Pure Minerals (ASX: PM1), through its wholly owned subsidiary Queensland Pacific Metals Pty Ltd, is focused on developing a modern battery metals refinery in northern Queensland.

Pure Minerals Limited

ASX RELEASE
7 April 2020

This announcement released by Pure Minerals Limited (ASX:PM1) ("**PM1**" or "the **Company**") and its wholly owned subsidiary Queensland Pacific Metals Pty Ltd ("**QPM**") replaces the announcement lodged earlier this morning as figure 1 did not upload correctly onto PM1's ASX platform.

ASX RELEASE
7 April 2020

TECH PROJECT – A Diversified Value-Add Business for all Commodity Cycles Updated PFS to include HPA Delivers Significant Returns

Highlights

- **Updated PFS confirms TECH Project has the potential to deliver excellent economic returns and remain financially robust in downward price cycles**
- **Significant producer of complementary battery chemicals; nickel sulphate, cobalt sulphate and HPA**
- **Based on current depressed spot rates for commodity prices and currency:**
  - **Post tax NPV AUD 1.08bn**
  - **Post tax IRR 24.9%**
  - **EBITDA AUD 211m per annum**
  - **Capital payback period 4.3 years**
- **Next steps are to complete the pilot plant test-work, DFS, and obtain all required development approvals**

Pure Minerals Limited (ASX:PM1) ("**PM1**" or "the **Company**") and its wholly owned subsidiary Queensland Pacific Metals Pty Ltd ("**QPM**") are delighted to provide the results of an updated Pre-Feasibility Study ("**Updated PFS**") for the Townsville Energy Chemicals Hub ("**TECH Project**"). The updated PFS is a revision of the December 2019 PFS (see ASX announcement 9 December 2019), incorporating the following changes:

- Addition of a high-purity alumina ("HPA") refinery; and
- Optimisation work undertaken to reduce gas and water consumption, thereby reducing operating costs.

QPM has undertaken sensitivity analysis to run the financial analysis of the PFS using previous study estimates and current spot prices. Whilst commodity spot prices are currently weakened, even with these inputs, the TECH project remains robust, which is greatly encouraging. With the incorporation of the HPA refinery, QPM has added significant value to the TECH Project with comparison of the Updated PFS to the December 2019 PFS detailed below:

Area	Updated PFS Base Case	Updated PFS Spot Case	December 2019 PFS
EBITDA (Steady state)	AUD 261m	AUD 211m	AUD 124m
Post-tax NPV	AUD 1.47bn	AUD 1.08bn	AUD 0.57bn
Post-tax IRR	30.7%	24.9%	20.1%

Note: The results of the Updated PFS Base Case and the December 2019 PFS use the same key underlying assumptions. Base Case and Spot Case assumptions are detailed on page 3.

PM1 Managing Director John Downie commented,

"The Updated PFS demonstrates that the TECH Project can be a significant supplier of battery chemicals, generating robust financial returns with soft commodity prices and excellent financial returns in stronger commodity cycles. The strong economics for the TECH Project will appeal to offtakers and strategic investors who are seeking to support projects that can delivery certainty of supply at all times.

It has only been 10 months since the acquisition of QPM by Pure Minerals, and in that time the team has accomplished many milestones including the AUD 2.55m CRC-P grant, conditional granting of land in Townsville and the completion of this PFS. In these trying times, we look forward to continuing to advance the TECH Project and delivering value to our shareholders.

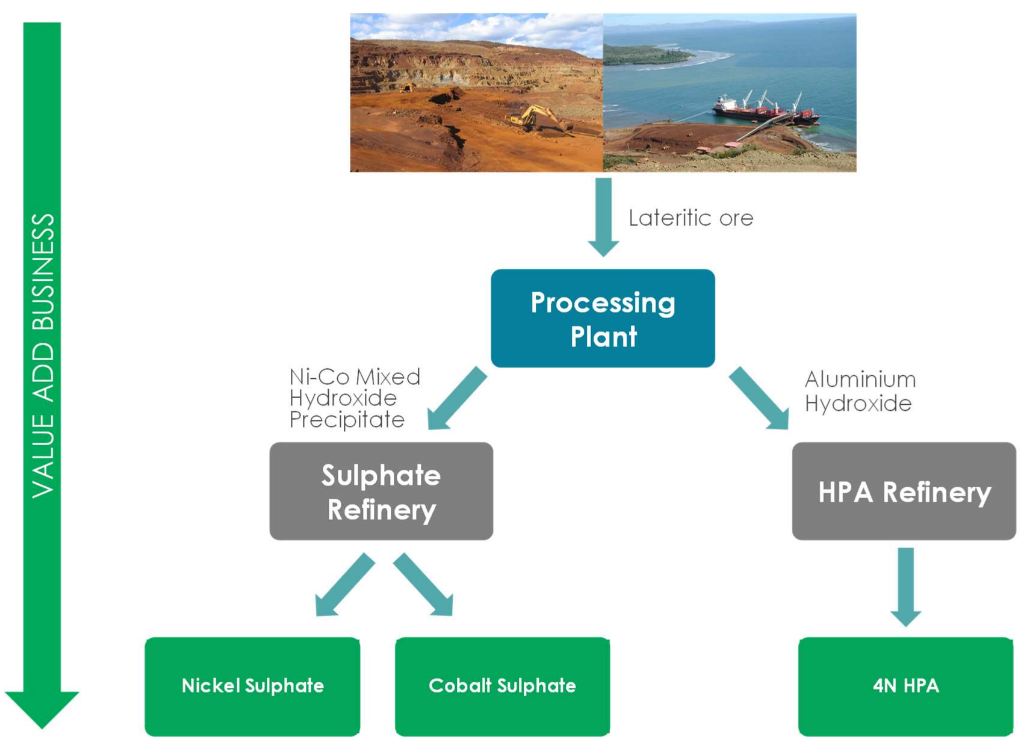
It is an exciting time to be involved in energy innovation and battery technology will define the future of renewable energy. Lithium ion battery technology, utilising high purity Ni and Co sulphate and HPA is dominating the electric vehicle and energy storage future. We envision the TECH Project to benefit significantly from that future."

Overview

The TECH Project has a value-add business model, processing imported, high-grade lateritic ore to extract valuable metals. These metals are then refined to generate higher value products.

Battery manufacturers and ultimate end users are seeking long term, reliable supply of battery chemicals, produced with environmentally and socially sustainable practises. The TECH Project can meet these objectives by becoming a significant supplier of nickel sulphate, cobalt sulphate and HPA.

The TECH business model is outlined in the figure 1 below:



Updated PFS – Key Results

The Updated PFS assesses the development of the TECH Project, a battery chemicals refinery in Townsville producing nickel sulphate, cobalt sulphate and HPA from imported, high-grade lateritic ore from New Caledonia.

Key Physical Outputs*

Area	Output
Plant design life	30 years with ramp up period of 12 months
Ore processed (steady state)	565,714 (wet) tpa
Assumed ore grade	1.60% Nickel 0.18% Cobalt 46.6% Iron 1.69% Aluminium 3.02% Magnesium
Annual production (steady state)	Nickel sulphate 26,398 t Cobalt sulphate 3,097 t 4N HPA 4,007 t Hematite 327,665 wmt Magnesia 20,079 t

Capital and Operating Costs*

Area	Input / Output
Capex ex contingency (0.68 AUD:USD)	AUD 554m
Contingency (0.68 AUD:USD)	AUD 96m
Operating expenditure (Steady state, 0.68 AUD:USD)	AUD 163m per annum

Financial Assumptions and Outputs*

In the table below, the assumptions for each scenario are based on the following:

Base Case: reflects macro assumptions previously assumed when preparing the December 2019 PFS and the February 2020 HPA Scoping Study.

Spot Case: Utilises the underlying commodity and exchange rate spot prices as at 31 March 2020. In the case of HPA, a price of USD 20,000/t was used as there is no real spot market for this commodity.

