



**ANNUAL INFORMATION FORM  
FOR THE YEAR ENDED DECEMBER 31, 2019**

**Dated March 16, 2020**



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## CAUTIONARY NOTE REGARDING FORWARD-LOOKING INFORMATION

This annual information form (“AIF”), including documents incorporated by reference herein, contains “forward-looking information” and “forward-looking statements” within the meaning of applicable Canadian and United States securities laws (together, “**forward-looking information**”) concerning the Company’s projects, capital, anticipated financial performance, business prospects and strategies and other general matters. These statements are subject to certain risks and uncertainties that could cause actual results to differ materially from those included in the forward-looking information. The use of words such as “intend”, “anticipate”, “continue”, “estimate”, “expect”, “may”, “will”, “project”, “should”, “believe” and similar expressions are intended to identify forward-looking information. Any statements that express or involve discussions with respect to predictions, expectations, beliefs, plans, projections, objectives, assumptions or future events or performance are not statements of historical fact and may constitute forward-looking information. Statements relating to Mineral Resources are also forward-looking information, as they involve the implied assessment, based on certain estimates and assumptions that the Mineral Resources described can be profitably produced in the future. There is no certainty that it will be commercially viable to produce any portion of the Mineral Resources.

Forward-looking information includes statements with respect to:

- the Company’s sales operations and anticipated sales of vanadium products;
- the Company’s goals regarding development of its projects and further exploration and development of its properties;
- the Company’s proposed plans for advancing its projects, and potential future exploration and development projects;
- the Company’s expectations regarding the completion of, resulting production from, and anticipated benefits of, the Ferrovandium Conversion Plant;
- the Company’s expectations regarding the completion of, and resulting production from, the anticipated kiln feed rate improvements;
- expectations regarding the continuity of mineral deposits;
- future prices of  $V_2O_5$ ;
- future production at our Maracás Menchen Mine;
- the results in the Technical Report including resource estimates;
- expectations regarding any environmental issues that may affect planned or future exploration and development programs and the potential impact of complying with existing and proposed environmental laws and regulations;
- receipt and timing of third party approvals;
- government regulation of mineral exploration and development operations in Brazil;
- expectations regarding any social or local community issues in Brazil that may affect planned or future exploration and development programs; and
- statements in respect of  $V_2O_5$  demand and supply.

These statements and information are only predictions based on current information and knowledge, some of which may be attributed to third party industry sources. Actual future events or results may differ materially. Undue reliance should not be placed on such forward-looking information, as there can be no assurance that the plans, intentions or expectations upon which they are based will occur. By its nature, forward-looking information involves numerous assumptions, known and unknown risks and uncertainties, both general and specific, that contribute to the possibility that the predictions, forecasts, projections and other forward-looking information will not be realized.

The following are some of the assumptions upon which forward-looking information is based:

- that general business and economic conditions will not change in a material adverse manner;
- demand for, and stable or improving price of,  $V_2O_5$  and FeV;
- that the Company will enter into agreements for the sales of vanadium products on favourable terms and for the sale of substantially all of its annual production capacity;
- receipt of regulatory and governmental approvals, permits and renewals in a timely manner;
- that the Company will not experience any material accident, labour dispute or failure of plant or equipment or other material disruption in the Company’s operations at the Maracás Menchen Mine;

- the availability of financing for operations and development;
- the Company's ability to procure equipment and operating supplies in sufficient quantities and on a timely basis;
- that the Company will have sufficient capital resources available for the build out of the Ferrovandium Conversion Plant;
- that the Ferrovandium Conversion Plant will be completed on budget and in a reasonable timeframe;
- that the Company's expectations as to kiln feed rate improvements will be completed on time;
- that the estimates of the Mineral Resources and Mineral Reserves at the Maracás Menchen Mine are within reasonable bounds of accuracy (including with respect to size, grade and recovery);
- the Company's ability to attract and retain skilled personnel and directors; and
- the accuracy of the Company's Mineral Reserves and Mineral Resource estimates (including size, grade and recoverability) and the geological, operational and price assumptions on which these are based.

Actual results could differ materially from those anticipated in this forward-looking information as a result of the risks and uncertainties including, without limitation:

- volatility in prices of, and demand for, V<sub>2</sub>O<sub>5</sub> or FeV;
- risks inherent in mineral exploration and development;
- uncertainties associated with estimating Mineral Resources and Mineral Reserves;
- uncertainties related to title to the Company's mineral projects;
- revocation of government approvals;
- tightening of the credit markets, global economic uncertainty and counterparty risk;
- failure of plant, equipment or processes to operate as anticipated;
- unexpected events and delays during construction and development;
- competition for, among other things, capital and skilled personnel;
- geological, technical and drilling problems;
- fluctuations in foreign exchange or interest rates and stock market volatility;
- rising costs of labour and equipment;
- disruption caused by labour actions;
- risks associated with political and/or economic instability in Brazil;
- inherent uncertainties involved in the legal dispute resolution process, including in foreign jurisdictions;
- changes in income tax and other laws of foreign jurisdictions; and
- other factors discussed under "*Risk Factors*" in this AIF.

Assumptions relating to the potential mineralization of the Maracás Menchen Mine are discussed in the Technical Report which is available under the Company's profile on SEDAR.

Additional risks and uncertainties not currently known to the Company, or that the Company currently deems to be immaterial, may also materially and adversely affect the Company's business and prospects. Should one or more of these risks and uncertainties materialize, or should any of the underlying assumptions prove incorrect, actual results may vary materially from those described in forward-looking information.

Although the Company has attempted to identify important factors that could cause actual actions, events or results to differ materially from those described in forward-looking information, there may be other factors that cause actions, events or results not to be as anticipated, estimated or intended. There can be no assurance that forward-looking information will prove to be accurate, as actual results and future events could differ materially from those anticipated in such information. The reader is cautioned not to place undue reliance on forward-looking information.

The forward-looking information is presented for the purpose of assisting investors in understanding the Company's plans, objectives and expectations in making an investment decision and may not be appropriate for other purposes. This forward-looking information is expressly qualified in its entirety by this cautionary statement. Forward-looking information contained in this AIF or documents incorporated herein by reference are made as of the date of this AIF or the document incorporated herein by reference, as applicable, and are accordingly subject to change after such date. The Company disclaims any obligation to update any such forward-looking information to reflect events or circumstances after the date of such information, or to reflect the occurrence of anticipated or unanticipated events, except as required by law.

## CAUTIONARY NOTE TO UNITED STATES INVESTORS

This AIF uses the terms “Measured”, “Indicated” and “Inferred” Mineral Resources. United States investors are advised that while such terms are recognized and required by Canadian regulations, the United States Securities and Exchange Commission does not recognize them. Inferred Mineral Resources have a great amount of uncertainty as to their existence, and as to their economic and legal feasibility. It cannot be assumed that all or any part of an Inferred Mineral Resource will ever be upgraded to a higher category. Under Canadian rules, estimates of Inferred Mineral Resources may not form the basis of feasibility or other economic studies. **United States investors are cautioned not to assume that all or any part of Measured or Indicated Mineral Resources will ever be converted into Mineral Reserves. United States investors are also cautioned not to assume that all or any part of an Inferred Mineral Resource exists, or is economically or legally mineable.**

## MARKET AND INDUSTRY DATA

Market and industry data contained and incorporated by reference in this AIF concerning economic and industry trends is based upon good faith estimates of our management or derived from information provided by industry sources. The Company believes that such market and industry data is accurate and that the sources from which it has been obtained are reliable. However, we cannot guarantee the accuracy of such information and we have not independently verified the assumptions upon which projections of future trends are based.

## OTHER INFORMATION

In this annual information form, references to “Largo”, the “Company”, and “we” mean Largo Resources Ltd. and its subsidiaries as applicable (unless the context otherwise requires).

The disclosure in this AIF is supplemented throughout the year by, and is to be read in context with, subsequent continuous disclosure filings including news releases, material change reports, financial statements, management discussion and analysis and technical reports filed under NI 43-101. This AIF contains information which the Company believes, in context and in exercising its judgement, to be material. Information which the Company, in exercising its judgement, believes, in context, is not material (or, due to the passage of time, is no longer material), has not been included in this AIF.

## QUALIFIED PERSON

Except as otherwise noted in this AIF, Mr. Paul Sarjeant, B.Sc. P. Geo is the Qualified Person (as that term is defined under NI 43-101) who has reviewed and approved the technical disclosure in this AIF. Mr. Sarjeant is the Manager, Geology of the Company. For a description of key assumptions, parameters and methods used to estimate Mineral Reserves and Resources, as well as data verification procedures and a general discussion of the extent to which the estimates may be affected by any known environmental, permitting, legal title, taxation, sociopolitical, marketing or other relevant factors, please see the Technical Report for our material property as filed by us on SEDAR at [www.sedar.com](http://www.sedar.com)

## CURRENCY PRESENTATION AND DATE OF INFORMATION

This AIF contains references to Canadian dollars, United States, Brazilian reals and to the European Euro. All dollar amounts referenced herein, unless otherwise indicated, are expressed in Canadian dollars “\$”. United States dollars may be referred to as “United States dollars” or “US\$”. Brazilian reals may be referred to as “Brazilian reals” or “R\$”, and the European Euro may be referred to as “Euro” or “€”.

The following tables set out the average annual exchange rates according to information published by the Bank of Canada and the resulting currency conversion if one US\$, one Brazilian real and one € were exchanged for the equivalent in Canadian dollar(s).

	Year Ended December 31		
	2019	2018	2017
<b>One US Dollar</b>			
Closing in Cdn Dollar(s)	\$1.3269	\$1.2957	\$1.2986
	Year Ended December 31		
	2019	2018	2017
<b>One Brazilian Real</b>			
Closing in Cdn Dollar(s)	\$0.3371	\$0.3566	\$0.4071
	Year Ended December 31		
	2019	2018	2017
<b>One Euro Dollar</b>			
Closing in Cdn Dollar(s)	\$1.4856	\$1.5302	\$1.4560

Based on information published by the Bank of Canada, (i) the value of one US\$, if exchanged for one Canadian dollar, would have been \$1.3269 for the month of December of 2019, (ii) the value of one Brazilian real, if exchanged for one Canadian dollar, would have been \$0.3371 for the month of December of 2019, and (iii) the value of one Euro dollar, if exchanged for one Canadian dollar, would have been \$1.4856 for the month of December of 2019.

On March 16, 2020, the indicative exchange rate for Canadian dollars in terms of the United States dollar, as quoted by the Bank of Canada, was US\$1.00 = C\$1.3964, the exchange rate into R\$, was 1 real = C\$0.2810, and the exchange rate into €, was €1 = C\$1.5574.

All information in this AIF is given as of December 31, 2019, unless otherwise indicated. The Company’s fiscal year end is December 31.

## CORPORATE STRUCTURE

### Incorporation and Registered Office

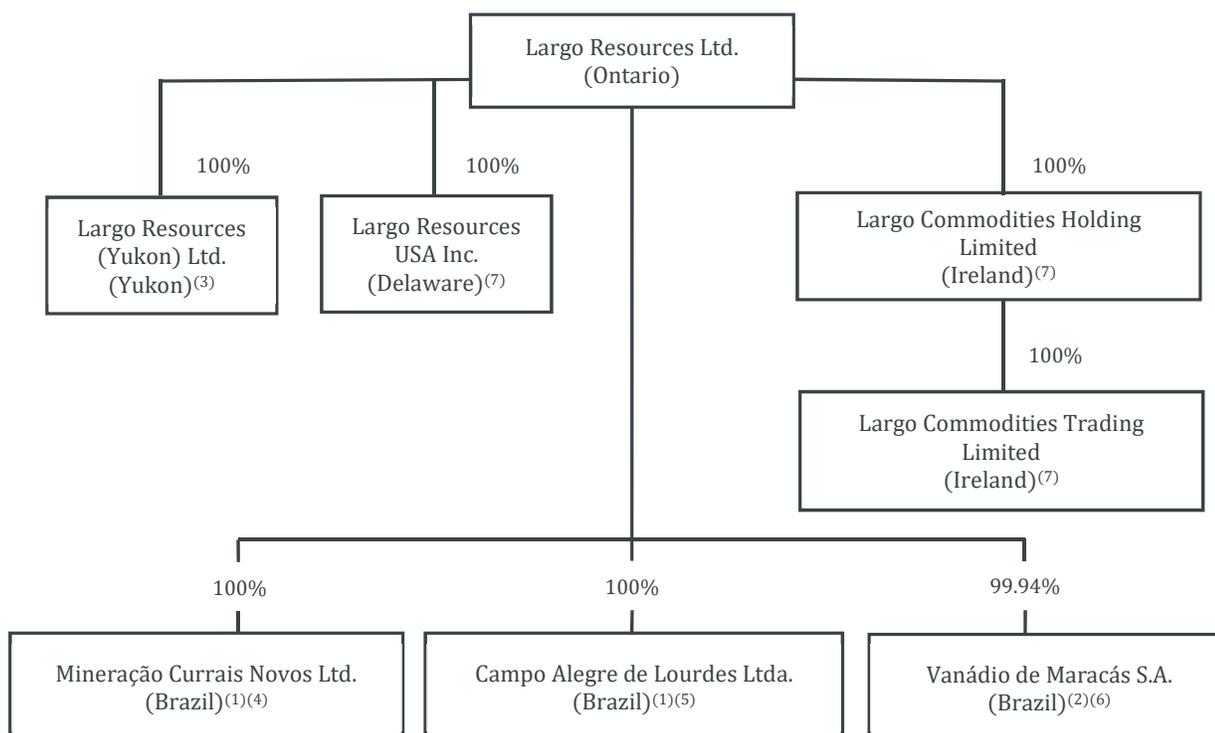
Largo is a company continued under the *Business Corporations Act* (Ontario).

The Company was originally incorporated under the name Kaitone Holdings Ltd. in the province of British Columbia on April 18, 1988. On September 3, 1991, the Company changed its name to Consolidated Kaitone Holdings Ltd. On May 8, 2003, the Company changed its name to Largo Resources Ltd. On June 10, 2004, the Company continued to the Province of Ontario and filed articles of amendment to amend its authorized share capital to an unlimited number of Common Shares. On October 17, 2014, the Company completed a consolidation of its Common Shares on the basis of one (1) post-consolidation Common Share for each ten (10) pre-consolidation Common Shares.

The head office and registered office of the Company is located at 55 University Avenue, Suite 1105, Toronto, Ontario, Canada M5J 2H7.

### Intercorporate Relationships

The following chart shows our principal subsidiaries, their jurisdiction of incorporation and the percentage of voting securities we beneficially own or over which we have control or direction:



#### Notes:

- (1) Under Brazilian law, a corporation must have at least two shareholders or quotaholders, as applicable. Shareholders or quotaholders, as applicable, can be individuals or legal entities. Accordingly, Mr. Paulo Guimaraes Misk, President of the Brazilian operations of the Company, holds an interest of <0.001% (101 shares) and <0.017% (2 quotas) in the capital stock of Mineração Currais Novos Ltda. and Campo Alegre de Lourdes Ltda., respectively.
- (2) The remaining shares of Vanádio are owned by Companhia Baiana de Pesquisa Mineral, an entity controlled by the Brazilian State of Bahia, see also “*Description of the Business – Material Project - Maracás Menchen Mine - Project Description, Location and Access*”.
- (3) Holds a 100% interest in the tungsten-molybdenum Northern Dancer Project in the Yukon, Canada.
- (4) Holds a 100% interest in the tungsten tailings Currais Novos Project, in Brazil.
- (5) Holds a 100% interest in the iron-vanadium Campo Alegre Project in Brazil.
- (6) Holds a 100% interest in our Maracás Menchen Mine.
- (7) These entities facilitate the Company’s sales and distribution capabilities, see also “*Description of the Business – Marketing and Distribution*”.

## GENERAL DEVELOPMENT OF THE BUSINESS

Largo is a Canadian natural resource development and exploration company listed on the TSX and OTCQB.

We are a strategic mineral company focused on the production of vanadium pentoxide ( $V_2O_5$ ) at our Maracás Menchen Mine located in Bahia, Brazil, being the Company's sole material project for the purposes of NI 43-101. The Maracás Menchen Mine is our principal operating asset and accounted for all of our revenues since commencing operations in 2014.

Vanadium is primarily used as an alloy to strengthen steel and reduce its weight. Vanadium enhanced steels are currently used in a vast range of products including, rebar, automobiles, transport infrastructure and is increasingly being adopted in other products and applications that demand stronger and lighter steel.

We also have a portfolio of secondary projects consisting of (i) the Campo Alegre de Lourdes project, an iron vanadium property in Bahia, Brazil, (ii) the Northern Dancer project, a tungsten and molybdenum property in Yukon, Canada, and (iii) Currais Novos, a tungsten project. As of the date of this AIF, none of these projects are operational, and we do not consider any of these projects to be material properties

### Three Year History

The following is a summary of the general development of the Company's business.

#### *Equity Financings*

In January 2017, the Company completed a non-brokered private placement offering (the "**January 2017 Financing**") of an aggregate of 35,740,119 units at a price of \$0.45 per unit for aggregate gross proceeds of approximately \$16.1 million. Each unit was comprised of one Common Share and one warrant exercisable into one Common Share at a price of \$0.65 per share for a period ending three years from the date of issuance. ARC Funds purchased 14,395,675 units and CIH acquired 10,450,000 units.

In December 2017, the Company completed a non-brokered private placement (the "**December 2017 Financing**") of an aggregate of 35,985,749 units at a price of \$0.82 per unit for aggregate gross proceeds of approximately \$29.5 million (including the Banco Pine Debt Settlement, defined herein, see "*General Development of the Business – Three Year History – Debt Facilities*"). Each unit was comprised of one Common Share and one-half of one Common Share purchase warrant, with each whole warrant entitling the holder thereof to purchase one Common Share at a price of \$1.15 per share for a period expiring five years from the date of issuance. Concurrent with the closing of the offering the Company completed the restructuring of its Pine Facility (defined herein) by converting its outstanding debt of US\$5,991,687.51 into Common Shares (the "**Banco Pine Debt Settlement**"), see also "*General Development of the Business – Three Year History – Debt Facilities*". Banco Pine S.A ("**Banco Pine**") received 7,306,934 units in full and final satisfaction of its debt.

On July 24, 2018, the Company completed a secondary offering by way of short form prospectus of 69,000,000 Common Shares at a price of \$1.40 per share.

On November 15, 2018, the Company amended the terms of all outstanding warrants issued in connection with the March 2016 Financing, October 2016 Financing, January 2017 Financing, December 2017 Financing, and the Bridge Loan, permitting the cashless exercise of all such warrants. To date, 21,180,324 warrants have been exercised on a cashless basis.

On February 6, 2019, the Company filed a base shelf prospectus qualifying the distribution of up to \$750 million of securities of the Company.

#### *Senior Secured Notes*

On May 22, 2018, the Company completed a note offering of US\$150.0 million (the "**Note Offering**") in aggregate principal amount of 9.25% senior secured notes due in 2021 (the "**Notes**"). The Company completed the Note Offering in order to simplify its existing debt capital structure and to eliminate a covenant under its 2017 Facility which restricts

the movement of funds from the Company's operating entity, Vanádio, to the Canadian parent. On August 2, 2018, proceeds from the Note Offering were used to repay US\$144.1 million owing under the BNDES Facilities.

Between September 2018 and July 2019, the Company repurchased and retired all outstanding Notes at redemption prices ranging between 103% and 105.625% of the principal amount of the Notes, plus accrued and unpaid interest due on the Notes. The final payment for the redemption of all outstanding Notes was made on July 7, 2019.

### ***Debt Facilities***

In December 2016, the Company entered into definitive agreements with the Banks for a new debt facility (the "**2017 Facility**") and the restructuring of its existing facilities with the Banks related to its Maracás Menchen Mine. The 2017 Facility provided the Company with a working capital facility of up to R\$140 million to be used for the payment of principal and interest falling due during 2017 on the existing loan from the BNDES Facility as well as principal and interest falling due during 2017 on the existing debt facilities.

On February 24, 2017, the Company agreed to a new schedule of payments for its Pine Facility and in connection therewith, the Company was required to pay a restructuring fee of US\$100 million through the delivery of 263,157 common shares of the Company which was satisfied in March 2017.

Also in April 2017, the Company announced that it had entered into a US\$2 million six-month term loan with a shareholder of the Company (the "**Bridge Loan**"). Pursuant to the terms of the Bridge Loan, the Company issued 400,000 Common Share purchase warrants to the lender with each such warrant being exercisable to acquire one Common Share at a price of \$0.50 per share until December 31, 2020. The loan was repaid in December 2017.

On April 4, 2018, the Company along with its operating subsidiary, Vanádio, completed a restructuring and conversion of Vanádio's Pine Facility. As a result of the restructuring, approximately US\$9.0 million of debt owed by Vanádio was paid down with the remaining balance being restructured for payment over approximately 6.5 years. This restructuring resulted in the complete restructuring of the Company and Vanádio's previously existing debt facilities with the Banco Pine.

On August 2, 2018, proceeds from the Note Offering were used to repay all outstanding amounts owing under the BNDES Facility.

On September 27, 2018, Vanádio completed the repayment in full to Banco Pine of its outstanding debt of approximately \$22.9 million.

### ***Operations***

In October 2017, the Company announced the result of the Technical Report containing a Life of Mine Plan for the Maracás Menchen Mine, a feasibility study for the Campbell Pit at the Maracás Menchen Mine and a PEA for Gulçari A Norte, Gulçari B, Novo Amparo, Novo Amparo Norte, Campbell in pit resources and São José Near Mine Targets at the Maracás Menchen Mine. For more information see "*Description of the Business – Material Project - Maracás Menchen Mine*".

On October 5, 2018, INEMA renewed the Company's operating license for the Maracás Menchen Mine. The renewed operating license is valid for a period of two years, and may be further extended within six months of the operating license's new expiry date for an additional period of between two and five years.

On November 2, 2018, INEMA published the Company's environmental license for the Expansion of the Maracás Menchen Mine.

On December 19, 2018, the Company reported on 20 of 24 NQ diamond drill holes that it had drilled at its Novo Amparo Norte deposit in 2018 as part of a second phase drill program, see "*Description of the Business – Exploration, Development, and Production*".

On June 11, 2019, the Company announced the results of its 2019 exploration program returning a significant increase to the overall resource bases at its Novo Amparo Norte deposit in Maracás, Brazil. The exploration program resulted

in the conversion of Inferred Mineral Resources to Measured and Indicated categories, in addition to increasing the overall Inferred Mineral Resources. See *“Description of the Business – Material Projects – Exploration, Development, and Production”*.

On June 19, 2019, the Company announced that, effective September 2019, Mr. Paul Vollant would be joining as Director of Sales and Trading with Largo Commodities Trading Limited (**“Largo Ireland”**). Mr. Vollant is tasked with leading the development of the Company’s sales and trading business and building out the Company’s presence in the global vanadium market.

