



# Investors Newsletter

April Edition | May 04, 2022  
TSX:NPK | OTCQB:AMHPF

## Disclaimer

This document contains “forward-looking information” within the meaning of Canadian securities laws, which includes but is not limited to, statements with respect to Verde AgriTech Plc’s (the Company’s) strategy, the commercial production of Super Greensand®, K Forte®, Silício Forte®, BAKS®, TK47 and Alpha (“Products”), design and building of a manufacturing facility, receipt of environmental permits, and the generation of cash flow. All statements other than statements of historical facts constitute forward-looking information, including but not limited to statements regarding plans, prospects and business strategies; timing and amount of future production; expectations regarding the results of operations and costs; permitting requirements and timelines; timing and possible outcome of pending litigation or labour disputes; timing for any required repairs and resumption of any interrupted operations; the results of any Feasibility Study, economic studies or Mineral Resource and Mineral Reserve estimations and life of mine estimates; market prices of metals, currency exchange rates, and interest rates; the ability to comply with permitting or other regulatory requirements; anticipated exploration and development activities; and the integration and benefits of acquisitions. Words such as “believe”, “expect”, “anticipate”, “contemplate”, “target”, “plan”, “goal”, “aim”, “intend”, “continue”, “budget”, “estimate”, “may”, “will”, “can”, “could”, “should”, “schedule” and similar expressions identify forward-looking statements. Forward-looking information is necessarily based upon various assumptions including, without limitation, the expectations and beliefs of management, including that the Company can access financing, equipment and labour; assumed and future price of metals; anticipated costs; ability to achieve goals; the effective integration of acquisitions; the political environment supporting mining projects; and assumptions related to the factors set forth below. While these factors and assumptions are considered reasonable by Verde as at the date of this document in light of management’s experience and perception of current conditions and expected developments, these statements are inherently subject to significant business, economic and competitive uncertainties and contingencies. Known and unknown factors could cause actual results to differ materially from those projected. Such factors include, but are not limited to: volatility in commodity prices; global financial conditions; risks inherent in mining including but not limited to the environment, industrial accidents, catastrophic equipment failures, unexpected geological formations or unstable ground conditions, and natural phenomena; uninsurable risks; equity markets volatility; outbreaks of viruses and infectious diseases (such as COVID-19); negative publicity and reputation risks; reliance on a single asset; fraud and corruption risks; actual ore mined and/or recoveries varying from estimates; risks associated with the estimation of Mineral Resources and Mineral Reserves and the geology, grade and continuity of mineral deposits; ore processing efficiency; foreign country and emerging markets risks; security; taxation regimes; health and safety risks; exploration, development or mining results not being consistent with expectations; infrastructure risks; counterparty and credit risks and customer concentration; environmental regulation risks; exchange rate fluctuations; stakeholder opposition; civil disruption; labour disputes or difficulties; interruptions in production; uncertain political and economic environments; litigation; regulatory investigations, enforcement and/or sanctions; changes in laws or policies; climate change; cybersecurity risks; estimates of future production, operations, capital and operating cash and all-in sustaining costs; permitting risks; compliance with laws; mine closure risks; challenges to title; the price/availability of supplies or services; liquidity risks and limited financial resources; the estimation of asset carrying values; risks relating to dividends; and other risks and uncertainties, including but not limited to those described in the “Risk Factors” section of the Annual Information Form and the “Risks” section of the Company’s MD&A for the year ended December 31, 2020, which are available on SEDAR at [www.sedar.com](http://www.sedar.com) under the Company’s profile and can also be accessed through this link, at Verde’s website. All of the forward-looking statements made in this document are qualified by these cautionary statements. Although the Company has attempted to identify important factors that could cause actual results to differ materially from those contained in forward-looking information, there may be other factors that cause results not to be as anticipated, estimated, forecast or intended and readers are cautioned that the foregoing list is not exhaustive of all factors and assumptions which may have been used. Should one or more of these risks and uncertainties materialize, or should underlying assumptions prove incorrect, actual results may vary materially from those described in web sites. Accordingly, there can be no assurance that forward-looking information will prove to be accurate and forward-looking information is not a guarantee of future performance. Readers are advised not to place undue reliance on forward-looking information. The forward-looking information contained herein speaks only as of the date of this document. The Company has filed on SEDAR a NI 43-101 compliant updated pre-feasibility study, published date December 22, 2017. All technical information should be reviewed according to this pre-feasibility study. Readers are cautioned not to rely solely on the summary of such information contained in this document and are directed to complete information posted on Verde’s website ([www.investor.verde.ag](http://www.investor.verde.ag)) and filed on SEDAR and any future amendments to such. This document may include facts, views and opinions of individuals and organizations deemed of interest. Verde does not guarantee the accuracy, completeness or timeliness of, or otherwise endorse, such views, opinions or recommendations, give investment advice, or advocate the purchase or sale of any security or investment. 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### **We are not good enough for you to invest if you:**