Area	Base Case	Spot Case
Exchange rate AUD USD	0.68	0.62
Nickel price (USD/lb)	7.00	5.70
Sulphate premium (USD/lb)	2.00	2.00
Cobalt price (USD/lb)	25.00	14.15
Cobalt premium (USD/lb)	nil	nil
HPA price (USD/t)	25,000	20,000
EBITDA (steady state)	AUD 261m	AUD 211m
Post tax NPV	AUD 1.47bn	AUD 1.08bn
Post tax IRR	30.7%	24.9%
Capital payback period	Within 3.5 years	Within 4.3 years

** Refer to Cautionary Statement on page 8*

High Purity Alumina Study

Extensive work relating to production of HPA at the TECH Project was completed in the February 2020 HPA Scoping Study (refer to ASX announcement 7 February 2020). In order to incorporate this work into the Updated PFS, increased confidence on operating and capital cost parameters was required. Lead HPA engineer, The Simulus Group ("**Simulus**"), achieved this by obtaining updated supplier quotes. The results are in line with the February 2020 HPA Scoping Study and are presented below:

Area	Feb 2020 Scoping Study	Updated PFS
Plant design life	25 years	30 years
Input feed source	9,920 tpa aluminium hydroxide	9,920 tpa aluminium hydroxide
Recovery of aluminium into HPA	77.4%	77.4%
4N HPA production (steady state)	4,007 tpa	4,007 tpa
Study accuracy	±35%	±25%
Capex ex contingency	AUD 87.9m	AUD 98.7m
Contingency	AUD 26.4m	AUD 19.7m
Operating expenditure (steady state)	AUD 18.1m pa	AUD 18.0m pa
Unit operating expenditure	AUD 4,522/t	AUD 4,504/t

Optimisation Work

QPM commissioned Prudentia Process Consulting ("**Prudentia**") to review the processing flowsheet used in the December 2019 PFS and identify any potential optimisation opportunities to reduce operating expenditure. One area identified by Prudentia was in the iron hydrolysis section of the flowsheet.

The optimisation work completed by Prudentia and incorporated into the Updated PFS utilises vapour compressors to pressurise and re-use the steam generated in the first two stages of iron hydrolysis. Rectifying columns are also incorporated to produce pure steam for recompression and produce a nitric acid stream with significant concentration that can be reused without further absorptions steps.

The advantages of this optimisation work are:

- A 31% decrease in gas consumption;
- Reduced cooling water demand resulting in a 60% reduction in water usage; and
- Greater efficiency with respect to nitric acid recycling.

On top of the cost savings associated with lower gas and water consumption, the task of securing supply of these consumables is expected to be easier for QPM at lower volumes.

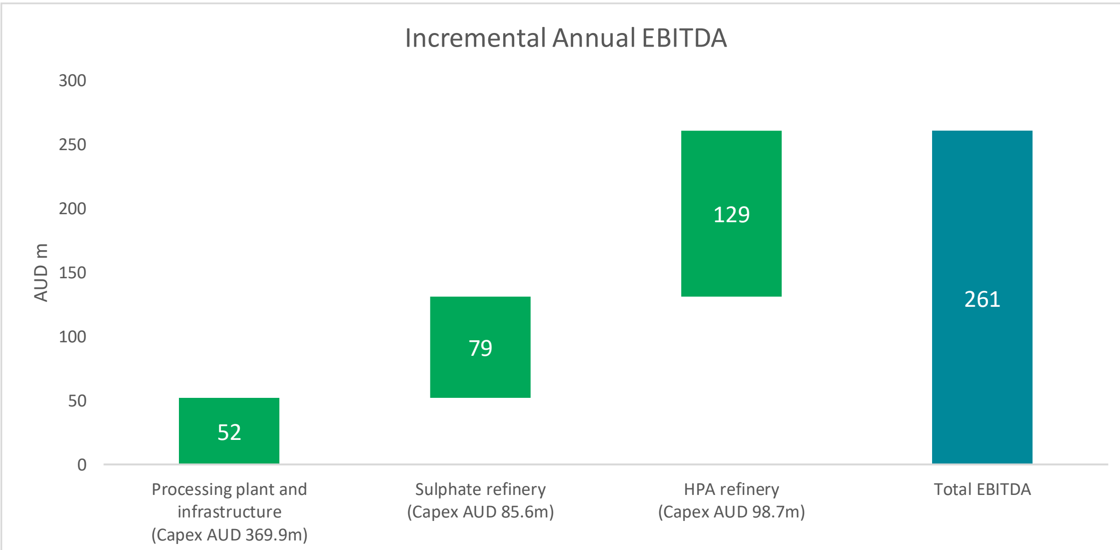
The financial impact of Prudentia's optimisation work incorporated into the Updated PFS is detailed below:

Area	Output
Incremental Capex inc contingency	AUD 17.4m
Annual opex saving (steady state)	AUD 9.7m

Value Add Business Model

The TECH Project has a value-add business model, (as shown in Figure 1) with much of the project's value derived downstream from both the sulphate and HPA refining steps. The upstream ore processing plant stage, generates an intermediate product known as mixed hydroxide precipitate ("**MHP**"). The MHP containing nickel and cobalt intermediate is a saleable product that has been actively traded for decades. Other co products such as hematite, magnesia and aluminium hydroxide (used as feedstock for HPA) are also generated at this processing stage

The figure below demonstrates the value equation for the TECH project:



Note: Processing plant EBITDA assumes 80% payability for nickel and cobalt contained in MHP

The capital expenditure for the traditional HPAL plant is very high whereas the capital expenditure relating to the TECH processing plant and supporting infrastructure is lower. For the TECH project to generate substantial EBITDA, the long term nickel and cobalt price does not have to be as high as for a HPAL plant to justify the capital expenditure.

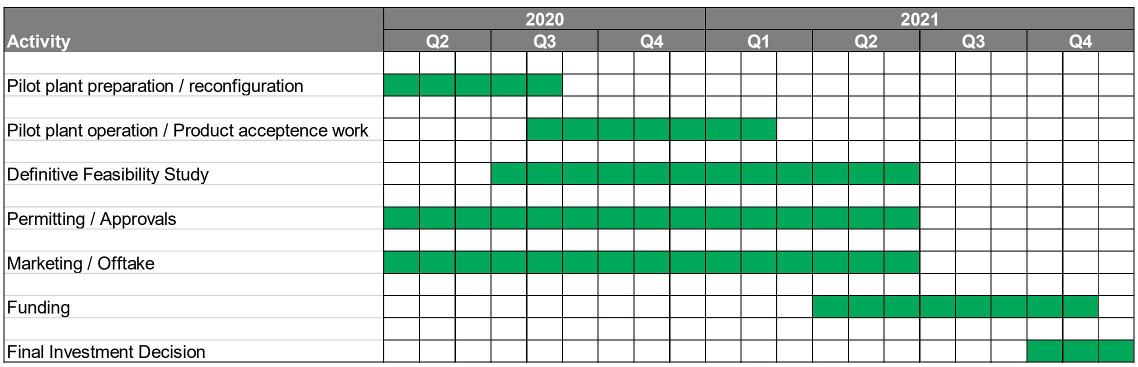
However, we can see that the incremental EBITDA added by both the sulphate and HPA refinery are well justified, relative to their incremental capex. The TECH project is configured such that either of these refineries can be staged and both do not need to be built at the same time for the project to be technically viable.

Schedule and Next Steps

As a result of Covid-19 impacts, there has been a massive slowdown in activity in all business sectors, due to regulatory restrictions being introduced to protect employees' health and safety. These precautions have also impacted QPM's partners, including CSIRO Minerals, where the pilot plant is located.

In addition, potential end users and strategic investors which QPM has been in discussions with have expressed interest to view the pilot plant when it is in operation. This is currently not possible with the current travel bans which exist in Australia and around the world.

To reflect the dramatic change in business activity, QPM has updated the indicative schedule through to obtaining a final investment decision. This considers a nominal 3 month disruption arising from Covid-19.



This announcement has been authorised for release by the Board.

For more information, please contact:

John Downie
Managing Director
jdownie@qpmetals.com.au
+61 (0) 408 329 262

Luke Forrestal
Media Enquiries
luke.forrestal@mcpartners.com.au
+61 (0) 411 479 144

***Cautionary Statement:**

The PFS referred to in this announcement is a study of the potential viability of the TECH project. It has been undertaken to understand the technical and economic viability of the TECH project.

The Company has concluded that it has a reasonable basis for providing the forward looking statements included in this announcement. The reasons for this conclusion are outlined throughout this announcement. However, the assumptions and results of the PFS set out above and elsewhere in this announcement ("**PFS Parameters**") have been developed through pre-feasibility level work (+/- 25% accuracy) and the use of macroeconomic assumptions. **For the avoidance of doubt, investors are advised that the PFS Parameters do not constitute a production forecast or target in relation to any mineral resources associated with any project owned by PM1 or QPM.** PM1 and QPM wish to expressly clarify that the PFS Parameters are based on an expected grade of nickel-cobalt ore to be imported by QPM under an ore supply agreement with third party New Caledonian ore suppliers. The PFS Parameters have been disclosed by PM1 and QPM in order to provide investors with an intended scale and nature of the Project.

