

26 July 2022

## UPDATED DFS FOR CENTRAL CEMENT AND LIME PROJECT: Prioritising delivery of high-quality lime products via Phase 1

**Mayur Resources Limited** (**Mayur** or the **Company**) (ASX:MRL) is pleased to present an update to the Central Cement and Lime (CCL) Project Definitive Feasibility Study (DFS), originally delivered in 2019.

This updated DFS is focused solely on the first phase of an amended two-phase development schedule being:

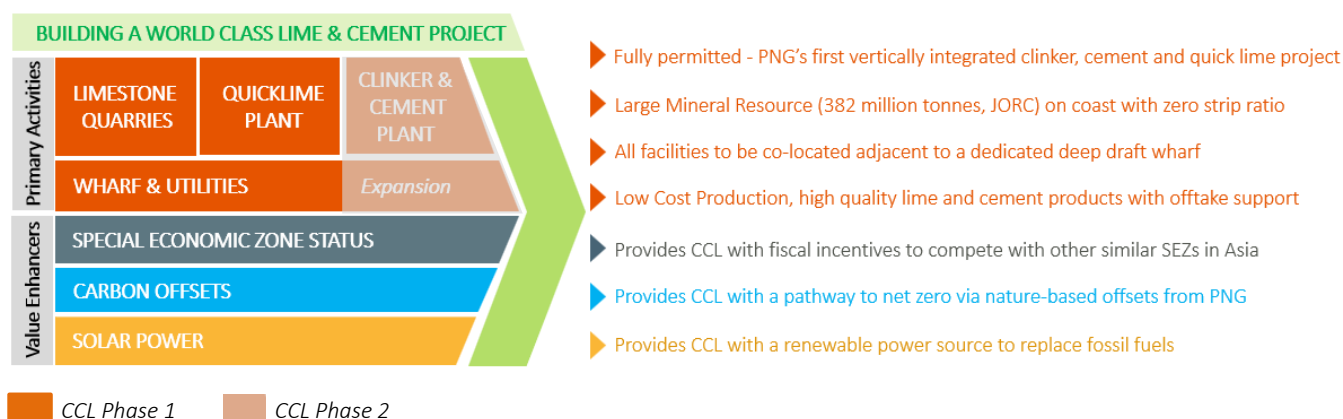
- Prioritised and expanded 400ktpa quicklime/hydrated lime plant (doubling the 200ktpa capacity from the 2019 DFS), and additional 500ktpa of raw limestone production with wharf and associated infrastructure (**CCL Phase 1**); and

The CCL Phase 1 DFS follows the Company's strategic review released in October 2021, where a decision to prioritise the phased development of the CCL project was taken, given the importance and growing criticality for quicklime in future facing minerals. The Updated DFS for CCL Phase 1 demonstrates that project phasing yields:

- A significantly lower upfront capital requirement;
- High economic viability;
- Rapid delivery of quicklime product into an escalating price and demand environment; and
- A swifter pathway to cashflow generation.

CCL Phase 1 is set to deliver low-cost, high-quality local and seaborne high grade raw limestone and quicklime products to be supplied to numerous existing markets and future-green facing mineral industries. Construction of CCL Phase 1 is subject to financing with site works scheduled to begin as early as Q4 2022.

### CCL Project Spotlight: CCL Phase 1:



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### CCL Phase 1 DFS Highlights (refer **Attachment A** for further details)

- Construction of twin-kiln 1,200 tonne per day combined manufacturing capacity
- Annual production of 400 kt quicklime and hydrated lime plus 500 kt raw limestone
- Planned production from Phase 1 supported by various arrangements with high quality offtake customers <sup>1</sup>
- Scaled infrastructure for Phase 1 includes wharf, power station and access road
- Reduced upfront capital cost estimate of USD91.03 M
- Attractive CCL Phase 1 projected economics:
  - Post tax revenue USD1,518 M and EBITDA USD771 M over 30-year project life
  - Post tax NPV<sub>8%</sub> USD133.5 M and IRR of 24.4% (up from an NPV of USD69M <sup>2</sup>)
- Average operating costs USD49.82/t highly competitive relative to Southeast Asian quicklime and hydrated lime producers
- Mine plan supported by existing 45 Mt quicklime grade limestone Ore Reserve<sup>3</sup> with zero strip ratio
- Large (>300 Mt) additional JORC Mineral Resources<sup>4</sup> inventory capacity supports future expansion
- Special Economic Zone (SEZ) status granted providing a range of tax and fiscal incentives
- Mining Lease and Environment permit granted with support from State and Provincial Government
- Enhanced social attributes with community projects and engagement well advanced
- Dual fuel kiln design adopted to enable lower emissions and mitigate fuel risk exposure
- Hybrid power station - future option to provide up to 40% of electrical load via renewable solar generation
- Access to nature-based carbon offsets (originated from within PNG via Mayur Renewables<sup>5</sup>) to offset hard-to-avoid emissions and provide customers with net zero products from CCL
- CCL Phase 2 targeting 1.65 Mtpa clinker and 907.5 ktpa cement grinding capacity to proceed subsequently

**Mayur Managing Director, Mr Paul Mulder, commented** “We are pleased to present an enhanced and updated CCL Project DFS, which prioritises and increases quicklime production capacity and delivers attractive revised project economics. Quicklime and hydrated lime, whilst relatively unknown are critical inputs for processing battery and future green facing metals, pollution abatement, treatment of acidification and water purification. CCL Phase 1 directly responds to the significant tightening in quicklime product availability and rising market prices, providing Mayur with a special market opportunity. By taking a dual phase approach, we can lower the initial upfront capital hurdle, increase kiln capacity and bring quicklime production to market sooner.”

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<sup>1</sup> Refer to ASX release dated 25 August 2021 Quicklime Offtake Support and 13 August 2021 Customers confirm support for Mayur’s lime products

<sup>2</sup> Refer to ASX release dated 12 July 2022 – Letter from Managing Director to Shareholders

<sup>3</sup> Refer to maiden Ore Resource estimate contained in ASX release dated 24 January 2019 and subsequently updated as attached to this announcement

<sup>4</sup> Refer to maiden Mineral Resources estimate contained in ASX release dated 12 January 2018

<sup>5</sup> Refer to ASX announcement dated 20 June 2022 – Agreement with Santos on carbon offset projects

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**This announcement was authorised by Mr Paul Mulder, Managing Director of Mayur Resources Limited.**  
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## ABOUT MAYUR

Mayur Resources Limited is focused on the development of natural resources and renewable energy in Papua New Guinea. Our diversified asset portfolio spans iron sands, lime and cement, battery minerals and renewable power generation. Mayur also holds a 43% interest in copper gold explorer/developer Adyton Resources, a company listed on the TSX-V (TSXV:ADY).

Mayur's strategy is to serve PNG and the wider Asia Pacific region's path to decarbonisation by developing mineral projects that deliver higher quality, lower cost, and "net zero" inputs for the mining and construction industries, as well as constructing a renewable energy portfolio of solar, geothermal, forestry carbon credit estates, and battery storage.

Mayur is committed to engaging with host communities throughout the lifecycle of its projects, as well as incorporating internationally recognised Environmental, Social and Governance (ESG) standards into its strategy and business practices.

## COMPETENT PERSON'S STATEMENT

Statements contained in this announcement relating to Mineral Resources and Ore Reserves estimates for the Central Cement and Lime Project are based on, and fairly represents, information and supporting documentation prepared by Mr. Rod Huntley, who is a member of the Australian Institute of Geoscientists. Mr. Huntley has sufficient and relevant experience that specifically relate to the style of mineralisation. Mr Huntley qualifies as a Competent Person as defined in the Australian Code for Reporting of Identified Mineral Resources and Ore Reserves (JORC) Code 2012. Mr Huntley is an employee of Groundworks Pty Ltd contracted as a consultant to Mayur Resources and consents to the use of the matters based on his information in the form and context in which it appears. As a competent person Mr Huntley takes responsibility for the form and context in which this Ore Reserves Estimate prepared for the Central Cement and Lime Project appears.

## FORWARD LOOKING STATEMENT AND IMPORTANT INFORMATION

This announcement includes "forward looking statements" within the meaning of securities laws of applicable jurisdictions. Forward looking statements can generally be identified by the use of the words "anticipate", "believe", "expect", "project", "forecast", "estimate", "likely", "intend", "should", "could", "may", "target", "plan" "guidance" and other similar expressions. Indications of, and guidance on, future earning or dividends and financial position and performance are also forward-looking statements. Such forward-looking statements are not guarantees of future performance and involve known and unknown risks, uncertainties and other factors, many of which are beyond the control of Mayur and its officers, employees, agents or associates, that may cause actual results to differ materially from those expressed or implied in such statement. Actual results, performance or achievements may vary materially from any projections and forward-looking statements and the assumptions on which those statements are based. Readers are cautioned not to place undue reliance on forward looking statements and Mayur assumes no obligation to update such information.

## NON-IFRS MEASURES

The Company supplements its financial information reporting determined under International Financial Reporting Standards (IFRS) with certain non-IFRS financial measures, including cash operating costs, All-In Sustaining Cost, EBITDA, NPV, IRR and project payback. The Company believes that these measures provide additional meaningful information to assist management, investors and analysts in understanding the financial results and assessing our prospects for future performance.

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## ATTACHMENT A – CCL Phase 1 Summary (2022)

### 1 Overview

Mayur Industrials PNG Ltd (the **Company**) commissioned Siecap Pty Ltd to project manage an updated Definitive Feasibility Study (**DFS**) for the establishment of a Phase 1, standalone, integrated quicklime and hydrated lime production plant, limestone quarry and supporting infrastructure project.

This Updated DFS (referenced as the **CCL Phase 1 DFS**) builds upon the previous Central Cement and Lime Project DFS completed in January 2019 that contemplated the delivery of a combined integrated Clinker, Cement and Quicklime production facility (the **2019 DFS**).

Since completion of the 2019 DFS, the Company has advanced the project, notably securing a 20-year Mining Lease in August 2020 followed by a Special Economic Zone (SEZ) granted in September 2021. During this period the potential of a nearer term opportunity to supply quicklime to PNG and Australia/South Pacific markets, to support the growing precious metals and battery minerals markets, also emerged.

These market factors, coupled with the lower capital cost and project complexity as well as a faster path to revenue, have led the Company to prioritise the delivery of the quicklime plant as the first phase of the CCL project. Therefore, the CCL Phase 1 DFS assumes that the clinker and cement plant (and other quarries within the Mining Lease) will be developed subsequently on a staged basis (i.e. CCL Phase 2).

Whilst this staged approach has been contemplated by the CCL Phase 1 DFS, it should be noted that financial and/or economic impacts of Phase 2 have not been modelled as part of this study and shall be released to the market in due course. Table 1 summarises this approach.

Table 1: CCL DFS Study Summary

STUDY SCOPE	COMMENT
Full CCL Project (Clinker/Cement and Quicklime) (2019 CCL DFS)	Completed January 2019
Quicklime Plant (inc. Kido quarry and infrastructure)( <b>CCL Phase 1</b> )	Completed July 2022 (this study)
Clinker and Cement Plant (CCL Phase 2)	Not covered by this study

The CCL Phase 1 DFS is for the initial stage (Phase 1) of the full CCL development and concerns the standalone, greenfield development of an integrated quarry and quicklime manufacturing facility with associated power station and marine facility all co-located on the coast in Central Province, PNG, hereafter referred to as the **Project**.

The study indicates that the Project will be robust and develop healthy margins with current forecast life-of-project (LOP) revenue of **USD1,518 M** and LOP Project EBITDA of **USD771 M** over an estimated 30-year project life. This is supported by the 45 Mt Ore Reserve at the Kido deposit. The JORC Mineral Resource of 144 Mt at Kido may enable the extension of the project beyond 30 years, the expansion of the quicklime plant capacity (i.e., additional kilns) and the delivery of the clinker and cement plant in the future (Phase 2).

A summary of key CCL Phase 1 outcomes is provided in Table 2.

Table 2: CCL Phase 1 DFS outcomes

STUDY OUTCOMES	
Estimated Life of Project (LOP)	30 years
Capex	USD 91.03m
Post-tax NPV (8%) real, ungeared on 100% basis	USD 133.5m
Internal Rate of Return (IRR)	24.4%
<b>Initial FOB (Kido) product pricing (real)*</b>	
Quicklime price ( <b>average</b> weighted selling price)	USD 100 /t
Hydrated lime price ( <b>average</b> weighted selling price)	USD 120 /t
Limestone (export)	USD 11 /t
<b>FOB operating Costs* (per product tonnes)</b>	
Operating costs – quicklime	USD 49.82 /t
Operating costs – hydrated lime	USD 46.72 /t
Operating costs – limestone	USD 4.45 /t
<b>All In Sustaining Costs^ (AISC)</b>	
Operating costs – quicklime	USD 52.34 /t
Operating costs – hydrated lime	USD 49.44/ t

\*FOB (Free on Board) means that the seller (Mayur Industrials) is responsible for transportation of the product to Kido wharf for shipment, plus ship loading costs. The buyer pays the cost of marine freight transport, insurance, unloading, and transportation from the arrival port to the destination.

^ AISC (All in Sustaining Costs) includes Mining and Haulage, Processing, Power, Maintenance, Port Operations, Indirect, Corporate Overheads, Royalties, Sustaining Capital. Noting that overheads are allocated to quicklime and hydrated lime products only.

Mayur Industrial’s objectives for the Project are to:

- develop a project that is technically and commercially robust and proven in nature, utilising modern manufacturing technology and ensuring that production is in the bottom quartile of manufacturing cost in the Australian, Pacific and Asian markets;
- produce competitively priced, high-quality quicklime, meeting Australian standards (AS 1672.1) suitable for the PNG, Australian and Pacific markets;
- commence the Project with an upfront focus on value optimisation to minimise capital expenditure (CAPEX) and operating expenditure (OPEX);
- commence product sales and revenue growth to support phase 2 of the project
- preserve the optionality and value for the development of the clinker and cement production facilities at a future point in time (i.e. Phase 2);
- develop a project that is environmentally sustainable with the lowest possible carbon footprint with a plan to ultimately achieve net zero carbon via a pathway of decarbonisation, and
- develop a project that is consistent with Mayur Resources’ Nation Building agenda for PNG that will provide long term legacy infrastructure and opportunities that positively impact the surrounding communities.

## 2 Study Team

Given the integrated nature of the project, the Company assembled a multi-disciplined team of industry and technical experts to advise and input the various key aspects of the CCL Phase 1 DFS as outlined in Table 3.

Table 3: DFS key delivery team members

AREA	CONSULTANTS
DFS lead and study management	Siecap Pty Ltd
Products and Marketing	Siecap Pty Ltd / EY
Product Handling and Logistics	Siecap Pty Ltd / FAL Insights
Resource and Reserve Estimation	Groundworks Plus
Mine (Quarry) Planning and Design	Groundworks Plus/MD Cooper Consulting
Geotechnical	Groundworks Plus
Quicklime Plant Design	RD Engineering/EPC Provider
Marine and Port Design	PRDW and TAMS
Environmental	Coffey / Tim Omundsen
Social	SERACS
Financial Modelling and Evaluation	Finalyse Pty Ltd

## 3 Project Description

### Location

The Project is located approximately 25 km north-west of PNG's capital city, Port Moresby as per Figure 1.

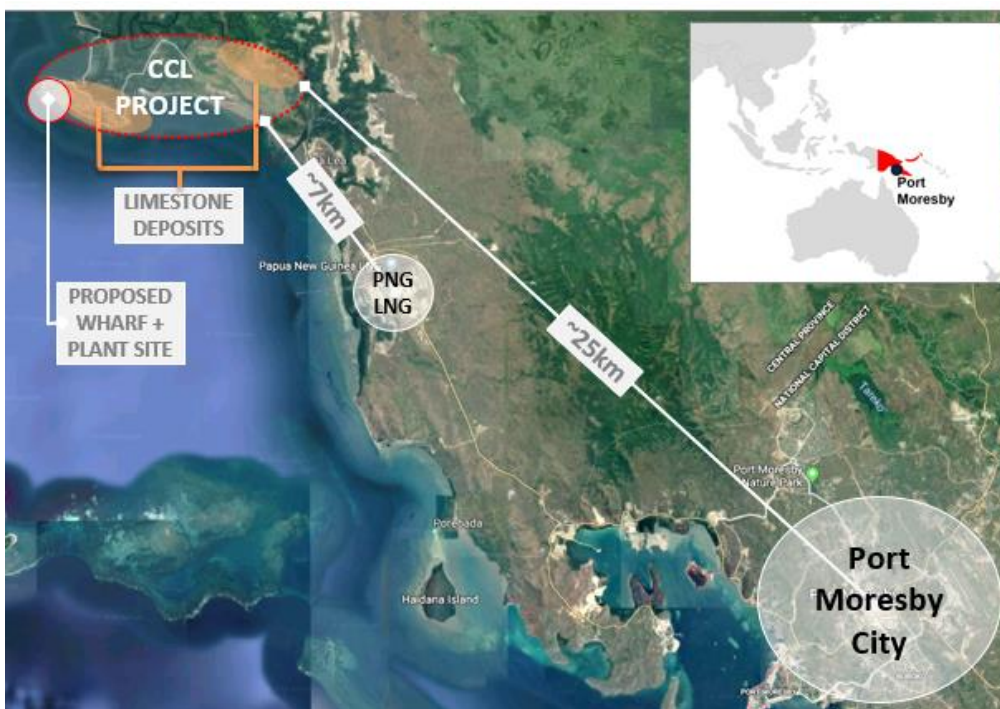


Figure 1: Project Location



Figure 2: 3D model of the fully integrated CCL project

### *Strategic Rationale*

The Company’s strategy aligns with the desire of the PNG government not only to diversify the country’s extractive industry, but also, to add value to its vast mineral wealth and capture this value in country via the production of lime products, as key nation building commodities.

The project is vertically integrated with the limestone quarry, quicklime plant and supporting infrastructure all to be co-located on a strategically located site on the Kido peninsular. The project will provide domestic production capability, enabling PNG to eliminate the need to purchase farther afield more expensive imported quicklime. The project’s excellent geographical location on the southern coast of the country provides proximate access to export product to large markets in Australia and the south pacific. The development of a new export industry will assist in improving PNGs balance of trade with nations such as Australia.

The project’s adjacency to Port Moresby also provides a future opportunity to develop a local quarry materials and aggregates business. This opportunity has not been contemplated, or modelled, in this study but represents a significant project value enhancement opportunity.

## 4 Products and Marketing

The Project primarily involves the manufacture of quicklime via the extraction and processing of high-grade limestone. In addition, a proportion of the quicklime will be hydrated for domestic and export customers and limestone will also be extracted for direct sale to both export and domestic customers. The products and sales volumes are summarised below in **Table 4**.

Table 4: Products and Sales Volume

PRODUCT	SALES (TPA)
Limestone	500,000
Quicklime	356,400
Hydrated Lime	52,272
Road base / Aggregates	70,000

## Limestone

The Company has identified an early cashflow opportunity to supply up to 500,000 tpa of limestone to a customer in New Caledonia. The status of discussions with this customer are advanced but subject to project execution.

This initial limestone material supply will require the establishment of the quarry and the construction of a jetty facility (prior to construction of the main wharf Phase 1) enabling the loading of limestone onto barges that would then transfer to ocean going vessels moored offshore from Kido via a transshipment operation for onward transport to New Caledonia. There is also an opportunity to supply other buyers of limestone and quarry products in the region.

