CABINDA PHOSPHATE PROJECT SCOPING STUDY

HIGHLIGHTS

- **Results from the Scoping Study demonstrate the Cabinda Phosphate Project to be technically and financially robust.**
- **Agronomic trials of the Cabinda Phosphate Rock, enhanced by granulation with MAP (monoammonium phosphate), demonstrate agronomic effectiveness for soils, crops, and climates typical in Angolan and Middle Africa.**
- **The Mineral Resource for the Cácata Phosphate Rock deposit stands at 27Mt at 17.7% P_2O_5 including, 15.2Mt at 24.5% P_2O_5 in Measured & Indicated categories.**
- **An open-pit mine production target of 6.5Mt @ 30.2% P_2O_5 has been selected from pit optimisation studies utilising only Measured and Indicated Mineral Resources.**
- **The project is forecast to have low capital costs due to the high grade of the mine production target which can be utilised without beneficiation in the granulation plant.**
- **MAP makes up ~50% of the operating costs but also sets the price for the Enhanced Phosphate Rock, providing a natural hedge against operating costs.**
- **The Scoping Study results will be used to initiate discussions with debt and equity financiers for the construction of the project and frame the scope of work for a Definitive Feasibility Study.**

Minbos Resources Limited (ASX:MNB) (**Minbos** or **Company**) is pleased to announce the results of a Scoping Study completed on its Cabinda Phosphate Project (**Project**), Angola.

Commenting on the results, Chief Executive Officer Lindsay Reed:

"We are very pleased by the results from the Scoping Study, which demonstrates the Cabinda Project will generate strong cash returns for a relatively small capital investment. With this initial scoping study completed, the Company will move quickly to complete a DFS Study, which will be used to obtain funding with debt and equity financiers.

By feeding the soils that feed us, our nutrient and distribution project will directly impact the lives of employees, local businesses, the agriculture sector, Angolan national food security, government revenues and the local population for many years to come, all the while promoting Angola as an attractive investment destination and delivering value for Minbos Shareholders.

SCOPING STUDY RESULTS DISCLAIMER

The Scoping Study referred to in this announcement is a preliminary technical and economic investigation of the potential viability of developing the Cabinda Phosphate Project by constructing an open-pit mine and granulation plant to produce Enhanced Phosphate Rock to supply local agriculture users and Nitrogen/Phosphate/Potassium (NPK) blenders.

It is based on lower level technical and preliminary economic assessments and is insufficient at this stage to support estimation of Ore Reserves, to provide assurance of an economic development case, or to provide certainty that the conclusions of the Study will be realised. The Scoping Study is based on the material assumptions outlined in this report.

The Company believes it has reasonable grounds for disclosing a Production Target given 100% of plant feed mined from the first five years is in the Indicated Resource category and for the Life-of-Mine (LOM), 24% is obtained from Mineral Resource material classified as Measured and 76% as Indicated – there is no Inferred material in the current pit design.

The Scoping Study is based on material assumptions outlined elsewhere in this announcement. These include assumptions about the availability of funding. While the Company considers all the material assumptions to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated by the Scoping Study will be achieved.

To achieve the potential mine development outcomes indicated in the Scoping Study, funding of at least US$22 million will likely be required. Investors should note that there is no certainty that the Company will be able to raise funding when needed, however the Company has concluded it has a reasonable basis for providing the forward-looking statements included in this announcement and believes that it has a "reasonable basis" to expect it will be able to fund the development of the Project. It is also possible that such funding may only be available on terms that may be dilutive to, or otherwise affect the value of the Company's existing shares. It is also possible that the Company could pursue other strategies to provide alternative funding options. However, the Scoping Study is a project level study and consequently the sources, forms and costs of the capital required to develop the mine have not been accounted for in calculating the financial returns demonstrated by the Scoping Study.

Given the uncertainties involved, investors should not make any investment decisions based solely on the results of the Scoping Study.

SCOPING STUDY FINANCIAL OUTCOMES

The project level Scoping Study provides estimates for 100% of the project. Minbos holds an 85% interest in the project and will carry in-country partner Soul Rock Ltda (Soul Rock) for a 15% interest and recover the investment made on behalf of Soul Rock from project cashflow. The Scoping Study demonstrates the potential for robust returns for the Project (TABLE 1: BASE CASE KEY METRICS). The Project is based on an initial name plate capacity of 150,000tpa of enhanced Phosphate Rock but is forecast to commence production at 50,000tpa. The plant is forecast to expand in two stages adding a second and third granulation circuit to reach a name plate capacity of 450,000tpa after 8 years.

TABLE 1: BASE CASE KEY METRICS

SCOPING STUDY OUTCOMES	LOW		HIGH
EBITDA LoM (US$M)	$747	-	$1,101
Pre-tax NPV (US$M)	$191	-	$308
Pre-tax IRR (US$M)	41%	-	59%
After-tax NPV (US$M)	**$159**	**-**	**$260**
After-tax IRR (%)	**40%**	**-**	**58%**
Pre-production Capex (US$M)	$27.9	-	$22.4
Average Selling Price (US$/t)	$222	-	$290
Cash Operating Costs LoM[a] (US$/t)	$121[b]	-	$141
Payback Period (Years)		3	
Life of Mine (Years)		21	
Average Annual Production (ktpa)		368	

[a]Cash operating costs include all mining, transport, granulation, shipping, government royalties, site administration and raw material purchase costs.

[b]The low case contemplates a lower MAP price which decreases revenues, but because MAP comprises approximately 50% of the operating costs it also decreases the operating costs in the low case. The reverse is reflected in the high case.

SCOPING STUDY PARAMETERS AND ASSUMPTIONS

The Scoping Study was completed to an overall accuracy of +/- 35% using the key parameters and assumptions set out in TABLE 2.

FIGURE *1* gives an indication of the sensitivities of the project pre-tax NPV to key project parameters. The Scoping Study has been compiled by the Company with the assistance of a highly experienced and reputable group of independent consultants including:

- Kathleen Body – Geology, Resources
- Orelogy Mine Consulting Pty Ltd: Optimisation, Mine Design, Scheduling

- International Fertilizer Development Center (IFDC): Fertilizer trials, Process Design Inputs, Granulation trials
- FEECO International, Inc: Plant design, costs
- Alphier Capital: Financial, Modelling

The Scoping Study draws on historical studies commissioned by the Company from other experienced and reputable independent consultants including:

- Coffey Mining: Geology, Resources,
- Golder Associates: Geotech, Hydrogeology, Hydrology
- Mintek: Material Characterisation
- Ausenco: Engineering, logistics
- Prime Resources: Environmental, Social
- Ports of Africa: Barging

TABLE 2: KEY PARAMETERS AND ASSUMPTIONS

PARAMETER	
GENERAL / ECONOMIC	
Discount Rate	10%
MAP Price range (US$/t)	357-482
MINING / PRODUCTION	
Average LOM strip ratio	3.76
LOM Phosphate Rock Production Target (Mt)	6.54
Average P_2O_5 Grade Mined	30.2%
Phosphate Rock Mined ramp-up (ktpa)	43 - 432
Enhanced Phosphate Rock Production ramp-up (ktpa)	50 – 450
Enhanced Phosphate Rock % of final product	84%
Relative Agronomic Effectiveness (RAE)	85%
COST ASSUMPTIONS	
LoM Average Mining Costs (US$/t plant feed mined)	3
LoM Average Granulation Costs (US$/t	15
G & A (US$M/pa)	3
Transport (US cents/t.km)	10
Shipping (US$/t)	9.30
Royalty	2%
Corporate Tax Rate (First 8 years tax free)	25%

The Scoping Study is based on the Mineral Resource Estimate for the Cácata deposit reported on 5 December 2013, comprising of 27Mt @ 17.7% P_2O_5 (at a cut-off grade of 5% P_2O_5). (refer Appendix 1) The Company is not aware of any new information or data that materially affects the assumptions and parameters underpinning the Mineral Resource Estimates as reported in the market announcements dated 6 October 2013 and 5 December 2013

Pit Optimisation studies have been carried out by Orelogy Mine Consulting (Orelogy) on the Mineral Resource in 2020. The subsequent open pit design that forms the basis of the Scoping Study comprises 6.54Mt of plant feed mined at an average grade of 30.2% P_2O_5 and a strip ratio of 3.76:1 for mining over 21 years.

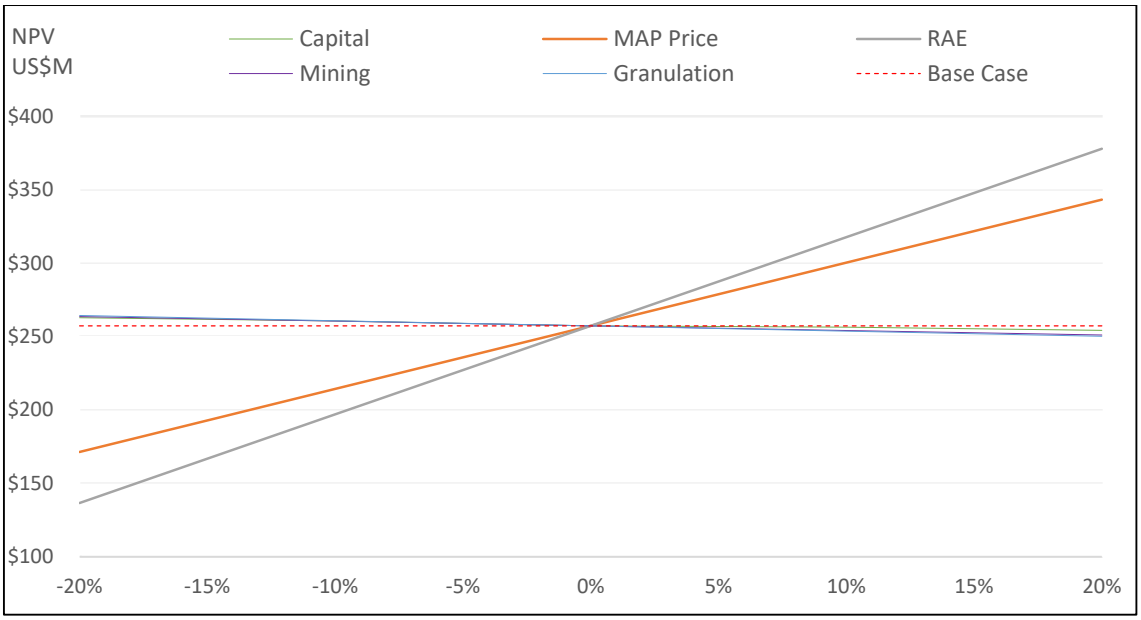

FIGURE 1 - CABINDA PHOSPHATE PROJECT PRE-TAX NPV SENSITIVITY ANALYSIS

Of the 6.54Mt of plant feed mined, 1.54Mt (24%) is in the Measured Resource category and 5Mt (76%) is in the

Resource category – there is no Inferred material in the optimised pit design. In the first five years, 636kt of plant feed will be mined at 30.2% % P_2O_5, all of which is classified as Indicated.

The production schedule assumes run of mine phosphate rock will be granulated with monoammonium phosphate (**MAP**) at the granulation plant. The blending ratio of 84% Phosphate Rock to 16% MAP is based on the agronomic and granulation trials carried out by International Fertilizer Development Center (**IFDC**).

The ex-port price of the MAP in Angola is assumed to be US$478/t (range US$407 – 532/t) based on a ten-year average price correlated to FOB gulf USA DAP and adding US$50 for shipping and wholesale margins.

The anticipated CNF sale price for Enhanced Phosphate Rock product at the Port of Luanda is US$222-291/t which is scaled to its Relative Agronomic Effect (RAE) with MAP and adjusted downwards relative to the Phosphorous (P) content of MAP.

Capital and operating costs were estimated using a combination of costs built up from first principles, quotations received from contractors/suppliers and benchmarking against similar activities in Africa.

NEXT STEPS

The Company is currently proceeding with a Definitive Feasibility Study (DFS) on the Project. Items to be included in the scope of the DFS are:

- Mine design and Reserves
- Granulation Plant Design
- Transport and Logistic Studies
- CAPEX and OPEX to +/- 15%
- Marketing Studies, including greenhouse and field trials
- Environmental and Social Impact Assessment (ESIA) including further baseline studies
- Completion of all approvals
- Field trials
- Marketing Studies

The Company anticipates signing an off-take agreement with the Angolan Government as part of the DFS before the Final Investment Decision (FID). Initial discussions with the Angolan Government have commenced in relation to an off-take agreement. In its winning tender submission Minbos proposed developing export markets for up to half the product in neighbouring countries in Middle Africa and has initiated discussion with one possible customer. The sale price of the Enhanced Phosphate Rock (EPR) will have a significant effect on the potential cash flow of the project as shown in FIGURE 2 which shows cumulative cashflows for a range of ERP prices derived from the 10 year average, and various percentile prices, of MAP.

The DFS is expected to be complete within nine months with several areas currently underway. Subject to long lead items associated with the granulation plant which may be ordered prior to the completion of the DFS, construction is expected to take six months with first production estimated to occur shortly thereafter. It is expected that approvals will be the critical element in the development schedule although global factors such as COVID-19 may also impact the schedule.

FUNDING

Based on the Scoping Study, there are reasonable grounds to believe that the Project can be financed in the future. The initial capital of US$22 - 28M is modest relative to the Company's market capitalisation and the A$20M invested by the Company in phosphate exploration and feasibility studies in the Congo Basin region.

It is most likely that any financing would be a combination of debt and equity which may only be available on terms that are dilutive to or otherwise affect the value of Minbos's existing shares. Alphier Capital LLP (Alphier) has been appointed Financial Advisors to the Company and have expressed a firm view that capital can be obtained for the Project.

This Scoping Study does not include the cost of the DFS proposed above. The Company is in the process of finalising quotes for the remaining DFS activities and has concluded it has a "reasonable basis" to expect it will be able to fund the DFS by way of a capital raising. The capital raising will be dilutive to the value of the Company's existing shares.

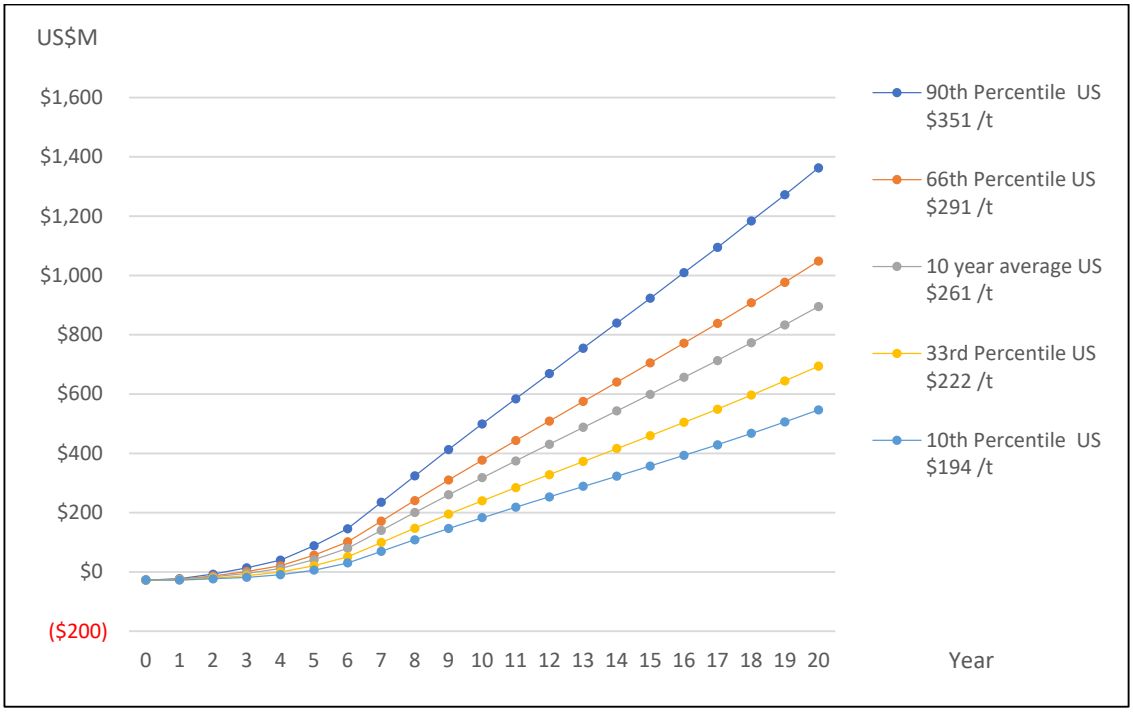

FIGURE 2 - CABINDA PHOSPHATE CUMULATIVE PRE-TAX CASHFLOW US$M VS EPR SALE PRICE

BACKGROUND ON THE CABINDA PHOSPHATE PROJECT

Minbos (85%) and its in-country partner Soul Rock (15% carried interest) tendered for the Project based on producing Enhanced Phosphate Rock as a substitute for fertilizers currently imported by the Angolan Government for distribution to wholesalers and farmers. The Company envisages entering an off-take agreement with the Government, and this Scoping Study forecasts production levels that match current and forecast consumption initially for Angola and ultimately, in the Middle African region that can be serviced from Porto de Caio.

In March this year, the Company announced it had been successful in securing the open tender for the Cácata Phosphate Concession (Refer to ASX Announcement dated 18 March 2020). The Company is well advanced in negotiating a Mining Investment Contract with Ministry for Mineral Resources and Petroleum and anticipate signing the Mining Investment Contract within a month (assuming no additional COVID delays).

The Company's vision is to build a nutrient supply and distribution business that stimulates agricultural production and promotes food security in Angola and the broader Middle Africa region. The plan is to mine Phosphate Rock from the Cácata Deposit and transport it to

Porto de Caio where a granulation plant will be built and operated at the industrial site to produce Enhanced Phosphate Rock granules (Phosphate Rock + MAP).

The Enhanced Phosphate Rock granules will become the P nutrient feed stock to blend with imported Nitrogen (N) and Potassium (K) granules in NPK blending plants to exact specifications suited to Angolan crops and soils.

Infrastructure is key to all industrial mineral projects and Cácata is well supported, with the deposit being situated within a kilometre of a dual lane highway and a one-hour drive to Porto de Caio, a billion-dollar port and industrial development. Porto de Caio is the ideal location for a granulation plant due to its proximity to the mine and access to infrastructure.

''Phosphate Rock'' is the industry term used to describe sedimentary apatite deposits, but in the case of Cácata, "Phosphate Sand" would be more appropriate. The deposit is hosted in loosely consolidated sediments that can be mined without blasting or ripping.

The Cácata Phosphate Rock deposit is thick, wide and shallow. The Company was involved in the project previously and spent A$20M on exploring phosphate projects in the Congo Basin including Cácata. The deposit is a 1.7km long sedimentary phosphate deposit within a 400m wide graben that outcrops at surface and plunges shallowly to the north. The deposit contains a thick high-grade zone along its entire strike length (Figure 3).

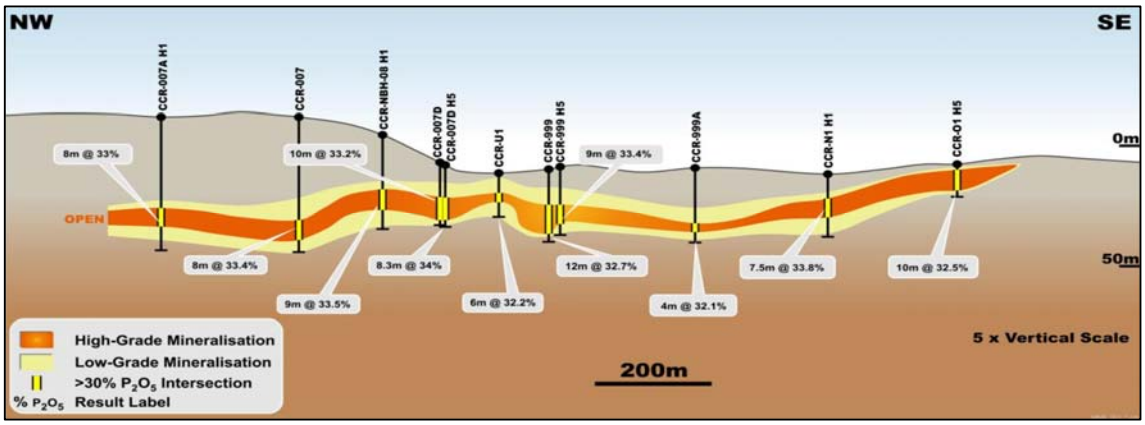

FIGURE 3 - CÁCATA LONG SECTION

A handful of Phosphate Rock deposits in the world produce highly soluble Phosphate Rock suitable for direct application phosphate nutrient in agriculture. However, most Phosphate Rocks have low solubility and do not release phosphate at a rate that matches plant uptake, these low solubility Phosphate Rocks are generally used as the feedstock for phosphoric acid production before being converted into water soluble phosphate fertilizer.