Are risk averse.

Just want to make a quick buck.

Expect delayed growth so you can earn dividends in the near term.

Are looking for a traditional potash company.

Don't deal well with changes.

Don't understand the difficulties in developing technologies and markets for innovative products.

### **Join our journey if you:**

Want to change the world into a better place.

Are looking for a real-world technology developing company.

Want to help Brazilian farmers protect the Amazon.

Believe that Verde can make you and the planet healthier.

Have watched or will watch the [“Kiss the Ground” Netflix documentary](#).

Care about soil biodiversity.

### **Latest press release and filings**

On April 6, 2022, Verde filed its Q4 & FY 2021 Results. Please find below weblinks to the relevant materials:

[MD&A](#)

[Financial Statements](#)

[Press Release](#)

[Results Presentation \(Video\)](#)

[Results Presentation \(PDF File\)](#)

**All new information since the last newsletter will be highlighted in green.**

**Access the Company's latest released news on the following links:**

**April 26, 2022:** [Verde launches Bio Revolution](#)

**April 21, 2022:** [Verde releases Market Study and provides update on new Pre-Feasibility Study](#)

**April 04, 2022:** [Verde details Plant 3 construction plans](#)

## 1. Permits \*

### 1.1. Summary

Verde has 3 different mine pits, each one at a different permitting stage and targeting different volumes, as summarized in the table below:

Mine Pit	Fully Permitted to Produce (tpy)	Mining (tpy)		Environmental (tpy)	
		Granted	Pending	Granted	Pending
1	233,000	233,000	0	233,000	0
2	2,600,000	2,600,000	22,500,000	2,600,000	0
3	0	49,800	2,500,000	0	2,500,000
Total	2,833,000	2,882,800	25,000,000	2,833,000	2,500,000

Under Brazilian law, a pit is fully permitted to mine when the Company holds both a Mining Concession/Permit and Environmental License for that area. The Company is fully permitted to mine 2,833,000 tpy and has submitted concurrent mining and environmental applications for an additional 2,500,000 tpy, still pending approval.

### 1.2. Last 12 months

Mine Pit	Date	Category	Status	Event
2	February 10, 2022	Mining	Granted	2,500,000 tpy Mining Concession

## 2. Sales Growth

### 2.1. Earned Growth Rate

The Earned Growth methodology was created by Fred Reichheld, a business strategist at Bain & Company who is renowned for his research and writing on the loyalty business model and loyalty marketing, and author of *Winning on Purpose: The Unbeatable Strategy of Loving Customers*.<sup>1</sup> Earned Growth Rate (“EGR”) was created as a metric framework for customer success in lieu of traditional methodologies, which are usually based on samples of survey responses that do not have a specific sector methodology and can be easily biased according to the criteria utilised.

\* Please refer to the Glossary on page 13 for technical terms.

1 - F. Reichheld, D. Darnell and M. Burns, *Winning on Purpose: The Unbeatable Strategy of Loving Customers* (Harvard Business Review Press) 2021

## 2. Sales Growth

### 2.1 Earned Growth Rate

EGR is an accounting-based methodology that provides companies with an objective, data-driven connection between customer success, repeat and expanded purchases, word-of-mouth recommendations, a positive company culture, and business results. It gauges customer loyalty through the lens of revenue growth, identifying which revenue streams come from existing customers doing more business with a company and which ones come from referrals.