## Markets for Lime

Lime is an essential but often unseen and under recognized mineral used in modern society. It helps the construction and manufacturing industries optimize their products, it also supports the drinking water, food and farming sectors with its versatile and unique characteristics. Lime products are used in a wide variety of applications in Australasia. Although lime products are rarely directly sold to consumers, the average person in Australasia indirectly consumes around 145 g/day (i.e. 53 kg per year) of lime products.

Lime products are used for many other purposes, including cleaning wastewater, removing sulphur from flue gases and enhancing soil stability. Lime products are important consumables in the beneficiation of future facing battery minerals, lime is also critically important in the steel industry, base and precious metals industries, Alumina industry and to produce construction materials, paints, paper and plastics as well as cosmetics, rubber, food and glass. Lime is also one of the most effective environmental remediation compounds whether it is to correct acidification of soils or water ways or to treat hazardous waste where lime stabilises and converts most metals to more stable forms that are less likely to leach.

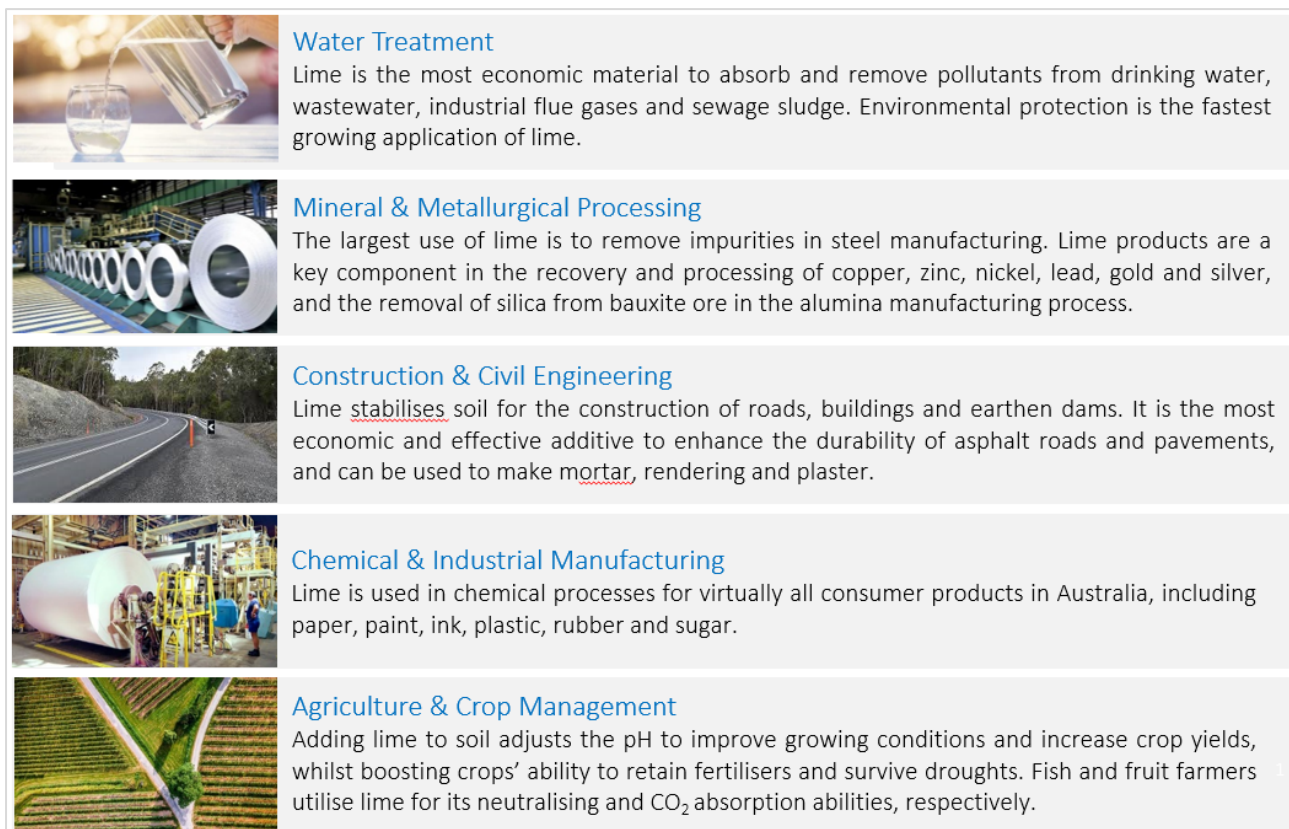


Figure 3: Uses and markets for Lime (Source Lime in Daily Use - EuLA)



*Quicklime*

The Demand for Lime in the Australasian region is likely to increase over coming decades. The main driver for the consumption of lime is relatively proportional to the magnitude of metals processed into final products. Nickel, Copper, Lithium, Cobalt and rare earths are currently in demand as a result of the growth of the electric vehicle and energy storage market. A current transition to net zero carbons emissions is driving the demand particularly for battery minerals. As such, the global electric vehicle market is expected to grow with a CAGR of 40.7% from 2021/22 to 2027.

A recent report by Expert Market Research forecasts that the Australian lime market alone will experience a compounding annual growth rate (CAGR) of 2 % between 2022-2026 due to rising government investments in the construction of public infrastructure, as well as rising population and urbanisation.

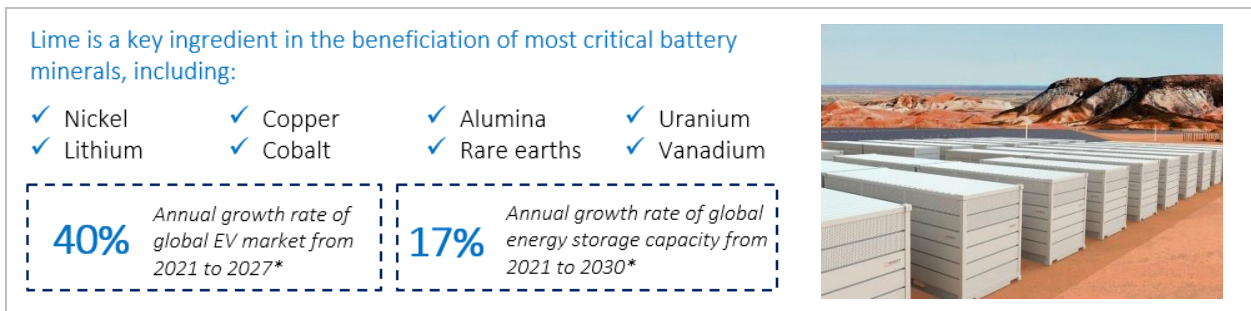


Figure 4 - Battery minerals will play a key role in supporting the electric vehicle and energy storage sectors and the race to Net Zero. \*source: Expert Market Research

*The lime cycle and the role of lime in global decarbonisation*

Depending on its application, lime can in fact yield a negative carbon footprint. In this regard, lime acts much like a natural carbon sink capturing ambient CO<sub>2</sub> which results in carbonation of 33% of the production emissions. This carbonation is most prevalent when used in construction, lime mortars and its related products re-absorb carbon dioxide emissions and continue to re-carbonate CO<sub>2</sub> over its in-use phase, creating a complete life cycled, closed-loop process, resulting in negative-zero (-2%) carbon emissions, as shown in Figure 5.

Similarly, studies show that in applications like purifying drinking water, the carbonation rate amounts to 100 %, meaning the full amount of process CO<sub>2</sub> generated during lime production, is captured when this lime is used to produce drinking water. This CO<sub>2</sub> is permanently captured and is not released to the atmosphere as the lime has reverted to limestone.

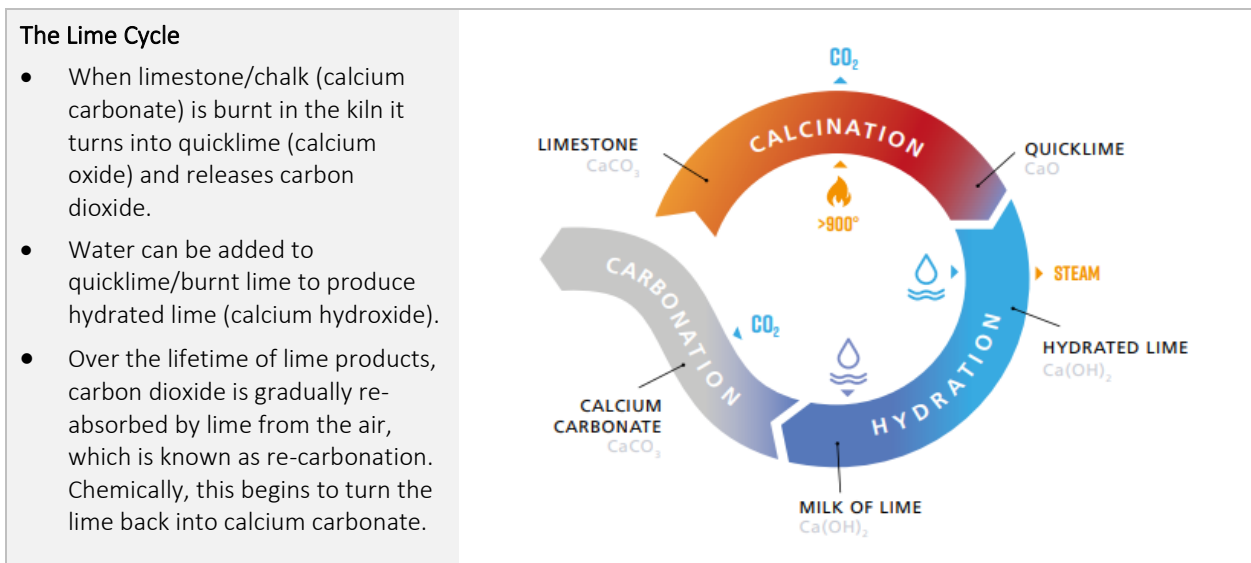


Figure 5 – The Lime cycle (source: EuLA, 2021/ British Lime Association)

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Just as battery minerals continue to play a key role in supporting the electric vehicle and energy storage sectors in the race to Net Zero. Whilst often unseen, Lime is an essential part of this solution as well, as it is critical for metals production. In fact, there is no economical substitute for its use in refining. Environmentally, Lime is also commonly used in industrial flue stacks to absorb pollutants and can often still be recycled after its intended use making it truly versatile green facing mineral for the modern world.

#### *Quicklime Sales*

The Project plant will produce and sell circa 356,000 tonnes per annum of quicklime, manufactured to Australian industry specifications.

The Company's marketing plan for PNG involves a focus on domestic market penetration and import displacement. Demand for quicklime in PNG itself is around 350,000 tonnes per annum and is predominantly from the mining industry for use in mineral processing with Newcrest Lihir being the largest consumer.

Most of this demand is served via imports from Asia and or the Pacific region. The Project is aiming to capture circa 200,000 tpa or 66% of the total PNG market. In support of this supply metric, it is understood that most major consumers of quicklime in Papua New Guinea have domestic procurement provisions mandated as part of their license to operate.

Some end users of quicklime in PNG (i.e. large mining operations in the Highlands region of PNG) operate quicklime production facilities where they have access to high quality limestone and are unable to import cost-effectively. However, quicklime production for these operations is generally a non-core business.

It is planned to sell the balance of the quicklime production, circa 200,000 tonnes per annum, to customers in Australia. The Australian market is over 2 Mtpa and is also currently satisfied in part by internationally imported products from Southeast Asia. The Project will aim to capture this market, via its value proposition which includes price, quality, and supply responsiveness.

There is no international price index for quicklime hence the Company's price assumptions are largely based on knowledge of the current pricing ex Asia. The source of this pricing data is via direct intelligence from contacts within the industry. In addition, the pricing data modelled has also been verified by back calculating from the DDP price at final customer locations and subtracting assumed logistics to determine the equivalent future FOB rate from the project. Strategically, the Company will position itself with a high-quality product that is very competitively priced compared to these current sources of supply.

As previously announced the Company is in discussions with PNG and Australian based customers that currently import quicklime and has formal letters of support from several customers confirming a desire to shift to a new quicklime supply source. The pricing assumptions are based on industry intelligence and a price point that would offer a commercially competitive position.

#### *Hydrated Lime*

The Project plant will produce c. 52,000 tonnes per annum of hydrated lime, manufactured to Australian industry specifications. Hydrated lime is a product that is sought by several customer segments such as road stabilisation and gold mining as it is considered less hazardous.

#### *Pricing Methodology*

FOB sales prices have been derived for each key Australian Market. These prices have been built up by understanding the market ex-depot market price for each location and working backwards to derive a calculated selling price.

FOB selling price is calculated as per below methodology with definitions in Table 5.

$$(SP) = (EP) \text{ less } (C) \text{ less } (H) \text{ less } (O)$$

Table 5: Price Build Up Definitions

COMPONENT	DEFINITION	SOURCE
(EP)	Represents current ex-depot price in each key market.	Market Intelligence and EY Report
(C)	Covers the cartage costs from port to depot.	Supplier estimates
(H)	Handling Stevedore and Clearance.	Supplier estimates
(O)	Ocean Freight and Port Costs.	FAL Logistics report and supplier estimates
(F)	Foundation discount to secure initial market share.	Management estimate
(SP)	Represents FOB selling price – ex Kido	Calculated

An illustrative example of how the price build up methodology is applied for the Australian market is shown in Figure 6 below.

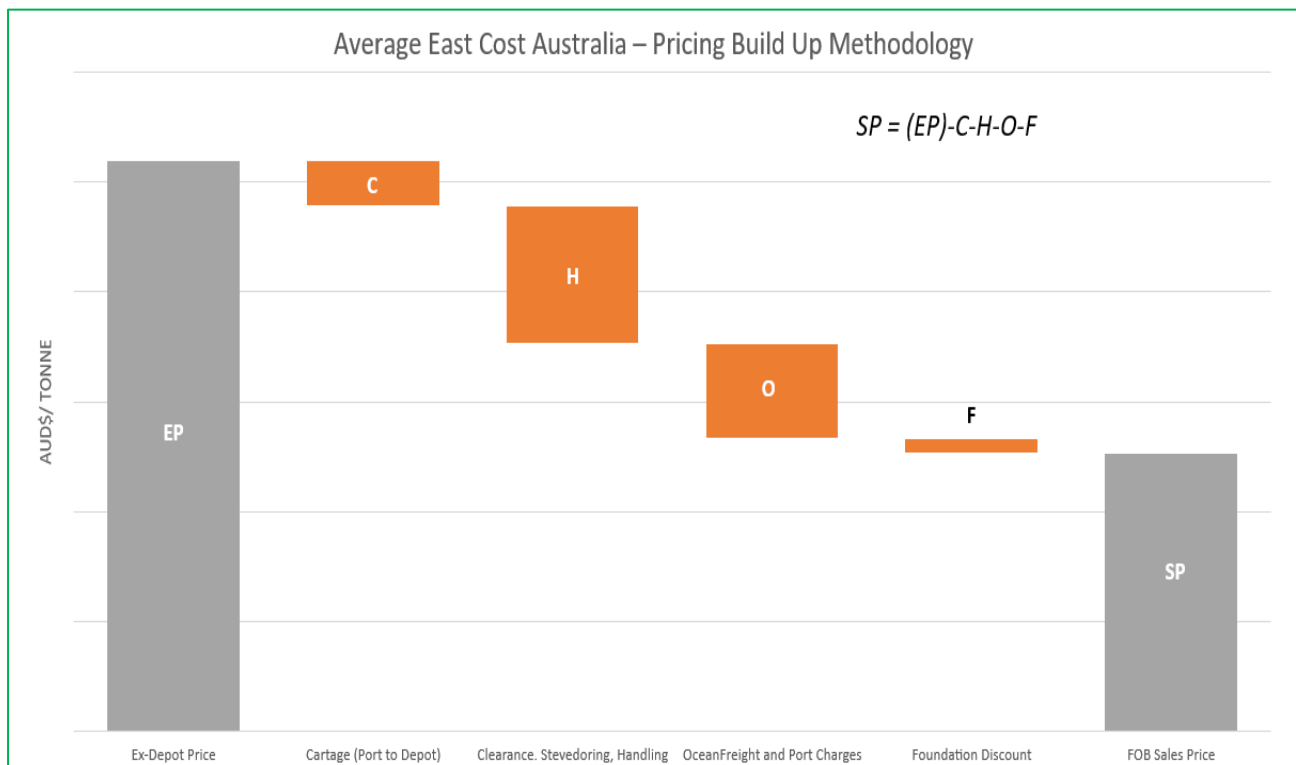


Figure 6: Illustration of quicklime Price build up methodology

### Product Specification

Test work conducted by multiple laboratories confirmed the product consistently demonstrates very high purity and reactivity. Product manufactured in the lab showed a minimum CaO content of 92% and as high as 97% in some samples. Slake testing provided a temperature rise of 40 degrees in less than 1 minute with a maximum slake temperature of 75 degrees. Decrementation of less than 1% was observed on the samples. Results indicate the Quicklime product is competitive and, in some cases, superior in performance to other lime products in the Australasian market.