The International Fertilizer Development Centre (IFDC) identified that the Cácata Phosphate Rock has medium solubility and can be enhanced by the addition of a small amount of MAP to be useful as a phosphate nutrient.

IFDC greenhouse trials confirmed that Angolan soils, crops and climate are ideally suited for Cácata Enhanced Phosphate Rock which prefers moist, acidic (low-pH) soils and staple crops such as cereals and legumes. The interim results also saw significant agronomic effectiveness

with the Cabinda Enhanced Phosphate Rock pot-trialled on winter wheat, maize, residual maize, and sorghum.

As part of the partnership with the IFDC, 500kg's of Cabinda Phosphate Rock was successfully processed at the IFDC's world-class granulation pilot plant in Muscle Shoals, Alabama. The granulation testing provided energy and mass flow data to enable FEECO International Inc (FEECO) to provide a budget quote for a 20tph granulation plant.

In-country field trials are being co-ordinated by the Angolan Institute of Agronomic Investigations in Huambo, further deepening industry ties with key Government departments. Maize and legume crops have been harvested and more trials are being planned for the 2020/21 field season.

Fertilizer consumption on the African continent is projected to reach 13.6 million tonnes by 2030 compared to 7.6 million tonnes currently. Producing fertilizers locally improves the availability of nutrients, reduces transport costs, and protects against exchange rate fluctuations. Locally produced fertilizer projects are taking off across the continent.

This announcement is authorised by the Board of Minbos Resources Limited:

For further information, please contact

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COMPETENT PERSONS STATEMENTS

The Competent Person with responsibility for the total Mineral Resources of this report is Mrs Kathleen Body, Pr. Sci. Nat, who is an employee of Red Bush Analytics. Mrs Body was a full time employee of Coffey Mining at the time the original Mineral Resource estimation was completed in 2013. Mrs Body has 25 years' experience in the mining industry and has sufficient experience which is relevant to the style of mineralization and type of deposit under consideration and to the activity which she is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Mineral Reserves. Kathleen Body consents to the inclusion in the report of the matters based on his/her information in the form and context in which it appears.

The information in this announcement that relates to the Mineral Resources contained within the Production Target, complies with the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (**JORC Code**) and has been compiled, and assessed by Mr Ross Cheyne BEng (Hons), Mining, a Fellow of the Australian Institute of Mining and Metallurgy (AusIMM) and Technical Director at Orelogy Mine Consulting Pty Ltd, consultants to the Company. Mr Cheyne has sufficient experience that is

relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the JORC Code. Mr Cheyne is the competent person for the Mineral Resources contained within the Production Target and the Production Target itself and has relied on provided information and data from the Company, including but not limited to the Resource model and database. Mr Cheyne consents to the inclusion in this announcement of matters based on his information in the form and context in which it appears.

DISCLAIMER

Some of the statements appearing in this announcement may be in the nature of forward-looking statements. You should be aware that such statements are only predictions and are subject to inherent risks and uncertainties. Those risks and uncertainties include factors and risks specific to the industries in which Minbos operates and proposes to operate as well as general economic conditions, prevailing exchange rates and interest rates and conditions in the financial markets, among other things. Actual events or results may differ materially from the events or results expressed or implied in any forward-looking statement. No forward-looking statement is a guarantee or representation as to future performance or any other future matters, which will be influenced by a number of factors and subject to various uncertainties and contingencies, many of which will be outside Minbos's control.

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Appendix 1: Scoping Study Technical and Financial Summary

Contents

1 Location and Tenure

The Project is located in the Cabinda province of Angola, Africa. The Cácata phosphate rock deposit is located approximately 60km's from the Cabinda City near the village of Cácata. The phosphate rock will be trucked approximately 60km's to a granulation plant located at Porto de Caio where the phosphate rock will be granulated with imported Water Soluble Phosphate (WSP) to produced Enhanced Phosphate Rock, a P nutrient product that will be barged to local and regional ports and distributed for use in agriculture and NPK blending facilities within Angola and neighbouring countries.

Figure 1-1: Cabinda Phosphate Project Location

Pursuant to winning the tender for the Cabinda Phosphate Project, Minbos has been directed by the Minister to finalise a Mining Investment Contract (MIC) with the Ministry of Mineral Resources in accordance with Article 111 of Law No. 31/11 of September 23 (Law approving the Mining Code).

The MIC establishes the terms and conditions of the granting of mining rights for exploration of phosphate in the locality of Cácata, Cabinda Province, Angola.

The draft MIC deals with the Cácata Concession Area outlined in Figure 1-2 below. The material terms of the MIC have been agreed with the Commission appointed by the Minister, and it is expected the MIC will be executed upon the submission of the mine plan the subject of this Scoping Study.

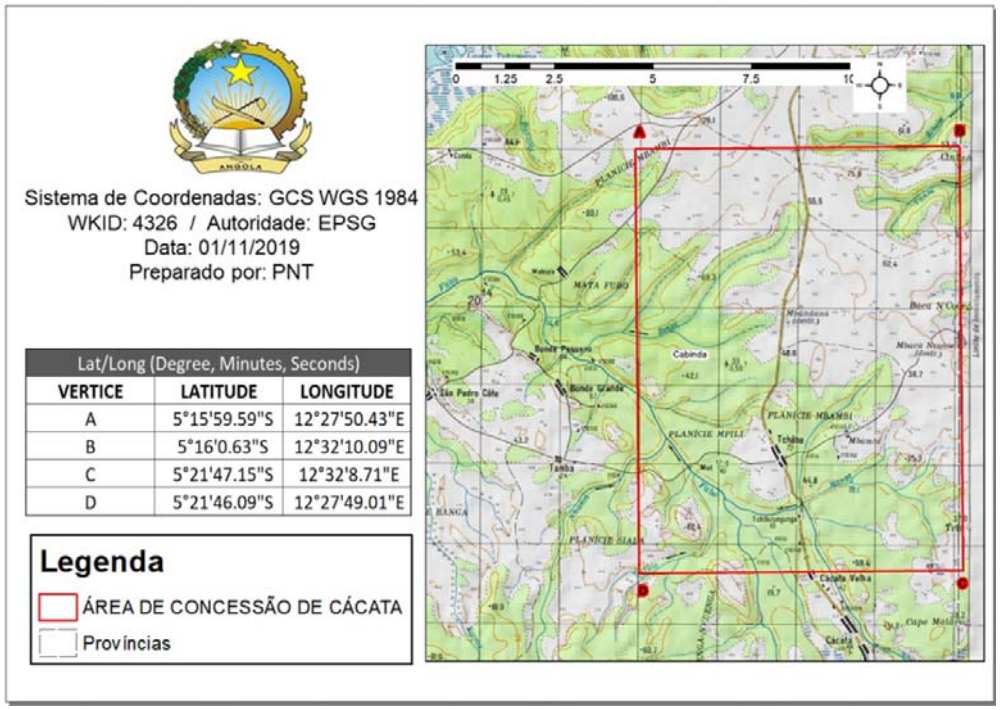


Figure 1-2: Cácata Concession Area

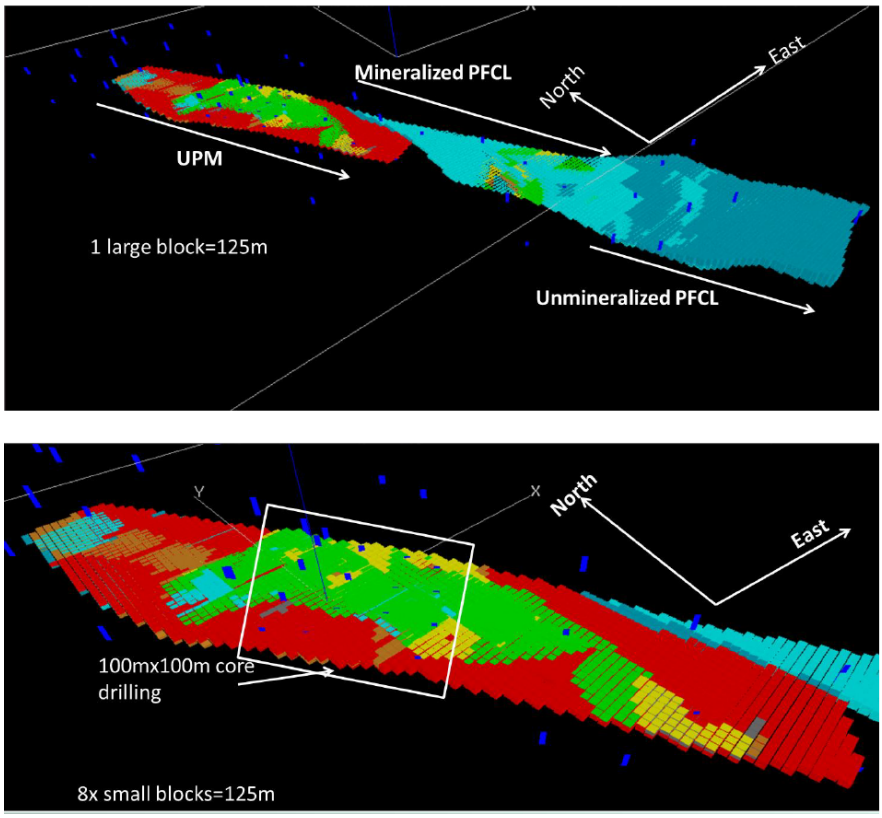
2 Mineral Resources and Geology

2.1 Geology

The 2013 Cabinda Mineral Resource Update (Coffey, 2013) describes the Cabinda Phosphate deposits as being of the Florida/Morocco sedimentary type and occur in several beds of marine and coastal/fluvial origin. The deposits are of Maastrichtian or Eocene age and locally referred to as the Lower Phosphate Member (LPM), Pebbly Foraminiferal Clay and Limestone Unit (PFCL) and the Upper Phosphate Member (UPM).

The Cácata deposit has two distinct units as shown in Figure 2-1 with the units ranging between 13m and 29m in three sedimentary cycles and has phosphate concentrations of up to 37% (Golder, 2016). The southern unit (PFCL) has poorly defined mineralisation with the Mineral Resource downgraded to Inferred status.

Top figure shows full extent of the deposit with drilling. Bottom figure shows the detail of the high grade UPM portion



Grades - Red (>23%), Orange (20%-23%), Yellow (17%-20%), Green (12.5%-17%), Lt Blue (5%-12.5%), Dk Blue (<5%)
(screen capture image not to scale)

Figure 2-1: Cácata Prospect Geology

2.2 Cácata Resources

A maiden Mineral Resources Estimate was announced to the ASX on 31 August 2011, and updated estimates announced to the ASX on 16 October 2013 and 5 December 2013, as drilling data became available. The latest Mineral Resource declared is based on a 5% P_2O_5 block cut-off grade and a density of 1.9t/m3 measured from Cácata core.

Geological Interpretation and Modelling

The final geological model incorporates the diamond core and Air Core results. Where diamond holes twinned the Air Core, the diamond cored holes were used in preference to the Air Core results. Cácata is underlain by three major stratigraphic units, Miocene to Recent sediments, the Eocene UPM and its immediate footwall PFCL. The strata is dipping gently north with the UPM sub-outcropping in the middle of the deposit and the PCFL sub-outcropping further south.

The only faults in the area appear to be the faults bounding the graben to the west and east and possibly another to the north. The UPM has been modelled as three layers based on the distributions of P_2O_5, CaO, Al_2O_3 and Fe_2O_3. The distributions of these four compounds describe distinct sedimentary cycles. The PFCL and its footwall were not intersected in their entirety. These were modelled as a single unit to the base of the drilling.

Statistical Analysis

Compositing

Air Core samples were normally two metres in length, occasionally one metre at the base of the boreholes or low recovery sections. Diamond drill holes were sampled by geological unit of not more than one metre. All holes were composited to one metre for the estimation.

Distributions

Statistics and distributions have been produced for the major oxides. The oxides estimated were P_2O_5, CaO, SiO_2, Fe_2O_3, Al_2O_3, MgO, K_2O, Na_2O.

Figure 2-2 Aircore Drilling Cabinda Phosphate Project

Block Modelling

The block model was constructed from the basal surfaces of the drilled portion of the PFCL, the bases of the three sedimentary cycles, the base of the overburden and the surface topography, modelled from borehole collars and interpreted faulted boundaries. Models for the overburden were used to limit the upper surface of the deposit which cuts across all of the sedimentary layers. Blocks were kept at 125m x 125m x 2m as in previous estimates. While it is possible to reduce the block size in the area with 100m spaced drilling, there are large parts of the Mineral Resource with very widely spaced boreholes. In addition, no selection is expected to take place when mining and leaving the larger

blocks so that several boreholes inform the grade estimate is expected to give a more realistic estimation of the average grade of the larger volume.

Grade Estimation

Variograms

Variograms were calculated using Isatis software. Variograms in real space showed little structure. The very high-grade areas show a low variability overall and lateral variability is discontinuous. Variograms were used to confirm homogeneity in the sedimentological zones but did not show sufficient structure to be useful in the grade estimation.

Estimation Strategy

The estimation method was based on an inverse distance powered weighting. A Kriging (linear regression) estimation method was not appropriate as variograms were structureless and the estimate would have devolved to a simple arithmetic average which is not appropriate to the deposit.

Each of the three sedimentary units was estimated separately. Estimations were carried out for power weightings of 2, 3, 4 and 5. In addition, the geometry of the top and bottom contacts of the bottom and middle sedimentary units was used to orient the search volume ellipse for correlation of the sedimentary layers. Only the basal contact was used for the upper unit as its top contact is erosional.

The model results were assessed based on how well the estimate fit the borehole results and level of detail. In all cases the power 2 weighting resulting in over smoothing of the grades and was rejected. Power weightings of 3, 4 and 5 showed negligible difference in either the overall result or in detail. The power 3 weighting models were selected.

For the bottom sedimentary cycle, using the basal contact to control the search volumes gave an estimation that matched the borehole data better. For the middle unit using the top contact gave a better representation of the data.

Classification

Classification was based on both geographic position with respect to data density, search distance used in the estimation and physical characteristics of the estimated Mineral Resources. Physical characteristics such as rock chemistry and mineralogy and phosphate grade determined the beneficiation sequence. The two process routes considered at the time were;

1. Scrubbing and screening only, or
2. Scrubbing and screening followed by flotation.

Beneficiation testwork showed that upgrading to a >30% P_2O_5 product by a scrubbing and screening process was only successful for material above 23% P_2O_5 and below 26% SiO_2, and material in the 17-23% P_2O_5 range would likely require flotation as well as scrubbing and screening to upgrade to >30% P_2O_5. Measured and Indicated Mineral Resources are confined to the UPM. All PFCL Mineral Resources are classified as Inferred due to wide drill hole spacing and incomplete intersections in the stratigraphy.

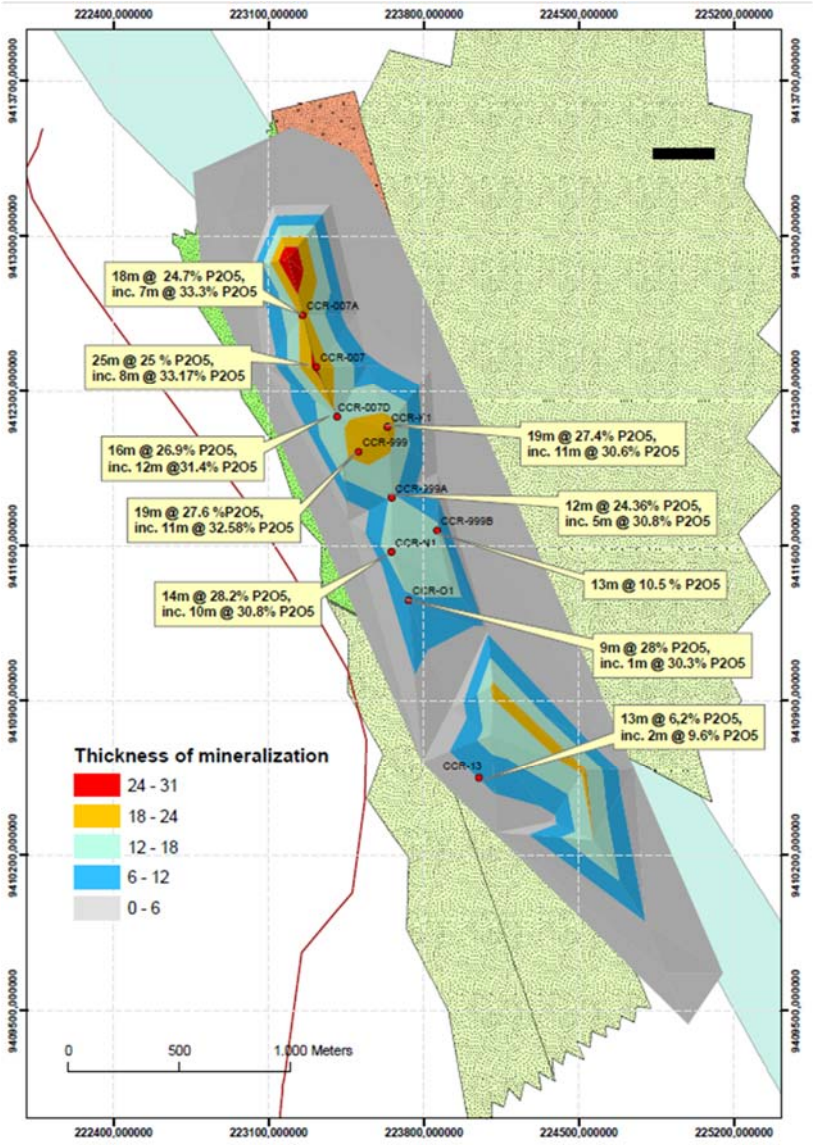


Figure 2-3: Location of Drill holes used in Beneficiation Test Work.

Cácata has reported a JORC 2012 Resource (Coffey Mining, 2013) of 27Mt @ 17.7% P_2O_5 (at a cut-off grade of 5% P_2O_5) (Refer to Table 2-1 and Table 2-2). Only Mineral Resources above 26% P_2O_5 were considered in the pit optimisation studies as detailed in section 3.2.

Category	Tonnes (Mt)	Grade % P_2O_5	Cut Off % P_2O_5
Measured	5.0	23.0	5.0
Indicated	10.2	25.3	5.0
Inferred	11.8	8.8	5.0
Total	**27.0**	**17.7**	5.0

Table 2-1: Cácata JORC 2012 Mineral Resource (cut-off-grade 5%)

Category	Tonnes (Mt)	Grade % P_2O_5	Cut Off % P_2O_5
Measured	4.1	24.7	24.0
Indicated	9.0	26.6	24.0
Total Measured & Indicated	13.1	26.0	24.0
Inferred	-	-	24.0
Total	**13.1**	**26.0**	24.0

Table 2-2 Cácata Mineral Resource - (Scrub and Screen Cut-off-grade 24%)

This 2020 Scoping Study is based on the production of un-beneficiated Phosphate Rock that will be granulated with MAP. However, the Company does not believe this change (in proposed processing) materially alters the assumptions underpinning the classification of the Cácata Mineral Resource Estimates as reported in market announcements dated 6 October 2013 and updated on 5 December 2013.