The PFS referred to in this announcement has been undertaken to assess the technical and financial viability of the Project. Further evaluation work, including a Definitive Feasibility Study ("**DFS**") is required before PM1 will be in a position to provide any assurance of an economic development case. The PFS is based on the material assumptions set out in Annexure A. These include assumptions about the availability of funding and the pricing received for the Project's products. While PM1 and QPM consider all of the material assumptions to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated by this PFS will be achieved. To achieve the outcomes indicated in this PFS, pre-production capital (including contingency) in the order of AUD 650m (assuming an exchange rate of 0.68), additional capital for the DFS and working capital is likely to be required.

Investors should note that there is no certainty that the Company will be able to raise this amount of funding required when needed. It is also possible that such funding may only be available via equity funding which may have a dilutive effect on the Company's share value. The Company may also pursue other strategies in order to realise the value of the Project, such as a sale, partial sale or joint venture of the Project. If this occurs, this could materially reduce the Company's proportionate ownership of the Project. Accordingly, given the uncertainties involved, investors should not make any investment decisions based solely on the results of the PFS.

Competent Persons Statement

Information in this announcement relating to the processing and metallurgy (including the JORC table in Annexure C) is based on technical data compiled by Mr Boyd Willis, an Independent Consultant trading as Boyd Willis Hydromet Consulting (BWHC). 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.

Forward Looking Statement

This Announcement contains certain forward-looking statements with respect to the financial condition, results of operations, and business of the Company, and certain plans and objects of the management of the Company. These forward-looking statements involved known and unknown risks, uncertainties and other factors which are subject to change without notice, and may involve significant elements of subjective judgement and assumptions as to future events which may or may not occur. Forward-looking statements are provided as a general guide only and there can be no assurance that actual outcomes will not differ materially from these statements. Neither the Company or its directors, QPM or its directors, nor any other person, gives any representation, warranty, assurance or guarantee that the occurrence of the events expressed or implied in any forward-looking statement will actually occur. In particular, those forward-looking statements are subject to uncertainties and contingencies, many of which are outside of the control of the Company. A number of important factors could cause actual results or performance to differ materially from the forward-looking statements. Accordingly, Investors should consider the forward-looking statements contained in this Announcement in light of these disclosures.

ANNEXURE A – PFS SUMMARY

Capital Expenditure and Funding

The capital expenditure ("**capex**") estimates in the PFS have been undertaken to an accuracy of +/- 25%. Total capex for the TECH Project is estimated at AUD 554m plus a contingency of AUD 96mm (assuming an exchange rate of 0.68).

The breakdown of capex for the project is detailed below.

Area	Total (AUD)
Processing plant	184.1m
Optimsation work on processing plant	13.9m
Sulphate refinery	85.6m
HPA refinery	98.7m
Construction distributables	23.1m
Services	83.8m
Site facilities	7.1m
Indirects	57.9m
Total ex contingency	554m
Contingency	96m

QPM will explore a number of funding options to fund the development of the TECH Project including:

- Capital raised by parent company PM1
- Traditional debt finance with banks
- Bond issuance
- Australian funding initiatives such as North Australian Infrastructure Fund
- Offtake finance / prepayments with potential customers

QPM notes that at the current stage of the project, it is too early stage to have any definitive funding solutions, however these will be explored in parallel with the Definitive Feasibility Study.

Funding remains a key risk for the Project and QPM has commenced very preliminary discussions with potential groups who could assist or provide funding.

Revenue

At current spot rates, the annual revenue for the project in steady state production is AUD 346m. Based on the forecast production below, revenue is shown under various pricing scenarios.

Production	Output
Nickel sulphate	26,398 tpa
Cobalt sulphate	3,097 tpa
Hematite	327,665 wmtpa
Magnesia	20,079 tpa
High Purity Alumina	4,007 tpa

Area	Base Case	Spot Case
Exchange rate AUD USD	0.68	0.62
Nickel price (US$/lb)	7.00	5.70
Sulphate premium (US$/lb)	2.00	2.00
Cobalt price (US$/lb)	25.00	14.15
Cobalt premium (US$/lb)	nil	nil
HPA price (US$/t)	25,000	20,000
Hematite price ((US$/t)	85.00 + 20% premium	85.00 + 20% premium
Revenue (steady state)	AUD 424m	AUD 366m

Operating Expenditure

The operating expenditure ("**opex**") estimates in the PFS have been undertaken to an accuracy of +/- 25%. Total annual costs are AUD 163m per annum under the Base Case scenario (exchange rate of 0.68 AUD:USD)

The breakdown of annual opex for the project is detailed below.

Area	(AUD)
Ore supply and logistics	46.1m
Ore processing plant	86.6m
Sulphate refinery	12.6m
HPA refinery	18.0m
Total	163.3m

The majority of costs relate to ore supply costs and processing of this ore to extract valuable metals. The refining of these metals into end saleable products is relatively cheap, yet adds a significant amount of value from the uplift in revenue.

Financial Analysis

The financial analysis has been undertaken assuming a plant life of 30 years. This assumes that QPM will continue to be able to purchase ore from its ore supply partners beyond the term of the current ore supply agreement. QPM believes that this assumption is reasonable based on a number of factors including:

- QPM's ore supply partners' long term history of supplying projects around the world including the Queensland Nickel Refinery, at significantly higher tonnages; and
- The quantum of reserves held by QPM's ore supply partners and the nature of their mining licenses which are perpetual in nature.

The other key financial benefit considered in this financial analysis is the TECH Project being able to qualify for the R&D Tax Incentive scheme. The DNi Process™ is a technology that is yet to be commercialised. As such, QPM is confident that expenditure incurred by the TECH Project that relates to the DNi Process™ would qualify for the R&D Tax Incentive Scheme. The tax offset benefits of this scheme have been assumed as part of this financial analysis. **It must be noted that QPM has yet to submit a return for the R&D Tax Incentive Scheme and intends to do so in this financial year.** For more information refer to https://www.ato.gov.au/Business/Research-and-development-tax-incentive/Claiming-the-tax-offset/

The financial analysis has been prepared using both the Base Case and Spot Case assumptions. The Spot Case results highlight how robust the TECH Project is under soft macroeconomic conditions.

Financial Results	Base Case	Spot Case
Annual revenue (steady state)	AUD 424m	AUD 366m
Annual opex (steady state)	AUD 163m	AUD 155m
Annual EBITDA (steady state)	AUD 261m	AUD 211m
Post-tax NPV	AUD 1.47b	AUD 1.08b
Post-tax IRR	30.7%	24.9%
Payback period	Within 3.5 years	Within 4.3 years

Ore Supply

The TECH Project will source ore from QPM's ore supply partners Societe des Mines de la Tontouta ("**SMT**") and Societe Miniere Georges Montagnat S.A.R.L ("**SMGM**"). SMT and SMGM are well established mining companies in New Caledonia and have been supplying ore to customers around the world for decades. This includes the Queensland Nickel refinery in Townsville, which imported significantly higher quantities of ore from SMT and SMGM from 1989-2016.

QPM has an agreement in place to import 600,000 wet metric tonnes ("**wmt**") of ore per annum for a term of ten years. This term can be extended by mutual agreement for a period of five years.

New Caledonia has the worlds' largest reserves of nickel laterite ore, with SMT and SMGM holding more than 20% of the available mining concessions, which are perpetual in nature.

Beyond the term of the existing agreement, there are sufficient reserves to continue to supply the TECH Project for the full 30 years plant life and beyond. The Updated PFS assumes that ore supply can be obtained under the same commercial terms as the current agreement for the duration of the plant life.

The PFS assumes the following ore grades to be supplied to the TECH Project:

Ore Grade	%
Nickel	1.60
Cobalt	0.18
Iron	46.6
Aluminium	1.69
Magnesium	3.02
Moisture	30%

The price of ore purchased is commercial in confidence, however it is linked to the nickel and cobalt spot price.

As previously announced, the ore supply agreement is conditional on the following:

- The completion of a feasibility study to the satisfaction of QPM in respect of the development of the processing plant and QPM providing notice to SMT and SMGM regarding its decision to proceed towards construction;
- New Caledonian regulatory export approvals (Australia is an approved trading partner of New Caledonia); and
- Formalisation of a detailed ore supply contract based on the current agreed terms.

