As filed with the Securities and Exchange Commission on March 17, 2022.

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form 20-F

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended: December 31, 2021
Commission file number: 001-38256

NEXA RESOURCES S.A.
(Exact name of Registrant as specified in its charter)

Grand Duchy of Luxembourg
(Jurisdiction of incorporation or organization)

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Grand Duchy of Luxembourg
(Address of principal registered office)

Securities registered or to be registered pursuant to Section 12(b) of the Act:

Title of Each Class	Trading Symbol	Name of Each Exchange on Which Registered
Common shares, each with par value of US$1.00	NEXA	New York Stock Exchange

Securities registered or to be registered pursuant to Section 12(g) of the Act: None
Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act: None
The number of outstanding shares of each class of stock of Nexa Resources S.A. as of December 31, 2021 was:
132,438,611 common shares, each with par value of US$1.00

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

Yes ☐ No ☑

If this report is an annual or transition report, indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934.

Yes ☐ No ☑

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports) and (2) has been subject to such filing requirements for the past 90 days.

Yes ☑ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files).

Yes ☑ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer or an emerging growth company. See definition of “accelerated filer,” “large accelerated filer” and “emerging growth company” in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer ☐ Accelerated filer ☑ Non-accelerated filer ☐ Emerging growth company ☐

If an emerging growth company that prepares its financial statements in accordance with U.S. GAAP, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards† provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☑

Indicate by check mark which basis of accounting the registrant has used to prepare the financial statements included in this filing:

U.S. GAAP ☐	International Financial Reporting Standards as issued by the International Accounting Standards Board ☑	Other ☐

If "Other" has been checked in response to the previous question, indicate by check mark which financial statement item the registrant has elected to follow.

Item 17 ☐ Item 18 ☐

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes ☐ No ☑

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FORWARD-LOOKING STATEMENTS

This annual report includes statements that constitute estimates and forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or Securities Act, and Section 21E of the Securities Exchange Act, as amended, or Exchange Act. The words "believe," "will," "may," "may have," "would," "estimate," "continues," "anticipates," "intends," "plans," "expects," "budget," "scheduled," "forecasts" and similar words are intended to identify estimates and forward-looking statements. Estimates and forward-looking statements refer only to the date when they were made, and we do not undertake any obligation to update or revise any estimate or forward-looking statement due to new information, future events or otherwise, except as required by law. Estimates and forward-looking statements involve risks and uncertainties and do not guarantee future performance, as actual results or developments may be substantially different from the expectations described in the forward-looking statements.

These statements appear in a number of places in this report and include statements regarding our intent, belief or current expectations, and those of our officers and employees, with respect to, among other things: (i) our future financial or operating performance; (ii) our growth strategy; (iii) future trends that may affect our business and results of operations; (iv) the impact of competition and applicable laws and regulations on our results; (v) planned capital investments; (vi) future of zinc or other metal prices; (vii) estimation of mineral reserves; (viii) mine life; and (ix) our financial liquidity.

Forward-looking statements are not guarantees of future performance and involve risks and uncertainties. Actual results and developments may be substantially different from the expectations described in the forward-looking statements for several reasons, many of which are not under our control, among them the activities of our competition, the future global economic situation, weather conditions, market prices and conditions, exchange rates, and operational and financial risks. The unexpected occurrence of one or more of the abovementioned events may significantly change the results of our operations on which we have based our estimates and forward-looking statements. Our estimates and forward-looking statements may be influenced by the following factors, including, among others:

- the cyclical and volatile prices of commodities;
- the changes in the expected level of supply and demand for commodities;
- foreign exchange rates and inflation;
- the risks and uncertainties relating to economic and political conditions in the countries in which we operate;
- changes in global market conditions;
- outbreaks of contagious diseases or health crises impacting overall economic activity regionally or globally, including the duration and scope of, and uncertainties associated with, the coronavirus and its variants ("COVID-19") pandemic and the continued impact thereof on commodity prices, our business and the global economy and any related actions taken by government and businesses in response to the COVID-19 pandemic, as well as our ability to contain and mitigate the risk of spread or major outbreak of COVID-19 at our operating sites;
- increasing demand and evolving expectations from stakeholders with respect to our environmental, social and governance ("ESG") practices, performance and disclosures;
- the impact of climate change on our operations, workforce and value chain;
- environmental, safety and engineering challenges and risks inherent to mining;
- the ability to meet energy requirements while complying with greenhouse gas emissions regulations and other energy transition policy changes and laws in the countries in which we operate;

- severe natural disasters, such as, storms and earthquakes, disrupting our operations;
- operational risks, such as operator errors, mechanical failures and other accidents;
- the availability of materials, supplies, insurance coverage, equipment, required permits or approvals and financing;
- supply-chain and logistic related interruptions, including impacts to international freight and transportation networks;
- the implementation of our growth strategy, the availability of capital and the risks associated with related capital expenditures;
- failure to obtain financial assurance to meet closure and remediation obligations;
- the possible material differences between our estimates of Mineral Reserves and Mineral Resources and the mineral quantities we actually recover;
- the possibility that our concessions may be terminated or not renewed by governmental authorities in the countries in which we operate;
- the impact of political and government changes in the countries in which we operate, and the effects of potential new legislation and changes in taxation;
- labor disputes or disagreements with local communities in the countries in which we operate;
- loss of reputation due to unanticipated operational failures or significant occupational incidents;
- failure or outage of our digital infrastructure or information and operating technology systems;
- cyber events or attacks (including ransomware, state-sponsored and other cyberattacks) due to negligence or IT security failures;
- the future impact of competition and changes in domestic and international governmental and regulatory policies that apply to our operations; and
- other factors discussed under "Risk Factors."

Considering the risks and uncertainties described above, the events referred to in the estimates and forward-looking statements included in this report may or may not occur, and our business performance and results of operation may differ materially from those expressed in our estimates and forward-looking statements, due to factors that include but are not limited to those mentioned above.

These forward-looking statements are made as of the date of this annual report, and we assume no obligation to update them or revise them to reflect new events or circumstances. There can be no assurance that the forward-looking statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements.

ABOUT THE COMPANY

We are a large-scale, low-cost, integrated zinc producer with over 60 years of experience developing and operating mining and smelting assets in Latin America. We currently own and operate five long-life underground polymetallic mines—three located in the Central Andes of Peru and two located in the state of Minas Gerais in Brazil—and we expect to complete construction at the Aripuanã Project, our sixth underground mine in Mato Grosso, Brazil, and ramp up is scheduled for the third quarter of 2022.

Nexa Resources S.A. is a public limited liability company (*société anonyme*) incorporated under the laws of Luxembourg on February 26, 2014. Our registered office is located at 37A, Avenue J.F. Kennedy, L-1855, Luxembourg, Grand Duchy of Luxembourg, and we are registered with the Luxembourg Trade and Companies Register under number B185489. Our telephone number at this address is +352 28 26 37 27. Our main office outside of Luxembourg is located at Avenida Engenheiro Luís Carlos Berrini, n° 105, 6th floor, São Paulo, State of São Paulo, Brazil. Our website is www.nexaresources.com. None of the information available on our website is incorporated in this annual report and it should not be relied upon in deciding to invest in our common shares.

PRESENTATION OF FINANCIAL AND OTHER INFORMATION

Certain definitions

Unless otherwise indicated or the context otherwise requires, the terms below are defined in the following manner.

