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RESEARCH



## Kore Potash

18<sup>th</sup> June 2020

### Poised to become the lowest cost potash supplier to the giant Brazilian market from globally significant deposits in the Congo

Kore Potash is a large fertiliser play that has been developing the Sintoukola potash basin in the Republic of the Congo (RoC) since 2010. Kore has a district scale development with approx 6 billion tonnes of potash, just 15km from the coast and US\$150m has been spent on it thus far. Big projects need big budgets. The flagship 2.2Mtpa Kola project came through the DFS with flying colours but needs US\$2.1bn of capex, not easy for a small cap player with a new project in such a jurisdiction to raise. So, the team has devised the smaller DX project to begin this district wide development.

#### ■ Game-changing 400,000tpa DX project could be in production by Q4 2023

DX can rapidly come on stream with capex under US\$300 million, making it financially possible for a greenfield operation in RoC. DX is a scalable solution mine which is low risk as there are many such successful potash projects around the world. Getting DX into production is a game changer as it will make the financing of Kola possible and begins to unlock the tremendous value here.

#### ■ Positioned to replace potash supply from the northern hemisphere

Not only are the company's production costs enviably low, but Kore is also blessed with having the shortest shipping route to the giant Brazilian market and the fast-growing African market. All the pieces are now almost in place to allow Kore to commence a dramatic growth trajectory. Shareholders could really benefit as either the majors will concede market share or buy them up.

#### ■ Potash demand rising as the world needs to grow 50% more food by 2050

Arable land per person is sharply declining and farmers are increasingly using more fertiliser to feed an anticipated population of 9 billion people by 2050. Kore will produce MOP which is the cheapest and most important source of potassium for agriculture, so there is no risk of substitution.

#### ■ Risked NPV suggests potential upside of over 650%

Our conservative valuation shows that Kore is highly undervalued. We initiate coverage with a conservative target price of 6.51p and **Conviction buy** stance.

Table: Financial overview

Year to end Dec	2018A	2019A	2020E	2021E
Revenue (US\$'000)	-	-	-	-
PTP (US\$'000)	(6,252)	(4,178)	(4,675)	(4,925)
EPS (c)	(0.75)	(0.36)	(0.28)	(0.25)

*This investment may not be suitable for your personal circumstances. If you are in any doubt as to its suitability you should seek professional advice. This note does not constitute advice and your capital is at risk. This is a marketing communication and cannot be considered independent research.*

## CONVICTION BUY

### – Price Target 6.51p



#### Key data

EPIC	KP2
Share price	0.85p
52 week high/low	1.70p/0.55p
Listing	AIM, ASX, JSE
Shares in issue	1,550m
Market Cap	£13.2m
Sector	Mining

#### 12 month share price chart



#### Analyst details

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**IMPORTANT:** Kore Potash (KP2) is a research client of Align Research. Align Research holds a position in Kore Potash. For full disclaimer information please refer to the last page of this document.

## Business overview

### Kore Potash Operations

Kore Potash Plc is an advanced stage mineral exploration and development company listed on AIM, the Australian Securities Exchange (ASX) and the Johannesburg Stock Exchange (JSE) in South Africa. Kore's Sintoukola potash basin in the Republic of the Congo could see the development of three projects based on a total of some 6 billion tonnes of potash.

- **DX Sylvinite Project** – One of the world's highest-grade potash projects at 57-60% KCl. The Pre-Feasibility Study (PFS) has just been completed and the company is now moving into a Definitive Feasibility Study (DFS). With low capital costs and a short construction period, DX is planned to be the first part of the Sintoukola basin that Kore brings into operation and production could start as early as Q4 2023. DX is planned to be the project that unlocks the Sintoukola potash basin and allows the future development of both Kola and Dougou.

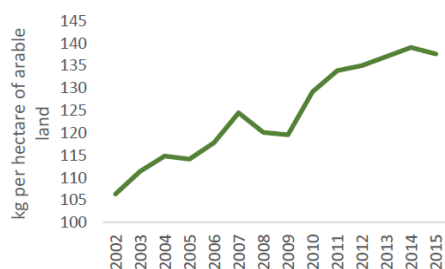
- **Kola Potash Project** – Kola has a Measured and Indicated sylvinite Mineral Resource of 508Mt grading at 35.4% KCl, which is comparable to the grades of some of the world's leading potash deposits. A DFS was completed in December 2018 and, at an estimated US\$102/t CFR granular potash, it would represent one of the lowest cost MOP global producers.

- **Dougou Potash Project** – The Dougou Deposit is a large, thick carnallite deposit with a Measured and Indicated Mineral Resource of 1.1 billion tonnes at a grade of 20.6% KCl. A Scoping Study was completed in 2015 which demonstrated that a scalable solution mine with a short construction period could be established with low capital expenditure and low operating costs.

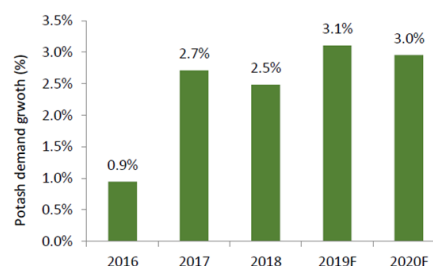
## Potash

NPK fertilisers contain the three macronutrients that all crops need - nitrogen, phosphorus and potassium. Nitrogen (N) is necessary in the formation of protein which accounts for much of a plant's tissues and so it is essential for plants to remain healthy and become nutritious. Phosphorus (P) is required for photosynthesis, the process by which plants use and store energy, allowing them to grow and develop normally.

It has been estimated that the world will need to grow 50% more food by 2050 to feed a world population of more than 9 billion people which the United Nations (UN) is forecasting. That forecast implies a 34% increase in the world's current population from current levels but already millions of people are starving. At the same time, the fast expanding middle classes are seeking high calorie diets which is thus further increasing yield demand from soils.



Increasing use of fertiliser to boost yields



Demand growth for potash for arable use

Source: World Bank, UN, Food and Agricultural Organization (FAO) via the company

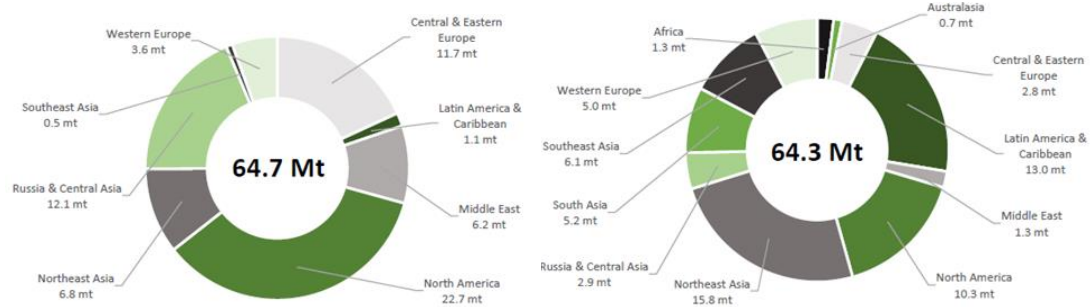
Whilst all this is going on, the amount of arable land per capita is shrinking. All this means that major productivity gains in agriculture are becoming increasingly essential to boost yields. This all boils down to the increased use of NPK. The word potassium is derived from potash as before the industrial era potassium was created by soaking plant ashes in water in a pot. Today, the name potash is the name for a group of minerals that help provide potassium for plant growth, with 90-95% of potash used in agriculture as fertiliser.

Potassium products	Market Volume	Comments
<b>Main products</b>		
Muriate of Potash (MOP)	93.2%	Potassium chloride (KCl) which is 52% potassium by weight. Used on a large proportion of commercial crops such as cereals, maize, rice and soya beans.
Sulphate of Potash (SOP)	4.6%	Used on crops where chlorine tolerance is limited primarily fruits and vegetables as well as several non-food products like rubber and cotton.
<b>Minor speciality products</b>		
Nitrate of Potash (NOP)	1.4%	Used for chlorine-sensitive crops such as certain fruits and vegetables like potato, tomato and berries
Polyhalite	<1%	Also suitable for chlorine sensitive plants as well as delivering sulphur, calcium and magnesium as secondary nutrients.
Sulphate of Potash Magnesia (SOPM)	0.7%	Includes magnesium, one of the secondary nutrients where chlorine tolerance is limited.

Given these powerful drivers, it is little surprise that the major mining companies have been recently investing large sums into potash assets. BHP, at its Jansen Project in Saskatchewan, Canada, has spent US\$2.7 billion so far. Another US\$2.7 billion has been earmarked to invest in Stage 1 of its 1,000m deep mine where the potash will need to travel 1,600km by rail to the Port of Vancouver before being shipped to target markets. Anglo American has just acquired Sirius Minerals for £405 million and will be developing the Woodsmith Mine in North Yorkshire to mine polyhalite at a depth of 1,500m. A 37km underground conveyor is required to bring the material to surface at a total cost in the region of US\$4 billion.

Potassium (K) acts to improve colour size and sugar formation. In addition, potassium aids water transfer, makes crops drought resistant, as well as improving frost resistance. So, potash acts to strengthen plant's abilities to resist disease as well as regulating photosynthesis and CO<sub>2</sub> intake. In addition, it is necessary for enzyme production, helps water retention and plays an important role in increasing crop yields and overall quality. At the same time, potassium protects the plants when the weather is cold or dry, strengthening its root system and preventing wilt. In the industry, potash is known as the quality nutrient because of the crucial role the macronutrient plays in determining the as size, shape, colour, taste and shelf life of the crop.

The two primary sources of potassium are MOP and SOP, with MOP being the most commonly used potash fertiliser. The minimum saleable grade for standard MOP for agricultural use is 60% K<sub>2</sub>O, which is called K60. Historically MOP prices in Korea's target markets have been between US\$350 – 430/t, whilst Sulphate of Potash (SOP) fetches a US\$120 – 200/t premium. MOP is the cheapest and most important source of potassium for agriculture, so there is no risk of substitution.



*Potash supply and demand 2019. Source: Argus via the company*

**Demand for MOP has now reached record levels as farmers realise the benefits of using this potash fertiliser to improve yield and only represents just a small amount of the overall cost of farming.** Current global demand for potash looks to be around the 65Mt mark. At present this supply is largely met by existing major suppliers including Urakali (12Mtpa), Nutrien (12Mtpa), Belaruskali (11Mtpa) and Mosaic (9Mtpa).

