



# Investors Newsletter

**February Edition | March 11, 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. Verde is therefore not responsible for the content, accuracy or timeliness of any linked web site or any link contained in a linked web site. Verde provides such links only as a convenience and the inclusion of any link does not imply endorsement, investigation or verification by Verde of the linked web site or information contained therein. Use of such third party web site will be solely at your risk. The reader should seek the advice of a securities professional or other appropriate investment advisor regarding such reader’s particular situation. The Company does not control any third-party web site and in viewing any third-party web sites. Potential investors should conduct their own investigations as to the suitability of investing in securities of Verde AgriTech Plc.

### **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 November 15, 2021 Verde filed its Q3 2021 Results. Please find below weblinks to the relevant materials:

[MD&A](#)

[Financial Statements](#)

[Press Release](#)

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

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

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

March 03, 2022: [Verde to reach 3 million tonnes potash production capacity in 2022](#)

February 22, 2022: [Verde announces creation of Independent Special Committee of the Board of Directors.](#)

February 10, 2022: [2.5 million tonnes per year potash mining concession granted to Verde](#)

February 08, 2022: [Verde doubles year-on-year Earned Growth Rate](#)

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

## 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, 2020	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

<sup>2</sup> 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>

<sup>3</sup> 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:

Product Sales (Tonnes)					
Quarter	2019	2020	2021	2022	YoY Growth
Q1	1,093	10,170	16,558	115,000 <sup>2</sup>	595% <sup>2</sup>
Q2	23,600	71,183	96,233	200,000 <sup>2</sup>	108% <sup>2</sup>
Q3	62,895	105,769	153,674	250,000 <sup>2</sup>	63% <sup>2</sup>
Q4	32,221	56,585	133,535 <sup>1</sup>	135,000 <sup>2</sup>	1% <sup>1,2</sup>
Total	119,809	243,707	400,000 <sup>1</sup>	700,000 <sup>2</sup>	75% <sup>1,2</sup>

Verde's sales target for 2023 is 1.4 million tonnes, as announced on January 10, 2022..

<sup>1</sup> Targeted numbers, based on 2021 guidance.

<sup>2</sup> Targeted numbers, based on 2022 guidance.

Revenue (CAD \$'000)					
Quarter	2019	2020	2021	2022	YoY Growth
Q1	154	510	831	10,070 <sup>7</sup>	1112% <sup>7</sup>
Q2	1,329	2,492	5,376	21,954 <sup>7</sup>	308% <sup>7</sup>
Q3	3,055	3,956	10,651 <sup>5</sup>	27,228 <sup>7</sup>	156% <sup>7</sup>
Q4	1,491	2,209	8,964 <sup>4</sup>	13,011 <sup>7</sup>	45% <sup>4,7</sup>
Total	6,029	9,167	25,822 <sup>4,6</sup>	72,263 <sup>7</sup>	180% <sup>4,6,7</sup>

<sup>4</sup> Targeted numbers, based on FY 2021 guidance. Average exchange rate in Q3 2021: C\$1.00 = R\$4.26.

<sup>5</sup> Revenue in Brazilian Real ("R\$") increased by 206%, to R\$45,409,000 compared to R\$14,815,000 in Q3 2020.

<sup>6</sup> Verde announced another increase in its 2021 guidance, now aiming for a total revenue target of R\$110 million, which if achieved would represent a 212% growth YoY.

<sup>7</sup> Targeted numbers, based on 2022 guidance. See press release issued on January 10, 2022 for assumptions.

## 2. Sales Growth

### 2.4. 2022 Guidance:

The following table shows Verde's EBITDA and Earnings Per Share (EPS) guidance<sup>1</sup>:

2022	Q1	Q2	Q3	Q4	FY
EBITDA (C\$'000)	1,358	10,155	13,414	3,506	28,434
EPS (C\$)	0.02	0.18	0.25	0.06	0.50

<sup>1</sup> See press release issued on January 10, 2022 for assumptions.

## 3. 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 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 litres 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 to more than 460 billion liters of bleach killing soil biodiversity yearly.

Verde's Product eliminates the need for potassium chloride.

<sup>2</sup> Effects of Some Synthetic Fertilizers on the Soil Ecosystem (HEIDE HERMARY, 2007)

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

### 3. Environmental, Social and Governance

Period	Bleach equivalent amount that has not been applied to agricultural soils
In Q3 2021	193M litres
Since production started	831M litres

Over the next 36 years<sup>3</sup>, the Company intends to have prevented at least 957.8 billion liters of chloride bleach from being applied to soils in the form of KCl.