- “Nexa,” “we,” “us” and “our” or similar terms refer to Nexa Resources and, unless the context otherwise requires, its consolidated subsidiaries;
- “Nexa Resources” refers to Nexa Resources S.A., a Luxembourg public limited liability company (*société anonyme*);
- “Nexa CJM” refers to our subsidiary Nexa Resources Cajamarquilla S.A. (previously known as Votorantim Metais—Cajamarquilla S.A.), a corporation organized as a *sociedad anónima* under the laws of Peru;
- “Nexa Brazil” refers to our subsidiary Nexa Recursos Minerais S.A. (previously known as Votorantim Metais Zinco S.A.), a corporation organized as a *sociedade anônima* under the laws of Brazil;
- “Nexa Peru” refers to our subsidiary Nexa Resources Peru S.A.A. (previously known as Compañía Minera Milpo S.A.A.), a corporation organized as a *sociedad anónima abierta* under the laws of Peru and publicly traded on the Lima Stock Exchange;
- “Enercan” refers to our subsidiary Campos Novos Energia S.A., a corporation organized as a *sociedade anônima* under the laws of Brazil;
- “VSA” refers to our controlling shareholder Votorantim S.A., a corporation organized as a *sociedade anônima* under the laws of Brazil;
- the “Votorantim Group” refers to our controlling shareholder VSA and, unless the context otherwise requires, its consolidated subsidiaries;
- the “*real,*” “*reais*” or “R$” refers to the Brazilian *real*, the official currency of Brazil;
- “*sol*,” “*soles*” or “S/.” refers to the Peruvian *sol*, the official currency of Peru; and

In addition, the meaning of other defined terms used in this report are set out in “Glossary.”

Financial information

Our consolidated financial statements as of December 31, 2021 and 2020 and for each of the three years ended December 31, 2021 are included in this annual report. Our consolidated financial statements are prepared in accordance with International Financial Reporting Standards (“IFRS”) as issued by the International Accounting Standards Board (“IASB”). References in this report to “our consolidated financial statements” are to our consolidated financial statements as of December 31, 2021 and 2020 and for each of the three years ended December 31, 2021, and the related notes thereto included elsewhere in this report.

The financial information presented in this report should be read in conjunction with our consolidated financial statements, including the related notes, and the section of this report titled “Operating and financial review and prospects.”

The main consolidated companies included in our consolidated financial statements are:

- ***Nexa CJM*** – a Peruvian company that is 99.997% directly and indirectly owned by Nexa Resources and is mainly engaged in smelting zinc contained in concentrate. Nexa CJM’s functional currency is the U.S. dollar.
- ***Nexa Peru*** – a Peruvian company that is 83.554% directly and indirectly owned by Nexa Resources and is mainly engaged in exploring, extracting, producing and trading zinc, copper and lead concentrates, extracted from its own three mining sites. Nexa Peru’s functional currency is the U.S. dollar. Nexa Peru is a public company with its shares listed on the Lima Stock Exchange.

- ***Nexa Brazil*** – a Brazilian company that is 100% owned by Nexa Resources and is mainly engaged in exploring, extracting and producing zinc, copper and lead concentrates, and smelting zinc contained in concentrate with operations in the state of Minas Gerais. Nexa Brazil's functional currency is the *real*.

Non-IFRS measures

Our management uses non-IFRS measures such as Adjusted EBITDA and cash cost, among other measures, for internal planning and performance measurement purposes. We believe these measures provide useful information about the financial performance of our operations that facilitates period-to-period comparisons on a consistent basis. Management uses Adjusted EBITDA internally to evaluate our underlying operating performance for the reporting periods presented and to assist with the planning and forecasting of future operating results. Management believes that Adjusted EBITDA is a useful measure of our performance because it reflects our cash generation potential from our operational activities excluding impairment of non-current assets and other miscellaneous adjustments, if any, for the period. These measures should not be considered individually or as a substitute for net income or operating income, as indicators of operating performance, or as alternatives to cash flow as measures of liquidity. Additionally, our calculation of Adjusted EBITDA and other non-IFRS measures may be different from the calculation used by other companies, including our competitors in the mining industry, so our measures may not be comparable to those of other companies. See "Results of Operations" for a discussion of our use of non-IFRS measures in this report, including the reasons why we believe this information is useful to management and to investors, and a reconciliation to the comparable IFRS measures.

All forward-looking non-IFRS financial measures in this document, including cash cost guidance, are provided only on a non-IFRS basis. This is due to the inherent difficulty of forecasting the timing or number of items that would be included in the most directly comparable forward-looking IFRS financial measures. As a result, reconciliation of the forward-looking non-IFRS financial measures to IFRS financial measures is not available without unreasonable effort and we are unable to assess the probable significance of the unavailable information.

Country, market and industry information

This report contains and refers to information and statistics regarding the countries in which we operate and the markets for the metals we produce. This data is obtained from independent public sources, including publications and materials from participants in the industry, such as Wood Mackenzie and from governmental entities such as the Brazilian Central Bank, Bloomberg Finance L.P., London Metal Exchange ("LME"), London Bullion Market Association ("LBMA"), Brazilian Ministry of Treasury (*Ministério da Fazenda*), Brazilian Ministry of Mines and Energy (*Ministério de Minas e Energia,* or "MME"), National Mining Agency (*Agência Nacional de Mineração*, or "ANM"), Brazilian Institute of Geography and Statistics (*Instituto Brasileiro de Geografia e Estatística*, or "IBGE"), the Getulio Vargas Foundation (*Fundação Getúlio Vargas,* or "FGV"), the Peruvian Stock Market Superintendency (*Superintendencia del Mercado de Valores*), the Peruvian Central Bank, the Peruvian Ministry of Economy and Finance (*Ministerio de Economía y Finanzas*) and the Peruvian National Institute of Statistics and Informatics (*Instituto Nacional de Estadística e Informática*). Some data is also based on our estimates, which are derived from our review of internal reports, as well as independent sources.

Volume information

All tonnage information in this report is expressed in metric tonnes, unless stated otherwise, and all references to ounces are to troy ounces, in each case, unless otherwise specified.

RISK FACTORS

Nexa and its operations are exposed to several inherent risks and uncertainties, including those described below.

Business risks

Our business is highly dependent on the international market prices of the metals we produce, which are both cyclical and volatile.

Our business and financial performance is significantly affected by the market prices of the metals we produce, particularly the market prices of zinc, copper, silver, lead and, to a lesser extent, gold. Historically, prices of such metals have been subject to wide fluctuations and are affected by numerous factors beyond our control, including international economic and political conditions, the cyclicality of consumption, actual or perceived changes in levels of supply and demand, the availability and costs of substitutes, inventory levels maintained by users, actions of participants in the commodities markets and currency exchange rates. We cannot predict whether, and to what extent, metal prices will rise or fall in the future.

The COVID-19 pandemic has had a material impact on the global economy. In 2021, demand and international market prices in the metals we produce rebounded from the low levels reached in the first half of 2020, as progress has been made in containing the COVID-19 pandemic. The emergence of new variants of COVID-19 and further outbreaks of the pandemic, however, continue to affect global macroeconomic conditions, contributing to increased volatility in metal prices and demand for our products.

The recent invasion of Ukraine by Russia, the resulting conflict, and retaliatory measures by the global community have created global security concerns, including the possibility of expanded regional or global conflict, which have had, and are likely to continue to have, adverse impacts around the globe. Potential ramifications include disruption of the supply chain, which may impact production, investment, and demand and prices for our products, higher and more volatile prices for oil and gas, volatility in commodity prices, and disruption of global financial markets, further exacerbating overall macroeconomic trends including inflation and rising interest rates. However, as of the date of this report, we cannot predict the impact that this conflict will have on our business and operations. We continue to monitor developments related to this conflict as of the day of this report.

Future declines in metal prices, whether related to the ongoing impact of the COVID-19 pandemic or otherwise, and especially with respect to zinc, copper, silver and lead prices, could have an adverse impact on our results of operations and financial position, and we might consider curtailing or modifying certain operations or not proceeding with our sustaining and/or growth strategy. In addition, we may not be able to adjust production volume in a timely or cost-efficient manner in response to changes in metal prices. Lower utilization of capacity during periods of weak prices may expose us to higher unit production costs since a significant portion of our cost structure is fixed in the short-term due to the high capital intensity of mining operations. Conversely, during periods of high prices, our ability to rapidly increase production capacity may be limited, which could prevent us from selling more products. Moreover, we may be unable to complete expansions and greenfield projects in time to take advantage of rising prices for zinc, copper, lead or other products.

Changes in the demand for the metals we produce, including as a result of the cyclicality of global economic activity, could adversely affect our sales volume and revenues.