## Republic of the Congo

The Republic of the Congo (RoC) was established in 1958 and was formerly part of the French colony of Equatorial Africa before gaining independence from France in 1960. Between 1969 and 1992, the country was a Marxist-Leninist state called the People's Republic of the Congo. Multi-party elections were held in 1992, but the democratically elected government was ousted in the 1997 Republic of the Congo Civil War. President Denis Sassou Nguesso has been the country's ruler for 35 out of the last 40 years and first came to power back in 1979.



*Map of the Republic of the Congo. Source: Company*

The country is located on the western coast of Central Africa and covers an area of 342,000km<sup>2</sup> which is roughly 2.5 times of England with a population of just 5.2 million people. RoC has become the fourth largest oil producer in the Gulf of Guinea and the economy has become heavily dependent on oil revenues. In 2018 the country joined OPEC. Other exports include natural gas and diamonds, although RoC also has large untapped base of metal, gold, iron and phosphate deposits. There are reported to be a number of Chinese groups involved in mining copper and gold. In addition, there are multiple groups involved in iron ore projects, but these projects are located hundreds of kilometres inland from the port and progress seems to have been limited.

## Background

Elemental Minerals commenced exploration in the Sintoukola district with drilling and seismic surveys in 2010 and which resulted in the announcement of a maiden Mineral Resource Estimate (MRE) for the Kola Sylvinite deposit the following year. In 2012 a MRE of 573Mt at 33.1% KCl was announced. Subsequently, in 2015 an MRE was completed for the Dougou Carnallite Deposit of 1.068 billion tonnes at 20.6 KCl followed by a Scoping Study.

In 2016, Elemental Minerals changed its name to Kore Potash and raised US\$40 million from the State General Reserve Fund (SGRF); a Sovereign Wealth Fund in Oman and Soceidad Química y Minera (SQM) - a New York listed Chilean lithium and potash company in order to further progress these projects. 2017 saw the Kore Potash Group re-domiciled to the United Kingdom and Kore Potash plc became the new parent company of the group.

Following this move, in March 2018, the company listed on AIM and the Johannesburg Stock Exchange in addition to the company's existing listing on the ASX. At that stage, the company's flagship asset was the Sintoukola Potash Project in the Republic of Congo. At that time, Kore had a gross JORC compliant combined Measured, Indicated and Inferred potash Mineral Resource of 5,953Mt at an average grade of 22.0% KCl, hosted by two potash deposits, the Kola Deposit and the Dougou Deposit; and a Definitive Feasibility Study on the Kola Project was at an advanced stage.

Details of the Kola DFS were released to shareholders in late-January 2019. This showed a post-tax NPV10 (real) of US\$1,452 million and a real ungeared IRR of 17% on an attributable basis at life-of-mine average MOP prices for granular of US\$360/t CFR Brazil and standard of US\$350/t CFR Brazil. At that time, there was a pre-production capital cost of US\$2.1 billion on an Engineering, Procurement and Construction Management (EPCM) basis which included US\$110 million contingency, US\$106 million of escalation and US\$89 million EPCM margin. Capital intensity of US\$956/t MOP placed the project comfortably in the lowest second quartile relative to MOP industry peers. Subsequently, the company has identified a number of significant capital savings.

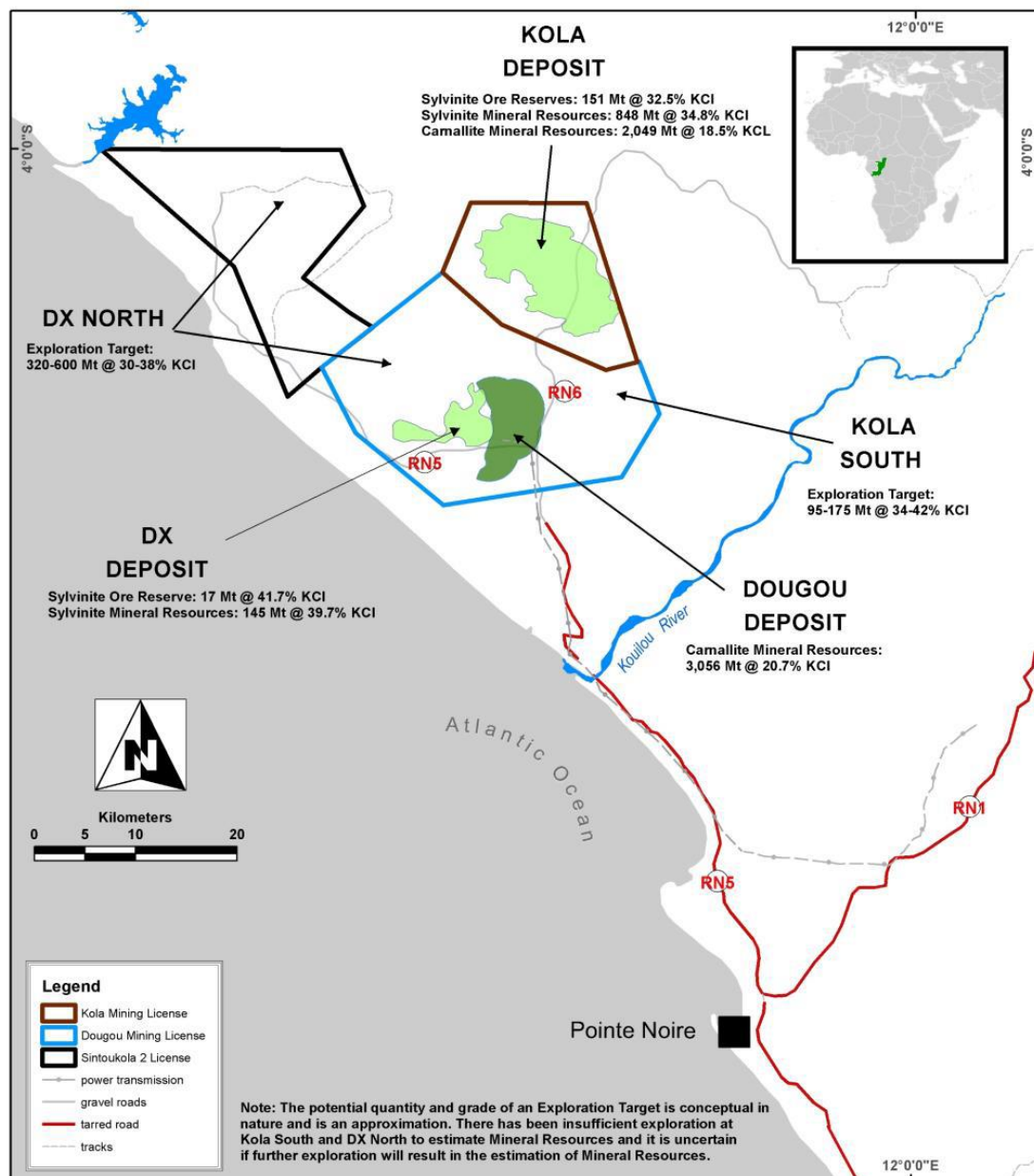
Since then Kore has looked beyond Kola, focusing its immediate attention on a smaller, less capital-intensive project in the wider Sintoukola basin. This should allow the company to get to production faster while still preserving the optionality of the other deposits. April 2019 saw the results of a Scoping Study reported which assessed the viability of producing 400,000tpa of MOP from a portion of the sylvinite in the Dougou Extension (DX) Deposit by a solution mining method. This Scoping Study supported a low opex and strong cash generative operation with estimated base case up-front capital costs of US\$327 million. Management visualised the prospect of accelerating the company into production and cashflow generation via the DX project while the team continued to optimise the flagship Tier-1 Kola sylvinite project.

The PFS for the DX Project was announced in May 2020 when the board was able to confirm the planned move into a Definitive Feasibility Study (DFS) which would pave the way for the DX mine to be put into production and which would serve to unlock the value in this district wide potash play.



## Operations

Kore is developing globally significant potash deposits in the RoC which are located in a new large potash basin in the Sintoukola Potash District. The area offers district style development potential which lies just 15km from the coast and is well positioned to supply the fast-growing African market and the far larger South American market.



Sintoukola Potash District. Source: Company

Across this new large potash basin there are actually three projects focused on the Dougou Extension (DX) sylvinite deposit, Kola sylvinite and carnallite deposits as well as the Dougou carnallite deposit. Kore is at quite an advanced stage as the Kola Project has a DFS in place and is development ready and all these three deposits lie within the Kola and Dougou Mining Licences.



## Background

There has been a history of potash mining in the surrounding area. Sintoukola was explored in the 1960s with the drilling of 31 holes where five apparently indicated significant potash reserves. During that time, until the 1970s, a French group mined the Holle Potash deposit and exported potash at a rate of up to 480,000tpa on a licence area to the south of Kore. Production there however ceased when its mine became flooded. During the 1970s the whole area down from the RoC to South Africa became destabilised by communists and the French left. Since those times there has been relatively little mining in the RoC. Kore has a 90% interest in the Sintoukola Potash Project, which includes the DX and Kola projects.

## Reserves and Resources

Under the old guise as Elemental Minerals, the company commenced exploration in the Sintoukola Potash District in 2010. Since that time c.US\$150 million has been spent on understanding the potential of this potash district, with a vast amount of data collected by work on the ground, as well as on multiple scoping and feasibility studies which have been based on a series of Mineral Resource Estimates for the various deposits.

