

# LONDON 121 PRESENTATION

MAY 2020



Minbos submitted and won the tender for the Cabinda Phosphate Project.

The company benefits from the existing Cacata resource, A\$20M of previous expenditure and ten years experience in Congo Basin phosphates.

Our intention is to move rapidly to production, using local phosphate rock, to produce fertilizer for local markets using technology developed by the International Fertilizer Development Center.

# **AFRICAN AGRICULTURE**

### YIELDS NEED TO RISE AND FERTILIZER IS THE KEY

- Fertilizer consumption on the African continent to reach 13.6
   million tonnes by 2030 compared to 7.6 million tonnes currently<sup>1</sup>
- Food demand value ~\$313 billion and growing
- Average maize yield is roughly 3x lower than the yield potential for short-maturity maize<sup>2</sup>
- Africa could increase agricultural productivity 155%<sup>3</sup>
- Sub-Saharan Africa will need eight times more fertilizer
- Governments are seeking to reduce reliance on imported food
- NGO's are promoting modern agricultural inputs (Fertilizers)
- International companies have recognized the incredible growth and population trajectory of Africa. In Nigeria, Indorama has built a US\$1.5 billion fertilizer plant, OCP has built a US\$2.4 billion fertilizer plant in Ethiopia, Toyota Tsusho commissioned a new large-scale fertilizer blending plant in Kenya and in Tanzania.

1 CRU Group, Fertilizer Market Outlooks, 2019
2 Africa Status Report 2016, FAO
https://reliefweb.int/sites/reliefweb.int/files/resources/assr.pdf
3 One Acre Fund, Climate and Soils,
https://oneacrefund.org/impact/climate-and-soils/
4 "Winning in Africa's Agricultural Market." McKinsey & Company, February 2019
www.mckinsey.com/industries/agriculture/our-insights/winning-in-africas-agricultural-market

## CEREAL AND COARSE-GRAIN PRODUCTION POTENTIAL, AFRICA, MILLIONS OF TONS<sup>4</sup>

Minbos Resources



# **OVERVIEW**



# ANGOLA CABINDA PHOSPHATE

- Minbos won the international tender for the Cabinda Phosphate Project in March
- A\$20M spent on studies available.
- Road, power, water and gas available.
- Existing resource of 7Mt @ 30% P<sub>2</sub>O<sub>5</sub><sup>1</sup>
- DFS started to move quickly to production



# MADAGASCAR AMBATO RARE EARTH

- Minbos has earned the option to purchase a 90% interest in Ambato<sup>2</sup>.
- High grade outcropping bastnaesite mineralisation
- 2km anomaly confirmed by radiometrics, soil sampling and auger holes
- Sparsely drilled
- Similar setting and mineralisation to Mountain Pass in California

1ASX Announcement - Investor Presentation-Cacata Project BFS Update <u>http://www.investi.com.au/api/announcements/mnb/01799648.pdf</u> 2ASX Announcement - Minbos Enters Option To Purchase Rare Earths Project <u>http://www.investi.com.au/api/announcements/mnb/4d7f9806-4e4.pdf</u>



# COMPANY

### **CAPITAL STRUCTURE**

Stock Code	ASX:MNB
Shares on Issue (million)	5,654m
Share Price cps	0.1cps
Market Cap A\$m	A\$5.7m
Cash at hand 31 Mar 2020	A\$1m

### **TOP 10 SHAREHOLDERS**

JP MORGAN NOMINEES AUSTRALIA PTY LIMITED	37.92
MRS ELEANOR JEAN REEVES <elanwi a="" c=""></elanwi>	3.74
BRIJOHN NOMINEES PTY LTD <nelsonio a="" c=""></nelsonio>	3.09
SUNSET CAPITAL MANAGEMENT PTY LTD <sunset a="" c="" superfund=""></sunset>	2.84
HSBC CUSTODY NOMINEES (AUSTRALIA) LIMITED	2.56
PHEAKES PTY LTD <senate a="" c=""></senate>	2.48
CITICORP NOMINEES PTY LIMITED	2.34
MR LINDSAY GEORGE REED <the a="" c="" family="" reed=""></the>	1.73
MR LINDSAY REED & MRS JENNIE REED <reed a="" c="" fund="" super=""></reed>	1.45
ANDROLYN PTY LTD <a &="" a="" c="" fund="" hector="" super=""></a>	1.41
TOP 20 HOLDERS OF ORDINARY FULLY PAID SHARES (TOTAL)	69.11