Table 6: Typical Quicklime Analysis Range

CHEMICAL SPECIFICATION		TYPICAL ANALYSIS RANGE
Calcium Oxide	As (CaO)	92 to 96%
Aluminium Oxide	As (Al <sub>2</sub> O <sub>3</sub> )	0.4 to 1%
Iron Oxide	As (Fe <sub>2</sub> O <sub>3</sub> )	0.3 to 0.5%
Magnesium Oxide	As (MgO)	0.4 to 0.7%
Silica	As (SiO <sub>2</sub> )	1 to 2 %
LOI	As %	2.5%
CO <sub>2</sub>	As %	1 to 2%

he expected available lime content of Mayur fine quicklime is 92 -94% with a minimum 90% (expressed as CaO in accordance with AS 4489.6.1-1997)

Table 7 Quicklime Physical Specifications

SIEVE SIZE	RETAINED	CUMULATIVE	PASSING
2mm	0.0%	0.0%	100.0%
1.4mm	15.0%	15.0%	85.0%
1mm	10.0%	25.0%	75.0%
.5mm	25.0%	50.0%	50.0%
.12mm	25.0%	75.0%	25.0%
.01mm	24.0%	99.0%	1.0%
minus .01	1.0%	100.0%	0%

## 5 Product Handling and Logistics

### *Onsite Product Loadout and Export*

Onsite product flow is encapsulated in five (5) distinct circuits:

- **Circuit 1** Bulk Limestone Calcination from Quarry to Quicklime Plant
- **Circuit 2** Bulk Limestone Export, Quarry to Port Precinct Stockpile
- **Circuit 3** Lime Export, 20ft Containers from Quicklime Plant to Port Precinct Container yard
- **Circuit 4** Bulk Limestone Export, from Port Precinct Stockpile to Bulk Vessel Berth
- **Circuit 5** Lime Export, 20ft Containers from Port Precinct Container Yard to Coastal Freighter Berth

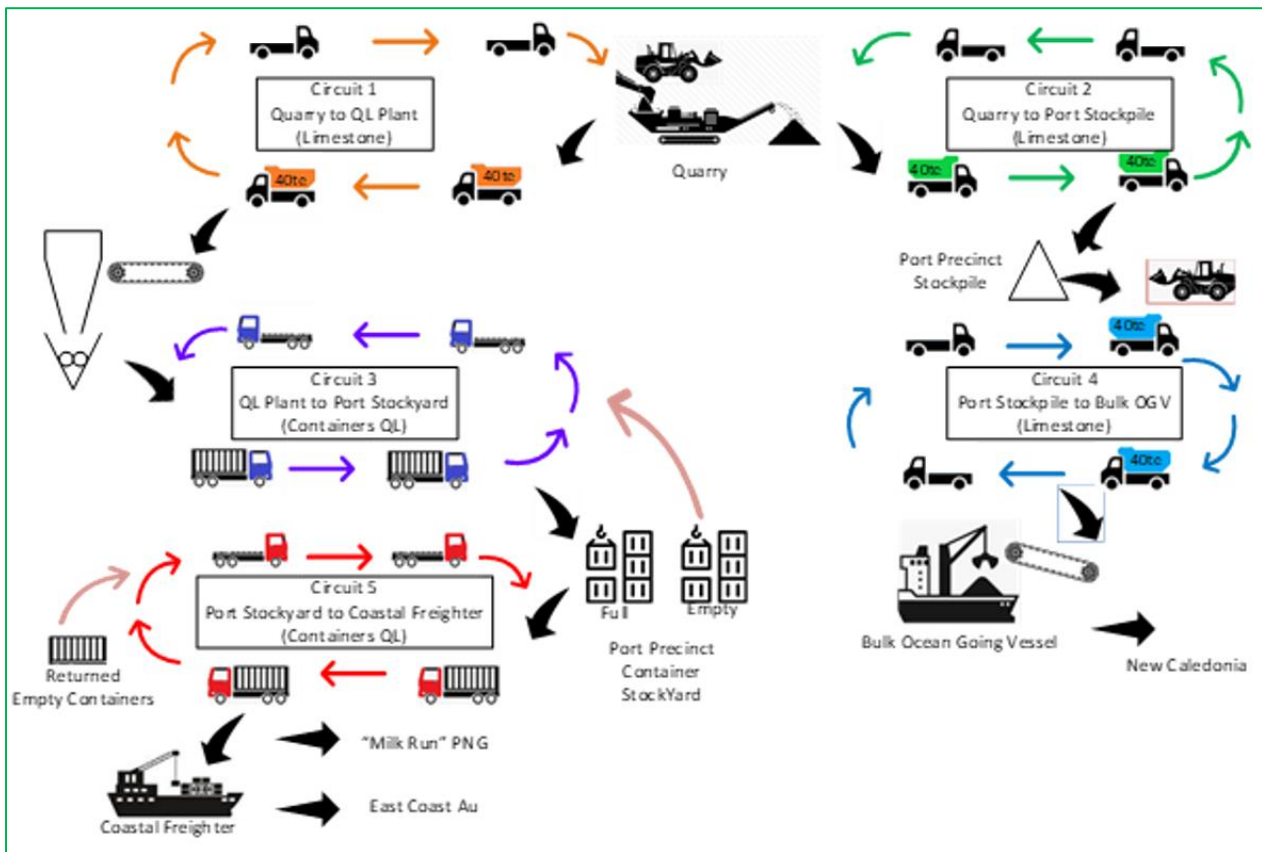


Figure 7: Onsite Logistics Flowsheet

#### Logistics Discrete Event Simulation Model

The flowsheet in Figure 7 above clearly shows the CCL Quicklime logistics solution. To achieve the maximum efficiency and optimum number of resource units, Mayur commissioned a discrete event model to analyse potential queuing issues, waiting times, delays, and resource/facility utilisation.

#### Shipping Logistics

The products are to be sold on an FOB basis at the Projects wharf (at Kido), from where the products will need to be shipped to various locations within PNG and in the region.

The study has identified three main shipping routes for the products as follows:

- **PNG Milk Run route** – a dedicated time charter coastal container vessel to transport the quicklime product to the key proposed customers in PNG;
- **The East Coast Explorer Route** – likely either a time charter vessel or existing services and for the distribution route for quicklime (and hydrated lime) along the east coast of Australia; and
- **The limestone shuttle route** – a dedicated time charter bulk vessel that would transport limestone / Limestone from Kido to New Caledonia.

The above routes are shown in Figure 8 below.

## Primary Product Shipping Routes from CCL – Quicklime / Raw Limestone

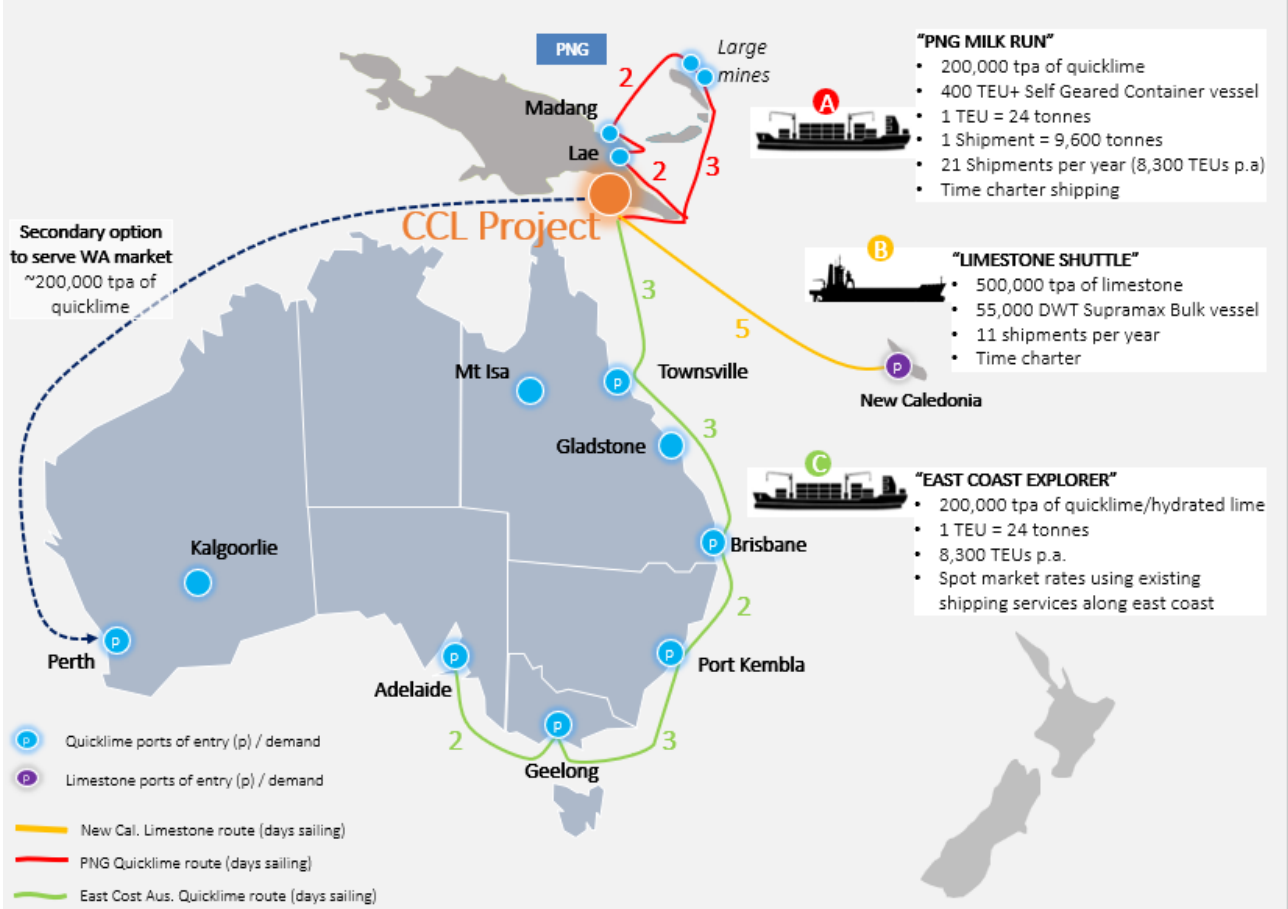


Figure 8: Proposed Quicklime and Limestone Sea freight routes

## 6 Geology & Mineral Resources

The Project is located within Mining Licence (ML) 526. Within ML526 there are extensive limestone deposits, and the Company declared a maiden limestone JORC Resource of 382 Mt across two domains, namely Kido and Lea Lea (Rea Rea), in January 2018. The locations of all these deposits are shown below in Figure 9 .

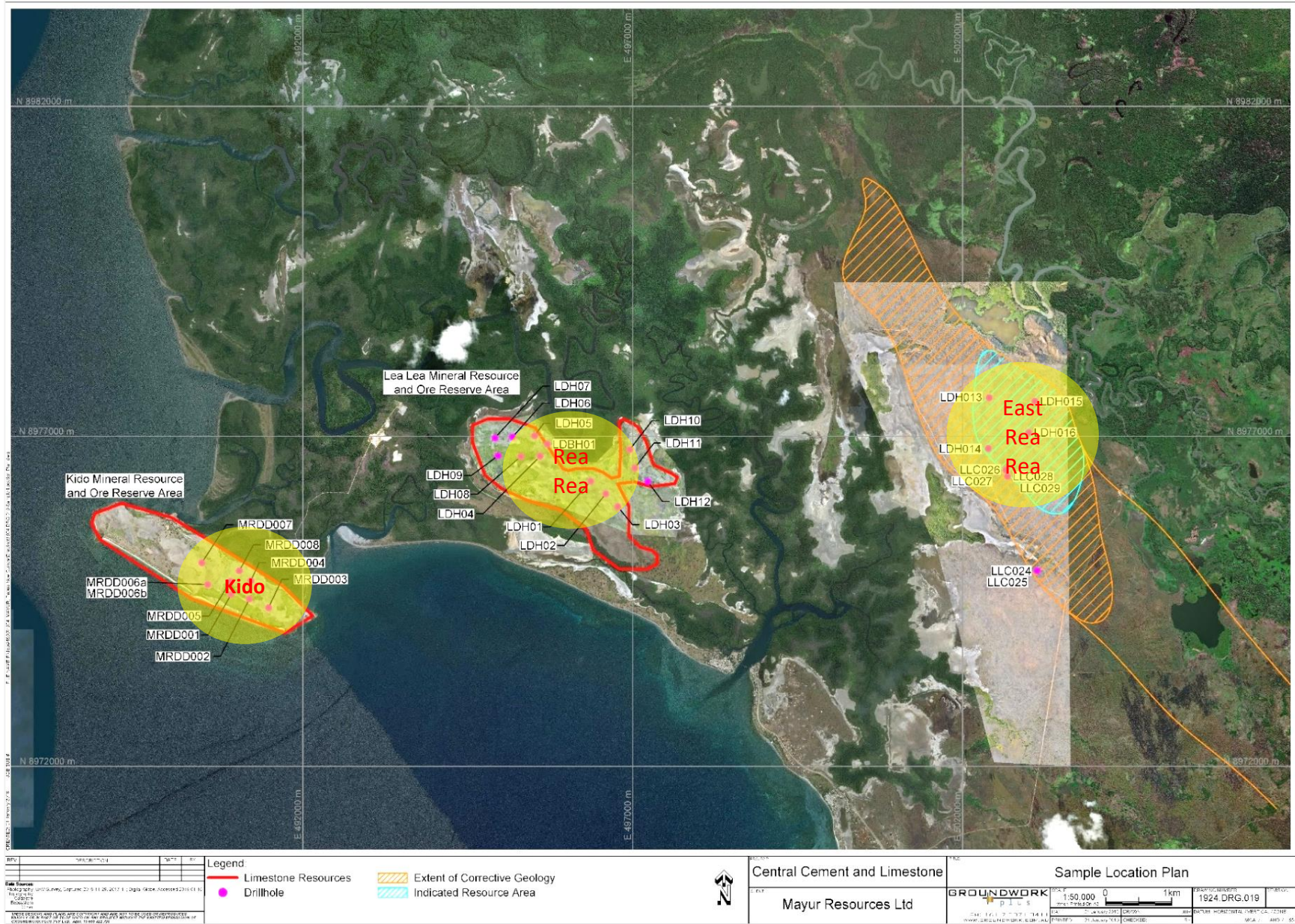


Figure 9: Limestone Deposits within CCL project (Kido, Rea Rea and East Rea Rea)

## 7 Mining and Reserves

An updated JORC Reserve Statement has been completed for this study, being the Phase 1 quicklime first project that is focussed on utilising the high-grade limestone located at the Kido deposit.

For the future development of the clinker and cement plant, and in addition to the limestone, there is also a requirement for ‘corrective materials’, being silica and alumina. These raw materials are required for the clinker and cement manufacturing process. The company has conducted exploration work to identify local sources of these corrective materials and has confirmed large quantities of silica and alumina material at surface with depth extension. At the East Lea Lea deposit.

The proposed mining method for each deposit is shown in Table 8 and the Project general layout is shown in Figure 10.

Table 8: Deposits and proposed mining method

DEPOSIT	CHARACTERISTIC	EXTRACTION METHODOLOGY
Kido Limestone Deposit / Quarry	Generally higher-grade limestone more suited to the production of quicklime	Blasting and ripping, then haul to stockpiles at plant site
Rea Rea Limestone Deposit	Generally lower grade limestone more suited to the production of cement	Not applicable for this study (Phase 2)
East Rea Rea Correctives	Source of silica, alumina as a feed for the clinker / cement plant	Not applicable for this study (Phase 2)



Figure 10: CCL Project general arrangement within ML 526 (orange polygon) and Kido quarry and lime plant in red outline



Production of the target volumes of limestone and quicklime will require the sourcing and use of limestone raw materials. The volume of run of mine material required will yield approximately 400,000 tonnes per annum of quicklime along with 500,000 tpa of raw limestone.

Groundworks Pty Ltd was commissioned to complete a feasibility level mining study for the extraction of limestone based on the Mineral Resource geological block model. Ore Reserves were then based on the Mineral Resource estimate and converted into a mining model. Pit optimisation was then performed by taking primary material from the Kido domain at the required tonnages for the quicklime plant.

The mining method is based on conventional open pit quarrying. A “Surpac” optimisation, which (enables the quantification and evaluation of mineral deposits and planning the efficient extraction of reserves), was performed and a pit optimisation design and modifying factors were applied to convert the Mineral Resources to Ore Reserves.

The result of these planning, costing and scheduling works, together with consideration of the modifying factors, is that the limestone has been upgraded to Ore Reserve status as shown in Table 9.

As the limestone reserve area is a large, homogenous hill which will be gradually extracted and processed over the project life, mining is anticipated to be akin to civil earthworks.

Table 9: Ore Reserve Estimate\*

			CAO	Al <sub>2</sub> O <sub>3</sub>	FE <sub>2</sub> O <sub>3</sub>	K <sub>2</sub> O	MGO	NA <sub>2</sub> O	SiO <sub>2</sub>	LOI
Area	Reserves	Million Tonnes	%	%	%	%	%	%	%	%
Kido**	Probable	45	54	0.5	0.3	0.04	0.4	0.2	1.3	43

\* All categories of material and geochemical values rounded to the nearest significant figure \*\*Minor rounding errors may occur pursuant to JORC 2012 reporting requirements. High grade raw feed to produce lime will be sourced from Kido. Importantly Ore Reserve estimates are not precise calculations

#### Ore Reserves Material Assumptions

As part of converting a portion of the limestone Mineral Resource to Ore Reserve, the following criteria were used as appropriate along with consideration of the relevant modifying factors.

- A total mining rate of 1.3 million tonnes per annum.
- A base mining cost of USD3.05 per tonne of raw feed material exclusive of haulage rates.
- Owner operator cost model used for estimation of operating costs.
- 330 days production per annum using two nine-hour shifts.
- Extraction will use conventional drill and blast and loading via excavator direct to crusher at Kido which is the main source of material in the first 30 years of the project.
- Bench heights are 15 meters with a design batter angle used of 70 degrees for terminal benches while operational batters will vary between 70 and 85 degrees as needed.
- Material won by excavator will be direct fed into primary crushing system. Direct dumping will occur for the bulk of tonnes delivered to the crusher while material will be placed on the adjacent ROM pad for controlling blend grades via direct feed as needed.
- Raw material feed grade will be controlled by gamma-metric cross belt analysers which provide real time chemical data on the raw feed grade of the material.
- The quicklime product specification and sizing are shown in Table 6 and Table 7.
- Mining recovery factors are set at 95% which makes allowance for a loss of 5% material. Dilution is not

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factored in as all the material in the pit shells can be used as raw feed. Dilution while a problem in most mines is not envisaged to be a material problem for this project as this project is principally extracting large hills which consist solely of limestone.

- Given the homogeneity and relative consistency of the resource, Inverse Distance Weighting (power of 3) was used to interpolate block grades for Calcium Oxide, Lime Saturation Factor, Silica Oxide and Aluminium Oxide with a block size 50m by 50m by 10m (X, Y & Z) with sub-blocking for volume resolution. Grades were interpolated using a three-pass search strategy. The initial search ellipse (isotropic) was 100m increasing to 600m for the second pass and 1200m for the third. The minimum number of composites used was 5 with a maximum of 25. The maximum number of composites per drill hole was set to 5 for the first pass, 10 for the second pass and 15 for the third.
- No Inferred Resources are considered in the mining schedule.
- In considering the modifying factors it is the opinion of Groundwork that all relevant modifying factors that they are aware of, can be, or are in the process of being suitably resolved, or in the case of tenure and environmental approvals, have a very high probability of being upgraded to the requisite level of approval. In summary there are reasonable grounds to expect that such approvals, contracts and other commercial issues as needed to commence mining will be resolved within the time frames provided by Mayur Industrials. Additionally, it is understood, that all necessary government approvals have been received by Mayur Industrials.
- The reference point at which the Ore Reserves have been defined as where the limestone has been delivered to the either the primary crusher or the adjacent ROM pad.
- Regarding extraction of the limestone there are no known reasons why this material cannot be economically extracted. The key issue requiring ongoing management will be SiO<sub>2</sub> levels which with careful scheduling blending and use of the gamma metric cross belt analyser will readily achieve specification.
- For further detail refer to JORC Table 1 in **Annex A**