The EGR measures the sales growth by volume generated by returning customers and new client purchases made by existing clients' referrals.<sup>2</sup> On February 08, 2022, Verde announced an EGR of 165% for 2021, compared to a rate of 61% for 2020, demonstrating a higher client repurchase rate and successful client referrals.<sup>3</sup>

Year	2019	2020	2021	2022
Earned Growth Rate	Not Registered	61%	165%	To be announced

### 2.2. Clients per year

The table below shows the number of clients that bought Verde's products per year since 2017.

Year	2017	2018	2019	2020	2021
Number of total clients	28	136	355	787	1,352

2 - For a summarized definition of EGR, see article: F. Reichheld, D. Darnell and M. Burns, **Net Promoter 3.0**, Harvard Business Review, November 2021, available at: <https://hbr.org/2021/11/net-promoter-3-02>

3 - To learn more about the methodology, see the press release issued on February 8, 2021.

## 2. Sales Growth

### 2.3. Sales per quarter:

The following table shows Verde's growth per quarter year-on-year:

Quarter	Product Sales (Tonnes)					YoY Growth
	2019	2020	2021	2022 <sup>1</sup>		
Q1	1,093	10,170	16,558	TBA	N/A	
Q2	23,600	71,183	96,233	TBA	N/A	
Q3	62,895	105,769	153,674	TBA	N/A	
Q4	32,221	56,585	134,350	TBA	N/A	
Total	119,809	243,707	400,133	1,000,000 <sup>2</sup>	149.9% <sup>2</sup>	

1 - The detailed quarterly targets will be updated along with Q1 2022 results, to be released on May 16, 2021.

2 - Targeted numbers, based on 2022 guidance. See press release issued on May 03, 2022: <https://investor.verde.ag/verdes-2022-guidance-and-two-year-outlook-revised-upwards/>

Quarter	Revenue (CAD \$'000)					YoY Growth
	2019	2020	2021	2022 <sup>3</sup>		
Q1	154	510	831	TBA	N/A	
Q2	1,329	2,492	5,376	TBA	N/A	
Q3	3,055	3,956	10,651	TBA	N/A	
Q4	1,491	2,209	10,851	TBA	N/A	
Total	6,029	9,167	27,709 <sup>4</sup>	109,097 <sup>5</sup>	293.7% <sup>5</sup>	

3 - The detailed quarterly targets will be updated along with Q1 2022 results, to be released on May 16, 2021.

4 - Revenue increased by 202% in FY 2021, to C\$27,709,000 compared to C\$9,167,000 in FY 2020. Revenue in R\$ increased by 239% in FY 2021, to R\$119,310,000, compared to R\$35,232,000 in FY 2020.

5 - Targeted numbers, based on updated 2022 guidance. See press release issued on May 03, 2022: (<https://investor.verde.ag/verdes-2022-guidance-and-two-year-outlook-revised-upwards/>)

## 2.4. 2022 & 2023 Guidance:

On May 03, 2022, Verde announced an increase in its 2022 and 2023 guidance<sup>1</sup>, previously published on January 10, 2022<sup>2</sup>. The Company's revised full year 2022 guidance is compared to the original targets and the 2021 results, as follows:

Guidance	2021 Results		2022 Guidance
	Published March 22, 2022 <sup>3</sup>	Original January 10, 2022	Revised May 03, 2022
EPS (C\$)	0.07	0.50	0.87
EBITDA (C\$'000) <sup>4</sup>	6,450	28,434	49,065
Revenue (C\$'000)	27,709	72,263	109,097
Sales (tonnes)	400,133	700,000	1,000,000

The original sales volume target for 2023 was for sales of 1,400,000 tonnes. For 2023, Verde's updated target is 2,000,000 tonnes, which represents a potential 100% growth Year-on-Year.

