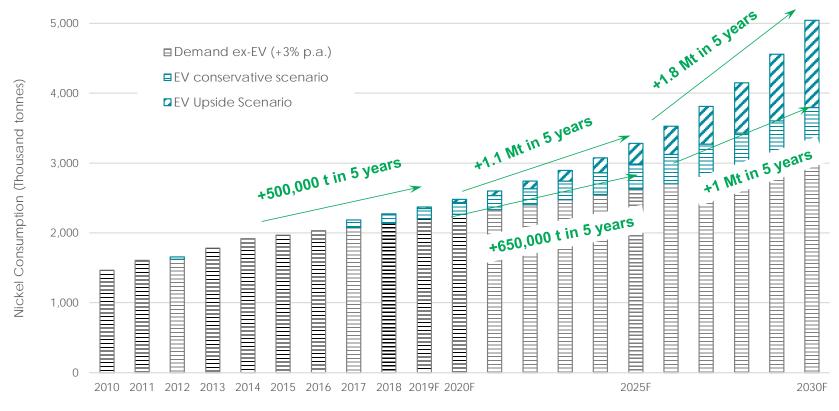
Completed PFS confirming strong economic potential

- Commence pilot plant trials
- + Complete PFS for HPA
- + Commence DFS
- + Obtain regulatory approvals
- + Finalise land agreement
- + Secure offtake and funding





Nickel Market Fundamentals



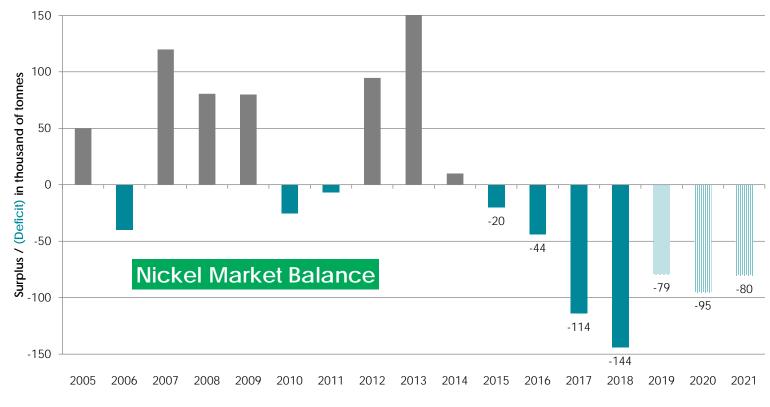
Source: Terra Studio - Nickel Market Analysis Update November 2019

Even with conservative EV uptake, nickel demand is expected to grow significantly





Nickel Market Fundamentals



Source: INSG, S&P Global, Terra Studio

Nickel inventories remain under pressure and are at decade lows







John Downie

Managing Director

E: jdownie@qpmetals.com.au

M: +61 (0) 408 329 262

W: www.pureminerals.com.au

Luke Forrestal

Media Enquiries

E: luke.forrestal@mcpartners.com.au

M: +61 (0) 411 479 144