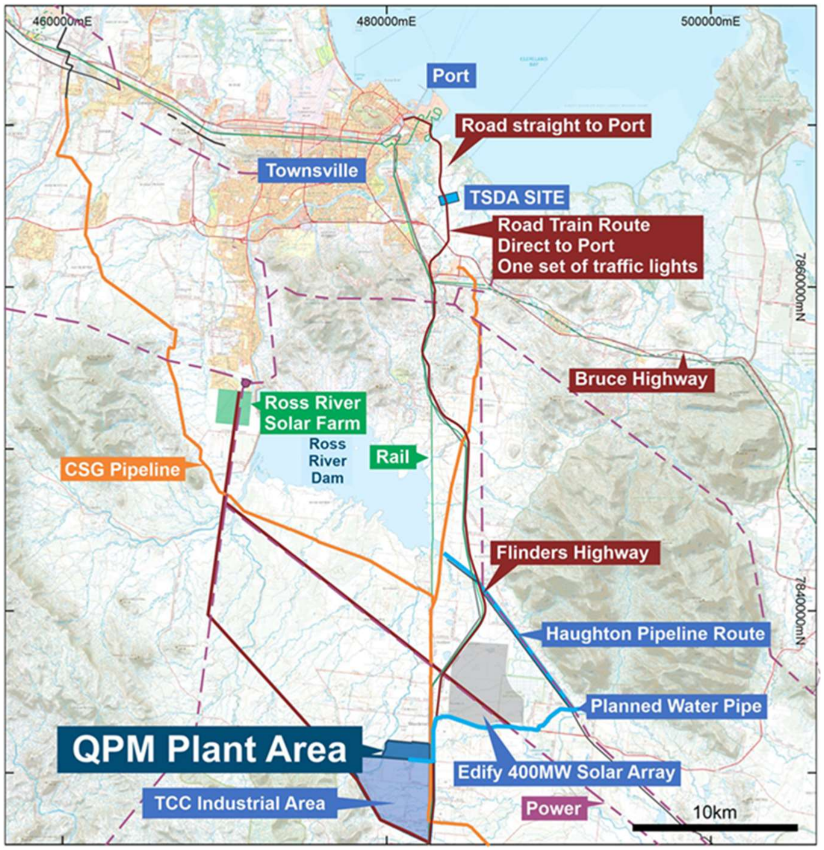
Please refer to ASX announcement 15 October 2018 and 16 October 2019 for further details.

Furthermore, QPM's ability to move towards a decision to proceed for construction of the TECH Project is subject to obtaining an Environmental Authority, as required under Queensland laws and regulations, and finalising land agreements with Townsville City Council on the Lansdown property.

Location

The Updated PFS considers construction of the TECH Project at the Lansdown Industrial Precinct in Woodstock, 40km south of Townsville. Woodstock is slated to become a strategic, high-impact industrial zone targeting innovative and dynamic enterprises that support the creation of new job opportunities for Townsville.

QPM has received conditional commitment from Townsville City Council ("**TCC**") over two blocks of land within the precinct, being part Lot 19 (127 hectares) and Lot 20 (162 hectares). The land is well supported by existing infrastructure which will be instrumental to the development and operation of the TECH Project. This includes gas pipeline, power transmission, road and water supply.



Logistics

QPM will purchase ore on a free-on-board ("**FOB**") basis from SMT and SMGM. QPM will charter supramax or ultramax size bulk carriers capable of transporting 55,000-60,000 wmt ore. To meet annual ore importation requirements, this equates to approximately one shipment per month.

The bulk carriers will transport ore to the Port of Townsville. QPM has held discussions with the Townsville Port Authority and confirmed the availability of a berth to discharge ore. In addition, a multiuser shed with a capacity of 60,000-80,000t is proposed for construction on port land, approximately 2 km from the berth. This will act as an intermediate storage facility for QPM.

Side tipper trucks (B triple configuration) will be utilised to transport ore from the intermediate storage facility at the Port to the TECH Project site at Lansdown. The haul route is along the Bruce Hwy over a distance of 40 km. Ore will be stockpiled at one of two 60,000 t capacity stockpile areas located adjacent to the planned ore feed bin for the process plant.

When possible, the haulage fleet will be utilised to transport products from the TECH Project bank to the Port of Townsville for export to customers. This maximises the utilisation of the haulage fleet, avoids any impact on traffic intensity and reduces overall logistics costs.

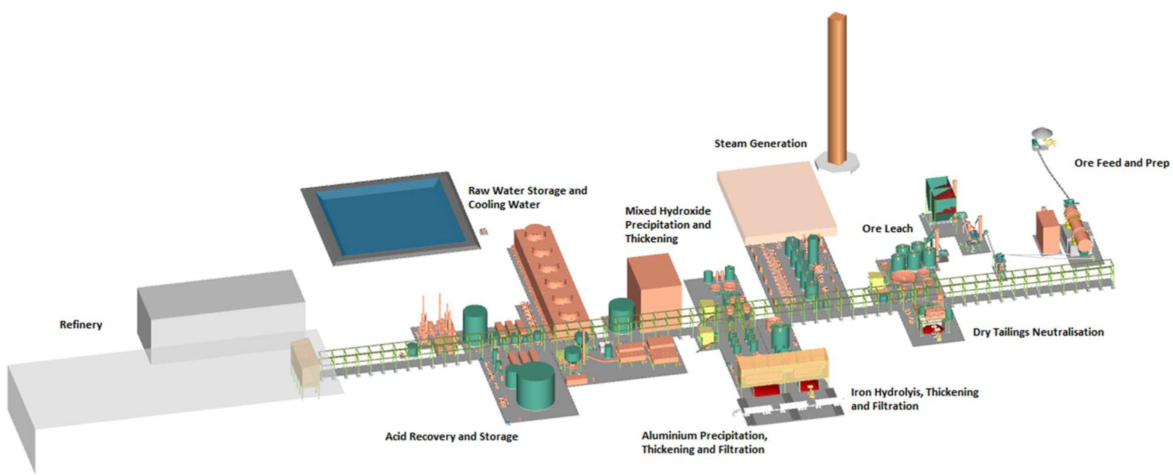
Although the 40 km route from the Port to the Lansdown site is a class 1 and 2 road train route truck, intensity will be kept to a minimum by utilising B triples along the Port Access and the Flinders Highway (~1 truck per hour). The hematite product extracted from the ore is equivalent to 50% of the ore imported ore quantity so at least every second truck will be backloaded with hematite to the Port ready for export.

Plant Design Criteria and Layout

The TECH Project has been designed to operate for a minimum of 30 years, which is common for hydrometallurgical plants. Examples are the Moa Nickel S.A (Cuba) constructed in 1959 and the Kwinana Nickel Refining (Australia) constructed in 1968 and both remain operational today. The materials of construction ("**MOC**") and mechanical equipment selected for the construction of the plant will last for more than 30 years under the operating conditions of the TECH Project. In addition, significant maintenance costs have been allowed for in operating expenditure to ensure the plant life.

As part of the MOC report the expected plant operating conditions and historical Direct Nickel test reports were provided to Dr Graham Sussex of Sussex Materials Solutions Pty Ltd to confirm suitability of the MOC to ensure the project life.

The TECH Project plant layout is displayed below.



Ore Processing Plant

The process to produce battery grade nickel and cobalt sulphate and high purity alumina from the imported New Caledonia ore takes place in three parts:

Part 1: Ore processing plant – leaches ore to produce an intermediate MHP

Part 2: Sulphate refinery – takes MHP and upgrades it to nickel and cobalt sulphate

Part 3: HPA refinery -takes Aluminium Hydroxide from the ore processing plant and upgrades it to HPA

The Ore Processing Plant will utilise a nitric acid leach process patented by Direct Nickel Projects Pty Ltd (the "**DNi Process**") with modifications to suit the expected specifications of the ore supply.

Background to DNi Process

Laterites have traditionally been difficult and costly to process. Current technologies such as High Pressure Acid Leach ("**HPAL**") require high pressure and temperature and up to now, many have experienced massive capital cost blowouts, technical failures and project delays.

DNi Process is an alternative to HPAL based on continuous, rapid tank atmospheric leaching, achieving high metal recovery rates, particularly of nickel and cobalt but also of iron as hematite and magnesium oxide. Iron and magnesia found at high levels in limonite and saprolite ores respectively, are both high acid consuming minerals that require selective mining and front end ore preparation/beneficiation prior to feeding the HPAL circuit.

The DNi Process is able to treat the entire profile of a laterite deposit – limonite and saprolite independent of iron or magnesia grade. A key feature of the DNi Process is that over 95% of the leach reagent, nitric acid, and magnesia is recovered and recycled, lowering production costs and efficiently reducing associated environmental issues. Recycling the magnesia avoids the need for purchasing magnesia and lime and limestone for acid neutralisation as is the case for HPAL.

Operating and capital costs are forecast to be less than those of existing processes in part because the DNi Process does not require high pressure or high temperature to operate, or exotic materials of construction but also because the hematite, magnesia, aluminium hydroxide co products can be extracted and contribute to the revenue stream and the residue volumes are dramatically reduced.

Also, the minimum threshold plant size is around 5,000 tpa nickel, a fraction of the scale competitors must start from to be economic. A DNi Process plant can be constructed utilising well-proven stainless steel fabrication techniques. Plant construction can be modular, further de-risking scale-up costs.