1 - See press release: <https://investor.verde.ag/verde-announces-2022-guidance-and-two-year-outlook/>

2 - See press release: <https://investor.verde.ag/verdes-2022-guidance-and-two-year-outlook-revised-upwards/>

3 - See press release: <https://investor.verde.ag/verdes-q4-sales-by-volume-grow-137-driving-2021-net-profit-growth-to-540/>

4 - Before non-cash events

## 3. Verde Launches Bio Revolution

Bio Revolution is Verde's newest technology that enables the incorporation of microorganisms to mineral fertilizers. K Forte® will be the first fertilizer in the world to use Bio Revolution technology. *Bacillus aryabhatai*, widely renowned in agriculture for its multiple benefits, is the first microorganism to be incorporated into Verde's Product. Verde's Plant 1 is already endowed with a facility for deploying Bio Revolution. At Plant 2, currently under construction, a proportionally larger Bio Revolution facility will be built, and its operations will start by the end of 2022. The Company has filed for patent protection of its Bio Revolution technology.

Cristiano Veloso will host a call on Monday, May 09, 2022, at 10:00 am Eastern Time, to discuss Verde in general and, more specifically, the role of the company's new Bio Revolution Technology to the Fourth Agriculture Revolution. The call will be held on Twitter Spaces. Subscribe and join the Space using the link below:

Date: Monday, May 09, 2022

Time: 09:00 a.m. Eastern Time

Subscription link: <https://twitter.com/i/spaces/1MYxNnpYoXnxw>

#### 4. Environmental, Social, and Governance

- Verde's production process is sustainable, with no water or chemical consumption and no tailings dams or waste generation. Ore recovery rate is 100%.
- Mined area is mainly composed of degraded pasture that, once mined, Verde will transform into a tropical forest.
- Verde planted 4,300 trees in 2019, 5,000 trees in 2020, and 9,888 trees in 2021. All planted species are native to the region located around the Company's production area.
- Verde was awarded the "Good Environmental Practices Award", promoted by the State System of Environment and Water Resources (SISEMA, in Portuguese) in the category "Best Practice of Mineral Solid Waste Management", 2019.

#### Potassium Chloride Replacement

Potassium salt fertilizers are soil biodiversity's number 1 enemy.

The average farmer applies 200 kg of potassium chloride to the soil per hectare per year. This is equivalent to the application of 1,600 liters of bleach as far as killing soil biodiversity.<sup>2</sup>

The world currently uses 61.5 million tonnes of potassium chloride for agriculture per year<sup>3</sup>, the equivalent of more than 460 billion liters of bleach killing soil biodiversity yearly.

Verde's Product eliminates the need for potassium chloride.

Period	Bleach equivalent amount that has not been applied to agricultural soils
In Q4 2021	169.2M litres
Since production started	999.6M litres

Over the next 36 years<sup>4</sup>, the Company intends to have prevented at least 957.8 billion liters of bleach from being applied to soils in the guise of potassium chloride.

2 - Effects of Some Synthetic Fertilizers on the Soil Ecosystem (HEIDE HERMARY, 2007)

3 - FAOSTAT, Agricultural use of nutrient potash, 2018: <http://www.fao.org/faostat/en/#data/RFN>.

4 - Based on NI 43-101 Production Schedule. See Pre-Feasibility Technical Report Cerrado Verde Project, MG, Brazil, page 141

## 5. Operations

Verde will use this newsletter to provide monthly updates about the construction development of Plant 2, which is expected to reach commercial production in the third quarter of 2022. Plant 2 will have an operational capacity of 1,200,000 tpy, raising Verde's overall production capacity to 1,800,000 tpy. The Company expects to double its Plant 2 by the fourth quarter of 2022 to reach 3,000,000 tpy overall production capacity.

Verde announced it has commenced the studies required for permitting and construction of its third production facility. Plant 3 is projected to have a production capacity of up to 10,000,000 tpy, raising the Company's overall production capacity to 13,000,000 tpy, which represents 16.41% of the current Brazilian potash market in  $K_2O$ .

- **Update on Plant 2:** The energy meter cubicle and the vibrating sieve arrived at Plant 2 last week. The vibrating sieve separates the material that needs to be re-crushed from the material that can go directly to the storage shed. The bulk storage shed is under construction, and its cover modules are being assembled. About 45% of Plant 2's interlocked paving blocks arrived, and the electric house's foundation is concluded. The crushed material storage shed's retaining wall is currently under construction. The development of the masonry structure and the construction of the basement for cable storage will be initiated next week.