%



# **ASSET OVERVIEW**

### **OVERVIEW**

Minbos 85%, Local Partner 15% carried.
Cacata Fertilizer Project
Cabinda Province, Angola
Phosphate Rock
Gas, Power, Roads and Regional Port
7.3Mt @ 30% $\rm P_2O_5$ within resource of 13.1Mt @ 26% $\rm P_2O$

### DFS UPDATING 2017 BFS

Capacity	Quote sought for a standard 20tph granulation factory
Market	Angola currently imports around 50,000tpa of $\rm P_2O_5$
Manufacturing Costs	Targeting US\$160 per tonne of fertilizer including freight.
Pre production Capex	Targeting <us\$25 based="" estimates="" factored="" from="" million,="" oem="" on="" preliminary="" quotes<="" th=""></us\$25>
After Tax NPV	DFS targeted for completion December Quarter.
IRR and Payback	Tender submitted and won committing to a robust investment case for investors.

<sup>1</sup>ASX Announcements - Minbos announces Resource Upgrade for the Cabinda Licences in Angola & Cacata Resource Additional Information <u>http://www.investi.com.au/api/announcements/mnb/dd0acc58-426.pdf</u> & <u>http://www.investi.com.au/api/announcements/mnb/01615426.pdf</u>



# ANGOLA PROJECT SCOPE



## **ROCK PHOSPHATE MINE**

Mine at Cácata can produce phosphate rock which will be trucked to Porto de Caio. Existing roads and utilities will be sufficient.



# **GRANULATION PLANT AT PORTO DE CAIO**

Rock Phosphate will be granulated with MAP and micronutrients suitable for tropical soils, crops and climate. Power, gas and water within 5km.



# TARGET MARKET - NPK BLENDERS

Control blend with government subsidy to small landholders. Commercial designer blends with micronutrients specific to location and crops to compete with 12:24:12 NPK imports.



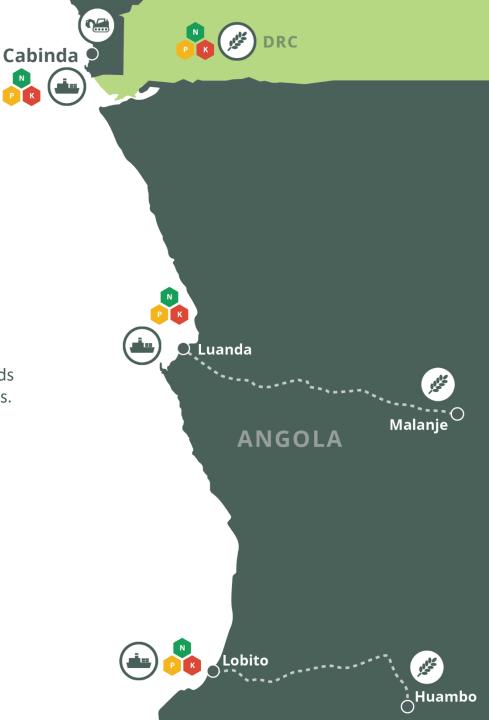
## NPK BLENDING AND DISTRIBUTION

The Cácata phosphate granules will facilitate the establishment of NPK blending and distribution networks that can be leveraged into other products and businesses.



## **CROP AND SOIL NUTRIENT SUPPORT**

The Cácata project will serve as a launching pad for the full suite of IFDC soil, crop, market and logistic support in Angola with Minbos facilitation.