Classification	Ore Reserves Mt	KCl grade %	Mg %	Insolubles %
Probable	17.7	41.7	0.06	0.19
<b>Total Ore Reserves</b>	<b>17.7</b>	<b>41.7</b>	<b>0.06</b>	<b>0.19</b>

*DX Sylvinite Ore Reserves (gross 100% basis) announced 13 May 2020. Source: Company*

Classification	Ore Reserves Mt	KCl grade %	Mg %	Insolubles %
Proved	61.8	32.1	0.11	0.15
Probable	90.6	32.8	0.10	0.15
<b>Total Ore Reserves</b>	<b>152.4</b>	<b>32.5</b>	<b>0.10</b>	<b>0.15</b>

*Kola Sylvinite Ore Reserves (gross 100% basis) announced 29 January 2019. Source: Company*

Mineral Resource category	Mt	Grade KCl %	Contained KCl Mt
<b>Kola Sylvinite</b>			
Measured	216	34.9	75
Indicated	292	35.7	104
Measured + Indicated	508	35.4	180
Inferred	340	34.0	116
<b>TOTAL</b>	<b>848</b>	<b>34.8</b>	<b>295</b>
<b>Dougou Extension Sylvinite</b>			
Measured	-	-	-
Indicated	79	39.1	31
Measured + Indicated	79	39.1	31
Inferred	66	40.4	47
<b>TOTAL</b>	<b>145</b>	<b>39.4</b>	<b>57</b>
<b>Total Sylvinite (Kola and Dougou Extension)</b>			
<b>Measured + Indicated + Inferred</b>	<b>993</b>	<b>35.4</b>	<b>352</b>

*Mineral resource – Sylvinite (gross 100% basis). Source: Company*

Mineral Resource category	Mt	Grade KCl %	Contained KCl Mt
<b>Dougou Carnallite</b>			
Measured	148	20.1	30
Indicated	920	20.7	190
Measured + Indicated	1,068	20.6	220
Inferred	1,988	20.8	414
<b>TOTAL</b>	<b>3,056</b>	<b>20.7</b>	<b>634</b>
<b>Kola Carnallite</b>			
Measured	341	17.4	59
Indicated	441	18.7	83
Measured + Indicated	783	18.1	142
Inferred	1,266	18.7	236
<b>TOTAL</b>	<b>2,049</b>	<b>18.5</b>	<b>378</b>
<b>Total Sylvinite (Dougou and Kola)</b>			
<b>Measured + Indicated + Inferred</b>	<b>5,105</b>	<b>19.8</b>	<b>1,012</b>

*Mineral resource – Carnallite (gross 100% basis). Source: Company*

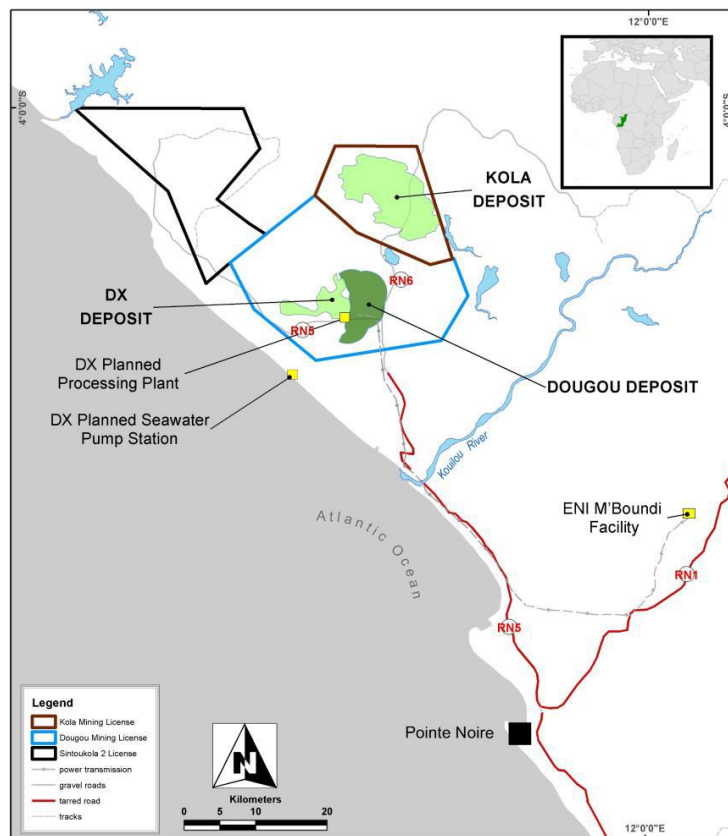
## Geology

Sintoukola contains evaporate sections of rock salt, sylvinite, carnallite, bischofite and tachyhydrite. The entire evaporate structure is 600m thick with the potash found in the Cretaceous Loeme Evaporite formation. Sylvinite and carnallite are the potash minerals where sylvinite is a mixture of the minerals sylvite (potassium chloride KCl in natural mineral form) and halite (rock salt – the natural mineral form of sodium chloride NaCl), which are mined as a source of potash. Sylvinite is the most important source for the production of potash in North America and Russia.

Carnallite is a soft, white halide mineral which is hydrated potassium and magnesium chloride ( $\text{KMgCl}_3 \cdot 6(\text{H}_2\text{O})$ ), that is also source of potassium for fertilizers. Bischofite is a hydrous magnesium chloride mineral which belongs to halides and is a sea salt concentrate. Tachyhydrite is a hydrous chloride of calcium/magnesium which is seen to be a rare component of marine evaporite salt deposits which is quite unstable as it rapidly dissolves on exposure to moist air.

## Dougou Extension (DX) Sylvinite Project

The DX Prospect lies immediately to the west of Dougou Deposit and is located within Kore's Dougou Mining Licence, covering an area of some 10km by 15km. DX also lies southwest of the company's flagship Kola Sylvinite Deposit, which will be a separate development. The board was seeking to design a project that could be brought rapidly on stream with capital costs of under US\$300 million which made it financial possible for a greenfield operation in RoC. The DX Sylvinite Project was conceived with these twin objectives in mind and is being developed as a scalable solution mine.



*DX Project – deposit and infrastructure. Source: Company*

In 2019, Kore completed a Scoping Study on a 400,000tpa of MOP solution mining operation at DX which confirmed the district scale development potential of this world-class potash basin. Following this success, the company swiftly moved into a PFS on the project which involved a 2D seismic programme, drilling programme, technical studies and dissolution testing using core samples from the DX deposit. The PFS revealed that DX is highly competitive in terms of mine gate costs.

### Pre-Feasibility Study

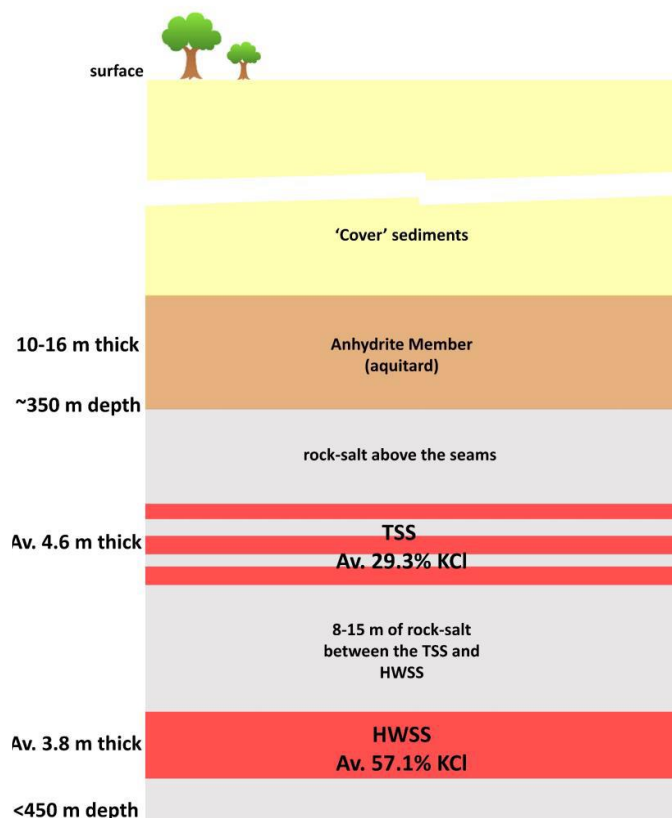
**The PFS showed a strong investment case IRR of 22.9% (real ungeared post tax), a 4.3-year payback period and an 18.4 year mine life.** The project modelled was a 400,000tpa operation producing MOP granular product with a grade of 98.5% KCl. The pre-production capital cost was low at an estimated at US\$285.9 million which equated to capital intensity of US\$715/tpa at nameplate capacity. This low capex and short construction period will surely help to increase the number of financing options.

<b>Project financials</b>	
Total revenue	US\$3,113m
Average annual revenue	US\$169m
Average annual EBITDA	US\$118m
EBITDA margin	69.8%
Average post-construction, post tax annual free annual cash flow <sup>1</sup>	US\$95m
Free cashflow margin	56.4%
Total post tax free cash flow <sup>1</sup>	US\$1,469m
Attributable <sup>2</sup> post tax, un-gearred NPV (10% real)	US\$319m
Attributable <sup>2</sup> post tax, un-gearred IRR	22.9%
Payback period from date of first production	4.3 years
Scheduled LOM	18.4 years
Average forecast MoP granular price	US\$422/t

<sup>1</sup> free cash flow defined as EBITDA minus tax, minus capex    <sup>2</sup> attributable to Kore's 90% interest

*DX Sylvinitic Project PFS financials. Source: Company*

Compared to the Scoping Study, the PFS transports product through the existing port at Pointe Noire and uses a single well selective dissolution model which has lower risk. Operating costs were highly attractive at US\$62.5/t MOP mine gate, US\$86.6/t MOP FOB Ponte Noire and US\$114.61/t FOB. DX is a high-quality asset with sylvinitic ore reserves of 17.7Mt at 41.7% KCl, a grade which is in the top quartile of all operating potash mines and potash development projects globally. Sylvinitic Mineral Resources of 145Mt at 39.7% KCl provides the potential to extend life of project as only 22% of Mineral Resources were scheduled for the PFS. In addition, there is a secondary mining opportunity post the completion of the initial cavern.