Our revenues depend on the volume of metals we sell (and, to a lesser extent, the volume of metals produced by others that are smelted in our facilities), which in turn depend on the level of industrial and consumer demand for these metals. An increase in the production of zinc, copper, silver and lead worldwide, along with a reduction in demand for these metals due to changes in technology, industrial processes or consumer habits, including increased demand for substitute materials, economic slow-downs or other factors, may have the potential to impact these metal prices. The impact of price decreases may also compromise the profitability of smelters, as we might consider reducing the volume of metals we sell and therefore materially adversely impact our operational results and financial position. Even if our volumes are not affected by reduced prices, this decrease can impact our revenues.

The mining industry has historically been highly volatile largely due to the cyclical nature of industrial production, which affects the demand for minerals and metals. Demand for minerals and metals thus generally correlates to macroeconomic fluctuations in the global economy. Changes in the demand for the metals we produce could adversely affect our sales volume and revenues.

Adverse economic developments in China could have a negative impact on our revenues, cash flow and profitability.

China has been the main source of global demand for commodities over the last few years. According to Wood Mackenzie, in 2021, Chinese demand represented 50% of global demand for zinc and 52% of global demand for copper. Any slowdown in China's economic growth that is not offset by increased demand or reduced supply from other regions could have an adverse effect on demand for our products or commodity prices and result in lower revenues, cash flow and profitability.

The mining industry is highly competitive.

We face competition from other mining, processing, trading and industrial companies in Brazil, Peru and around the world. Competition principally involves the following factors: sales, supply and labor prices; contractual terms and conditions; attracting and retaining qualified personnel; and securing the services, supplies and technologies we need for our operations. Slower development in technology and innovation could impact costs, productivity and competitiveness. In addition, mines have limited lives and, as a result, we must seek to replace and expand our mineral reserves by acquiring new properties. Significant competition exists to acquire mining concessions, land and related assets. We cannot assure shareholders that competition will not adversely affect us in the future.

The international trade environment faces increasing uncertainty. Potential changes to international trade regulations and agreements, as well as other political and economic arrangements (including direct or indirect subsidies), may benefit competitors operating in countries other than where our mining operations are currently located. These changes could also adversely affect the prices we pay for the supplies we need and our export costs when we engage in international transactions. We cannot assure shareholders that we will be able to compete based on price or other factors with companies that in the future may benefit from favorable regulations, lower cost of capital, trading or other arrangements or that we will be able to maintain the cost of the supplies that we require as well as our export costs.

Operational risks

The mining business is subject to inherent risks, some of which are not insurable.

The business of mining zinc, copper, silver, lead and other minerals is generally subject to numerous risks and hazards. Hazards associated with underground mining operations include underground fires and explosions, including those caused by flammable gas, gas and coal outbursts, cave-ins or falls of ground, rock falls, openings collapse, lack of oxygen, air pollution, tailings dam failures or other discharges of tailings, hazardous substances and materials, gases and toxic chemicals, water ingress and flooding, sinkhole formation, ground subsidence, and other accidents and conditions resulting from underground mining activities, such as drilling, blasting, removing and processing material. In addition, we may encounter geotechnical challenges as we continue with and expand our mining activities, including the possibility of failure of underground openings. For example, see "Mining Operations—Vazante—Operations and infrastructure." We could incur additional expenses in connection with preventive and remediating measures related to underground openings, which could materially adversely affect results of our operations and financial position.

Such occurrences could result in damage to, or destruction of, our properties or production facilities, third-party property, human exposure to pollution, personal injury or death, environmental and natural resource damage or contamination, delays in mining, monetary losses and legal liability. In addition, any such occurrences could adversely affect our reputation. Damages to our reputation could result in additional environmental and health and safety legal oversight, and authorities could impose more stringent conditions in connection with the licensing process of our projects and operations. In addition, our customers may be less willing to buy metals from us if we have been subject to significant adverse publicity. We maintain insurance typical in the mining industry, and in amounts that we believe to be adequate, but which may not provide complete coverage in certain circumstances. Insurance against certain risks (including certain liabilities for environmental contamination, tailings dam failures and other hazards as a result of exploration and production) may not be generally available or is uneconomical to afford. We could also incur additional expenses due to failures in our industrial drainage system or other environmental control equipment. Any such failures could also have adverse impacts on the environment, which could lead to adverse climate changes and further impact our reputation if we are found to contribute, or there is a perception that we have contributed, to adverse environmental impacts in the areas in which we operate.

We may be materially adversely affected by challenges relating to slope and stability of underground openings.

Our underground mines get deeper, and our waste and tailings deposits increase in size as we continue with and expand our mining activities. This presents certain geotechnical challenges, including the possibility of failure of underground openings. If we are required to reinforce such openings or take additional actions to prevent such a failure, we could incur additional costs and expenses, and our operations and stated mineral reserves could be negatively affected. We have taken actions we consider appropriate to maintain the stability of underground openings, but additional actions may be required in the future. Unexpected failures or additional requirements to prevent such failures may materially adversely affect our costs and expose us to health, safety and other liabilities in the event of an accident, as well as adversely impact our reputation. These developments may in turn materially adversely affect the results of our operations and financial position, as well as potentially diminish our stated mineral reserves.

Our projects are subject to operational risks that may result in increased costs or delays that prevent their successful implementation.

We invest in sustaining and increasing our mine and metal production capacity and developing new operations. Our projects are subject to several risks that may materially adversely affect our growth prospects and profitability, including the following:

- we may encounter delays or higher than expected costs in completing technical and engineering studies and obtaining the necessary equipment, machinery, materials, supplies, labor or services, in project execution by third-party contractors and in implementing new technologies to develop and operate a project;
- we may experience delays in commencing the operations of a new project or the expansion of an existing operation;
- our efforts to develop projects according to schedule may be hampered by a lack of infrastructure, including a reliable power supply;
- we may fail to obtain, or experience delays or higher than expected costs in obtaining, the required agreements, authorizations, licenses, approvals and permits to develop a project, including the prior consultation procedure and agreements with local communities;
- changes in market conditions or regulations may make a project less profitable than expected at the time we initiated work on it;
- accidents, natural disasters, labor disputes, equipment failures, water shortages, logistical issues, interruption of energy supply and increase in energy costs;
- adverse mining conditions may delay and hamper our ability to produce the expected quantities and qualities of minerals upon which the project was budgeted;
- mineral reserves and resources are estimates based on the interpretation of limited sampling data and test work that may not be representative of the deposits as a whole, or the technical and economic assumptions used in the estimates may prove to be materially different when the deposits are mined, that could result in materially different economic outcomes; and

- conflicts with local communities and/or strikes or other labor disputes may delay the implementation or the development of projects.

We may be adversely affected by the failure or unavailability of adequate infrastructure and skilled labor.

Our mining, smelting, processing, development and exploration activities depend to a large degree on adequate infrastructure. The regions where certain of our current operations, projects and prospects are located are sparsely populated and difficult to access. We require reliable roads, bridges, power sources and water supplies to access and properly conduct our operations. As a result, the availability and cost of this infrastructure affects capital and operating costs and our ability to maintain expected levels of production and sales. We could also experience an increase in transit-related accidents due to the need to transport employees to remote areas. Unusual weather, such as excessive rains and flooding, or other natural phenomena, sabotage, government or external interference (including protest activities from local communities that may lead to temporary suspensions of our projects) in the maintenance or provision of such infrastructure could impact the development of a project, reduce mining volumes, increase mining or exploration costs or delay the transportation of raw materials to the mines and projects or concentrates to the customers. See "Risk factors—Health, safety and environmental risks—Natural disasters and climate change could affect our business."

In addition, the mining industry is labor intensive, and our success depends to a significant extent on our ability and our contractors' ability to attract, hire, train and retain qualified employees, including our ability and our contractors' ability to attract employees with the necessary skills in the regions in which we operate. We could experience increases in our recruiting and training costs and decreases in our operating efficiency, productivity and profit margins if we are unable to attract, hire and retain a sufficient number of skilled employees to support our operations.

The failure of a tailings dam could negatively impact our business, reputation and results of operations, and the implementation of associated regulations and decommissioning processes may be expensive.

Mining companies face inherent risks in their operations of tailings dams—structures built for the containment of the mining waste, known as tailings—that exposes us to certain risks. Our tailings dams include, in some cases, materials that could increase the hazard potential in the event of unexpected failure. If any such risks were to occur, this could lead to negative environmental effects and materially adversely affect our reputation and our ability to conduct our operations and could make us subject to liability and, as a result, have a material adverse effect on our business, financial position and results of operations.