3 Mining

3.1 Geotechnical

Geotechnical investigations were undertaken in 2016 (Golder, 2016) including laboratory testing on samples taken from drill core at Cácata. The strength of the Cácata phosphorite layers were obtained from a variety of means:

- Laboratory uniaxial compressive strength tests of core, which can be correlated to cohesion (through a closed-form relationship); and
- Field estimates of strength carried out during core logging.

Field estimates of the strength of the various materials encountered at Cácata were made based on ISRM guidelines on the description of material strength.

The slope design geometry for the Cácata pit is outlined in Table 3-1 below.

State of Rock Weathering	Bench Face Angle	Production Bench Height (m)	Vertical Bench Separation (m)	Berm Width (m)	Inter-ramp Angle
Short-Term Bench Geometry					
Phosphorite Materials in Walls	65°	10 (5)	10	12	31.0°
Long-Term Geometry after Bench Sloughing (or Deliberate Flattening)					
Phosphorite Materials in Walls	40°	10 (5)	10	4.7	31.0°

Table 3-1: Recommended Slope Configuration for the Cácata Pit

Design considerations recommended by Golder indicated, bench stacks (inter-ramps) in saprolite should comprise no more than four benches, i.e. should have a vertical height of no more than 40m. These bench stacks should be separated by a ramp or geotechnical berm with a width no less than 17m. Where bench stacks exceed 40m, the minimum width of the lower geotechnical berms should be increased to 25m.

3.2 Pit Optimisation

Orelogy Mine Consulting (Orelogy) undertook a high-level pit optimisation of the Cácata deposit using the Geovia Whittle™ pit optimisation software to determine a viable open pit geometry on which to base the Scoping Study.

Mining loss and dilution were evaluated and, given the requirement for a consistent 30% P_2O_5 ROM grade, it was determined that the orebody was more sensitive to dilution than mining loss. Consequently, a skin of 0.25m was removed from the edge of the orebody to reflect a mining loss only approach. The mining loss therefore occurred predominantly along the base of the deposit and resulted in a global mining loss of approximately 5.9%. It was assumed dilution would be nil.

The optimisation assumed a ramp up in the production of Enhanced Phosphate Rock (EPR) from 50ktpa to 500ktpa after six years.

The input parameters to the pit optimisation process were as follows:

- Mining Cost $3.00/t mined
- Process Loss 1%
- Processing (at steady state) Cost $119.58/t
- Selling Cost $24.65/t EPR
- MAP Price (landed) $400.00/t
- Initial Capital $28M

A cut-off grade of 26% was also applied in Whittle to ensure an average Life of Mine (LOM) head grade of 30% P_2O_5.

The key objective of the optimisation process was to confirm that the Cácata optimisation was effectively insensitive to changes in input parameters, particularly costs. Mining cost and processing cost were varied by +/-10% and +/-20%, and price by +/-10%. The resulting plant feed tonnes and cashflow sensitivity are shown in Figure 3-1 and Figure 3-2 respectively.

As can be seen, the plant feed tonnes and therefore the associated shell size, is effectively insensitive to changes in costs or price, indicating the optimisation shell is extremely robust to changes in economic inputs. The Project cashflow is also relatively insensitive to changes in costs, with a higher sensitivity to price. As the EPR product price is inherently linked to the MAP price and the MAP price is the largest cost component, the Project is to a degree insulated from the full effect of a drop in EPR product price.

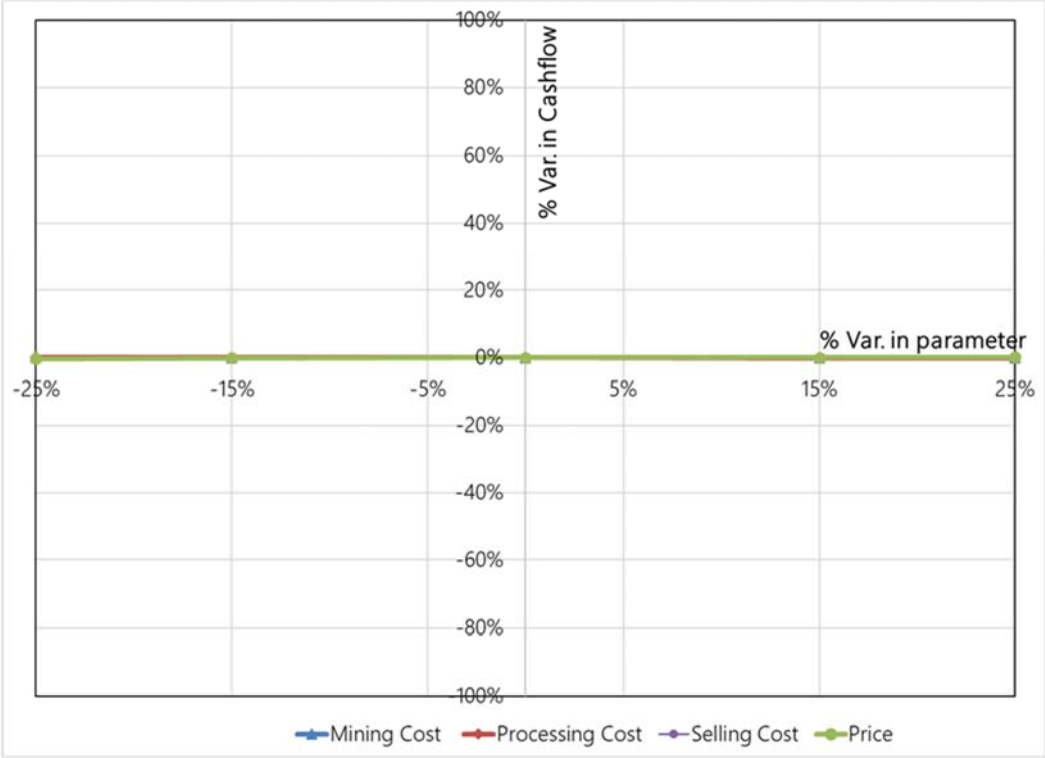


Figure 3-1: Optimisation Sensitivity – Plant Feed Tonnes

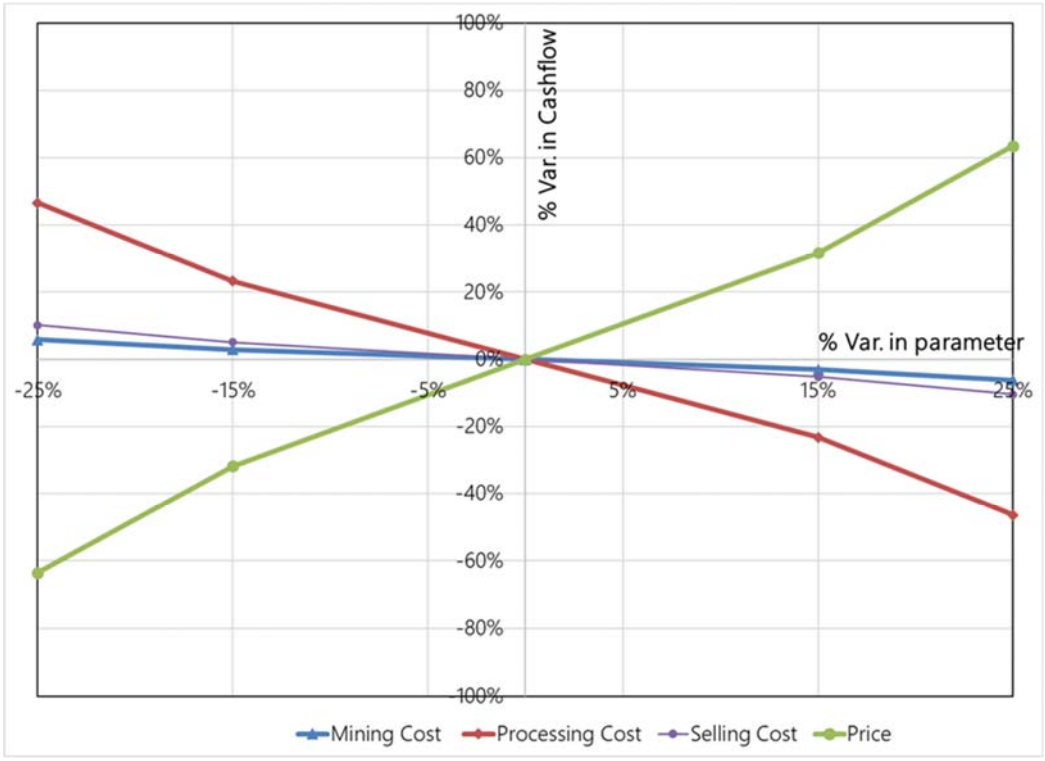


Figure 3-2: Optimisation Sensitivity – Best Case Cashflow

The sensitivity result allowed Orelogy to select an optimisation shell for subsequent design work with considerable confidence, in the knowledge that changes in project economic assumptions would not change the pit geometry. Table 3-2 provides the results of the Base Case pit optimisation with Figure 3-3 presenting these graphically. The table is coloured as shown below.

Max. Best Case NPV	
Max. Worst Case NPV	
Max. Average Case NPV	

Shell	Revenue Factor	Physicals								Financials (Undiscounted)				Selection Criteria				Mine Life
		Measured		Indicated		Total Ore		Waste	Total	Cashflow	Worst Case	Best Case	Average Case	Profit / Tonne Mined		Strip Ratio		
		kt	P_2O_5 (%)	kt	P_2O_5 (%)	kt	P_2O_5 (%)	kt	kt	($M)	($M)	($M)	($M)	Overall	Incr.	Overall	Incr.	
1	0.61	8.7	32.1	40.3	30.7	49.0	31.0	14.6	63.5	-$24.9	-$24.9	-$24.9	-$25	-$391.36		0.30		0.2
2	0.62	214.3	28.8	487.5	31.7	701.7	30.8	529.7	1,231.4	$24.5	$14.2	$14.2	$14	$19.93	$42.31	0.75	0.79	3.5
3	0.63	559.1	28.9	1,451.2	31.3	2,010.2	30.7	2,248.6	4,258.8	$121.0	$64.3	$65.8	$65	$28.40	$31.85	1.12	1.31	7.0
4	0.64	642.2	29.0	2,015.9	30.8	2,658.1	30.4	3,561.1	6,219.1	$178.9	$89.0	$92.5	$91	$28.77	$29.55	1.34	2.03	8.3
5	0.65	763.4	29.0	2,170.0	30.6	2,933.4	30.2	4,262.2	7,195.6	$202.9	$97.9	$102.5	$100	$28.20	$24.63	1.45	2.55	8.9
6	0.66	1,017.8	29.4	2,378.6	30.4	3,396.4	30.1	5,698.8	9,095.2	$242.4	$110.8	$117.8	$114	$26.65	$20.75	1.68	3.10	9.8
7	0.67	1,094.5	29.5	2,715.2	30.0	3,809.7	29.8	7,257.2	11,066.9	$276.4	$120.1	$130.0	$125	$24.98	$17.28	1.90	3.77	10.6
8	0.68	1,129.1	29.4	2,730.1	30.0	3,859.2	29.8	7,472.5	11,331.7	$280.4	$121.0	$131.3	$126	$24.75	$15.01	1.94	4.34	10.7
9	0.69	1,528.2	29.4	4,287.2	30.4	5,815.4	30.1	17,586.0	23,401.3	$430.7	$141.8	$171.9	$157	$18.41	$12.46	3.02	5.17	14.6
10	0.70	1,542.8	29.4	4,721.4	30.4	6,264.3	30.2	20,162.6	26,426.9	$464.2	$142.9	$179.3	$161	$17.57	$11.06	3.22	5.74	15.5
11	**0.71**	**1,554.5**	**29.4**	**4,785.3**	**30.4**	**6,339.8**	**30.2**	**20,636.3**	**26,976.1**	**$469.7**	**$143.0**	**$180.5**	**$162**	**$17.41**	**$9.97**	**3.26**	**6.27**	**15.7**
12	**0.72**	**1,572.1**	**29.4**	**5,075.6**	**30.4**	**6,647.7**	**30.1**	**22,715.6**	**29,363.4**	**$491.4**	**$142.1**	**$184.9**	**$163**	**$16.74**	**$9.10**	**3.42**	**6.75**	**16.3**
13	0.73	1,575.0	29.4	5,096.1	30.4	6,671.1	30.1	22,890.7	29,561.8	$493.0	$142.0	$185.2	$164	$16.68	$7.95	3.43	7.50	16.3
14	0.74	1,578.9	29.4	5,108.1	30.4	6,687.0	30.1	23,017.7	29,704.7	$494.0	$141.9	$185.4	$164	$16.63	$7.32	3.44	7.97	16.4
15	0.75	1,580.1	29.4	5,117.4	30.4	6,697.5	30.1	23,108.4	29,805.9	$494.7	$141.9	$185.6	$164	$16.60	$6.54	3.45	8.63	16.4
16	0.76	1,583.4	29.4	5,123.0	30.4	6,706.3	30.1	23,188.5	29,894.8	$495.2	$141.8	$185.7	$164	$16.57	$6.08	3.46	9.07	16.4
17	0.77	1,585.4	29.4	5,126.2	30.4	6,711.7	30.1	23,242.3	29,954.0	$495.5	$141.8	$185.7	$164	$16.54	$5.19	3.46	10.05	16.4
18	**0.78**	**1,586.5**	**29.4**	**5,129.4**	**30.3**	**6,716.0**	**30.1**	**23,286.9**	**30,002.8**	**$495.8**	**$141.8**	**$185.8**	**$164**	**$16.52**	**$4.90**	**3.47**	**10.41**	**16.4**
19	0.79	1,588.1	29.4	5,145.6	30.3	6,733.6	30.1	23,485.1	30,218.8	$496.7	$141.5	$185.9	$164	$16.44	$4.32	3.49	11.21	16.5
20	0.80	1,589.1	29.4	5,147.5	30.3	6,736.6	30.1	23,519.8	30,256.4	$496.9	$141.5	$186.0	$164	$16.42	$4.07	3.49	11.58	16.5
21	0.81	1,589.1	29.4	5,147.6	30.3	6,736.7	30.1	23,520.8	30,257.6	$496.9	$141.5	$186.0	$164	$16.42	$3.61	3.49	12.33	16.5
22	0.82	1,589.1	29.4	5,149.6	30.3	6,738.7	30.1	23,546.0	30,284.7	$497.0	$141.5	$186.0	$164	$16.41	$3.37	3.49	12.77	16.5
23	0.83	1,591.0	29.4	5,150.7	30.3	6,741.7	30.1	23,586.1	30,327.8	$497.1	$141.4	$186.0	$164	$16.39	$3.02	3.50	13.46	16.5
24	0.84	1,591.0	29.4	5,154.6	30.3	6,745.6	30.1	23,640.4	30,385.9	$497.2	$141.3	$186.0	$164	$16.36	$2.78	3.50	13.98	16.5
25	0.85	1,591.0	29.4	5,154.7	30.3	6,745.6	30.1	23,641.4	30,387.1	$497.2	$141.3	$186.1	$164	$16.36	$2.50	3.50	14.47	16.5
26	0.86	1,591.9	29.4	5,154.7	30.3	6,746.6	30.1	23,655.8	30,402.4	$497.3	$141.3	$186.1	$164	$16.36	$2.15	3.51	15.51	16.5
27	0.87	1,591.9	29.4	5,156.9	30.3	6,748.8	30.1	23,692.1	30,440.9	$497.4	$141.2	$186.1	$164	$16.34	$1.99	3.51	15.95	16.5
28	0.88	1,591.9	29.4	5,157.1	30.3	6,749.1	30.1	23,696.4	30,445.5	$497.4	$141.2	$186.1	$164	$16.34	$1.71	3.51	16.77	16.5
29	0.89	1,591.9	29.4	5,157.5	30.3	6,749.5	30.1	23,703.0	30,452.5	$497.4	$141.2	$186.1	$164	$16.33	$1.60	3.51	17.17	16.5
30	0.90	1,591.9	29.4	5,158.5	30	6,750.4	30.1	23,719.5	30,469.9	$497.4	$141.1	$186.1	$164	$16.32	$1.41	3.51	17.75	16.5
31	0.91	1,594.2	29.4	5,158.5	30	6,752.6	30.1	23,760.0	30,512.6	$497.5	$141.1	$186.1	$164	$16.30	$1.24	3.52	18.38	16.5
32	0.92	1,594.2	29.4	5,159.0	30	6,753.1	30.1	23,769.8	30,523.0	$497.5	$141.1	$186.1	$164	$16.30	$1.01	3.52	19.24	16.5
33	0.93	1,595.7	29.4	5,162.2	30	6,757.9	30.1	23,865.2	30,623.1	$497.6	$140.9	$186.1	$163	$16.25	$0.87	3.53	19.83	16.5
34	0.94	1,596.2	29.4	5,162.2	30	6,758.4	30.1	23,875.1	30,633.5	$497.6	$140.9	$186.1	$163	$16.24	$0.80	3.53	20.16	16.5
35	0.95	1,596.2	29.4	5,162.3	30	6,758.5	30.1	23,876.2	30,634.7	$497.6	$140.9	$186.1	$163	$16.24	$0.67	3.53	20.89	16.5
36	0.97	1,596.3	29.4	5,163.0	30	6,759.2	30.1	23,892.9	30,652.1	$497.6	$140.8	$186.1	$163	$16.23	$0.53	3.53	21.45	16.5
37	**1.01**	**1,596.9**	**29.4**	**5,163.0**	**30**	**6,759.8**	**30.1**	**23,906.2**	**30,666.0**	**$497.6**	**$140.8**	**$186.1**	**$163**	**$16.23**	**$0.25**	**3.54**	**22.87**	**16.5**
38	1.02	1,596.9	29.4	5,163.0	30	6,759.9	30.1	23,907.3	30,667.2	$497.6	$140.8	$186.1	$163	$16.22	-$0.14	3.54	25.36	16.5
39	1.03	1,598.2	29.4	5,163.1	30	6,761.3	30.1	23,943.8	30,705.1	$497.6	$140.8	$186.1	$163	$16.20	-$0.25	3.54	26.09	16.5
40	1.05	1,598.3	29.4	5,163.1	30	6,761.4	30.1	23,947.2	30,708.6	$497.6	$140.8	$186.1	$163	$16.20	-$0.34	3.54	26.61	16.5
41	1.07	1,598.4	29.4	5,163.2	30	6,761.6	30.1	23,951.6	30,713.2	$497.6	$140.8	$186.1	$163	$16.20	-$0.47	3.54	27.81	16.5
42	1.08	1,598.4	29.4	5,163.4	30	6,761.8	30.1	23,957.2	30,719.0	$497.6	$140.7	$186.1	$163	$16.20	-$0.59	3.54	28.74	16.5

Table 3-2: Base case Optimisation Results for the Cácata Pit Optimisation

Shell 12 (Revenue Factor 0.72) was selected as the preferred shell for moving forward with pit designs as it reflects a clear inflexion point of the discounted cashflow curves as shown in Figure 3-3. Shell 12 is shown in Figure 3-4 with the topographical contours and the outline of the Nhenhe River.