Process Summary

The Ore Processing Plant consists of the following areas:

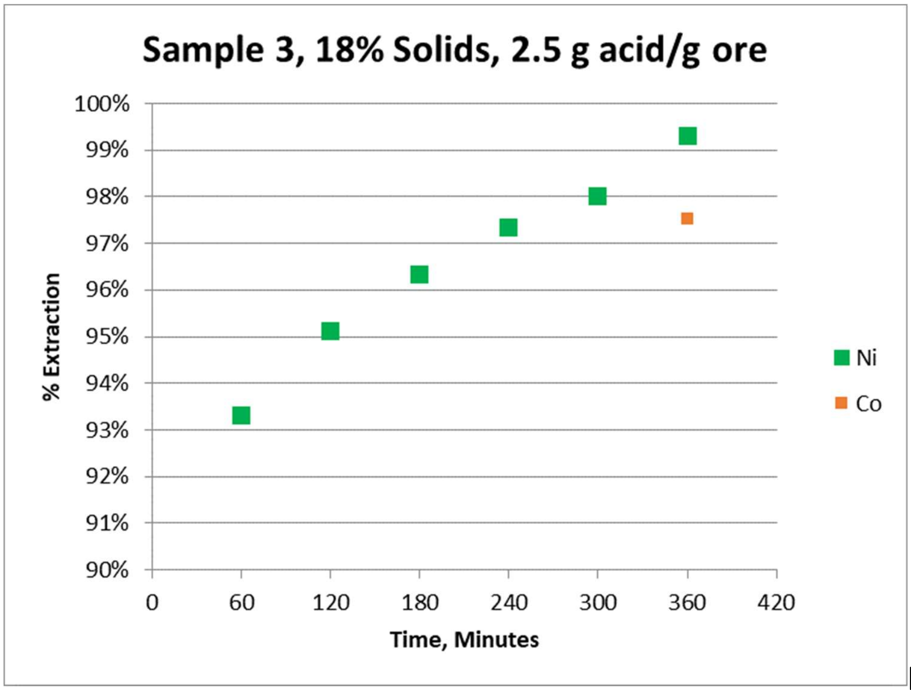
Feed Preparation

Ore will be taken from the stockpile, dried and milled in a dry ball mill before reporting to storage bins ahead of the leach circuit.

Leaching

Grab samples of varying specification were taken from a shipping stockpile by SMT in New Caledonia and provided to QPM. Bench scale test-work was undertaken on the samples to determine metal extractions to be utilised in METSIM modelling, as well as acid consumption and leach temperature.

The leach test results were very positive and strong metal extraction was achieved. Key leach results are demonstrated in the leach curves below.



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Based on the bench scale testwork, a total acid addition rate (100% equivalent) of 2.5 t/t (dry) ore, a leach temperature of 110°C and residence time of 6 hours were selected for the Ore Processing Plant. Metal extractions assumed for the PFS are provided in the table below:

Element	Ni	Co	Fe	Mg	Al	Mn	Cr
Extraction %	97	94	91	91	71	84	33

Ore will be slurried with nitric acid in a series of five leach tanks. The operating temperature of 110°C is below the boiling point of the solution and can be achieved under atmospheric conditions. The nitric acid reacts with metals in the ore, leaching a large proportion of the contained metals. Discharge from the final leach tank is pumped into the counter current decantation circuit (“**CCD**”).

Counter Current Decantation (CCD)

A CCD system is used to separate the post leach slurry into pregnant leach solution (“**PLS**”) and washed acid insoluble residue. The CCD circuit will consist of five thickeners in series with counter current washing of the solids using filtrate/washate water. The residue filter is effectively the 6th CCD, employing fresh water to produce a dilute filtrate that becomes the wash liquor for CCD5. CCD thickener overflow (also known as PLS containing all the dissolved metals) will report to the pre-neutralisation tanks ahead of iron hydrolysis. Underflow from the last CCD will be pumped to the residue circuit.

Residue Neutralisation and Filtration

Washed solids from the CCD underflow will be neutralised to a pH of 7 with the addition of dry MgO.

This neutralised stream will then be filtered in a pressure filter and the solid filter cake (mostly silica) will be disposed of in a dry stacked residue storage facility. Further investigation work will be undertaken to assess the residue for use as landfill material.

Iron Hydrolysis and Production of Hematite Co-Product

The PLS is fed into the iron hydrolysis circuit where heating will be used to volatise the nitric acid. The effect of this is that the solution remaining in the tanks will increase in concentration until it is effectively a hydrated molten salt. In the final two tanks iron in this solution precipitates as hematite, generating additional nitric acid vapour. Filtering the precipitate creates a high-grade fines product of grade 66% Fe (94% Fe_2O_3).

Acid vapours emitted from the iron hydrolysis tanks will be captured, distilled and condensed to recover the nitric acid for recycling back to leaching. The expectation is that the total acid recycle will be +95%, minimising nitric acid consumption costs.

Two Stage Aluminium Precipitation and Production of Aluminium Hydroxide Co-Product

After the iron is precipitated, the remaining liquor is delivered to the two-stage aluminium precipitation circuit. In this circuit, pH levels of the solution are increased via the controlled addition of dry MgO to precipitate aluminium from the liquor. As part of this process, there is minimal loss of nickel and cobalt. The first stage precipitate will be filtered to produce saleable aluminium hydroxide. The second stage precipitate is recycled upstream of the iron hydrolysis circuit.

At bench scale, QPM has demonstrated the potential to upgrade the aluminium hydroxide into high purity alumina (see ASX announcement 6 November 2019) and this has been reflected in the updated PFS.

Two Stage MHP Precipitation

Liquor from the aluminium precipitation circuit will be directed to a two-stage MHP circuit. In this circuit, pH levels are again increased via the controlled addition of dry MgO. The first stage of precipitation will produce high purity MHP, which will then be fed into the sulphate refinery after solid liquid separation. The second stage of the circuit scavenges residual nickel and cobalt in solution for recycle to the iron hydrolysis circuit for re-dissolution.

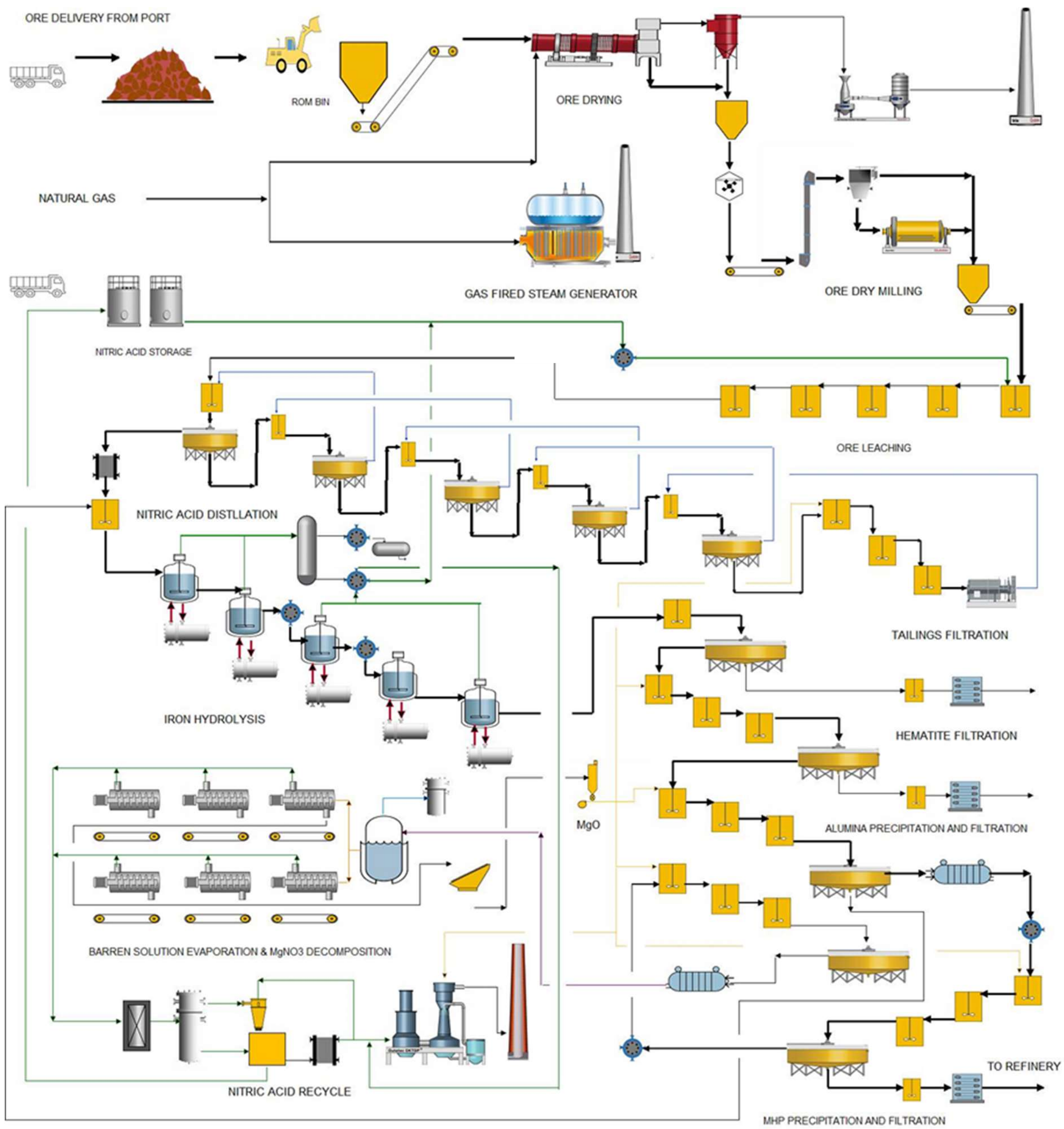
Acid Recovery and Production of Magnesia Co-Product