In addition, the changes in regulation that occurred as a result of recent dam failures, like those that have occurred in Brazil, could increase the time and costs to build, operate, inspect, maintain and decommission tailings dams, obtain new licenses or renew existing licenses to build or expand tailings dams, or require the use of new technologies. New laws in Brazil include a requirement for obtaining an environmental license for new dams or for the raising of existing dams. As part of the process, companies must present a proposal for an environmental bond with the purpose of guaranteeing the socio-environmental recovery in the event of an accident or the deactivation of the dam. New regulations, such as those enacted in Brazil during 2020, may also impose more restrictive requirements that may exceed our current standards, including mandated compliance with emergency plans and increased insurance requirements and premiums, or require us to pay additional fees or royalties to operate tailings dams. We may also be required to facilitate the relocation of communities and facilities impacted by tailings dam failures. Moreover, insurance coverage for damages resulting from tailings dams' failure may not be available. For more information see "Information on the Company—Mining operations—Tailings disposal."

A disruption in zinc concentrate supply could have a material adverse effect on our production levels and financial results.

A portion of the zinc concentrate used by our smelters is obtained from third parties, and we may be adversely affected if we are not able to source adequate supplies of zinc for such operations. In 2021, 47.1% of the zinc concentrate used by our smelters was obtained from third parties, with the remainder supplied by our own mining operations. The availability and price of zinc concentrate used by our smelters may be negatively affected by several factors largely beyond our control, including interruptions in production in our mines or by our suppliers, decisions by suppliers to allocate supplies of concentrate to other purchasers, price fluctuations and increasing transport cost.

In addition, the efficiency of a smelter's production over time is affected by the mix of the zinc concentrate qualities it processes. In circumstances where we cannot source adequate supplies of the zinc concentrate qualities that comprise the most efficient mix for our smelters, alternative types of concentrate may be available, but the use thereof may increase our costs of production or reduce the productivity of our smelters and adversely affect our business, results of operations and financial position.

Inadequate supply of zinc secondary feed materials and zinc calcine could affect the results of our smelters.

Zinc sourced from suppliers of secondary feed materials represented approximately 19.3% of the zinc content used by our Juiz de Fora smelter in 2021. The use of zinc secondary feed material is a competitive advantage in relation to the use of zinc concentrate, mainly due to lower acquisition costs and, to a lesser extent, operational gains. In addition, we have recently incorporated zinc calcine processed by third parties into our operations to increase the production in our smelters. Our smelters then use this zinc calcine processed by third parties to produce additional refined zinc products that they would not produce were they to rely solely on other inputs. To the extent we are unable to obtain adequate supplies of zinc secondary feeds or zinc calcine, or if we must pay higher than anticipated prices of these inputs, our business, results of operations and financial position may be adversely affected. In 2021, one of our calcine suppliers in Peru shutdown its facility, which we expect to have a negative impact on production in 2022 due to long-term reduction in calcine availability. For more information, see "Information on the Company—Smelting Operations—Smelter sales"

Interruptions of energy supply or increases in energy costs may materially adversely affect our operations.

Energy is an important component of our production costs. In Peru, we obtain electric power for our operations from third parties through electricity supply contracts. Although we are party to a long-term power purchase agreement with Electroperú S.A., we cannot assure you that we will have secure access to energy sources in Peru at the same prices and conditions in the event of any interruption or failure of our sources of electricity, failures or congestion in any part of the *Sistema Eléctrico Interconectado Nacional* ("SEIN") or any failure to renew or extend our other existing electricity supply contracts.

In Brazil, we obtain electric power for our operations from hydroelectric plants grouped into several legal entities—which are directly or indirectly jointly owned by us, our controlling shareholder and its affiliates—pursuant to long-term power purchase agreements. Self-production plants represent 92.7% of energy supply, in terms of energy acquired via energy purchase and sale contracts. Furthermore, our energy costs under these agreements could increase in the event of differences in the hydrology forecast due to these hydroelectric plants share the hydrological risk, in addition to payment of higher energy taxes. For more information, see "Information on the Company—Other operations—Power and energy supply."

The prices for and availability of energy resources for our operations may be subject to change or curtailment due to, among other things, new laws or regulations, the imposition of new taxes or tariffs, supply interruptions, equipment damage, volatility and increase in worldwide price levels for energy and related components, market conditions and any inability to renew our existing supply contracts. Disruptions in energy supply or increases in costs of energy resources could increase our production costs and have a material adverse effect on our financial position and results of operations.

Shortages of water supply, explosives, critical spare parts, maintenance service and new equipment and machinery may materially adversely affect our operations and development projects.

Our mining operations require the use of significant quantities of water for extraction activities, processing and related auxiliary facilities. Water usage, including extraction, containment, and recycling requires appropriate permits, which are granted by regulatory authorities in Brazil and Peru. The available water supply may be adversely affected by shortages or changes in governmental regulations. We cannot assure shareholders that water will be available in sufficient quantities to meet our future production needs or will prove sufficient to meet our water supply needs. In addition, we cannot assure shareholders that we will maintain our existing licenses related to water rights, particularly if political changes lead to additional regulatory requirements or review of existing licenses. A reduction in our water supply could materially adversely affect our business, results of operations and financial position. In addition, we have not yet obtained the water rights to support some of our expansion projects, and our inability to obtain those rights could prevent us from pursuing those expansions.

In addition to water, our mining operations require intensive use of equipment and machinery as well as explosives. To be able to acquire and use explosives, we must first obtain the corresponding authorizations, which are granted by the relevant regulatory authorities in Brazil and Peru. A shortage in the supply of key spare parts, adequate maintenance service, new equipment and machinery to replace old ones and cover expansion requirements, or explosives, including due to the inability to deliver such water, energy, supplies, critical spare parts, explosives, or equipment and machinery to our operations, or regulatory change impacting our ability to obtain authorization for the acquisition of such materials, could materially adversely affect our operations and development projects.

We may be adversely affected by labor disputes.

Mining is a labor-intensive industry. We depend on more than 13,000 workers, including employees and contractors, to carry out our operations. A portion of our employees are unionized. We cannot assure that we will not experience work slowdowns, work stoppages, strikes or other labor disputes in the future, particularly in the context of the annual renegotiation of our collective bargaining agreements.

We may also be affected by labor-related disputes that broadly develop in the countries in which we operate. Strikes and other labor disruptions at any of our operations could have a material adverse effect on our business, financial position and results of operations.

We may be liable for certain payments to individuals employed by third-party contractors.

Under Peruvian law, we may become responsible under certain circumstances to pay mandatory labor benefits or other obligations to personnel employed by our third-party contracts or sub-contractors. Although we believe that we are in substantial compliance with Peruvian labor laws, we cannot assure shareholders that any proceedings initiated by outsourced employees will be resolved in our favor and that we will not be liable for any mandatory labor benefits or for-profit sharing benefits. In addition, the Peruvian government is reviewing a new law that proposes to eliminate outsourcing of main operational activities, with the aim of contracting workers directly by the company. If passed, this law would affect the mining sector and other economic sectors in the country that have a significant percentage of outsourced workforce. The above-mentioned bill of law is under review by the Congress and the Executive Branch. See "Information on the Company—Regulatory matters—Peruvian regulatory framework—Regulation of other activities."

Under Brazilian law, outsourcing is also permitted if certain requirements are met. In addition, Brazilian law provides that the contractor will be held liable on a secondary basis if the outsourced or subcontracted companies do not fulfill their labor obligations. In cases where the outsourced or subcontracted companies do not pay the workers the labor sums they are entitled to, the contractor is responsible for those payments. These payments may have an adverse effect on our results of operation and financial position."

We may be subject to misconduct by our employees or third-party contractors.

We may be subject to misconduct by our employees or third-party contractors, such as theft, bribery, sabotage, fraud, insider trading, violation of laws, slander or other illegal actions. Any such misconduct may lead to fines or other penalties, slow-downs in production, increased costs, lost revenues, increased liabilities to third parties, impairment of assets or harmed reputation, any of which may have a material adverse effect on our business, results of operations or financial position.