On August 20, 2019, the Company provided notice to Glencore International AG of the nonrenewal of its Offtake Agreement, terminating effective April 30, 2020, see *“Description of the Business – Marketing and Distribution”*.

On September 8, 2019, Paulo Misk, formerly Chief Operating Officer of the Company, was promoted to President and Chief Executive Officer, replacing the vacancy created by Mr. Mark Smith’s departure from the Company. Concurrently, Mr. Alberto Arias was named non-executive Chairman of the Company’s Board of Directors.

On October 21, 2019, Mr. Francesco D’Alessio joined Largo Resources USA Inc. (**“Largo USA”**) as Head of Sales, Americas. Mr. D’Alessio will be supporting the Company’s vanadium sales and trading business with a particular focus on North and South American markets.

On November 13, 2019, the Company approved the construction of a ferrovanadium conversion plant at the Maracás Menchen Mine (the **“Ferrovanadium Conversion Plant”**) which is estimated to be completed in Q1 2021. Ferrovanadium is essential in the production of steel products, which make up approximately 91% of global vanadium consumption. When complete, the Ferrovanadium Conversion Plant is anticipated to create downstream advantages as it vertically integrates the conversion of the Company’s  $V_2O_5$ , eliminating third party converters, and will enable the Company to supply ferrovanadium consumers directly.

In December, 2019, the Company completed the Expansion of the Maracás Menchen Mine.

On January 22, 2020, the Company announced the launch of VPURE and VPURE+, newly developed brands for the Company’s industry preferred line of vanadium products.

## DESCRIPTION OF THE BUSINESS

### General

Largo is a Canadian natural resource company listed on the TSX and OTCQX and focused on the production of VPURE Flake, VPURE+ Flake and VPURE+ Powder. Our principal operating asset is the Maracás Menchen Mine located in Bahia, Brazil, which accounted for all of our revenues since it commenced operations in 2014. According to the Technical Report, effective as of May 2, 2017, the Maracás Menchen Mine had one of the world’s highest-grade vanadium deposits with Proven Mineral Reserves of 17.57 million tonnes at an average grade of 1.14%  $V_2O_5$  and Probable Mineral Reserves of 1.44 million tonnes with an average grade of 1.26%  $V_2O_5$ . On November 2, 2018, INEMA published the Company’s environmental license for the Expansion of the Maracás Menchen Mine, and the Company completed the Expansion in December 2019. The Maracás Menchen Mine produces  $V_2O_5$  products and effective as of May 2, 2017 had a current mine life of over 10 years, based on its Proven Mineral Reserves and Probable Mineral Reserves as set forth in the Technical Report.

We are currently one of the lowest cost producers of  $V_2O_5$  in the world due to the characteristics of the Maracás Menchen Mine’s ore body and our operating efficiency. In August 2019 the Company gave notice of its intention to terminate the Offtake Agreement with Glencore International AG, effective April 30, 2020. As a result, starting on May 1, 2020, Glencore will not be obligated to purchase any vanadium products from the Maracás Menchen Mine. The Company has established a team of sales professionals to lead global sales of the Company’s vanadium products, see *“General Development of the Business – Three Year History – Operations”*, and *“Description of the Business – Marketing and Distribution”*.

In November, 2019, the Company approved the construction of the Ferrovanadium Conversion Plant which is estimated to be completed in Q1 2021. The completion of the Ferrovanadium Conversion Plant is anticipated to create

downstream advantages for the Company as it will vertically integrate the conversion of the Company's  $V_2O_5$ , eliminating third party converters, and enabling the Company to supply ferrovanadium consumers directly, see *"General Development of the Business – Three Year History – Operations"*.

We also have a portfolio of secondary projects consisting of (i) the Campo Alegre de Lourdes project, an iron vanadium property in Bahia, Brazil, (ii) the Northern Dancer project, a tungsten and molybdenum property in Yukon, Canada and (iii) Currais Novos, a tungsten project. As of the date of this AIF, none of these projects are operational and we do not consider any of these projects to be material properties

## **The Vanadium Industry**

Vanadium is a naturally-occurring, silvery-grey element with an atomic number of 23. It is not typically found as a free-form element in nature, but rather exists in an oxidation state as part of mineral deposits, including vanadinite, carnotite and magnetite ores, or within fossil fuels. Vanadium is harder than most metals, while retaining malleable and ductile features, and is corrosion-resistant to various chemicals, including alkalis, hydrochloric and sulfuric acids and salt water. Vanadium also has high melting and boiling points of 1910°C and 3407°C, respectively, enabling it to retain its solid form in a variety of external conditions.

These key properties make vanadium ideal for use in metal and steel alloying as it helps reinforce the level of strength, toughness and heat and chemical resistance required for various industry applications such as construction, aerospace and automobiles.

Vanadium consumption is dominated by its use in steel applications, which, as of 2019, is estimated to account for approximately 91% of total global consumption. Within this application, the use of vanadium can be further distinguished between the use of vanadium in high-strength low-alloy ("**HSLA**") steel, full alloy steel, carbon steel and other steels. HSLAs include small amounts of vanadium, niobium or titanium, or a combination of these microalloying elements, to induce higher strength and a finer-grained structure. The higher strength enables the use of smaller quantities of raw materials in many applications. HSLAs are considered to be a strong substitute for carbon manganese steel which has lower tensile strength.

The balance of global vanadium consumption, approximately 9% in total, is used for aerospace alloys, chemical catalysts and other specialty applications such as renewable energy. These industries and applications most often require high purity vanadium which command premium pricing.

### ***Vanadium Demand Drivers***

#### **Reinforcing Steel Bars**

In the construction industry, vanadium is used to achieve a certain level of tensile strength in reinforcing bars ("**rebar**") and other steel components used in the construction of bridges, tunnels and buildings. Historically, a significant portion of vanadium demand had been driven by "Grade-3" rebar standards in the western world. This end market experienced significant growth starting in 2004 when China adopted "Grade-3" rebar standards aimed at improving structural performance during seismic events. However, in recent years, demand in this application in China has been degraded by the illegal utilization of the quench and temper method (the "**Q&T method**"), which allows the steel to meet the "Grade 3" tensile strength requirements but not the critical elongation requirements that assure good performance in seismic activity. However, China has recently responded to this trend and is aiming to prevent the use of the Q&T method through the introduction of new rebar specifications made effective November 1, 2018 that cannot be achieved with the Q&T method. This is currently causing Chinese producers of rebar to revert back to employing the use of vanadium alloyed steels. The revised standard also eliminates grade 2 rebar which is lower strength and can be produced without any microalloy.

Shifts in consumer preferences and government fuel efficiency standards requiring more fuel-efficient vehicles are encouraging automobile manufacturers to adopt HSLA steel in automotive applications. Vanadium-containing HSLAs and other high-strength steels provide the desirable physical properties required to meet crucial automotive standards, including stiffness, crash performance and forming characteristics, while remaining competitive with other lightweight alternatives, such as carbon fiber reinforced polymers. We anticipate this optimal cost-weight-strength ratio will drive vanadium demand in automotive end market uses.

## High Performance Alloys

Vanadium is also used in the production of high performance alloys, specifically titanium alloys primarily used in the aerospace industry. Titanium-vanadium alloys' low density, high strength and excellent fatigue properties make it a key input to aerospace engines, gas turbines and airframes. Titanium-vanadium alloys accounted for approximately 2.5% of global vanadium consumption in 2019 and are expected to continue growing as major manufacturers seek to meet their delivery schedules and maintain stringent industry specifications.

## Energy Storage Systems

Over the long-term, we expect new applications to drive incremental demand for vanadium use, especially certain specialty applications that demand high-purity vanadium content. While these sources of demand account for a limited amount of existing consumption, we expect the ongoing development and maturation of certain technologies to spur additional long-term demand for vanadium outside of consumption in steel. Global climate change trends are encouraging the research and implementation of large energy storage systems to support renewable energy sources. Vanadium redox flow batteries, which use vanadium ions in different oxidation states to store potential chemical energy, are considered to be a cost-competitive alternative to lithium ion technology for large-scale, long duration energy storage. We believe our high-purity products are well-positioned to take advantage of these quickly growing end markets.

## ***Vanadium Supply Trends***

Vanadium supply dynamics are primarily driven by both the nature of production methods and the location of vanadium sources. Because vanadium exists naturally in an oxidized form, it is typically derived from the processing of vanadium-bearing ores, slag or residues and then converted into an intermediate vanadium oxide product. The majority of vanadium is extracted from vanadium-bearing slag, a by-product of the steel making process in regions where vanadium titanium magnetite (“VTM”) deposits are present. VTM ores are processed in steel mills, with the vanadium-bearing slag subsequently processed for vanadium extraction. Due to its by-product nature, vanadium supply from steel production is generally price-inelastic with supply driven by underlying trends in the steel industry and competitiveness of the specific iron ore mines and steel mills utilizing VTM ore, rather than by output from primary mining operations. For example, significant growth in steel production in China from 2004 to 2014 resulted in an eightfold increase in vanadium slag production derived from steel making. In 2019, steel mills in China, Russia and New Zealand supplied approximately 70% of vanadium through their slag by-product.

The cost competitiveness of these sources is greatly influenced by the initial cost of the primary products, rather than the cost of extracting vanadium from the slag. This has meaningful implications on slag-sourced vanadium globally. While Chinese and Russian steel mills are the major sources of vanadium as a by-product from steel production, these sources are becoming less competitive in the global steel market since the locally sourced VTM ores used in these steel mills are typically high in titanium and low in iron. In particular, the uneconomic nature of these select VTM ores relative to seaborne iron ores that do not contain vanadium has led to diminished use of VTM ores in steel production at some vanadium producing mills. This has in turn led to a meaningful reduction in supply of vanadium from slag. Examples of such significant shutdowns include the liquidation of the Mapochs Mine following closure of Highveld Steel and Vanchem Vanadium Products in South Africa and discontinuation of the use of VTM ore at the Jianlong Steel Group's Heilongjiang steel mill. The continued growth in Chinese seaborne iron ore imports (which contain no vanadium) partially replacing locally mined VTM ore is expected to further limit vanadium supply from slag processing.

The next largest source of vanadium supply is from mining operations where vanadium is the primary commodity produced. Primary producers based in South Africa, Brazil and China extract vanadium directly from VTM ores, which accounts for 18% of supply. Because these projects are not associated with any steel processing, their relative cost competitiveness is largely influenced by mine-specific factors, most importantly ore grade. Primary production of vanadium in China is sourced from a carbonaceous shale known as stone coal, which contains a relatively low grade of 0.2% to 1.0% of vanadium. The Company's Maracás Menchen Mine is one of only three large-scale primary vanadium mines globally.

The remainder of global vanadium supply is derived from secondary vanadium sources. Secondary sources, on the other hand, derive vanadium from residues, ashes and spent catalysts that are a by-product of the burning or refining

of vanadium-bearing carboniferous materials, including coal and oils. Similar to vanadium produced in the steel making process, the economic viability of these secondary sources depends largely on the underlying trends in the markets for other materials.

Owing to the inexpensive, but highly constrained quantity of vanadium supply from the steel making processes, and the challenging and often expensive processes of sourcing vanadium from primary and secondary sources, the cost curve is less responsive to changes in demand levels.

New primary sources of vanadium are expected to be relatively limited in the next few years due to the limited number, and stage of advancement of, projects expected to come online.

### ***Vanadium Prices***

According to the London Metal Bulletin, as of March 13, 2020, V<sub>2</sub>O<sub>5</sub> was trading in the range of US\$4.80 to US\$5.50 per pound of V<sub>2</sub>O<sub>5</sub>, and as of December 27, 2019 was trading in the range of US\$4.80 to US\$5.85 per pound V<sub>2</sub>O<sub>5</sub>. The price of V<sub>2</sub>O<sub>5</sub> decreased materially in 2019, starting the year at US\$15.50 to US\$16.50 per pound V<sub>2</sub>O<sub>5</sub> before falling almost continuously until the end of the year when it bottomed out. From January 2020 to March 2020, the price of V<sub>2</sub>O<sub>5</sub> has experienced volatility and any gains realized over the period have been tempered by fears of a global economic slowdown from the COVID-19 pandemic, see “*Risk Factors – Risks Related to the Business and Operations*”.

### **Material Project - Maracás Menchen Mine**

#### ***Technical Report***

At present, the only material project of the Company for the purposes of NI 43-101 is the Maracás Menchen Mine and the primary focus of the Company is to continue to meet and exceed nameplate capacity at the Maracás Menchen Mine on a consistent and continued basis.

A report entitled “An Updated Mine Plan, Mineral Reserve and Preliminary Economic Assessment of the Inferred Resources” and issued on October 26, 2017 and effective as of May 2, 2017 (the “**Technical Report**”) was prepared for the Company by GE21. The Technical Report is available under the Company’s profile on SEDAR at [www.sedar.com](http://www.sedar.com) and on the Company’s website at [www.largoresources.com](http://www.largoresources.com).

The following information is based, in part, on Technical Report. Non-material updates since the date of the Technical Report are based on the Company’s previously filed financial statements and MD&As. The entire Technical Report is incorporated by reference herein, and readers are encouraged to review the complete text of the Technical Report. A full list of references cited by the authors are contained in the Technical Report. Porfirio Cabaleiro Rodriguez, Mining Engineer, BSc (Mine Eng), MAIG employed by GE21, Leonardo Apparicio da Silva, Mining Engineer, BSc (Min Eng), MSc (Met Eng), MAIG associated to GE21, and Fabio Valerio Xavier, Geologist, BSc, Geol, MAIG associated to GE21, are the Qualified Persons as defined in NI 43-101 responsible for the Technical Report and are all independent of the Company.

**The Technical Report is intended to be read as a whole, and sections should not be read or relied upon out of context. The Technical Report contains the expression of the professional opinions of a Qualified Person (as defined under NI 43-101) based upon information available at the time of preparation of the Technical Report. The following disclosure, which is extracted in part from the Technical Report, is subject to the assumptions and qualifications contained in the Technical Report.**

#### ***Project Description, Location and Access***

The Maracás Menchen Mine is a high-grade, open pit vanadium mine located in the state of Bahia, Brazil that began producing V<sub>2</sub>O<sub>5</sub> flake in the third quarter of 2014. The mine produces V<sub>2</sub>O<sub>5</sub> rich ore which is sent to an on-site processing plant which produced 10,577 tonnes of V<sub>2</sub>O<sub>5</sub> flake in 2019.

The Maracás Menchen Mine is located within the greater municipality of Maracás in the eastern Bahia State Brazil and lies approximately 250 km southwest of the city of Salvador, the capital of Bahia. Access to the Maracás Menchen Mine is via paved secondary road from the main coastal highway to the town of Maracás (350 km) and then a further 50 km via secondary highway and gravel road to the mine site. Access to water, the electrical power grid and railroad is within

reasonable distance, and a trained workforce and local unskilled labour is available within the State of Bahia, the country of Brazil and the town of Maracás.

The property consists of eighteen (18) concessions totalling 17,690.5 hectares, and all of the permits are owned 100% by Vanádio de Maracás S.A. ("**Vanádio**"), which is controlled 99.94% directly and indirectly by Largo. Of this total, Vanádio controls two Mining permits of 1,000 hectares each, and one exploration permit (977.20 hectares). Largo controls the remaining fourteen exploration permits and final mining permit (1,713.88 hectares). All concessions are in good standing and there are no underlying royalty payments to any private entities. Companhia Baiana de Pesquisa Mineral ("**CBPM**"), an entity owned by the Bahia State Geological Survey, owns the underlying minerals rights to most of the project area, with the exception of Novo Amparo Norte ("**NAN**") which is owned by Vanádio. Under an agreement, CBPM retains a 3% royalty on gross sales revenue for all of the concessions with the exception of NAN. The property is also subject to a royalty of 2% on certain operating costs under the Brazilian Mining Act and, under a separate agreement, Anglo Pacific PLC receives a 2% net smelter royalty in the Maracás Menchen Mine. Otherwise, the concessions are free and clear of mortgages, encumbrances, prohibitions, injunctions and litigation.

Exploration licences are granted by the National Mining Agency ("**ANM**") based on an improved plan for a period of one to three years, with an option to extend for an additional three years. Annual fees of R\$3.29 per hectare are paid on the first term and R\$5.00 per hectare are paid on the second term. Once the exploration plan is completed, the licensee must submit a final exploration report and if the report is approved, they have up to one year to apply for an extraction licence. Once ANM has approved the final report carried out under the exploration licence the applicant moves to an extraction licence application. The extraction licence describes the details of an economic analysis of the project including environmental impacts, methods of operation and a plan for mine closure. Once approved by the ANM, exploitation permits are granted. Royalties are then payable to the government on products mined.

Largo reports that, to its knowledge, there are no existing permitting, environmental liabilities or other significant factors that would affect title or access with respect to the Maracás Menchen Mine.

### ***History***

Over the past 30 years, the Maracás Project has undergone several phases of exploration and economic evaluation, including geophysical surveys, prospecting, trenching, diamond drilling programs, geological studies, resource estimates, petrographic studies, metallurgical studies, mining studies and economic analyses. These studies have advanced the Maracás Project to its present status of an operating mine.

Exploration of the Rio Jacaré Sill by geologists of the CBPM initiated in 1980 during a regional geological survey and resulted in the discovery of vanadium-rich titaniferous magnetite occurrences on what is now the Maracás Menchen Mine. Additional geological mapping, geochemistry, geochemical surveying, pitting, trenching and limited drilling was completed by CBPM.

In 1984 the Bahia State Geological Survey ("**CBPM**") formed a joint venture with the Odebrecht Group ("**Odebrecht**") who took over exploration of the project area and over the subsequent six years completed extensive geological and technical work. This work resulted in Odebrecht owning 93% of the project. In the early 1990's Odebrecht formed a 50/50 joint venture with CAEMI (Vale) with the intent of bringing additional mining, metallurgical and marketing expertise to help advance the project. Substantial work including diamond drilling, metallurgical studies, resource calculations and mine planning were carried out and numerous prefeasibility, feasibility and marketing studies were completed culminating in a 1999 Economic Update Report. In 2006, Largo (through Vanádio) signed an option agreement with Odebrecht and Vale for the Maracás Project giving Largo the right to acquire a 90% interest in the project. In 2012, Largo exercised the option and acquired the interests of both Odebrecht and Vale resulting in Vanádio owning 99.94% of the Maracás Project. Since the acquisition Largo has completed additional detailed engineering work and began construction of the Maracás Menchen Mine in June 2012. The Maracás Menchen Mine was commissioned March 2014 and production has steadily increased from 5,810 t/a in 2015 to a record 10,577 t/a in 2019.

### ***Geological Setting, Mineralization, and Deposit Types***

The Rio Jacaré Sill (the "**RJS**") is a mafic-ultramafic intrusion, which hosts the Maracás Project vanadium mineralization, is located in the south-central part of Bahia state in northeastern Brazil. It lies within the Archean São Francisco craton, which in this area is composed of the Contendas-Mirante Complex and the Gavião and Jequié blocks.

The RJS is located on the eastern edge of the Contendas-Mirante supracrustal sequence, which forms a large anticlinorium trending approximately north-south. The supracrustal rocks are located between the early Archean Gavião block to the west, which is composed predominantly of tonalite-trondhjemite granodiorite, and the Archean Jequié block to the east, which is composed predominantly of charnockite and enderbite intrusive rocks with strong calc-alkaline affinities and granulite facies metamorphic rocks. The Contendas-Mirante sequence is thought to be younger than the adjacent Gavião and Jequié blocks and consists of an Archean basal volcanic unit overlain by a Paleoproterozoic member containing flysch and metavolcanic rocks that are overlain by a clastic member.

The RJS is composed mainly of gabbro. The intrusion has been described previously as a sill intruded into the volcanic rocks of the lower unit of the Contendas-Mirante gneissic complex. However, the RJS is fault bounded to the east and west, and therefore, its contacts with both the Contendas-Mirante sequence and Jequié block are tectonic.

The RJS is a linear, sheet-like structure that strikes N 20° E and dips approximately 70° to the east. The intrusion has been identified over a length of 70 km and has an average width of 1.2 km. The Campbell Pit contains the largest concentrations of vanadium-rich magnetite known on the property to date. This deposit crops out over an area of approximately 400 m along strike, up to 150 m width and is known to extend to approximately 350 m vertical depth, where it remains open. The Campbell Pit has been disrupted by northwest-southeast faulting. It is composed of magnetite grading into magnetite-rich pyroxenite, pyroxenite, and then gabbro which contains layers or lenses of magnetite-bearing pyroxenite that are sometimes sheared. The main magnetite body is on average about 25 m thick and thins to the south.

Within the Maracás Project the RJS can be traced for the full 8 km underlying the exploration permits north of the Campbell Pit. Six known VTM deposits including the Campbell Pit, Gulçari A Norte and Gulçari B (collectively “GAN”), São José (“SJO”), Novo Amparo (“NAO”) and NAN, (collectively the “Near Mine Targets” or “NMT”, also referred to as ‘Satellite Deposits’ in the Technical Report) have been identified within the intrusion. The RJS can be traced a further +25 kilometers south of the Campbell Pit and Largo controls much of this area with additional exploration permits.

The NMT consist of magnetite closely associated with pyroxenite layers and hosted in gabbro. The magnetite layers have widths between <5 to+ 13 m and lengths of up to 250 m, with the layers being locally truncated or offset by faulting.

Sulphides account for up to 1% of the rock in the magnetite. The major phases are chalcopyrite and pentlandite with only very minor pyrite and pyrrhotite. High platinum and palladium (“PGM”) values have been found in the magnetite zones in the RJS. The association of PGM enrichment with magnetite layers in the RJS has similarities with the Rincón del Tigre, Skaergaard and Stella Complexes as well as the Bushveld Complex

### ***Exploration***

Ongoing exploration is conducted on the Near Mine Targets with the primary goal of supporting mining activities and increasing estimated Mineral Resources and Mineral Reserves available for mining. All existing exploration information is being compiled into a comprehensive 3D model to allow for evaluation and prioritization of exploration efforts.

Beginning in 2007, Largo carried out significant geological work and interpretation over the project area. The entire property has been covered by 175 line-km of line cutting. The grid lines are 2.5 km long and oriented east-west with 100-m line spacing and 25-m stations along the lines. This line cutting work was done to facilitate geological mapping, sampling and ground geophysical surveys (magnetic and induced polarization). Geological mapping was done at a scale of 1:2,500 over the entire property concentrating on favourable areas that had a limited amount of information. This work was completed to get a better understanding of the area’s potential prior to conducting further drill testing.

Ground magnetic surveying (175 line-km) was completed over the entire property and total of 136 line-km of induced polarization surveying was completed on the property to help define magnetic horizons within the RJS. Geophysical surveys were important during the early of work to define targets for future drilling.

Data compilation, re-logging and additional resampling of previously drilled holes (1981 to 1986) were undertaken. This work was done to correlate the lithologies between holes and from section to section, and to test the platinum and palladium potential of the deposit to better understand the geological setting.

Exploration has resulted in significant opportunity to advance the Near Mine Targets to host Mineral Resource estimates in support of the overall mine complex and long-term mine planning.