From the MHP circuit, the remaining barren solution is taken for evaporation of water to form molten salt mixture rich in magnesium nitrate hydrates. Heating of the molten salt to approximately 550-600°C drives off NOx, H_2O and HNO_3 gases, leaving behind solid magnesia, containing ~85% MgO, as a saleable product.

All the NOx gases are captured in the nitric acid recovery section. As the gases are cooled down, nitric acid will condense and be recycled into the recirculating acid stream.

Flowsheet

The above stages of the Ore Processing Plant are displayed in the flowsheet below.


ORE DELIVERY FROM PORT
ROM BIN
ORE DRYING
NATURAL GAS
GAS FIRED STEAM GENERATOR
ORE DRY MILLING
NITRIC ACID STORAGE
ORE LEACHING
NITRIC ACID DISTLLATION
TAILINGS FILTRATION
IRON HYDROLYSIS
HEMATITE FILTRATION
MgO
ALUMINA PRECIPITATION AND FILTRATION
BARREN SOLUTION EVAPORATION & MgNO3 DECOMPOSITION
TO REFINERY
NITRIC ACID RECYCLE
MHP PRECIPITATION AND FILTRATION

Sulphate Refinery

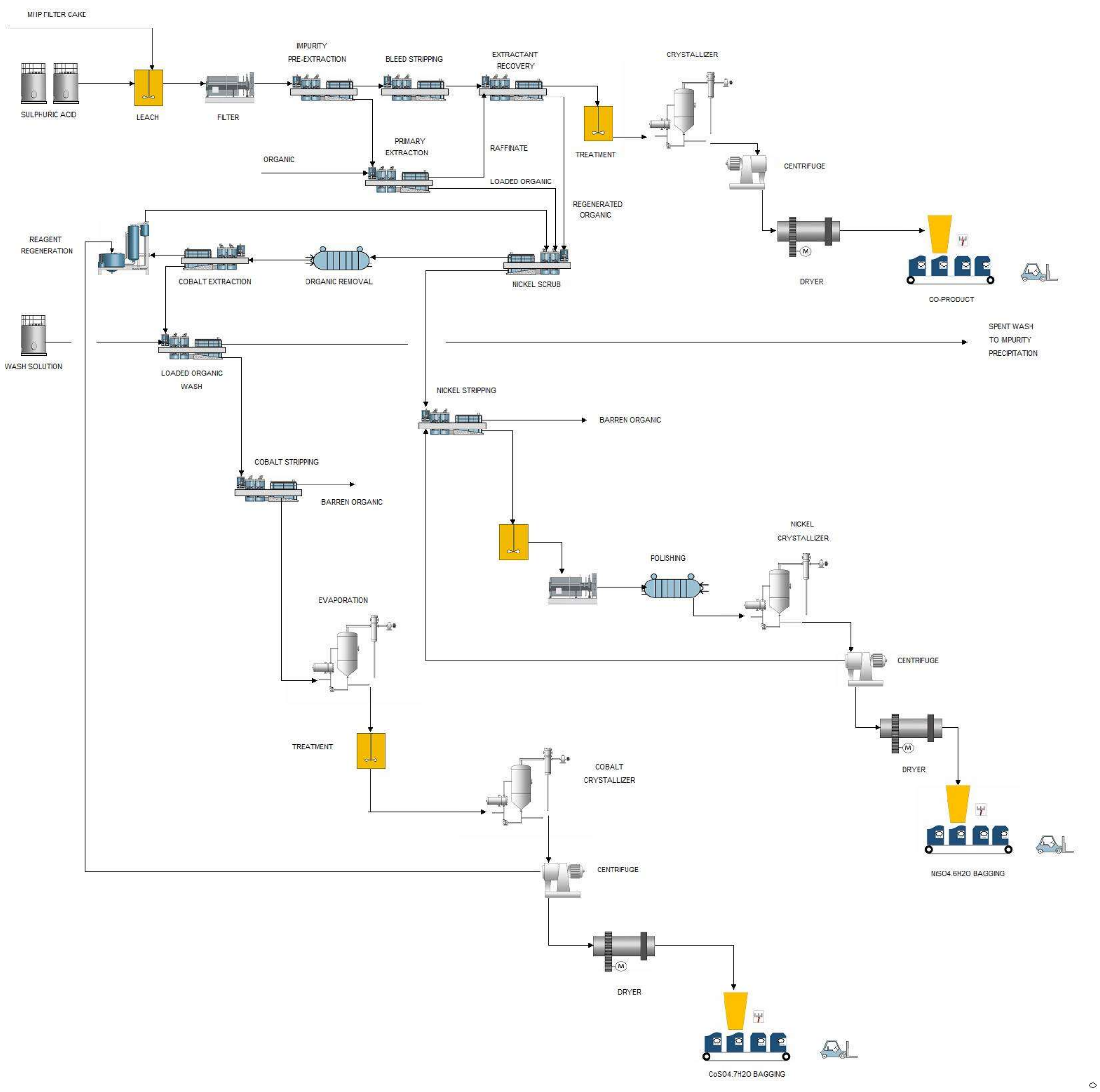
The process to produce battery grade nickel and cobalt sulphate from MHP feed is well proven. The process principally uses solvent extraction ("**SX**") to treat nickel and cobalt liquors to produce high purity nickel and cobalt sulphate solutions, which are then crystallised to form battery grade chemicals.

The MHP produced from the Ore Processing Plant is leached using sulphuric acid to generate a PLS containing nickel and cobalt. The PLS is then purified by SX. Nickel and cobalt are loaded onto the organic which is then treated in a washing step to displace co-extracted impurities. The spent wash is treated in another SX circuit to extract cobalt into organic phase.

Nickel is stripped in a series of mixer-settlers to extract nickel from the loaded organic into recycled spent electrolyte. Nickel loaded advance electrolyte is treated to remove any residual iron, ensuring high purity electrolyte for the crystallisation process. Nickel sulphate hexahydrate is produced via cooling crystallisation. The nickel sulphate is centrifuged, dried and bagged ready for sale.

The cobalt loaded organic is subjected to several stages of washing to remove non-cobalt elements. Cobalt is stripped from the organic in a series of mixer-settlers, and the resultant loaded strip liquor is treated with sulphuric acid to produce a cobalt sulphate solution. Cobalt sulphate heptahydrate crystals are produced via cooling crystallisation. The cobalt sulphate is centrifuged, dried and bagged for sale.

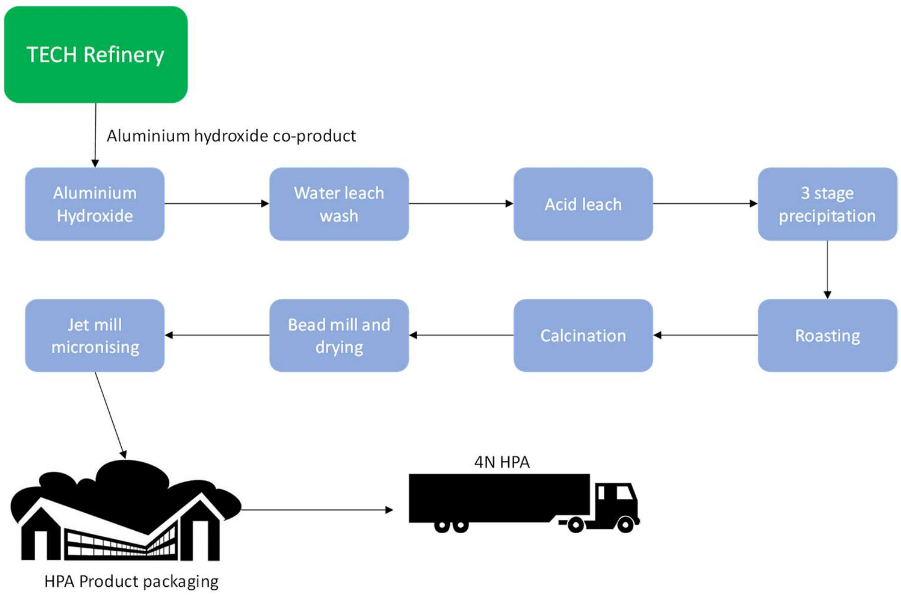
The flowsheet below outlines the process for the Sulphate Refinery.