8 Project Process Overview

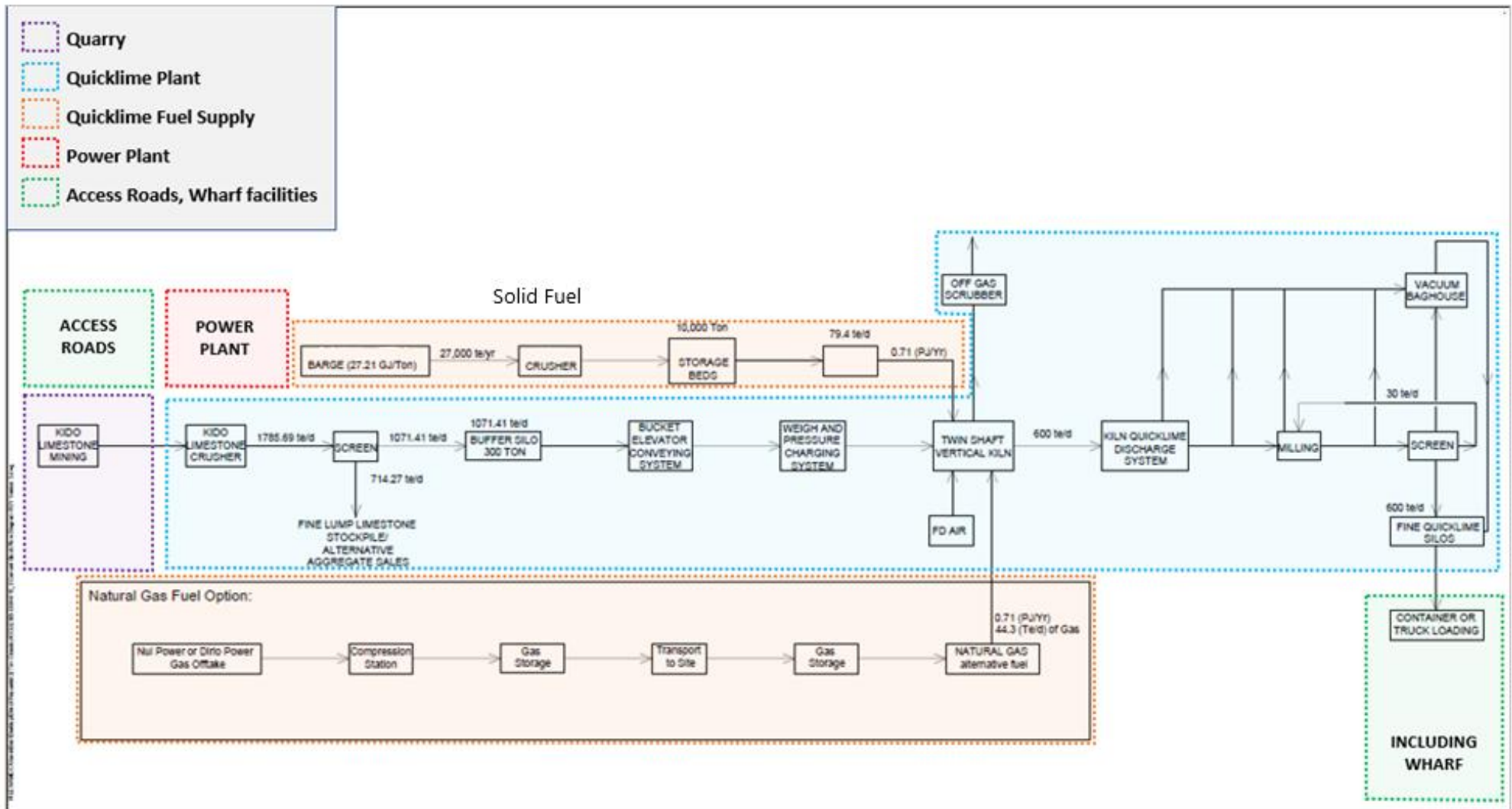


Figure 11: Simplified project process flow diagram

The project comprises the following distinct zones according to functions listed below and illustrated in Figure 12:

- quarry;
- quicklime plant;
- utilities (power plant, water and gas);
- wharf area (including product laydown and storage); and
- access roads (internal road and connection road / bridge to existing road network);

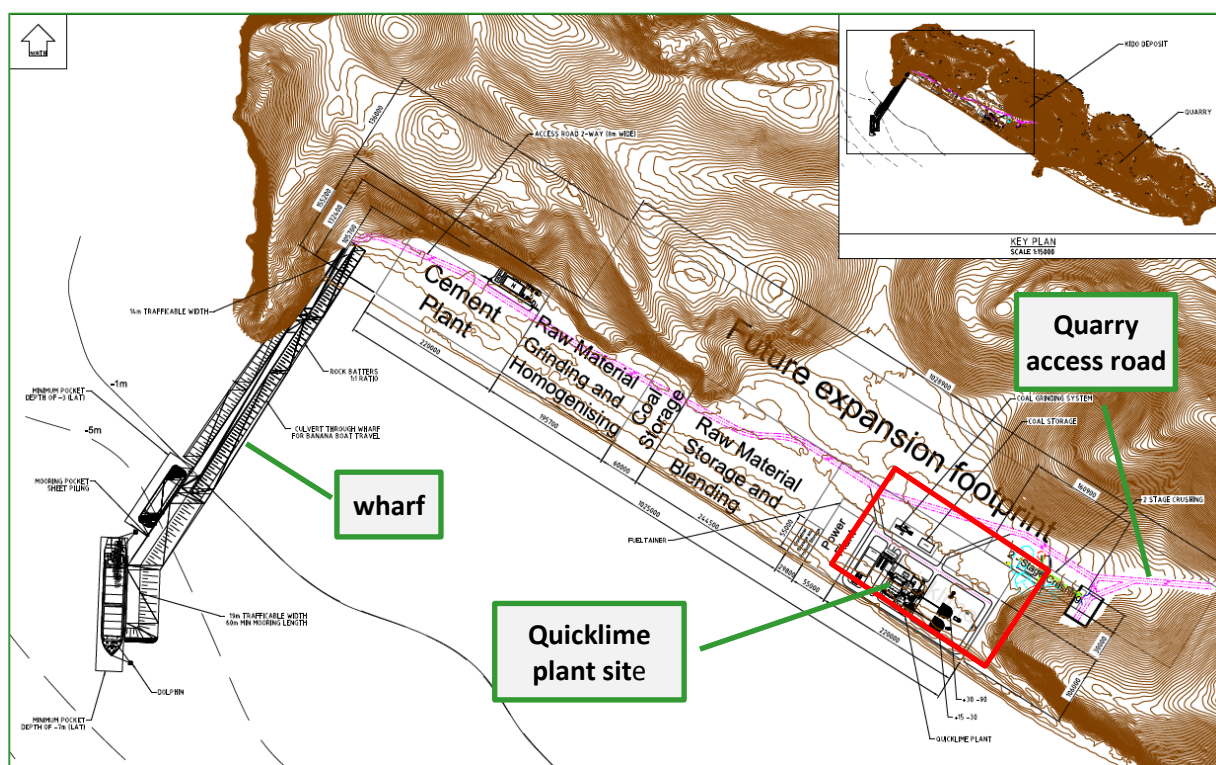


Figure 12: Project site general arrangement

## 9 Quarry

It is envisaged that to provide the required ~1.3 Mtpa (~3,940 tonnes per day) of limestone, the lime quarry will employ a conventional drill, blast and load, haul operation.

## 10 Quicklime Production

The quicklime production facility includes the limestone crushing and handling, vertical twin shaft kilns, quicklime bagging and storage.

The production of quicklime begins with the quarrying and crushing of limestone. The high purity limestone will be primarily used for producing quicklime in the lime kiln.

Two vertical twin Shaft Kilns are to produce a total of 396,000 tons per annum of reactive quicklime utilising a 330 days per year of production time.

The kiln is made up of two side-by-side vertical shafts, connected in the middle, allowing gases to flow from one shaft to the other. Limestone fills the shafts from the top. Hot combustion gases are fired down the first shaft, calcining the lime. The exhaust then flows across and up through the second shaft, preheating the lime. Every 12 to 14 minutes, the flow is reversed.

The lime is cooled in the bottom section of each shaft with a counter-current flow of air. Finished lime exits from the bottom of each shaft. This process can be seen in Figure 13.

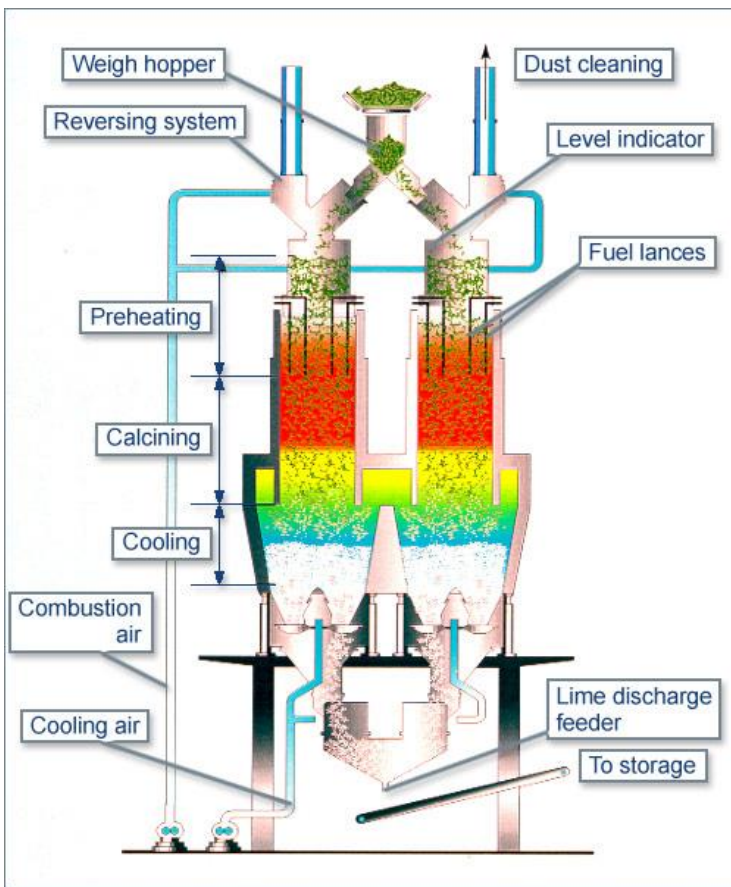


Figure 13: Typical Twin Shaft Vertical Kiln

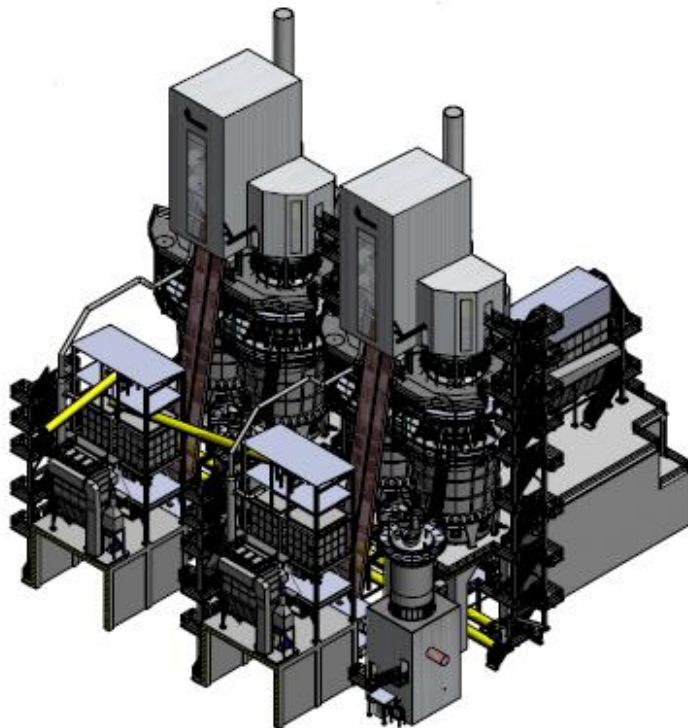


Figure 14 Layout of 2 twin Shaft Vertical Kilns (source: Maerz)

There are two dual fuel options for the kilns being solid fuel (imported) and gas that is seen as the long-term solution via Kumul Petroleum from the nearby PNG LNG facility. Similarly, the power station will use diesel initially with a vision to use gas but in any event, it is intended to be a hybrid using renewable solar for up to 40% of overall power requirements. The fuel use for the project is summarised in Table 10.

Table 10: Fuel Use by facility

FUEL SOURCES	QUICKLIME KILNS	POWER PLANT
Option 1	Solid Fuel	Diesel (with plan to upgrade to solar hybrid)
Option 2	Gas (Compressed Natural Gas trucked from PNG LNG or transported via a new pipeline)	Gas (Compressed Natural Gas trucked from PNG LNG or transported via a new pipeline)

#### *Power Station – Renewable Solar Option*

The project will have a 6 MW (gross) dedicated power plant. A future power generation solution is planned for a hybrid solar diesel / gas generator which will further reduce emissions. This renewable energy solution increases capital by USD10.86m and combines a 11.2MW solar array and 2.016MWh BESS system and is mildly NPV accretive. Mayur has chosen to maintain this optionality to provide up to 40% of electrical load via renewable solar generation.

#### *Water Supply*

Initially freshwater requirements will be provided from a reverse osmosis (RO) plant to be located on site and then via a dedicated water pipeline (once constructed) from the nearby Laloki River located within the current Mining Licence boundary, approximately 12 km inland from the proposed Kido plant site. Water intake pump station will be installed at a suitable location. Water treatment of river water shall include flocculate, sedimentation, sand filtration, disinfection.

#### *Offices and Accommodation*

An accommodation area is to be located on site. This will include an administrative office, a canteen, staff dormitory, a shower room, a warehouse etc. Industrial support facilities include a quarry maintenance workshop and storage room, quarry truck washing, quarry canteen, quarry oil storage & gas station, etc.

## **11 Wharf and Marine operations**

The marine import and export facility includes a wharf situated off a small headland at the north end of the Kido peninsula. This location is not only adjacent to the plant but also allows significantly earlier access to deep water contours.

The relatively low wave energy conditions allow for an import and export wharf that comprises a rubble causeway leading to a sheet piled berth enabling the bulk loading of bulk carriers of up to 55,000 dwt. Both berthing amenities, i.e. Wharf berth and slipway, will be able to facilitate the unloading (import) of solid fuel if needed and other materials.

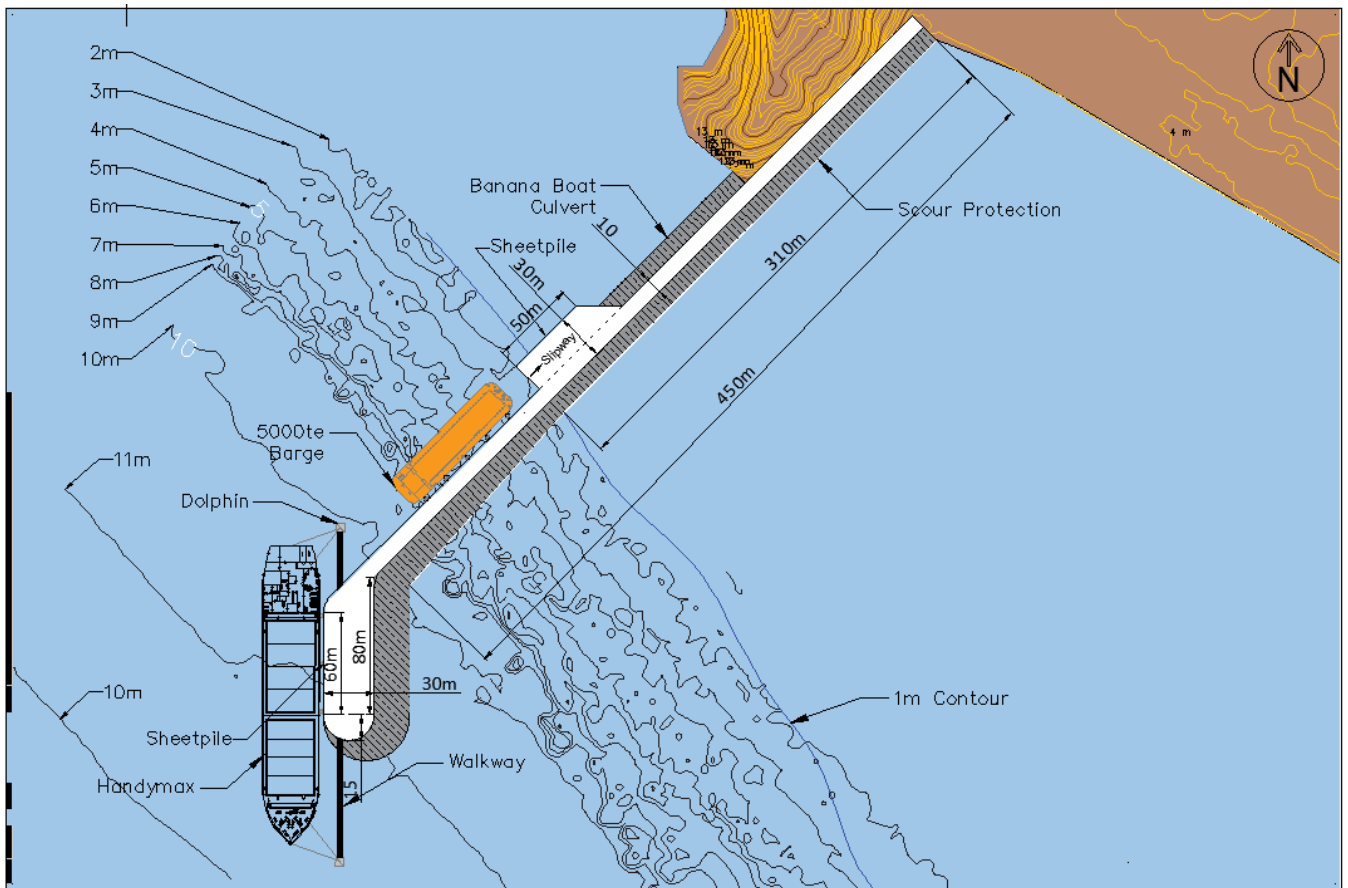


Figure 15: Kido Wharf Arrangement

As shown in Figure 15, the Wharf will extend from the shore to a water depth which will facilitate the loading of both barges, at a mid-located slipway and bulk Ocean-Going Vessels (OGV's) at the end of the wharf.

The Vessel berth at the end of the wharf will be orientated (inclined) to ensure that all berthed vessels face the dominant wave direction and can be securely berthed, with “dolphins” to ensure that the vessel is safe during all expected weather instances.

The Wharf's core will be constructed as a “Rubble Wharf” using limestone rubble and rocks excavated from the CCL quarry. The berthing locations of the OGV's will be constructed using a seaward single sheet pile wall with one or more anchor levels.

Another important characteristic of the CCL wharf is the incorporation of a reinforced engineered box culvert that will allow the navigation of village vessels i.e. “Banana boats” under the wharf close to the shoreline. This will negate any requirement for the village vessels to navigate around the wharf and travel in the path of any operating project vessels.

The location of this culvert will be placed so that there is always sufficient under keel clearance to allow the passage of typical “Banana” boats.

## 12 Project Contracting

Mayur engaged the market for the Quicklime plant EPC Scope via a formal tender process involving several pre-qualified international contractors with experience in delivering quicklime industrial manufacturing plants.

Figure 16 shows the scope of the Quicklime Project and those packages to be undertaken by the EPC contractor and those to be undertaken by Mayur directly, proposed to be under a ‘self-managed’ model, where contractors

will be engaged under a “Design and Build” contract.

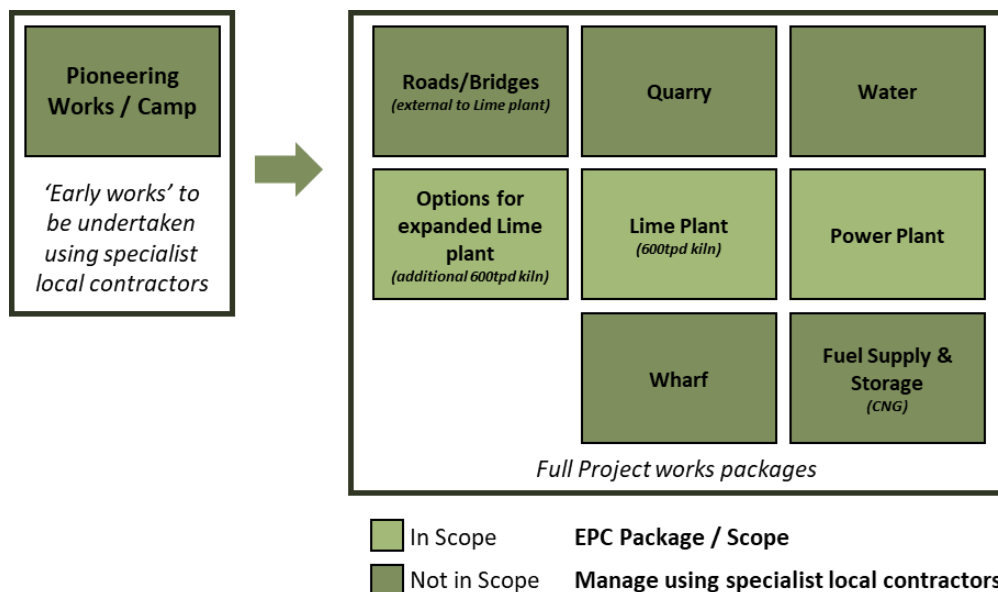


Figure 16 Project Work Packages (EPC scope in light green)

### *Design and Build Delivery Model*

In the design and build delivery model, the main contractor takes on the responsibility for both the design and construction. Mayur has developed the functional and technical performance requirements for these facilities and this information has been used in the tender process, to invite contractors to submit proposals for design and construction. Integration of the design and construction processes results in optimized processes since aspects of buildability will be key factors in design decisions.