1 - Construction of the shed's side containment.

2 - Bulk storage shed

## 6. Share Statistics

The following graphs show Verde's stock value over the past 30 days and average volume statistics over the past 3 months, as of April 04, 2022:



TSX: NPK  
Average Volume (3 months) = 320.18k



OTCQB: AMHPF  
Average Volume (3 months) = 48.46k

## 7. Top Headlines

### Verde's YouTube Channel

- [Meet our customers](#): find out what Verde's clients have to say about its product.
- [The lowest fertilizer delivery costs](#): Verde's CEO talks about how the Company manages to have the lowest delivery cost to the Cerrado region in Brazil, compared to other potash companies.

### Relevant Agribusiness News

- [Fertilizer issues threaten South American soybean crops](#): The crisis related to the war between Russia and Ukraine will most likely impact Brazil's 2023 soybean harvest. The country usually sources 40 percent of its supplies from Russia and Belarus.
- [State of knowledge of soil biodiversity](#): This report from the UN Food and Agriculture Organization (FAO) is the result of a process involving more than 300 scientists from around the world. It presents concisely the state of knowledge on soil biodiversity, the threats to it, and the solutions that soil biodiversity can provide to problems in different fields. It also represents a valuable contribution to raising awareness of the importance of soil biodiversity and highlighting its role in finding solutions to today's global threats.

## 8. Analysts Covering Verde\*

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\* Disclaimer for Reference to Analysts: Please note that any opinions, estimates, or forecasts regarding Verde AgriTech's performance made by these analysts are theirs alone and do not represent opinions, forecasts, or predictions of Verde AgriTech or its management. Verde AgriTech does not by its reference above or distribution imply its endorsement of or concurrence with such information, conclusions, or recommendations.

## 9. How much K Forte® is used in average per crop

- Soybeans: 1 tonne per hectare
- Corn: 1 tonne per hectare
- Cotton: 1.5 tonne per hectare
- Coffee: 3 tonnes per hectare
- Sugarcane: 1.5 tonne per hectare

## 10. K Forte® Application Calendar

The calendar below shows the agricultural production cycles and the period for application of K Forte® in different crops, according to seasonality.

Crop	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Soybeans	Harvest				K Forte® Application				Planting			
	Planting (Second Crop)				K Forte® Application				Harvest (Second Crop)			
Corn	Harvest				K Forte® Application				Planting			
	Planting (Second Crop)				K Forte® Application				Harvest			
Cotton	Planting				K Forte® Application				Harvest			
	Planting - Top Dressing				K Forte® Application				Harvest			
Coffee	Planting - Top Dressing				K Forte® Application				Harvest			
	Planting (18-month cycle)				K Forte® Application				Harvest (Central-West and South Regions)			
Sugarcane	Harvest (Northeast Region)				K Forte® Application				Harvest (Central-West and South Regions)			
	Planting (18-month cycle)				K Forte® Application				Harvest (Central-West and South Regions)			

## 11. Area used for crop production in Brazil\*

State	Area (ha)
Mato Grosso	16,611,799
Paraná	10,565,962
São Paulo	8,172,747
Goiás	6,522,432
Mato Grosso do Sul	5,790,276
Minas Gerais	5,596,641
Bahia	4,073,219
Other States	21,913,415
Total area	79,246,491

\* Source: Brazilian Institute of Geography and Statistics, Systematic Survey of Agricultural Production, 2019.



## 12. Results Calendar

Results	Due Date
Q1/22	May 16, 2022
Q2/22	August 15, 2022
Q3/22	November 14, 2022
Q4/22	March 31, 2023

### 13. Lead Independent Director Contact

Michael St Aldwyn was unanimously elected by all other four independent directors to serve as Verde's Lead Independent Director. For any enquiries please contact: [ild@verde.ag](mailto:ild@verde.ag)

### 14. Verde's Social Media

Verde has investors-only Social Media. Click on the links below and follow the company to receive the latest news:

<a href="#">YouTube</a>	<a href="#">Twitter</a>	<a href="#">Linkedin</a>	<a href="#">Facebook</a>	<a href="#">Website</a>
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### 15. Q1 2022 Corporate Presentation

The Company will host a conference call on Wednesday, May 25, 2022, at 09:00 am Eastern Time, to discuss Q1 2022 results and provide an update. Subscribe using the link below and receive the conference details by email.