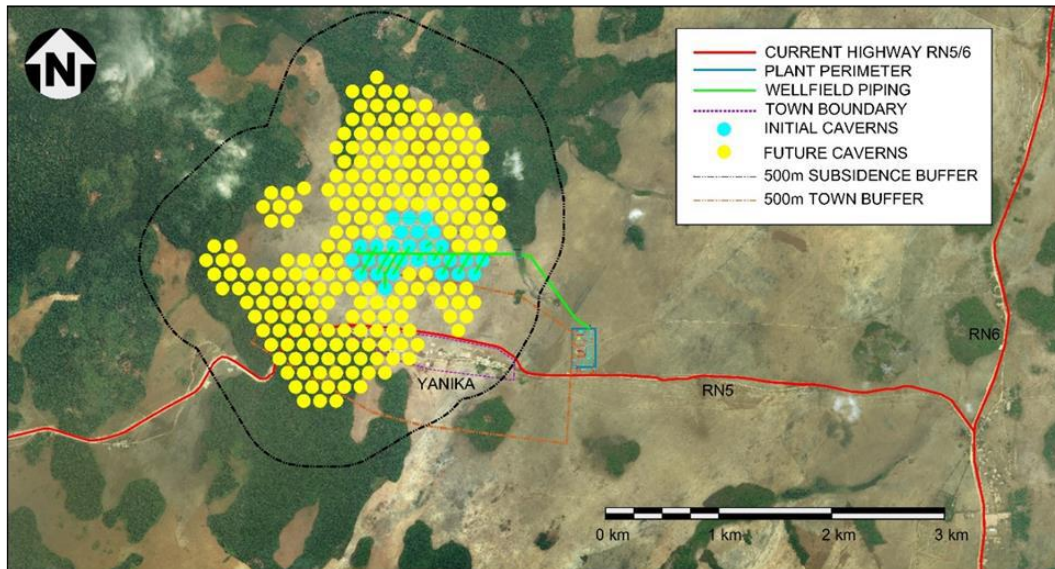
\*Average thickness and grade data is for the Indicated MRE

*Geology of the DX Sylvinitic Project. Source: Company*



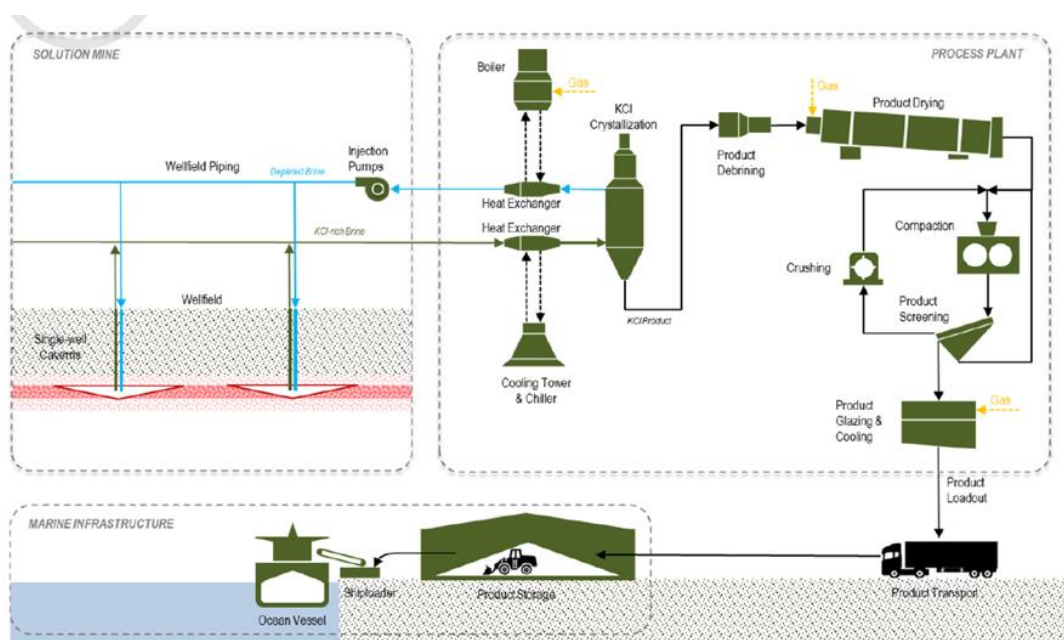
## Solution Mining

Selective solution mining provides a low cost, efficient and safe way to extract the resource, with the operation only having a small footprint and no tailings. It is also a low risk process as there is plenty of operational experience as this is a proven mining method globally. Constructing and starting up a solution mine typically takes a lot less time and investment than for a conventional mine. The process requires lower capex, less manpower (Kore is planning to have a workforce of just 87), less infrastructure and the structures that can be built a lot more rapidly than those used in conventional mining operations.



*Wellfield and process plant location planned for DX. Source: Company*

The plan is to initially mine the HWSS through the drilling of 28 wells. Hot NaCl rich brine will be pumped down to dissolve KCl which is then returned to the surface. After the extraction of HWSS, the holes are plugged below the TSS and the process repeated. The process for each well is expected to take six years and the cavern (void) that is left is planned to be left filled with solution to minimise subsidence.

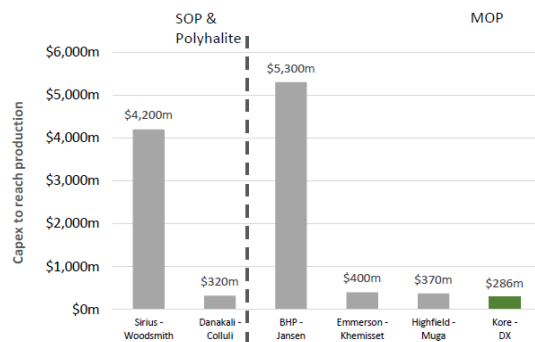


*Solution mining flowsheet. Source: Company*

On the surface, the process is relatively straight forward with the KCl in solution being cooled to crystallise the KCl, then dried and compacted. The final product will be trucked by a local contractor the 65km to the Port of Pointe Noire where a 30,000t storage shed is to be erected (enough for one month’s production) right on the dock. This will allow for easy loading on to ships for its onward journey to the target markets.

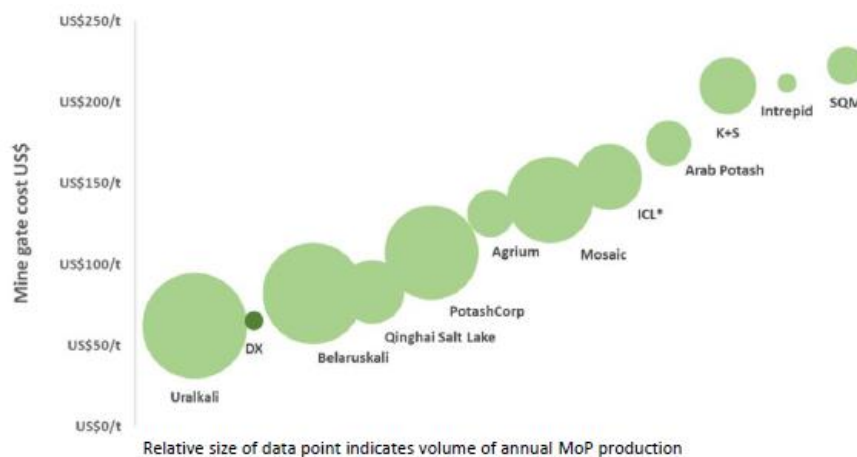
### Benchmarking DX

**Analysis has shown that DX represents the highest-grade undeveloped potash mine in the world, which is reflected in its low production costs.** In terms of grade, DX’s nearest current and future competitors are Rocanville (Potash Corp), Cory (Potash Corp), Vanguard (Gensource) and Encanto (Muskowekwan) with grades ranging from 30-37% KCl with the closest two projects representing projects which are well over 1,000m deep.



Pre-production capex and operating costs for the peer group. Source: Company

The PFS provided the data for some compelling benchmarking. Firstly, DX has the lowest capex of any comparable pre-production potash deposit. Secondly, DX has lower operating costs than any comparable project that is currently in development. Thirdly, DX is amongst some of the lowest operating cost peers even when compared to the large-scale producers.



Mine gate costs of the DX compared to that of existing producers. Source: Company

Not only will DX have low mine gate costs, but the project will additionally benefit by having some of the shortest transport distances to the target export market of any potash project.

## Target markets

Kore intends to produce granular K60 MOP which is planned to be mainly sold into the African and South American markets. Sintoukola is uniquely well situated to supply these key export markets, it being much closer to the African market than its global peers and so has much lower shipping costs. Brazil is one of the three largest global importers of MOP and needs to import more than 10Mtpa to meet around 90% of the country's demand.

Region	Consumption ktpa MOP
South Africa	371
Nigeria	126
Other West Africa	180
Total Brazilian market	11,950

*Kore's target markets. Source: Company*

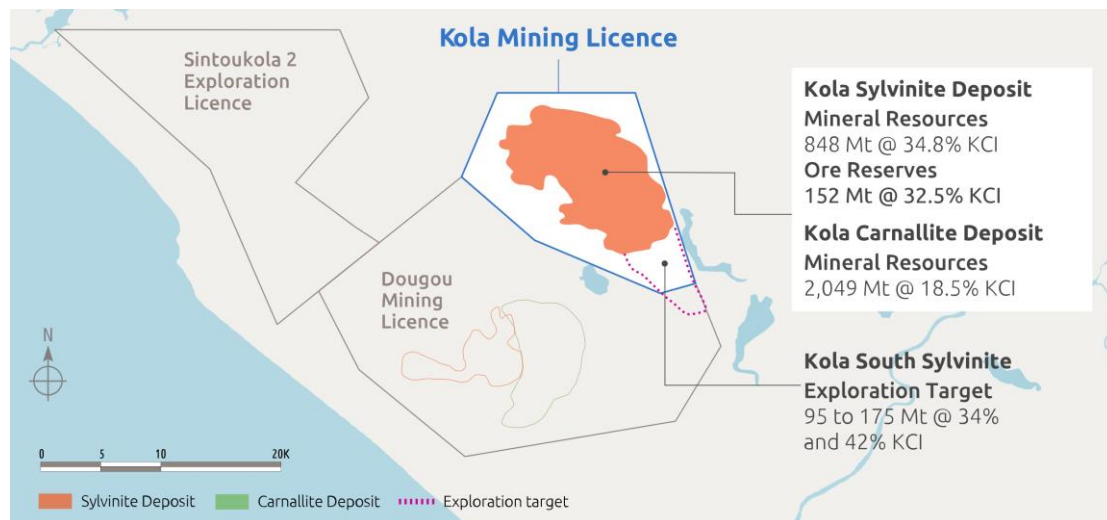
Planned initial production at DX is 400ktpa MoP equating to around 0.6% of global demand. This is not a large amount of new potash to enter the market and therefore is unlikely to disrupt pricing in the markets that Kore are targeting. Currently, on a worldwide scale, the African market might be not be that large, but it is growing rapidly in line with the continent's population and demand for food. **There is a huge unrealised market for fertiliser in Africa which remains the most under-fertilised continent on the planet and farmers there are increasingly looking to boost crop yields through improved farming methods and using more fertiliser.** Africa uses less than 25kg of fertiliser per hectare (kg/ha) which is way below the level of usage in the US, Europe, China and India at more than 100kg/ha. In all, there are 600 million arable hectares in Africa plus the continent also has 60% of the world's uncultivated arable land. All of which points to a potentially vast market on the doorstep of an African MOP producer.