HPA Refinery

To produce HPA, aluminium hydroxide produced from the TECH Project is first washed to remove any nitrates. The resultant product is then re-leached in hydrochloric acid, followed by three stages of aluminium chloride hexahydrate ("**ACH**") precipitation and finally calcination into HPA.

A simplified flowsheet is detailed below:



ANNEXURE B – SUMMARY OF MODIFYING FACTORS

<table>
<tr><th>Aspect</th><th>Discussion</th></tr>
<tr><td>Study Scope and Status</td><td>QPM proposes to build a metals processing plant at Townsville in North Queensland. The Project will be built to supply into the emerging demand for Nickel and Cobalt chemical products along with high purity alumina whilst enabling further downstream processing of QPM's products within the North Queensland region.
This combined PFS has been undertaken to an accuracy of ±25%. It combines the work undertaken in the December 2019 PFS, which focusses on the production of nickel sulphate and cobalt sulphate, and a HPA PFS completed simultaneously.
The key components of the Project include the following:

Purchase and supply of 565,714 wtpa of lateritic ore from New Caledonia through the Port of Townsville (sourced from third parties pursuant to an ore supply agreement);
Transport of ore to site on road;
Construction and operation of a new hydrometallurgical metals processing facility and associated infrastructure at Townsville producing:

26,398 tpa of Nickel Sulphate hexahydrate;
3,097 tpa of Cobalt Sulphate heptahydrate
4,007 tpa of High Purity Alumina
327,665 wtpa of Hematite fines
20,079 wtpa Magnesia

Transport of products to the Port of Townsville by road for export.

The PFS summarises the work completed to date by QPM. It presents a technical and economic evaluation of the potential viability of the Project.</td></tr>
<tr><td>Risk Management</td><td>Risk Management processes have been established for the Project. Key risks identified include:

Security of Ore Supply and ability to extend ore supply agreement or source supplementary ore feed for the life of the plant (30 years)
Quality Management
Environmental Permitting and Performance
Technology Performance
Capital and Operating Costs

An Enterprise Wide Risk Management Plan has been developed, including risk register. This will be enhanced during DFS phase.</td></tr>
<tr><td>Ore Supply</td><td>Ore to be sourced directly from two third party New Caledonian suppliers. QPM does not assume material will be sourced directly from individual mining operations, it will be purchased from suppliers at an agreed specification.
Suppliers' capacity to supply into a long term contract has been evaluated with Ore supply assumed to be at 565,714 wtpa at the specified grades.

The PFS assumes the following ore grades to be supplied to the TECH Project:
<table>
<tr><th>Ore Grade</th><th>%</th></tr>
<tr><td>Nickel</td><td>1.60</td></tr>
<tr><td>Cobalt</td><td>0.18</td></tr>
<tr><td>Iron</td><td>46.6</td></tr>
<tr><td>Aluminium</td><td>1.69</td></tr>
</table></td></tr>
</table>

Aspect	Discussion
	<table><tr><td>Magnesium</td><td>3.02</td></tr><tr><td>Moisture</td><td>30</td></tr></table> The price of ore purchased is commercial in confidence, however it is linked to the nickel and cobalt spot price. QPM is confident that ore supply can be obtained for the full 30 year life of the plant based on the long term history and track record of its ore supply partners and their quantum of reserves on granted mining licenses. The current ore supply agreement is for a term of 10 years, with an option to extend for 5 years by mutual agreement. For the avoidance of doubt, the ore is not associated with any mineral project owned by QPM or PM1.
Metallurgical	Leach kinetics test work completed by Core Resources (ref Section 1 of this table). This work confirmed extraction and leach time of nickel and cobalt for the process with the ore as specified (refer to PM1 announcement 26 October 2018). Synthetic MHP produced using the Direct Nickel process was processed by CSIRO at a laboratory scale producing samples of Nickel and Cobalt Sulphate and confirmed potential suitability of process route (refer PM1 announcement 29 November 2018). Production of Sulphate and HPA products will be based through a 3 part process ***<u>Part 1: Ore Processing Plant</u>*** The Ore Processing Plant utilises nitric acid to digest ore, at atmospheric pressure, a range of minerals found in lateritic ores and recovers the Nitric Acid for reuse. The proposed flowsheet for the 565,714 wtpa Ore Processing Plant consists of ore preparation, acid leaching, CCD, iron hydrolysis, aluminium precipitation, mixed nickel-cobalt hydroxide precipitation (MHP), reagent regeneration, final neutralisation, and residue de-watering. The proposed plant will also produce secondary products of Hematite, Magnesia and Aluminium Hydroxide. The key services and utilities associated with the project are: nitric acid handling and storage, bulk MgO handling and storage, reagent handling and make up, gas supply and handling, water services including water treatment plant, steam boiler, compressed air, and electrical power (incoming line and distribution). ***<u>Part 2: Refinery Process</u>*** The process to produce battery grade nickel and cobalt sulphate from MHP feed is well proven. The process principally uses solvent extraction (“SX”) to treat low grade nickel and cobalt liquors to produce high purity nickel and cobalt sulphate solutions, which are then crystallised to form battery grade chemicals. The MHP produced from the Ore Processing Plant is leached using sulphuric acid to generate a PLS containing nickel and cobalt. The PLS is then purified to precipitate out any remaining manganese and iron. Filtered PLS is transferred to the SX plant where nickel and cobalt are extracted by organic solvent. The organic containing nickel and cobalt is processed to remove cobalt and the nickel is then stripped to electrolyte. Nickel sulphate hexahydrate is produced via cooling crystallisation. The nickel sulphate is centrifuged, dried and bagged ready for sale.

Aspect	Discussion
	Part 3: High Purity Alumina Refinery The process to produce HPA is well proven, aluminium hydroxide produced from the TECH project is first washed to remove any nitrates. The resultant product is then re-leached in hydrochloric acid, followed by three stages of aluminium chloride hexahydrate precipitation and finally calcination into HPA. **Pilot Plant Trials** The Process flowsheets for each part have been developed and validated at Pre Feasibility level using METSIM and Aspen modelling. Further design and optimisation will be completed post PFS in order to develop the go forward case for the DFS. A 1 tonne (dry) per day (ore feed) large scale pilot plant was built to replicate the DNi Process at the CSIRO Minerals research centre in West Australia. The Pilot Plant successfully processed a number of ore sources and ore blends for continuous campaigns over a twelve-month period. This will be reconfigured and recommissioned to allow completion of pilot scale trials as part of the DFS. A new pilot plant will be configured to trial the Refinery flow sheet and produce customer acceptance samples. The HPA refinery flowsheet will be validated in one of a number of existing HPA pilot plants following the initial production of $Al(OH)_3$ in the CSIRO pilot plant.
Human Resources	Organisation structure and manning levels were determined from first principles and included in the PFS.
Project Execution	Study work at Pre Feasibility level was completed by lead engineers Lycopodium (Ore Processing Plant and Sulphate Refinery) and Simulus Engineers (HPA refinery) with co-ordination and support from the QPM owners' team and other technical contributors; • Geology and Mining: SMT, SMSP, Xenith • Process and Engineering: DNi, CSIRO, BWHC, Prudentia • Environmental and Permitting: Saunders Havill Group
Operations Management	Management and Staff to be recruited from a readily available pool within Queensland and Townsville, with corporate management regionally focussed.
Information Management	"Off the shelf" IT and management systems to be used. Estimates contained within the PFS capital costs.
Social, legal and governmental	Environmental and infrastructure risk has been considered as part of the overall risk assessments. The final project location in Townsville was determined as Lansdown, however QPM have investigated a number of other suitable sites within the region. Environmental studies and application process for the TECH project have commenced. The use of the DNi Process™ has been considered an environmentally favourable approach compared with other processing methods as residue from ore processing is minimised and the final product is also benign, reducing the requirement for tailings dam.