Date: Wednesday, May 25, 2022

Time: 09:00 a.m. Eastern Time

Subscription link: <https://bit.ly/Q1-2022-Results-Presentation>

The questions can be submitted in advance through the following link up to 48 hours before the conference call: [https://bit.ly/VerdeAgriTech-Q1\\_2022-questions](https://bit.ly/VerdeAgriTech-Q1_2022-questions)

### 16. Glossary

**3D Alliance®:** Technology developed to transform the three-dimensional structure of the raw materials added to the fertilizer. The materials are subjected to a mechanical process, increasing their specific surfaces and forming microparticles that release nutrients progressively. The fertilizers resulting from the mixture are homogeneous and can be evenly distributed in the soil. The 3D Alliance® technology is used in the BAKS® production process.

**ANM:** See “National Mining Agency”.

**BAKS®:** The Group's newest product, which is a combination of K Forte® (source of potassium, silicon and magnesium) plus three other nutrients that can be chosen by customers according to their crops' needs. BAKS® was launched by the Group on December 15, 2020.

## 16. Glossary

**Bio Revolution:** Verde's technology that enables the incorporation of microorganisms to mineral fertilizers. K Forte® will be the first fertilizer in the world to use Bio Revolution technology. The Company has filed for patent protection of its Bio Revolution technology.

**Cerrado Verde Project (“the Project”):** Located in Minas Gerais state, Brazil. Potassium-rich deposit owned by Verde, from which the Group is producing solutions for crop nutrition, crop protection, soil improvement, and increased sustainability. The Project has an NI 43-101 Measured and Indicated Mineral Resource Estimate of 1.47 billion tonnes at a grade of 9.2% K<sub>2</sub>O, which includes a Measured Mineral Resource of 83 million tonnes with an average grade of 10.1% K<sub>2</sub>O. The Pre-Feasibility Study of the Project evaluated the technical and financial aspects of producing 25 Mtpy of the Product divided in three phases: Phase 1 (0.6 Mtpy); Phase 2 (5 Mtpy) and Phase 3 (25 Mtpy). The Cerrado Verde Project has been in production since 2017.

**Exploration Authorisation Application (“Requerimento de Pesquisa”):** Claim for the geological exploration of an area. Interested parties must file an application for exploration authorisation with the ANM and state a case for conducting mineral exploration activities. The Exploration Authorisation Applications are analysed in order of filing date. If the party requesting an exploration authorisation meets the necessary legal requirements and an exploration authorisation has not been previously issued for any part of the area in question, then the ANM will grant the exploration authorisation.

**Exploration Authorisation (“Alvará de Pesquisa”):** The Exploration Authorisation guarantees to the owner, be it an individual or a legal entity, the power and duty to carry out mineral research work in the entitled area. It grants the rights to conduct exploration activities for a period from two to four years, which may be renewed for an additional period (and potentially additional renewals on a case-by-case basis). An exploration authorisation does not entitle the holder the right to extract mineral substances. During the research work, extraction will only be allowed in exceptional circumstances, with a specific title issued by the ANM (Mining Permit – “Guia de Utilização”). Once mineral exploration is completed, a final exploration report must be submitted for ANM's review and approval. If approved, the next step is to file, within one year, all applications for a mining concession with the Ministry of Mines and Energy (MME).

**Environmental License (“Licença Ambiental”):** The environmental licensing process consists of a three-step system, each step is a separate license contingent upon the prior step. In the state of Minas Gerais there is the possibility of licensing phases simultaneously, depending on the size of the project, according to the Normative Resolution 217/2017. The three phases are, as follows:

## 16. Glossary

- **Preliminary License (“Licença Prévia – LP”)**: Granted at the planning stage of the project, this license signals the approval of its location, concept and environmental feasibility. It establishes the basic requirements to be met during the subsequent implementation phases. The maximum term for LPs is five years.
- **Installation License (“Licença de Instalação – LI”)**: This license authorises the setup of the works and commencement of construction based on the specifications set forth in the previous license and the approved plans, programs and project designs, including environmental control measures. The maximum term for LIs is six years.
- **Operating License (“Licença de Operação – LO”)**: This license authorises the operation contingent upon compliance with the terms of the LO and the LI, including any environmental control measures and operating conditions. The maximum term for LOs is 10 years.