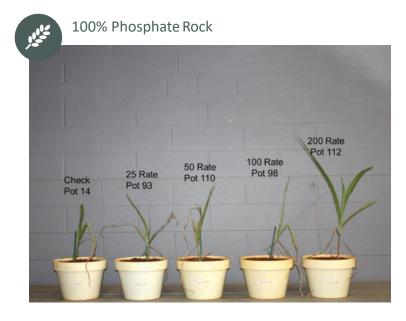


# WHY ENHANCED PHOSPHATE ROCK?

AG-TECH, DESIGNED FOR AFRICAN CONDITIONS, DEVELOPED BY THE IFDC.

# **RAW CABINDA** PHOSPHATE ROCK

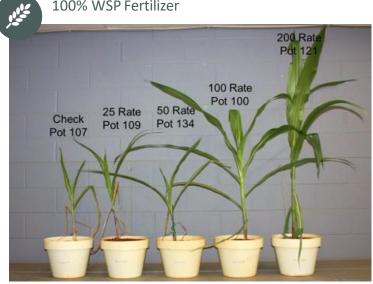
- Raw phosphate rock
- Unsuitable for use in Angola or wider Congo Basin
- Low-cost
- Low-solubility
- Export-only



### **IMPORTED FERTILIZER**

- 100% water soluble phosphate fertilizer
- Fast-release phosphate
- High-cost
- **High-solubility**

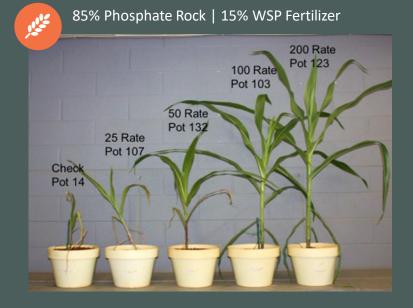
### 100% WSP Fertilizer





# **ENHANCED CABINDA** PHOSPHATE ROCK

- ✓ 85% local phosphate rock/15% water soluble phosphate blend
- ✓ Low-cost
- ✓ High-solubility
- ✓ Suitable for Angola and wider Congo Basin
- ✓ Combines fast release WSP which solubilises slow-release phosphate rock



# **IFDC FIELD TRIAL RESULTS**

### **GREENHOUSE TRIALS CONDUCTED BY THE IFDC**

have compared Cabinda Blend pots against fresh MAP pots in winter wheat and sorghum crops grown to maturity that confirm the blend almost matches the MAP relative agronomic effectiveness. Comparisons in residual greenhouse crops suggest the economic benefit of Cabinda blend will extend into the 2nd and 3rd seasons.

**FIELD TRIALS IN HUAMBO** are testing the blend in Angolan conditions. A maize crop has been harvested for dyring, and a legume crop will be harvested next month.

**GRANULATION TRIALS** at IFDC's world renowned pilot plant facility have tested Cacata Phosphate Rock with MAP and all the engineering data required to design a granulation facility has been supplied to FEECO the world pre-eminent OEM for granulation plants.

**RESULTS CONFIRM** Cabinda Phosphate Rock is suited to blending with MAP, for Angolan soils, and specific crops such as Maize, Beans and Soya, all conditions that promote low pH favourable for PR dissolution.



# **DFS KEY ACTIVITIES**

### **GRANULATION FACTORY**

The IFDC granulation team and FEECO are working together to provide a quotation for a standard 20tph plant. It is the long lead item and will provide a budget estimate and delivery date to finalise our DFS and funding timeline.

### **MINING RESERVES**

Proposals have been received to prepare cost estimates, mine schedule and reserves which will commence next month. The mine plan will feed into the Approvals Process.

### **APPROVALS**

Base line studies for a larger mining operation were completed in 2012 and again in 2017. RFP's have been issued to suitable parties to prepare the new documents. Angola has recently amended its Environmental legislation and regulations to streamline approval processes.

### SIMPLE SCOPE

Contract mining and haulage with no requirement for beneficiation, tailings dam or long term waste stockpiles. Granulation plant will be constructed in an existing industrial zone with services and infrastructure installed.

### **BASIS OF PREPARATION**

Capital costs will be compiled by firm quotations from OEM's and principal contractors. Operating costs will be compiled from principal contractors bids and infrastructure service agreements. It is estimated these items will constitute 90% of the capital and operating expenditure.