### ***Drilling***

Mineral Resources and Reserves are estimated based on information from surface drill holes. Prior to Largo's activity at the Maracás Project, previous operators had drilled 53 diamond drill holes (5,153 m) on the Campbell Pit, and 13 diamond drill holes (661 m) on targets within the overall mine property. Largo completed three exploration drill campaigns at the Maracás Project (2007, 2008 and 2011-2012) with 56 drill holes (14,525 m) directed at the Campbell Pit and 84 drill holes (15,058 meters) targeting other deposits within the mine property. Between September 2012 and January 2013, Largo completed an infill drill program consisting of 103 vertical drill holes (3,929.35 meters) at the Campbell Pit. The program was designed to further identify and delineate the first 2 to 3 years of mining at the Campbell Pit. Holes were spaced on 12.5 m centers and encompassed an area of about 300 m by 150 m.

For additional information on more recent drilling carried out on NAN see "*Description of the Business – Exploration, Development and Production*".

### ***Sampling, Analysis, and Data verification***

Several periods of diamond drill by different operators have resulted in somewhat varying sampling procedures. The actual sampling method carried out by CBPM (1981 and 1983) is not known, but during visits to the core facility it was observed that the core had been carefully half cut with all holes available for inspection. Clearly marked sample intervals were evident in all core boxes and it was concluded that sampling had been carried out in a very professional manner.

Drill core sampling during the Odebrecht period was also completed to industry standards and half sawn core was carefully logged and sampled. Sampled core was secured and shipped via commercial trucks to the laboratory at SGS GEOSOL Laboratorios Ltda. ("**SGS**") (1983-1987) and Paulo Abib Engenharia S.A. laboratory (1985 to 1987) both located in Belo Horizonte. In total, 1,675 core samples were analysed at SGS and Paulo Abib Engenharia. Samples were analysed for FeO, Fe<sub>2</sub>O<sub>3</sub>, SiO<sub>2</sub>, TiO<sub>2</sub> and V<sub>2</sub>O<sub>5</sub>.

In 2006 and 2007, Largo undertook an extensive program of core relogging and sampling. Largo personnel collected quarter cut drill core samples which were then placed into sealed in plastic bags with corresponding sample tags. Samples were shipped via company truck to Salvador where they were handed over to a commercial trucking company for shipment to SGS in Belo Horizonte. Analytical quality control utilized by Largo included the insertion of blanks, referenced material samples and duplicates on a regular basis for all batches submitted for analysis. CBPM and Odebrecht sample pulps remain available to Largo.

All sample preparation and analysis of drill core from the 2006/2007 resampling program and all Largo directed drill programs were performed by SGS in Belo Horizonte, Brazil and Lakefield Ontario, Canada. During infill drilling at the Campbell Pit in 2012 both SGS in Belo Horizonte and Intertek in Cotia, Brazil were used for sample preparation and analysis. Samples were analysed for FeO, Fe<sub>2</sub>O<sub>3</sub>, SiO<sub>2</sub>, TiO<sub>2</sub> and V<sub>2</sub>O<sub>5</sub> by the XRF method and for platinum and palladium by 50 g fire assay at SGS. This was modified to a 20 g fire assay for the 2007 and later drill programs. SGS "complies with the requirements of the international standards ISO 9001:2000 and ISO 14001:2004 for chemical analysis and geochemistry of soils, rocks and ores" (SGS Minerals, 2006). Intertek also complies with ISO 9001:2008 for chemical analysis and geochemistry of soils, rocks and ores.

In 2015 Largo staff initiated Davis Tube test work to improve their understanding of vanadium in the ore at the Campbell Pit. This work was used to determine the magnetic percentage and the SiO<sub>2</sub> and V<sub>2</sub>O<sub>5</sub> grades in the magnetite concentrate. This work was completed by SGS. In total, 7,567 pulp samples collected from previous drill programs were analysed. A pulp duplicate, and one certified standard were inserted into every 40 sample batch.

Data verification work completed by Largo and Micon has led to confidence in the database compiled by the original owners of the property. Largo's ongoing quality assurance and quality control program has also led to confidence in the newly generated data.

### ***Mineral Processing and Metallurgical Testing***

The original process design was based primarily on the metallurgical testwork performed by SGS in 2007, a study undertaken by IMS Processing plant in 1990, a feasibility study completed by Lurgi in 1986, a metallurgical study performed by Rautaruukki Oy Research Centre between 1987 and 1989, and the detailed technical study produced by Engenharia e Consultoria Mineral S.A. (ECM) in 1990. A list of metallurgical and process technical and economic references can be found in Section 13.2 of the Technical Report.

Testwork was undertaken by SGS between April and November 2007 to investigate the recovery of vanadium from the Maracás Project mineralization. This program included mineral processing investigations using magnetic separation to recover vanadium contained in magnetite and hydrometallurgical extraction using roasting, leaching, precipitation and calcining to produce an intermediate vanadium oxide product. Additional SGS testwork was undertaken in 2012 to investigate beneficiation recoveries and concentrate analyses for the additional ore-bodies included in the expanded plan presented in the Technical Report.

Pilot scale testing was undertaken by Largo in 2010 to test bulk samples of high grade and low grade ore with respect to recovery and leaching performance.

After completion of the Definitive Feasibility Study (“DFS”) in 2010, at the request of the financing bank’s technical consultant, a pilot scale program was initiated to prove the viability of producing V<sub>2</sub>O<sub>5</sub> from the Maracás Project ore and to confirm the process data reported in the feasibility study. Test work was done at Fundação Gorceix and involved obtaining a sample of the Maracás Project ore, beneficiating the ore to produce a V<sub>2</sub>O<sub>5</sub> concentrate and then roasting the concentrate in a kiln to convert vanadium into a soluble form.

The roasted concentrate was then leached in water to produce a vanadium solution that was further processed through de-silication and ammonium metavanadate (“AMV”) precipitation steps. The AMV thus produced was then analyzed and calcined at SGS to produce V<sub>2</sub>O<sub>5</sub>. The complete process route has been described in the DFS.

It was not possible with available facilities to pilot the production of V<sub>2</sub>O<sub>5</sub> and Ferrovandium from AMV. Since these are state of the art technologies utilized by major Ferrovandium producers their exclusion from the pilot program was considered acceptable as long as the AMV produced was of acceptable quality.

### ***Mineral Resources and Mineral Reserve Estimates***

On October 16, 2017 Largo disclosed Mineral Reserve and Mineral Resource estimates with an effective date of May 2, 2017 in a report titled *Maracás Project, Bahia, Brazil, An Updated Mine Plan, Mineral Reserve and Preliminary Economic Assessment of the Inferred Resources*, prepared by GE21 Consultoria Mineral.

The Mineral Resources for the Campbell Pit are estimated from drill core information stored in a secured central database and were evaluated using a geostatistical block modelling approach. A three-dimensional block model was generated to enable grade estimation. The selected block size was based on the geometry of the domain interpretation and the data configuration. The block size of 5 m E by 5 m N by 5 m RL was selected. The “percent” block modelling technique was used to represent the volume of the interpreted wireframe models. Sufficient variables were included in the block model construction to enable grade estimation and reporting.

Resource estimation for the Campbell Pit was undertaken using ordinary kriging (“OK”) as the principal estimation methodology for V<sub>2</sub>O<sub>5</sub>. The OK estimates were completed using Gemcom mining software. In 2016, Largo updated the Mineral Resource estimate for the Campbell Pit as a result of depletion of mined resources. This Measured and Indicated Resource was used to update the reserve and used for the new mine plan presented herein.

The new block model incorporates percent magnetics (percent of magnetic minerals in the mineralized rock) and magnetite concentrate grade for V<sub>2</sub>O<sub>5</sub> and SiO<sub>2</sub>. No new drilling was available for the estimate; however, it was adjusted for mining completed to date. The updated Mineral Resources for Campbell are presented below:

### Campbell Mineral Resources - Maracás Project

Effective date: May 02<sup>nd</sup> 2017

Category	Tonnes (million)	V <sub>2</sub> O <sub>5</sub> Head Grade (%)	V <sub>2</sub> O <sub>5</sub> Contained (kt)	V <sub>2</sub> O <sub>5</sub> in Concentrate (%)	Magnetics (%)
Measured (M)	18.08	1.19	215.0	3.19	30.55
Indicated (I)	1.70	1.28	21.7	3.12	34.64
M&I	19.78	1.20	236.7	3.19	30.90
Inferred	1.65	1.20	19.8	3.10	33.08

**Notes:**

- (1) Mineral Resources within a pit shell using US\$34.20/t all in operating cost and reported at a 0.45% V<sub>2</sub>O<sub>5</sub> cut-off, reviewed and confirmed by Fabio Valério Xavier (GE21).
- (2) Mineral Resources are classified as Measured, Indicated and Inferred based on relative levels of confidence in their estimation and on technical and economic parameters consistent with the methods most suitable to their potential commercial exploitation.
- (3) The Measured and Indicated Resources listed in the table above are inclusive of Mineral Reserves.
- (4) The Mineral Resource and Mineral Reserve estimates are reported in accordance with the NI 43-101 and the Canadian Institute of Mining, Metallurgy and Petroleum Definition Standards on Mineral Resources and Reserves (CIM Definition Standards) as a minimum standard.

Mineral Reserves have been estimated for the Campbell Pit with an effective date of May 02, 2017. The mine plan developed in the Technical Report is based on Measured and Indicated Resources only as delineated in the table above. Reserves are reported using a sales price of US\$6.34/lb of V<sub>2</sub>O<sub>5</sub>. The ultimate pit design and mine plan was done to optimize kiln feed. The open pit Mineral Reserve estimate is based on a mine plan and open pit designs developed using modifying parameters including metal prices, metal recovery based on performance of the processing plant, operating and sustaining capital cost estimates based on the production schedule and equipment requirements. Other factors including; dilution, mining recovery, shipping terms, geotechnical characteristics of the rock mass, and the likelihood of obtaining land title, required permits environmental, social and legal licenses may affect the final Mineral Resources and Reserves, see “*Risk Factors*”.

The Mineral Reserves presented below were estimated by Porfírio Cabaleiro Rodriguez of GE21, who is a qualified person under NI 43-101 and a Member of the Australian Institute of Geoscientists.

### Campbell Mineral Reserves - Maracás Project

Block dimensions 5x5x5 (m) - Mine Recovery 100% and Dilution 5%

Effective Date: May 02, 2017

Reserve Category	Tonnage (kt)	% V <sub>2</sub> O <sub>5</sub> Head	% Magnetics	%V <sub>2</sub> O <sub>5</sub> con	V <sub>2</sub> O <sub>5</sub> Contained (kt)
Proven	17,570	1.14	29.66	3.21	167.3
Probable	1,440	1.26	33.89	3.20	15.6
Total in pit Reserve	19,010	1.15	29.98	3.21	182.9

**Notes:**

- (1) A Probable Mineral Reserve is the economically mineable part of an Indicated Mineral Resource, and in some circumstances, Measured Mineral Resource.
- (2) A Proven Mineral Reserve is, in most common circumstances, the economically mineable part of a Measured Mineral Resource.
- (3) Mineral Reserves are included in Measured and Indicated Resources.
- (4) The reference point at which Mineral Reserves are defined is the point where the ore is delivered from the open pit to the crushing plant.
- (5) The Mineral Resource and Mineral Reserve estimates are reported in accordance with the NI 43-101 and the CIM Definition Standards on Mineral Resources and Reserves (CIM Definition Standards) as a minimum standard.

Largo completed a revised block model and updated Mineral Resource estimate for the Near Mine Targets incorporating the drilling from the 2011 program including 72 holes totalling 13,401 m. The Near Mine Targets which extend north from Gulçari A for eight kilometers include from south to north: Gulçari A Norte, Gulçari B, São José, Novo Amparo and NAN. All are hosted in the RJS.

The Near Mine Targets Mineral Resources below are based only on drilling to the end of 2012. Additional exploration work commencing in 2018 is set out under the heading “*Description of the Business – Exploration, Development and*

*Production*” below. The Mineral Resources for the Near Mine Targets in the table below are considered current with the exception of the NAN deposit as described below.

<b>Near Mine Targets Mineral Resources</b>				
<b>Effective date: May 02, 2017</b>				
<b>Deposits</b>	<b>Category</b>	<b>tonnes (kt)</b>	<b>V<sub>2</sub>O<sub>5</sub> (%)</b>	<b>Contained V<sub>2</sub>O<sub>5</sub> (tonnes)</b>
Gulçari A Norte**	Inferred	9,730	0.84	81,388
Gulçari B**	Inferred	2,910	0.70	20,312
Novo Amparo**	Inferred	1,560	0.72	11,255
Novo Amparo Norte**	Inferred	9,720	0.87	84,453
Sao Jose**	Inferred	3,900	0.89	34,706
Near Mine Targets (Total)**	Inferred	27,820	0.83	232,114

\*\* Resource within a pit shell using \$US34.20/t all in operating cost and reported at a 0.45% V<sub>2</sub>O<sub>5</sub> cut-off, reviewed and confirmed by Porfirio Cabaleiro Rodriguez (GE 21).

### ***Mining Operations***

The completion of the Expansion of the Maracás Menchen Mine in December 2019 increased our production to 10,577 t in 2019, with a new name plate capacity of 11,750 – 12,250 t anticipated in 2020. Currently Largo has a mining fleet which consists of four hydraulic excavators equipped with a 3.5-5 m<sup>3</sup> bucket and a total of 28 Mercedes Benz 36-tonne capacity trucks. The contract drilling fleet consists of six Sandvik Ranger DX800 rotary drill rigs. A fleet of ancillary equipment is also available for mine maintenance and eventual plant services.

In 2019 mining operations at the Campbell Pit moved 1.15 million tonnes of ore 7.01 million tonnes of waste. The overall life of mine (“LOM”) show total mining of 19.73 million tonnes ore and stockpile and 60.21 million tonnes of waste for an overall strip ratio of 3.14. LOM average head grade of V<sub>2</sub>O<sub>5</sub> of 0.96% and 76% global recovery. As of May 2, 2017, the effective date of the Technical Report, the LOM was estimated at 11 years.

### ***Processing and Recovery Operations***

The Maracás Menchen Mine vanadium recovery plant was commissioned in 2014 and has been in start-up mode for much of that time ramping up to near design capacity. At the time of writing the Technical Report, the plant produces up to 800 t/month, equivalent to a production rate of 9,600 t/a of V<sub>2</sub>O<sub>5</sub>.

The current process flow sheet comprises the following: three stages of crushing, one stage of grinding, two stages of magnetic separation, magnetic concentrate roasting, vanadium leaching, ammonium meta-vanadate (AMV) precipitation, AMV filtration, AMV calcining, and fusing to V<sub>2</sub>O<sub>5</sub> flake as final product. A simplified process flow diagram for the production of V<sub>2</sub>O<sub>5</sub> is presented in the Technical Report.

Originally sized to process 960,000 t/a run of mine the plant will be capable, after due modification, to process 1,900,000 t/a of feed ore with an average grade of 0.9% V<sub>2</sub>O<sub>5</sub>, 79% global recovery, and produce 13,200 t/a V<sub>2</sub>O<sub>5</sub> by 2020. The plant is designed to operate 365 days per year, 7 days/week, 24 hours/day with an on-stream factor of 87%.

In 2019, global recovery from ore of V<sub>2</sub>O<sub>5</sub> reached 78.5%.

### ***Capital and Operating Costs***

All capital expenditures are treated as sustaining capital expenditures for purposes of the Technical Report and the related cash flow analysis, and was estimated for the whole Maracás Project at US\$71 million. The expansion project, which was completed in 2019, accounted for US\$21 million and increased production capacity to 1,000 t/month. In 2020, Largo anticipates completing feed rate improvements on the kiln which is expected to increase nameplate production capacity to 1,100 t/month. The cost of the kiln feed rate improvements are anticipated at approximately US\$1.3 million.

A constant value of US\$3 million per year was provided for plant maintenance and spare parts, and an additional US\$2 million in plant improvement projects.

Additional sustaining capex of US\$1.5 million was estimated for mine drainage, US\$4.3 million was estimated for exploration, and US\$8.8 million for non-magnetic dams and chloride ponds.

Operating and administrative costs are based on real costs that are regularly incurred by Largo and are summarized below:

Average Operating Cost Summary	
<b>Operating Cost</b>	<b>US\$</b>
Mining (US\$/t earth moving)	2.45
Processing (US\$/lb V <sub>2</sub> O <sub>5</sub> )	1.78
General and Admin (US\$/lb V <sub>2</sub> O <sub>5</sub> )	0.18
Royalties (CBPM, owner, CFEM, AP) (US\$/lb V <sub>2</sub> O <sub>5</sub> )	0.34

### Exploration, Development, and Production

In 2018 exploration activities at the Campbell Pit included a close spaced diamond drilling program of 31 holes (2,323 meters) designed to give greater detail to the ore body and help to guide mine production over the next two to three years. This program began in the middle of April 2018 and was completed on May 30, 2018. The data was modelled and used for mine planning and development purposes. Consultants from GE21 assisted in the modelling.

Phase II included a 4,950 metre drilling program focused on upgrading and expanding the NMT and along strike high priority targets. Drilling began on June 4, 2018 with two rigs focused at NAN and the Company completed 24 holes totalling 4,223 metres prior to December 31, 2018. This included 13 infill and 11 step out holes. On December 19, 2018, the Company announced that this program had expanded the mineralization to the north and south at NAN, defining targeted mineralisation over a strike length of 1.84 kilometers. Infill drilling was designed to upgrade the resource category at NAN.

Additionally, seven holes were drilled on targets south of the Campbell pit. The drill program was completed on October 23, 2018.

Previous drilling at NAN completed by the Company from 2011 to 2012 outlined a consistent zone of mineralisation over 790 meters with an average width of 18 meters and an average grade of 0.87% V<sub>2</sub>O<sub>5</sub>. The 2018 program was successful in extending mineralisation both to the north and south along strike by approximately 130% to approximately 1,840 meters. The deposit remains open to the south and to depth.

The Company extended the Phase II definition drilling program at NAN in the first quarter of 2019. Diamond drilling was initiated at NAN on January 15, 2019. In total, 47 diamond drill holes (5,404 metres) were completed. The work focused on increasing confidence in the resource categories and extending mineralisation at depth and along strike. This program was completed mid-February 2019. The exploration program resulted in the conversion of Inferred Mineral Resources to Measured and Indicated categories, in addition to increasing the overall Inferred Mineral Resources. On June 11, 2019, the Company reported a new resource estimate for NAN on 12,912 metres (88 drill holes) of drilling with an effective date of May 31, 2019.

### Novo Amparo Norte Mineral Resource Estimate

Effective date: May 31, 2019

Category	Tonnes (mt)	Head Grade		Magnetic Concentrate V <sub>2</sub> O <sub>5</sub> (%)	Contained V <sub>2</sub> O <sub>5</sub> Magnetic Concentrate (tonnes)
		V <sub>2</sub> O <sub>5</sub> (%)	Magnetite (%)		
Measured	6.25	0.91	33.1	2.32	48,046
Indicated	5.98	0.85	28.1	2.50	41,996
<b>Total M &amp; I</b>	<b>12.23</b>	<b>0.88</b>	<b>30.7</b>	<b>2.41</b>	<b>90,042</b>
Inferred	11.33	0.90	31.2	2.46	86,960

**Notes:**

- (1) Mineral Resources have been classified using the Canadian Institute of Mining, Metallurgy and Petroleum (“**CIM**”), CIM Standards on Mineral Resources and Reserves, Definitions and Guidelines prepared by the CIM Standing Committee on Reserve Definitions and adopted by the CIM Council.
- (2) Mineral Resources which are not Mineral Reserves do not have demonstrated economic viability. The Inferred Mineral Resource in this estimate has a lower level of confidence than that applied to the Measured and Indicated Mineral Resource. It is reasonably expected that a portion of the Inferred Mineral Resource could be upgraded to an Indicated Mineral Resource with continued exploration.
- (3) Magnetite content is determined by Davis Tube Test methodology. V<sub>2</sub>O<sub>5</sub> content of the magnetite concentrate was determined by XRF79C methodology at the SGS facility in Belo Horizonte, Brazil.
- (4) Cut-off grade for this calculation was 0.45% V<sub>2</sub>O<sub>5</sub> head grade.
- (5) Numbers may not add up exactly due to rounding.

Exploration work shifted to the Novo Amparo (NAO) deposit where 4,646 metres (24 drill holes) of drilling were completed. Drilling was also undertaken at the São José (SJO) deposit where 2,813 metres (18 drill holes) of drilling were completed. Further drilling was carried out on the Gulçari A Norte and Gulçari B (now considered one target known as Gulçari A Norte or “GAN”) where 21 drill holes (3,501 m) were completed. Drilling on all targets focused on extending and upgrading known mineralisation as defined in the 2017 Technical Report. The Company also completed 1,177 metres of drilling (three holes) near the Campbell Pit to explore for target horizons down dip and along strike of the current reserve area. South of the Campbell Pit, 16 diamond drill holes (2,313 m) were completed on the Gulçari A South (GAS) target.

Based on extensive drill programs in 2018 and 2019, relogging of holes from old drilling campaigns, geological mapping and geophysical signatures, the RJS was interpreted as similar to tube/funnel transition “Eagle/Kalatonke Type” mafic to ultramafic layered intrusion, a pathway stagnated magmatic chamber with periodical injections of magma denominated as magmatic cycles. Cycles are divided according to the phase stratification of the mineral magnetite. Processes such as fractional crystallization and magma mixing are highlighted as the main drivers to changes in parameters as pressure and oxygen fugacity, which provided for the formation of known mineralisation.

In total, 10 magmatic cycles have been identified in RJS, in response to successive magma inputs in an open system (cycle C1 to cycle C10). Cycles C1 to C3 appear to be restricted to the Campbell Pit, where more robust layers of magnetite and ultramafic rocks were formed. These layers are currently being mined in the Gulçari A (Campbell Pit) deposit. Cycles C4 to C10 have been defined to the north and south beyond Campbell Pit, with successive layers of magnetite associated with mafic rocks such as magnetite-gabbros, gabbros to anorthosites. These layers give rise to the deposits called NMT in the RJS. This genetic model also explains the higher levels of vanadium in the Gulçari A deposit, associated with more primitive magmas richer in vanadium metal.

Largo engaged ALS Global Brazil for all drilling and sampling preparation and analytical services.

Plans for surface exploration over the Maracás Project area includes an estimated 23,500 meters of diamond drilling, significant analytical and Davis Tube test costs, resource modelling, metallurgical testing and additional ground geophysical surveying to further identify and/or define additional targets for diamond drilling and resource studies. The total forecast exploration expenditure for 2020 is R\$13.4 million (\$4.5 million).

**Specialized Skill and Knowledge**

All aspects of the business of the Company require specialized skill and knowledge. Such skill and knowledge include the areas of geology, drilling, logistical planning, engineering, construction, mine operations, metallurgical processing, environmental compliance and accounting. The Company employs or retains a number of technical personnel with relevant experience, education and professional designations, and constantly evaluates the need for additional employees and or consultants with particular expertise.