The nature of our business includes risks related to litigation and administrative proceedings that could materially adversely affect our business and financial performance in the event of unfavorable rulings.

The nature of our business exposes us to various litigation matters, including civil liability claims, environmental matters, health and safety matters, regulatory and administrative proceedings, governmental investigations, tort claims, contract disputes, labor matters and tax matters, among others. We cannot assure shareholders that these or other legal proceedings will not have a material adverse effect on our ability to conduct our business or on our financial position and results of operations, through distraction of our management team, diversion of resources or otherwise. In addition, although we establish provisions as we deem necessary in accordance with IFRS as issued by the IASB, the level of provisions that we record could vary significantly from any amounts we actually pay, due to the inherent uncertainties in the estimation process.

We could be harmed by a failure or interruption of our information technology systems or automated machinery, including system security breaches or other cybersecurity attacks.

We rely on our information technology systems and automated machinery to effectively manage our production processes and operate our business. Any failure of our information technology systems and automated machinery to perform as we anticipate could disrupt our business and result in production errors, processing inefficiencies and the loss of sales and customers, which in turn could result in decreased revenue, increased overhead costs and excess or out-of-stock inventory levels resulting in a material adverse effect on our business results.

In recent years, cyberattacks and other tactics designed to gain access to and exploit sensitive information by breaching mission critical systems of large organizations have increased in volume and sophistication. We are dependent on internal information systems, and we are vulnerable to failure of these systems, including through system security breaches, data protection breaches or other cybersecurity attacks. We could be exposed to a cyberattack through an internal breach from servers connected to our internal network or an external breach due to disruptions from unauthorized access to our systems, which could impact our ability to operate our existing systems. If these events occur, including a cyberattack causing a loss of critical data, unscheduled downtime/degradation of operations, or the disclosure or use of confidential information, these events could have a material adverse effect on our reputation and market value, which could adversely impact our results of operations.

In addition, data privacy is subject to frequently changing rules and regulations. The European Union's General Data Protection Regulation ("GDPR") took effect in 2018 and introduced increased regulations relating to personal data security. The GDPR requires companies to satisfy new requirements regarding the handling of personal and sensitive data, including its use, protection and the ability of persons whose data is stored to correct or delete such data about themselves. In 2011, Peru enacted the Law for Personal Data Protection No. 29,733, the *Ley de Protección de Datos Personales* ("LPDP") and in 2018, the Brazilian president signed Law No. 13,709, the Lei Geral de Proteção de Dados ("LGPD"). Both the LGPD and LPDP represent comprehensive data protection laws, establishing detailed rules for the collection, use, processing and storage of personal data and affecting all economic sectors, including the relationship between customers and suppliers of goods and services, employees and employers and other relationships in which personal data is collected, whether in a digital or physical environment. Any noncompliance with the GDPR, the LGPD, the LPDP or any other cybersecurity and data privacy regulations could result in proceedings or actions against us by governmental entities, the imposition of fines or penalties and damage to our reputation, which could have an adverse effect on us and our business, reputation and results of operations.

Financial risks

Our financial position and results of operations may be materially adversely affected by currency exchange rate fluctuations.

Our revenues are primarily denominated in U.S. dollars, and certain portions of our operating costs, principally labor costs, are denominated in *reais* and *soles*. Accordingly, when inflation in Brazil and Peru increases without a corresponding devaluation of the *real* or *sol*, our financial position, results of operations and cash flows could be materially adversely affected. See "Operating and Financial Review and Prospects—Key factors affecting our business and results of operations—Macroeconomic conditions of the countries and regions where we operate" for a discussion of inflation in 2021.

Given the structure of our operations, a decrease in the value of the U.S. dollar relative to the foreign currencies in which we incur costs generally could have a negative impact on our results of operations or financial position. Our foreign currency exposures increase the risk of volatility in our financial position, results of operations and cash flows. We cannot assure shareholders that currency fluctuations, or costs associated with our hedging activities (including fluctuations in exchange rates contrary to our expectations), will not have an impact on our financial position and results of operations.

Fluctuations in interest rates could increase the cost of servicing our debt, affect returns on our financial investments and negatively affect our overall financial performance.

Some of our indebtedness bears interest based on variable interest rates, including the London Interbank Offered Rate, or LIBOR. As of December 31, 2021, 21% of our debt was variable rate debt. Such variable rates have fluctuated in response to changes in economic growth, monetary policy and governmental regulation. A significant increase in underlying interest rates, particularly in LIBOR, could have a material adverse effect on our financial expenses and materially adversely affect our overall financial performance. In July 2017, the Financial Conduct Authority ("FCA") announced its intention to phase out LIBOR by the end of 2021. However, on March 5, 2021, the FCA announced that most tenors of U.S. Dollar LIBOR would continue to be published through June 30, 2023, extending the previously announced deadline of December 2021. For more information on the potential impact of fallback rates on our relevant LIBOR-based debt, see "Operating and Financial Review and Prospects—Liquidity and Capital Resources—Debt" and Note 5 (b) to our consolidated financial statements.

We may engage in hedging activity that may not be successful and may result in losses to us.

We may use foreign exchange and metal commodity non-deliverable forwards to reduce the risk associated with currency and metal price volatility. However, our hedging activities could cause us to lose the benefit of an increase in the prices of the metals we produce if they increase over the price level of hedge positions, or the benefit of an increase in the currency price. The cash flows and the mark-to-market values of our production hedges can be affected by factors such as the volatility of currency and the market price of metals, which are not under our control.

Our hedging agreements contain events of default and termination events that could lead to early close-outs of our hedges such as failure to pay, breach of the agreement, misrepresentation, default under our loans or other hedging agreements and bankruptcy. In the event of an early termination of our hedging agreements, the relevant hedge positions would be required to be settled at that time. In that event, there could be a lump sum payment to be made either to or by us. The magnitude and direction of such a payment would depend upon, among other things, the characteristics of the particular hedge instruments that were terminated and the relevant market prices at the time of termination. Any of the factors described above could have a material adverse effect on our financial position, results of operations or cash flows. See "Operating and financial review and prospects—Risk management—Financial risk—Metal price sensitivity."

Our business requires substantial capital expenditures and is subject to financing risks.

Our business is capital intensive. Exploration for and exploitation of mineral deposits, maintenance of machinery and equipment and compliance with applicable laws and regulations require substantial capital expenditures. We must continue to invest capital to maintain and potentially expand our existing brownfield operations, develop our greenfield projects pipeline in order to sustain and grow production, in addition to carrying out investments in sustaining, health, safety and environment. In 2021, we invested US$507.9 million in capital expenditures, US$257.6 million of which was in relation to the Aripuanã project. We depend partially on our cash flows for maintenance of capital expenditures. See "Information on the Company—Capital expenditures."

No assurance can be given that we will be able to maintain our production levels or generate sufficient cash flow, capitalize on a sufficient amount of our net income or have access to sufficient investments, loans or other financing alternatives to finance our capital expenditure program at a level necessary to sustain and grow our current exploration and exploitation activities. Any equity or debt financing, if available, may not be on terms that are favorable to us. If our access to external financing is limited, we may not be able to execute our strategy, which could adversely affect our business, financial position and results of operations.

We are exposed to credit risk in relation to our contractual and trading counterparties as well as to hedging and derivative counterparty risk.

We are subject to the risk that the counterparties with whom we conduct our business (in particular our customers) and who are required to make payments to us are unable to make such payment in a timely manner or at all. Credit risk is present in our hedging operations, customer operations and cash management operations. If amounts that are due to us are not paid or not paid in a timely manner, this may impact not only our current trading and cash-flow position but also our financial and business position. In addition, our derivatives, metals hedging, and foreign currency and energy risk management activities expose us to the risk of default by the counterparties to such arrangements. Any such default could have a material adverse effect on our business, financial position and results of operations.

Any acquisitions we make may not be successful or achieve the expected benefits.

We regularly consider and evaluate opportunities to acquire assets, companies and operations. There can be no assurance that we will be able to successfully integrate any acquired assets, companies or operations. In addition, any additional debt we incur to finance an acquisition may materially adversely affect our financial position and results of operations. If future acquisitions are significant, they could change the scale of our business and expose us to new geographic, political, operating and financial risks.