# FAST TRACK SCHEDULE



	Q2 - CY20		Q3 - CY20		Q4 -CY20			Q1 -CY21			Q2 -CY21			Q3 - CY21			
	MAY	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
CORPORATE																	
Investment Contract																	
DFS Capital Raising																	
Construction Raising																	
TECHNICAL																	
Mining Reserves	-																
Granulation Design								•									
Updated DFS									$\longrightarrow$	•							
Long Lead Items													•				
COMMERCIAL - LEGAL																	
Approvals																	
Offtake & Op Contracts																	
Debt Drawdown																	
CONSTRUCTION																	+ •

# **OUR PEOPLE**



# **BOARD & ADMINISTRATION**

- Peter Wall Chairman, Corporate Law Partner at Steinepreis Paganin
- Damian Black Corporate Advisor, Aesir Capital, resources and technology.
- Bill Oliver Geologist and Mine Development in Australia, Africa and Portugal.
- Dganit Baldar Lawyer, with ten years experience in Angola.



# MANAGEMENT

- Lindsay Reed CEO, Mining Engineer, Equity Markets, Industrial Minerals
- Camache Caturichi Country Manager and local Partner. Lawyer in Angola.
- Steve Abbott Study Manager, Metallurgical Engineering, projects and production



# **CONSULTANTS & INDUSTRY PARTNERS**

- IFDC Not for Profit, Fertilizer product development and agricultural markets
- FEECO OEM, Fertilizer plant design and fabrication.
- Field Trials Dr Luis Prochnow, NPCT Brasil, specialist in enhanced Phosphate Rock
- Micronutrients Richard Emery, previous CEO of Stoller Australia.
- Logistics, Thomas Brueckner, previous COO of Porto de Caio, Angola
- Appointments for Mining Reserves, Approvals and Construction expected soon



# ANGOLA

## **ECONOMY & POPULATION**

- Population 30.8 million
- Third largest economy and population growth in Africa
- 2019 real GDP 2019 grew 1.2% projected 3.2% in 2020
- Poverty incidence fell from 68% in 2000 to 37% in 2018
- Spending on food and non-alcoholic beverages expected to increase from US\$15 billion in 2017 to US\$21 billion by 2021

### **GOVERNMENT REFORMS & PROGRESS**

- Wind up of Ferangol and establishment of New Mining Licenses Agency
- Joined the African Free Trade Initiative
- Cabinet approval pending for International Arbitration Convention
- Focus on Agriculture to diversify economy, promote food security and alleviate poverty



### INCREASE IN PRODUCTION OF AGRICULTURE PRODUCTS 2012-2016 (%)<sup>1</sup>

Cereals

Legumes & Oleaginous

Poultry

Beet

**Roots & tuberculo** 

Fruits

Vegetables



# FUNDING

## **DFS CAPITAL RAISING**

- Minbos is marketing for the first time with 85% ownership of the Cabinda Phosphate Project as COVID-19 travel and operational restrictions begin to relax
- The Company is targeting an equity raising in Q3 2020 to fund an internal DFS, commence approvals, initiate contracting and procurement in Angola and working capital

## **PROJECT DEVELOPMENT FINANCE**

- Construction of Angolan Fertilizer could commence 20/21 budget year
- Alphier UK mandate has been signed for raising debt (and equity) for Angola.
- Inbound interest from funds with a focus on food security rather than mining.
- Process will take about 6 months for drawdown early 2021.