### 4. 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 million tonnes tpy potash overall production capacity.

- Update: Earthworks were concluded for Plant 2 and for the gravel and sand storage location. The assembly of the construction site was carried out and the construction of a canvas shed to cover the material used to produce the concrete is planned to start in the coming days. Verde completed the preparation of 45% of its reinforced steel structures, which will be used to attach the crusher and other production equipment. Mills are expected to be delivered in March.



\* Earthwork process in the area of Plant 2. / Reinforced Steel Structures / Crusher.

<sup>3</sup> Based on NI 43-101 Production Schedule. See Pre-Feasibility Technical Report Cerrado Verde Project, MG, Brazil, page 141.

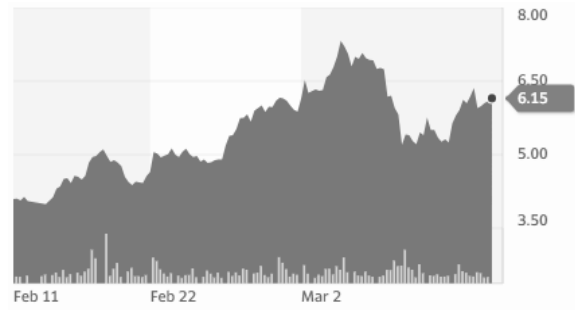


## 5. Share Statistics

The graphs below show Verde's stock value over the past 30 days and average volume statistics over the past 3 months, as of March 11, 2022:



TSX: NPK  
Average Volume (3 months) = 208.16k



OTCQB: AMHPF  
Average Volume (3 months) = 39.5k

## 6. Top Headlines

### Verde's YouTube Channel

- [Q3 2021 Results Presentation + Q&A session](#): Watch the Company's Q3 Results Presentation followed by a Q&A session.
- [Seasonality impacts on fertilizer production](#): Watch Cristiano Veloso, Verde's CEO, explain how this aspect influences the company's production process and the storage of its products.
- [The lowest fertilizer delivery costs](#): Verde has the lowest delivery cost of potash fertilizers to the Cerrado region in Brazil. Learn more.
- [We are Verde](#): Watch the Company's message to potential new investors.

## 6. Top Headlines

### Relevant Agribusiness News

- Which countries are most exposed to interruption in Ukraine food exports? Vulnerable countries such as war-torn Yemen look set to suffer the most from Ukrainian food exports halting in the aftermath of the Russian invasion.
- War in Ukraine will cripple global food markets: the share of incomes spent on staples is about to jump everywhere.

## 7. Q4 and FY 2021 Results Conference Call

The Company will host a conference call on Wednesday, April 6, 2022, at 09:00 a.m. Eastern Time, to discuss Q4 and FY 2021 results and provide an update. Subscribe using the link below and receive the conference details by email.

Date: Wednesday, April 6, 2022

Time: 09:00 a.m. Eastern Time

Subscription link: [https://bit.ly/Q4FY\\_2021\\_Results\\_Presentation](https://bit.ly/Q4FY_2021_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-Q4FY2021-questions>.

## 8. Analysts Covering Verde\*

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John Kaiser	Christopher Ecclestone	Sid Rajeev
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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		
<b>Soybeans</b>	Harvest				K Forte® Application								Planting	
<b>Corn</b>	Harvest				K Forte® Application				Harvest ( Second Crop)		Planting			
<b>Cotton</b>	Planting (Second Crop)				K Forte® Application				Harvest		Planting			
<b>Coffee</b>	Planting - Top Dressing				K Forte® Application				Harvest		Planting - Top Dressing			
<b>Sugarcane</b>	Harvest (Northeast Region)				K Forte® Application				Harvest (Central-West and South Regions)				Planting (18-month cycle)	Planting - Top Dressing

## 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
Q4/21	March 31, 2022
Q1/22	May 16, 2022
Q2/22	August 15, 2022
Q3/22	November 14, 2022

### 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. Corporate Presentation

For further information on the Company, please view shareholders' deck:

<https://bit.ly/ViewShareholderDeck>

### 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.

**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.

## 16. Glossary

**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:

- **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.

## 16. Glossary

**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.

**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®.

**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.

## 16. Glossary

- **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.

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.



## 16. Glossary

**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. 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.

## 16. Glossary

**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”.

**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 brand K Forte® 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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