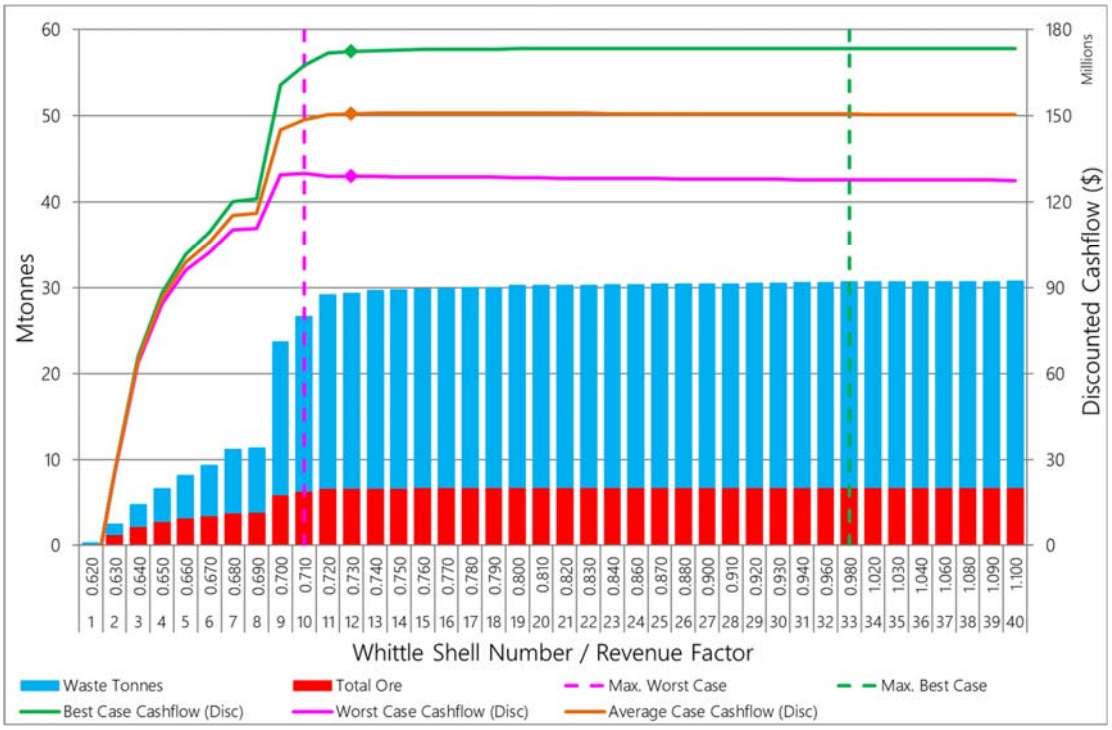


Figure 3-3: Optimisation Tonne/Value Curve

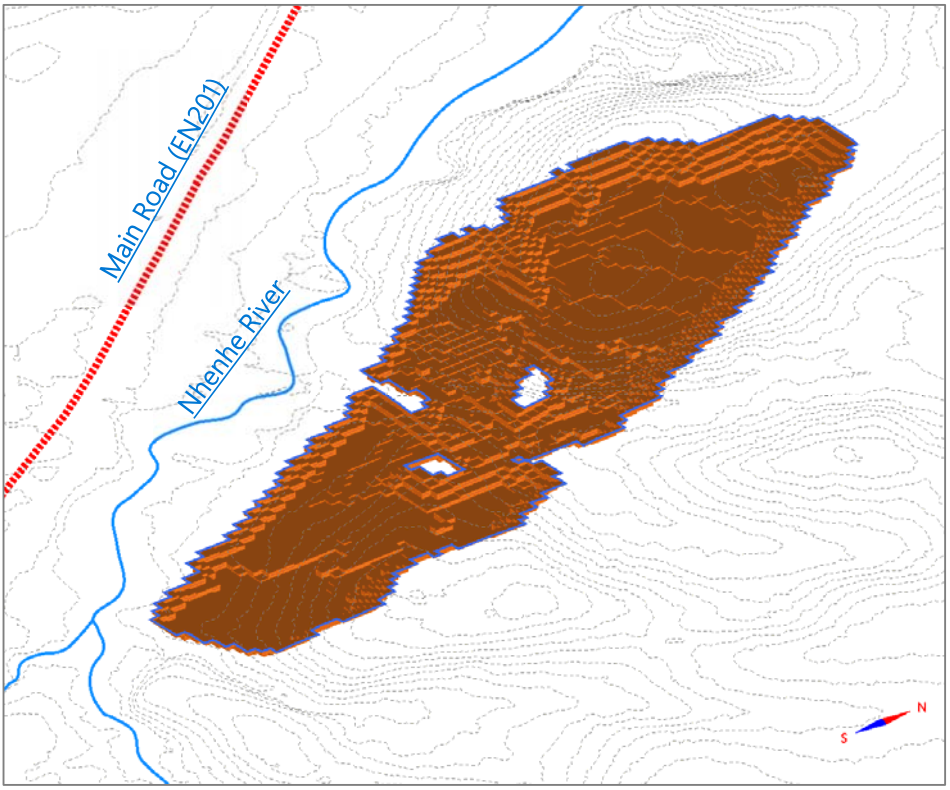


Figure 3-4: Optimisation Shell 12

3.3 Hydrogeology and Drainage

Surface Water

In general drainage of the pit area is from SE to NW. The Cácata site lies within the Nhenhe River catchment with the higher lying (relative) areas lying to the east and southeast. The catchment area up to the Cácata site is approximately 110 Km^2. Seasonal tributaries of the Nhenhe River and Tanga River cut through the mining area and one spring has been identified on the eastern boundary of the proposed open pit. These are shown in Figure 3-5 along with the outline of the ultimate pit.

The interaction of the open pit with these seasonal tributaries occurs after the initial 5 years of mining. How this interaction will be managed is still being evaluated.

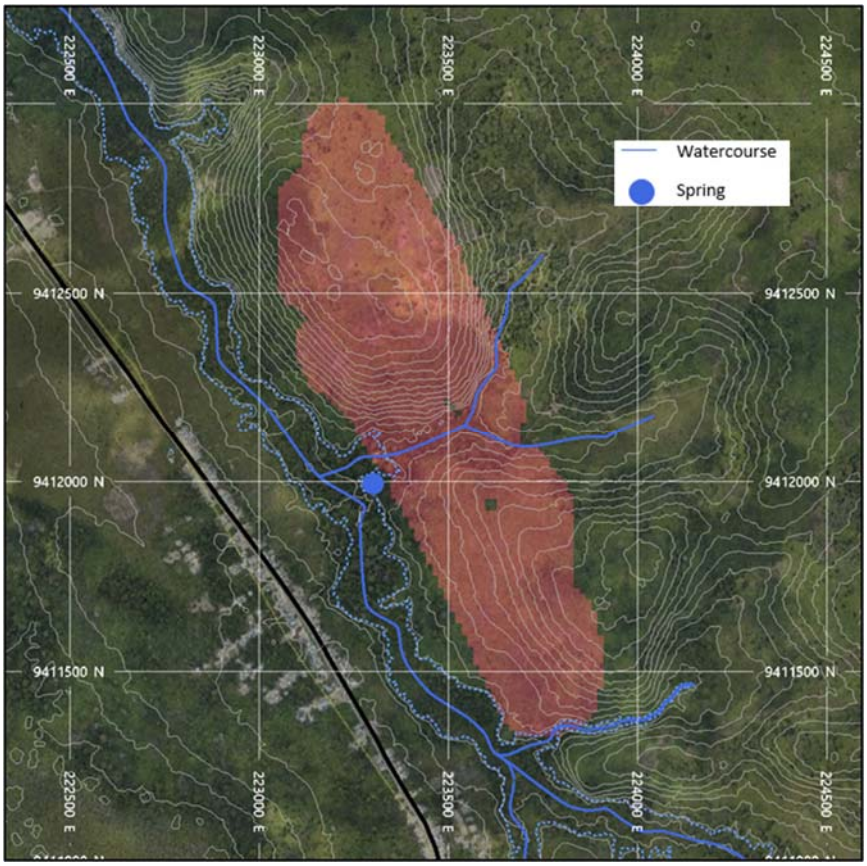


Figure 3-5: Cácata Prospect – Surface Water Features

Ground Water

Golder developed an initial conceptual hydrogeological model for the deposit which is shown in section in Figure 3-6 below. The key domains are shown in the Figure:

- Shallow Sand Aquifer – the sand aquifer, as the uppermost aquifer, is certain to be recharged by surface streams and will require dewatering will on both sides of the pit.

- Overburden Aquifers – the overburden consists of thin sand and silt bands that will form perched aquifers during the wet season but should have limited impact on mining activities.
- Phosphorite Aquifer – This is the source of most pit inflow. It is bounded by aquitards and therefore is unlikely to be recharged. While some pit inflow is anticipated where there is a direct link to the rivers/streams via faults, this should be manageable with conventional pit dewatering via sumps.
- Siltstone Aquitard – The underlying unit is a siltstone aquitard which may contribute to inflow into the pit as a hard rock aquifer.

It is assumed that the pit dewatering requirement is 2 – 5 l/sec for the duration of the project.

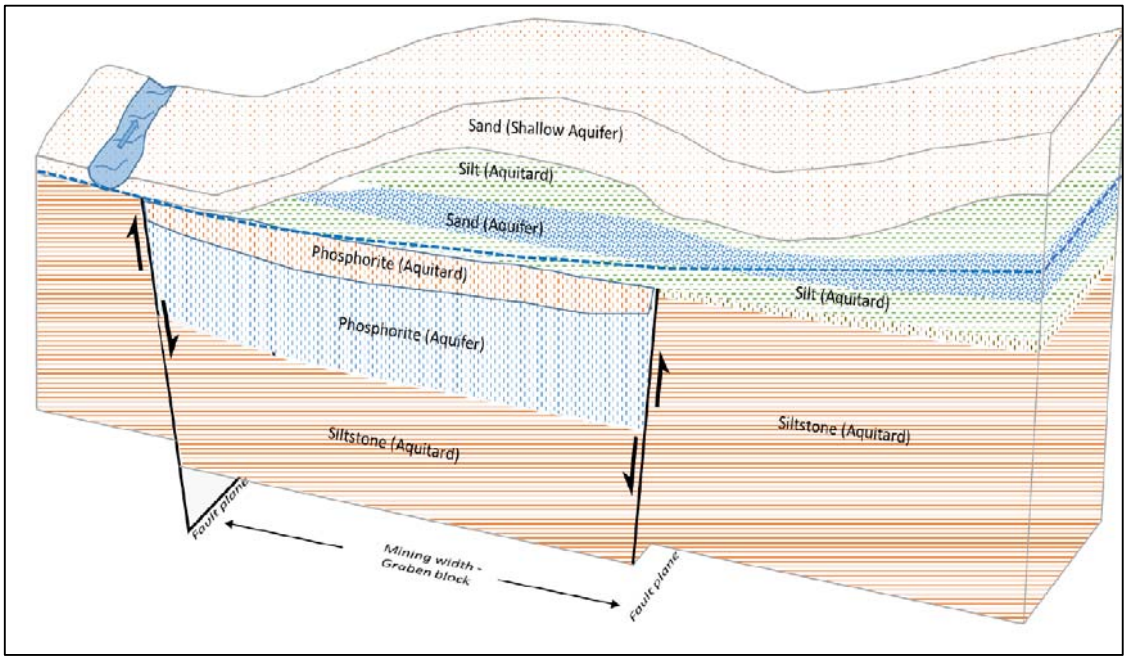


Figure 3-6: Prospect – Conceptual Hydrogeological Model Cross-section

3.4 Mine Design

Orelogy utilised the selected Shell 12 to complete an ultimate pit design employing the design criteria detailed in Section 3.2. A nominal road width of 18m two-way and 10m single lane was applied based on a 4m truck width (60t articulated truck). The design is shown in Figure 3-7 below. It is approx. 1.7km in length, 500m wide at the widest point and extends to 30m below surface at its deepest point.

Four staged pit designs were also completed to cover initial development of the open pit over the first five years of production. These are shown in Figure 3-8 below. Figure 3-9 provides an overall site layout including ex-pit infrastructure such as stockpiles, waste dumps, roads etc.

The pit will be mined through conventional truck and shovel mining methods applying a progressive backfilling and rehabilitation approach, with phosphate removal being followed by backfilling of overburden material. However initial waste will be placed on an ex-pit waste storage facility (refer to Figure 3-9) until sufficient mined out pit voids are available to commence backfilling. It is envisaged that this will be a free dig operation where no drilling and blasting activities are required.

Approximately one (1) hectare of initial clearing and grubbing of vegetation for the pits is assumed for the establishment of mining operations. Topsoil will be stripped and placed in storage stockpiles which will be used for rehabilitation of waste backfill as these areas are completed.

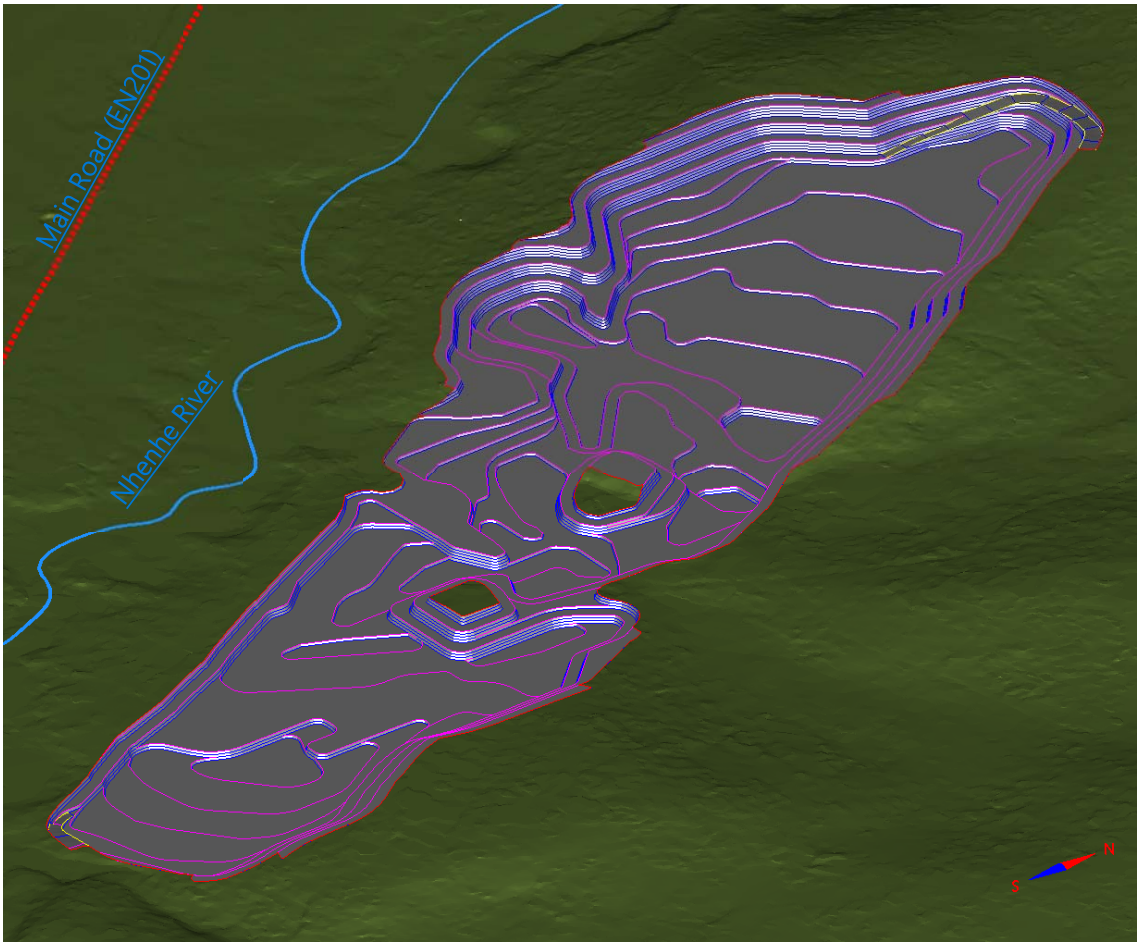


Figure 3-7: Ultimate Pit Design

The phosphate rock and waste rock will be loaded in pit with excavators and transported by dump trucks to the Run of Mine (ROM) stockpile or water stockpile/backfill respectively. A 2.5m bench height is planned for phosphate rock material and 5m bench height for waste material. These heights will be reviewed as part of the feasibility study when local mining contractors have provided an indication of preferred equipment sizing.

Some phosphate rock will be placed on low or high grade stockpiles over the life of the project to enable blending of the material to a consistent grade prior to it being trucked to the granulation plant.