Changes in the assumptions underlying the carrying amount of certain assets could result in impairment charges.

We periodically test whether our tangible and intangible assets have suffered any impairment, in accordance with the accounting policy stated in our consolidated financial statements. If our estimates of the recoverable amount of an asset change or are inaccurate, we may determine that impairment charges are necessary. While impairment does not affect reported cash flows, the decrease in the recoverable amount determined could have a material adverse effect on our results of operations. Assurances cannot be given as to the absence of significant impairment charges in future periods, particularly if market conditions deteriorate.

Risks related to our Mineral Reserves and Resources

Our estimates of Mineral Reserves and Resources may be materially different from the total mineral quantities we actually recover, and changes in metal prices, operating and capital costs, and other assumptions used to calculate these estimates may render certain Mineral Reserves and Resources uneconomical to mine.

There is a degree of uncertainty attributable to the estimation of mineral reserves and resources. Until mineral reserves and resources are actually mined and processed, the quantity of metal and grades must be considered as estimates only and no assurance can be given that the indicated levels of metals will be produced. In making determinations about whether to advance any of our projects to development, we must rely upon estimated calculations for the mineral reserves and mineral resources and grades of mineralization on our properties.

The estimation of mineral reserves and resources is a subjective process that is partially dependent upon the judgment of the qualified persons preparing such estimates. The process relies on the quantity and quality of available data and is based on knowledge, mining experience, statistical analysis of drilling results and industry practices. Valid estimates made at a given time may significantly change when new information becomes available.

Our estimates of Mineral Reserves and Resources are based on geological interpretation and statistical inferences or assumptions drawn from drilling and sampling analysis made as of the date of such estimates. We periodically update our mineral reserves and resources estimates based on the conclusions of the relevant qualified persons with respect to new data from exploratory and infill drilling, results from technical studies and the experience acquired during the operation of the mine and metallurgical processing, as well as changes to the assumptions used to calculate these estimates.

Several of the assumptions used to calculate these estimates, including the market prices of commodities, operating and capital costs and mining and metallurgical recovery rates, among others, can greatly fluctuate, which may result in significant changes to our current estimates. These changes may also render some or all of our proven and probable mineral reserves and measured and indicated mineral resources uneconomic to exploit and may ultimately result in a reduction of mineral reserves and resources.

In addition, inferred mineral resources have a great amount of uncertainty as to their existence and their economic and legal feasibility. You should not assume that any part of an Inferred Mineral Resource will be upgraded to a higher category or that any of the mineral resources not already classified as mineral reserves will be reclassified as mineral reserves.

We depend on our ability to replenish our mineral reserves for our long-term viability.

Mineral reserves data is only indicative of future results of operations at the time the estimates are prepared and are depleted over time as we conduct our mining operations. We use several strategies to replenish and increase our Mineral Reserves that are depleted, including exploration activities and the acquisition of mining concessions. If we are unable to replenish our Mineral Reserves or develop our Mineral Resources, our business, results of operations and prospects would be materially adversely affected.

Our mineral exploration efforts are highly speculative in nature and may be unsuccessful.

Mineral exploration is highly speculative in nature, involves many uncertainties and risks and may be unsuccessful. It is performed to demonstrate the dimensions, position and mineral characteristics of mineral deposits, estimate mineral reserves and resources, assess amenability of the deposit to mining and processing scenarios and estimate potential deposit value.

Substantial expenditures are required to establish proven and probable mineral reserves, to determine processes to extract the metals and, if required, to construct mining and processing facilities and obtain permits to carry on mining activities. Therefore, once the mineralization is discovered, it may take several years from the initial exploration phases and mineral resources determination before production is possible, during which time the project's feasibility may change adversely.

There are unique risks inherent to the development of underground mines, which may have a material adverse impact on our cash flows.

The development of underground mines is subject to other unique risks including, but not limited to, underground floods, issues relating to ventilating harmful gases, fall-of-ground accidents, and seismic activity resulting from unexpected or difficult geological conditions. While we anticipate taking all measures to safely operate, there is no assurance that the effect of these risks will not cause schedule delays, revised mine plans, injuries to persons and property, and/or increased capital costs, any of which may have a material adverse impact on our cash flows.

Health, safety and environmental risks

Health, safety and environmental laws and regulations, including regulations pertaining to climate change, may increase our costs of doing business, restrict our operations or result in the imposition of fines or revocation of permits.

Our mining activities are subject to Brazilian and Peruvian laws and regulations, including health and safety and environmental matters. Additional matters subject to legislation include, but are not limited to, transportation, mineral storage, water use and discharge, use of explosives, hazardous and other non-hazardous waste, and reclamation and remediation measures. Our operations are subject to periodic inspections and special inspections in certain circumstances by governmental authorities and consultation with local communities. Compliance with these laws and regulations and new or existing regulations that may be applicable to us in the future could increase our operating costs and adversely affect our financial results of operations and cash flows. In Peru, the Government is currently reviewing laws to prohibit economic activities in the headwaters of the basin, which are currently considered vulnerable areas that require protection and mitigation measures.

Regulatory and industry response to climate change or other controls on greenhouse gas emissions, including limits on emissions from the combustion of carbon-based fuels, controls on effluents and restrictions on the use of certain materials, could significantly increase our operating costs and affect our customers and suppliers. Ongoing international efforts to address greenhouse gas emissions consist of controlling activities that may increase the atmospheric concentration of greenhouse gases. International agreements, like the Paris Agreement, Kyoto Protocol and COP26, are in different stages of negotiation and implementation. The measures included in such agreements may result in an increase of costs related to the installation of new controls aimed at reducing greenhouse gas emissions, the purchase of credits or licenses for atmospheric emissions and the monitoring and registration of greenhouse gas emissions generated by our operations. These measures could adversely affect our business, financial position and results of operations.

Pursuant to applicable environmental regulations and laws, we could be found liable for all or substantially all the damages caused by mining activities at our current or former facilities or those of our predecessors at disposal sites. We could also be found liable for all incidental damages due to the exposure of individuals to hazardous substances or other environmental damage, all of which could significantly and negatively affect our reputation. We cannot assure shareholders that our costs of complying with current and future environmental and health and safety laws and regulations, including decommissioning and remediation requirements, and any liabilities arising from past or future releases of, or exposure to, hazardous substances will not materially adversely affect our business, financial position and results of operations.

ESG issues, including those related to climate change and sustainability, may have an adverse effect on our business, financial condition and results of operations and damage our reputation.

There is an increasing focus from certain investors, customers, consumers, employees and other stakeholders concerning ESG matters. Additionally, public interest and legislative pressure related to public companies' ESG practices continue to grow, particularly as the SEC considers new rulemaking related to ESG disclosure. If our ESG practices fail to meet regulatory requirements or investor, customer, consumer, employee or other stakeholders' evolving expectations and standards for responsible corporate citizenship in areas including environmental stewardship, support for local communities, Board of Director and employee diversity, human capital management, employee health and safety practices, product quality, corporate governance and transparency, our reputation, brand and employee retention may be negatively impacted, and our customers and suppliers may be unwilling to continue to do business with us.

Customers, consumers, investors and other stakeholders are increasingly focusing on environmental issues, including climate change, dams, energy and water use, and other sustainability concerns. Concern over climate change, in particular, may result in new or increased legal and regulatory requirements to reduce or mitigate impacts to the environment.

If we do not adapt to or comply with new regulations, or if we fail to comply with disclosure requirements and consequently fail to meet evolving regulatory, investor, industry or stakeholder expectations and concerns regarding ESG issues, investors may reconsider their capital investment in Nexa, and customers and consumers may choose to stop purchasing our products, which could have a material adverse effect on our reputation, business or financial condition.

Natural disasters and climate change could affect our business.