**Feasibility Study (“Plano de Aproveitamento Econômico – PAE”)**: report filed as part of the Mining Concession Application. It demonstrates quantitative geological and technological study of the mineral deposit and as well as demonstrating the technical-economic feasibility of a mine.

**Final Exploration Report (“Relatório Final de Pesquisa”)**: At the end of the exploration stage, the holder of the mineral right must present a Final Exploration Report with the results obtained from the work, containing a quantitative geological and technological study of the mineral deposit and demonstrate the technical-economic feasibility of a mine. The ANM analyses this report technically through a site visit. If the ANM approves the report based on the potential merits of a future mining operation, the titleholder has a one-year period to prepare and file the Mining Concession Application with the Federal Minister of Mines and Energy.

**K Forte® (“the Product”)**: Multinutrient potassium fertilizer brand marketed in Brazil by the Group.

**KCl**: See “Potassium Chloride”.

**MME**: See “Ministry of Mines and Energy”.

**Micro S Technology®**: The Group’s exclusive elemental sulfur micronization technology, that allows for a larger contact surface. This facilitates the work of microorganisms and oxidation rate increases and so nutrients become available to plants more efficiently. This increases the absorption of sulfur and, consequently, the development of the plant. Micro S Technology® allows micronized sulfur, one of the additional nutrients most required by farmers, to be added to BAKS®.

## 16. Glossary

**Mine Site:** An economic unit comprised of an underground and/or open pit mine, a treatment plant and equipment and other facilities necessary to produce metals concentrates, in existence at a certain location.

**Mineral Reserve:** A mineral reserve is the economically mineable part of a measured and/or indicated mineral resource. It includes diluting materials and allowances for losses, which may occur when the material is mined or extracted and is defined by studies at pre-feasibility or feasibility level as appropriate that include application of modifying factors. Such studies demonstrate that, at the time of reporting, extraction could reasonably be justified. The reference point at which mineral reserves are defined, usually the point where the ore is delivered to the processing plant, must be stated. It is important that, in all situations where the reference point is different, such as for a saleable product, a clarifying statement is included to ensure that the reader is fully informed as to what is being reported.

The public disclosure of a mineral reserve must be demonstrated by a pre-feasibility study or feasibility study.

- **Probable Mineral Reserve:** The economically mineable part of an indicated, and in some circumstances, a measured mineral resource. The confidence in the modifying factors applied to a probable mineral reserve is lower than that applied to a proven mineral reserve.
- **Proven Mineral Reserve:** The economically minable part of a measured mineral resource. A proven mineral reserve implies a high degree of confidence in the modifying factors.

**Mineral Resource:** A mineral resource is a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade or quality, and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade or quality, continuity and other geological characteristics of a mineral resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling.

- **Indicated Mineral Resource:** That part of a mineral resource for which quantity, grade or quality, densities, shape and physical characteristics can be estimated with a level of confidence sufficient to allow the appropriate application of technical and economic parameters to support mine planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough for geological and grade continuity to be reasonably assumed.

## 16. Glossary

An indicated mineral resource has a lower level of confidence than that applied to a measured mineral resource and may only be converted to a probable mineral reserve.

- **Inferred Mineral Resource:** That part of a mineral resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity. The estimate is based on limited information and sampling gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes. An inferred mineral resource has a lower level of confidence than that applying to an indicated mineral resource and must not be converted to a mineral reserve. It is reasonably expected that the majority of inferred mineral resources could be upgraded to indicated mineral resources with continued exploration.