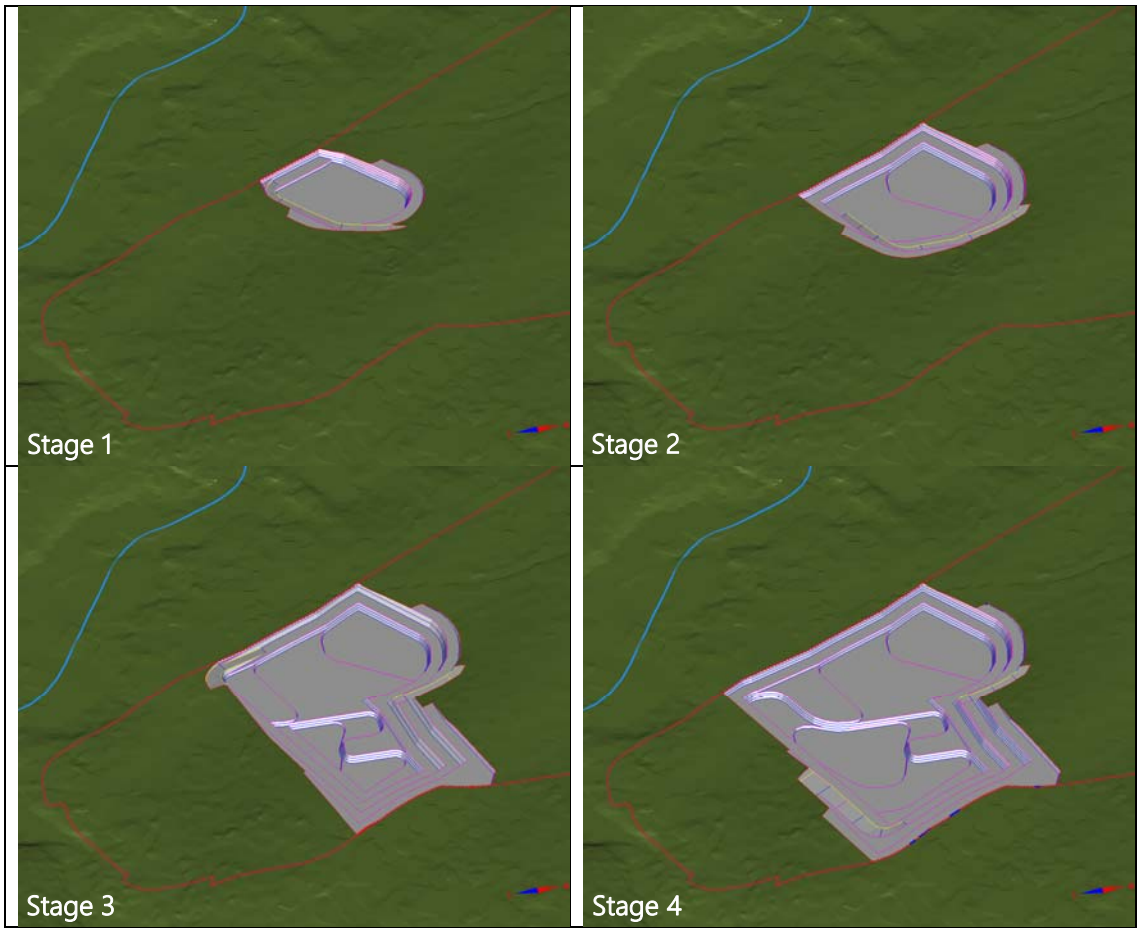


Figure 3-8: Initial Stage Designs

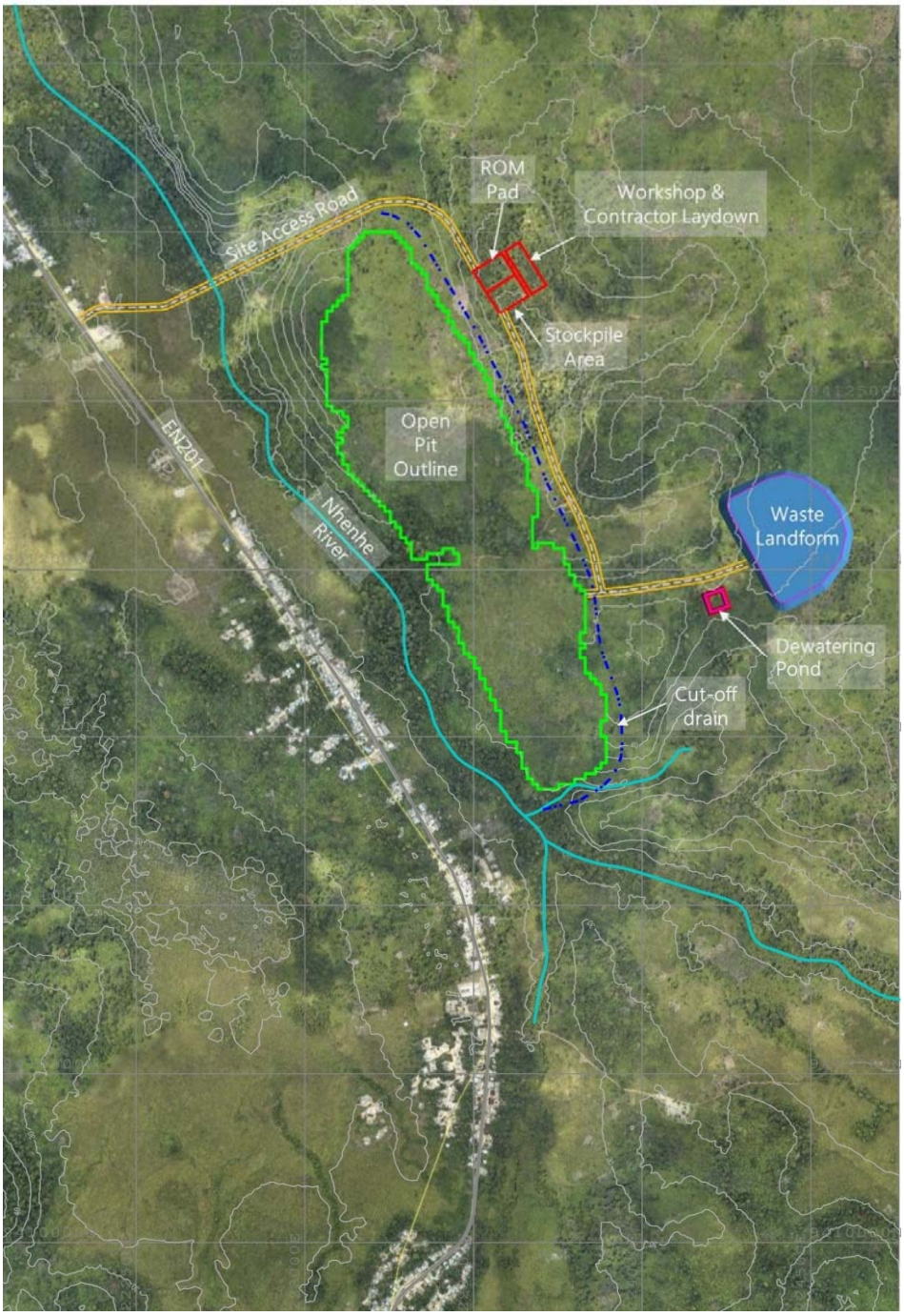


Figure 3-9: Cácata Site Layout

3.5 Conceptual Life of Mine Schedule

The open pit design detailed above that forms the basis of the Scoping Study comprises an inventory of 6.54Mt of plant feed mined at an average grade of 30.2% P_2O_5 and a strip ratio of 3.76:1 which will be mined over 21 years.

Of the 6.54Mt of plant feed mined 1.54Mt (24%) is in the Measured Resource category and 5Mt (76%) is in the Indicted Resource category – there is no Inferred material in the optimised pit design. In the first five years, 688kt will be mined at 30.2% P_2O_5, all of which is classified as Indicated.

In addition to the stage designs detailed in the previous section, the ultimate design was also delineated into a number of sequential slices approximating subsequent pit stages. These are shown obliquely in Figure 3-10 and in long section in Figure 3-11.

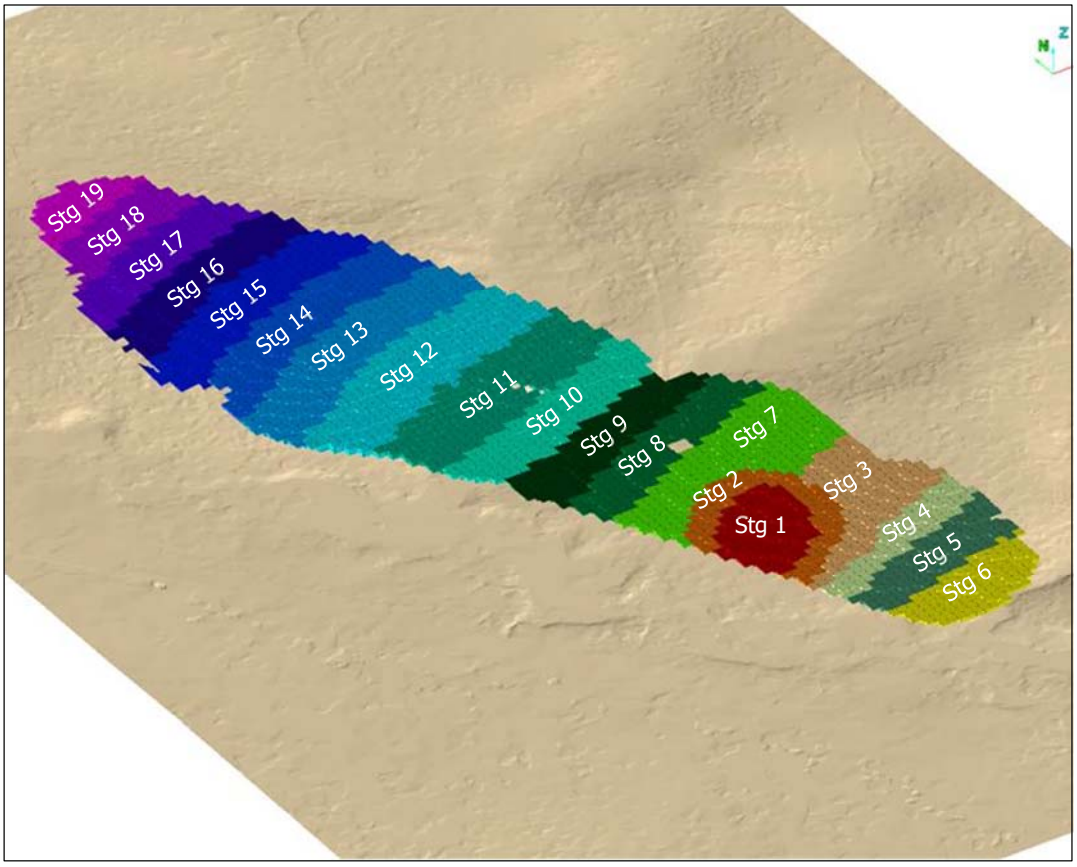


Figure 3-10: Pit Stage Layout

A conceptual Life of Mine schedule was developed for the Cácata deposit and the material movement from the pit to obtain the production target is shown in Figure 3-12. The target EPR production ramp-up for the LOM schedule was different to that used for the open pit optimisation and is detailed below.

Year	1	2	3	4	5	6	7+
Ktpa	50	100	150	150	300	300	450

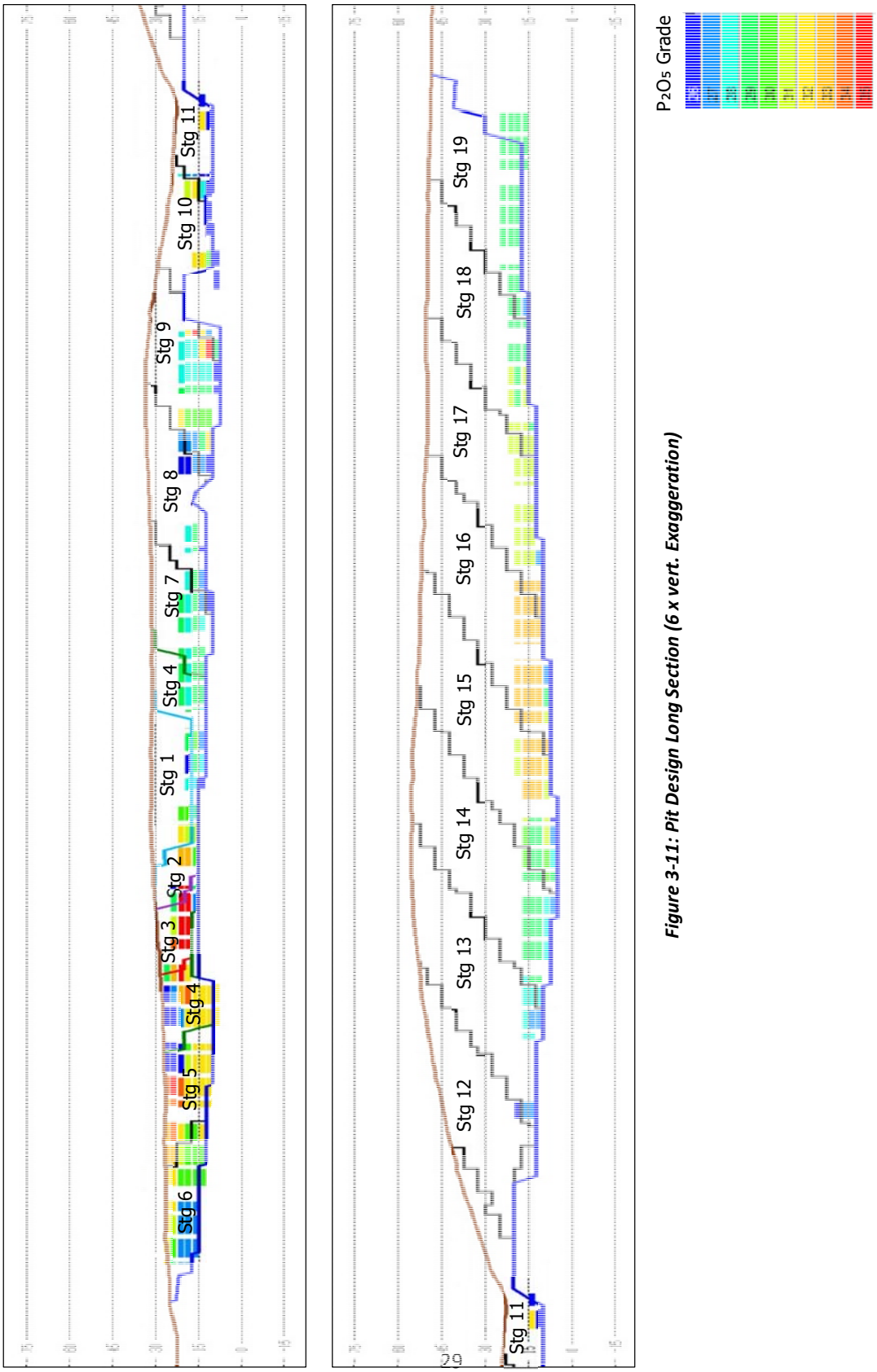


Figure 3-11: Pit Design Long Section (6 x vert. Exaggeration)

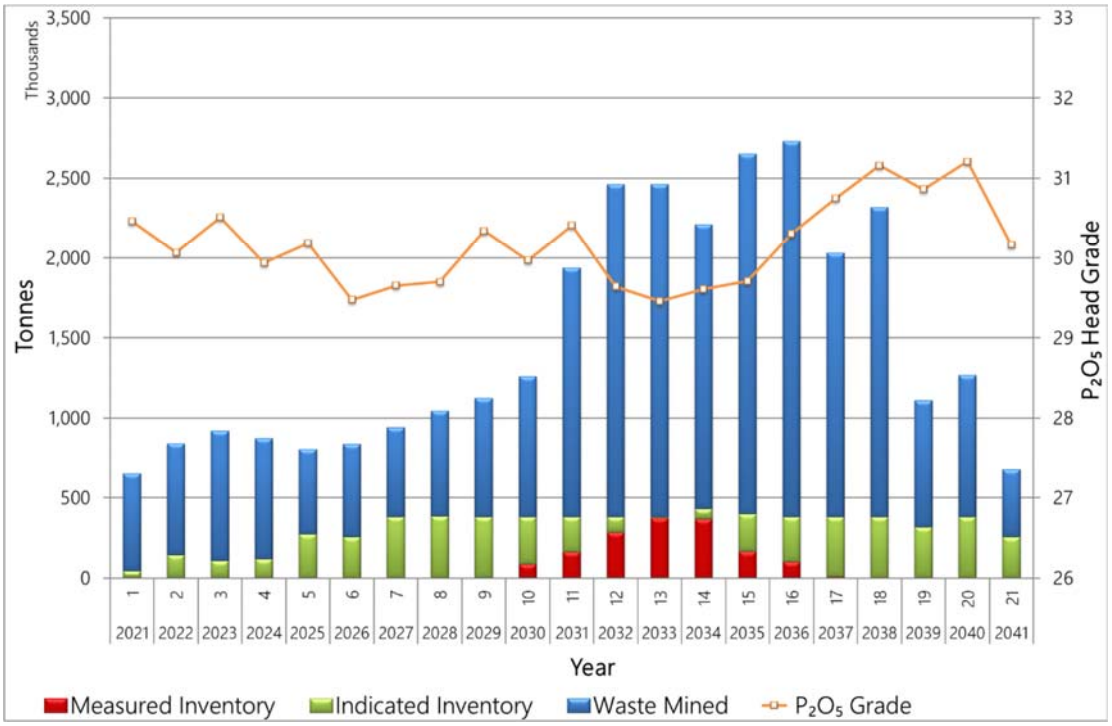


Figure 3-12: Conceptual Mining Schedule – Ex-Pit Material Movement

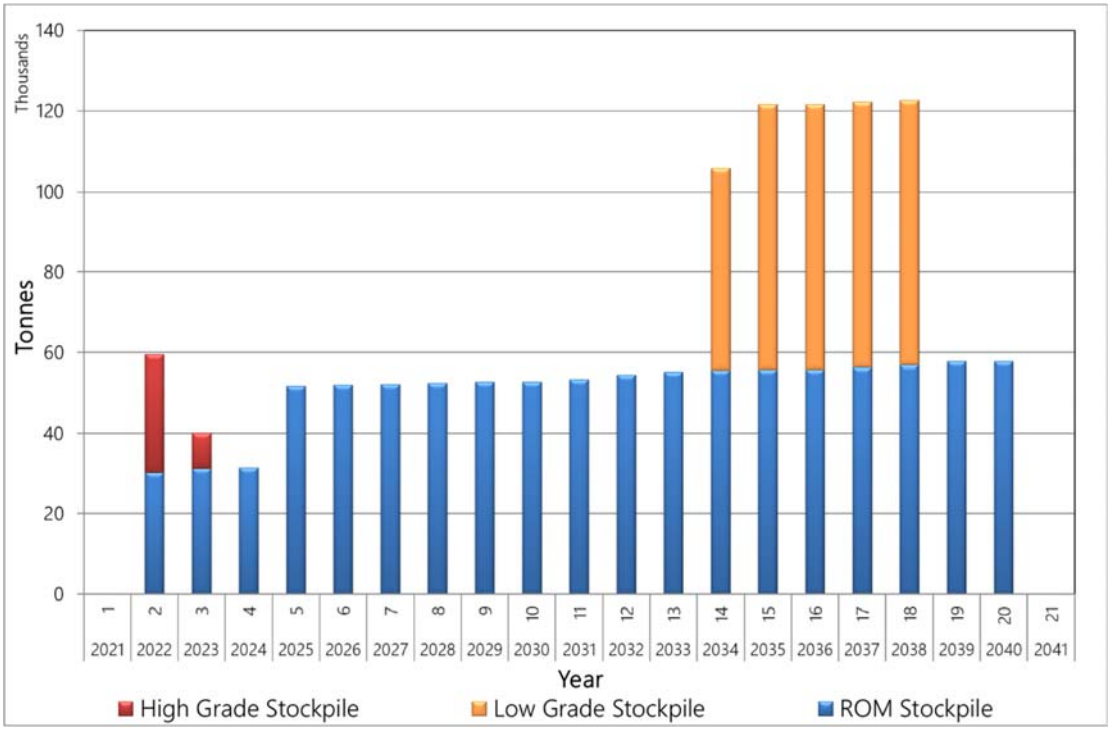


Figure 3-13: Conceptual Mining Schedule – Closing Stockpile Balance

It is assumed that the open pit mining will be carried out by a mining contractor with overview by an owner's team.

Figure 3-14: Bulk Sampling of Cácata Phosphate Rock

3.6 Water Supply

Given there is no processing taking place at the mine site, there will be minimal water required. Small amounts of operational water from pit dewatering will be used for dust suppression during the dry season.

Potable water estimated at less than 5m^3 per day will be obtained from local bores and treated through a small treatment plant

3.7 Power

The small amount required given there is no processing plant is estimated to be <300kW and be will most likely be provided by diesel generators.

3.8 Accommodation

Employees working on the mine are assumed to come from the local precinct or will travel forty minutes each day from Cabinda City. Hence, it is not envisaged that any accommodation will be built on site.

4 Product Agronomic Trials

Direct application of Phosphate Rock as a nutrient for agriculture is only possible for phosphate rocks with high solubility. Angolan phosphate rock is generally medium to low solubility and therefore not typically used for direct application.

In 2017 the International Fertilizer Development Center (IFDC) suggested a greenhouse trial at its campus Alabama to test a blend of Cácata Phosphate Rock with MAP (monoammonium phosphate), a commercially available water-soluble phosphate fertilizer (WSP). The trial was a logical extension of 40 years of experimental work by the IFDC with phosphate rock in directly application, and in conjunction with other WSP fertilizers such as Single Super Phosphate and Triple Super Phosphate.

The IFDC hypothesised that a blend of MAP with Phosphate Rock would be successful in typical Angolan soils and crops because:

- The water-soluble MAP would quickly provide the P nutrient necessary for the plant to establish its root system. This is known as the 'Starter Effect',
- MAP has a low pH of dissolution (4.8) which has been shown to accelerate the dissolution of the Phosphate Rock making it available for plant uptake. This is termed the 'Enhancement Effect', and
- Angolan soils are generally acidic, subject to high rainfall and deficient in P nutrient and therefore potentially suitable for Enhanced Phosphate Rock (EPR)

The initial trial conducted with winter wheat (due to the season) indicated that the relative agronomic effect (RAE) of Cácata Phosphate Rock blended with MAP was similar to MAP in acidic soils and warranted further investigation.

In 2019 the IFDC commenced a second trial of two consecutive crops of Maize harvested at 8 weeks and compared the dry matter yield of Cácata Blend vs MAP for initial and residual yields. Again the RAE was similar as shown in Figure 4-2, and the relative economic effect (REE), taking into account the relative cost of the Cácata Blend vs Map was superior to MAP for the combined dry matter yields.

When dismantling the Maize trial in 2019, IFDC staff noticed that remnant P granules were still present in the pots. Laboratory testing of the granules confirmed little or no nitrogen content suggesting the P content of the granules was Phosphate Rock not MAP. After the second maize crop had been harvested a third trial with sorghum was installed and grown to maturity. The results suggested that the blend granules continued to offer agronomic effect in a third crop. Further greenhouse trials are progressing to quantify the RAE in three consecutive crops grown to maturity.

Figure 4-1:Winter wheat trial of Cácata Blend vs MAP

As part of the partnership with the IFDC, 500kg's of Enhanced Cabinda Phosphate Rock was successfully processed at the IFDC's world-class granulation pilot plant in Muscle Shoals, Alabama. The granulation testing provided energy and mass flow data to enable FEECO International to provide a budget quote for a 20tph granulation plant.