The company is positioned to have a very low cost of supply into these target markets for a couple of reasons. Firstly, the Sintoukola Potash District has a higher grade and shallower deposit than many of the existing potash producers where shafts need to be sunk to a depth of often more than 1,000m to access potash. So, Kore's projects come with much lower capex and opex. Secondly, being located close to the deep water port at Pointe Noire means that there is not only a short distance in RoC (65km for DX), but also the shipping routes from port to customers are much shorter than its competitors.

The PFS for DX showed low average mine gate operating costs of US\$63.5/t MOP and a free on board (FOB) Pointe Noire costs of US\$86.6/t MOP, which is highly competitive. **Kore would easily be the lowest cost supplier to West Africa as the average cost of MOP delivery to this target market is round US\$114.6/t MOP.** It is this competitive cost structure that will allow Kore to really compete on price against all existing suppliers in its key target markets.

## Kola Sylvinite Project

The Kola Sylvinite Project is a Tier 1 asset with long life production potential of 2.2Mtpa MOP over a 33-year life from 508Mt Measured and Indicated Mineral Resource grading at 35.4% KCl. Kola is planned to be the next stage in the company's development strategy following DX and once operational it has all the makings of being one of the lowest cost global MOP producers. It is a development ready project which was granted mining convention in 2018 with an amendment to Environmental Impact Statement Assessment (EISA) which has also been approved.



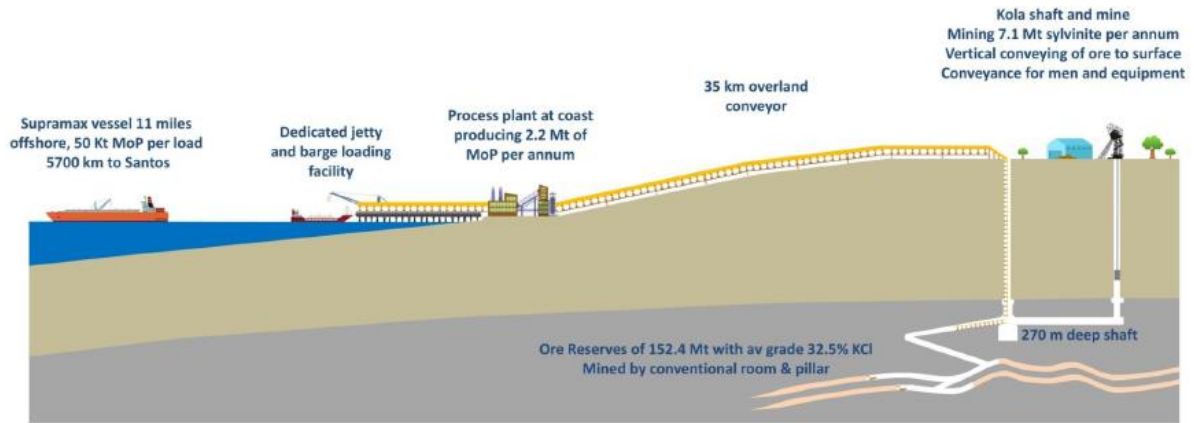
*Kola Sylvinite Project. Source: Company*

The Kola Sylvinite Deposit covers an area of roughly 12km by 8km and is hosted by flat or gently dipping seams which lie some 180m to 300m beneath the surface. The Upper and Lower Seams are the most important at Kola and have an average grade of 36% and 31% KCl respectively. These seams average around 4m in thickness and are separated by some 3-4m of rock salt. The Hangingwall Seam is also seen to be important as it is one of the highest-grade potash seams ever discovered worldwide averaging 59% KCl, although it is not so extensive as the other key seams. The deposit is open laterally and the latest round of drilling in the area has highlighted the potential for further expansion several kilometres to the southeast.

## Definity Feasibility Study

The Kola DFS was completed in Q1 2019 and construction is planned following DX becoming operational. Kola is a high-quality deposit as it is not only shallow, but also high grade with a low level of insolubles as well as lying close to the coast with access to infrastructure. The DFS determined the lower operating costs in the industry of US\$102/t MOP cost and freight (CFR) delivered to Brazil. Low mining costs result from an attractive combination of the seams lying at a fairly shallow depth and high grade (35% KCl) which is also helped by only limited roof support being required. At the same time, the low insoluble content (at just 0.3%) of the ore body reduces processing costs. The ore body lies at a comparatively shallow depth requiring the sinking of two 270m shafts, whilst many of the peer companies are mining at a depth of 1,000m plus.





*Schematic of the Kola Sylvinitic Project. Source: Company*

Pre-production capex was determined to be US\$1,103 million on an EPCM basis where Kore selects a contractor which will provide the management services for the whole project, and would have a 4-year construction period. Currently, the team is working on the optimisation of capital costs and a construction schedule. Early work has already resulted in US\$400 million of capex savings being identified.

Highly compelling project economics	
Average annual free cash flow	US\$500m
Average cash operating margins	75%
Post-tax attributable IRR (ungeared)	17.2%
Post-tax attributable NPV (10% real)	US\$1,452m
Pre-production capital cost (EPCM basis)	US\$2,103m
Life of Mine free cash flow	US\$14,545m
Payback period	4.3 years

*DFS economics for the Kola Sylvinitic Project. Source: Company*

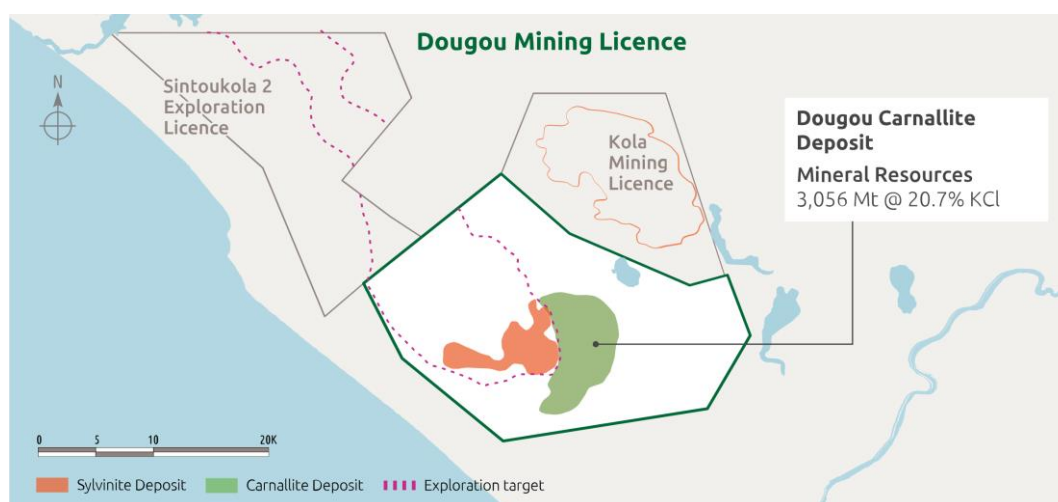
The project scores highly on many points. Shipping costs from the export facility to Brazil are low due to the directness of the shipping route, which results in the lowest cost viable source of potash supply to Brazil. The ore body lies just 35km from the planned export facility on the coast, with a proposed overland conveyor and dedicated jetty for export to Brazil and West Africa. The potash will be processed with brine disposed into the ocean, which means that there is no need for any surface tailings storage facility. The project will also benefit from an abundant water supply available at a low cost along with competitive gas and power costs available locally. Imported equipment for the construction of the mine will only need to be transported 90km by road from the Port of Pointe Noire.

### Very low-cost supply into target markets

Kore has the potential to become highly disruptive in the MOP market due to the company having the ability, once Kola is operational, to compete on price against all existing suppliers in its selected growing markets. **Kola is positioned to become not only the second lowest cost operation on an export cost basis at US\$87.63/t free on board (FOB - real 2018) but perhaps even more importantly the company could actually become the lowest cost supplier globally of potash to Brazil at US\$102.47/t CFR (real 2018).** Looking ahead, Kola could become more and more competitive in scenarios where there is ever increasing land transport and shipping costs. On top of this, Kola is destined to provide big environmental benefits compared to its peers and which is due to the appealing combination of lower operational input costs coupled with the obvious shorter transport distances to end users.

## Dougou Carnallite Deposit

The Dougou Deposit is a large, thick carnallite deposit which is located some 15km southwest of Kola. Hosted in the Leome Evaporite Formation are four carnallite seams that lie roughly horizontal and are each 7m – 12m thick making a combined thickness of 30m – 40m. These seams sit 400m to 600m below the surface and are reported to be continuous across the deposit. There is little variation in the thickness of the seams and lateral grade variation within each seam is less than 10%. The hanging wall seam (HWS) represents an unusually high grade (90% - 91%) carnallite which is 10m thick on average with a grade of 24% - 25% KCl.



*Dougou Carnallite Deposit. Source: Company*

The carnallite consists of the interlayering of carnallite rich layers (70% - 91% carnallite) with lesser halite (NaCl) and minor amounts of anhydrite and insoluble material. The Dougou Carnallite Deposit has a Measured and Indicated Mineral Resource of 1.1 billion tonnes grading 20.6% KCl which was estimated in February 2015. Of this total, the very rich HWS carnallite seam contributes 311Mt grading 24.7% KCl to this figure. The deposit is reported to be open laterally to the north, south and east.