# **AMBATO** RARE EARTHS

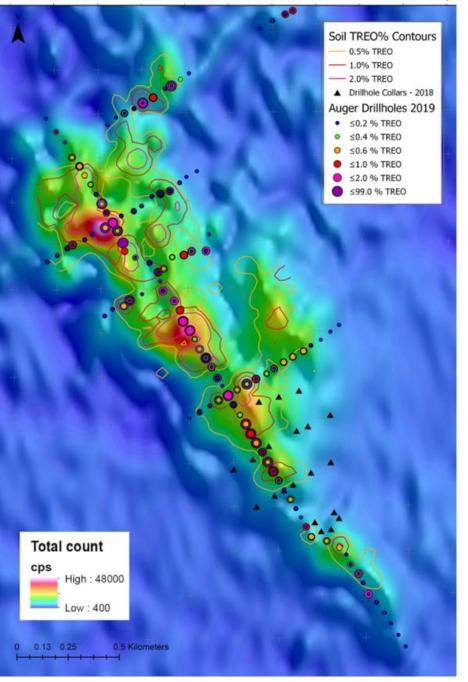
**2018 drilling**<sup>1</sup> to investigate a target delineated by historical reported a best intercept of 17 m @ 4.6% TREO.

**2018 geophysics**<sup>2</sup> showed outlined a 2km radiometric anomaly mostly to the immediate north of the best drill hole.

**2019 soil sampling<sup>3</sup> and auger drilling<sup>4</sup>** confirmed the geophysical anomaly.

**2020 site visit by CSA** maps carbonatite – syenite with bastnaesite mineralisation similar to Mountain Pass in Califormia.

<sup>1</sup>ASX Announcement - Drilling at Ambato Complete - <u>http://www.investi.com.au/api/announcements/mnb/4e4d7eb1-1db.pdf</u>
 <sup>2</sup>ASX Announcement - Airborne Geophysics Survey Complete - <u>http://www.investi.com.au/api/announcements/mnb/a1845add-c51.pdf</u>
 <sup>3</sup>ASX Announcement - Soil Sampling Confirms Radiometric Anomaly- <u>http://www.investi.com.au/api/announcements/mnb/e31d0613-523.pdf</u>
 <sup>4</sup>ASX Announcement - New Auger Results Confirm 2KM-long Zone of Rare Earth Anomalies - <u>http://www.investi.com.au/api/announcements/mnb/e31d0613-523.pdf</u>

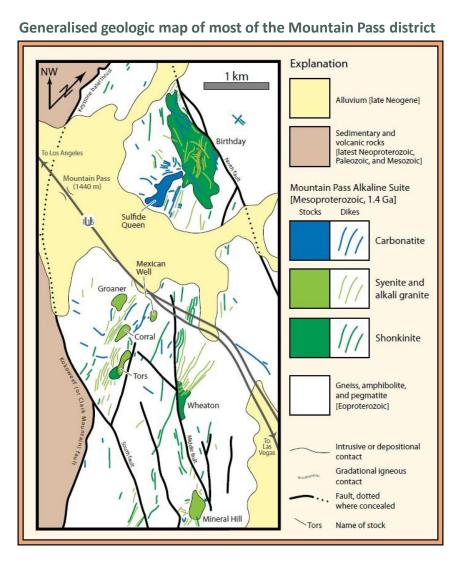


# SIMILAR TO MOUNTAIN PASS

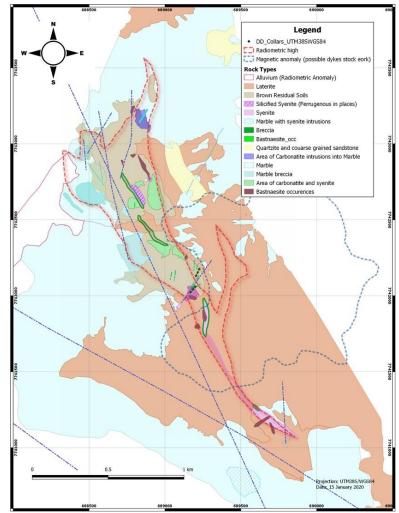
"The Ambato phlogopite associated with bastnaesite resembles the phlogopite from Bayan Obo REE deposit in China.