Natural disasters could significantly damage our mining and production facilities and infrastructure and may cause a contraction in sales to countries adversely affected due to, among other factors, power outages and the destruction of industrial facilities and infrastructure. In particular, the Central Andean region, where two of our mines are located, is prone to mudslides and earthquakes of varying magnitudes. Due to the El Niño weather phenomenon, Peru typically experiences extreme weather conditions that led to flooding and mudslides, and which could adversely affect our operations. In the past, extreme flooding and mudslides in Peru have interrupted the supply of metal concentrates from our mines and the supply of zinc products to our plants. The physical impact of climate change on our business remains uncertain, but we are likely to experience changes in rainfall patterns, increased temperatures, water shortages, rising sea and river levels, lower water levels in rivers due to natural or operational conditions, increased storm frequency and intensity as a result of climate change, which may adversely affect our operations. For example, in January 2022, the underground operation at the Vazante mine was partially flooded due to heavy rainfall levels in the state of Minas Gerais, which is expected to have a negative impact on zinc production. For additional information, see "Information on the Company—Mining Operations—Vazante.". Although we have insurance covering damages caused by natural disasters, extensive damage to our facilities and staff casualties due to natural disasters could materially adversely affect our ability to conduct our operations and, as a result, reduce our future operating results.

In addition, the potential physical impact of climate change on our operations is highly uncertain and would be particular to the geographic circumstances of our facilities and operations. It may include changes in rainfall patterns, water shortages, rising sea and river levels, changing storm patterns and intensities and changing temperatures. These effects may materially adversely impact the cost, production and financial performance of our operations.

Global or regional health considerations, including the outbreak of a pandemic or contagious disease, such as the ongoing COVID-19 pandemic, have impacted and could continue to impact our business, financial condition and results of operations.

The COVID-19 pandemic, including governmental measures enacted in response to the pandemic, has had a material effect on the global economy, disrupting the financial markets and creating increased volatility. In 2021, international prices for our metals have steadily increased since the lows reached in the second half of 2020 and demand for our products has recovered as vaccines and other treatments for COVID-19 have been developed, however our production and financial results may continue to be affected by disruptions to our operations and volatility in metal prices and its impact on demand, particularly as new variants of COVID-19 emerge and outbreaks of the pandemic continue to spread. See "—Our business, results and financial position are highly dependent on the demand for an international market price of the metals we produce, which are both cyclical and volatile" and "—Changes in the demand for the metal we produce could adversely affect our sales volume and revenues." While vaccination rates have increased and effective treatments have been developed, the emergence of additional COVID-19 variants continues to present risks to our operations (including the ability of employees to be physically present at work), employee health and safety, and general macroeconomic activity. We cannot at this time forecast what policies will be implemented by governments to continue to address the pandemic, or the pandemic's ultimate duration, severity or impact to our business, our customers, or our supply chain. This material impact could continue for an extended period of time or impact our financial condition and results of operations and continued weak or worsening economic conditions could negatively impact demand for our products. Future pandemics and public crises could impact our business in a similar or worse manner. For additional information, see "Operating and Financial Review and Prospects—Overview—Executive Summary," "Operating and Financial Review and Prospects—Overview—Key factors affecting our business and results of operations—COVID-19" and Note 1 to our consolidated financial statements.

Political, economic, social and regulatory risks

Political, economic and social conditions in the countries in which we have operations or projects could adversely impact our business, financial condition results of operations and the trading price of our securities.

Political, economic and social conditions in the countries in which we have operations or projects may negatively affect our financial performance. Our business, financial position and results of operations may be affected by the general conditions of the Peruvian, Brazilian and other national political conditions, economies, economic recessions, price instability, exchange rate volatility, inflation, interest rates, and domestic regulatory and taxation policies. There can be no assurance that the countries in which we operate will not face political, economic or social problems in the future or that these problems will not increase the volatility of the price of securities of issuers with operations in those countries, like us, or interfere with our ability to operate and service our indebtedness. For additional information, see "Operating and Financial Review and Prospects—Overview—Key factors affecting our business and results of operations."

In all these countries, we are exposed to various additional risks over which we have no control, such as social unrest, bribery, cyberattacks, extortion, corruption, robbery, sabotage, kidnapping, civil strife, terrorism, acts of war and guerilla activities. These issues may adversely affect the economic and other conditions under which we operate in ways that could have a materially negative effect on our business.

Recent and potential changes in commercial and mining laws may significantly impact our mining operations.

Changes to the Brazilian and Peruvian regulatory framework that could be enacted in the future may result in an increase in our expenses, particularly mining royalties. In addition, any changes in the interpretation of Brazilian or Peruvian mining laws and regulations, including changes to our concession agreement and changes in commercial rules and protections, may increase our compliance, operational or other costs. For additional information, see "Information on the Company—Regulatory matters—Brazilian regulatory framework—Mining rights and regulation of mining activities."

Our mineral rights may be terminated or not renewed by governmental authorities.

Our business is subject to extensive regulation in Brazil and Peru, including with respect to acquiring and renewing the required authorizations, permits, concessions and/or licenses from the relevant governmental regulatory bodies. We have obtained, or are in the process of obtaining, all material authorizations, permits, concessions and licenses required to conduct our mining and mining related operations.

In Brazil, we may need to renew exploration authorizations related to our Brazilian mining operations 60 days prior to their expiration date if we determine that we continue to have an economic or business interest in the area. If we fail to demonstrate the existence of technical and economically viable mineral deposits in an area covered by an exploration authorization, we may be required to return it to the federal government. The federal government may then grant exploration authorizations to other parties that may conduct other mineral prospecting activities at said area. With respect to mining concessions, there is no renewal requirement once we have obtained such concession. However, we must continue to assess the mineral potential of each mining concession to determine if the costs of maintaining the related exploration authorizations and mining concessions are justified by the results of operations to date. If such costs are not justified and we abandon the mine or suspend the mining activities without the formal consent of the regulatory authority for a period more than six months, we may lose the respective mining concessions. Alternatively, we may elect to withdraw or assign some of our exploration authorizations or mining concessions.

In Peru, once mineral concessions are granted, they may not be revoked if the titleholder complies with two obligations, (1) payment of an annual fee and (2) either achievement of the minimum annual production target or expenditure of the equivalent amount in exploration or investments before the statutory deadline. If the production, expenditure or investment targets are not met, a statutory penalty must be paid. Accordingly, mineral concessions will lapse automatically if any of these obligations are not met within the statutory period. Mining concessions in Peru may be terminated if the concessionaire does not comply with its obligations.

These authorizations, permits, concessions and environmental licenses are subject to our compliance with conditions imposed and regulations promulgated by the relevant governmental authorities. While we anticipate that all required authorizations, permits, concessions and environmental licenses or their renewals will be granted as and when sought, there is no assurance that these items will be granted as a matter of course, and there is no assurance that new conditions will not be imposed in connection with such renewals. If we were to violate any of the foregoing laws and regulations or the conditions of our concessions, authorizations, and environmental licenses, including the failure to remove all residents who are within the self-rescue zone, we may be subjected to substantial fines or criminal sanctions, revocations of operating permits or licenses and possible closings of certain of our facilities.

Our operations depend on our relations and agreements with local communities, and new projects require carrying out a prior consultation procedure.

There are several local communities that surround our operations in Brazil and Peru, most of which we have entered into agreements with that provide for the use of their land for our operations. We also interact with regional and local governments and depend on our close relations with local communities and such governments to carry out our operations. From time to time, we may experience disputes with local communities and if our relations with the local communities and such governments were to deteriorate, or the local communities do not comply with the existing agreements or renew them upon expiration, it could have a material adverse effect on our business, reputation, properties, operating results, financial position or prospects. In addition, a disruption in the relations between the local communities, governments and other parties may affect us indirectly. For additional information, see “Mining Operations—Cerro Lindo—Production” and “Mining Operations—Atacocha—Production.”

We also may face certain risks in relation to artisanal mining near the areas in which we operate. The increase of artisanal mining activity or the failure of these artisanal miners to abide with our existent agreement may have an adverse effect on the development of our operations. For example, see “Mining Operations—Aripuanã—History.”

Furthermore, to develop new projects in the countries in which we operate on land owned by, or in the possession of, third parties, we need to reach an agreement with such third parties to use that land. Any delay or failure to reach such agreements or obtain governmental approvals for our new projects could result in a material adverse effect on our business, properties, operating results, financial position or prospects.

Changes in tax laws may increase our tax burden and, as a result, could adversely affect our business, financial position and results of operations.