Scoping Study produced excellent results	
Phase 1 MOP production	400ktpa
Phase 1 capital expenditure (including 20% contingency)	US\$430 million
Average life of mine operating costs (including 3% contingency)	US\$68/t MOP
Phase 1 free cash flow	US\$100 million pa
Life of mine based on Measured and indicated resources	47 years
Internal Rate of Return (IRR)	21.67%
NPV (10) post tax	US\$880 million

*Key results from the Scoping Study (2015) for Dougou. Source: Company*

A Scoping Study was completed in February 2015 which indicated that a low capital, low operating cost, quick-to-production and scalable solution mine could be established. This painstaking work identified that Dougou was ideally suited to the solution mining method for a number of reasons that included the abrupt geological contacts, low angle of dip (horizontal to 5°), thickness, continuity, high carnallite content and low insoluble content. At the time, Phase 1 free cashflows of US\$100 million per annum were seen as potentially allowing the self-financing of both Phase 2 and Phase 3 capital expenditures.

## Exploration targets

In addition to the resources that have already been determined, the company has exploration targets at Kola South and DX North where there is the potential for further resources. The table below outlines the expected range of tonnes and grade, although at the moment there is insufficient data to estimate Mineral Resources.

Seam	Area km <sup>2</sup>	Average thickness m	Average density g/cm <sup>3</sup>	Tonnage Mt			Grade KCl%		
				Minimum	Mid- point	Maximum	Minimum	Mid- point	Maximum
<b>KOLA SOUTH</b>									
TSS	-	-	-	-	-	-	-	-	-
HWSS	23	2.74	2.02	19	29	39	50	56	60
US	23	3.40	2.10	58	79	100	30	34	38
LS	23	2.50	2.11	18	28	37	28	31	34
<b>All seams</b>				<b>95</b>	<b>135</b>	<b>175</b>	<b>34</b>	<b>38</b>	<b>42</b>
<b>DX NORTH</b>									
TSS	185	5.30	2.11	155	233	310	24	29	34
HWSS	185	2.60	2.02	49	64	78	55	59	60
US	185	3.40	2.10	66	99	132	30	34	38
LS	185	2.50	2.11	49	64	78	28	31	34
<b>All seams</b>				<b>320</b>	<b>460</b>	<b>600</b>	<b>30</b>	<b>35</b>	<b>38</b>

*Exploration targets. Source: Company*

## Strategy for growth

Rapidly increasing amounts of fertilizer are necessary to feed the world's ever-growing population. However, in this day and age, it is hard to believe that potash still gets put on a train to travel 1,500km to Vancouver then loaded on to ships to be transported all the way to Africa when the fertilizer can in fact be produced a lot cheaper more locally. **Kore is ideally positioned with advanced projects, low cost production and an enormous resource to really cause a stir in world potash markets.**

The RoC is a lesser known destination for mining, but it seems to be an attractive place to operate. The country has a small population and as such there is not the pressure for social change that exists in neighbouring DRC. As the country is so heavily dependent on oil, the government is highly incentivised to find other sources of foreign earnings and is supportive of Kore and its plans. The government does get a 10% free carried interest but there are tax holidays and both taxation rates and royalties are low by international standards.

Over time, investors could witness the opening of a series of mines in Kore's Sintoukola Potash District led by DX, which has the highest-grade undeveloped potash deposit in the world. Solution mining for potash is a very common practice and low risk, particularly when the geology is amenable. With the resource at a depth of 450m, DX is not nearly as deep as Canadian or European projects, allowing vertical holes to be drilled into the potash. No chemicals are required, with the potash being mined using hot water in an area that has access to gas and low energy costs. Solution mines are highly scalable compared to conventional potash mines which require shafts to be sunk and which can require a budget in excess of US\$1 billion. The team wanted to design a project that they could be brought into production rapidly for under US\$300 million and it looks like that has been achieved.

With the DFS work programme finalised, the team will be looking to fund this programme which is expected to cost US\$12-18 million and be supported by existing shareholders and new institutional investors. The PFS established a pre-production capital cost of US\$286 million with strong cash flows which are sufficient to support at least US\$150 million of debt. The DFS will include further discussions with potential debt financiers from a current large pool of interested commercial European and African lenders which all have proven track records of supporting resources projects in Africa. The remainder is expected to be equity financed with probably some degree of royalty streaming finance. Already, offtake discussions are reported to be at an advanced stage with multiple offtake partners.

The DFS will be looking at a circa 400,000tpa operation as the target is to get a low capex project into production. With a current 18.4 year life based on 22% of the MRE, this would suggest an ultimate lifespan of at least four times the initial mine life, potentially more than 70 years. So, once DX is up and running and generating cash, management will look at how to bring some of that potential forward. This would open the door to either extend the mine life or expand the scale of the DX project or potentially both within the existing Mineral Resources at DX. The DFS will require a lot more technical work including geotechnical, hydrological, engineering design and environmental studies. This work could see another two holes drilled which would be expected to add value and increase the project NPV. However, this might not happen during the DFS as there might be a problem getting the holes drilled in the necessary timescale due to delays resulting from COVID-19. Reassuringly, all the permits are in place.



DX sits on the Dougou Mining Licence with has an existing EISA, but this was completed ahead of DX being designed. So, during the DFS the additional environmental data collected will result in the preparation of an amended EISA for approval. Also, during the DFS, contractual negotiations with energy suppliers in the RoC are expected to be finalised. Getting DX into production will make financing Kola much easier. With DX up and running the company will have already upgraded the road and have a gas supply, offices and a camp in place. **This all means that not only will capital costs be reduced, but it will also speed up the development of Kola because the infrastructure for DX overlaps with the Kola Sylvinite and Dougou Carnallite projects.** DX is a game changer, as in one fell swoop, the financing of Kola becomes possible as it has been shifted from being a greenfield to a brownfield project which is a lot easier to finance. Kore will by then already be successfully operating in the Congo and exporting low cost potash to world markets.

Building a conventional mine requires a four-year construction period. Between DX and Kola there might be other investment stages. Firstly, an increase in the scale of DX as the PFS was based on just 22% of MRE and still had an 18-year life at 400,000tpa. The DFS will consider all the resource and could easily have a much longer life, of perhaps 30 years. Once DX is in operation, the next final investment decision might be a scaling up of this project say from 400,000tpa to 800,000tpa which would still conceivably have a 15 year plus mine life. Sitting behind all of this is 6 billion tonnes of potash which Kore will only be just starting to unlock. Brad Sampson, the CEO, was not at the helm for the planning of Kola, and so it is more than likely that with the experienced gained at DX, that the team might revisit the design of Kola moving ahead and which might well be cast more in the image of DX.

There looks to be a very healthy flow of news developing with the finalising and funding of the DFS work programme, updates on the DFS as key milestones are met and then signed off, as well as advising investors on the progress of the negotiations on offtake agreements and project financing enter the final hurdle. Looking at the timing, the DFS may commence in September 2020 and be completed in April 2021. With the DFS in place, the team is planning to work to getting the designs finalised before the EPC. All being well, by December 2021 it is possible that Front-End Engineering Design (FEED) will be completed which is an engineering design approach used to control project expenses by thoroughly planning the project so that fix quoted bids can be sought for the EPC. This would be followed by a 21-month construction period commencing in early 2022. All this suggests that production at DX could begin as early as in Q4 2023.

Kore seems very lowly priced compared to its potential and even its competitors would probably grudgingly admit that the company has the best undeveloped potash project in the world. Today, the team is on the brink of bringing Kore into production – a move that has been significantly de-risked as the company already has the necessary mining licences in place. They only need to complete the DFS and iron out the funding to see DX going into production which will allow this potentially massive growth story to begin in earnest. DX and the following projects could all generate significant amounts of cash.

Kore will either be allowed to grow or be acquired in our view. DX and Kola put Kore on a real journey with its 6 billion tonnes of potash. Not only are the company's production costs very cheap but also Kore has the shortest shipping route to the African markets and Brazil. Moving ahead, the development of the Sintoukola Potash District will be a game changer in the supply of potash from the Southern Hemisphere. All the pieces are now almost in place to allow Kore to commence a dramatic growth trajectory place but it remains to be seen whether the majors will be prepared to concede market share to them or buy them up. **Either way there looks to be substantial value to be created at Kore for the benefit of all shareholders over the coming years.**

## Financials & current trading

Results over recent years reflect administration costs as well as the costs of redomiciling the business to the UK.

US\$'000 Year end 31 December	2015	2016	2017	2018	2019
Revenue	-	-	-	-	-
Pre-tax profit (loss)	-2,649	-4,260	-4,344	- 6,252	- 4,178
Net profit/(loss)	-12,444	-7,619	9,247	-13,374	-7,307

*Kore Potash's five-year trading history. Source: Company accounts*

### 2019 results

The 12 months ending 31<sup>st</sup> December 2019 was a period which saw the company complete the Kola DFS and the DX PFS. The loss before income tax came out at US\$4.178 million after directors' remuneration (US\$0.828 million), equity compensation benefits (US\$0.907 million), salaries, employee benefits and consultancy expenses (US\$1.687 million) and administration expenses (US\$1.245 million). After a minimal tax payment, the loss for the year was US\$4.202 million. Following US\$3.104 million of exchange differences, the total comprehensive loss for the year came out at US\$7.307 million. The loss attributable to the owners of the company was US\$4.204 million, which equated to a loss per share of 0.36 cents.

### Recent news

In April 2020, the company was able to announce that the Minister of Tourism and Environment of the RoC issued certificates on 31<sup>st</sup> March 2020 granting 25-year approvals to the ESIA's for both the Dougou and the Kola Mining Licences. In the past, the ESIA's for both licences required reapproval on an annual or 3 yearly basis. This new 25-year period of certification better aligns with the initial term of the mining licences and the Mining Convention.

May 2020 saw the PFS for the DX Project being announced. It announced a nameplate production target of 400,000tpa MOP over an initial 18-year life based on Probable Ore Reserves with Free on Board (FOB) Pointe Noire costs of US\$86.61/t MOP and an average annual EBITDA of US\$118 million. This produced an estimated real ungeared post tax IRR of approximately 22.9% and NPV10 (real) of approximately US\$319 million on an attributable basis at life-of-mine average MOP price for granular product of US\$422/t MOP (Argus Media's price forecast for DX Project's target markets). The initial pre-production capital cost was c. US\$286 million (real 2019), including contingency, giving rise to low pre-production capital intensity of US\$715/t MOP produced.