<table>
<tr><th>Aspect</th><th>Discussion</th></tr>
<tr><td></td><td>The selection of the Lansdown precinct for location of the TECH Project will also assist in obtaining regulatory approvals for plant construction and operation as this has been designated to be an industrial area zoned for high impact industry.

QPM's ability to move towards a decision to proceed for construction of the TECH Project is subject to obtaining an Environmental Authority, as required under Queensland laws and regulations, and finalising land agreements with Townsville City Council on the Lansdown property.</td></tr>
<tr><td>Costs</td><td>The capital expenditure ("capex") estimates in the PFS have been undertaken to an accuracy of ±25%. Total capex for the TECH Project is estimated at AUD 554m plus a contingency of AUD 96m (assuming an exchange rate of 0.68).

The breakdown of capex for the project is detailed below.
<table>
<tr><th>Area</th><th>Total (AUD)</th></tr>
<tr><td>Processing plant</td><td>184.1m</td></tr>
<tr><td>Optimsation work on processing plant</td><td>13.9m</td></tr>
<tr><td>Sulphate refinery</td><td>85.6m</td></tr>
<tr><td>HPA refinery</td><td>98.7m</td></tr>
<tr><td>Construction distributables</td><td>23.1m</td></tr>
<tr><td>Services</td><td>83.8m</td></tr>
<tr><td>Site facilities</td><td>7.1m</td></tr>
<tr><td>Indirects</td><td>57.9m</td></tr>
<tr><td>Total ex contingency</td><td>554m</td></tr>
<tr><td>Contingency</td><td>96m</td></tr>
</table>

The operating expenditure ("opex") estimates in the PFS have been undertaken to an accuracy of ±25%. Total annual costs are AUD 163m per annum under the Base Case scenario (exchange rate of 0.68 AUD:USD)

The breakdown of annual opex for the project is detailed below.
<table>
<tr><th>Area</th><th>(AUD)</th></tr>
<tr><td>Ore supply and logistics</td><td>46.1m</td></tr>
<tr><td>Ore processing plant</td><td>86.6m</td></tr>
<tr><td>Sulphate refinery</td><td>12.6m</td></tr>
<tr><td>HPA refinery</td><td>18.0m</td></tr>
<tr><td>Total</td><td>163.3m</td></tr>
</table>
</td></tr>
<tr><td>Environmental Factors</td><td>

Residue from the process plant will be washed, acid recovered and recycled. Residue is then dewatered using belt filters trucked to the Residue Storage Area and dry stacked.
Residue storage area will be square and located in the east of the site, wall lengths will be approximately 500 m square and cover approximately 30 ha. Storage shall include a starter wall constructed of locally borrowed engineered fill followed by 2 m high upstream lifts using compacted residue to a maximum of 12 m height.
A test pit programme has completed to establish ground conditions. These

</td></tr>
</table>

<table>
<tr><th>Aspect</th><th>Discussion</th></tr>
<tr><td></td><td>consist of very stiff to hard clays overlying weathered rock at approximately 2 m depth.
<table>
<tr><th>Parameter</th><th>Value</th></tr>
<tr><td>Residue discharge rate</td><td>125,000 wtpa</td></tr>
<tr><td>Residue discharge rate</td><td>88,000 dtpa</td></tr>
<tr><td>Insitu dry density</td><td>1.1 t/m3</td></tr>
<tr><td>Project Life</td><td>30 years</td></tr>
<tr><td>Discharge method</td><td>Dry Stacked</td></tr>
<tr><td>Residue volume capacity</td><td>2.8 Mm^3</td></tr>
<tr><td>Ultimate Height including 1m freeboard</td><td>12 m</td></tr>
<tr><td>Overall slope (H:V)</td><td>6:1</td></tr>
<tr><td>Area Required</td><td>30 ha</td></tr>
<tr><td>Area Available</td><td>75 ha</td></tr>
</table>
Process residue from the CSIRO process (Nickel and Co Sulphate production) will be disposed via registered waste contractors.</td></tr>
<tr><td>Exclusions</td><td>Exclusions of this PFS include:

Owner’s costs beyond spare parts and first fills for the processing plant and refinery
Commissioning Costs
Working capital

Ramp up of production has also not been considered as engineering at the PFS level is not at a stage where predictions of ease of commission could be predicted with any reliability. However, QPM notes that the TECH Project is a relatively modest scale plant compared with other hydrometallurgical plants and is not as complex as HPAL operations.</td></tr>
<tr><td>Investment Evaluation</td><td>The TECH Project was evaluated using simple discounted cash flow methods. Net present value was calculated from estimated real, post-tax, unleveraged free cash flows. All sunk costs to date were excluded from the financial evaluation.

The discount rate used was 8.0%

A project life of 30 years was assessed, which is the design of the plant.
Cash flows were projected in Australian dollars, being translated from U.S. dollars of applicable.

The project evaluation model is unaudited. The following key assumptions were used in the investment evaluation.
<table>
<tr><th>Area</th><th>Base Case</th><th>Spot Case</th></tr>
<tr><td>Exchange rate AUD USD</td><td>0.68</td><td>0.62</td></tr>
<tr><td>Nickel price (US$/lb)</td><td>7.00</td><td>5.70</td></tr>
<tr><td>Sulphate premium (US$/lb)</td><td>2.00</td><td>2.00</td></tr>
<tr><td>Cobalt price (US$/lb)</td><td>25.00</td><td>14.15</td></tr>
<tr><td>Cobalt premium (US$/lb)</td><td>nil</td><td>nil</td></tr>
<tr><td>HPA price (US$/t)</td><td>25,000</td><td>20,000</td></tr>
</table></td></tr>
</table>

Aspect	Discussion		
	Hematite price ((US$/t)	85.00 + 20% premium	85.00 + 20% premium
	Revenue (steady state)	AUD 424m	AUD 366m

ANNEXURE C – JORC TABLES

1.1 Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.*	• The leach sample is a grab sample sourced from a shipping stockpile by laterite supplier SMT in New Caledonia. • The sample was packed into sealed plastic bags. • The sample grade was requested by QPM to be indicative of the specification required under the terms outlined an ore supply MoU between QPM, SMT and SMGM. It did not need to be representative of any specific location and is not considered to be an insitu sample.
Drilling techniques	• *Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).*	• No exploration drilling was undertaken
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.*	• No exploration drilling was undertaken

Criteria	JORC Code explanation	Commentary
	• *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	• No exploration drilling or logging was undertaken
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• No exploration drilling or logging was appropriate, required or undertaken. • The sample was supplied to Core on 19/06/18 and was classified as being type SMT by QPM. • It was received from the mine site as a moist, lumpy material ranging from extremely weathered rock to hard clay and silt consistency. • Prior to delivery to Core, the sample was irradiated in accordance with Australian Quarantine requirements. • The sample was dried and stage-crushed to -2 mm to enable homogenisation by a rotary splitter and a representative sub-sample was collected and pulverised for test work. • The sample size is considered appropriate for the test requirements.
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.*	• The method used to assay solid and leach liquor samples is included in Core's NATA certifications SS-4AD-MEICP and LA-MEICP. • No geophysical tools were used for assay purposes. • Quality control and assay procedures covered by Core's NATA accreditation.

Criteria	JORC Code explanation	Commentary
	• *Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.*	
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	• No exploration drilling or sampling was undertaken
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• No exploration drilling was undertaken
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* • *Whether sample compositing has been applied.*	• No exploration drilling was undertaken.
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	• No exploration drilling was undertaken.
Sample security	• *The measures taken to ensure sample security.*	• The laterite sample was collected, secured and sent in closed plastic bags via either a registered transport company, or were hand delivered directly to the laboratory.

Criteria	JORC Code explanation	Commentary
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• No external audits have been completed.

1.2 Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	• Not Applicable • Sample was sourced from third party supplier SMT in New Caledonia.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• Not Applicable
Geology	• *Deposit type, geological setting and style of mineralisation.*	• Not Applicable.
Drill hole Information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:* ○ *easting and northing of the drill hole collar* ○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* ○ *dip and azimuth of the hole* ○ *down hole length and interception depth* ○ *hole length.* • *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*	• No exploration drilling or sampling was undertaken.

Criteria	JORC Code explanation	Commentary
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• No exploration drilling or sampling was undertaken. • Metal equivalents were not used or reported.
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').*	• No exploration drilling was completed.
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	• No exploration drilling was completed.
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	• No exploration results have been reported sampling was carried out on insitu laterite.
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater,*	• Exploration drilling was not carried out.

Criteria	JORC Code explanation	Commentary
	geotechnical and rock characteristics; potential deleterious or contaminating substances.	
Further work	• *The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• No drilling or exploration work is planned.