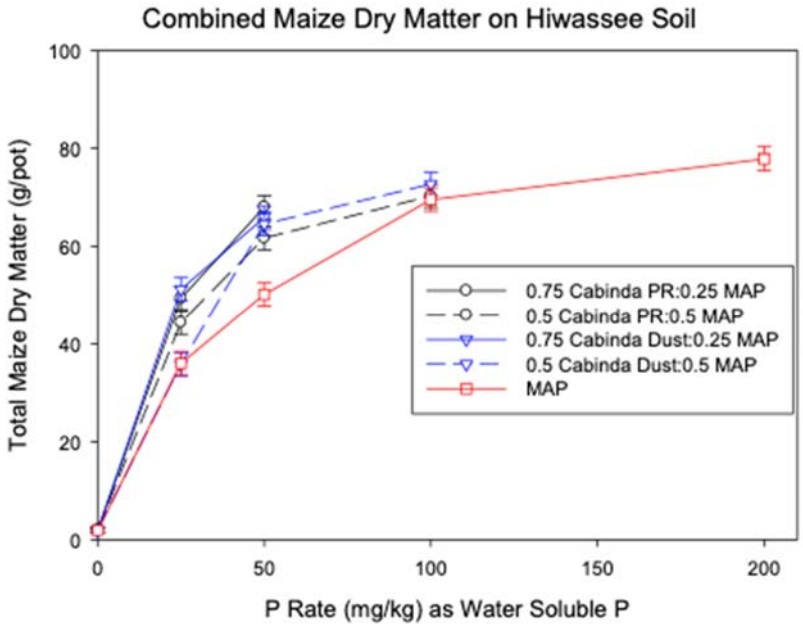


Figure 4-2: Combined dry matter yield of Maize, Cabinda Blends vs MAP soil pH 5.3 (IFDC 2019)

5 Granulation Plant

The granulation plant is planned to be built in the industrial area at Port de Caio. The plant will be nominally be designed to process 20tph of product with allowance to expand to 60tph.

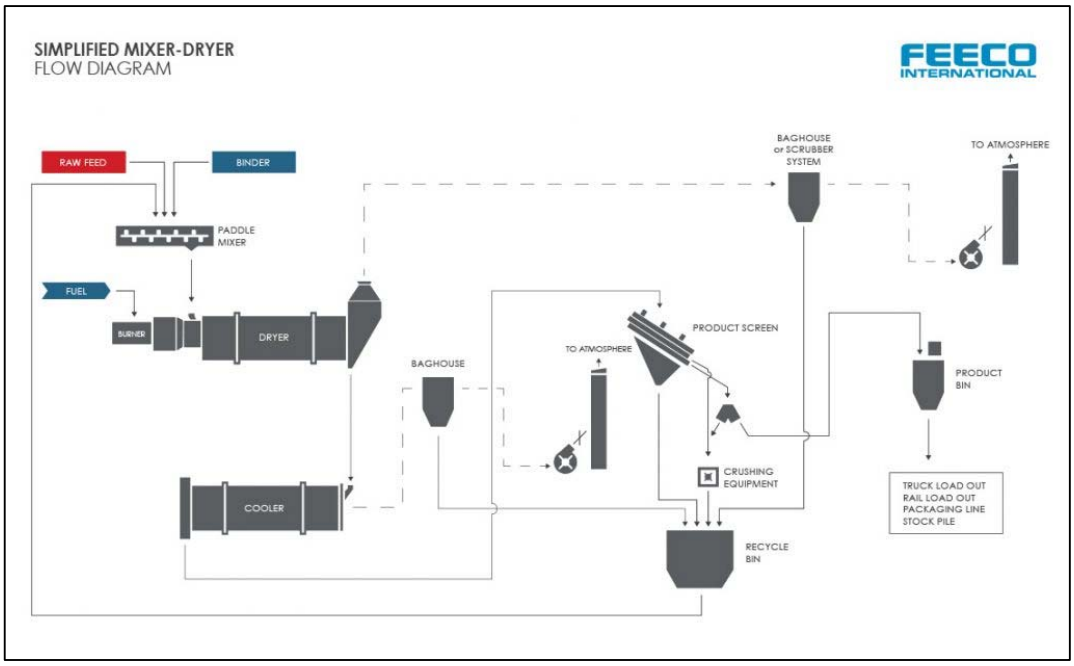


Figure 5-1: Granulation Plant Flow Diagram

IFDC conducted granulation test work at its granulation pilot plant in Alabama, USA. A five-day production trial using Cabinda phosphate rock and MAP to produce Enhanced Phosphate Rock recorded the process conditions and determined the product characteristics. Blends of PR and MAP at 75:25 and 62.5:37.5 by weight of P_2O_5 were fed into the pilot facility using molasses as a binder.

The process designed by FEECO based on pilot plant parameters from IFDC involves the agglomeration of phosphate rock (~84%) with MAP (~16%) in a drum granulator. Molasses will be used as a granulation aid. Steam and/or water will be fed to the granulator as needed to aid the agglomeration process. The granular material discharging from the granulator will enter into a dryer and from the dryer it will be transferred to a screening system where three fractions will be separated. The undersize fraction will be returned to the granulator along with the crushed oversize fraction forming the recycle. The product-size fraction will be sent to a product cooler and then, to the storage area.

The main input to the plant apart from the phosphate rock and MAP will be gas (or alternative fuel) for the operation of the dryer.

The installed energy requirement for the plant at 20tph will be approximately 700 kW of electricity and 30 million BTU/hr of natural gas for the dryer.

The plant will initially operate on reduced hours to produce 50ktpa of Enhanced Phosphate rock, increasing to nameplate capacity of 150ktpa in year 3. In year 5 a second plant is expected to be commission taking to production to 300ktpa and then a further expansion in year 7 to 450ktpa. Figure 5-2 below outlines the expected production profile over the life of the mine.

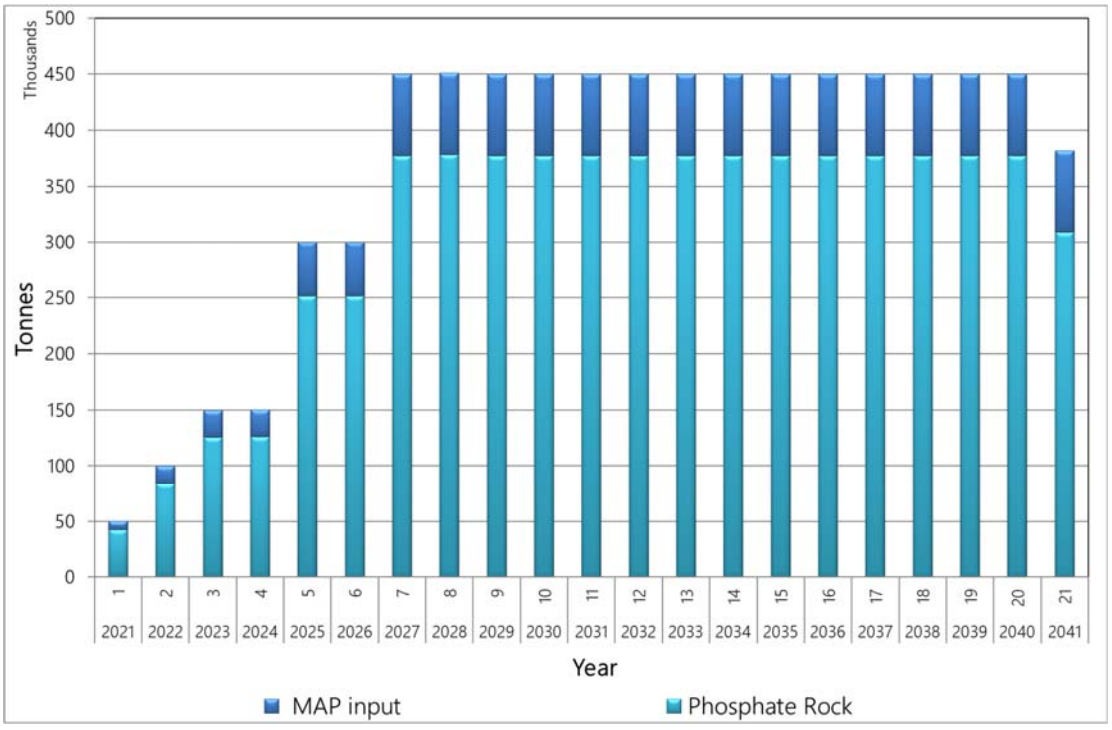


Figure 5-2: Enhanced Phosphate Rock Production Profile

The plant will be constructed on an industrial site at the Porto de Caio. It is expected that services such as power, water, sewerage and effluent treatment will be available at the industrial site and the Company plans to connect to these services.

6 Transportation

Phosphate Rock will be transported by conventional road haulage truck approximately 60km from the run of mine stockpile at Cácata to the granulation feed stockpile at Porto de Caio on existing bitumen roads. Front end loaders will be used to load the trucks from the run of mine stockpile.

Figure 6-1 Road to Cácata from Porto de Caio

Phosphate rock from the mine will be offloaded at the industrial site at Porto de Caio into a covered hopper feeding a conveyor. The material will be conveyed into a shed and stacked utilising an overhead tripper conveyor. The reclaim of the ore to the granulation plant will be done using front end loaders (FEL's) discharging into hoppers on the feed conveyor to the plant.

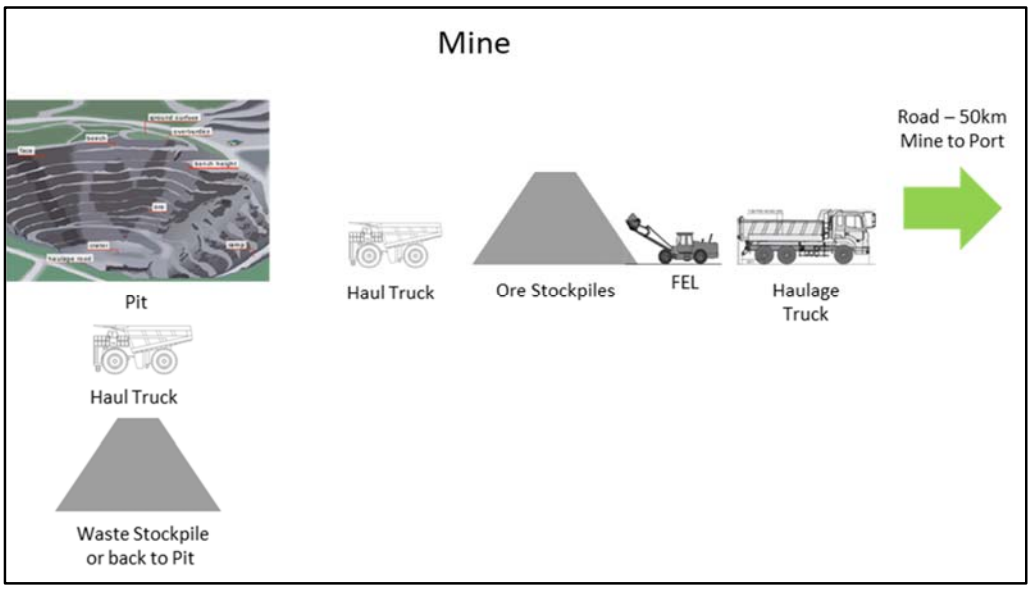


Figure 6-2: Mine Area Transport

Enhanced Phosphate Rock products will be bagged and placed in containers at the Granulation Plant ready for shipment from Porto de Caio. The containers will be loaded onto suitable low draft container barges and shipped to local and regional ports for transportation to agricultural and blending customers.

7 Port and Shipping

A port is currently under construction at Porto de Caio which will allow the import of raw materials and the export of final product.

Figure 7-1 Material Offload Facility (MOF) under construction Porto de Caio 2017

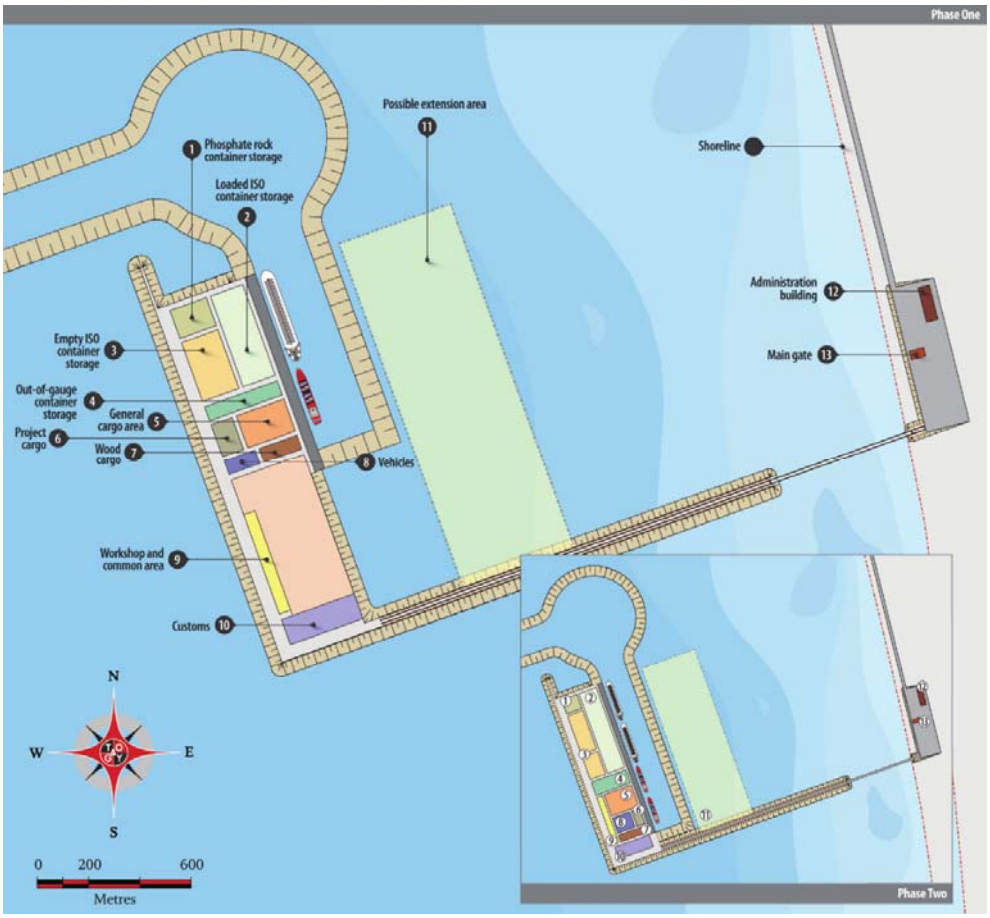


Figure 7-2: Porto de Caio Phase 1 and Phase 2 Plans

The Cabinda Phosphate Granulation Plant may be in production before the port is completed at which time the existing Material Offloading Facility (MOF) at Porto de Caio will be utilised by 'dumb' barges and tugs for importing and exporting.

8 Environmental and Social

8.1 Environmental

Environmental and social baseline studies at Cácata were carried out in 2011/12 by Prime Resources covering off on Ecology, Hydrology and Socio-economic factors.

Future studies and development of the mine will be done in compliance with the existent legal framework on environmental impact assessment, as well as on waste management. The following legal and administrative documents will be used to guide the preparation of the EIS:

- Constitution of the Republic of Angola (Constituição da República de Angola, 2010 – in particular articles 21, 39 and 89);
- General Environmental Law (Law No. 5/98, of 19th June);

- Presidential Decree on Environmental Impact Assessment and Environmental Licensing Procedure (Presidential Decree No. 117/20, of 22nd April);
- Join Executive Decree No. 130/09 of 29th November, about environmental licensing taxes;
- Executive Decree No. 87/12 on regulation for public consultations for projects subject to EIS;
- Executive Decree on the Terms of Reference for the Elaboration of EIS (Executive Decree No. 92/12, of 1st March); and
- Regulation on Waste Management (Presidential Decree No. 190/12, of 24th August).

Figure 8-1 Nhenhe River Cácata

8.2 Social

The Project will positively impact Cabinda Province, and will also have flow-on benefits for other provinces in the fertilizer and farm sectors. At a national level, the project will generate significant state revenue, lift the profile of Angola as an investment destination but most importantly will assist small farmers, alleviate poverty, and improve food security for the entire population. Benefits will include:

- Agriculture – the project can supply a large component of Angola's phosphate nutrient requirements plus the ability to customize a phosphate granule using micronutrients to improve yields.
- Employment – significant direct and indirect employment will be realised through construction and operation.
- Diversification of mining sector – the project will add a third commodity to Angola's diamond and hydrocarbon portfolio. More importantly, the project will present an inward-looking face to the Angolan resources sector rather than outward face presented.

- State Revenue – the project will contribute sizable revenue to the state through corporate tax and royalties over a long period of time.
- New Productive Sectors – the enhanced phosphate project will encourage the development of NPK blending facilities in the agricultural ports of Angola as the downstream customer of the project's product.
- Social and Training Plan - Minbos will invest a portion of revenue in social programs, apportioned to local, provincial, and national programs. The programs will target education and capacity building in Mineral Resources, chemical manufacturing, and agricultural nutrients.

9 Financial Information

A financial evaluation of the project using the Mine Production Target of 6.54Mt of phosphate rock suitable for granulation plant feed at a strip ratio of 3.76 : 1 (waste : ore) over a life of mine of 21 years.

The granulation plant will be commissioned with a nameplate capacity of 150,000tpa of Enhanced Phosphate Rock (forecast to commence production at 50,000tpa) and expand to 450,000tpa by 2028 with the addition of two additional granulation circuits. The key financial results are summarised in Table 9-1.

Table 9-1 Key Financial Metrics

KEY FINANCIALS	US$M		
Revenues	$1,633	-	$2,134
Operating Cost	$884	-	$1,030
Capex Initial	$28	-	$22
Capex Sustaining	$26	-	$26
Life of Project Pre-Tax Cashflow	$690	-	$1,050
Company Tax	$135	-	$200
Life of Project Free Cashflow	$555	-	$849

9.1 Capital Costs

The pre-production capital expenditure for phase 1 is detailed in Table 9-2.

The mine pre-production capital has been estimated using the pre-production material movements from the Orelogy mine plan and the unit mining rates estimated in the first phase of the 2016-17 bankable feasibility study. The capital estimates for groundwater control installation, mine stockpiles and roads are taken from the Ausenco (2017) study. The Company is not aware of any new information or data, other than disclosed in this report, that materially affects the assumptions and parameters underpinning the Ausenco study.

The capital cost estimate for the Granulation Plant Equipment is based on a quotation compiled by FEECO for a 20tph granulation plant using the data from pilot plant test work undertaken by the IFDC. The estimates for site earthworks, administration infrastructure, laboratory, and raw material storage are based on the 2017 Ausenco study and factored for scale. The cost of utility connection for water

and electricity is a nominal estimate based on the proximity of the connection points within 1km of the proposed granulation plant location.

Minbos signed an MOU with Porto de Caio in 2015 and the Cácata Project was allocated storage space on the quay for phosphate containers (See **Error! Reference source not found.**). Porto de Caio will have its own mobile equipment and cranage. The Cabinda Phosphate Granulation Plant may be in production before the port is completed and an internal allowance for a temporary product storage and mobile equipment for container movement has been included in the capital estimate.

Indirect costs are based on industry standard factors for projects of this nature and scale and a contingency of 15% is included on all direct and indirect items excluding the FEECO equipment quotation.

The financial cashflow includes sustaining capital of US$25.5M to add a second and third granulation circuit in years 5 and 7 and thereafter sustaining capital of US$0.75M per annum.