The mineralization of the Ambato deposit is similar to the Mountain Pass deposit in California."<sup>1</sup>

<sup>1</sup>Geology of bastnaesite and monazite deposits in the Ambatofinandrahana area, central part of Madagascar: An overview. V. Rasoamalao et al 2013



### Interpreted geological map of the Ankazohambo deposit



# DISCLAIMER

### ANGOLAN PHOSPHATE PROJECT

#### COMPETENT PERSON

The information in this presentation that relates to the Exploration Results and Phosphate Resources, Production Targets and Cost Estimation was extracted from Minbos'sASX announcement dated 6 June 2012, 16 October 2013 and 5 December 2013 respectively entitled "Cacata Project – Scoping Study Produces Positive Results" "Minbos announces resource upgrade for the Cabinda licenses in Angola" and "Cabinda Resource Additional Information" and the Minbos Annual Report for the years ended 30 June 2014 to 30 June 2016 and Half Year Reports for the periods ended 31 December 2014 and 31 December 2015 which are available to view on the Company's website at www.minbos.com.

The information in the original ASX announcements and the Annual Report and Half Year Report that related to Exploration Resultsand Phosphate Resources is based on information compiled or reviewed by and approved for release by Ms Kathleen Body, Pr.Sci.Nat, who has over 20 years of experience in mineral exploration and mineral resource estimation. Ms Body is a Principal Consultant and Director of Redbush Geoservices (Pty) Ltd and contracted to Minbos Ms Body is registered with the South African Council for Natural Scientific Professions(SACNASP) as a Professional Natural Scientist. She has sufficient experience in relation to the style of mineralisation and type of deposit under consideration to qualify as a Competent Person as defined by the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" (The JORC Code 2012 Edition). Ms Body has consented to inclusion of this information in the form and context in which it appears.

Minbos confirms that: a) it is not aware of any new information or data that materially affects the information included in the original ASX announcements; 30 June 2016 Annual Report and 31 December 2015 Half Year Report b) all material assumptions and technical parameters underpinning the Phosphate Resource, Production Target and related financial information derived from the Production Target induced in the ASX announcements; 30 June 2016 Annual Report and 31 December 2015 Half Year Report continue to apply and have not materially changed; and c) the form and context in which the relevant Competent Persons' findings are presented in this announcement have not been materially modified from the original ASX announcements; 30 June 2016 Annual Report and 31 December 2015 Half Year Report

#### DISCLAIMER

The Company has prepared this document based on information available to it at the time of preparation, from sources believed to be reliable and subject to the qualifications in this document. To the maximum extent permitted by law, the Company and it of affiliates, related bodies corporate (as that term is defined in the Corporations Act) and its respective directors, employees, officers, representatives, agents, partners, consultants and advisers (each a Limited Party and together, the Limited Parties) accept no responsibility or liability for the contents of this document. No representation or warranty, express or implied, is made as to the fairness, accuracy, adequacy, validity, correctness or completeness of the information, opinions and conclusions contained in this document. To the maximum extent permitted by law, none of the Limited Parties accept any responsibility or liability including, without limitation, any liability arising from fault or negligence on the part of any person, for any loss whatsoever arising from the use of this document or its contents or otherwise arising in connection with it.

#### FORWARD-LOOKING STATEMENTS

This document contains statements, opinions and projections, all preliminary in nature, prepared by the Company on the basis of information developed by itself in relation to its Rock Phosphate projects, Cabinda and Kanzi, respectively, and together Projects). Such information can be described as at the pre-feasibility stage, due to the limited information provided to date, and may be subject to change. Certain statements, beliefs and opinions contained in this document, particularly those regarding the possible or assumed future performance of the Company and the Projects are or may be forward looking statements. Forward looking statements can be identified by the use of forward looking terminology, including, without limitation, the terms "believes", "estimates", "anticipates", "expects", "predicts", "intends", "plans", "goals", "targets", "potential", "aims", "outlook", "guidance", "forecasts", "may", "will", "would", "could" or "should" or, in each case, their negative or other variations or comparable terminology. Including statements include all matters that are not historical facts. By their nature, forward looking statements involve known and unknown risks, uncertainties and other factors because they relate to events and depend on circumstances that may or may not occur in the future and may be beyond the Company's ability to control or predict which may cause the actual results or performance of the Company and the Projects to be materially different from the results or performance expressed or implied by such forward-looking statements. Forward looking statements. Forward looking statements for predict which here such so performance expressed or implied by such forward-looking statements. Forward looking statements for performance expressed or implied by such forward-looking statements. Forward looking statements or performance expressed or implied by such forward-looking statements. Forward looking statements or performance expressed or implied by such forward-looking statements. statements are based on assumptions and are not guarantees or predictions of future performance. No representation is made that any of these statements or projections will come to pass or that any forecast result will be achieved, nor as to their accuracy, completeness or correctness. Similarly, no representation is given that the assumptions upon which forward looking statements may be based are reasonable. Forward looking statements speak only as at the date of this document and the Limited Parties disclaim any obligations or undertakings to release any update of, or revisions to, any forward-looking statements in this document. All dollar values contained in this document are in Australian dollars (AS) and the pro forma financial information is presented as at 3 September 2019 unless otherwise stated.