This delivery model allows the contractor to bring their expertise, and that of the supply chain, to work with the design team in developing innovative design solutions that maximise project benefits.

In the case of the bridge, Mayur has provided guidance with regards to the type of Bridge that would be suitable. The contractor will be responsible for the determination of the geotechnical aspects of the receiving environment, the design and construction of the civil supporting works and finally the installation and testing of the installed bridge.

## **13 Project Execution**

After consideration with regards to the appropriate contracting strategy for the Project, considering the scale of the Project and the requirement to lock in the necessary resources as key considerations, suitable, prequalified contractors were invited to submit an engineer, procure, supply, construct, commission (EPC) proposal including a guaranteed maximum price (GMP) for completion of the entire Project as a package of works as described above.

The delivery mechanism, being turnkey through an EPC contract, requires only supervisory control throughout the implementation phase and MI’s project team has the key role of contract management. The Project execution team structure is shown below in Figure 17.



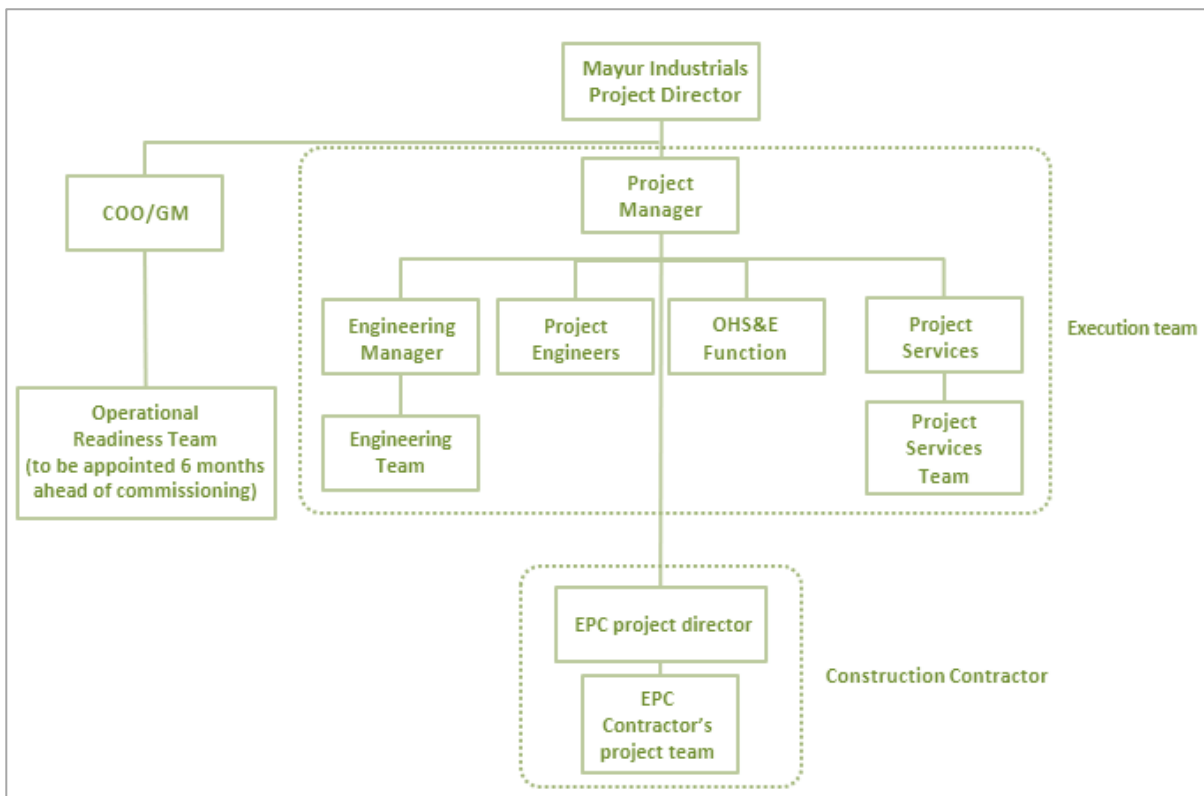


Figure 17 Project Execution Team

The anticipated Project execution schedule with milestone dates shown in Table 11.

Table 11: Key Milestone Dates

MILESTONE	DATE
FID (subject to Offtake/ strategic partner)	tba
Commence Pioneering Construction Works	+1 months from FID
Award of EPC Contract	+1 months from FID
Construction Commences	+3 months from FID
Commissioning and Commencement of Production	+18 months from FID

At the completion of handover of major infrastructure, the project execution team would be progressively phased out and the operations team would be responsible for the ramp-up of the operations to the projected product production level.

## 14 Operations Management

Upon completion of the Project the Company would manage the operations from a PNG base on-site with a small support office in Port Moresby. This PNG base would report to the parent organisation Mayur Resources Corporate headquarters in Brisbane which would be the base for executive functions including general management, marketing, sales, administration, information technology and ship planning.

During the construction and start-up phase of the Project, the Company would use a combination of its own employees, seconded specialist contract lime kiln operating experts and a local contracting company to establish and run the operations for the first two years. This will allow for training and seamless handover to Mayur Industrials.

Professional and trades personnel would be sourced from a combination of international and local hires. Operators could be locally sourced from the local area, Port Moresby and the wider PNG labour market. New operators would be trained as required.

The Company would where possible recruit locally within PNG utilising national labour and service providers and promote local business development.

Most staff would be PNG nationals and drive in drive out (DIDO) from Port Moresby. A small number of expats would be recruited from specialist and / or senior roles where they cannot be sourced locally and would be based on a FIFO roster.

## 15 Capital & Operating Cost Estimate

### Capital Costs

The base case (excluding solar power) option capital cost estimates are presented at a summary level in Table 12.

Table 12: CCL Phase 1 CAPEX estimate

STAGE	WBS ITEM	USDM
Stage 1a (Quarry)	Crush & Screen	1.09
	Mining Fleet	2.31
	Stage 1a Infrastructure & Enabling	0.72
	Wharf	6.72
	Owner's costs	0.54
	Contingency	0.96
	<b>TOTAL</b>	<b>12.34</b>
Stage 1b (Quicklime Production)	Quicklime Plant (inc Hydration plant)	38.97
	Wharf	14.79
	Power	4.63
	Water	2.00
	Other	13.92
	Owner's costs	1.05
	Contingency	2.79
	<b>TOTAL</b>	<b>78.15</b>
Stage 1a + 1b		90.49
Risk	Risk Register Impact	0.52
	<b>Total Project CAPEX</b>	<b>91.03</b>

### Operating Costs - Unit Cost Summary

Table 14 shows a summary of operating costs for each of the three products (i.e Quicklime, Hydrated lime, and raw limestone for export) in un-escalated (real based) terms.

Table 13: Summary of operating costs by Product

AREA	QUICKLIME (USD/T)	HYDRATED LIME (USD/T)	EXPORT LIMESTONE (USD/T)
C1 CASH COST (FOB)	49.82	46.72	4.45
Non - Site Costs	2.52	2.72	N/A
All-in-sustaining costs (AISC)	52.34	49.44	N/A

The costs presented have been estimated to an overall accuracy of  $\pm 15\%$ , which is commensurate with the accuracy level of the study undertaken.

## 16 Ownership and Contractual

Mayur holds a Mining Lease for the project as set out in Table 14.

Table 14: Tenement Details

ML NUMBER	AREA (KM <sup>2</sup> )	GRANT DATE	EXPIRY DATE
526	60	14/08/2020	14/08/2040

The land required for the development of the Project has predominantly been identified as being customary and not subject to legal title hence, the legitimate landowners have been identified as part of the Landownership Study for the project. There are also a number of portions of alienated land that cover the Kido headland and the East Lea Lea (Rea Rea) area. Investigations are ongoing to identify the exact status of these land holdings. Compensation agreements have been finalised for the project area for disturbance and loss of lands.

A Memorandum of Agreement (MoA) or Project Agreement is under preparation that defines the benefits sharing arrangements for the project, including royalties. This will be finalised via the formal Consultative Forum that involves the developer (i.e. Mayur), the Landowners and the Government.

## 17 Financial Analysis and Evaluation

The financial evaluation approach has involved the use of a standard Discounted Cashflow (DCF) methodology to generate a Net Present Value (NPV) for the Project. The key financial outcomes together with the key parameters and assumptions are set out as follows

Table 15: CCL Phase 1 Project NPV

BASIS OF CASHFLOWS	TAXATION BASIS	KEY RESULTS	100% EQUITY BASIS
Real	Pre - Tax	NPV (@8%)	160.76
		IRR	25.1%
	Post - Tax	<b>NPV (@8%)</b>	<b>133.50</b>
		<b>IRR</b>	<b>24.4%</b>
Nominal	Pre - Tax	NPV (@8%)	227.87
		IRR	27.6%
	Post - Tax	NPV (@8%)	186.78
		IRR	26.9%

Table 16: CCL Phase 1 NPV Sensitivities

DISCOUNT RATE	NPV – 100% EQUITY USD M (REAL, POST-TAX)	NPV – 100% EQUITY USD M (NOMINAL, POST-TAX)
5.00%	214.92	304.16
7.00%	156.08	218.89
8.00%	133.50	186.78
9.00%	114.34	159.85
10.00%	97.97	137.10

NPV sensitivity analysis has been completed for the USD133.5m NPV case and is presented as a tornado chart in Figure 18.

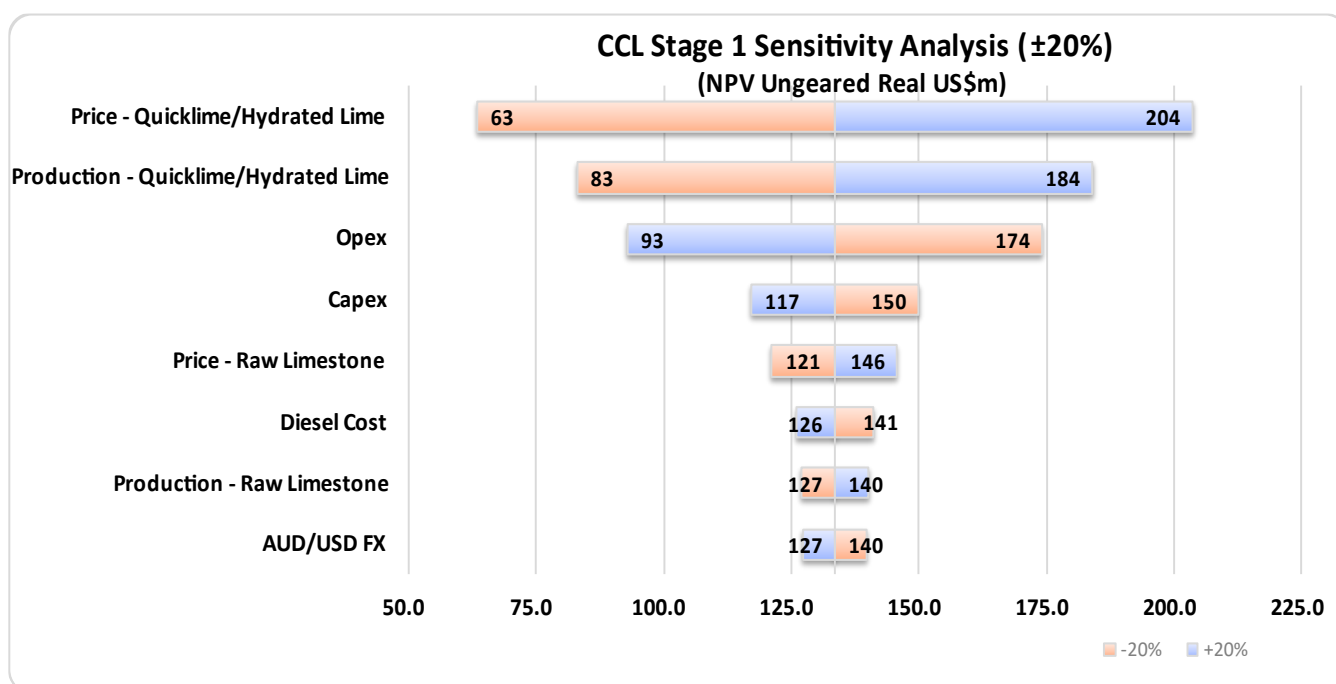


Figure 18 : Sensitivity Analysis

As shown above the Project is most susceptible to fluctuations in Lime pricing and production costs.

The assumptions used in the base case financial model are as follows:

- Discount rate of 8 % (real) on post-tax cashflows which equates to circa 10% on a nominal basis;
- Project life of 30 years;
- 10-year tax free holiday applied due to grant of SEZ status; thereafter taxation rate of 30% applied;
- PNG Royalty of 2.5% which comprises of a 2% Royalty and 0.5% Production Levy;
- Project developed on a turn-key EPC basis;
- Straight-line depreciation based on a 10-year period;
- Figures presented on a 100% equity basis;
- Capital risk and contingency derived by Monte Carlo simulation; and

- No terminal value has been added to the NPV, reflecting no extension to the plant and/or mine life.

## 18 Environmental

The Company lodged an Environmental Permit application for the Project, and it has been issued with an Environmental Permit for the Project from the Conservation and Environmental Protection Authority (CEPA) including the following Level 2B activities.

Table 17: Project Prescribed Activity Level Under Environment Act

PROJECT ACTIVITY	PRESCRIBED LEVEL UNDER ENVIRONMENT ACT
Limestone extraction (quarry)	Level 2B – Sub-category 7.4 Quarrying involving the extraction of more than 100,000 tonnes per year.
Quicklime and Clinker Production	Level 2B – Sub-category 4.1: Manufacturing chemical processes - Cement clinker manufacturing and grinding
Power Generation	Level 2B - Sub-category 10.2: Operation of fuel burning power stations with a capacity of more than 5MW, but not including emergency generations.

In accord with the requirements the Level 2B permit issued by CEPA, an Environmental Management and Monitoring Plan (EMMP) has been submitted to CEPA. Utilizing specialist international environment consultancy Coffey the project has also completed pre disturbance base line monitoring surveys.

The EMMP provides a framework for management of identified environmental impacts and implementation of measures to effectively avoid, reduce or offset these impacts.

The EMMP will be a living document and will continue to be developed as such things as baseline information becomes available, the significance of potential impacts is determined, and design process for the Project continues.

## 19 Decarbonisation Roadmap (Road to Low Carbon)

Decarbonisation is about reducing CO<sub>2</sub> emissions with eventual goal of eliminating them. The 2015 Paris Agreement set an ambition to limit global warming to well below 2°C above pre-industrial levels and pursue efforts to limit it to 1.5°C - in part by pursuing net carbon neutrality by 2050.

In this international effort to decarbonise, lime production is recognised as being different from many other industries, with the bulk of the emissions coming from the raw material used: limestone. When heated, a chemical reaction takes place where limestone is transformed into lime and CO<sub>2</sub> is released. These process emissions are inevitable and fairly constant per tonne of lime.

### *Roadmap to Low Carbon and Sustainability*

Mayur's aspiration is to become the Asia Pacific's first net zero lime producer. A range of pathways have been identified and solutions actively being investigated to achieve carbon emission reduction with the aim of minimising carbon from the production cycle:

Emissions reductions via:

- Energy Management;
  - Improved use of Waste Heat. Waste heat from the kiln can be used to dry limestone or in the milling process and possibly generating electricity;
  - Energy recovery in hydration;

- Solar heat;
- Changing the Fuel Mix;
  - Natural Gas;
  - Biofuels;
- Carbon Capture and Utilization;
- Renewable Power Generation: Mayur is investigating a "hybrid" power generation system that combines solar (photovoltaic or PV) technologies; and
- Use of Hybrid and Electrical vehicles and Plant: Mayur is intent on reducing reliance on diesel with hybrid energy systems that combine conventional power with renewable energy or battery storage.

Unavoidable emissions will be offset by using carbon offsets to be generated from Mayur’s nature-based carbon offset projects being developed by Mayur Renewables.

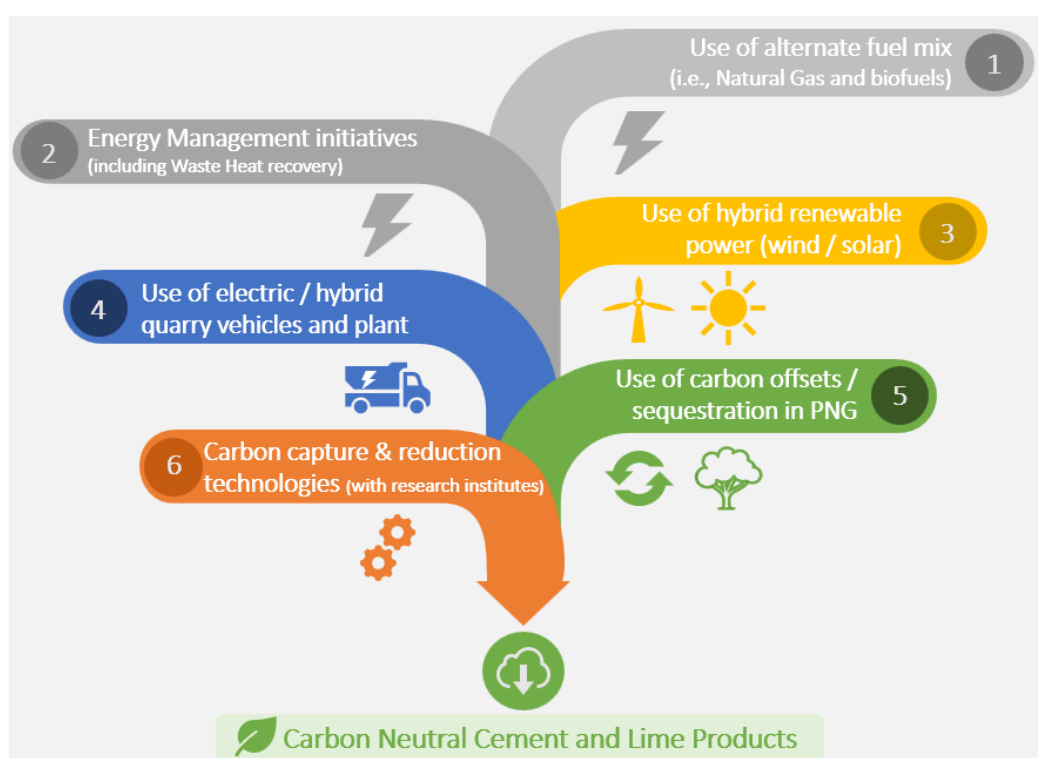


Figure 19: Pathway to low carbon lime and cement

## 20 Social

The main settlements of note that would be impacted by the Project are Kido village and to a lesser extent Lea Lea (Rea Rea) Village.