Table 9-2 Pre-production Capital Expenditure Estimate

AREA	RANGE US$M		PREFERRED US$M	PROPORTION %
Mine Preproduction	1.6	1.9	1.65	7%
Groundwater Control	0.1	0.3	0.18	1%
Stockpiles and Roads	1.6	1.9	1.76	7%
SUBTOTAL MINING	**3.3**	**4.1**	**3.59**	**14%**
OEM Granulation Equipment	5.3	5.3	5.28	21%
Site Earthworks	0.9	1.1	0.99	4%
Warehouse, Admin and Workshop	1.0	1.3	1.16	5%
Laboratory	0.8	1.0	0.92	4%
Raw Material Storage	1.5	2.5	2.00	8%
Utility Connection	0.4	0.6	0.50	2%
SUBTOTAL GRANULATION	**9.9**	**11.8**	**10.85**	**43%**
Product Storage Pad	1.7	2.3	2.00	8%
Mobile Equipment	0.8	1.2	1.00	4%
SUBTOTAL PORT	**2.5**	**3.5**	3.00	12%
SUB TOTAL DIRECTS	**15.7**	**19.4**	**17.44**	
EPCM Labour and Expenses	1.1	1.4	1.22	5%
Commissioning	0.8	1.0	0.90	4%
SUBTOTAL ENGINEERING	**17.6**	**21.8**	**19.56**	
Owners Costs	1.8	2.2	1.96	8%
TOTAL DIRECT + INDIRECT	**20.2**	**24.9**	**22.41**	
Contingency	2.2	2.9	2.57	10%
TOTAL	**22.4**	**27.9**	**24.98**	

9.2 Operating costs

The Project has an estimated C1 cash cost of US$149 per tonne of Enhanced Phosphate Rock including shipping charges to destination ports.

Raw material input costs make up approximately two thirds of the C1 cash costs of which purchased MAP comprises 50% of the cash costs, and the delivered cost of Phosphate Rock to the granulation plant makes up only 15% of the costs. Table 9-3 presents the breakdown of operating costs for phase 1 (single granulation circuit) of the project operating at nameplate capacity of 150,000tpa.

Table 9-3 Phase 1 Operating Costs (CNF)

AREA	PROPORTION %	US$/TONNE
MAP Input Costs	50%	73.66
Waste Mining	10%	15.04
Ore Mining	2%	2.38
Road Transport	3%	4.23
Granulation Costs	10%	14.97
Barge Costs	6%	9.30
Port Charges	4%	6.00
Community and Social	2%	2.61
Overheads	13%	20.00
Royalties	0%	0.34
COST PER TONNE SOLD	**100%**	**148.54**

Mining Costs are based on the Coffey 2011 and Ausenco 2017 studies which estimated variable mining cost between US$2.50 and $US2.75 per tonne of material mined. As noted earlier in this report, the deposit is shallow, and the ore is free digging and will not require blasting or ripping. This Scoping Study uses a mining cost of US$3/t of material mined.

Road Transport Costs are based on a typical industry standard 10 cents per tonne kilometre for sealed road fixed chassis trucks and are in line with previous study estimates of 8.7-9.3 cents per tonne kilometre.

Granulation Costs are based on a budget proposal from FEECO International Inc. Energy consumption for a 20 tonne per hour granulation circuit is estimated at 25 million BTU/hr of gas and 567kW of electricity. At prevailing international prices, the energy cost per tonne of enhanced phosphate rock production is calculated at just under US$6. Energy typically makes up ~50% of the variable operating cost for a granulation plant. This Scoping Study uses a unit operating cost of US$15 per tonne of output from the granulation plant.

Barge Costs are comprised of standard charter rates for tugs, daily marine operating expenses estimated for a Tug and 5000t barge combination estimated by Ports of Africa (2012), and fuel costs based on return trips between Porto de Caio and Luanda at an average speed of 5 knots. At full production from one granulation circuit (150,000tpa) 120 days of shipping will be required at a daily rate of $11,630 per day equating to US$9.30 per tonne of product.

Porto de Caio is expected to be fully operational before the granulation plant is expanded and cheaper shipping options will then be available, however as the timing and nature of these options are uncertain the barging unit cost of US$9.30 per tonne has been applied to the life of the project.

Business opportunities for back freight to Cabinda are substantial but have not been included in the evaluation. Cabinda is isolated by water from the rest of Angola and much of the freight to Cabinda comes 1,000km by road via the Democratic Republic of Congo. Road freight rates for 20' and 40' containers from Luanda to Cabinda are around US$1,750 to US$3,500 respectively.

Port Costs were reviewed by Ausenco (2017) for comparable projects in its data base for Africa and the rest of the world. For projects less than 5Mtpa the port tariffs for dry bulk commodities averaged US$ 2.53 per dry tonne with a range US$0.53 – 8.63 per tonne. This Scoping Study uses port charges of US$6 per dry tonne.

Community and Social Costs are based on the Company's commitment in the public tender to spend 1% of sales revenue on community and social programs as outlined in section 8.2.

Overheads of US$3M per annum are adapted from estimates in the Ausenco (2017) and Coffey (2012) studies.

Royalties of 2% or phosphate rock sales are based on the rate specified in the Angolan Mining code for 'other minerals.'

The Company is not aware of any new information or data pertaining to operating costs, other than disclosed in this report, that materially affects the assumptions and parameters underpinning the historical studies referred to in this report.

9.3 Exchange Rates

This Scoping Study denominates revenue, capex and opex in US$ in line with historical studies and the economic submission stipulations of MIREMPET. It is likely a small proportion of the capex and opex will ultimately be denominated in Angolan Kwanza however the exchange rate exposure is anticipated to be minimal and has not been considered in this study.

9.4 Commodity Pricing

Independent pricing forecasts have not been sought for this scoping level study. The price of the enhanced phosphate rock is determined by its relative agronomic effectiveness (RAE) in comparison to MAP (monoammonium phosphate) on an equivalent contained P_2O_5 basis as determined by independent agronomic trials carried out by the IFDC. In soils and crops typical of Angola a 75:25 P blend of Phosphate Rock and MAP performed at a RAE of 85%. The Scoping Study product price is based on the MAP price and adjusted pro-rata for RAE and P content.

This Scoping Study uses the experimental RAE of the enhanced Cabinda phosphate rock relative to MAP as determined by IFDC. In practice the Cabinda product will be blended with N and K granules to compete with imported fertilizers of a fixed NPK ratio. The ability to tailor the NPK ratios and also add micronutrients specific to crops and soils will improve the 'commercial' RAE of the Cabinda enhanced phosphate rock. Greenhouse and field trials to quantify the commercial RAE are being undertaken as part of the definitive DFS. The market strategy will target soils and crops where the RAE of enhanced phosphate rock is most advantageous.

MAP trades at a similar (+/-5%) price to DAP (diammonium phosphate) for which the historical monthly prices f.o.b. US Gulf are published in the World Bank Commodity Prices Pink Sheet Data. The

average price in the last 10 years is US$428/t with a 10-90 percentile range of US$305 – 593 per tonne. (See Figure 9-1).

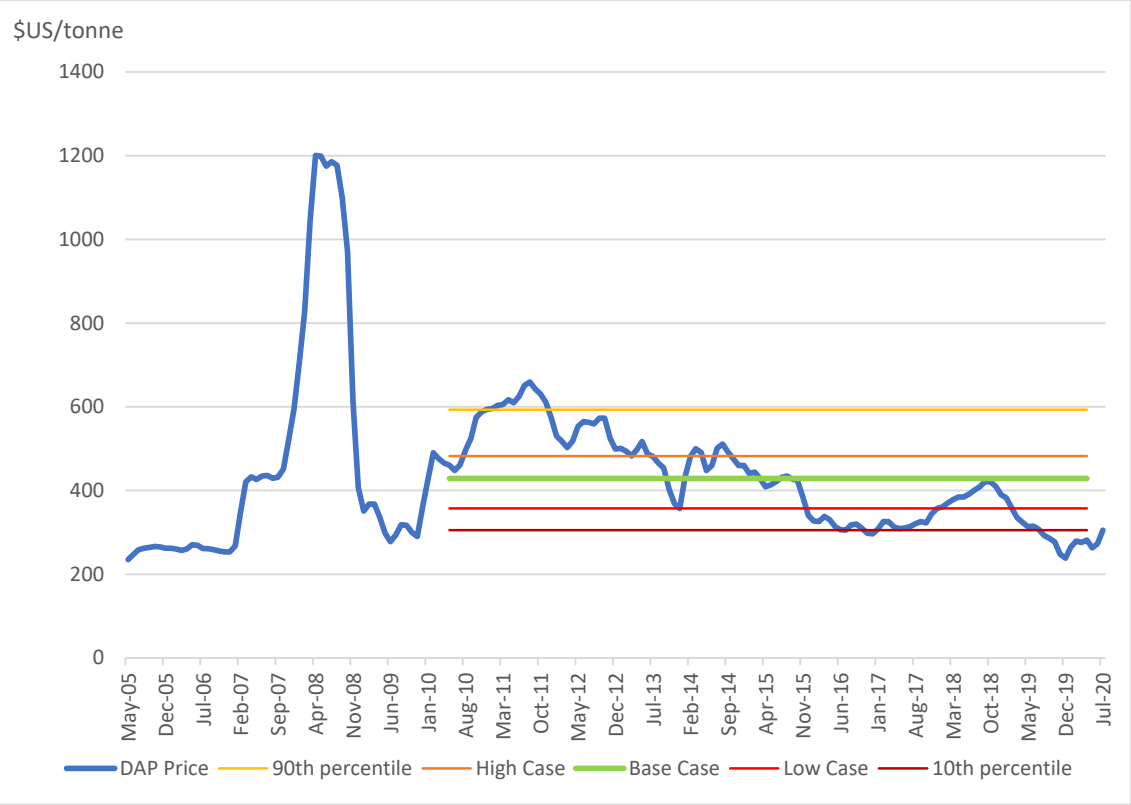


Figure 9-1 World Bank DAP Price and Scoping Study Case Prices

This Scoping Study applies a $50 per tonne ex-port mark-up to adjust for the cost of MAP landed in Angola. At the time of writing market commentators are reporting ex-port mark-ups of around $65 per tonne for other south Atlantic ports. This Scoping Study uses a base case MAP price of US$478 and the 33-66 percentile third range of $US407 - 532/t for the low and high case.

EXAMPLE EPR PRICE DERIVATION		
DAP f.o.b. US Gulf		428
Add ex-port mark up		50
		478
Adjust for relative P content	64%	306
Adjust for RAE	85%	260

The base case selling price of EPR derived for use in this study is US$261 per tonne with a range of US$222-291/t for the low and high case.

9.5 Economic Analysis

Pre-tax and after-tax project cashflows are shown in Figure 9-2 and Figure 9-3.

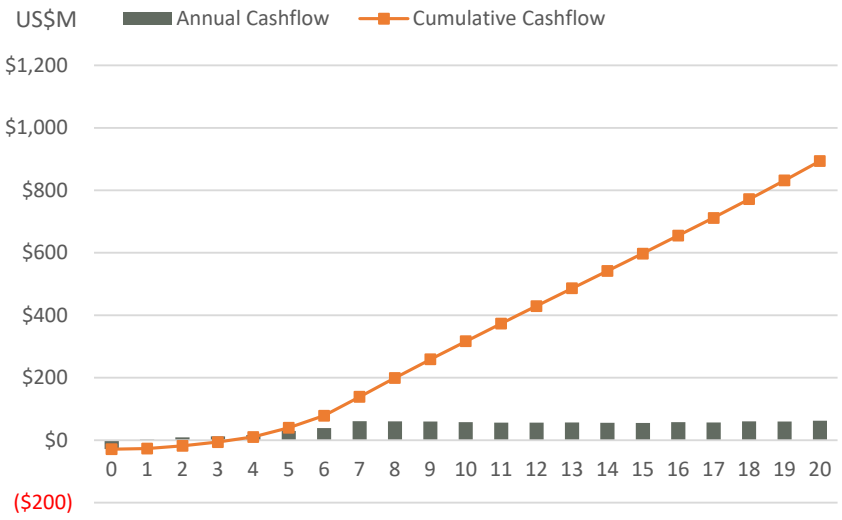


Figure 9-2 Forecast Pre-Tax Cashflows for Cabinda Phosphate Project (selling price US$261/t)

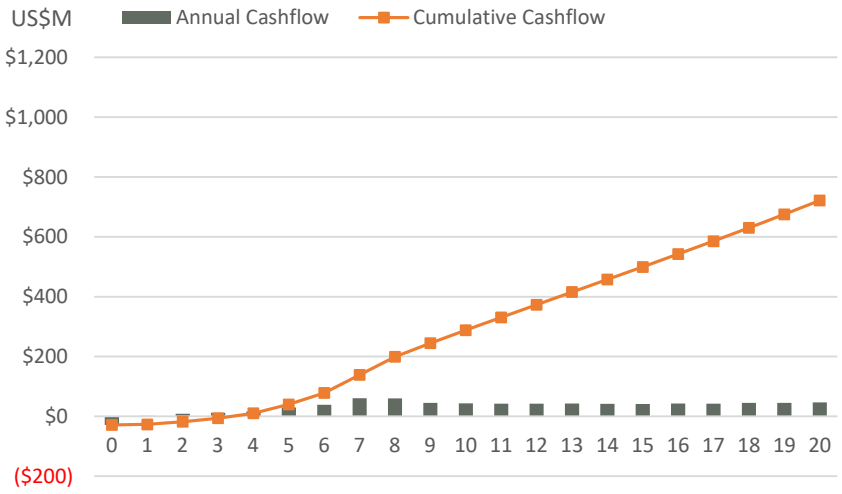


Figure 9-3 Forecast After-tax Cashflow for Cabinda Phosphate Project (selling price US$261/t)

9.6 Sensitivity Analysis

A sensitivity analysis of the major project parameters was conducted to identify sensitive parameters for further stress testing. The sensitivity of pre-tax NPV to a +/-20% movement to; pre-production capital, mining operating costs, granulation operating costs, MAP price and Relative Agronomic Effectiveness (RAE) are shown in Figure 9-4. The base case values for the sensitivity parameters are shown in Table 9-4

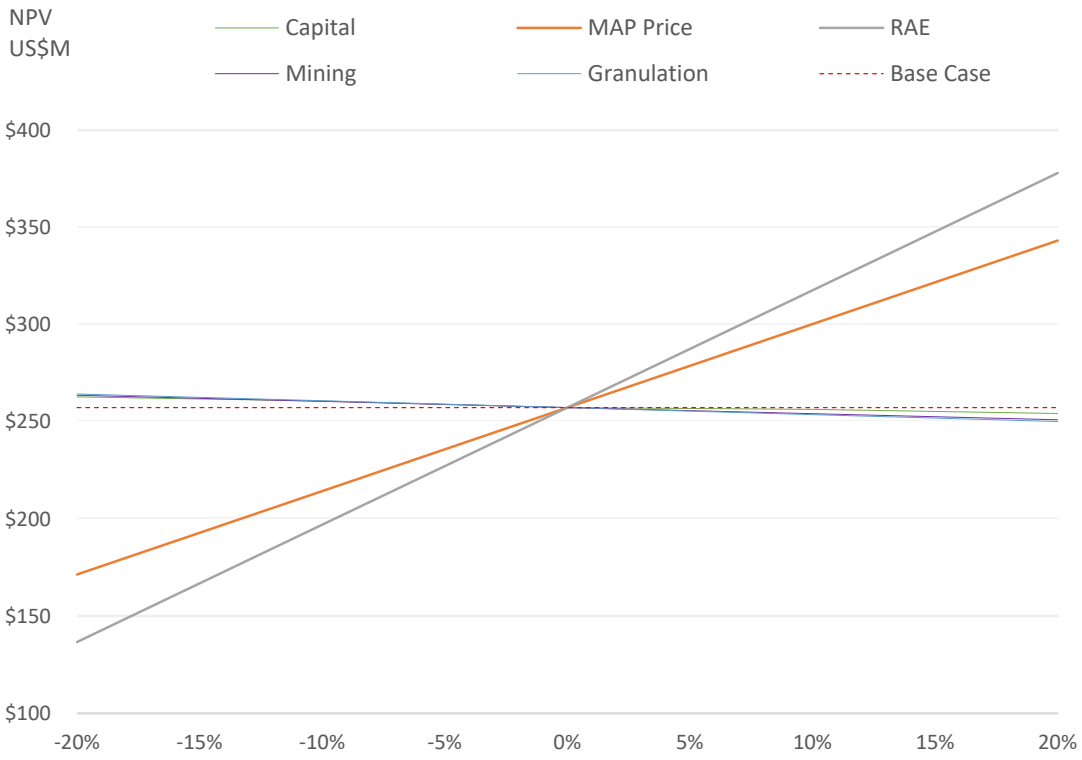


Figure 9-4 Project Pre-tax NPV Sensitivity Analysis (US$M)

Table 9-4 Project Pre-tax NPV Base Case Parameters

PARAMETER	UNITS	BASE
Capital	US$M	-$24.98
MAP Price	US$/t	$478
RAE	% MAP	85%
Mining Costs	US$/t mined	$3.00
Granulation Costs	US$/t prod	$14.97
OUTPUT	**DISCOUNT RATE**	**US$M**
Pre-Tax NPV	10%	$257

The project is not very sensitive to initial CAPEX because the initial capital is low relative to the project value. The project is not sensitive to controllable OPEX (mining and granulation cost) because these items make up a relatively low proportion of the total cost of goods sold compared to the major input cost of purchased MAP.

The project is most sensitive to Relative Agronomic Effectiveness (RAE) of the enhanced phosphate rock in comparison to MAP on a contained Phosphate basis. IFDC Greenhouse trials have identified the soils, climate conditions and crop types for optimal RAE. In general, these conditions are acidic -

phosphate poor soils, high rainfall and crops that uptake nitrogen as NH_4++ and create a favourable rhizosphere for phosphate rock dissolution. These conditions are typical in tropical and sub-tropical climates and pre-dominate the Angolan agricultural regions.

The project is sensitive to the price of MAP from which the sales price per tonne is directly derived, however the sensitivity of the project NPV to MAP as the revenue driver is muted because MAP also contributes approximately half of the operating costs. The MAP price acts as a partial hedge for the project, as the cost of MAP input increases it is outpaced by the MAP derived sales price. Table 9-5 shows the sensitivity of key project metrics to extreme movements in the price of MAP (10 year 10th-90th percentile prices).

Table 9-5 Sensitivity to Extreme Movements in MAP Price

SCENARIOS		BASE CASE	MAP PRICE	
			10 Percentile	90 Percentile
Capex	US$M	25.0	25.0	25.0
MAP Price	US$/tonne	478	**345**	**643**
RAE	% of MAP	85%	85%	85%
Mining	US$/t mined	3	3	3
Granulation	US$/t product	15	14.97	14.97
Pre Tax NPV	US$M	257.3	137.8	405.7
IRR	%	51%	36%	66%
After Tax NPV	$USM	216.1	113.3	343.7
IRR	%	50%	34%	66%
Year 3 EBITDA	US$Mpa	16.9	9.1	26.4
Year 7 EBITDA	US$Mpa	61.3	38.1	89.9

The sensitivity of the Project to MAP price is dampened because as MAP price increases (decreases) it simultaneously increases (decreases) operating costs and sales revenue.

10 Project Funding

Based on the Project Scoping Study results, there are reasonable grounds to believe the Project can be financed in the future. It is most likely that any financing will be undertaken by a combination of debt and equity.

Minbos will have a beneficial interest of 85% in the project and is required to carry its in country partner Soul Rock though to cashflow. The contributions made on behalf of Soul Rock will be recovered from cashflow.

It is envisaged that the debt will most likely be sourced from African commercial and development banks and/or social impact credit funds. Minbos has appointed Alphier to assist with the procurement of project financing for the project. Alphier is confident that the social impact of the project to improve food security and nutrition outcomes in Middle Africa will make it attractive to social impact funds for both debt and equity.

Several factors will influence the ability of Minbos to secure funding including (but not limited to) a requirement to have a 'bankable' off-take agreement, favourable debt and equity market conditions.

It is possible that the funding may be dilutive to, or otherwise affect the value of the Company's existing shares. It is also possible that the Company could pursue other strategies to provide funding options including asset sales, a corporate transaction or an off-take partnership.

The Scoping Study is a project level study and consequently the sources, forms and costs of the capital required to develop the mine have not been accounted for in calculating the financial returns demonstrated by the Scoping Study.