**Competitive Conditions**

The mineral exploration and mining business is a competitive business. The Company competes with numerous companies that have resources significantly in excess of the resources of the Company, in the search for (i) attractive mineral properties; (ii) qualified service providers and labour; (iii) equipment and suppliers; and (iv) purchasers for minerals produced. The pricing that the Company will receive for V<sub>2</sub>O<sub>5</sub> produced from its projects will be based on global prices and, ultimately, factors that are significantly out of its control. The ability of the Company to acquire additional mineral properties in the future will depend on its ability to develop and operate its present properties, and

also on its ability to select and acquire suitable producing properties or prospects for mineral development or exploration. See *“Risk Factors – Risks Related to the Business and Operations”*.

### **Environmental Protection and Licensing and Permits**

The current and future operations of the Company, including development and mining activities, are subject to extensive federal, provincial and local laws and regulations governing environmental protection, employee health and safety, exploration, development, tenure, production, taxes, labour standards, occupational health, wastes disposal, greenhouse gas emissions, protection and remediation of environment, reclamation, mine safety, toxic substances and other matters. Compliance with such laws and regulations increases the costs of and delays planning, designing, drilling and developing the Company’s properties. The Company is subject to various reclamation-related conditions imposed under federal or provincial rules and permits in connection with its development and exploration. See *“Risk Factors”*

Environmental licences associated with a mining project in Brazil involve the issuance of the relevant licences by a multidisciplinary technical review team appointed by the State Council for Environmental Matters (“**CEPRAM**”) to review the project. This review team sets terms of reference for the environmental impact assessment (“**EIA**”) and the Relatório de Impacto Ambiental (“**RIMA**”). The RIMA summarizes the full impact assessment so that it can be reviewed by the public. See *“Risk Factors – Risks Released to Brazil”*.

### **Marketing and Distribution**

Global supply of vanadium is relatively concentrated and is not readily sold on global marketplaces. Benchmark prices are generally based on the London Metal Bulletin however, due to the supply and demand characteristics of vanadium, pricing is often difficult to ascertain and is subject to wide fluctuations, see *“Risk Factors – Risks Related to the Business and Operations – Our business is highly dependent upon the price of vanadium”*. Global demand for vanadium is not as robust as compared to other minerals and so the marketing of vanadium products and the identification of key consumers and markets is critical to the distribution and sale of vanadium.

During 2019, the price of vanadium ranged from US\$17.75 to US\$4.45 per pound and, as at March 13, 2020, the range posted by London Metal Bulletin was US\$4.80 to US\$5.50 per pound. Significant price increase in 2018 created supply and demand shocks that converged in 2019. Since reaching a bottom in Q4, 2019, price recovery in Q1, 2020 has been tempered by fears of a global economic slowdown from the COVID-19 pandemic, see *“Risk Factors – Risks Related to the Business and Operations”*.

In September 2019, the Company gave notice to Glencore International AG that it will terminate the Offtake Agreement with Glencore effective April 30, 2020. Until its effective termination, we have agreed to sell in U.S. dollars to Glencore, and Glencore agreed to acquire, 100% of the V<sub>2</sub>O<sub>5</sub> production at the Maracás Menchen Mine. We have executed amendments to the Offtake Agreement which, among other things, allow us to participate with Glencore on a 50:50 basis in the upside from selling VPURE+ Flake and VPURE+ Powder into specialty markets in the event that a premium is achieved on such sales. See *“Risk Factors – Risks Related to the Business and Operations”*.

Following the termination of the Offtake Agreement, the Company will be responsible for the marketing and distribution of all of our vanadium production including VPURE Flake, VPURE+ Flake and VPURE+ Powder, and assuming completion of the Ferrovandium Conversion Plant, ferrovandium powder. In connection with the non-renewal of the Offtake Agreement, Largo Ireland hired Mr. Vollant and Largo USA hired Mr. D’Alessio to lead the build out of the Company’s global sales capacity through Largo Ireland and Largo USA, respectively, for all vanadium products. Mr. Vollant is Director of Sales and Trading and is tasked with leading the development of the Company’s sales and trading with a focus on the global vanadium market. Mr. Francesco D’Alessio is Head of Sales, Americas and is tasked with expanding sales in North and South America.

The vanadium sales cycle commences in Q4 of the year preceding coincident with the main industry conferences in Europe and the United States. The Company intends to commit the majority of its anticipated annual vanadium production to annual sales contracts with remaining vanadium production being committed to spot sales. Accordingly, to date, the Company has commitments close to 90% of its 2020 vanadium production that will remain following the termination of its commitments to Glencore International AG pursuant to the Offtake Agreement.

## Maracás Menchen Mine

The terms of reference for the Maracás Menchen Mine EIA/RIMA included a social impact, alternatives, and archaeological assessment, in addition to the basic physical and biological environmental impact assessment. Generally, the following licences are issued by CEPRAM in order to bring a mine into production in the State of Bahia:

- localization license (“LL”)
- installation license (“LI”)
- preliminary operating license (“LPO”)
- operating license (“LO”)

Issuance of the LL allows the rest of the licensing process to proceed and the EIA and RIMA are completed during this process. The LL involves the participation of the public and any non-government organization who wish to participate through public meetings. For the Maracás Menchen Mine, the Instituto do Meio Ambiente (“IMA”), the Bahia state environmental agency, hosted these meetings in February 2009 in Maracás and Porto Alegre, which are two towns located in the vicinity of the project site. Following this, IMA submitted the project to CEPRAM who at their April 2009 monthly meeting endorsed IMA’s recommendation that the LL be granted. The LL is a very critical step in the environmental permitting process and concludes the active participation of the public.

The LI involves an approval process involving only Largo and the government agencies noted above. The process includes the submission of more detailed information regarding the project and a detailed description of the proposed environmental management system that was outlined in the LL documentation previously submitted.

The LO is granted during the final stages of commissioning and involves a site inspection by IMA, with the likely participation of CEPRAM, to confirm that the project has been constructed as planned and in accordance with the LI. For the Maracás Menchen Mine, Largo received its LL and LI, respectively, on May 13, 2009 and October 20, 2011. In May of 2014, Largo was granted its LPO for the Maracás Menchen Mine. The LPO is issued following completion of commissioning and prior to issuance of the LO for the project. The Company received the LO for the Maracás Menchen Mine in November 2014 which indicates that the plant was built, and was operating, according to its design specifications and environmental guidelines. The LO is valid for 2 years at which time it may be renewed for extension within 6 months of the LO’s expiry date for an additional 2-5 years. The LO was last renewed in October 2018.

## Employees

The Company and its material subsidiary have approximately 379 persons on staff, working full time as either employees or on a consulting basis, and have also retained a service provider in Brazil who deploys approximately 537 additional persons. The Company also retains geologists, engineers, and other consultants on a contract basis as required. The Company has not experienced, and does not expect to experience, significant difficulty in attracting and retaining qualified personnel. However, no assurance can be given that a sufficient number of qualified employees can be retained by the Company when necessary. See “*Risk Factors – Risks Related to the Business and Operations*”.

## Foreign Operations

At present, the Company’s operating facilities are all located in Brazil. Consequently, the Company is at the date of this AIF dependent on its foreign operations. See “*Risk Factors – Risks Related to Brazil*”.

## RISK FACTORS

Investing in the Company involves risks that should be carefully considered. The operations of the Company are speculative due to the high-risk nature of its business. Investors should be aware that there are various risks, including those discussed below, that could have a material adverse effect on, among other things, the development of the Maracás Menchen Mine, and the operating results, earnings, business and condition (financial or otherwise) of the Company. See “*Cautionary Note Regarding Forward-Looking Information*” at the beginning of this AIF.

## Risks Related to the Business and Operations

### ***Our business is highly dependent upon the price of V<sub>2</sub>O<sub>5</sub>.***

Our financial performance is highly dependent on the market price of V<sub>2</sub>O<sub>5</sub>, which accounted for 100% of our gross revenue in 2019. Mineral prices, including prices for V<sub>2</sub>O<sub>5</sub>, fluctuate widely and are affected by numerous factors beyond the control of the Company. The level of global economic activity, interest rates, speculative activities, supply and demand balances and the stability of exchange rates can all cause significant fluctuations in prices. Such external economic factors are in turn influenced by changes in international investment patterns, monetary systems, and political developments. The price of mineral commodities, including V<sub>2</sub>O<sub>5</sub>, has fluctuated widely in recent years, and future price declines could cause commercial production to be commercially unattractive, thereby having a material adverse effect on the Company's business, financial condition and result of operations.

The London Metal Bulletin price for V<sub>2</sub>O<sub>5</sub> was trading in the range of US\$4.80 and US\$5.85 per pound V<sub>2</sub>O<sub>5</sub> on December 31, 2019, compared to US\$15.00 to US\$16.00 per pound V<sub>2</sub>O<sub>5</sub> on December 28, 2018, and US\$9.60 to US\$9.90 per pound on December 29, 2017. Factors that are generally understood to contribute to variations in the price of V<sub>2</sub>O<sub>5</sub> include changes in global steel production levels, changes in the specific V<sub>2</sub>O<sub>5</sub> consumption rate in the steel industry, production availability and inventories. Future volatility in V<sub>2</sub>O<sub>5</sub> price will have a material effect on the Company's revenues, profitability and reserves.

The price of V<sub>2</sub>O<sub>5</sub>, as reported by London Metal Bulletin, decreased materially in 2019 from a high of US\$17.38 per pound V<sub>2</sub>O<sub>5</sub> in the first quarter of the year to a low of US\$4.73 per pound V<sub>2</sub>O<sub>5</sub> in the fourth quarter of 2019. This decrease is due in part to increased supply of V<sub>2</sub>O<sub>5</sub> following the price peaks at the end of 2018 and a reduction in demand in part by global battery consumption and production. Since the end of 2019, price recovery in Q1, 2020 has been tempered by fears of a global economic slowdown from the COVID-19 pandemic and, as of March 13, 2020, the London Metal Bulletin price ranged from US\$4.80 to US\$5.50 per pound of V<sub>2</sub>O<sub>5</sub>.

### ***Our capital and operating cost estimates may prove inaccurate and, consequently, lead to unanticipated costs or capital expenditures, which could affect our financial condition and results of operations.***

Capital and operating cost estimates made by our management are estimates which are in turn based on, among other things, our interpretation of geological data, feasibility studies, anticipated climatic conditions and other information. Any or all of these can affect the accuracy of the estimates including: (i) unanticipated changes in grade and tonnage to be mined and processed; (ii) incorrect data on which engineering assumptions are made; (iii) unanticipated transportation costs; (iv) accuracy of equipment and construction cost estimates; (v) difficulty or failure to meet scheduled construction completion dates, facility or equipment commissioning dates, or metal production dates; (vi) poor or unsatisfactory construction quality resulting in failure to meet completion, commissioning or production dates; (vii) increased expenditures required as a failure to meet completion, commissioning or production dates; (viii) capital overruns related to the completion of any construction phase including capital overruns associated with demobilization of construction workers and contractors; (ix) labour negotiations; (x) unanticipated costs relating to the commencement of operations, ramp up and production sustainment; (xi) changes in government regulation (including regulations regarding prices, cost of consumables, royalties, duties, taxes, permitting and restrictions on production quotas or exportation of our products); (xii) change in commodity input costs and quantities; and (xiii) communication issues including familiarity with language, between domestic and foreign employees, contractors, advisors, agents and government officials. If any of our estimates of capital and operating costs or capital expenditures are materially inaccurate, it could have a material adverse effect on our business, results of operations and financial condition.

### ***We may not be able to generate enough revenue to achieve sustained profitability, in particular as we are a single asset operation.***

As of the date of this AIF, the Company has recorded revenues from only one project, the Maracás Menchen Mine. There can be no assurance that losses (including significant losses) will not occur in the near future or that the Company will be profitable in the future. The Company's operating expenses and capital expenditures may increase in subsequent years for consultants, personnel and equipment associated with advancing exploration, development and commercial production of other properties by the Company. The Company's costs of sales may also increase as the Company transitions from the Offtake Agreement to developing its own sales and trading capabilities. The development of other

properties by the Company will require the commitment of substantial resources to conduct time-consuming development. There can be no assurance that the Company will generate revenues from other projects or achieve profitability.

Our 2019 audited annual consolidated financial statements were prepared on a going concern basis, which assumes that the Company will continue in operation for the foreseeable future and will be able to realize its assets and discharge its liabilities and commitments in the normal course of business. As of December 31, 2019, the Company had an accumulated deficit of approximately \$64.1 million, and had a net working capital surplus of \$102.0 million. Total amounts due within 12 months on the Company's long term debt are \$nil. Although the Company has been successful in the past in obtaining financing there is no assurance that it will be able to obtain adequate financing in the future or that such financing will be on terms advantageous to the Company.

***Substantially all of our revenues are derived from the sales of vanadium products produced at the Maracás Menchen Mine. This lack of diversification of our business could adversely affect our financial condition, results of operations and cash flows.***

We rely on the V<sub>2</sub>O<sub>5</sub> production from the Maracás Menchen Mine for all of our revenues. For the year ended December 31, 2019, revenues from the sales of vanadium products accounted for 100% of our total revenues. As noted above, demand for V<sub>2</sub>O<sub>5</sub> mainly depends on global demand for steel. As one of the few producers of high purity V<sub>2</sub>O<sub>5</sub> globally, demand from the aerospace and chemical industries are also essential to Largo and enables it to achieve premiums over the standard market prices for steel applications. At times, the pricing and availability of steel can be volatile due to numerous factors beyond our control. Since we are heavily dependent on the steelmaking industry, adverse economic conditions in that industry, even in the presence of otherwise favorable economic conditions in the broader vanadium mining industry, could have a significantly greater impact on our results of operations and financial condition than if our business were more diversified. In addition, our lack of diversification may make us more susceptible to such adverse economic conditions than our competitors with more diversified operations and/or asset portfolios.

***Effective April 30, 2020, the Company's Offtake Agreement with Glencore International AG will terminate. We may not be able to generate sufficient revenue from sales of vanadium products.***

The Company has given notice to Glencore International AG of the nonrenewal of its Offtake Agreement. The Offtake Agreement will terminate in accordance with its terms, and the notice of termination given thereunder, effective April 30, 2020. During the existence of the Offtake Agreement the Company has relied, and will continue to rely until its effective termination, on the Offtake Agreement for 100% of the sales of vanadium products produced in our Maracás Menchen Mine. The final financial settlement under the Offtake Agreement may exceed the termination of the Offtake Agreement by several months and we anticipate a significant payment adjustment owing to Glencore International AG. Under the Offtake Agreement, during an up-market we are unable to explore other commercial and distribution possibilities and from taking advantage of potential opportunities to benefit from increased global demand for high-purity V<sub>2</sub>O<sub>5</sub> products which may command higher prices at the spot market than the prices set by the Offtake Agreement. Effective September 2019, Mr. Paul Vollant has joined Largo Ireland as Director of Sales and Trading to lead the development of our global sales and trading business unit, and effective October 21, 2019, Mr. Francesco D'Alessio joined Largo USA as Head of Sales, Americas to lead sales in North and South American markets. See also "General Development of the Business – Three Year History – Operations", and "Description of the Business – Marketing and Distribution".

The Offtake Agreement provided certainty of sales as the agreement required our offtake partner to purchase 100% of the V<sub>2</sub>O<sub>5</sub> produced in our Maracás Menchen Mine. There can be no assurance that we will be able to sell 100% of our production capacity, generate sufficient revenue from sales or achieve profitability.

Our ability to successfully develop and implement our sales and trading business is inherently subject to a number of risks and uncertainties and will require the commitment of substantial resources of both management and capital. In particular, material risks and uncertainties in connection with these developments include, without limitation:

- the initial capital costs required to develop and support the sales department and product storage facilities;
- the difficulties and costs associated with building out a channel of sales networks;
- the ability to attract, train, and retain qualified sales personnel;

- the ability to develop and advance new relationships with end customers and with distribution partners;
- the ability to manage inventory, and fulfill orders;
- third party transportation risks;
- increased exposure to global currency fluctuations;
- the impact of customs duties and tariffs;
- end-customer demand may not meet expectations; and
- the Company may produce more vanadium products than it is capable of settling.

There can be no assurance that the Company will be able to complete the build-out of its sales and trading unit prior to the effective termination of the Offtake Agreement, or at all.

See also “*Risk Factors – Risks Related to the Business and Operations – Our business is highly dependent upon the price of V<sub>2</sub>O<sub>5</sub>*”.

***Global events outside of the Company’s control, such as the COVID-19 pandemic, may adversely affect demand for our products, our ability to maintain operations and our financial results.***

The international outbreak of the respiratory illness COVID-19 (also referred to as the ‘coronavirus’) and efforts to contain it may have a significant effect on both Chinese and global commodity demand and prices, and may also impact third parties’ ability to meet their obligations to the Company and the Company’s ability to meet its obligations to its customers.

COVID-19, or any other contagious diseases or public health threats in the human population, could result in a widespread health crisis that could adversely affect the economies and financial markets of many countries, resulting in an economic downturn that could affect demand for the Company’s products and negatively impact our operating results and financial performance.

Global pandemics and other public health threats (like COVID-19), or a fear thereof, could adversely impact our production operations, sales efforts, expansion projects, lead to labour shortages, and severely impact supply chain logistics including travel and shipping disruptions and shutdowns (including as a result of government regulation and prevention measures) affecting delivery of the raw materials we need to operate and delivery of our products to customers, among others. It is unknown whether and how the Company may be affected if such an occurrence persists for an extended period of time but we anticipate that it would have a material adverse effect on our business, operating results and financial performance. In addition, the Company may also be required to incur additional expenses and/or delays relating to such events which could have a further negative impact on our business, operating results and financial performance.

***Failure to achieve production targets or cost estimates could adversely affect our sales, profitability, cash flows and financial performance.***

The Company prepares future operating and capital cost estimates with respect to existing operations. Actual production and costs may vary from the estimates for a variety of reasons such as estimates of grade, tonnage, dilution and metallurgical and other characteristics of the ore varying from the actual ore mined, revisions to mine plans, risks and hazards associated with mining, adverse weather conditions, unexpected labour shortages or strikes, equipment failures and other interruptions in production capabilities. Operating costs may also be affected by increased mining costs, variations in predicted grades of the deposits, increases in level of ore impurities, labour costs, raw material costs, inflation and fluctuations in currency exchange rates. Failure to achieve production targets or cost estimates could have a material adverse impact on the Company’s sales, profitability, cash flow and overall financial performance.

***Our business requires substantial capital expenditures to achieve its operational and strategic objectives and is subject to financing risks.***

The mining business is capital intensive and the development and exploitation of vanadium reserves and the acquisition of machinery and equipment require substantial capital expenditure. We have a number of plans for our existing operations, which could involve significant capital expenditure. In particular, we must continue to invest significantly to maintain or to increase the amount of reserves that we exploit and the amount of V<sub>2</sub>O<sub>5</sub> that we produce. Some of our development projects and prospects may require greater investment than currently planned. In addition,

our ability to continue our exploration, exploitation, development and operational activities will depend ultimately on our ability to generate cash flows and secure financing as required. There can be no assurance that we will be able to maintain our production levels and generate sufficient cash flow, or that we will have access to sufficient investments, loans or other financing alternatives, to continue our development and processing activities at or above present levels and failure to do so, could result in delays.

***Our controlling shareholders have the ability to determine the outcome of corporate actions or decisions, and its interests may conflict with those of our other shareholders.***

The ARC Funds are capable of controlling the direction of the Company through the right to nominate three of the six persons for election as directors of the Company, who will be subject to the vote of the shareholders. Unilateral control over a majority of the persons nominated for election as directors of the Company will enable the ARC Funds to determine the persons responsible for managing the direction of the Company. The ARC Funds directly own approximately 43.96% of our outstanding Common Shares as of the date of this AIF and therefore have the ability to determine the outcome of most corporate actions or decisions requiring the approval of our shareholders. The interests of our controlling shareholder may conflict with those of our other shareholders.

***We are subject to comprehensive environmental regulations. Compliance with environmental regulations and procurement of the necessary environmental permits to operate may result in significant costs, and failure to comply with environmental regulations may result in significant environmental liabilities.***

Our operation in Brazil is subject to stringent Brazilian federal, state and local environmental laws and regulations concerning human health, the handling and disposal of solid and hazardous wastes and discharges of pollutants into the air and water.

Any failure to comply with such laws and regulations may subject the Company to penalties, including warnings, payment of fines, embargo and suspension of activities, which may cause a significant adverse effect on the Company. We have incurred and we will continue to incur capital expenses in order to continue to comply with these laws and regulations. In addition, such laws and regulations are subject to change and can become more stringent, making our compliance efforts more costly.

In addition, Brazilian companies whose activities are deemed as potentially polluting activity may be subject to an environmental licensing process. Such environmental licensing process has three sequential stages:

- Preliminary License (“LP”): The LP is granted in the preliminary planning phase of a project or activity and it approves the location and the environmental impact assessment of a project, attesting to its environmental feasibility and determining the basic requirements and conditions to be observed in the subsequent permitting stages;
- Installation License (“LI”): The LI is granted so that a project or activity can be installed or constructed, in accordance with the specifications presented and subject to further conditions so as to mitigate and compensate any negative impacts;
- Operational License (“LO”): The LO is granted for a project or activity to commence the operational phase subject to further conditions.

In the State of Bahia, where our Maracás Menchen Mine operates, the environmental licensing process is under the responsibility of INEMA.

Such process takes into consideration the nature and size of a project as well as the impacts and the characteristics of the ecosystem affected by the installation and operation of a project, based on the information provided by the Environmental Impact Assessment and Report (“EIA/RIMA”). The EIA/RIMA is a comprehensive study that includes analysis of the environmental, social and economic impact of the project.

Currently, the Maracás Menchen mine is fully licensed. The current Operation License (LO) - which is the main license for the company's operation, is valid until October 6th, 2020. Any failure to obtain the future renewal of the existing license or to obtain any necessary license, the permission or approval required for the development of our activities, may have a material adverse effect on our business, operation results and financial condition.

Our project in Canada is also subject to extensive Canadian laws and regulations relating to pollution, protection of the environment and the generation, storage, handling, transportation, treatment, disposal and remediation of hazardous substances and waste materials. Costs and capital expenditures relating to environmental, health or safety matters are subject to evolving regulatory requirements and depend on the promulgation and enforcement of specific standards which impose applicable requirements. Moreover, changes in environmental regulations could inhibit or interrupt our operations, or require modifications to our facilities. Accordingly, environmental, health or safety regulatory matters may result in significant unanticipated costs or liabilities.

***We are subject to risks posed by litigation, arbitration and other disputes under binding agreements with various third parties.***

The Company has entered into legally binding agreements with various third parties under supply contracts and consulting agreements. The interpretation of the rights and obligations that arise from such agreements may be open to differing interpretations and the Company may disagree with the position taken by other parties to these agreements. This could result in a dispute which, if unresolved, might trigger a litigation or arbitration process, causing the Company to incur possible legal or similar costs in the future. Given the speculative and unpredictable nature of litigation or the arbitration process, final outcomes in such disputes may have material adverse effects on the Company.