Kido Village is located on the northern end of Kido headland, over the hill from the proposed site for the quicklime plants, power station and wharf. Lea Lea Village is the closest community to the Lea Lea limestone deposit. Villagers sometimes frequent the area around the deposit for hunting, with two water wells in the nearby area being used intermittently during this activity.

The company has completed extensive landownership studies across the project area that includes the villages of Kido and Lea Lea.

In conformance with the requirements of being granted the Mining Lease (ML) the Company has already negotiated a benefits package together with required compensation arrangements with the identified landowners that lays

the foundation for the consultative forum. Table 18 below lists out some of the potential benefits for the Project.

Table 18: Potential project benefits

POTENTIAL BENEFITS FROM THE PROJECT
Over 400 jobs during construction, 92 direct jobs once in Operation and various other indirect flow on jobs and employment opportunities. Considering a typical industry multiplier of 4 it is expected there would be at least an additional 368 indirect jobs created.
Royalties (quicklime) of 87.4 million Kina (USD25.34m) over the life of the Lime Project
Landowner Spin Off Businesses – Catering, Earthworks, Logistics, Camp Management
Enable access to road, water and electricity infrastructure as per Landowners Agreement
Potential for improved health and education services between Mayur Industrials and Government.
Low-Cost quicklime supply for PNG’s Nation Building Once business is established
Stemming foreign currency out flow reducing the buying of imported lime
Increasing foreign currency inflows exporting part of production receiving new and ongoing USD revenues into PNG
The quicklime project (Phase 1) will act as a critical enabler for the delivery of the clinker and cement plant (Phase 2) and the associated benefits this would deliver (employment, in country capacity building, import replacement, royalties, tax revenues etc.)

## 21 Equator Principles & IFC Performance Standards

An assessment of the Project against the following Equator Principles (EPs) was completed by two independent sustainability practitioners in 2020:

- PS1: Assessment and Management of Environmental and Social Risks and Impacts;
- PS2: Labour and Working Conditions;
- PS3: Resource Efficiency and Pollution Prevention;
- PS4: Community Health, Safety and Security;
- PS5: Land Acquisition and Involuntary Resettlement;
- PS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources;
- PS7: Indigenous Peoples; and
- PS9: Cultural Heritage.

At the same time an assessment of the Project against the following IFC Performance Standards (PSs) was also completed:

- Principle 1: Review and Categorisation
- Principle 2: Social & Environmental Assessment
- Principle 3: Applicable Social & Environmental Standards
- Principle 4: Action Plan & Management System

- 
- Principle 5: Consultation & Disclosure
  - Principle 6: Grievance Mechanism
  - Principle 7: Independent Review
  - Principle 8: Covenants

Overall a high level of compliance was demonstrated for the Project against these both the Equator Principles and the IFC Performance Standards. Mayur remains committed to the ongoing assessment of the project against these standards to ensure high levels of compliance are achieved.

## 22 Project Status & Forward Work Program

The project execution section of the report outlines a strategy to execute the project using a combination of self-perform works and an engineering, procurement and construction (EPC) contract strategy.

Prior to FID the following will be completed:

- Convert product offtake letters into binding offtake agreements (quicklime and limestone / calcium carbonate)
- Secure funding arrangements
- Complete detailed project design

This 2022 Definitive Feasibility Study (DFS) Phase 1 will be utilised to finalise the detail pertaining to this single go-forward option for execution. The level of optimisation will be carefully considered in light of the proposed execution strategy. Some of the guiding principles in establishing this include:

- Major risk items to be identified and assessed;
- EPC to focus upon performance-based criteria and balanced cost, risk performance delivery model;
- Risk to be attributed to where it best lies – with the EPC contractor for design, execution and initial operations in the defect's liability period;
- Engineering to be progressed in support of the project approvals;

## 23 Recommendations

Proceed with progressing the investment opportunity by:

- Securing binding customer offtake commitments;
- Advancing the final design for the pioneering works;
- Select and award quicklime EPC contract from shortlisted two parties for execution phase;
- Secure strategic investors and lime producer(s) that have requested an opportunity to co-invest in the project;
- Examining the structured debt financing alternatives to support the project financing of the Project.



## ANNEX A - JORC Code, 2012 Edition – Table 1 report

(Central Cement and Lime Project – Updated July 2021/22 - Kido Reserve / Quicklime only DFS)

### Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
<b>Sampling techniques</b>	<p><i>Nature and quality of sampling (e.g. cut channels, random chips, or specific specialized 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.</i></p> <p><i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i></p> <p><i>Aspects of the determination of mineralisation that are Material to the Public Report.</i></p> <p><i>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.</i></p>	<ul style="list-style-type: none"> <li>• 64 Rock chip samples selected on a grid pattern.</li> <li>• The core samples were logged by the supervising field geologist and photographed for future reference.</li> <li>• All HQ Diamond drill core sampled on lithological boundaries on two metre sample lengths. The drill core was cut using an industry standard diamond core saw.</li> <li>• Samples when cut were sampled and bagged up with an independent reference number with half of the core retained for future reference.</li> <li>• All samples sent to ALS Laboratory in Brisbane and assayed for CaCO<sub>3</sub>, Al<sub>2</sub>O<sub>3</sub>, CaO, Fe<sub>2</sub>O<sub>3</sub>, MgO, MnO, SiO<sub>2</sub> and a suite of other elements.</li> <li>• Hole numbers were designated in incremental order as ‘for Kido MRDD.</li> </ul>
<b>Drilling techniques</b>	<p><i>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg 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).</i></p>	<ul style="list-style-type: none"> <li>• HQ triple tube core drill was used for resource assessment.</li> <li>• Core logging used a supervising Geologist to log the hole, a trained drilling foreman to supervise drilling activities and 3-4 field hands to assist with operating the rig.</li> </ul>
<b>Drill sample recovery</b>	<p><i>Method of recording and assessing core and chip sample recoveries and results assessed.</i></p> <p><i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i></p> <p><i>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.</i></p>	<p>Rock chip surface samples</p> <ul style="list-style-type: none"> <li>• HQ half core 2m samples sent to ALS Global for crushing, pulverizing and assay analysis.</li> <li>• Drilled triple tube to maximize core recovery.</li> <li>• Some core loss of finer and infill clay material has occurred. Core recoveries were noted on the drill logs. Further work is required to determine the impacts of core loss on grade although the material if not high grade is likely to be suitable for blending in clinker production.</li> </ul>

Criteria	JORC Code explanation	Commentary
<b>Logging</b>	<p><i>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.</i></p>	<ul style="list-style-type: none"> <li>• All rock chip samples visually inspected and recorded.</li> </ul> <p>Drill Core</p> <ul style="list-style-type: none"> <li>• All core geologically logged.</li> <li>• The drill rig had its own Geologist. Each sample was logged by the Geologist supervising that specific rig. Two logging forms were used – one was the ‘Sample Run Sheet’ and the ‘Lithology Log Sheet’. These forms were filled in by hand, and then later photographed and digitised into an Excel spreadsheet. The ‘Sample Run Sheet’ was recorded with the date, drillhole number, sample number, from and to depths, the hole co-ordinates, the sample recovery and magnetic susceptibility information. A ‘comments’ column was also provided.</li> <li>• The ‘Lithology Log Sheet’ was recorded with the Drillhole number, the proposed hole number, the date, the co-ordinates in WGS84, the hole depth, the sampler and the Geologist’s name.</li> <li>• The columns consisted of the ‘from-to’ depths, the Lith codes, the colour, weathering, CaCO<sub>3</sub> content, and sand size. A ‘comments’ column was also provided. · A logging and sampling protocols procedure booklet was provided to each geologist with assigned logging codes for them to use.</li> </ul>
<b>Sub-sampling techniques and sample preparation</b>	<p><i>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.</i></p>	<ul style="list-style-type: none"> <li>• All samples were collected at either lithological boundaries if shorter than two metres or on 2m intervals.</li> <li>• The core was cut in half along an orientation line left half to the lab right side of core remaining for future reference.</li> <li>• Representative samples retained.</li> <li>• Field duplicate samples were collected roughly every 20 samples. Duplicate samples were split and placed into two separate sample bags after the sample was thoroughly homogenised. The sample was marked as a duplicate sample on the sample run sheet.</li> <li>• HQ core is halved and sent to laboratory. Half core retained by Mayur.</li> <li>• Insertion of blinds and blanks samples occurred approximately every 20 samples.</li> </ul>

Criteria	JORC Code explanation	Commentary
<b>Quality of assay data and laboratory tests</b>	<p><i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></p> <p><i>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.</i></p> <p><i>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</i></p>	<ul style="list-style-type: none"> <li>• Once dry, the samples were packed into labelled polyweave bags with approximately 10 samples per bag.</li> <li>• All samples sent to a suitably qualified Assay Laboratory in Brisbane. Namely ALS, Brisbane. Quality control done by laboratory where they were dried / crushed / split and pulverised.</li> <li>• All assays done using the ME-ICP86 method.</li> <li>• Blanks and standards inserted by Mayur. ALS also duplicated samples for assay regularly.</li> </ul>
<b>Verification of sampling and assaying</b>	<p><i>The verification of significant intersections by either independent or alternative company personnel.</i></p> <p><i>The use of twinned holes.</i></p> <p><i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></p> <p><i>Discuss any adjustment to assay data.</i></p>	<ul style="list-style-type: none"> <li>• One twinned hole was drilled.</li> <li>• A total of 27 holes were completed during the field program, with good correlations. The hand written drillhole logs prepared by the field geologists were input into two Excel files that were proofread by the supervising Geologist for errors in data entry, logic and formatting.</li> </ul>
<b>Location of data points</b>	<p><i>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.</i></p> <p><i>Specification of the grid system used.</i></p> <p><i>Quality and adequacy of topographic control.</i></p>	<ul style="list-style-type: none"> <li>• Location of rock chip samples done using Garmin hand held GPS. Accuracy within 4m<sup>2</sup></li> <li>• Table of rock sample locations – refer to table 1 of accompanying ASX announcement.</li> <li>• Drill holes are all vertical. Collar locations are tabulated in accompanying ASX announcement.</li> <li>• Hole number, from and to for drill core samples – refer to accompanying ASX announcement.</li> <li>• Drill Collar points have been rectified back to detailed survey data</li> <li>• The data has been projected to UTM WGS84 55S.</li> </ul>
<b>Data spacing and distribution</b>	<p><i>Data spacing for reporting of Exploration Results.</i></p> <p><i>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.</i></p> <p><i>Whether sample compositing has been applied.</i></p>	<ul style="list-style-type: none"> <li>• High level drillhole planning and layout was guided by the extent of urace outcrop and geological and topographic features patterns that showed the limestone unit.</li> <li>• The drill pattern was based on holes 200 - 300 metres apart.</li> <li>• All holes were situated perpendicular to the orientation of the limestone and where practical at 90° to the dip of the strata.</li> <li>• The data density in the majority of areas is sufficient to establish grade and thickness continuity of the mineralised units. In some.</li> <li>• Sample compositing has been applied on two metre intervals.</li> </ul>

Criteria	JORC Code explanation	Commentary
<b>Orientation of data in relation to geological structure</b>	<i>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.</i>	<ul style="list-style-type: none"> <li>No geological interpretation or relationships have been observed which bias the sampling. That said core loss will be further assessed by comparison of the bulk sample results with nearby core assay results</li> <li>Basic flat lying to moderately dipping limestone formation, allowing for majority of vertical holes with several angled holes.</li> <li>The correctives are a sequence of flay lying quaternary gravels and alluvium.</li> </ul>
<b>Sample security</b>	<i>The measures taken to ensure sample security.</i>	<ul style="list-style-type: none"> <li>Mayur developed a 'chain of custody' flowsheet prior to the of the commencement of the programme that was strictly adhered to.</li> <li>All drill sample/core trays were supervised for collection and logged onsite.</li> <li>Following this they were repacked into polyweave bags ready for dispatch from site. The Polybags were then transported to Port Moresby with Mayur staff members on board. The samples were then trucked to Port Moresby under the supervision of Mayur staff, either stored temporarily in the Mayur Container or taken directly to Mayur's freight forwarder in Port Moresby, Pacific Cargo Services, where a dispatch inventory was prepared and the samples either airfreighted by pallet or sea freighted FCL by container to Port of Brisbane.</li> <li>The company's Australian freight logistics representative Aussie Freight then cleared the samples through customs and quarantine and transported them to the ALS Laboratory in Brisbane.</li> </ul>
<b>Audits or reviews</b>	<i>The results of any audits or reviews of sampling techniques and data.</i>	<ul style="list-style-type: none"> <li>Field checks have been completed and the data has been audited</li> </ul>

## Section 2 Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<i>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.</i>	<ul style="list-style-type: none"> <li>A mining lease was granted to the Company over the area by the Mineral Resources Authority for a period of 20 years commencing on the 14-08-2020 (ML 562).</li> </ul>
<b>Exploration done by other parties</b>	<i>Acknowledgment and appraisal of exploration by other parties.</i>	<ul style="list-style-type: none"> <li>Nil</li> </ul>

Criteria	JORC Code explanation	Commentary
<b>Geology</b>	<i>Deposit type, geological setting and style of mineralisation.</i>	<ul style="list-style-type: none"> <li>• Early Tertiary Limestone deposit.</li> <li>• Partially recrystallized.</li> <li>• Flat lying to gently dipping massive homogeneous limestone.</li> <li>• Slightly weathered and unaltered.</li> <li>• The correctives are a sequence of flay lying quaternary gravels and alluvium.</li> </ul>
<b>Drill hole Information</b>	<p><i>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:</i></p> <p><i>easting and northing of the drill hole collar</i>  <i>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i>  <i>dip and azimuth of the hole</i>  <i>down hole length and interception depth</i>  <i>hole length.</i></p> <p><i>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.</i></p>	<ul style="list-style-type: none"> <li>• All rock chip samples taken at surface with coordinates and RL recorded.</li> <li>• All drill hole collar locations including easting, northing and RL are recorded in the ASX announcement dated 24 January 2019.</li> <li>• All drill core samples record the from and to distance from the collar location down hole.</li> </ul>
<b>Data aggregation methods</b>	<p><i>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg 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.</i></p> <p><i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></p>	<ul style="list-style-type: none"> <li>• Refer to Section 3 for cut off grades</li> <li>• Weighted average i.e. length x grade samples used for initial assessment.</li> <li>• Inverse Distance weighted (power 3) used for resource estimation purposes.</li> <li>• Sample compositing completed on two metre intervals.</li> <li>• No high grade or low grade cut values applied as all high grade and low grade values are considered real and reflect localized changes in sedimentation.</li> <li>• No metal equivalents being reported.</li> </ul>
<b>Relationship between mineralisation widths and intercept lengths</b>	<p><i>These relationships are particularly important in the reporting of Exploration Results.</i></p> <p><i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i></p> <p><i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg ‘down hole length, true width not known’).</i></p>	<ul style="list-style-type: none"> <li>• Rock chip samples collected over a gridded pattern.</li> <li>• Drill holes on each prospect are spaced on nominal 250m centres.</li> <li>• The mineralisation is flay lying to modestly dipping shallow dipping thus downhole widths are considered as the ‘true thickness’</li> </ul>

Criteria	JORC Code explanation	Commentary
<b>Diagrams</b>	<i>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.</i>	<ul style="list-style-type: none"> <li>• See location maps in accompanying ASX announcement.</li> </ul>
<b>Balanced reporting</b>	<i>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.</i>	<ul style="list-style-type: none"> <li>• Location and assay results only reported.</li> </ul>
<b>Other substantive exploration data</b>	<i>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, geotechnical and rock characteristics; potential deleterious or contaminating substances.</i>	<ul style="list-style-type: none"> <li>• A 3D drone topographic survey was completed on site at Kido and Lea Lea in 2018.</li> <li>• 4 bulk samples at Kido were completed in 2021/22 with the results of these test pits included in the report.</li> </ul>
<b>Further work</b>	<i>The nature and scale of planned further work (eg 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.</i>	<ul style="list-style-type: none"> <li>• Further works will involve grading beneficiation and comminution studies with bulk sampling trial mining and costeaning to further interrogate grade continuity and mining parameters.</li> </ul>

### Section 3 Estimation and Reporting of Mineral Resources

Criteria	JORC Code explanation	Commentary
<b>Database integrity</b>	<i>Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes. Data validation procedures used.</i>	<ul style="list-style-type: none"> <li>• Data collated by Mayur from digital hardcopy reports and appendices</li> <li>• Digital geological logging information was compiled by Groundworks Plus from hard copy logs for all available holes and core photographs</li> <li>• Checks completed by Groundwork include:</li> <li>• Data was imported into an Access database with indexed fields, including checks for duplicate entries, sample overlap, unusual assay values and missing data.</li> <li>• Additional error checking using the Surpac database audit option for incorrect hole depth, sample/logging overlaps and missing downhole surveys.</li> <li>• Manual checking of logging codes for consistency, plausibility of drill hole trajectories and assay grades.</li> <li>• Assessment of the data confirms that it is suitable for resource estimation.</li> </ul>

Criteria	JORC Code explanation	Commentary
<b>Site visits</b>	<p><i>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</i></p> <p><i>If no site visits have been undertaken indicate why this is the case.</i></p>	<ul style="list-style-type: none"> <li>• Groundwork Plus visited the site in Mid 2018 for several days and completed reconnaissance investigation works.</li> </ul>
<b>Geological interpretation</b>	<p><i>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</i></p> <p><i>Nature of the data used and of any assumptions made.</i></p> <p><i>The effect, if any, of alternative interpretations on Mineral Resource estimation.</i></p> <p><i>The use of geology in guiding and controlling Mineral Resource estimation.</i></p> <p><i>The factors affecting continuity both of grade and geology.</i></p>	<ul style="list-style-type: none"> <li>• A simple geological model exists being two large hills of geologically consistent and relatively homogenous grade biomicritic limestone. These are large topographic features.</li> <li>• Geological modelling has used Surpac 3D software to generate solids and surfaces from 200m space cross sections which have then been incorporated into a block model.</li> <li>• Drilling suggests the limestone is laterally open in horizontal directions and at depth. Some drillholes have terminated in limestone.</li> <li>• Geological understanding is high and appropriate for resource estimation</li> <li>• Alternative interpretations are possible but not considered likely due to the straight forward nature of the limestone. Any alternative is unlikely to affect the estimates.</li> <li>• The style of mineralisation and the orebody type means sedimentation processes along with structural deformation and later groundwater movements control calcium grades.</li> <li>• There is an obvious structural control to mineralisation being bedding and larger scale sedimentary controls.</li> <li>• The corrective resource area is a sequence of quaternary gravels which area poorly sorted and contain a variety of gravels sourced from a large provenance. These gravels occur as sheet flow across the low lands of this part of New Guinea and form an extensive area of low lying ridgelines. Strike length is greater than 15 kilometers while demonstrated gravel bed width is a minimum of 400 metres</li> </ul>
<b>Dimensions</b>	<p><i>The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.</i></p>	<ul style="list-style-type: none"> <li>• The resources at a cut-off of 48% CaO form two consistent limestone hills, both with a strike length of over 1000m in an NW-SE orientation. Limestone occurs at surface and continues to at least -20 RL in the Kido area.</li> <li>• The gravels occur as sheet flow across the low lands of this part of New Guinea and form an extensive area of low lying ridgelines. Strike length is greater than 15 kilometers while total gravel bed width is unknown however has been demonstrated to be at least 400 metres wide.</li> </ul>