### AMBATO RARE EARTHS PROJECT

#### FORWARD LOOKING STATEMENTS

This presentation includes forward-looking statements. When used in this document, the words such as "could", "plan", "estimate", "expect", "Intend", "may", "potential", "should", and similar expressions are forward-looking statements. Although Minbos Resources Limited ("MNB") believes that the expectations reflected in these forward- looking statements are reasonable, such statements involve risks and uncertainties, and no assurance can be given that actual results will be consistent with these forward- looking statements. Those risks and uncertainties include, but are not limited to: the mining industry (including operational risks; risks in exploration, and development; the uncertainties involved in the discovery and delineation of mineral deposits, resources or reserves; and the uncertainty of mineral resource and mineral reserve estimates); the risk of rare earths, phosphate and other commodity price and foreign exchange rate fluctuations; the ability of the Company; joint venture risks; the uncertainty associated with commercial negotiations and negotiating with foreign governments; the risk associated with international business activities; risks related to operating in Madagascar and or Angola; environmental risk; the dependence on key personnel; and the ability to access capital markets.

This presentation has been prepared by MNB for the purpose of providing an overview of its current prospects and development strategy to recipients. This presentation and its contents are provided to recipients in confidence on the basis that it may not be reproduced or disclosed in whole or in part to any other person, without the written consent of MNB.

This presentation is provided on the basis that neither MNB nor its respective officers, shareholders, related bodies corporate, partners, affiliates, employees, representatives and advisers, make any representation or warranty (express or implied) as to the accuracy, reliability, relevance or completeness of the material contained in this presentation and nothing contained in the presentation is, or may be relied upon, as a promise, representation or warranty, whether as to the past or the future. MNB hereby excludes all warranties that can be excluded by law.

All persons should consider seeking appropriate professional advice in reviewing the presentation and all other information with respect to MNB and evaluating the business, financial performance and operations of MNB. Neither the provision of the presentation nor any information contained in the presentation or subsequently communicated to any person in connection with the presentation is, or should be taken as, constituting the giving of investment advice to any person.

#### COMPETENT PERSONS

The information in this Presentation that relates to Exploration Results and Data Quality is based on, and fairly represents, information and supporting documentation prepared by Rebecca Morgan, who is a member of the Australian Institute of Geoscientists. Miss Morgan was previously a fulltime employee of Minbos (until February 2018) and is a consultant to Minbos. Miss Morgan has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity 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 Ore Reserves'. Miss Morgan consents to the inclusion in this Presentation of the matters based on her information in the form and context in which it appears. The information in this release that relates to mineralogy and metallurgy results as provided to Minbos by the Australian Nuclear Science and Technology Organisation (ANSTO), has been reviewed by Mr Gavin Beer who is a Member of The Australasian Institute of Mining and Metallurgy and a Chartered Professional. Mr Beer is a Consulting Metallurgist with sufficient experience relevant to the activity which he is undertaking to be recognised a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" and as a "Qualified Person" under National Instrument 43-101 - Standards of Disclosure for Mineral Projects ("NI 43-101"). Mr Beer consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.





# MINBOS IS FOCUSED ON BRINGING THE CABINDA PHOSPHATE PROJECT INTO PRODUCTION

...a de-risked project uniquely positioned to address the exponential agricultural growth in Middle Africa.