***The mining business is subject to a number of risks and hazards, not all of which are fully covered by insurance.***

The mining business is subject to risks and hazards, many of which are outside our control. Hazards associated with mining operations include environmental hazards, industrial accidents, encountering unusual or unexpected geological deposits, cave ins or landslides, flooding, earthquakes, underground fires and explosions, including those caused by flammable gas, gas and coal outbursts, falling rocks, tunnel collapses, lack of oxygen, air pollution, discharges of tailings, hazardous substances and materials, gases and toxic chemicals, sinkhole formations and ground subsidence, other accidents and conditions resulting from underground mining, such as drilling, blasting, removing and processing material. These occurrences could result in damage to, or destruction of, mineral properties or production facilities, human exposure to pollution, personal injury or death, environmental damage, reduced production and delays in mining, asset write downs, reputational damage, monetary losses and possible legal liability.

Although we maintain insurance in an amount we consider adequate, liabilities might exceed policy limits, which could cause us to incur significant costs that could materially and adversely affect our results of operations. Insurance that fully covers many environmental risks (including potential liability for pollution or other hazards as a result of disposal of waste products occurring from exploration and production) is not generally available to us or to other companies in the mining industry, particularly in Brazil following the Samarco dam collapse in 2015. The realization of any significant liabilities in connection with our mining activities as described above could have a material adverse effect on our results of operations or financial condition.

***Our business is exposed to the cyclicity of global economic activity and requires significant investments of capital.***

As a mining company, we are a supplier of industrial raw materials. Industrial production tends to be the most cyclical and volatile component of global economic activity, which affects demand for minerals and metals. At the same time, investment in mining requires a substantial amount of funds in order to replenish reserves, expand and maintain production capacity, build infrastructure, preserve the environment and minimize social impacts. Sensitivity to industrial production, together with the need for significant long term capital investments, are important sources of risk for our financial performance and growth prospects.

***Developments in China could have a negative impact on our revenues, cash flows and results of operations.***

The Chinese market is a significant source of global demand for commodities and has been the main driver of global demand for V<sub>2</sub>O<sub>5</sub> over the last few years. In Q3 2019, Chinese demand represented approximately 58% of global demand for V<sub>2</sub>O<sub>5</sub>. Therefore, any contraction of China's economic growth that is not offset by reduced supply or increased demand from other regions, could result in lower demand for our products, leading to lower prices and lower revenues, cash flow and results of operations. Poor performance in the Chinese real estate sector, a significant consumer of steel in China, would also negatively impact our results. Conversely, China was also responsible for approximately 63% of global V<sub>2</sub>O<sub>5</sub> production in 2019. Favorable economic conditions could increase supply beyond demand and depress pricing, which would also negatively impact our results.

***Our business may be adversely affected by declines in demand for and prices of the products our customers produce.***

Demand for V<sub>2</sub>O<sub>5</sub> depends on global demand for steel. Vanadium is used in the steel industry in the production of HSLA steels, high alloy steels, high speed and tool steels, and engineering steels. Demand for steel depends heavily on global economic conditions, but it also depends on a variety of regional and sectoral factors. The prices of different steels and the performance of the global steel industry are highly cyclical and volatile, and these business cycles in the steel industry affect demand and prices for our products.

***We may not be able to obtain additional financing on acceptable terms, or at all.***

Future exploration, development, mining, and processing of minerals from our properties could require substantial additional financing. No assurances can be given that we will be able to raise the additional funding that may be required for such activities, should such funding not be fully generated from operations. To meet such funding requirements, we may be required to undertake additional equity financing, which would be dilutive to shareholders. Debt financing, if available, may involve certain restrictions on operating activities or other financings. There is no assurance that such equity or debt financing will be available to us or that they would be obtained on terms favorable to us, if at all, which may adversely affect our business and financial position. Failure to obtain sufficient financing may result in delaying or indefinite postponement of exploration, development or production on any or all of our properties, or even a loss of property interests.

***Our industry is highly competitive, and increased competition could adversely affect our margins and market share.***

The global mining industry is highly competitive. Our existing and potential competitors include some of the world's largest mining companies and the Company competes with many other mining companies that have substantially greater resources than the Company. We currently face, or may face in the future, competition from other producers of V<sub>2</sub>O<sub>5</sub> globally. Some of these companies may be able to produce at a lower cost than we can. For example, some of our domestic and international competitors may benefit from tax breaks and may be able to better compete against us. In addition, some of our competitors are larger than us and may have greater financial and technical resources, which may enable them to invest significant capital into their businesses, including expenditures for research and development. Such competition may result in the Company being unable to acquire desired properties, recruit or retain qualified employees or acquire the capital necessary to fund its operations and develop its properties. If a current or future competitor develops proprietary technology that enables it to produce at a significantly lower cost, our technology could be rendered uneconomical or obsolete. Increased competition could compel us to reduce the prices of our products, which could result in reduced margins and loss of market share and have a material adverse effect on us.

We also face competition from other processing, trading and industrial companies. Competition principally involves sales, supply and labour prices, contractual terms and conditions, attracting and retaining qualified personnel and securing the services and supplies we need for our operations. For example, lower cost producers of V<sub>2</sub>O<sub>5</sub> could be better positioned to manage future volatility through commodity price cycles. In addition, mines have limited lives and, as a result, we must periodically seek to replace and expand our reserves by acquiring new properties and by developing projects. Significant competition exists to acquire mining concessions, land and related assets with potential mineralization. Some other mining companies may have greater financial resources than us, and we may be unable to acquire attractive new mining properties on terms that we consider acceptable. As a result, our revenues from the sales of vanadium products may decline over time, thereby materially and adversely affecting our results of operations or financial condition.

Potential changes to international trade regulations and agreements, as well as other political and economic arrangements (including direct or indirect subsidies) may benefit V<sub>2</sub>O<sub>5</sub> producers or traders operating in countries other than where our mining operations are currently located or adversely affect the prices we pay for the supplies we need and our export costs when we engage in international transactions. We cannot assure you that we will be able to compete on the basis of price or other factors with companies that in the future may benefit from favorable regulations, trading or other arrangements or that we will be able to maintain the cost of the supplies we require or our export costs. The Company's inability to compete with other mining companies for these resources would have a material adverse effect on the Company's results of operation and business.

***We are dependent on third parties for development, construction and operations.***

The Company has relied upon external consultants, engineers and others and intends to rely on these parties for, among other things, the development, construction and operating expertise. Substantial expenditures are required to construct mines, to establish Mineral Reserves through drilling, to carry out environmental and social impact assessments, to develop metallurgical processes to extract the metal from the ore and, in the case of new properties, to develop the exploration and plant infrastructure at any particular site. In addition, the Company relies on a service provider who deploys approximately 537 contractors for our mining, administration, maintenance and other operations. If such parties' work is deficient or negligent or is not completed in a timely manner, it could have a material adverse effect on the Company.

***Interruptions of energy supply or increases in energy costs and other production costs may materially and adversely affect our results of operations.***

We obtain the necessary electric power for the operation of our equipment and facilities from third parties through electricity supply contracts. In the event of any interruption or failure of our sources of electricity or in transmission lines or in any part of the grid, we cannot assure you that we will have access to other energy sources at the same prices and conditions, which could materially and adversely affect our results of operations and have a material adverse effect on our business, financial condition and result of operations.

The availability of energy resources may be subject to change or curtailment, due to, among other things, new laws or regulations, imposition of new taxes or tariffs, supply interruptions, equipment damage, worldwide price levels and market conditions. Disruptions in energy supply could have a material adverse effect on our financial condition and results of operations.

***Our operations depend on rail, port, marine, shipping or other transportation services provided by third parties.***

Operation of our facilities, existing and future, will depend in part on the flow of materials, supplies, equipment, services and products. Due to the geographic location of the Company's operations, existing and future, it remains and will remain dependent on the provision by third parties of rail, port, marine, shipping or other transportation services. Potential issues including contractual disputes, demurrage charges, port or depot capacity handling issues, availability of vessels, rail cars or other modes of cargo transport, weather problems, force majeure and labour disruptions could have a material adverse effect on the Company's ability to transport various materials necessary for the operation of its facilities in accordance with schedules or contractual requirements. This might result in a material adverse effect on the Company's business, results of operations and financial performance.

***Our concessions may be terminated or not renewed by governmental authorities.***

Under the laws of the jurisdictions where our operations, development projects and prospects are located, Mineral Resources belong to the state and government concessions are required to explore for and exploit Mineral Reserves. The concessions we hold for our operations may be terminated under certain circumstances, including where minimum investment or production levels are not achieved (or a corresponding penalty is not paid), if certain fees are not paid or if environmental and safety standards are not met. Termination of any one or more of our mining or other concessions could have a material adverse effect on our financial condition or results of operations.

***There are risks inherent with obtaining and maintaining title to properties.***

The acquisition and maintenance of titles to resource properties is a very detailed and time-consuming process. The Company holds its interests in certain of its properties through mining claims. Title to, and the area of, the mining claims may be disputed. There is no guarantee that such title will not be challenged or impaired. There may be challenges to the title of the properties in which the Company may have an interest which, if successful, could result in the loss or reduction of the Company's interest in those properties.

Although the nature and extent of the interests of the Company in the properties in which it holds an interest has been reviewed by or on behalf of the Company, and title opinions have been obtained by the Company with regard to certain of such properties, there may still be undetected title defects affecting such properties. Title insurance generally is not

available in Canada or Brazil, and the ability of the Company to ensure that it has obtained secure claim to individual mineral properties or mining concessions may be constrained.

The properties in which the Company holds an interest may be subject to prior unregistered liens, agreements, transfers or claims, and title may be affected by, among other things, the structure through which the Company maintains its interest in its properties and undetected defects which could have a material adverse impact on the Company's operations. In addition, the Company may be unable to, effectively (if at all), conduct business at or operate on its properties as permitted or to enforce its rights with respect to those properties.

No assurances can be given that title defects to the properties in which the Company has an interest do not exist. The properties may be subject to prior unregistered agreements, interests or aboriginal land claims and title may be affected by undetected defects. If title defects do exist, it is possible that the Company may lose all or a portion of its right, title, estate and interest in and to the properties to which the title defect relates. There is no guarantee that title to the properties will not be challenged or impugned.

The Company does not maintain insurance against title. Title on mineral properties and mining rights involves certain inherent risks due to the difficulties of determining the validity of certain claims as well as the potential for problems arising from the frequently ambiguous conveyance history of many mining properties. The Company has investigated title to its mineral claims; however, this should not be construed as a guarantee of title. The Company cannot give any assurance that title to any of its properties will not be challenged or impugned and cannot guarantee that the Company will have or acquire valid title to these mining properties. For example, title to existing properties or future prospective properties may be lost due to an omission in the claim of title, prior activities of the property vendors or changes in Brazilian mining laws or the application thereof which affects the Company's title or the Company's rights and interests in its properties. The Company has obtained title reports from Canadian and Brazilian legal counsel with respect to its interest, respectively, in its Canadian and Brazilian properties, but this should not be construed as a guarantee of title or the Company's rights to these claims. Other parties may dispute the title of the Company or the joint venture to any of its mineral properties and any of such properties may be subject to prior unregistered agreements or transfers or aboriginal land claims and title may be affected by undetected encumbrances or defects or governmental actions.

***There are risks inherent with our corporate structure.***

Vanádio, the material Brazilian subsidiary of the Company which holds a 100% interest in the Company's Maracás Menchen Mine, is a limited liability company, and as such does not require a Board and is controlled by its shareholders. The management of the Company has control over Vanádio by virtue of owning 99.94% of the shares of Vanádio. Therefore, the management of the Company can effectively (i) appoint and dismiss at any time any and all of the officers of Vanádio, (ii) instruct the officers of Vanádio to pursue the Company's business activities, (iii) has legal rights as a shareholder to require the officers of Vanádio to comply with their fiduciary obligations, and (iv) can also enforce its rights by way of the shareholder remedies available to it. As a result, the management of the Company can effectively align the Issuer's business objectives and effect the implementation of same at the level of Vanádio.

The Company, as the holder of a 99.94% interest in Vanádio, can remove and appoint officers by way of simple communication that such officer is being removed from his/her position and the subsequent filing of same with the Board of Trade. The Board, through its corporate governance practices and, in particular, the activities of its board committees, regularly receives management and technical updates and progress reports in connection with Vanádio. In so doing, the Board maintains effective oversight of the operations and project development activities of Vanádio.

The Board has the ability to exert effective control over Vanádio as discussed herein. Accordingly, the Board will be able to cause Vanádio to transfer funds and accomplish the various operating aspects of the business when Vanádio is generating revenues.

Certain of the directors and officers of the Company have extensive experience doing business in both Canada and Brazil. In particular, Paulo Misk, Alberto Arias and Daniel Tellechea are the directors of the Company that have experience in conducting business in Brazil and Les Ford (former Senior Vice President and Technical Director of Brazilian Operations and currently consultant to the Company) is an individual with experience in conducting business in Brazil. Moreover, Alberto Arias is fluent in Portuguese.

Knowledge of the local business, culture and practices is imparted by these individuals to other directors and officers of the Company, furthermore, several of the non-resident directors and officers visit Brazil on a regular basis in order to ensure effective control and management of the operations and as a result come into contact with other employees, personnel, government officials, business persons and customers who are locals in Brazil. This enables them to enhance their knowledge on these fronts. Paulo Misk, formerly the Chief Operating Officer of the Company and now Chief Executive Officer of the Company, is resident in Brazil and travels to the mine site regularly.

All directors and executive officers of the Company have some familiarity with the legal and regulatory requirements of Brazil. Brazilian legal counsel (both internal at Vanádio and external) and Brazilian management ensure that the Company's management is kept aware of relevant material legal developments in Brazil as they pertain to and affect the Company's business and operations. Any material developments are then discussed with the directors at the board level.

Other than as discussed herein, the Company does not currently have a formal communication plan or policy in place and has not, to date, experienced any communication-related issues due to the fact that the management team located in Brazil is proficient in the English language.

The Company will, from time to time, re-evaluate whether a formal communication policy is necessary. The Company hires and engages local experts and professionals (i.e. legal and tax consultants) to advise the Company with respect to current and new regulations in respect of banking, financial and tax matters. The Company utilizes large, established and well recognized financial institutions in both Canada and Brazil. Directors visit the Company's operations in Brazil several times per year and have regular board meetings by telephone which include the Company's Chief Executive Officer and Chief Financial Officer and other relevant Vanádio officers and managers. The Company arranges for site visits to its projects as deemed appropriate. The Company hosted one site visit for members of the Board of Directors in 2019 and two in 2018 and in 2017. The operations committee of the Board of Directors held two site visits in 2019.

The directors and officers also work closely with Brazilian counsel and Brazilian employees of the Company and its subsidiaries to understand and subsequently adjust firm strategies and practices relating to changes in Brazilian laws and regulatory regimes.

Each member of the management team located in Brazil speaks fluent Portuguese and all are proficient in English. Paulo Misk, Chief Executive Officer, and Luciano Chaves, Vice President of Finance and Administration in Brazil, Álvaro Resende, Production Director are each fluent in Portuguese and English.

Alberto Arias is a director and non-executive Chairman of the Company who is fluent in English and Portuguese. The primary language used in management and board meetings is English. The management team located in Brazil dealing with the operating staff and outside consultants communicate in Portuguese with such individuals as necessary. Both Vanádio and the Company have translators on staff to assist with all communication requirements, as needed.

Material documents relating to the Company that are provided to the board are in English. When original material documents are prepared in Portuguese, these are typically translated by the Company's Brazilian legal counsel, who are fluent in English and Portuguese. When required, the Company will sometimes use third party translation services.

***We depend on key personnel and any inability to recruit and retain key personnel may adversely affect our business.***

Recruiting and retaining qualified personnel in the future is critical to the Company's success. The number of persons skilled in the exploration and development of mining properties is limited and competition for this workforce is intense. Any expansion of the Company's properties may be significantly delayed or otherwise adversely affected if the Company cannot recruit and retain qualified personnel as and when required.

Our success also depends, in large measure, on the skills, experience and efforts of our senior management team and other key personnel. The loss of the services of one or more members of our senior management or of employees with critical skills may have a negative effect on our business, financial condition and results of operations. We may experience difficulty in attracting and retaining the skilled employees we may require to replace lost employees or grow our business. If we are unable to attract or retain highly skilled, talented and committed senior managers or other key employees, it may adversely affect our ability to fully implement our business objectives.

***Our directors and officers may from time to time have a conflict of interest.***

Certain of the Company's directors and officers serve or may agree to serve as directors or officers of other companies and, to the extent that such other companies may participate in ventures in which the Company may participate, the directors of the Company may have a conflict of interest in negotiating and concluding terms respecting such participation.

***We are subject to anti-corruption, anti-bribery, anti-money laundering, sanctions and antitrust laws and regulations.***

We are subject to anti-corruption, anti-bribery, anti-money laundering, sanctions, antitrust and other similar laws and regulations. We are required to comply with the applicable laws and regulations of Brazil and Canada, and we may become subject to such laws and regulations in other jurisdictions. There can be no assurance that our internal policies and procedures will be sufficient to prevent or detect any inappropriate practices, fraud or violations of law by our affiliates, employees, officers, executives, partners, agents, suppliers and service providers, nor that any such persons will not take actions in violation of our policies and procedures. Any violations by us or any of our affiliates, employees, directors, officers, partners, agents, suppliers and service providers of anti-bribery and anti-corruption laws or sanctions regulations could have a material adverse effect on our business, reputation, results of operations and financial condition.

***Labour disputes may disrupt our operations from time to time.***

A substantial number of our employees, and some of the employees of our subcontractors, are represented by labour unions and are covered by collective bargaining or other labour agreements, which are subject to periodic negotiation. Strikes and other labour disruptions at any of our operations could adversely affect the operation of facilities and the timing of completion and cost of our capital projects. Moreover, we could be adversely affected by labour disruptions involving unrelated parties that may provide us with goods or services. In May, 2018, production at our Maracás Menchen Mine was suspended for four days due to a national truckers' strike in Brazil which was settled on May 30, 2018.

***Our business is subject to environmental, health and safety incidents.***

Our operations involve the use, handling, storage, discharge and disposal of hazardous substances into the environment and the use of natural resources, and the mining industry is generally subject to significant risks and hazards, including fire, explosion, toxic gas leaks, spilling of polluting substances or other hazardous materials, rockfalls, incidents involving dams, failure of other operational structures and incidents involving mobile equipment, vehicles or machinery. This could occur by accident or by breach of operating and maintenance standards, and could result in a significant environmental and social impacts, damage to or destruction of mineral properties or production facilities, personal injury, illness or death of employees, contractors or community members close to operations, environmental damage, delays in production, monetary losses and possible legal liability. Additionally, in remote localities, our employees may not have access to timely emergency medical care which may affect their health and safety. Notwithstanding our standards, policies and controls, our operations remain subject to incidents or accidents that could adversely affect our business, stakeholders or reputation.

Under Brazilian law, any individual or legal entity (whether public or private) that directly or indirectly causes harm to the quality of the environment may be held liable for the recovery, remediation or compensation of the damages that were generated, without regard to whether there is a direct or indirect connection between their act (or omission) and the damage caused to the environment. There are three types of liabilities that may be applied cumulatively: (i) civil, (ii) administrative and (iii) criminal.

Civil liability for environmental damages is strict, requiring that the responsible parties remediate the damage in full or pay compensation when remediation is not possible. Civil liability also applies jointly and severally to those who facilitate, benefit from and contribute to the occurrence of environmental damage. As a result, the party bringing the environmental claim may freely choose whom to sue.

There is no limit to the amount that Brazilian courts may award to cover the costs of repairing the damage. If the damage cannot be repaired, Brazilian courts may order the payment of an indemnity. Environmental civil liability is not subject to a statute of limitations under Brazilian law.

With respect to criminal liability, Federal Law 9,605/98 provides that the legal entity and its individual representatives whose criminal actions were taken for the benefit of such entity can be held liable for criminal offences against the environment. In the case of the liability of the individual representatives, there needs to be some element of willful misconduct. In the case of the legal entity, a strict liability rationale applies: the legal entity can be charged regardless of the implication of any other individual representatives if it is confirmed that willful misconduct was undertaken for the benefit of the legal entity and by a decision of its representatives. Criminal sanctions applicable to legal entities include fines, the partial or total suspension of activities and embargos, prohibitions on contracting with governmental entities, as well as on obtaining subsidies, grants or donations, for a maximum period of 10 years.

Administrative liability arises from any action or omission in violation of the Federal Decree No. 6,514/2008, which sets out the administrative environmental infractions and the corresponding penalties, setting fines amounting to a maximum of R\$50 million, as well as suspension of activities. Such liability can be pursued against the legal entity or the individual person that may incur any such infraction.

***We rely on various operating and financial systems and data which may expose us to cyber security threats.***

The Company and its operations rely on various operating and financial systems and data. Cybersecurity risk is increasingly difficult to identify and quantify and cannot be fully mitigated because of the rapidly evolving nature of the threats, targets and consequences. A breach of the Company's information or operational technology systems may result in disruption of business activities, loss of confidential or proprietary data, failure of internal controls over financial reporting, failure to meet obligations and reputational damage. Such a breach may also expose the Company to legal and regulatory action. Policies and procedures are maintained to ensure the security of its information technology systems, and data and system security controls are regularly tested. The Company also relies on third-party service providers for the storage and processing of various data. There can be no assurance, however, that the Company will not suffer a business disruption or loss or corruption of proprietary data, whether inadvertent or otherwise.

***Enforcement of civil claims against the Company in Canada may be difficult as the majority of our assets are located outside of Canada.***

The majority of our subsidiaries and the majority of our assets are located outside of Canada. Accordingly, it may be difficult for investors to enforce within Canada any judgments obtained against the Company, including judgments predicated upon the civil liability provisions of applicable Canadian securities laws or otherwise. Consequently, investors may be effectively prevented from pursuing remedies against the Company under Canadian securities laws or otherwise.

The Company has subsidiaries incorporated in the United States, Brazil and Ireland. It may not be possible for shareholders to effect service of process outside of Canada against the directors and officers of the Company, and independent qualified persons engaged by the Company, who are not resident in Canada. In the event a judgment is obtained in a Canadian court against one or more of such persons for violations of Canadian securities laws or otherwise, it may not be possible to enforce such judgment against persons not resident in Canada. Additionally, it may be difficult for an investor, or any other person or entity, to assert Canadian securities law or other claims in original actions instituted in the United States, Brazil or Ireland. Courts in these jurisdictions may refuse to hear a claim based on a violation of Canadian securities laws or otherwise on the grounds that such jurisdiction is not the most appropriate forum to bring such a claim. Even if a foreign court agrees to hear a claim, it may determine that the local law, and not Canadian law, is applicable to the claim. If Canadian law is found to be applicable, the content of applicable Canadian law must be proven as a fact, which can be a time-consuming and costly process. Certain matters of procedure will also be governed by foreign law.