Criteria	JORC Code explanation	Commentary
<p><b>Estimation and modelling techniques</b></p>	<p><i>The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.</i></p> <p><i>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</i></p> <p><i>The assumptions made regarding recovery of by-products.</i></p> <p><i>Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).</i></p> <p><i>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</i></p> <p><i>Any assumptions behind modelling of selective mining units.</i></p> <p><i>Any assumptions about correlation between variables.</i></p> <p><i>Description of how the geological interpretation was used to control the resource estimates.</i></p> <p><i>Discussion of basis for using or not using grade cutting or capping.</i></p> <p><i>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</i></p>	<ul style="list-style-type: none"> <li>• The limestone block grade was estimated using inverse Distance Weighting (power3) using Surpac software. Groundwork Plus considers inverse Distance Weighting (power3) to be an appropriate estimation technique for this type of mineralisation. The corrective block grade was estimated using Surpac software. Groundwork Plus considers inverse Distance Weighting (power2) to be an appropriate estimation technique for this type of mineralisation.</li> <li>• The relatively modest CV for CaO and absence of extreme values precluded the need for top-cutting.</li> <li>• A total of 806 samples were used to estimate the limestone resource area.</li> <li>• No assumptions were made regarding the recovery of by-products, although it is considered likely that the bulk of the by products will be used quarry products.</li> <li>• Variography was performed for the limestone. Grade continuity was high for the directional variograms in the limestone.</li> <li>• Drill holes are on an irregular grid with a nominal spacing of 250 x 250m.</li> <li>• Composites have been taken using 2 metre intervals.</li> <li>• Block dimensions are 50x50x10m (E, N, RL respectively) for parent block sizes and 25x 25 x10 for grade resolution. The block dimensions were chosen as they are representative of grade continuity, which is homogenous and were as large as could be practically achieved.</li> <li>• The vertical dimension was shortened to reflect downhole data spacing</li> <li>• The initial search ellipse (isotropic) was 200m increasing to 600m for the second pass and 1200m for the third. The minimum number of composites used was 3 with a maximum of 25. The maximum number of composites per drill hole was set to 8 to ensure at least 3 drill holes were used for the resource estimate.</li> <li>• The maximum extrapolation of the estimates is 300m.</li> <li>• The estimation procedure was reviewed as part of an internal Groundwork peer review. Inverse Distance Squared check models were produced by Groundwork. The tonnage, grade and classification of the check estimates agreed well with the primary resource estimate.</li> </ul>



Criteria	JORC Code explanation	Commentary
		<ul style="list-style-type: none"> <li>No deleterious elements or acid mine drainage has been factored in the resource estimate as none are known.</li> <li>The final block model was reviewed visually, and it was concluded that the block model fairly represents the grades observed in the drill holes. Groundwork also validated the block model statistically using a variety of histograms, boxplots, swathe plots and summary statistics.</li> <li>No production has taken place, so no reconciliation data is available.</li> </ul>
<b>Moisture</b>	<i>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</i>	<ul style="list-style-type: none"> <li>Tonnages are estimated on based on apparent particle densities pursuant to Australian Standard which considers both the wet and dry weight of the material.</li> </ul>
<b>Cut-off parameters</b>	<i>The basis of the adopted cut-off grade(s) or quality parameters applied.</i>	<ul style="list-style-type: none"> <li>Cut off Grades for Lime are 52% CaO</li> </ul>
<b>Mining factors or assumptions</b>	<i>Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.</i>	<ul style="list-style-type: none"> <li>Groundworks understanding of a bulk mining scenario is based on information supplied by Mayur and considers typical industry standards.</li> <li>Mining will be completed by conventional bulk drill and blast extraction using ANFO or equivalent explosives.</li> <li>The sub block model block size (25x25x10m) is the effective minimum mining dimension for this estimate.</li> <li>No internal dilution has been factored into the modelling due to resource homogeneity.</li> </ul>
<b>Metallurgical factors or assumptions</b>	<i>The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.</i>	<ul style="list-style-type: none"> <li>Metallurgical test work including Sibelco kiln suitability and decrepitation testing and geochemical sampling by ALS Global has been completed. These results demonstrate material suitability.</li> <li>No penalty elements have been identified in the testing so far however silica levels will require detailed grade control management to allow for effective incorporation into the kiln feed. The silica is likely to be of benefit for clinker production, and also the production of quarry materials.</li> <li>Bulk samples have been taken for crushing and materials assessment to determine kiln and other product yields along with general material suitability.</li> </ul>

Criteria	JORC Code explanation	Commentary
<b>Environmental factors or assumptions</b>	<p><i>Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a Greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.</i></p>	<ul style="list-style-type: none"> <li>• The area lies adjacent to the coastline and accordingly hydraulic issues along with coastal geomorphology and other potential coastline impacts will need to be considered.</li> <li>• Waste materials will be in so far as is practical used and sold as construction materials. Material surplus to this will be placed in overburden storage dumps or used for progressive rehabilitation of the site. The limestone while having a natural alkalinity does not contain sulfides or other minerals which are likely to impact deleteriously upon the local environment provided industry standard control measures are used.</li> <li>• The area is covered with sparse vegetation typical of this part of PNG.</li> <li>• No significant environmental sites of importance have yet been recognized.</li> <li>• Detailed environmental works will be commenced to further assess the potential impacts of the area on mining.</li> </ul>
<b>Bulk density</b>	<p><i>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.</i></p> <p><i>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.</i></p> <p><i>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</i></p>	<ul style="list-style-type: none"> <li>• Density of the limestone has been measured at 2.7 t/m<sup>3</sup> and is consistent with limestone values from around the world. Apparent Particle Densities have been used pursuant to the relevant Australian standard.</li> <li>• That said more density test work is required to further confirm density values on site and for reserve purposes.</li> <li>• Density values for soil and clay used are 1.8 t/m<sup>3</sup>.</li> <li>• Density values for marl and siltstone used are 2.6 t/m<sup>3</sup>.</li> <li>• Density values for limestone used are 2.7 t/m<sup>3</sup>. Further density measurements are required on the various categories of more weathered material.</li> </ul>
<b>Classification</b>	<p><i>The basis for the classification of the Mineral Resources into varying confidence categories.</i></p> <p><i>Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).</i></p> <p><i>Whether the result appropriately reflects the Competent Person's view of the deposit.</i></p>	<ul style="list-style-type: none"> <li>• The deposit consists of Measured, Indicated and Inferred Resources. The classification is based on the grade continuity exhibited in the variography and the search passes used in the grade interpolation subject to assessment of other impacting factors such as core handling and sampling procedures, QAQC outcomes, density measurements along with the geological model.</li> <li>• Search Pass 1 is used to classify Measured Resources in the area of the drilling over the main areas of clear and discernable limestone outcrop. Pass 2, is classed as Indicated and Pass 3 and 4 as an Inferred Mineral Resources.</li> </ul>

Criteria	JORC Code explanation	Commentary
		<ul style="list-style-type: none"> <li>The classification appropriately reflects the Competent Person's view of the deposit.</li> </ul>
<b>Audits or reviews</b>	<i>The results of any audits or reviews of Mineral Resource estimates.</i>	<ul style="list-style-type: none"> <li>Only an internal audit has been completed.</li> </ul>
<b>Discussion of relative accuracy/ confidence</b>	<p><i>Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.</i></p> <p><i>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</i></p> <p><i>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</i></p>	<ul style="list-style-type: none"> <li>The relative accuracy and confidence level in the Mineral resource estimates is considered to be in line with the generally accepted accuracy and confidence of the nominated Mineral Resource categories for this type of material. This has been determined on a qualitative, rather than quantitative, basis, and is based on the Competent Person's experience with similar deposits.</li> <li>The geological nature of the deposit, composite/block grade comparison and the coefficient of variation for CaO lend themselves to a reasonable level of confidence in the resource estimates.</li> <li>The Mineral Resource estimates are considered to be accurate globally, but there is some uncertainty in the local estimates due to the current drillhole spacing and a more detailed lack of geological definition.</li> <li>No mining of the deposit has taken place and resultantly no production data is available for comparison.</li> </ul>

#### Section 4 Estimation and Reporting of Ore Reserves

Criteria	JORC Code explanation	Commentary																				
<i>Mineral Resource estimate for conversion to Ore Reserves</i>	<i>Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.</i>	<ul style="list-style-type: none"> <li>The 2018 Ore Reserve Estimate was based on the maiden Mineral Resource estimate as released on the 12 January 2018, by Mayur Resources competent person: Mr Rod Huntley (Consultant with Groundwork Plus Pty Ltd)</li> <li>The 2021/2022 Quicklime only DFS has only used the part of the 2018 Ore Reserve Estimate relating to the Kido deposit as below</li> </ul> <p style="text-align: center;"><i>Table 7 – Kido Ore Reserve Estimate *</i></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Ore Reserves</th> <th>Classification</th> <th>Reserves</th> <th>CaO%</th> <th>Al<sub>2</sub>O<sub>3</sub>%</th> <th>Fe<sub>2</sub>O<sub>3</sub>%</th> <th>MgO%</th> <th>Na<sub>2</sub>O %</th> <th>SiO<sub>2</sub>%</th> <th>LOP%</th> </tr> </thead> <tbody> <tr> <td>Kido</td> <td>Probable Reserve</td> <td>45,000,000</td> <td>54</td> <td>0.5</td> <td>0.3</td> <td>0.4</td> <td>0.2</td> <td>1.3</td> <td>43</td> </tr> </tbody> </table> <p><small>*Minor rounding errors apply pursuant to JORC 2012. Importantly Mineral Resource and Ore Reserve estimates are not precise calculations.</small></p>	Ore Reserves	Classification	Reserves	CaO%	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	MgO%	Na <sub>2</sub> O %	SiO <sub>2</sub> %	LOP%	Kido	Probable Reserve	45,000,000	54	0.5	0.3	0.4	0.2	1.3	43
Ore Reserves	Classification	Reserves	CaO%	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	MgO%	Na <sub>2</sub> O %	SiO <sub>2</sub> %	LOP%													
Kido	Probable Reserve	45,000,000	54	0.5	0.3	0.4	0.2	1.3	43													

Criteria	JORC Code explanation	Commentary																
	<i>Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.</i>	<ul style="list-style-type: none"> <li>The Ore Reserves are reported exclusive of the Mineral Resources.</li> </ul>																
<i>Site visits</i>	<p><i>Comment on any site visits undertaken by the Competent Person and the outcome of those visits</i></p> <p><i>If no site visits have been undertaken indicate why this is the case</i></p>	<ul style="list-style-type: none"> <li>Site Visits were conducted, by the Competent Person (Mr Rod Huntley) in order to validate Ore Reserves inputs assumptions and other relevant factors.</li> </ul>																
<i>Study status</i>	<p><i>The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.</i></p>	<ul style="list-style-type: none"> <li>The 2018 ore reserve was an input to the Definitive Feasibility Study (DFS) released to the ASX on 24 January 2019</li> <li>The 2021/22 Quicklime only DFS has only used the part of the 2018 Ore Reserve Estimate relating to the Kido deposit</li> <li>The 2018 DFS team consisted of Mayur, Siecap Pty Ltd and independent external consultants including Groundwork, Whitehopleman, RD Engineering, Coffey, PRDW. This formed the basis of the 2021/22 Quicklime only DFS</li> </ul>																
	<p><i>The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.</i></p>	<ul style="list-style-type: none"> <li>As part of the 2021/22 Quicklime only Feasibility study, a mine plan and schedule were developed by Groundwork based on the Measured &amp; Indicated Resources released as part of the Mineral Resource on the 12 January 2018. This mine plan considered material Modifying Factors such as mining, processing, metallurgy, infrastructure, economic, marketing, legal, environmental, social and regulatory and is considered technically achievable and economically viable.</li> </ul>																
<i>Cut-off parameters</i>	<i>The basis of the cut-off grade(s) or quality parameters applied.</i>	<ul style="list-style-type: none"> <li>For lime and quick lime products a grade of 52% CaO has been used although lower grade ag lime products can be produced at values below this. Nominal cut off Grades for Quick lime are: <table border="1" data-bbox="1198 1189 1982 1284"> <thead> <tr> <th>CaO</th> <th>SiO<sub>2</sub></th> <th>Al<sub>2</sub>O<sub>3</sub></th> <th>Fe<sub>2</sub>O<sub>3</sub></th> <th>MgO</th> <th>K<sub>2</sub>O</th> <th>Na<sub>2</sub>O</th> <th>SO<sub>3</sub></th> </tr> </thead> <tbody> <tr> <td>54</td> <td>0.5</td> <td>0.3</td> <td>0.4</td> <td>0.2</td> <td>54</td> <td>0.5</td> <td>0.3</td> </tr> </tbody> </table> </li> <li>For the production of quarry products Queensland DTMR and Australian Standards have been used where applicable.</li> </ul>	CaO	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	Fe <sub>2</sub> O <sub>3</sub>	MgO	K <sub>2</sub> O	Na <sub>2</sub> O	SO <sub>3</sub>	54	0.5	0.3	0.4	0.2	54	0.5	0.3
CaO	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	Fe <sub>2</sub> O <sub>3</sub>	MgO	K <sub>2</sub> O	Na <sub>2</sub> O	SO <sub>3</sub>											
54	0.5	0.3	0.4	0.2	54	0.5	0.3											

Criteria	JORC Code explanation	Commentary
<p><i>Mining factors or assumptions</i></p>	<p><i>The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).</i></p>	<p>Design and scheduling have been completed to achieve the required lime raw blend quality needed. When completing these pit designs the following assumptions have been considered.</p> <ul style="list-style-type: none"> <li>• A mining rate of 1.3 million tonnes per annum, exclusive of quarry materials.</li> <li>• A base mining cost of \$3.05 per tonne of raw feed material exclusive of haulage rates.</li> <li>• Owner operator cost model used for estimation of operating costs.</li> <li>• 330 days production per annum using two nine hour shifts.</li> <li>• Extraction will be use conventional drill and blast and loading via excavator direct to haul trucks from Kido which is the main source of material in the first 30 years of the project. Bench heights are 15 meters with a design batter angle used of 70 degrees for terminal benches while operational batters will vary between 70 and 85 degrees as needed.</li> <li>• A front end loader will blend from the ROM as needed.</li> <li>• Approximately 23 kilometres of access roads (both internal and external) will need to be built with external roads being built to the local standard which is approximately 7 metres wide and suitable for a dual carriage access/egress road. The current road is approximately 2.5 to 3 meters wide, where constructed, and will be upgraded as needed with material sourced from the nearby limestone resource areas as to provide sub grade, sub base and base and wearing course materials as needed.</li> <li>• Material hauled by truck will be delivered to an 80 tonne feed bin which links directly to a dual rotor hammer 800 tonnes per hour primary crushing system. Direct dumping into the feed bin will occur for the bulk of tonnes delivered to the crusher while both high grade and low grade corrective material will be placed on the adjacent ROM pad for controlling blend grades via front end loader direct feed as needed.</li> <li>• Raw material feed grade will be controlled by gamma-metric cross belt analysers which provide real time chemical data on the raw feed grade of the material.</li> </ul>

Criteria	JORC Code explanation	Commentary
		<ul style="list-style-type: none"> <li>• Total processing cost are considered commercially sensitive however retain a significant margin when considered against the current average selling price of clinker worldwide.</li> <li>• The criteria, or chemistry of the raw feed required for the production of lime and documents are provided above while the specifications used for classification of the lime and lime products, are: <ul style="list-style-type: none"> <li>▪ Australian Standard 1672.1-1997 Limes and Limestones Part 1: Limes for Building.</li> <li>▪ ASTM C150/C150M</li> </ul> </li> </ul>
	<p><i>The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.</i></p>	<ul style="list-style-type: none"> <li>• The proposed mining method is an open cut conventional, multi benching scenario into a large topographic features.</li> <li>• Mining envisages multiple benches being open at any one time to provide raw feed materials as needed.</li> <li>• Benches will be opened at Kido for grade control purposes as needed.</li> <li>• Pre strip and development works involve removal of a very thin residual soil profile approximately 100mm thick to expose the raw feed material which is suitable for use immediately below this soil profile.</li> <li>• Access roads will be established to all mining areas linking the ROM at Kido This pavement will be 15 metres wide for the articulated heavy trucks at Kido</li> </ul>
	<p><i>The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.</i></p>	<ul style="list-style-type: none"> <li>• Extraction will be use conventional drill and blast and loading.</li> <li>• Proposed bench heights are 15 meters with a design batter angle used of 70 degrees for terminal benches. Operational batters will vary between 70 and 85 degrees as needed.</li> <li>• Importantly geotechnical issues while operational will be important however for both areas the entire hills will be removed so only a few terminal or final benches are envisaged at depth at this point in time.</li> <li>• Resultantly geotechnical issues are not considered to be significant issues as mining will involve top down extraction of the hills in totality.</li> <li>• Grade control will be controlled via cross belt or gamma-metric analyser.</li> <li>• Additional confirmatory pre production drilling will be completed in the initial areas to ensure that grader are as expected.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p><i>The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).</i></p>	<p>The Mineral Resource model was released on the 18<sup>th</sup> of January 2018. The major assumptions in the resource estimate are:</p> <ul style="list-style-type: none"> <li>• That the material as drilled, tested and otherwise assessed is representative of actual site conditions chemistry and geology.</li> <li>• Twenty-two core holes, totaling 1592.5 metres of HQ to NQ size core were drilled, with 806 multi element assays taken from the core which have subsequently been used in the resource estimate. The rock chip data while very useful in confirming geological and geochemical homogeneity, and consistency in tenors of grade, was not incorporated into the resource estimate. The sampling length used varies between approximately 0.4 and 2 metres, with sample intervals based on geological boundaries, and having been composited as required. Drill spacings across the project area are nominally located on two hundred and fifty metre centres. Field XRF testing was completed on the core, and while not used in the resource estimate, correlates well with the laboratory analysis. Further assessment on the use of field XRF analysis will be completed, and if demonstrated to be suitably accurate and applicable, may be used as part of the future grade control and resource estimation methodology.</li> <li>• Groundwork constructed a topographic surface from recently captured drone survey data, which was rectified using permanent station markers and completed by a registered surveyor. The contour data has a measured GPS accuracy of +/-50mm.</li> <li>• Given the homogeneity and relative consistency of the resource, Inverse Distance Weighting (power of 3) was used to interpolate block grades for Calcium Oxide, Silica Oxide and Aluminum Oxide with a block size 25m by 25m by 10m (X, Y &amp; Z) with sub-blocking for grade resolution. The block model was constructed with a parent block size 50m by 50m by 10m (X, Y &amp; Z) with sub-blocking used for volume and grade resolution. Grades were interpolated by Inverse Distance Weighting method, (power of 3), using a three-pass search strategy. The initial search ellipse (isotropic) was 200m increasing to 600m for</li> </ul>