## **Risks**

### **Geological risks**

There are a series of risk factors concerning the amount of understanding of the geology of the project areas, the mineralisation being targeted and its distribution.

### **Political risk**

There are political risks involved in companies operating in RoC. The mining industry is arguably the most susceptible sector of the market to political risk largely due to its importance to the host country's economy.

### **MOP pricing risks**

MOP prices look to be highly cyclical and follow the metals and mining market. Changes in the MOP price could have a negative or positive impact on the valuation of the company's projects and revenue from the sales of metals. Over the past ten years or so, the price of MOP has been volatile, trading in the range of US\$1,000 (2008/09 peak) to US\$220 (2016 low FOB Vancouver) per tonne and was trading at around the US\$360 CFR Brazil ahead of the market disruption linked to the spread of the COVID-19 infection.

### **Exchange rate risks**

Movements in the value of currencies will have an effect on the company's accounts from the translation of sales of MOP internationally in US dollars with local costs in Central Africa francs. Fluctuations in the value of the dollar and the Central African franc against the pound may have an effect on the valuation that Kore is awarded by the UK stock market.

### **Future funds**

The market for raising funds for small cap companies look to have had improved from the worse conditions a couple of years ago, however the global spread of the COVID-19 infection has meant that equity markets have once more become difficult. Even before the arrival of this pandemic, some recent fund raisings in the resources sector saw share prices being undermined by incoming investors demanding substantial discounts to provide the necessary capital.

## Board of Directors

### David Hathorn – Chairman

David is the ex-CEO of the Mondi Group (30 April 2017). The Mondi Group is a FTSE 100 global packaging and paper listed group on both the London and Johannesburg stock exchanges, with operations in 30 countries and employing 25,000 people. The Mondi Group performed exceptionally well under David's leadership.

Before Mondi, David was at Anglo American, where he was a member of the Group Executive Committee from 2003 and an Executive Director of Anglo American PLC from 2005, serving on several of the Boards of the Group's major mining operations. He is an internationally experienced financial and commercial executive with thirty years' experience in the financing and development of mining projects.

### Brad Sampson – CEO

Brad has more than 25 years resources industry experience building and operating large scale mining projects internationally including in West and Southern Africa. A qualified mining engineer, he has held leadership and board roles in several public listed companies.

Brad has led the successful turnaround of mining businesses in Cote d'Ivoire and the DRC and has previously been the CEO of Discovery Metals and held General Manager roles at Gold Fields operations in South Africa and Australia.

### Jonathan Trollip - Non-Executive Director

Jonathan is a globally experienced Director (Executive and Non-Executive) with over 30 years of commercial, corporate, transactional, governance and legal experience. He is currently the Non-Executive Chairman of Global Value Fund Ltd (ASX listed), Plato Income Maximiser Limited (ASX listed), Spheria Emerging Companies Limited (ASX listed) and Future Generation Investment Company Ltd and Antipodes Global Investment Company Ltd and holds various private company Directorships in non-profitable organisations.

Jonathan is also a Principal and Director of Meridian International Capital Limited, which is a Sydney (Australia) based structured finance group where he has been engaged for the past 22 years. During this time, Jonathan has been involved in financing numerous resource transactions in various global locations.

Prior to this, he was a Partner with Herbert Smith Freehills law firm. He holds postgraduate degrees in economics and law, Jonathan is an admitted attorney in both England and Australia and is a Fellow of the Australian Institute of Company Directors.

### **David Netherway - Non-Executive Director**

David is a mining engineer with over 40 years of experience in the mining industry. He was involved in the construction and development of the New Liberty, Iduapriem, Siguiri, Samira Hill and Kiniero gold mines in West Africa and has mining experience in Africa, Australia, China, Canada, India and the Former Soviet Union. He served as the CEO of Shield Mining until its takeover by Gryphon Minerals.

Prior to that, David was the CEO of Toronto listed Afcan Mining Corporation, a China focused gold mining company that was sold to Eldorado Gold in 2005. He was also the Chairman of Afferro Mining which was acquired by IMIC in 2013. David has held senior management positions in a number of mining companies including Golden Shamrock Mines, Ashanti Goldfields and Semafo Inc. He is currently the Chairman of AIM & TSXV-listed Altus Strategies plc and ASX-listed Canyon Resources Ltd. David also holds various private company directorships.

### **Timothy Keating - Non-Executive Director**

Tim is Head of Mining Investments Private Equity at the State General Reserve Fund (SGRF), a sovereign wealth fund of the Sultanate of Oman. Prior to joining SGRF in 2015, Tim was CEO of African Nickel Limited, a nickel sulphide development company where he grew the business through several acquisitions, project development and fund raisings.

Tim also worked at Investec Bank for the Commodities and Resource Finance Team (2004-2010), and at Black Mountain Mine owned by Anglo American plc, in South Africa. He is a Non-Executive Director of Kenmare Resources plc. Tim has a BSc Mining Engineering from West Virginia University and has a Mine Managers Certificate of Competency.

### **José Antonio Merino - Non-Executive Director**

José Antonio is currently Senior Manager of Business Development at Sociedad Química y Minera de Chile S.A. (SQM), one of the world largest Lithium, Iodine and Specialty Fertilizer producers. He is also a board member of the Ajay-SQM group, a Joint Venture between SQM and Ajay Chemicals that produces Iodine derivatives, with presence in North America, Europe, and Chile. Prior to joining SQM, he worked at EPG Partners as head of a mining private equity fund, at Asset Chile, a Chilean boutique investment bank, and at the equity research department of Santander Investment. He is a qualified Civil Engineer having graduated from Pontificia Universidad Católica de Chile.



## Management

### **Andrey Maruta – CFO**

Andrey is a fellow member of the Association of Chartered and Certified Accountants (UK), with over 16 years' experience in the mining industry including as CFO at Petropavlovsk Plc, which has a Premium Listing on the LSE. Andrey also has worked in the audit function at accountancy firm Moore Stephens International in both the UK and the Russian Federation.

### **Gavin Chamberlain – COO**

Gavin graduated from the University of the Natal (Durban) in 1987 (BSc. (Eng) Civil). Having had an Eskom bursary, he did his formative years in engineering in both the structural and the waste and ash dump departments at Eskom, Megawatt Park. Whilst there he completed a GDE from Wits University in Geotechnical Investigation and Tailings and Waste design and registered as a Professional Civil Engineer with ECSA.

Having gathered an understanding of design Gavin then moved on to join Fraser Alexander Construction to further his practical understanding and application of engineering. In his role with Fraser Alexander he was engaged with construction of two tailings dams, three water diversion systems, two toxic waste dumps and a domestic waste dump along with various smaller projects. His first exposure to company management was also gained there where he served on the management team executive committee.

His next step was a natural progression in the mining project field when he joined TWP as a civil projects engineer looking after the civil aspects of an EPCM mining project for Anglo Platinum. Gavin spent 16 years with TWP and held various roles from engineering manager, head of the civil department, project manager and head of project delivery accountable for project management, controls and construction. He was also on both the Exco and served as a director of TWP after the listing. At Amec he was employed as Director of Projects for Africa and spent a large part of his time there as the dedicated Project Director on the \$1.8 billion uranium project in Namibia. Gavin completed his time at Amec Foster Wheeler as the Global Project Delivery lead and the Operations Director for Mining in AMEE (Africa, Middle East and Europe). His current role at Kore Potash is a culmination of experiences gained across the full gambit of mining operations and is one that he sees as challenging and rewarding as many aspects of experience gained over the years are now being used.

### **Guy de Grandpré – Country Manager**

Guy is a senior Executive with nearly 20 years of experience operating in the mining sector in Africa. He previously held senior roles with Alufer Mining in Guinea, B2Gold in Mali, Kinross Gold in Mauritania and Ghana, Newcrest Mining in Ivory Coast, EMAL International in Algeria and Rusal in Guinea. Guy has exhibited strong and successful experience with stakeholder management and with implementing corporate business strategies in mine development, construction and operation phases in Africa.

## Forecasts

We initiate coverage of Kore with forecasts for the financial years ending 31<sup>st</sup> December 2020 and 2021. In 2020, the company is planning to start work on the DFS for DX which is expected to be funded by existing investors and new institutions. For the period we estimate a pre-tax loss of US\$4.675 million which with a larger number of shares now in issue, equates to a loss of 0.28p

In 2021, it is expected that the DFS on DX will be completed which will allow discussions with financing houses and offtake partners to be finalised. This looks like being very busy period and we forecast a pre-tax loss of US\$4.925 million and a loss per share of 0.25p.

Year End 31 December (US\$'000s)	FY2018a	FY 2019a	FY 2020e	FY 2021e
Directors remuneration	(813)	(828)	(850)	(875)
Equity compensation benefits	(695)	(907)	(900)	(900)
Salaries, employee benefits and consultancy expenses	(1,326)	(1,687)	(1,700)	(1,800)
Credit loss provision	-	-	-	-
London listing and re-domicile expenses	(1,200)	(50)	-	-
Administration expenses	(2,323)	(1,245)	(1,250)	(1,350)
Fair value change in derivative financial liability	110	502	-	-
Interest income	73	53	25	-
Interest and finance expense	(81)	(16)	-	-
Net realized and unrealized foreign exchange gains	3	(1)	-	-
<b>Loss before income tax expense</b>	<b>(6,252)</b>	<b>(4,178)</b>	<b>(4,675)</b>	<b>(4,925)</b>
Income tax	(17)	(24)	-	-
<b>Loss for the year</b>	<b>(6,296)</b>	<b>(4,203)</b>	<b>(4,675)</b>	<b>(4,925)</b>
<b>Other comprehensive income/(loss)</b>				
<i>Items that may be subsequently reclassified as profit or loss</i>				
Exchange (loss)/gain on translating foreign operations	(7,104)	(3,105)	-	-
Other comprehensive income/(loss) for the year	(7,104)	(3,105)	-	-
<b>Total comprehensive (loss)/income for the year</b>	<b>(13,373)</b>	<b>(7,307)</b>	<b>(4,675)</b>	<b>(4,925)</b>
<b>Loss attributable to:</b>				
Owners of the Company	(6,250)	(4,204)	(4,655)	(4,895)
Non-controlling interest	(20)	1	(20)	(30)
	(6,269)	(4,203)	(4,675)	(4,925)
<b>Total comprehensive (loss)/income attributable to:</b>				
Owners of the Company	(12,833)	(7,308)	(4,655)	(4,895)
Non-controlling interest	(541)	1	(20)	(30)
	(13,374)	(7,307)	(4,675)	(4,925)
Basic and diluted loss per share (cents)	(0.75)	(0.36)	(0.28)	(0.25)
Weighted average number of shares	838,752,968	1,163,030,183	1,655,521,857	1,943,564,854
Total shares plus options, warrants and performing rights	975,380,460	1,613,481,331	2,009,196,270	2,015,148,791

Source: Company/Align Research

## Valuation

In order to place a valuation on the company and a target price which makes sense in the current market, we have developed financial models of both DX and Kola. These models were largely based on the information contained in the DX PFS and the Kola DFS, as well as presentations and discussions with management.