**Risks Related to Our Industry**

***The vanadium market is small and highly concentrated and therefore susceptible to swings in the availability of supply.***

Most of the world's supply of V<sub>2</sub>O<sub>5</sub> is derived from mined ore, either directly as mineral concentrates derived from VTM or from steelmaking slags, where the steel was produced from VTM. A significant majority (approximately 91%) of the world's V<sub>2</sub>O<sub>5</sub> comes from four source countries: China, South Africa, Russia and Brazil. While Canada, Germany,

Japan, and the United States, as well as several other European countries, continue to recover V<sub>2</sub>O<sub>5</sub> from petroleum residues, the market is currently very small and highly concentrated.

Any collusion or concerted action between the major producers in China, South Africa and/or Russia could impact the availability of supply which could in turn have a negative impact on the price of V<sub>2</sub>O<sub>5</sub>.

***Demand for V<sub>2</sub>O<sub>5</sub> is highly dependent on demand for steel.***

The steel industry accounts for approximately 91% of global total V<sub>2</sub>O<sub>5</sub> consumption. HSLA carbon steels account for more than half of global V<sub>2</sub>O<sub>5</sub> consumption. HSLA steels are a class of relatively new steel alloys which use small amounts of vanadium, niobium, titanium or some combination of these microalloying elements to impart higher strength and fine grains structure in the steel. Special steels including tool steels, high speed steels and special alloy steels account for close to one third of global V<sub>2</sub>O<sub>5</sub> consumption. Vanadium is also used in the production of titanium alloys for aerospace, industrial and consumer applications. It is used as a catalyst in oxidation reactions and in pollution control systems. Other applications include pigments, corrosion inhibitors and other minor chemical processes.

While new markets for V<sub>2</sub>O<sub>5</sub> may arise in the future, for example, a market in energy storage applications, a significant majority of V<sub>2</sub>O<sub>5</sub> is currently being used in connection with the steel industry, in particular HSLA carbon steels and special steels. Any fall in demand and/or production for HSLA carbon steels and special steels could impact industry demand for V<sub>2</sub>O<sub>5</sub> and, in turn, have a negative impact on the price of V<sub>2</sub>O<sub>5</sub>.

***Mineral Resource and Mineral Reserve estimates may be inaccurate. Our actual Mineral Reserves could be lower than such estimates, which could adversely affect our operating results, financial condition, cash flows and the life of our mine.***

There are numerous uncertainties inherent in estimating Mineral Resources and Mineral Reserves, including many factors beyond the control of the Company. The accuracy of any Mineral Resource or Mineral Reserve estimate is a function of the quantity and quality of available data and of the assumptions made and judgments used in engineering and geological interpretation. These amounts are estimates only and the actual level of mineral recovery from such deposits may be different. Undue reliance should not be placed on estimates of Mineral Resources and Mineral Reserves, since these estimates are subject to numerous uncertainties. Differences between management's assumptions, including economic assumptions such as metal prices and market conditions, could have a material adverse effect on the Company's financial position, cash flows, results of operations and the life of our mine.

Our reported Mineral Reserves are estimated quantities of V<sub>2</sub>O<sub>5</sub> that we have determined can be economically mined and processed under present and assumed future conditions. There are numerous uncertainties inherent in estimating quantities of reserves and in projecting potential future rates of mineral production, including factors beyond our control. Reserve reporting involves estimating deposits of minerals that cannot be measured in an exact manner, and the accuracy of any reserve estimate is a function of the quality of available data, engineering and geological interpretation and judgment. As a result, no assurance can be given that the indicated amount of V<sub>2</sub>O<sub>5</sub> will be recovered or that it will be recovered at the rates we anticipate. Reserve estimates and estimates of mine life may require revisions based on actual production experience, projects, updated exploration drilling data and other factors. For example, lower market prices of minerals and metals, reduced recovery rates or increased operating and capital costs due to inflation, exchange rates, changes in regulatory requirements or other factors may render proven and probable reserves uneconomic to exploit and may ultimately result in a reduction of reserves. Such a reduction could affect depreciation and amortization rates and have an adverse effect on our financial performance.

***We may not be able to replenish our reserves, which could adversely affect our mining prospects.***

We engage in mineral exploration, which is highly uncertain in nature, involves many risks and frequently is non-productive. Our exploration programs, which involve significant expenditures, may fail to result in the expansion or replacement of reserves depleted by current production. If we do not develop new reserves, we will not be able to sustain our current level of production beyond the remaining lives of our existing mines.

***We face rising extraction costs or investment requirements over time as reserves deplete.***

Reserves are gradually depleted in the ordinary course of a given open pit or underground mining operation. As mining progresses, distances to the primary crusher and to waste deposits become longer, pits become steeper, mines may

move from being open pit to underground, and underground operations become deeper. In addition, for some types of reserves, mineralization grade decreases and hardness increases at greater depths. As a result, over time, we may experience rising unit extraction costs with respect to our mine, or we may need to make additional investments, including adaptation or construction of processing plants and expansion or construction of tailings dams. Our mine may experience rising extraction costs per unit in the future.

***Nature of mining operations, mineral exploration and development projects and mining businesses generally involve a high degree of risk.***

Mining operations generally involve a high degree of risk. The Company's operations and those of its subsidiaries are subject to the hazards and risks normally encountered in mineral exploration, development and production, including environmental hazards, explosions, unusual or unexpected geological formations or pressures and periodic interruptions in both production and transportation due to inclement or hazardous weather conditions. Such risks could result in damage to, or destruction of, mineral properties or producing facilities, personal injury, environmental damage, delays in mining, monetary losses and possible legal liability.

Development projects have no operating history upon which to base estimates of future cash operating costs. For development projects, resource and reserve estimates and estimates of cash operating costs are, to a large extent, based upon the interpretation of geological data obtained from drill holes and other sampling techniques, and feasibility studies, which derive estimates of cash operating costs based upon anticipated tonnage and grades of ore to be mined and processed, ground conditions, the configuration of the ore body, expected recovery rates of minerals from the ore, estimated operating costs, anticipated climatic conditions and other factors. As a result, actual production, cash operating costs and economic returns could differ significantly from those estimated. Indeed, current market conditions are forcing many mining operations to increase capital and operating cost estimates. It is not unusual for new mining operations to experience problems during the start-up phase, and delays in the commencement of production can often occur.

Mineral exploration is highly speculative in nature. There is no assurance that exploration efforts will be successful. Even when mineralization is discovered, it may take several years until production is possible, during which time the economic feasibility of production may change. Substantial expenditures are required to establish proven and probable Mineral Reserves through drilling. Because of these uncertainties, no assurance can be given that exploration programs will result in the establishment or expansion of Mineral Resources or Mineral Reserves. There is no certainty that the expenditures made by the Company towards the search and evaluation of mineral deposits will result in discoveries or development of commercial quantities of ore.

### **Risks Related to Brazil**

***The Brazilian government has historically exercised, and continues to exercise, significant influence over the Brazilian economy. Brazilian political and economic conditions may adversely affect us.***

In 2019, 100% of our revenue was derived from our operations in Brazil. Accordingly, our business, financial condition, results of operations and cash flows depend, to a considerable extent, upon economic and political conditions in Brazil.

Political and economic conditions directly affect our business and can result in a material adverse effect on us. Macroeconomic policies imposed by the Brazilian government can have significant impact on Brazilian companies or companies with significant operations in Brazil, including us.

The Brazilian economy has been characterized by frequent and occasionally significant intervention by the Brazilian government and unstable economic cycles. The Brazilian government has often changed monetary, taxation, credit and other policies to influence the course of Brazil's economy. The Brazilian government's actions to control inflation have at times involved setting wage and price controls, blocking access to bank accounts, imposing exchange controls, capital inflow and outflow controls and limiting imports and exports.

We cannot control or predict whether the current Brazilian government will implement changes to existing policies or the impact such changes may have on our operations in Brazil and, consequently, our business. Our business, operating results and financial condition and prospects, as well as the market price of our securities, may be adversely affected by changes in Brazil's public policies, whether federal, state or local, that affect, without limitation:

- inflation;
- fluctuations in exchange rates;
- exchange controls and restrictions on remittances abroad, such as those imposed in 1989 and early 1990;
- interest rates and monetary policies;
- import and export controls;
- liquidity of domestic capital, credit and financial markets;
- expansion or contraction of the Brazilian economy, as measured by rates of growth in gross domestic product, or GDP;
- fiscal policies; and
- other political, social and economic developments in or affecting Brazil.

Government policies and measures to combat inflation, along with public speculation about such policies and measures, have often had adverse effects on the Brazilian economy, contributed to economic uncertainty in Brazil and increased volatility in the Brazilian securities markets. The Brazilian government's actions to control inflation have often involved price and salary controls, currency devaluations, capital limitations, limits on imports and other actions.

Other policies and measures adopted by the Brazilian government, including interest rate adjustments, intervention in the currency markets or actions to adjust or fix the value of the *real* may adversely affect the Brazilian economy, our business and results of operations.

Uncertainty over whether the Brazilian federal government will implement reforms or changes in policy or regulation affecting these or other factors in the future may affect economic performance and contribute to economic uncertainty in Brazil, which may in turn have adverse effects on our operations in Brazil and consequently on the results of our operations. Recent economic and political instability has led to a negative perception of the Brazilian economy and higher volatility in the Brazilian securities markets.

***Operation Lava Jato or similar investigations and political instability resulting therefrom may adversely affect our business and results of operations. Additionally, such investigations may result in reputational risks.***

Brazil's political environment has historically influenced, and continues to influence, the performance of the country's economy. Political crises have affected and continue to affect investor confidence and that of the general public, which resulted in economic deceleration and heightened volatility in the securities issued by Brazilian companies or of companies with significant operations in Brazil.

Brazilian markets have been experiencing heightened volatility due to the uncertainties derived from the ongoing *Lava Jato* investigation, which is being conducted by the Office of the Brazilian Federal Prosecutor, and its impact on the Brazilian economy and political environment. Certain members of the Brazilian federal government and of the legislative branch, as well as senior officers of large state-owned companies, are facing allegations of political corruption for officials allegedly accepting bribes by means of kickbacks on contracts granted by the government to several infrastructure, oil and gas, and construction companies, among other sectors. Profits of these kickbacks allegedly financed the political campaigns of political parties of the previous federal government coalition that were unaccounted for or not publicly disclosed, as well as served to personally enrich the recipients of bribery schemes. As a result, a number of senior politicians, including congressmen and officers of major private and state-owned companies in Brazil, resigned or have been arrested, and certain senior elected officials and other public officials are being investigated for allegations of unethical and illegal conduct identified during the *Lava Jato* investigation. There can be no assurance that any person, directly or indirectly connected to us, such as employees, statutory executive officers, members of the board of directors, suppliers, services providers or sub-contractors, is not or will not be implicated in the *Lava Jato* operation or similar investigations that may adversely affect our image and reputation.

The potential outcome of the investigations related to the *Lava Jato* operation is uncertain, but they have already had an adverse impact on the image and reputation of the implicated companies, and on the general market perception of the Brazilian economy. We cannot predict whether the allegations will lead to further political and economic instability or whether new allegations against government officials or other companies will arise in the future. In addition, we cannot predict the outcome of any such allegations nor their effect on the Brazilian economy. The development of the cases could adversely affect us.

***Changes in tax laws, tax incentives and benefits, or differing interpretations of tax laws, may adversely affect our results of operations.***

The Brazilian tax authorities have frequently implemented changes to tax regimes that may affect the Company and ultimately the demand of the Company's customers for the products the Company sells. These measures include changes in prevailing tax rates and enactment of taxes, both temporary and permanent. Most recently, effective June 1, 2018, the Brazilian government reduced the Reintegra tax credit available to exporters from 2% to 0.1% in order to offset tax cuts that it had implemented on diesel fuel in a proposal to end a truck driver's strike in June 2018. While this reduction does not materially affect the Company, it is demonstrative of the Brazilian Government's ability to quickly make changes to Brazilian laws.

Some of these changes may increase the Company's tax burden, which may increase the prices the Company charges for the products the Company sells, restrict the Company's ability to do business in the Company's existing markets and, therefore, materially adversely affect the Company's results of operations. There can be no assurance that the Company will be able to maintain the Company's projected cash flows and results of operations following any increases in Brazilian taxes that apply to us and the Company's operations.

In addition, the Company currently receives certain tax benefits. There can be no assurance that these benefits will be maintained or renewed. Also, given the current Brazilian political and economic environment, there can be no assurance that the tax benefits the Company receives will not be judicially challenged as unconstitutional. If the Company is unable to renew the Company's tax benefits, such benefits may be modified, limited, suspended, or revoked, which may adversely affect us.

Moreover, certain tax laws may be subject to controversial interpretation by tax authorities. In the event that tax authorities interpret tax laws in a manner that is inconsistent with the Company's interpretations, the Company may be adversely affected.

During the 2018 presidential campaign there were discussions with respect to the revocation of income tax exemptions over payment of dividends, which currently exists in Brazil. Although it is not possible to determine whether the newly elected president and the new members of Congress will pass legislation to this effect, it is possible that the revocation of such exemption and other reforms in Brazil's tax system will be discussed and eventually implemented by the new government.

***Our operations are exposed to political, economic, and policy risks relating to operating in Brazil.***

The Company's principal properties are located in Brazil. As in any foreign country, mineral exploration and mining activities may be affected to varying degrees by changes in political, social and financial stability, and inflation. Any shifts in political, social or financial stability conditions are beyond the control of the Company and may adversely affect the Company's business. Brazil's status as a developing country may make it more difficult for the Company to obtain sufficient financing required for the exploration and development of its properties due to real or perceived increased investment risk.

The Company's operations may also be adversely affected by changes in foreign government policies and legislation and other factors which are not within the control of the Company, including, but not limited to, renegotiation or nullification of existing contracts, claims or licenses, changes in mining policies or the legislation or regulatory requirements affecting mining or the personnel administering them, currency fluctuations and devaluations, exchange controls, factors (including withholding taxes) affecting foreign subsidiaries' abilities to remit funds to the Company, economic sanctions, royalty and tax increases and retroactive tax claims, risk of terrorist activities, revolution, border disputes, implementation of tariffs and other trade barriers and protectionist practices, taxation policies, volatility of financial markets and fluctuations in foreign exchange rates, labour disputes and other risks arising out of foreign governmental sovereignty over the areas in which the Company's operations are conducted. The Company's operations may also be adversely affected by laws and policies of such foreign jurisdictions affecting foreign trade, taxation and investment. If the Company's operations are disrupted and/or the economic integrity of its contracts is threatened for unexpected reasons, there may be a corresponding material adverse effect on the Company's business or operations.

In the event of a dispute arising in connection with the Company's operations in a foreign jurisdiction where the Company conducts its business, the Company may be subject to the exclusive jurisdiction of foreign courts or may not be successful in subjecting foreign persons to the jurisdictions of the courts of Canada or enforcing Canadian judgments in such other jurisdictions. The Company may also be hindered or prevented from enforcing its rights with respect to a governmental instrumentality because of the doctrine of sovereign immunity. Accordingly, the Company's activities in foreign jurisdictions could be substantially affected by factors beyond the Company's control, any of which could have a material adverse effect on the Company.

The Company may in the future enter into agreements in order to expand its business and activities beyond the jurisdictions in which it currently does so. Such an expansion may present challenges and risks that the Company has not faced in the past, any of which could materially adversely affect the results of operations and/or financial condition of the Company.

***Changes in rain patterns and other climatic effects may adversely impact the Company's operations.***

The effects of changes in rainfall patterns, water shortages and changing storm patterns and intensities have from time to time adversely impacted, and may in the future adversely impact, the cost, production levels and financial performance of the Company's operations. There is no guarantee that there will be sufficient future rainfall to support the Company's future demands in relation to its sites and operations, and this has and could adversely affect production or the Company's ability to develop or expand projects and operations in the future. In addition, there can be no assurance that the Company will be able to obtain alternative water sources on commercially reasonable terms or at all in the event of prolonged drought conditions. Conversely, some of the Company's sites and operations may in the future be subject, from time to time, to severe storms and high rainfalls leading to flooding and associated damage, which may result in, delays to, or loss of production and development of some of its sites, projects or operations. Extreme rain and flood conditions may exceed site water storage capacity with the potential for involuntary release by way of overflow from tailings storage facilities, which may cause environmental damage. Environmental damage may result in fines or even in criminal sanctions for violations, in addition to the obligation to redress any environmental damages cause, all of which may negatively affect our results of operations or financial condition.

***Our delay or failure to complete the Ferrovanadium Conversion Plant could have an adverse effect on the Company's growth prospects.***

Successful completion of the Ferrovanadium Conversion Plant is subject to various factors, many of which are not within our control. These factors include the granting of consents and permits from the relevant government authorities, the availability, terms, conditions and timing of acceptable arrangements for transportation, construction and refining, the performance of engineering and construction contractors, mining contractors, suppliers and consultants, as well as the qualification of additional reserves. The lack of availability of acceptable contractual terms, or slower than anticipated performance by any contractor, could delay or prevent the successful completion of the Ferrovanadium Conversion Plant. Further expansion of our project may be compromised in the event of a prolonged decline in the market price of V<sub>2</sub>O<sub>5</sub>. There can be no guarantee as to when the Ferrovanadium Conversion Plant will be finalized, whether the resulting operations will achieve anticipated production volumes or whether the costs will be in line with those anticipated. The inability to complete the Ferrovanadium Conversion Plant as planned may negatively impact our operations, financial condition and growth prospects.

***Inflation and efforts by the Brazilian government to combat inflation may contribute significantly to economic uncertainty in Brazil and could have an adverse effect on us.***

Brazil has historically experienced periods of high inflation. Inflation, as well as governmental measures put in place to combat inflation, have had a material adverse effect on the Brazilian economy. Inflationary pressures persist, and actions taken in an effort to curb inflation, coupled with public speculation about possible future governmental actions, have in the past contributed to economic uncertainty in Brazil and heightened volatility in the Brazilian securities market. The inflation rate in Brazil, as reflected by the Broad Consumer Price Index (*Índice Nacional de Preços ao Consumidor Amplo*) published by the Brazilian Institute of Geography and Statistics or IBGE (*Instituto Brasileiro de Geografia e Estatística*), was 4.31% in 2019, 3.75% in 2018 and 2.95% in 2017.

As a result of inflationary pressures and macroeconomic instability, the Brazilian government has historically adopted monetary policies that have resulted in Brazil's interest rates being among the highest in the world. The Central Bank

of Brazil sets the base interest rates (Sistema Especial de Liquidação e Custódia) (the “**SELIC rate**”) generally available to the Brazilian banking system, based on the expansion or contraction of the Brazilian economy, inflation rates and other economic indicators. The SELIC was 4.5% on December 31, 2019, 6.5% on December 31, 2018 and 7.00% on December 31, 2017. As of March 2020 the SELIC rate was 4.25%. Brazilian interest rates remain high, and any increase in interest rates could negatively affect our profitability and results of operations and could increase the costs associated with financing our operations.

Inflation and government measures to combat inflation, along with speculation about possible future governmental measures, have had and are expected to continue to have significant negative effects on the Brazilian economy, including heightened volatility in the Brazilian securities market. In addition, measures to control inflation have often included maintaining a tight monetary policy with high interest rates, thereby restricting the availability of credit and limiting economic growth. On the other hand, these policies may be incapable of preventing increases in inflation rates. Furthermore, the absence of such policies may trigger increases in inflation rates and thereby adversely affect economic stability. In the event of an increase in inflation, we may not be able to adjust the prices we charge our customers to offset the effects of inflation on our cost structure, which may adversely affect us.

***Exchange rate fluctuations in Brazil against the U.S. dollar could adversely affect us.***

Exchange rate instability may have a significant negative effect on the economies in which we operate and could adversely affect us. For example, the Brazilian currency has been historically volatile and has been devalued frequently over the past three decades. Since 1999, the Central Bank of Brazil has allowed the *real* to U.S. dollar exchange rate to float freely, and during this period, the *real* to U.S. dollar exchange rate has experienced frequent and substantial variations in relation to the U.S. dollar and other foreign currencies. Throughout this period, the Brazilian government has implemented various economic plans and used various exchange rate policies, including sudden devaluations, periodic mini-devaluations (during which the frequency of adjustments has ranged from daily to monthly), exchange controls, dual exchange rate markets and a floating exchange rate system.

Although long-term depreciation of the *real* is generally linked to the rate of inflation in Brazil, depreciation of the *real* occurring over shorter periods of time has resulted in significant variations in the exchange rate between the *real*, the U.S. dollar and other currencies. We cannot predict whether the Central Bank of Brazil or the Brazilian government will continue to let the *real* float freely or intervene in the exchange rate market by returning to a currency band system or otherwise. The *real* may depreciate or appreciate substantially against the U.S. dollar and other currencies. Furthermore, Brazilian law provides that, whenever there is a serious imbalance in Brazil’s balance of payments or there are substantial reasons to foresee a serious imbalance, temporary restrictions may be imposed on remittances of foreign capital abroad. We cannot assure you that such measures will not be taken by the Brazilian government in the future.

The *real* /U.S. dollar exchange rate reported by the Central Bank was R\$3.3080 per U.S. dollar on December 31, 2017, which reflected a 1.5% depreciation of the *real* against the U.S. dollar during 2017. The *real*/U.S. dollar exchange rate reported by the Central Bank was R\$3.8748 per US\$1.00 on December 31, 2018, which reflected a 17% depreciation of the *real* against the U.S. dollar during 2018. As of December 31, 2019, the exchange rate for the purchase of U.S. dollars as reported by the Central Bank was R\$ 4.0307 per US\$1.00, which reflected a 4% depreciation of the *real* against the U.S. dollar during 2019.

Also, the prices of certain raw materials used in our operations in Brazil are denominated in or linked to the U.S. dollar. When the Brazilian *real* depreciates against the U.S. dollar, the cost in Brazilian *reais* of our U.S. dollar-linked raw materials increases, and our operating income in Brazilian *reais* decreases to the extent that we are unable to pass on these cost increases to our customers.

In the course of our business, we may decide to enter into financial derivative transactions in the future to hedge our exposure to foreign currency exchange rate variations. However, we cannot assure you that these instruments will be available to us at favorable terms, if at all, or will fully hedge our exposure.

A devaluation of the *real* against the U.S. dollar might also create inflationary pressures in Brazil and lead to increases in interest rates, which could adversely affect the growth of the Brazilian economy as a whole, and undermine our financial situation and operating results. On the other hand, the appreciation of the *real* in relation to the U.S. dollar may undermine the economy growth driven by exports in Brazil.

Because of the degree of volatility and the uncertainty of the factors that impact the Brazilian *real's* exchange rate, it is difficult to predict future exchange rate movements. In addition, the Brazilian government may change its foreign currency policy, and any governmental interference in the exchange rate, or the implementation of exchange control mechanisms, could influence the *real's* exchange rate. In light of the foregoing, there can be no assurance we will be able to protect ourselves against the effects of adverse fluctuations of the Brazilian *real* against the U.S. dollar.