**Measured Mineral Resource:** That part of a mineral resource for which quantity, grade or quality, densities, shape and physical characteristics are so well established that they can be estimated with confidence sufficient to allow the appropriate application of technical and economic parameters to support production planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough to confirm both geological and grade continuity. A measured mineral resource has a higher level of confidence than that applying to either an indicated mineral resource or an inferred mineral resource. It may be converted to a proven mineral reserve or to a probable mineral reserve.

**Mining Concession Application (“Requerimento de Lavra”):** This application must satisfy certain requirements, including the presentation of the mining Group’s Feasibility Study (“Plano de Aproveitamento Econômico – PAE”). While the ANM reviews the application for a mining concession, the applicant retains the exclusive rights to this area. Mine construction and development activity can only begin after the publication of a mining concession issued by the MME and provided that the respective license is also granted pursuant to applicable Brazilian environmental laws.

**Mining Concession (“Portaria de Concessão de Lavra”):** guarantees to the owner the power and duty to explore the mineral deposit until it is exhausted, without a definite term. The title can only be obtained by mining companies and only after undertaking the authorised exploration through an exploration authorisation and subsequent approval of the Final Exploration Report.

## 16. Glossary

One of the essential documents for requesting a mining concession is the Feasibility Study, which must demonstrate the technical and economic viability of the project and indicate, among other information, the mining method, the planned scale of production and the mine closure plan.

**Mining Permit (“Guia de Utilização”):** exceptional mining permit with predetermined expiration date. It is granted by the ANM and allows the mineral extraction in the area before the grant of a Mining Concession, according to the environmental legislation.

**Ministry of Mines and Energy (“Ministério de Minas e Energia – MME”):** federal government’s branch responsible for making public policy that covers the geological, mineral and energy resources, hydroelectric, mining, and metallurgic energy sectors.

**Mtpy:** Million tonnes per year.

**N Keeper Technology:** proprietary processing technology for glauconitic siltstone that alters its physical-chemical properties to enable ammonia retention for use as a calibrated additive in Nitrogen fertilizers. N Keeper® leads to the reduction of Nitrogen volatilization loss, which increases the efficiency of crop fertilization and mitigates the impact on the environment and climate changes.

**National Mining Agency (“Agência Nacional de Mineração – ANM”):** federal agency subordinated to the Ministry of Mines and Energy. It is responsible for the management of mining activities and Brazilian mineral resources. Former National Department of Mineral Production (“Departamento Nacional de Produção Mineral - DNPM”).

**NI 43-101:** National Instrument 43-101 - Standards of Disclosure for Mineral Projects within Canada.

**PFS:** See “Pre-Feasibility Study”.

**Potassium chloride (“KCl”):** The most commonly used source of potash. It is composed of approximately 52% of potassium (“K”) and 47% of Chloride (Cl<sup>-</sup>), representing 60% of K<sub>2</sub>O. Potassium Chloride’s salinity index is 116. According to the article ‘Effects of Some Synthetic Fertilizers on the Soil Ecosystem’ (HEIDE HERMARY, 2007), applying 1 pound of potassium chloride to the soil is equivalent to applying 1 gallon of bleach. Verde’s Product eliminates the need for Potassium Chloride. KCl is also frequently referred to as muriate of potash (“MOP”).

## 16. Glossary

**Pre-Feasibility Study (“PFS”):** A pre-feasibility study is a comprehensive study of a range of options for the technical and economic viability of a mineral project that has advanced to a stage where a preferred mining method, in the case of underground mining, or the pit configuration, in the case of an open pit, is established and an effective method of mineral processing is determined.

It includes a financial analysis based on reasonable assumptions on the Modifying Factors and the evaluation of any other relevant factors which are sufficient for a Qualified Person, acting reasonably, to determine if all or part of the mineral resource may be converted to a mineral reserve at the time of reporting. A pre-feasibility study is at a lower confidence level than a feasibility study.

**Product:** Multinutrient potassium fertilizer marketed in Brazil under the brands K Forte® and BAKS® and internationally as Super Greensand®, whose production and sale is the principal activity of the Group.

**Tonne:** A unit of weight. One metric tonne equals 2,204.6 pounds or 1,000 kilograms.

**tpy:** Tonnes per year.

**Super Greensand® (“the Product”):** Multinutrient potassium fertilizer brand marketed internationally by the Group.



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