Criteria	JORC Code explanation	Commentary																																										
		<p>the second pass and 1200m for the third. The minimum number of composites used was 3 with a maximum of 25. The maximum number of composites per drill hole was set to 8 to ensure at least 3 drill holes were used for the resource estimate.</p> <ul style="list-style-type: none"> <li>Relevant tables from the Mineral Resource Report are provided below. Note the reserves have been drawn from the January 2018</li> </ul> <p style="text-align: center;"><i>Table 4 – Kido Measured Mineral Resource Estimate*</i></p> <table border="1" data-bbox="1205 502 2033 561"> <thead> <tr> <th>Area</th> <th>Category</th> <th>CaO cut off %**</th> <th>Tonnes</th> <th>CaO %</th> <th>Al<sub>2</sub>O<sub>3</sub> %</th> <th>SiO<sub>2</sub> %</th> </tr> </thead> <tbody> <tr> <td>Kido</td> <td>Measured</td> <td>52%</td> <td>144,000,000</td> <td>53.6</td> <td>0.6</td> <td>1.8</td> </tr> </tbody> </table> <p><small>*Minor rounding errors apply pursuant to JORC 2012. ** Cut off grades are based on a commonly accepted grade value for the production of lime and quick lime. Importantly Mineral Resource and Ore Reserve estimates are not precise calculations.</small></p> <p style="text-align: center;"><i>Table 5 – Kido Indicated Mineral Resource Estimate*</i></p> <table border="1" data-bbox="1205 654 2033 713"> <thead> <tr> <th>Area</th> <th>Category</th> <th>CaO cut off %</th> <th>Tonnes</th> <th>CaO%</th> <th>Al<sub>2</sub>O<sub>3</sub>%</th> <th>SiO<sub>2</sub>%</th> </tr> </thead> <tbody> <tr> <td>Kido</td> <td>Indicated</td> <td>50%</td> <td>11,000,000</td> <td>51.5</td> <td>0.6</td> <td>1.1</td> </tr> </tbody> </table> <p><small>*Minor rounding errors apply pursuant to JORC 2012. Importantly Mineral Resource and Ore Reserve estimates are not precise calculations.</small></p> <p style="text-align: center;"><i>Table 6 – Kido Inferred Mineral Resource Estimate*</i></p> <table border="1" data-bbox="1205 798 2033 857"> <thead> <tr> <th>Area</th> <th>Category</th> <th>CaO cut off %</th> <th>Tonnes</th> <th>CaO%</th> <th>Al<sub>2</sub>O<sub>3</sub>%</th> <th>SiO<sub>2</sub>%</th> </tr> </thead> <tbody> <tr> <td>Kido</td> <td>Inferred</td> <td>48%</td> <td>42,000,000</td> <td>48.4</td> <td>1.0</td> <td>1.8</td> </tr> </tbody> </table> <p><small>*Minor rounding errors apply pursuant to JORC 2012. Importantly Mineral Resource and Ore Reserve estimates are not precise calculations.</small></p>	Area	Category	CaO cut off %**	Tonnes	CaO %	Al <sub>2</sub> O <sub>3</sub> %	SiO <sub>2</sub> %	Kido	Measured	52%	144,000,000	53.6	0.6	1.8	Area	Category	CaO cut off %	Tonnes	CaO%	Al <sub>2</sub> O <sub>3</sub> %	SiO <sub>2</sub> %	Kido	Indicated	50%	11,000,000	51.5	0.6	1.1	Area	Category	CaO cut off %	Tonnes	CaO%	Al <sub>2</sub> O <sub>3</sub> %	SiO <sub>2</sub> %	Kido	Inferred	48%	42,000,000	48.4	1.0	1.8
Area	Category	CaO cut off %**	Tonnes	CaO %	Al <sub>2</sub> O <sub>3</sub> %	SiO <sub>2</sub> %																																						
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Kido	Indicated	50%	11,000,000	51.5	0.6	1.1																																						
Area	Category	CaO cut off %	Tonnes	CaO%	Al <sub>2</sub> O <sub>3</sub> %	SiO <sub>2</sub> %																																						
Kido	Inferred	48%	42,000,000	48.4	1.0	1.8																																						
	<i>The mining dilution factors used.</i>	<ul style="list-style-type: none"> <li>Mining dilution factors of 5% have been used, however this is a more a function of the loss material that occurs during production ( i.e. for generating road bases, environmental rock, dust and oversize etc) rather than for dilution per-se as all materials within the model and reserves area can be used.</li> </ul>																																										
	<i>The mining recovery factors used.</i>	<ul style="list-style-type: none"> <li>Mining recovery factors of 95% with 5% loss of product as per the above.</li> </ul>																																										
	<i>Any minimum mining widths used</i>	<ul style="list-style-type: none"> <li>No minimum width has been used the thickness of the limestone hills is &gt; 100 metres while the length is &gt; 1500 metres.</li> </ul>																																										
	<i>The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion</i>	<ul style="list-style-type: none"> <li>No Inferred Resources are used.</li> </ul>																																										
	<i>The infrastructure requirements of the selected mining methods.</i>	<ul style="list-style-type: none"> <li>The infrastructure requirements of the mining method will be shared with the plant and main infrastructure area. A workshop hard stand wash down and along with office and ablution facilities will be available in the plant and</li> </ul>																																										



Criteria	JORC Code explanation	Commentary
		<p>infrastructure area. An explosives depot occurs 20 kilometres to the east of site and explosives will be brought to site as needed.</p>
<p><i>Metallurgical factors or assumptions</i></p>	<p><i>The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.</i></p>	<ul style="list-style-type: none"> <li>The process used for the production of lime products is common in an industry which produces more than 1 billion tonnes per annum with China being the main producer of lime and lime products.</li> </ul>
	<p><i>Whether the metallurgical process is well-tested technology or novel in nature.</i></p>	<ul style="list-style-type: none"> <li>The processing flow path is very well understood with modern plants looking to increase operational efficiency via reuse of heat, water and having lower power requirements</li> </ul>
	<p><i>The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.</i></p>	<ul style="list-style-type: none"> <li>Several programs of test work have been completed on the material to assess the suitability of the material to produce lime and lime products as well as quarry products. All testing completed to date confirms material suitability to produce the above products</li> </ul>
	<p><i>Any assumptions or allowances made for deleterious elements.</i></p>	<ul style="list-style-type: none"> <li>Detailed geochemical testing has been completed on the drill core and testing. This testing has identified the deleterious elements in small amounts occurring not within the main limestone resource but in the Marl and corrective areas. This will require blending to achieve the relevant specifications. Based on this data these levels of alkali can be managed appropriately. The main elements requiring consideration for blending grades are Sodium, Potassium and Magnesium.</li> </ul>
	<p><i>The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.</i></p>	<ul style="list-style-type: none"> <li>Small bulk samples have been taken from test pits for lime decrepitation slaking and water absorption testing which show conformance with relevant specifications. These samples were taken across the two main Resource areas at random locations and are considered representative of the limestone. Quarry products testing was completed on drill core which denotes compliance with relevant Australian Standards testing while.</li> </ul>
	<p><i>For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?</i></p>	<p>Yes with the standards used being:</p> <ul style="list-style-type: none"> <li>Australian Standard 1672.1-1997 Limes and Limestones Part 1: Limes for Building.</li> </ul>

Criteria	JORC Code explanation	Commentary
		<ul style="list-style-type: none"> <li>• ASTM C150/C150M.</li> </ul>
<i>Environmental</i>	<p><i>The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterization and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.</i></p>	<ul style="list-style-type: none"> <li>• Mayur has secured an Environmental Permit for the project from the Conservation and Environmental Protection Authority in PNG. This permit covers the quarrying activities and the manufacture of quicklime as a Level 2B activities prescribed under the PNG Environment Act 2000</li> <li>• Mayur has also compiled an Environmental Management Plan (EMP) for the project and this has been submitted to CEPA. This is an evolving document and will be amended as required as the project advances. The Company is continuing to work with CEPA to refine the EMP environmental to ensure it aligns as the project definition evolves.</li> <li>• The Company has also commissioned Coffey to undertake a groundwater study of the project area to identify the water sources for the project. Furthermore detailed studies will be undertaken to assess the environmental impacts once the final EPC design has been confirmed.</li> <li>• The operations will impact local landforms, but impacts will be mitigated by appropriate pit design and also rehabilitation measures.</li> <li>• Waste rock if and when generated will be benign and nonacid generating as the material is limestone and naturally occurs in this area.</li> <li>• In contrast to most mining operations all the materials in the reserve will be used apart from the topsoil which will be used for rehabilitation purposes.</li> </ul>
<i>Infrastructure</i>	<p><i>The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.</i></p>	<ul style="list-style-type: none"> <li>• The proposed project site is a greenfield site in a coastal hinterland area hence all key infrastructure will need to be constructed.</li> <li>• The nearest public road is approximately 11 kilometres from the proposed plant site. This provides good access to Port Moresby, located a further 25 kilometres to the south.</li> <li>• The Company has assembled a team of technical experts to compile bases of design and tender documents these have been issued via an EPC tender process for the following works packages:</li> </ul>

Criteria	JORC Code explanation	Commentary
		<ul style="list-style-type: none"> <li>○ Quarry</li> <li>○ Quicklime plant</li> <li>○ Power station and water pipeline</li> <li>○ Wharf and marine facilities</li> </ul>
Costs	<p><i>The derivation of, or assumptions made, regarding projected capital costs in the study.</i></p>	<ul style="list-style-type: none"> <li>● Mining (quarrying) cost are based on tonnage and grade requirements in the mining schedule. The capital costs of the proposed mining fleet is \$ USD 2.55 million.</li> <li>● The capital cost estimates for the downstream manufacturing plant are based on the outputs of tender process undertaken for the engineering, procurement and construction (EPC) of the following work packages: <ul style="list-style-type: none"> <li>○ Quarry (enabling works)</li> <li>○ Quicklime plant</li> <li>○ Power station and water pipeline</li> <li>○ Wharf and marine facilities</li> </ul> </li> <li>● Allowances have been made for owner’s team costs, contingency and other pre-development activities.</li> </ul>
	<p><i>The methodology used to estimate operating costs.</i></p>	<ul style="list-style-type: none"> <li>● Mining (quarrying) operating costs include drill/blast, load/haul, and also consider activities for mining team operating costs, management and maintenance, mobile plant maintenance infrastructure, rehandle and, clear and grub, top soil management, and rehabilitation and mine closure criteria.</li> <li>● Costs are based on first principles cost modelling and have been quantified as far as possible and where practicable supported by quotations.</li> <li>● Operating costs for the subsequent downstream processing (i.e. quicklime plant, power station and wharf) have been based on the outputs from the EPC tendering process.</li> </ul>

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	<i>Allowances made for the content of deleterious elements.</i>	<ul style="list-style-type: none"> <li>Detailed geochemical testing has been completed on the drill core and testing. This testing has identified the deleterious elements in small amounts occurring not within the main limestone resource but in the Marl and corrective areas. This will require blending to achieve the relevant specifications. Based on this data these levels of alkali can be managed appropriately. The main elements requiring consideration for blending grades are Sodium, Potassium and Magnesium.</li> </ul>
	<i>The allowances made for royalties payable, both Government and private.</i>	<ul style="list-style-type: none"> <li>royalty payments per standard mining projects in PNG has been applied at 2.5% of FOB revenue(inclusive of the 0.5% MRA production levy). Given the CCL project comprises a quarrying operation and vertically integrated downstream processing into quicklime.</li> </ul>
	<i>charges, penalties for failure to meet specification, etc.</i>	<ul style="list-style-type: none"> <li>Not applicable given the vertically integrated nature of the project, and end products will be produced to customer specifications.</li> </ul>
	<i>The basis for forecasting or source of treatment and refining</i>	<ul style="list-style-type: none"> <li>Not applicable to quicklime end products.</li> </ul>
	<i>Derivation of transportation charges.</i>	<ul style="list-style-type: none"> <li>International sea freight costs for the shipping of the end products are based on freight rates from industry sources, shipping indices and independent broker reports</li> <li>Other local transport costs are based on Company research and industry sources</li> </ul>
	<i>The source of exchange rates used in the study.</i>	<ul style="list-style-type: none"> <li>A USD:AUD exchange rate of 0.73c has been derived from corporate guidance and independent advice from reputable financial institutions.</li> </ul>
<b>Revenue factors</b>	<i>The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.</i>	<ul style="list-style-type: none"> <li>Quicklime prices have been sourced from a combination of market reports prepared for the Company by industry experts and the Company's in-house intelligence and knowledge of the industry, that includes Mr Kevin Savory and Mr Trent Alexander, whom have worked in the cement and lime industry for over 20 years in Australia and Asia.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p><i>The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.</i></p>	<ul style="list-style-type: none"> <li>Given the commercial sensitivities and the nature of the lime industry the Company is not in a position to disclose the forecast sales prices for these products</li> </ul>
<p><i>Market assessment</i></p>	<p><i>The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.</i></p> <p><i>A customer and competitor analysis along with the identification of likely market windows for the product.</i></p> <p><i>Price and volume forecasts and the basis for these forecasts.</i></p> <p><i>For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.</i></p>	<ul style="list-style-type: none"> <li>The project will be PNGs first integrated lime project. The end sales products for the Project are quicklime and quarry products.</li> <li>The Company's marketing strategy is based on a mix of domestic sales (PNG) and export sales to international customers. The production volumes and hence plant design sizing has been based on a detailed market assessment.</li> <li>The Company has conducted various preliminary discussions with customers for quicklime both in PNG and in Australia (being the target export market) These discussions have also been used for the sizing / scaling of the project</li> <li>These are specialized products rather than commodities and as such there is no international price index or reference price.</li> <li>The Company has conducted its own internal analysis and market assessment including pricing and is confident that its volume and pricing assumptions are reasonable.</li> <li>The quicklime products will be produced to end user specifications</li> </ul>
<p><i>Economic</i></p>	<p><i>The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.</i></p> <p><i>NPV ranges and sensitivity to variations in the significant assumptions and inputs.</i></p>	<ul style="list-style-type: none"> <li>Discount rate has been utilised in the NPV model and is outlined in the associated ASX announcement.</li> <li>Sensitivity analysis conducted is outlined in the associated ASX announcement</li> <li>Net Present Value (NPV) for the project is positive and is outlined in the associated ASX announcement,</li> </ul>
<p><i>Social</i></p>	<p><i>The status of agreements with key stakeholders and matters leading to social licence to operate.</i></p>	<ul style="list-style-type: none"> <li>The preferred plant site on the Kido headland is currently used by the local community (Kido village) for low intensity market gardening given the low-quality soils.</li> </ul>

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		<ul style="list-style-type: none"> <li>• There will be impact on sensitive receptors from the quarrying operations (Kido and Lea Lea areas) including periodic rock blasting, and also from the construction and operation of the quicklime plant and wharf at Kido.</li> <li>• Compensation Agreements have been signed for use of and disturbance to land for the plant site and the quarrying activities,</li> <li>• There is no requirement for any relocation of residents.</li> <li>• The Company has been conducting ongoing community awareness during the exploration stage of the project. This has included regular updates to the community and their representatives.</li> <li>• A landowner identification study has been undertaken across the project site and surrounding areas and was submitted with the Mining Lease grant application.</li> <li>• The project is sited around 7km from the USD18bn PNG LNG plant (built by Exxon Mobil that has been operating for several years). Hence the local community is aware and appreciative of industrial facilities. The Company has been able to leverage the extensive work that was done by Exxon during the development of this project.</li> </ul>
Other	<p><i>To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:</i></p> <p><i>Any identified material naturally occurring risks.</i></p> <p><i>The status of material legal agreements and marketing arrangements.</i></p> <p><i>The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.</i></p>	<ul style="list-style-type: none"> <li>• No marketing contracts are currently in place for the end products, however as mentioned above the Company is in confidential discussions with potential customers and has letters of support from various customers</li> <li>• project water requirements will be sourced under the current Environmental Permit from local surface water sources (including the Laloki River to the east of the project) with other options are still being assessed</li> <li>• The project has secured a Mining Lease following detailed assessment by the MRA and issued by the Mining Minister.</li> <li>• The CCL will be PNG's first integrated quicklime project and accordingly the Company has conducted extensive awareness with government in PNG to support and endorse the development of the project.</li> </ul>

Criteria	JORC Code explanation	Commentary
		<ul style="list-style-type: none"> <li>The consultative process with the Landowners and the Government has commenced this will culminate in the Development Forum and the MOA that formalizes the benefits sharing from the project including royalty split and local business opportunities</li> </ul>
<i>Classification</i>	<p>The basis for the classification of the Ore Reserves into varying confidence categories.</p>	<ul style="list-style-type: none"> <li>A Probable Ore Reserve confidence level has been assigned to the limestone resource based on the estimated mine opex costs and other relevant modifying factors but primarily on the integration of the mine into a vertically integrated processing and supply chain for the production of lime. Like all Reserve estimates small in and on ground variances should be expected however based on the currently available data set, any variance is not considered likely to have any material impact on the operation.</li> </ul>
	<p>Whether the result appropriately reflects the Competent Person's view of the deposit.</p>	<ul style="list-style-type: none"> <li>In estimating the Ore Reserves for the project the estimate does reflect the view of the competent person. If any variation is to be expected it is not in regard to the quality or quantity of the Limestone but is in regards to the mine operation costs. Importantly because the mining costs of the operation are a proportionally small proportion of the total cost of production modest increase in OPEX cost while not desirable do not have a large impact on project viability.</li> </ul>
	<p>The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).</p>	<ul style="list-style-type: none"> <li>100% of the Probable Ore Reserve has been derived from a Measured Mineral Resource. The reasons that the Ore Reserve has not been considered to be a Proven Reserve are somewhat conservative however reflect the below issues: <ul style="list-style-type: none"> <li>Full Mining Lease has been granted</li> <li>PNG is a modest sovereign risk environment.</li> <li>Stakeholder engagement while not expected to be an issue can be problematic in PNG.</li> <li>While the technical mining and processing issues are well understood the site is still a greenfield site and full-scale commercial trials have not yet been completed.</li> </ul> </li> </ul>
<i>Audits or reviews</i>	<p><i>The results of any audits or reviews of Ore Reserve estimates.</i></p>	<ul style="list-style-type: none"> <li>The data provided by Groundwork Plus has been internally peer reviewed and has also been reviewed by Mayur Resources for technical and commercial accuracy. No external audits have been completed on the Reserve Estimate.</li> </ul>

Criteria	JORC Code explanation	Commentary
<p><i>Discussion of relative accuracy/ confidence</i></p>	<p><i>Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.</i></p>	<ul style="list-style-type: none"> <li>• The relative accuracy and confidence levels on the Ore Reserve estimate is high as the limestone homogeneity is very high and extensive over the planned mining areas. For consideration of costs and modifying factors assessment the project was benchmarked against the nearby very large quarry operation which provided materials for the LNG pads for costs while the occurrence of a major resource project in the area denotes project viability.</li> </ul>
	<p><i>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</i></p>	<ul style="list-style-type: none"> <li>• Regarding mining conventional multi bench extraction is planned while the processing technologies and flow paths are well understood.</li> </ul>
	<p><i>Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage</i></p>	<ul style="list-style-type: none"> <li>• The high confidence level relates to the global Ore Reserve estimate for the project area. Minor and non-material variations will be encountered when mining commences however globally the Ore Reserve estimate is considered accurate and reflective of mining outcomes when the modifying factors are considered. Tonnages estimates for the Ore Reserves are only a modest portion of the total available limestone resource area.</li> </ul>
	<p><i>It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available</i></p>	<ul style="list-style-type: none"> <li>• No production data is available as production has not yet commenced.</li> </ul>