***Any further downgrading of Brazil's credit rating could adversely impact the Brazilian economy and our operations.***

Credit ratings affect investors' perceptions of risk and, as a result, the trading value of securities and yields required on future debt issuance in the capital markets. Rating agencies regularly evaluate Brazil and its sovereign ratings, which are based on a number of factors, including macroeconomic trends, fiscal and budgetary conditions, indebtedness metrics and the prospect of changes in any of these factors.

Rating agencies began the classification review of Brazil's sovereign credit rating in September 2015. Brazil lost its investment grade status by the three main rating agencies. On September 30, 2015, S&P initially reduced Brazil's credit rating from BBB- to BB+ and, subsequently, in February 2016, reduced it again from BB+ to BB, and maintained its negative outlook on the rating, citing a worsening credit situation since the first downgrade. In February 2018, S&P lowered its long term rating for Brazil's sovereign credit from BB to BB-, with a stable outlook, citing budget deficit and less timely and effective reform policymaking. In December 2015, Moody's placed Brazil's Baa3 issuer and bond ratings on review for a downgrade, and subsequently downgraded Brazil's issuer and bond ratings to below investment grade, to Ba2 with a negative outlook. In April 2018, Moody's affirmed its Ba2 rating but changed its outlook from negative to stable, citing stabilization of macroeconomic conditions, signs of recovery in the economy, falling inflation rates and a clearer fiscal outlook as reasons for the change. Fitch Ratings Inc. ("Fitch") downgraded Brazil's sovereign credit rating to BB+ with a negative outlook in December 2015 and again to BB in May 2016, with a negative outlook. In February 2018, Fitch lowered its long term rating for Brazil's sovereign credit from BB to BB-, with a stable outlook, which was reaffirmed on August 2018. As a result, Brazil lost its investment grade status with all three major rating agencies and, consequently, the trading prices of securities of the Brazilian debt and equity markets were negatively affected. If the Brazilian federal government is unable to gather the required support in the Brazilian Congress to pass additional specific reforms, the Brazilian sovereign rating could be further downgraded.

Any further downgrade of Brazil's sovereign credit ratings could heighten investors' perception of risk and, as a result, adversely affect the Brazilian economy and our operations.

***The developing consequences of the Samarco dam failure may adversely affect us.***

On November 5, 2015, the Samarco Mineração S.A. ("**Samarco**") iron ore operations experienced a tailings dam failure that resulted in a release of mine tailings, flooding the communities of Bento Rodrigues, Gesteira and Paracatu and impacting other communities downstream and the environment of the Rio Doce basin. Samarco is a joint venture owned equally by BHP Billiton Brasil Limitada and Vale S.A.

The heightened awareness of mining impact particularly in Brazil following the Samarco and Brumadinho dam collapses in 2015 and 2019, respectively, as well as increased regulatory oversight may result in the amount and timing of future environmental and related expenditures to vary substantially from those currently anticipated. We may encounter delays in obtaining environmental and other operating licenses, or not be able to obtain and/or renew an authorization, permit and/or license. These events and additional costs may have a negative impact on our operations and have an adverse effect on our financial performance.

***The developing consequences of the Brumadinho dam failure may adversely affect us.***

On January 25, 2019, the Córrego do Feijão mine owned by Vale S.A. experienced a tailings dam failure that resulted in a release of mine tailings, flooding the communities of Brumadinho and impacting other communities downstream and the environment of the Rio Paraopeba.

The heightened awareness of the potential impacts of mining activities following the Brumadinho dam failure as well as increased regulatory oversight may cause the amount and timing of future environmental and related expenditures to vary substantially from those currently anticipated and we may encounter delays in obtaining environmental and other operating licenses, or not be able to obtain and/or renew an authorization, permit and/or license. These events

and additional costs may have a negative impact on our operations and have an adverse effect on our financial performance.

## DIVIDENDS

The constating documents of the Company do not limit its ability to pay dividends on its Common Shares, however. The Company has not paid any dividends since incorporation. In addition, the payment of dividends in the future, if any, will be made at the discretion of the Board.

## DESCRIPTION OF CAPITAL STRUCTURE

The authorized capital of the Company consists of an unlimited number of Common Shares. As of December 31, 2019 there were 554,533,286 Common Shares issued and outstanding. As of the date of this AIF, the Company had 562,975,760 Common Shares issued and outstanding, 2,946,700 Common Shares reserved for issuance for stock options granted to directors, officers, employees and consultants, 752,000 Common Shares reserved for issuance upon vesting of restricted share units (“RSU”), and approximately 104,593,000 Common Shares reserved for issuance upon the exercise of share purchase warrants.

### Common Shares

Holders of Common Shares are entitled to receive notice of and to attend any meetings of shareholders and shall have one vote per share at all meetings, except meetings at which only holders of another class or series of shares are entitled to vote separately as such class or series. Holders of Common Shares are entitled to receive on a pro rata basis such dividends, if any, as and when declared by the Board and, upon liquidation, dissolution or winding up of the Company, are entitled to receive on a pro rata basis the net assets of the Company after payment of debts and other liabilities, in each case subject to the rights, privileges, restrictions and conditions attaching to any other series or class of shares ranking senior in priority to or on a pro rata basis with the holders of Common Shares. The Common Shares do not carry any pre-emptive, subscription, redemption or conversion rights, nor do they contain any sinking or purchase fund provisions.

### Incentive Options

On June 29, 2017, shareholders adopted a 10% rolling share compensation plan under which the Company may issue RSUs, and options (“Options”) to purchase Common Shares. Unlike the Options, the RSUs do not require the payment of any monetary consideration to the Company. Instead, each RSU represents a right to receive one Common Share following the attainment of vesting criteria determined at the time of the award.

## MARKET FOR SECURITIES

### Trading Price and Volume

The Common Shares trade on the TSX under the symbol “LGO”. The table below shows the price ranges and volume of trading for each month of the financial year ended December 31, 2019 and for each month of the current financial year up to the date of this AIF.

Month	High(\$)	Low(\$)	Volume
(2020)			
March (1- 16)	0.93	0.56	4,729,138
February	1.16	0.84	7,567,485
January	1.19	0.98	5,317,756
(2019)			
December	1.21	0.92	19,037,933
November	1.34	0.81	9,548,146
October	1.51	1.31	9,929,844
September	1.75	1.33	6,720,384
August	1.91	1.33	16,630,296
July	1.99	1.64	12,750,206

June	2.01	1.51	14,319,578
May	1.99	1.45	24,786,510
April	2.19	1.52	31,686,958
March	2.55	1.95	37,856,025
February	2.86	2.09	12,492,018
January	3.27	2.48	22,830,138

## DIRECTORS AND OFFICERS

The following table sets forth the name, province of residence and position held with the Company of each director and executive officer effective as of the date of this AIF. All directors hold office until the next annual meeting of shareholders of the Company or until their successors are elected or appointed.

Name and Residence	Current Position(s) with the Company	Principal Occupation
<b>Alberto Arias</b> <i>Florida, United States</i>	Non-Executive Chair Director since: April 2011  Committee Membership(s): <ul style="list-style-type: none"><li>• Corporate Governance</li><li>• Compensation</li><li>• Sales</li></ul>	Mr. Arias is the founder and Portfolio Manager of Arias Resource Capital Management LP and has over 25 years of experience in the field of international mining finance. Prior to founding Arias Resource Capital Management LP, Mr. Arias worked for eight years at Goldman, Sachs & Co., most recently acting as Managing Director and Head of Equity Research for metals and mining in the U.S., Canada and Latin America. Prior to Goldman Sachs, Mr. Arias worked for four years at UBS Warberg as Executive Director and Analyst covering the Latin American metals and mining sector.
<b>David Brace</b> <i>Ontario, Canada</i>	Director since: June 26, 2012  Committee Membership(s): <ul style="list-style-type: none"><li>• Corporate Governance</li><li>• Compensation</li><li>• Audit</li><li>• Operations</li></ul>	Mr. Brace served as Chief Executive Officer and a director of Karmin Exploration Inc. from September 2011 to October 2019. Prior to this, and between January through September of 2011, Mr. Brace served as President of Lambton Capital Inc., a private investment firm focused on evaluating mining investments. Prior to this, Mr. Brace served as the CEO and a director of GlobeStar Mining Corporation until that company's acquisition by Perilya Limited in December of 2010. Prior to this, Mr. Brace served as Executive Vice-President of Business Development with Aur Resources until August of 2007.
<b>Jonathan Lee</b> <i>New York, United States</i>	Director since: April 4, 2019  Committee Membership(s): <ul style="list-style-type: none"><li>• Operations</li><li>• Sales</li></ul>	Mr. Lee is a Vice President with the private equity firm Arias Resource Capital Management LP. Prior to Arias Resource Capital Management, Mr. Lee worked with Ambac Assurance Corporation, a global bond insurer. Prior to Ambac, Mr. Lee held positions with the investment firm Raging River Capital, the mining hedge fund Geologic Resource Partners LLC, and Byron Capital Markets Ltd. in Canada as a mining & metals equity research analyst. Additionally, Mr. Lee has prior experience as an Environmental Engineer with several construction and engineering firms. Mr. Lee previously sat on the boards of Park Lawn Company Ltd. and Bearing Lithium Corp. Mr. Lee earned his MBA from the Stern School of Business at New York University and holds a BS in Chemical Engineering with a minor in Economics from Tufts University.
<b>Daniel Tellechea</b>	Director since: July 9, 2015	Mr. Tellechea has business experience in Brazil and extensive experience in international mining, most recently serving as President & CEO of Sierra Metals, Inc. between 2007 and 2014, a Toronto based mining company

Name and Residence	Current Position(s) with the Company	Principal Occupation
<i>Arizona, United States</i>	Committee Membership(s): <ul style="list-style-type: none"> <li>• Corporate Governance</li> <li>• Compensation</li> <li>• Audit</li> <li>• Operations</li> <li>• Sales</li> </ul>	listed on both the Toronto (TSX) and Lima (BVL) Stock Exchanges with assets in Mexico and Peru. Prior to Sierra Metals, Mr. Tellechea was President and CEO of Asarco LLC from 2003 to 2005, he served as the Managing Director of Finance and Administration for Asarco's parent, Grupo Mexico from 1994 to 2003 and also served as Asarco's Chief Financial Officer and Vice-president of finance for Southern Copper Corporation from 1999 to 2003, which was majority owned by Grupo Mexico.
<b>Koko Yamamoto</b> <i>Ontario, Canada</i>	Director since: July 9, 2015  Committee Membership(s): <ul style="list-style-type: none"> <li>• Compensation</li> <li>• Audit</li> </ul>	Ms. Yamamoto is a chartered professional accountant. She is a partner at McGovern Hurley LLP, a CPAB registered firm, since 2003 and her practice includes a focus on assurance engagements for reporting issuers in the resource sector. Ms. Yamamoto is involved in initial public offerings and private placements, mergers and acquisitions. Ms. Yamamoto is also registered as a panel auditor with the Investment Industry Regulatory Organization of Canada (IIROC), which enables her to conduct audits of investment dealers. Prior to joining McGovern Hurley LLP in 1998, Ms. Yamamoto worked for a start-up Japanese medical technology company, both in Tokyo and San Francisco.
<b>Paulo Misk</b> <i>Minas Gerais, Brazil</i>	President & Chief Executive Officer  Director since: September 9, 2019	Mr. Misk is a mining engineer with over 28 years' experience in operational management at mining facilities for various large multi-national mining companies across a wide range of commodities, including: niobium, chromite, iron, tin, gold, lithium and a range of other industrial minerals. Most recently, Mr. Misk ran Anglo American's Catalão Project from 2011 to 2014 where he was promoted to Head of Niobium Operations after serving as Niobium General Manager for one year. During his tenure at the Catalão Project he was responsible for implementing innovative policies and fostering a high-performance culture that greatly improved production rates and recoveries, as well as dramatically reduced unit costs resulting in a doubling of Niobium EBITDA. Mr. Misk's prior experience includes several years as Talc Operational Director and as Geology, Mining Operation Manager for GP Investments' Magnesita Refratórios project in Brazil between 2002 and 2010. Additionally, he served as Operational Director for AMG Group where he managed their tantalum, niobium, tin, feldspar and lithium operations between 2010 and 2011. Between 1994 and 2002, Mr. Misk spent his earlier career with AMG Group as Industrial Minerals Manager after being promoted from Tantalum and Niobium Division Manager.
<b>Ernest Cleave</b> <i>Ontario, Canada</i>	Chief Financial Officer	Mr. Cleave is a financial professional with over 20 years' experience in finance strategy, compliance, financial reporting, internal control and strategic planning. Prior to joining the Company, Mr. Cleave served as a director, CFO and corporate controller and in senior finance positions for large, multi-national companies in the mining, manufacturing and retail sectors, including Goldcorp Inc. and Falconbridge Limited. Mr. Cleave started his career with PricewaterhouseCoopers and holds a CA designation in both Australia and New Zealand, the CPA and CMA designations in Canada, the CPA and FIPA designations in Australia and the CIMA designation in the United Kingdom.

Name and Residence	Current Position(s) with the Company	Principal Occupation
Luciano Chaves <i>Bahia, Brazil</i>	Vice President of Finance and Administration at Vanádio	Mr. Chaves has over 20 years of experience in financial management in a range of different industries. Prior to joining the Company, he led the finance department of multinational mining and services companies in Latin America, including Sibelco and Hewitt. Since joining the Company in 2011, his understanding of both domestic and international business environment has brought a differentiated contribution to the Maracás Menchen Mine.

Alberto Arias is the sole director of each of the general partners of Arias Resource Capital Fund L.P., Arias Resource Capital Fund II L.P. and Arias Resource Capital Fund II (Mexico) L.P. which, as at the date of this AIF, in aggregate hold 247,504,517 of our Common Shares representing approximately 43.96% of our outstanding Common Shares. Our remaining directors and executive officers, as a group, beneficially owned, directly or indirectly, or exercised control or direction over, 724,861 common shares, representing less than 1% of the total number of common shares outstanding.

#### Corporate Cease Trade Orders, Bankruptcies, Penalties or Sanctions

Other than as set forth below, no director, executive officer or chief financial officer of the Company:

- (a) is, as at the date of this document, or has been, within ten years before the date of this AIF, a director, chief executive officer or chief financial officer of any company (including the Company) that, while that person was acting in that capacity: (i) was the subject of a cease trade or similar order or an order that denied the relevant company access to any exemption under the securities legislation, for a period of more than 30 consecutive days; (ii) was subject to an event that resulted, after the director, chief executive officer or chief financial officer ceased to be a director, chief executive officer or chief financial officer, in the company being the subject of a cease trade order or similar order or an order that denied the relevant company access to any exemption under securities legislation, for a period of more than 30 consecutive days; or (iii) within a year of that person ceasing to act in that capacity, became bankrupt, made a proposal under any legislation relating to bankruptcy or insolvency or was subject to or instituted any proceedings, arrangement or compromise with creditors or had a receiver, receiver manager or trustee appointed to hold its assets, or
- (b) has, within the ten years before the date of this AIF, become bankrupt, made a proposal under any legislation relating to bankruptcy or insolvency, or become subject to or instituted any proceedings, arrangement or compromise with creditors, or had a receiver, receiver manager or trustee appointed to hold the assets of the proposed director.

Except as set out below, no director or executive officer of the Company, or a shareholder holding sufficient number of securities of the Company to affect materially the control of the Company, has been subject to: (i) any penalties or sanctions imposed by a court relating to securities legislation or by a securities regulatory authority or has entered into a settlement agreement with a securities regulatory authority; or (ii) any other penalties or sanctions imposed by a court or regulatory body that would likely be considered important to a reasonable investor in making an investment decision.

From March 28, 2013 until January 21, 2014, Mr. Arias served as a director on the board of Colossus Minerals Inc. (“Colossus”). On January 14, 2014, Colossus filed a notice of intention to make a proposal under the *Bankruptcy and Insolvency Act* (Canada). Colossus was delisted from the TSX effective February 21, 2014.

Mr. Tellechea was a director of Mercator Minerals, Ltd. until September 4, 2014. Mercator filed a notice of intention to make a proposal under the Canadian *Bankruptcy and Insolvency Act* on August 26, 2014.

#### Conflicts of Interest

Certain of the Company's directors and officers serve or may agree to serve as directors or officers of other reporting companies or have significant shareholdings in other reporting companies. For a list of the other reporting issuers in which directors of the Company also serve as directors, please see the most recent management information circular of the Company dated May 28, 2019. To the extent that such other companies may participate in ventures in which the Company may participate, the directors of the Company may have a conflict of interest in negotiating and concluding terms respecting the extent of such participation. In the event that such a conflict of interest arises at a meeting of the Company's directors, a director who has such a conflict will step out of the room during discussions and abstain from voting for or against the approval of such participation or such terms. From time to time, several companies may participate in the acquisition, exploration and development of natural resource properties thereby allowing for their participation in larger programs, permitting involvement in a greater number of programs and reducing financial exposure in respect of any one program. It may also occur that a particular company will assign all or a portion of its interest in a particular program to another of these companies due to the financial position of the company making the assignment. Under the laws of Canada, the directors of the Company are required to act honestly, in good faith and in the best interests of the Company. In determining whether or not the Company will participate in a particular program and the interest therein to be acquired by it, the directors will primarily consider the degree of risk to which the Company may be exposed and its financial position at that time.

## AUDIT COMMITTEE DISCLOSURE

The purposes of the audit committee of the Board of Directors (the "**Audit Committee**") are to assist the Board of Directors' oversight of: the integrity of the Company's financial statements; the Company's compliance with legal and regulatory requirements; the qualifications and independence of the Company's independent auditors; and the performance of the independent auditors and the Company's internal audit function.

National Instrument 52-110 – *Audit Committees* of the Canadian Securities Administrators ("**NI 52-110**") governs composition and function of audit committees for every TSX listed company, including the Company. NI 52-110 requires the Company to have a written audit committee Charter and to make the disclosure required by Form 52-110F1, which includes disclosure of the text of the audit committee charter in the management information circular of the Company wherein management solicits proxies from the security holders of the Company for the purpose of electing directors to the Board.

### **Audit Committee Charter**

The Board of Directors has developed a written Audit Committee charter (the "**Charter**"). A copy of the Charter is attached hereto as **Schedule "B"**.

### **Composition of the Audit Committee**

The Audit Committee is comprised of three directors: Koko Yamamoto (Chair), David Brace and Daniel Tellechea. Each member of the Audit Committee is financially literate and Koko Yamamoto and Daniel Tellechea are independent, as such terms are defined in NI 52-110.

### **Relevant Education and Experience**

For a description of the education and experience of each Audit Committee member that is relevant to the performance of his responsibilities as a member of the Audit Committee, see "*Directors and Officers*".

### **Reliance on Certain Exemptions**

At no time since the Company's listing on the TSX in July, 2016 has the Company relied on either (a) an exemption in section 2.4 of NI 52-110 (*De Minimis Non-audit Services*); or (b) an exemption from NI 52-110, in whole or in part, granted under Part 8 (*Exemptions*) of NI 52-110. Prior to the Company's listing on the TSX, it had relied on the exemption provided for in section 6.1 of NI 52-110, Part 5 (Reporting Obligations).

## **Audit Committee Oversight**

At no time since the commencement of the Company's most recently completed financial year has there been a recommendation of the Audit Committee to nominate or compensate an external auditor which was not adopted by the Board of Directors.

## **Pre-Approval Policies and Procedures**

The Audit Committee has not adopted specific policies and procedures for the engagement of non-audit services.

## **Audit Fees**

The Company appointed PricewaterhouseCoopers LLP, Chartered Professional Accountants, as its auditor. The PricewaterhouseCoopers LLP fees incurred by the Company, excluding expenses, in each of the last two fiscal years for audit services were \$100,000 in 2019 and \$95,000 in 2018.

The Company incurred fees of R\$342,289 for the fiscal year ended December 31, 2019 relating to PricewaterhouseCoopers Brazil, external auditors of Vanádio in Brazil, R\$296,000 for the fiscal year ended December 31, 2018.

The Company incurred fees of €15,000 for the fiscal year ended December 31, 2019 (Nil 2018) relating to PricewaterhouseCoopers Ireland, external auditors of Largo Ireland, in Ireland.

## **Audit-Related Fees**

PricewaterhouseCoopers LLP fees incurred in each of the last two fiscal years for assurance and related services related to the performance of the auditor's review for the Company's financial statements not included in audit fees above were \$45,000 in 2019 and \$45,000 in 2018.

## **Tax Fees**

PricewaterhouseCoopers LLP fees incurred in each of the last two fiscal years for professional tax services rendered were \$144,925 in 2019 and \$146,455 in 2018. The professional tax services related to corporate tax compliance, tax planning and other related tax services.

PricewaterhouseCoopers Brazil billed Vanádio R\$43,837 in the fiscal year ending December 31, 2019 and R\$58,467 in the fiscal year ending December 31, 2018 for tax compliance in Brazil.

PricewaterhouseCoopers Ireland billed Largo Ireland €31,000 in the fiscal year ending December 31, 2019 (Nil 2018) for tax advisory services in Ireland.

## **All Other Fees**

PricewaterhouseCoopers LLP fees incurred in each of the last two fiscal years for other advisory services rendered were \$20,500 in 2019 and \$221,900 in 2018.

## **LEGAL PROCEEDINGS AND REGULATORY ACTIONS**

Except as disclosed below, to the best of the Company's knowledge, there were no legal proceedings during the year ended December 31, 2019 to which the Company was a party or of which any of the Company's property was subject that would have had a material adverse effect on the Company, nor are there any such legal proceedings existing or contemplated to which the Company is a party or of which any of the Company's property is subject that would have a material adverse effect on the Company.

There have been no penalties or sanctions imposed against the Company by a court relating to securities legislation or by a securities regulatory authority during the fiscal year ended December 31, 2019, or any other time that would likely be considered important to a reasonable investor making an investment decision in the Company. The Company

has not entered into any settlement agreements with a court relating to securities legislation or with a securities regulatory authority during the fiscal year ended December 31, 2019.

#### INTEREST OF MANAGEMENT AND OTHERS IN MATERIAL TRANSACTIONS

No director or executive officer of the Company or any person or company who or that beneficially owns, or controls or directs, directly or indirectly, more than 10% of the Company's Common Shares (or any associate or affiliate of that person or company) has had any direct or indirect material interest in any transaction involving the Company since January 1, 2017 to the date hereof, or in any proposed transaction which has materially affected or would materially affect the Company or its subsidiaries other than as disclosed herein and as referenced below:

- **January 2017 Financing** - participation by the Arc Funds and CIH (see "*General Development of the Business – Three Year History – Equity Financings*"); and
- **December 2017 Financing** - participation by the Arc Funds and CIH (see "*General Development of the Business – Three Year History – Equity Financings*").