11 Implementation and Schedule

This Scoping Study is based on a Mining Production Target wholly based on Mineral Resources in the Measured and Indicated categories.

The mining and road transport analysis is informed by previous studies, including a PFS level Trade-Off Study completed in 2017-18 by Ausenco which identified the preferred mining method, and equipment sizing for mining and road transport of un-beneficiated phosphate rock from Cácata to Porto de Caio.

The granulation and shipping analysis is informed by granulation test work undertaken by IFDC, a budget proposal for a 20tph granulation plant from FEECO International, and a desktop study undertaken Ports of Africa which analysed tug and barge transhipment.

The value in use analysis of the Enhanced Phosphate Rock granules is informed by greenhouse trials undertaken by the IFDC in the USA, and field trials at the Angolan Institute of Agronomic Investigations in Huambo in respect to the RAE of the product.

The results of this study and previous studies are considered sufficient to move to a DFS because:

1. The PFS level trade-off study conducted by Ausenco identified the preferred development and equipment options for the mine and road transport.
2. The granulation facility proposed in this study incorporates operational flexibility with respect to product specification, production rates and capacity expansion and therefore optimisation studies would provide little value
3. The project is relatively insensitive to mine operating and project capital costs such that further optimisation prior to DFS is not warranted.
4. The Resources are already classified as Measured and Indicated and no further drilling has been recommended.

A Definitive Feasibility Study (DFS) is expected to take six to nine months to complete and obtain all approvals for construction and operations of the project. Once this is complete, Minbos will be able to make a Final Investment Decision (FID) and then subject to financing, commence construction.

The approvals are currently estimated to be the critical path. Subject to no significant delays, construction could commence around the middle of 2021 with first production by the end of that year.

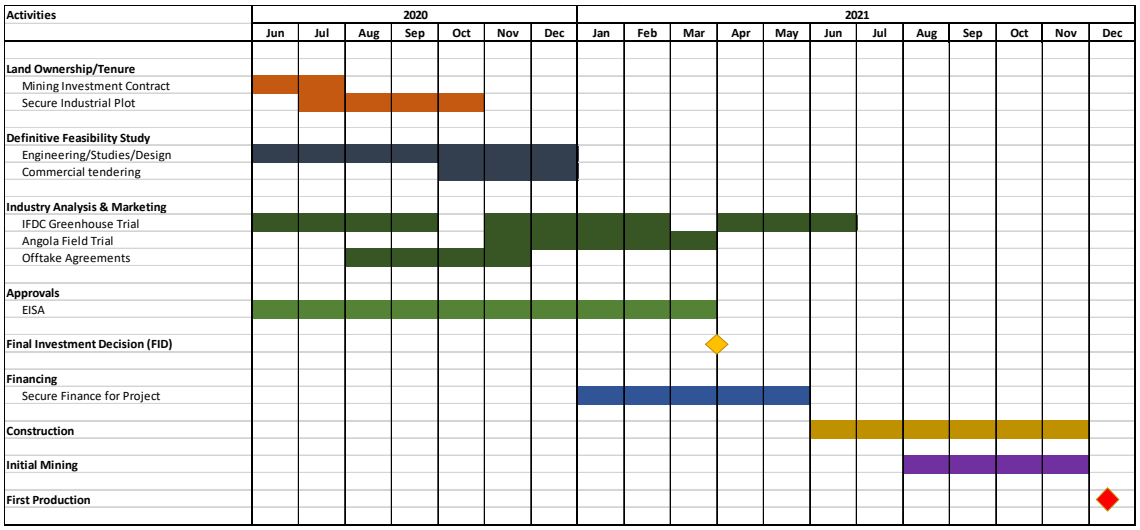


Figure 11-1: Project Schedule

12 References

- Ausenco: Mongo Tando Limited Cácata Phosphate, Feasibility Study Stage 1 Trade-Off Study Report (12 May 2017)
- Ausenco: Mongo Tando Project Bankable Feasibility Study – Phase 1, Ports and Logistics
- Coffey Mining: Cabinda Phosphate Project – Mineral Resources, Update 2013
- Coffey Mining: Cácata Area Cabinda Phosphate Project (May 2012)
- Diner: Catata Bulk Sampling, Bulk sampling in the Cácata phosphate deposit, Cabinda, Angola (May 2016)
- GM Mining Services: Geology & Mining Stage 1 Study, Cácata Phosphate Project (April 2017)
- Golder Associates: Technical Memorandum (Dec 2016)
- IFDC: Evaluation of Cabinda Phosphate Rock and Cabinda Dust on Wheat (Jan 2019)
- IFDC: Minbos Phosphate Rock Trials on Maize Grown on Hiwassee and Greenville Soils (Jan 2019)
- IFDC: Evaluation of the Technical Feasibility of Producing Granular Phosphate-Based Fertilizers by Granulating Phosphate Rock and Monoammonium Phosphate (Oct 2019)
- Minbos Resources: ASX Announcement, Additional Information of Resource Upgrade for the Cabinda Licences in Angola (05 December 2013)
- Minbos Resources: Cabinda Work Program, Technical Capability and Community Plan
- MRL – MIC – Economic Analysis 1.8
- Ports of Africa: Desktop Study (2012)
- Prime Resources: Desktop Review and Gap Analysis for the Proposed Cácata Phosphate Project (Sept 2016)
- Prime Resources: Environmental and Social Baseline Report for the Proposed Cabinda Phosphate Project, Cabinda Province, Angola (2012)
- Prime Resources: Legal Framework for the Proposed Cácata Phosphate Project, Cabinda Province, Republic of Angola (Sept 2016)

Appendix 2 – JORC Table

The following Table sourced from the JORC Code (2012) is provided as advised in the ASX Scoping Study Interim Guidelines.

Section 4 Estimation and Reporting of Ore Reserves modified for a Scoping Study which includes an approximate Production Target and/or Forecast Financial Information.

No JORC Code (2012) Ore Reserves are being reported.

(Criteria listed in the preceding sections, contained in the ASX Announcement of 5 December 2013, also apply to this section).

Criteria	JORC Code explanation	Commentary
Mineral Resource estimate for conversion to Ore Reserves	• *Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.* • *Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.*	• No JORC (2012) Ore Reserve estimate has been classified or reported. • The preliminary production target is based on the Mineral Resource for the Cabinda Phosphate Project of 27Mt at 17.7% P_2O_5, classified in the Measured, Indicated and Inferred categories and reported in the ASX Announcement of 5 December 2013. • The Competent Person for the Mineral Resources is Mrs Kathleen Body of Red Bush Analytics and formerly of Coffey Mining (2006-2016)

Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.*
	• *If no site visits have been undertaken indicate why this is the case.*
		• No JORC (2012) Ore Reserve estimate has been classified or reported.
		• The following persons have contributed to the Scoping Study:
		  • Mr Lindsay Reed (Minbos) – Mr Reed is a Mining Engineer with a MBA, he has visited site on four occasions and understand details associated with the site setting and location.
		  • Mrs Kathleen Body, Pr. Sci. Nat, of Red Bush Analytics who was an employee of Coffey Mining and the Principal Resource Consultant responsible for the estimation and classification of Mineral Resources in 2013. Mrs Body has visited site and understands details associated with the site setting and location.
		  • Mr Ross Cheyne (Orelogy) – Mr Cheyne is a Mining Engineer and the Principal Consultant responsible for the Mining Production Target. Mr Cheyne commenced work on the project in June 2020. It has not been possible for Mr Cheyne to visit the site since due to COVID-19 travel restrictions.
		  • Ms Rebecca Morgan (Consultant) – Ms Morgan is a Geologist and Mining Engineer who has been working on the project for four years. Ms Morgan has visited site on three occasions and understand details associated with the site setting and location.
		  • Mr John Riordan (previously Ausenco) – Mr

		Riordan was study manager for the 2017 BFS Trade-off Study and visited the Cácata and Porto de Caio sites and understands the details and associated with the site setting and location. • Mr Francois Marais (Golder Associates) – Mr Marais is a Civil Engineer and visited site to complete a geotechnical and hydrogeological investigation associated with the mine.
Study Status	• *The type and level of study to enable Mineral Resources to be converted to Ore Reserves.*	• The study presented is a Scoping Study and accordingly an Ore Reserve is not being reported. • A Definitive Feasibility Study is currently underway, including the conversion of resources to reserves, and is expected to be complete within the next 9 months. • The Scoping Study has been prepared to an accuracy of +/- 35% using indicated and Inferred Mineral Resources, appropriate mine planning and modifying factors have been applied commensurate to a Scoping Study level of accuracy and are deemed to have reasonable prospects of being technically achievable and economically viable. • Section 4 of the JORC Code (2012)'s Table 1 is being completed to enable material modifying factors and assumptions underpinning the conceptual Production Target and their link to the forecast financial information to be disclosed in an appropriate manner for investors.
Cut-off parameters	• *The basis of the cut-off grade or quality parameters applied/*	• A mine cut-off of 26% P_2O_5 was applied to ensure the targeted run of mine head grade of 30% P_2O_5 could be achieved.
Mining factors or assumptions	• *The method and assumptions used as reported in the Study (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).* • *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.* • *The assumptions made regarding geotechnical parameters (e.g. pit slopes, stope sizes, etc.), grade control and pre-production drilling.* • *The major assumptions made, and Mineral Resource model used for pit and stope optimisation (if appropriate).* • *The mining dilution factors used.* • *The mining recovery factors used.* • *Any minimum mining widths used.* • *The way Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.* • *The infrastructure requirements of the selected mining methods.*	• No JORC (2012) Ore Reserve estimate has been classified or reported. • The Cabinda Phosphate Project is a shallow phosphate bearing deposit therefore open pit mining was chosen as the appropriate mining method. • Geovia Whittle™ pit optimisation software was used to generate a series of potentially viable open pit shells based on the 2013 Mineral Resource. • A mining loss was applied along the boundary of the rebody based on a 0.25m skin. This results in a global mining loss of approximately 5.9%. As a consequence, no mining dilution was assumed. • The following preliminary inputs were used for the optimisation: o Mining Cost - $3.00/t mined o Processing Cost - $119.58/t processed at steady state o Selling Cost - $24.65/t EPR o MAP Cost - $400/t landed o EPR Price – 206.45/t o Processing Loss – 1% • A 2.5m bench height for ore and 5m bench height

		for waste material was assumed. • Inter ramp wall angles were set at 31º based on geotechnical work carried out by Golder (2016) • The above factors result in an 24% conversion of Mineral Resource tonnes to tonnes used in the production schedule, a conversion of a Mineral Resource grade of 17.7% P_2O_5 to an estimated mined grade of 30.2% P_2O_5. • There is no Inferred material in the pit design. 24% is classified as Measured and 76% as Indicated. • The pit geometry is insensitive to mining costs, processing costs and price. • Ultimate and interim pits designs were completed using the optimal shell selected (Revenue Factor 0.73) and the same geotechnical parameters. The ultimate pit is relatively shallow (max. 30m) and reasonably wide (450m+). Therefore, almost all access ramps can be located on the internal stage walls and there is little requirement for ramps on the final pit wall. For design purposes ramp width varied from 10m to 18m and minimum mining width was 25m. • A life of mine schedule was developed for 21 years with a targeted production rate of 50ktpa EPR ramping up to 450ktpa EPR by Year 7. Material movement averages 840ktpa for the first 7 years of mining. Year 8 – 18 averages 2.0Mtpa with a peak of 2.7Mtpa in Year 16. • The mining approach has assumed the use of an open pit mining contractor. The contractor will require workshops and administration buildings to be constructed on site along with haul roads. It is anticipated that these buildings will be temporary installations rather than permanent structures.
Metallurgical factors or assumptions	• *The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.* • *Whether the metallurgical process is well-tested technology or novel in nature.* • *The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.* • *Any assumptions or allowances made for deleterious elements.* • *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.* • *For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?*	• The process is a simple granulation process which involves the agglomeration of phosphate rock (~84%) with MAP (~16%) in a drum granulator. Molasses will be used as a granulation aid. Steam and/or water will be fed to the granulator as needed to aid the agglomeration process. The granular material discharging from the granulator will enter into a dryer and from the dryer it will be transferred to a screening system where three fractions will be separated. The undersize fraction will be returned to the granulator along with the crushed oversize fraction forming the recycle. The product-size fraction will be sent to a product cooler and then, to the storage area. • The processing techniques are all well tested techniques currently in use in similar operations globally. • The relative agronomic effectiveness of the Enhanced Phosphate rock is based on greenhouse trials carried out by the International Fertilizer Development Centre (IFDC) as announced on 9 December 2019 and summarised in Appendix 1 of this report.

		• Given the phosphate rock is not being used for downstream processing (e.g. phosphorous acid production) apart from granulation, the effects of deleterious elements is negligible. • As part of the partnership with the IFDC, 500kg's of Enhanced Cabinda Phosphate Rock was successfully processed at the IFDC's world-class granulation pilot plant in Muscle Shoals, Alabama. The granulation testing provided energy and mass flow data to enable FEECO International to provide a budget quote for a 20tph granulation plant. • The specification for the saleable product is based on the combined P_2O_5 content of the granulated material relative to the price of MAP.
Environmental	• *The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation 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.*	• Baseline studies on the Cácata mine site were carried out in 2011/12. Further studies are currently planned as part of the DFS. • An Environmental and Social Impact Study will be completed as part of the DFS for approval by the government. • There is no tailings facility required at the mine site and the waste rock is characterised as silts and sands
Infrastructure	• *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.*	• Infrastructure is discussed in the body of the ASX release. • The mine site will need minimal infrastructure due to its small scale and simplicity. Power will be provided through gensets and water will be from dewatering the pit or local bores. • The granulation plant will be constructed on an industrial site being developed under contract to the government and it is expected that power, water sewerage etc will be accessible at the site. Gas will be barged into the site via bulk containers and stored on site. • The company will have access to Porto de Caio which is a deep-water port currently under construction. If the port is not complete at the time of operation the existing MOF will be utilised with barges and tugs to import and export material. • The Company is designing its operations to have minimal impact on the surrounding communities and its activities. No houses or other buildings will need to be moved or disturbed as a result of the Company's activities. • Accommodation is expected to be provided locally or from the major town of Cabinda 50km from the mine site and 10km from the granulation plant.
Costs	• *The derivation of, or assumptions made, regarding projected capital costs in the study.* • *The methodology used to estimate operating costs.* • *Allowances made for the content of deleterious elements. The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co-products.*	• <u>Conceptual CAPEX Assumptions</u>: • Derived from an OEM budget proposal (FEECO International including a mechanical equipment list), Bankable Feasibility Trade-Off Studies undertaken by Ausenco, GMining Services, pertaining to mine infrastructure and product logistics infrastructure. • Life of Mine of 21 years. • Targeted accuracy of +/- 35% inclusive of

	• *The source of exchange rates used in the study.* • *Derivation of transport charges.* • *The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.* • *The allowances made for royalties payable, both Government and private.*	appropriate contingency. • <u>Conceptual OPEX Assumptions</u>: • OPEX costs for the scenario were estimated using a combination of costs built up from first principles, quotations received from contractors and benchmarking against similar activities in mining projects in South Africa. • Base currency is United States Dollars (USD) • Commodity price assumptions are discussed in "Revenue Factors" below • This study assumes sale at destination regional ports. • Royalties of 2% are based on the Angolan Mining Code Article 257(E) for other minerals and reflected in the draft Mining Investment Contract. • All estimates presented here are for the total project and do not take into account the Company's current and future ownership under the acquisition agreements entered into.
Revenue Factors	• *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.* • *The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.*	• The Company has not established any contracts or committed any of its production pursuant to off-take agreements at this time. • The Company expects to enter into an off-take agreement with the Angolan Government • The sale price is derived from historical average MAP prices adjusted for P content and RAE (relative agronomic performance.) • Prices are in US$. • This study assumes sale at the port in Luanda. Freight, handling and insurance are included in the cost of shipping.
Market Assessment	• *The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.* • *A customer and competitor analysis along with the identification of likely market windows for the product.* • *Price and volume forecasts and the basis for these forecasts.* • *For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract*	• Publicly available analyst reports from the World Bank, FAO and IFA continue to forecast a supply deficit for all agricultural nutrients in Angola and Middle Africa. • The Angolan Government is the dominant buyer of fertilizer products and awarded Minbos the tender for the Cabinda Phosphate Project on the basis of supplying the local phosphate requirements. • An off-take agreement with the Angolan government is anticipated. • No formal customer or competitor analysis have been completed at this stage. • The Angolan Institute of Agronomic Investigations has conducted field trials of the Enhanced Phosphate Rock which confirm crop responses to the product.
Economic	• *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.* • *NPV ranges and sensitivity to variations in the significant assumptions and inputs.*	• The inputs to the NPV estimations are tabulated in the body of the ASX release. • The NPV has been determined using the Discounted Cash Flow method of valuation. For the Scoping Study a discount rate of 10% was applied. • The financial model is in real terms. • The model was based on yearly increments • No escalation was applied.

		• The Project was valued as a single tax entity. • Royalties were set at the formula applicable for other minerals • Angolan corporate tax rate of 25% was applied as contemplated in the Mining Investment Contract petition. • An 8-year tax holiday has been applied in line with Angolan investment incentives for the Cabinda Province. • NPV ranges and sensitivity analysis is presented in the body of the announcement
Social	• *The status of agreements with key stakeholders and matters leading to social licence to operate.*	• The Company has committed in the public tender to spend 1% of sales revenue on community and social programs as outlined in section 8.2 – these include training, social programs and employment. • Socio economic studies were carried out in 2011/2012 with further studies planned as part of the DFS currently underway. This will include an environmental and social impact assessment (ESIA) from which an environmental and social management plant will (ESMP) will be approved and implemented as part of the development.
Other	• *To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserve* • *Any identified material naturally occurring risks.* • *The status of material legal agreements and marketing agreements.* • *The status of governmental agreements and approval 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 of 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.*	• No natural occurring risks have been identified • The Angolan Ministry of Mineral Resources and Petroleum issued a notice on March 11th March 2020 that Minbos had been classified as the winning bid for the Cabinda Phosphate Project, following a tender process which closed in December 2019. • Minbos has been formally directed by the Minister of Mineral Resources to finalise a Mining Investment Contract with his appointed commission, with a draft of the contract received shortly afterwards. All substantial terms of the Mining Investment Contract have been agreed, and it is anticipated to be executed in coming weeks [following submission of mine plans and financial studies]. • A shareholders agreement with in-country partner Soul Rock will be formalised after the execution of the Mining Investment Contract and will reflect ownership interests Minbos 85% and Soul Rock 15% carried. • No marketing agreements are in place at this stage however discussions are underway regarding an off-take agreement with the government. • Applications for land access, water usage license and port access are in progress and not expected to affect the timelines outlined in the release.
Classification	• *The basis for the classification of the Ore Reserves into varying confidence categories.* • *Whether the result appropriately reflects the Competent Person's view of the deposit.* • *The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).*	• Ore Reserves have not been classified and reported. • Section 4 of Table 1 contained in the JORC Code (2012) is being completed as part of the Scoping Study requirements to disclose a conceptual Production Target estimate linked to forecast financial information.
Audits or reviews	• *The results of any audits or reviews.*	• No audits or reviews have been conducted.

Discussion of relative accuracy/ confidence	• *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 that could affect the relative accuracy and confidence of the estimate.* • *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.* • *Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have material impact on viability, or for which there are remaining areas of uncertainty at the current study stage.* • *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.*	• Ore Reserves have not been classified and reported. • The level of accuracy for the Scoping Study is + / - 35% • The level of confidence for the estimates used in the conceptual production schedule is below that required for reporting Ore Reserves under the JORC Code (2012). • The Life-of-Mine (LOM) Production Target used in the Scoping Study comprises 24% in the Measured category and 76% in Indicated category. There is no Inferred material in the LOM production target. • A definitive feasibility study is currently underway, including the conversion of resources to reserves, and is expected to be complete within the next 9 months.