### DX Sylvinite Project

We assumed that the potash solution mining project commences production in Q4 2023 and have employed a flat price for MOP of US\$375/t CFR in our analysis. Certainly the planned initial production at DX is 400ktpa MoP equates to around 0.6% of global demand and thus is not a large amount of new potash to enter the market therefore is unlikely to disrupt pricing in the markets that Kore are targeting. Currently, all metals and minerals prices are under pressure and we would ignore MOP prices of today. The outlook for MOP is good and so we believe our flat price is likely to be on the cautious side, although it is significantly lower than used in the PFS. It was assumed that the project could support debt of US\$150 million and that the remainder would be equity funded. To remain conservative, a loan rate of 12% was used. Given the style of mining, we allowed for sustaining capital expenditure of US\$14 million per annum.

Key statistics	
Sylvinite ore reserves	17.7Mt at 41.7% KCl
Total MOP production	372kt
MOP granular product grade	98.5% KCl
Average MOP production	393ktpa
Scheduled life of mine	18.4 years
<b>Capital cost</b>	
Pre-production capital cost	US\$285.9m
Capital intensity (at nameplate 400,000tpa MoP)	US\$715/tpa
<b>Operating costs</b>	
Mine gate cost	US\$65.26/t
FOB cost <sup>1</sup>	US\$86.61/t
CFR cost <sup>1</sup>	US\$114.61

<sup>1</sup> excludes royalty and sustaining capex

*Details of the DX Sylvinite Project outlined in the PFS. Source: Company*

It is further assumed that the 21-month construction period commences in early 2022, which allows production to begin in Q4 2023. On royalties and taxes, we have assumed royalty rates of 3% and a tax rate of 15%, as well as assuming a tax holiday for the first five years followed by a tax rate of 7.5% for the successive five-year period.

Discount factor	10%	12%
US\$ million	266.58	207.31
£ million	211.57	<b>164.53</b>

*Net present values determined for the DX Project (gross 100% basis). Source: Align Research*

**Our financial model is aimed at being conservative.** Based on our assumptions a Net Present Value for the DX project was determined at discount rates of 10% and 12%. In order to maintain our conservative stance, we have selected to use the NPV(12) figure of US\$207.31 million (£164.53 million) for further analysis. **With the DX Project at the PFS stage and about to embark on the DFS, we thought it was justified to risk the NPV(12) figure attributable to Kore by 65% to determine the figure that we carried through to our SOTP table.**

It has to be pointed out here that the current DX project life of 18.4 years is based on just 22% of the project's Mineral Resources and so there is significant potential to either extend the life or expand the scale of the DX project or both within the existing Mineral Resources at DX. **Such changes in plans at DX could add significantly to our NPV figure and our target price for the stock.**

### Kola Sylvinite Project

We expect that excitement ahead of the commencement of production of DX allows for the start of proper financing discussions for the larger Kola project. We have assumed a four-year construction period that begins in 2024 with initial production in 2028 and once again have employed a flat price for MOP of US\$375/t CFR.

Key statistics			
Sylvinite ore reserves	152.4Mt at 32.5% KCl		
Pre-production capital cost (EPCM basis)	US\$2,103m		
Scheduled life of mine	33 years		
	<b>Years 1-5 average</b>	<b>Life of Mine average</b>	<b>Total Life of Mine</b>
MOP Production	1,829kt	2,155kt	71,129kt
Granular MOP price (real, CFR Brazil)	US\$360/t	US\$360/t	US\$360/t
CFR cost (landed in Brazil)	US\$102/t	US\$102/t	US\$102/t

*Kola Sylvinite Project DFS key statistics. Source: Company*

The DFS determined a pre-production capital cost of US\$2,103 million, although it has recently been pointed out by the board that consultants have identified some US\$400 million of savings and we have factored in a reduced capex figure in our analysis. It was assumed that the project could support debt of US\$1,400 million and that the remainder would be equity funded. To remain conservative, a loan rate of 12% was once again used. Our treatment of royalties and taxes for Kola was in line with those set out for DX.

Discount factor	10%	12%
US\$ million	1,084.32	702.22
£ million	860.57	<b>557.32</b>

*Net present values determined for the Kola Project (gross 100% basis). Source: Align Research*

The Net Present Value for the Kola project was determined at discount rates of 10% and 12%. In order to continue to be conservative, we selected again to use the NPV(12) figure of US\$702.22 million (£557.32 million) in our further analysis. **Although the Kola Project is at the DFS stage, which we would normally risk further by 45%-55%, we have chosen to risk this project by 85% to reflect that fact that it is necessary for the DX Project to be in production to make the financing of the large capex budget for Kola possible.**

Asset	US\$ million
DX – interest attributable to Kore risked by 65% NPV(12)	65.30
Kola – interest attributable to Kore risked by 85% NPV(12)	94.80
Cash	4.7
Debt	-
Total	164.80
Valuation per share based on the current issued share capital (1,550,273,503)	8.44p
Valuation per share based on the current number of shares on a fully diluted basis (1,620,246,270)	8.07p
Valuation per share based on the fully diluted number of shares post the fund raising to finance the DFS (2,009,196,270)	6.51p

*Sum-of-the-parts table. Source: Align Research*

The total valuation came to US\$164.80 million with a per share valuation of 8.44p based on the current number of shares in issue (1,550,273,503). This falls to 8.07p based on the number of shares on a fully diluted basis (1,620,273,270) and 6.51p based on our estimate for the number of shares on a fully diluted basis that will be in existence post the fund raising to finance the DFS (2,009,196,270). We have elected to use the latter per share value of 6.51p as our current target price.

It has to be pointed out that once the finance has been successfully raised for getting DX into production, then our valuation for the company is likely to change substantially. With DX going into production we would substantially reduce our risking of the project from 65% to just 10%. DX is seen to unlock the whole district play and make the financing of Kola then possible, allowing us to consequently reduce our risking of this project from 85% to 55% which more befits a project at the DFS stage which is development ready. **Using the attributable NPV(12) figures employed earlier, the valuation for the company on this basis would be US\$500.33 million.** We estimate that at that stage there is likely to be 4,686,361,624 shares in issue on a fully diluted basis post raising the equity portion of the funding for the pre-production capital expenditure at DX and which would equate to 8.41p per share.



## Conclusion

Kore has globally significant potash deposits in the RoC. We believe the company well-placed to become the lowest cost supplier in the world of potash to the African and South American markets with its potential for district scale developments with over 6 billion tonnes of potash Mineral Resources very close to the coast. This enormous potential appears to be completely ignored by the stock market at present given the derisory price at which the shares currently trade being completely disconnected from the project fundamentals and scale.

Over the next 18 months there is likely to be an impressive news flow developing with work on the DFS for DX ongoing, followed by mine design work and arranging the financing and nailing down an offtake agreement. We look forward to being able to revisit our valuation moving ahead as the projects become further de-risked.

There is plenty to excite investors at Kore with further progress on the DX project likely to kickstart a process of potentially dramatic value creation. The DFS will be looking at a 400,000tpa operation so that the team can put a low capex potash project into production initially. However, with the currently envisaged 18.4 year mine life which is based on just 22% of the MRE, this does suggest an ultimate life of at least four times this initial mine life which works out at more than 70 years. So, it will be little surprise that once up DX is up and running and generating cash, that the management team will look at how to bring some of that potential forward. Either the mine life will be extended, or the scale of the project expanded, but in our judgement the ultimate decision is probably most likely to be a combination of the two thus creating a longer life mine at DX with higher production. Such a move could substantially increase NPV-based valuations.

**We initiate coverage of Kore Potash with a Conviction Buy recommendation and a target price of 6.51p.**

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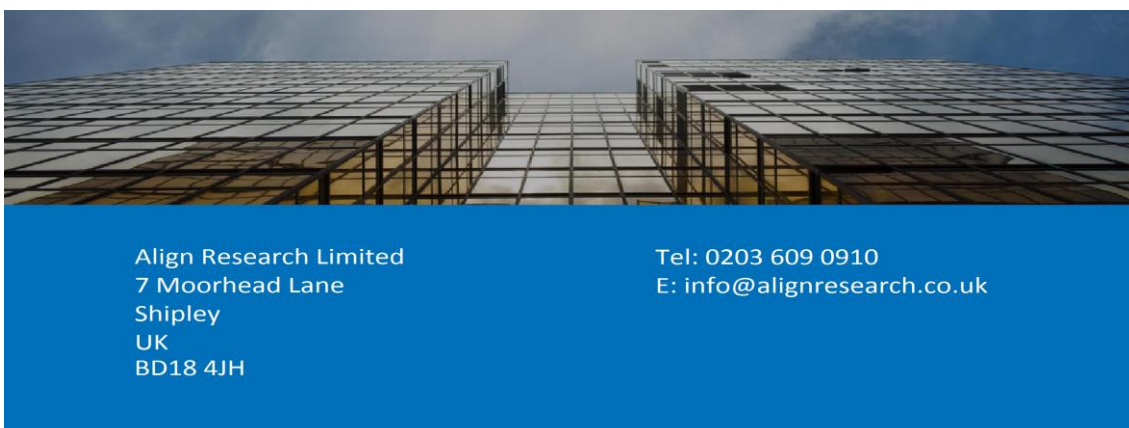
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