#### TRANSFER AGENT AND REGISTRAR

The Company's transfer agent is TSX Trust Company which is located in Toronto, Ontario.

#### MATERIAL CONTRACTS

Except for contracts entered into by the Company in the ordinary course of business or otherwise disclosed herein, the only material contracts entered into during the financial year ended December 31, 2019, or which remain in effect can reasonably be regarded as presently material are:

- **Governance Agreement**, see "*Glossary*";
- **Director Nomination Agreement**, see "*Glossary*"; and
- **Offtake Agreement**, see "*Description of the Business – Marketing and Distribution*".

#### INTERESTS OF EXPERTS

Porfírio Cabaleiro Rodriguez, Mining Engineer, BSc (Mine Eng), MAIG employed by GE21, Leonardo Apparicio da Silva, Mining Engineer, BSc (Min Eng), MSc (Met Eng), MAIG associated to GE21, and Fabio Valerio Xavier, Geologist, BSc, Geol, MAIG associated to GE21, were the authors of the Technical Report – see "*Description of the Business - Material Project - Maracás Menchen Mine*".

To the knowledge of the Company, none of the aforementioned individuals had an interest in any securities or other properties of the Company, its associates or affiliates as at the date the individual prepared the applicable report or as at the date hereof, and none of the aforementioned individuals holds any other interest in the assets of the Company nor do they expect to receive such an interest.

PricewaterhouseCoopers LLP, Chartered Professional Accountants, are the auditors of the Company and have performed the audit in respect of the audited annual consolidated financial statements of the Company for the years ended December 31, 2019 and December 31, 2018. PricewaterhouseCoopers LLP, Chartered Professional Accountants were independent of the Company in accordance with the applicable rules of professional conduct.

#### ADDITIONAL INFORMATION

Additional information, including directors' and officers' remuneration and indebtedness, principal holders of the Company's securities, and securities authorized for issuance under the Company's stock option plan is contained in the management information circular of the Company dated May 28, 2019.

Additional financial information is provided in the Company's annual consolidated financial statements and management's discussion and analysis for the year ended December 31, 2019. These documents and other information about the Company can be found on SEDAR under the Company's profile at [www.sedar.com](http://www.sedar.com).

## SCHEDULE A GLOSSARY

- “AIF”** means this annual information form.
- “ARC Funds”** means, collectively, Arias Resource Capital Fund LP, Arias Resource Capital Fund II LP, and Arias Resource Capital Fund II (Mexico) LP.
- “Audit Committee”** means the audit committee of the Board.
- “Banks”** means, collectively, Banco Itau BBA S.A., Banco Votorantim S.A. and Banco Bradesco S.A.
- “BNDES”** means the Brazilian Development Bank or Banco Nacional do Desenvolvimento.
- “BNDES Facility”** means the agreement with BNDES for a R\$333 million (approximately US\$166 million equivalent) debt financing facility for the construction and development of the Maracás Menchen Mine.
- “BNDES Facilities”** means, collectively, the (i) debt financing facility, dated as of June 22, 2012, by and between Vanádio and BNDES, as amended, restated, supplemented or otherwise modified from time to time; (ii) the debt facility, dated as of February 29, 2016, by and between the Company and the Consortium, as amended, restated, supplemented or otherwise modified from time to time, (iii) the debt facility, dated as of December 23, 2016, by and between the Company and the Consortium, as amended, restated, supplemented or otherwise modified from time to time, and (iv) the export credit facilities by and among Vanádio, Votorantim S.A. and Banco Itaú BBA S.A.
- “Board”** means the board of directors of the Company.
- “Campbell Pit”** refers to the main vanadium deposit, the Campbell deposit, of the Maracás Menchen Mine.
- “Campo Alegre Project”** means the Campo Alegre de Lourdes iron-titanium-vanadium exploration project in Brazil.
- “CDI”** means certificado de deposito interbancario and is the Brazilian interbank rate. CDI is updated daily and calculated by CETIP and the rate on March 13, 2019 was 6.04%.
- “CIH”** Cranley Investments Holdings LCC.
- “Common Shares”** means the common shares in the capital of the Company.
- “Currais Novos Project”** means the Currais Novos tungsten tailings project in Rio Grande De Norte, Brazil.
- “Director Nomination Agreement”** means the amended and restated director nomination agreement entered into between the Company and ARC Funds in May 2015, as amended and restated March 2016, enabling them to designate (a) a total of three (3) additional persons to be nominated for election to Largo’s Board for election by Largo shareholders for so long as the ARC Funds, whether individually or together, own at least 50% of the issued and outstanding Common Shares, (b) a total of two (2) additional persons to be nominated for election to Largo’s Board for election by Largo shareholders for so long as the ARC Funds, whether individually or together, own less than 50% but not less than 40% of the issued and outstanding Common Shares, and (c) a total of one (1) additional person to be nominated for election to Largo’s Board for election by Largo shareholders, for so long as the ARC Funds, whether individually or together, own less than 40% but not less than 20% of the issued and outstanding Common Shares. These nomination

rights are supplemented the ARC Funds' existing right to nominate one (1) director to the Board under the Governance Agreement.

- “Expansion”** means the Company’s planned expansion of the Maracás Menchen Mine to increase production capacity from the nameplate rate of approximately 800 t/month of V<sub>2</sub>O<sub>5</sub> to 1,000 t/month, being an increase of 25% over nameplate capacity.
- “feasibility study”** is a comprehensive technical and economic study of the selected development option for a mineral project that includes appropriately detailed assessments of applicable Modifying Factors together with any other relevant operational factors and detailed financial analysis that are necessary to demonstrate, at the time of reporting, that extraction is reasonably justified (economically mineable). The results of the study may reasonably serve as the basis for a final decision by a proponent or financial institution to proceed with, or finance, the development of the project. The confidence level of the study will be higher than that of a Pre Feasibility Study.
- “FeV”** means Ferrovandium, an alloy formed by combining iron (Fe) and vanadium (V).
- “Governance Agreement”** means the amended and restated investor nomination rights and governance agreement, made as of the 9<sup>th</sup> day of March, 2012, by the Company and the Lead Investors pursuant to which the Lead Investors are each entitled, among other things, to nominate one director to the Board so long as their holding of Common Shares represents no less than 10% of the issued and outstanding Common Shares.
- “Indicated Mineral Resource”** is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics are estimated with sufficient confidence to allow the application of Modifying Factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit. Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing and is sufficient to assume geological and grade or quality continuity between points of observation. An Indicated Mineral Resource has a lower level of confidence than that applying to a Measured Mineral Resource and may only be converted to a Probable Mineral Reserve.
- “INEMA”** means Instituto do Meio Ambiente e Recursos Hídricos.
- “Inferred Mineral Resource”** is that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity. 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.
- “kg”** means kilogram.
- “km”** means kilometer.
- “kt”** thousand tonnes.
- “Lead Investors”** means ARC Funds, EP Cayman Ltd., Eton Park Master Fund, Ltd. and Ashmore Cayman SPC No. 2 Limited.
- “m”** means meter.
- “Maracás Menchen Mine”** means the Maracás vanadium mine in Bahia State, Brazil, later renamed the Maracás Menchen Mine, which includes the Campbell Pit and the Ford Facility.

<b>“Maracás Project”</b>	means the vanadium deposit property in the municipality of Maracás in eastern Bahia State, Brazil.
<b>“March 2016 Financing”</b>	means the non-brokered private placement offering of an aggregate of 209,392,178 units at a price of \$0.175 per unit for aggregate gross proceeds of approximately \$36.6 million, completed in March 2016. Each unit was comprised of one Common Share and one-half of one Common Share purchase warrant, with each whole warrant entitling the holder thereof to acquire one Common Share at a price of \$0.29 per share for a period of five years from the date of issuance.
<b>“Measured Mineral Resource”</b>	is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation of the economic viability of the deposit. Geological evidence is derived from detailed and reliable exploration, sampling and testing and is sufficient to confirm geological and grade or quality continuity between points of observation. 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.
<b>“Mineral Reserve”</b>	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.
<b>“Mineral Resource”</b>	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.
<b>“Modifying Factors”</b>	are considerations used to convert Mineral Resources to Mineral Reserves. These include, but are not restricted to, mining, processing, metallurgical, infrastructure, economic, marketing, legal, environmental, social and governmental factors.
<b>“NAN”</b>	Novo Amparo Norte.
<b>“Near Mine Targets” or “NMT”</b>	has the meaning given to that term under heading “ <i>Description of Mineral Properties – The Maraçás Menchen Mine</i> ”.
<b>“NI 43-101”</b>	means the Canadian Securities Administrators National Instrument 43-101 – <i>Standards of Disclosure for Mineral Projects</i> .
<b>“Northern Dancer Project”</b>	means the tungsten-molybdenum deposit property in Yukon Territory, Canada.
<b>“October 2016 Financing”</b>	means the non-brokered private placement offering of 11,111,111 units at a price of \$0.45 per unit for aggregate gross proceeds of \$5 million, completed in October 2016. Each unit was comprised of one Common Share and one-half of one Common Share purchase warrant, with each whole warrant entitling the holder thereof to purchase one Common Share at a price of

\$0.65 per share for a period of three years from the date of issuance. The ARC Funds purchased 6,228,232 units and CIH acquired 555,555 units.

<b>“Offtake Agreement”</b>	means the offtake agreement dated May 13, 2008 with Glencore International AG pursuant to which the Company has agreed to sell in U.S. dollars to Glencore, and Glencore agreed to acquire, 100% of the V <sub>2</sub> O <sub>5</sub> production at the Maracás Menchen Mine. The Offtake Agreement will terminate effective April 30, 2020. See <i>“Description of the Business – Marketing and Distribution”</i> .
<b>“PEA”</b>	has the meaning given to that term under heading <i>“Description of Mineral Properties – The Maracás Menchen Mine”</i> .
<b>“Pine Facility”</b>	means a US\$3.85 million short term loan facility entered into on March 2, 2016 with Banco Pine to roll over its then existing credit facility.
<b>“Pre Feasibility Study”</b>	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.
<b>“Probable Mineral Reserve”</b>	is the economically mineable part of an Indicated, and in some circumstances, a Measured Mineral Resource. The confidence in the Modifying Factors applying to a Probable Mineral Reserve is lower than that applying to a Proven Mineral Reserve.
<b>“Proven Mineral Reserve”</b>	is the economically mineable part of a Measured Mineral Resource. A Proven Mineral Reserve implies a high degree of confidence in the Modifying Factors.
<b>“tonnes” or “t”</b>	means metric tonnes, where 1 tonne = 1,000 kg.
<b>“t/a”</b>	means tonnes per annum (year).
<b>“Technical Report”</b>	has the meaning given to that term under heading <i>“Description of Mineral Properties – The Maracás Menchen Mine”</i> .
<b>“TSX”</b>	means the Toronto Stock Exchange.
<b>“V<sub>2</sub>O<sub>5</sub>”</b>	means vanadium pentoxide, the form vanadium is, generally, converted to following extraction.
<b>“Vanádio”</b>	means Vanádio de Maracás S.A., a subsidiary of the Company.
<b>“Vanádio’s Pine Facility”</b>	means an up to R\$80 million credit facility entered into on March 2, 2016 between Vanádio and Banco Pine, which facility was ultimately repaid in December 2017 pursuant to the Banco Pine Debt Settlement.
<b>“vanadium”</b>	vanadium is a naturally occurring chemical element with the symbol “V” and atomic number 23. It is a hard, silvery-grey, ductile, malleable transition metal.
<b>“VPURE Flakes”</b>	V <sub>2</sub> O <sub>5</sub> flakes, have a guaranteed vanadium content of 98.5% and typical vanadium content of 99.0%.

**“VPURE+ Flakes”** high purity  $V_2O_5$  flakes, have a guaranteed vanadium content of 99.0% and a typical vanadium content of 99.9%.

**“VPURE+ Powder”**  $V_2O_5$  powder, has a guaranteed vanadium content of 99.0% and a typical vanadium content of 99.9%.

**References to various elements, where not defined above, have the meaning given to them in the periodic table which is available in the public domain.**

**SCHEDULE B  
AUDIT CHARTER**

**CHARTER OF THE AUDIT COMMITTEE OF THE BOARD OF DIRECTORS**

**Largo Resources Ltd.**

**Audit Committee Charter**

This charter (the "**Charter**") sets forth the purpose, composition, responsibilities, duties, powers and authority of the Audit Committee (the "**Committee**") of the Board of Directors (the "**Board**") of Largo Resources Ltd. ("**Largo**").

**1. PURPOSE**

1.1 The purpose of the Committee is to assist the Board in fulfilling its oversight responsibilities with respect to:

- financial reporting and disclosure requirements;
- ensuring that an effective risk management and financial control framework has been implemented and tested by management of Largo; and
- external and internal audit processes.

**2. COMPOSITION AND MEMBERSHIP**

2.1 The Board will appoint the members ("**Members**") of the Committee after the annual general meeting of shareholders of Largo. The Members will be appointed to hold office until the next annual general meeting of shareholders of Largo or until their successors are appointed. The Board may remove a Member at any time and may fill any vacancy occurring on the Committee. A Member may resign at any time and a Member will cease to be a Member upon ceasing to be a director.

2.2 The Committee will consist of at least three directors, all of who meet the criteria for financial literacy and who meet the criteria for independence established by applicable laws and the rules of the stock exchange upon which Largo's securities are listed, including Multilateral Instrument 52-110 - *Audit Committees*. In addition, each director will be free of any relationship which could, in the view of the Board, reasonably interfere with the exercise of a member's independent judgment.

2.3 The Board will appoint one of the Members to act as the Chairperson of the Committee. The secretary of Largo (the "**Corporate Secretary**") will be the secretary of all meetings and will maintain minutes of all meetings and deliberations of the Committee. In the absence of the Corporate Secretary at any meeting, the Committee will appoint another person who may, but need not, be a Member to be the secretary of that meeting.

**3. MEETINGS**

3.1 Meetings of the Committee will be held at such times and places as the Chairperson may determine, but in any event not less than four (4) times per year. Twenty-four (24) hours advance notice of each meeting will be given to each Member orally, by telephone, by facsimile or email, unless all Members are present and waive notice, or if those absent waive notice before or after a meeting. Members may attend all meetings either in person or by conference call.

3.2 At the request of the external auditors of Largo, the Chief Executive Officer or the Chief Financial Officer of Largo or any member of the Committee, the Chairperson will convene a meeting of the Committee. Any such request will set out in reasonable detail the business proposed to be conducted at the meeting so requested.

- 3.3 The Chairperson, if present, will act as the Chairperson of meetings of the Committee. If the Chairperson is not present at a meeting of the Committee, then the Members present may select one of their number to act as Chairperson of the meeting.
- 3.4 Two Members will constitute a quorum for a meeting of the Committee. Each Member will have one vote and decisions of the Committee will be made by an affirmative vote of the majority. The Chairperson will not have a deciding or casting vote in the case of an equality of votes. Powers of the Committee may also be exercised by written resolution signed by all Members.
- 3.5 The Committee may invite from time to time such persons as it sees fit to attend its meetings and to take part in the discussion and consideration of the affairs of the Committee. The Committee will meet in camera without management at each meeting of the Committee.
- 3.6 In advance of every regular meeting of the Committee, the Chairperson, with the assistance of the Corporate Secretary, will prepare and distribute to the Members and others, as deemed appropriate by the Chairperson, an agenda of matters to be addressed at the meeting together with appropriate briefing materials. The Committee may require officers and employees of Largo to produce such information and reports as the Committee may deem appropriate in order to fulfill its duties.

#### **4. DUTIES AND RESPONSIBILITIES**

- 4.1 The duties and responsibilities of the Committee as they relate to the following matters are to:

##### **Financial Reporting and Disclosure**

- 4.2 Review and recommend to the Board for approval, the audited annual financial statements, including the auditors' report thereon, the quarterly financial statements, management discussion and analysis, financial reports, guidance with respect to earnings per share, and any public release of financial information through press release or otherwise, with such documents to indicate whether such information has been reviewed by the Board or the Committee;
- 4.3 Review and recommend to the Board for approval, where appropriate, financial information contained in any prospectus, annual information form, annual report to shareholders, management proxy circular, material change disclosure of a financial nature, and similar disclosure documents;
- 4.4 Review with management of Largo and with external auditors significant accounting principles and disclosure issues and alternative treatments under International Financial Reporting Standards ("**IFRS**"), all with a view to gaining reasonable assurance that financial statements are accurate, complete and present fairly Largo's financial position and the results of its operations in accordance with IFRS, as applicable.
- 4.5 Annually review Largo's corporate disclosure policy and recommend any proposed changes to the Board for consideration.
- 4.6 Review the minutes from each meeting of the disclosure committee, established pursuant to Largo's corporate disclosure policy, since the last meeting of the Committee.
- 4.7 Review and assess the adequacy and effectiveness of Largo's system of internal control and management information systems through discussions with management and the external auditor to ensure that Largo maintains:
  - a) (the necessary books, records and accounts in sufficient detail to accurately and fairly reflect Largo's transactions;
  - b) effective internal control systems; and
  - c) adequate processes for assessing the risk of material misstatement of the financial statements and for detecting control weaknesses or fraud. From time to time the Committee will assess whether a formal

internal audit department is necessary or desirable having regard to the size and stage of development of Largo at any particular time.

- 4.8 Satisfy itself that management has established adequate procedures for the review of Largo's disclosure of financial information extracted or derived from Largo's financial statements.
- 4.9 Satisfy itself that management has periodically assessed the adequacy of internal controls, systems and procedures in order to ensure compliance with regulatory requirements and recommendations.
- 4.10 Review and discuss Largo's major financial risk exposures and the steps taken to monitor and control such exposures, including the use of any financial derivatives and hedging activities.
- 4.11 Review and assess, and in the Committee's discretion make recommendations to the Board regarding, the adequacy of Largo's risk management policies and procedures with regard to identification of Largo's principal risks and implementation of appropriate systems to manage such risks, including an assessment of the adequacy of insurance coverage maintained by Largo.
- 4.12 Review and assess annually, and in the Committee's discretion make recommendations to the Board regarding Largo's investment policy.

#### **External Audit**

- 4.13 Recommend to the Board a firm of external auditors to be engaged by Largo.
- 4.14 Ensure the external auditors report directly to the Committee on a regular basis.
- 4.15 Review the independence of the external auditors, including a written report from the external auditors respecting their independence and consideration of applicable auditor independence standards.
- 4.16 Review and approve the fee, scope and timing of the audit and other related services rendered by the external auditors.
- 4.17 Review the audit plan of the external auditors prior to the commencement of the audit.
- 4.18 Establish and maintain a direct line of communication with Largo's external and internal auditors.
- 4.19 Meet in camera with only the auditors, with only management, and with only the members of the Committee.
- 4.20 Review the performance of the external auditors who are accountable to the Committee and the Board as representatives of the shareholders, including the lead partner of the independent auditor's team.
- 4.21 Oversee the work of the external auditors appointed by the shareholders of Largo with respect to preparing and issuing an audit report or performing other audit, review or attest services for Largo, including the resolution of issues between management of Largo and the external auditors regarding financial disclosure.
- 4.22 Review the results of the external audit and the report thereon including, without limitation, a discussion with the external auditors as to the quality of accounting principles used, any alternative treatments of financial information that have been discussed with management of Largo, and the ramifications of their use as well as any other material changes. Review a report describing all material written communication between management and the auditors such as management letters and schedule of unadjusted differences.
- 4.23 Discuss with the external auditors their perception of Largo's financial and accounting personnel, records and systems, the cooperation which the external auditors received during their course of their review, and availability of records, data and other requested information and any recommendations with respect thereto.
- 4.24 Review the reasons for any proposed change in the external auditors which is not initiated by the Committee or Board and any other significant issues related to the change, including the response of the incumbent

auditors, and enquire as to the qualifications of the proposed auditors before making its recommendations to the Board.

- 4.25 Review annually a report from the external auditors in respect of their internal quality-control procedures, any material issues raised by the most recent internal quality-control review, or peer review of the external auditors, or by any inquiry or investigation by governmental or professional authorities, within the preceding five years, respecting one or more independent audits carried out by the external auditors, and any steps taken to deal with any such issues.

#### **Associated Responsibilities**

- 4.26 Monitor and periodically review the whistleblower policy and associated procedures for:
- a) the receipt, retention and treatment of complaints received by Largo regarding accounting, internal accounting controls or auditing matters;
  - b) the confidential, anonymous submission by directors, officers and employees of Largo of concerns regarding questionable accounting or auditing matters; and
  - c) any violations of any applicable law, rule or regulation that relates to corporate reporting and disclosure, or violations of Largo's Code of Business Conduct & Ethics or governance policies.
- 4.27 Review and approve Largo's hiring policies regarding employees and partners, and former employees and partners, of the present and former external auditor of Largo.

#### **Non-Audit Services**

- 4.26 Pre-approve all non-audit services to be provided to Largo or any subsidiary entities by its external auditors or by the external auditors of such subsidiary entities. The Committee may delegate to one or more of its members the authority to pre-approve non-audit services but pre-approval by such member or members so delegated shall be presented to the full audit committee at its first scheduled meeting following such pre-approval.

#### **Oversight Function**

- 4.27 While the Committee has the responsibilities and powers set forth in this Charter, it is not the duty of the Committee to plan or conduct audits or to determine that Largo's financial statements are complete and accurate or are in accordance with IFRS and applicable rules and regulations. These are the responsibilities of Management and the external auditors. The Committee, the Chairperson and any Members identified as having accounting or related financial expertise are members of the Board, appointed to the Committee to provide broad oversight of the financial, risk and control related activities of Largo, and are specifically not accountable or responsible for the day to day operation or performance of such activities. Although the designation of a Member as having accounting or related financial expertise for disclosure purposes is based on that individual's education and experience, which that individual will bring to bear in carrying out his or her duties on the Committee, such designation does not impose on such person any duties, obligations or liability that are greater than the duties, obligations and liability imposed on such person as a member of the Committee and Board in the absence of such designation. Rather, the role of a Member who is identified as having accounting or related financial expertise, like the role of all Members, is to oversee the process, not to certify or guarantee the internal or external audit of Largo's financial information or public disclosure.

### **5. REPORTING**

- 5.1 The Chairperson will report to the Board at each Board meeting on the Committee's activities since the last Board meeting. The Committee will annually review and approve the Committee's report for inclusion in the management proxy circular. The Corporate Secretary will circulate the minutes of each meeting of the Committee to the members of the Board.

**6. ACCESS TO INFORMATION AND AUTHORITY**

- 6.1 The Committee will be granted unrestricted access to all information regarding Largo and all directors, officers and employees will be directed to cooperate as requested by members of the Committee. The Committee has the authority to retain, at Largo's expense, independent legal, financial and other advisors, consultants and experts, to assist the Committee in fulfilling its duties and responsibilities. The Committee also has the authority to communicate directly with internal and external auditors.

**7. REVIEW OF CHARTER**

- 7.1 The Committee will annually review and assess the adequacy of this Charter and recommend any proposed changes to the Board for consideration.