The Brazilian, Peruvian and Luxembourg governments from time to time implement changes to tax laws and regulations. Any such changes, as well as changes in the interpretation of such laws and regulations, may result in increases to our overall tax burden, which would negatively affect our profitability. Moreover, some tax laws may be subject to controversial interpretation by tax authorities, including, but not limited to, the regulation applicable to corporate restructurings. In the event an interpretation different than the one on which we based our transactions prevails, we may be adversely affected. The Brazilian, Peruvian or Luxembourg governments may implement additional changes to tax regulations in the future, which could adversely affect our business, financial position, and results of operations. Our business, financial position and results of operations may be adversely affected by inflation.

Certain of the countries in which we operate have in the past experienced high levels of inflation and may experience high levels of inflation in the future, which may impact domestic demand for our products. Inflationary pressures, which have increased during 2021 and which we expect to continue in 2022, may curtail our ability to access international financial markets and may lead to further government intervention in the economy, including the introduction of government policies that may materially adversely affect the overall performance of the national economy of the countries in which we operate, which in turn may materially adversely affect us. We may not be able to adjust the prices we charge our customers to offset the effects of inflation on our cost structure. In addition, although the functional currency for our Peruvian operations is the U.S. dollar, high rates of inflation could increase our operating costs and adversely impact our operating margins if we are not able to pass the increased costs on to consumers.

Beginning in the second half of 2021, rising inflation has impacted our operational, logistics, oil, and third-party contractor costs, and we expect these inflationary pressures to persist through 2022.

We are subject to anti-corruption, anti-bribery and anti-money laundering laws and regulations in various jurisdictions. Any violations of any such laws or regulations could have a material adverse impact on our reputation and results of operations and financial position.

We are subject to anti-corruption, anti-bribery, anti-money laundering and other international laws and regulations and are required to comply with the applicable laws and regulations of Brazil, Peru, Luxembourg, Canada and the United States, among others. In addition, we are subject to economic sanctions regulations that restrict our dealings with certain sanctioned countries, individuals and entities. Our governance and compliance processes may not timely identify or prevent future breaches of legal, accounting or governance standards. We may be subject to instances of fraudulent behavior, corrupt practices and dishonesty by our affiliates, employees, directors, officers, partners, agents and service providers. Any violations by us of anti-bribery and anti-corruption laws, sanctions regulations or other standards could have a material adverse effect on our business, reputation, results of operations and financial position.

Political and social opposition to mining activities generally in the regions where we operate could adversely impact our business and reputation.

Disputes with communities where we operate may arise from time to time. In some instances, our operations and mineral reserves are located on or near lands owned or used by indigenous people or other groups of stakeholders. Some of our mining and other operations are in territories where title may be subject to disputes or uncertainties, or in areas claimed for agriculture or land reform purposes, which may lead to disagreements with organized social movements, local communities and the government, and recent political changes, particularly in Peru, may increase the potential for these claims. We may be required to consult and negotiate with these groups as part of the process to obtain licenses required to operate, to mitigate impact on our operations or to obtain access to their lands. Disagreements or disputes with local groups, including indigenous groups, organized social movements and local communities, could cause delays or interruptions to our operations, adversely affect our reputation or otherwise hamper our ability to develop our reserves and conduct our operations. Protesters have taken actions to disrupt our operations and projects, and they may continue to do so in the future, which may harm our operations and could adversely affect our business. In recent years, Peru has experienced protests against mining projects in several regions. On several occasions, local communities have opposed these operations and accused them of polluting the environment and hurting agricultural and other traditional economic activities. For additional information, see “Mining Operations—Cerro Lindo—Production” and “Mining Operations—Atacocha—Production.” Social demands and conflicts could have a material adverse effect on our business and results of operations and the economy in general of the countries in which we operate.

Uncertainty in governmental agency interpretation or court interpretation and the application of such laws and regulations could result in unintended non-compliance.

The courts in some of the jurisdictions in which we operate may offer less certainty as to the judicial outcome of legal proceedings or a more protracted judicial process than is the case in more established economies. Businesses can become involved in lengthy court cases over simple issues when rulings are not clearly defined, and the poor drafting of laws and excessive delays in the legal process for resolving issues or disputes compound such problems. In addition, there may be limited or no relevant case law providing guidance on how courts would interpret such laws and the application of such laws to our contracts, joint ventures, licenses, license applications or other legal arrangements. Accordingly, there can be no assurance that contracts, joint ventures, licenses, license applications or other legal arrangements will not be adversely affected by the actions of government authorities and the effectiveness of and enforcement of such arrangements in these jurisdictions. Moreover, the commitment of local businesses, government officials and agencies and the judicial system in these jurisdictions to abide by legal requirements and negotiated agreements may be more uncertain and may be susceptible to revision or cancellation, and legal redress may be uncertain or delayed. These uncertainties and delays could have a material adverse effect on our business and results of operations.

Regulation of other activities.

We are subject to mining and environmental regulation related to, among other activities, the use of explosives, fuel storage, controlled substances, telecommunications, archeological remains and electricity concessions. We are also subject to more general legislation on data privacy, labor, occupational health and safety, and peasant and indigenous communities, among others, that may adversely affect our business. See "Information on the Company—Regulatory matters—Brazilian regulatory framework" and "Information on the Company—Regulatory matters—Peruvian regulatory framework."

Risks relating to our corporate structure

VSA has substantial control over us, which could limit our shareholders' ability to influence the outcome of important corporate decisions.

As of March 17, 2022, VSA owns 64.68% of our issued and outstanding common shares. As a result, VSA can influence or control matters requiring approval by our shareholders, including the election of directors, the allocation of profits, the appointment of external auditors and the approval of mergers, acquisitions or other extraordinary transactions. VSA may also have interests that differ from our other investors and may vote in a way with which our other shareholders disagree, and which may be adverse to the interests of our other investors.

In addition, we have entered into several shared services contracts and similar agreements with other entities in the Votorantim Group in order to achieve operational economies of scale. Since we rely on the Votorantim Group for negotiation, renewal and extension of these agreements, there can be no assurances that we will always have access to the services procured pursuant to these agreements at the same prices and conditions. See "Share ownership and trading—Related Party Transactions."

Dividends or other distributions paid by us on our common shares will generally be subject to Luxembourg withholding tax.

Any dividends or other distributions paid by us on our common shares will be subject to a Luxembourg withholding tax at a rate of 15.0% unless an exemption or reduction in rate applies. The withholding tax must be withheld from the gross distribution and paid to the Luxembourg tax authorities. Under certain circumstances, distributions as share capital reductions or share premium reimbursements may not be subject to withholding tax, but there are no assurances that we will be able to make such distributions in the future. See "Additional Information—Taxation—Luxembourg tax considerations—Shareholders."

The rights of our shareholders, and the responsibilities of VSA as our controlling shareholder, are governed by Luxembourg law and differ in some respects from the rights and responsibilities of shareholders under the laws of other jurisdictions, including the United States and Canada, and shareholders may have more difficulty protecting their interests than they would as shareholders of a U.S. corporation.

Our corporate affairs are governed by our articles of association and by the laws governing limited liability companies organized under the laws of Luxembourg, as well as such other applicable local law, rules and regulations. The rights of our shareholders and the responsibilities of VSA as our controlling shareholder and of our directors and officers under Luxembourg law are different from those applicable to a corporation incorporated in the United States or Canada. There may be less publicly available information about us than is regularly published by or about U.S. or Canadian issuers. Also, Luxembourg regulations governing the securities of Luxembourg companies may not be as extensive as those in effect in the United States or Canada, and Luxembourg law and regulations in respect of corporate governance matters may not be as protective of non-controlling shareholders as corporation laws in the United States or Canada. Therefore, shareholders may have more difficulty protecting their interests in connection with actions taken by us, our directors and officers or our principal shareholders than they would as shareholders of a corporation incorporated in the United States or Canada.

Our ability to make distributions on our common shares is subject to several factors and conditions.

The determination to pay dividends and the payment of dividends or other distributions (including reimbursements of share premium) will be subject to the approval of our board of directors and/or our shareholders, as applicable, and will depend on a number of factors, including, but not limited to, our cash balance, cash flow, earnings, capital investment plans, expected future cash flows from operations, our strategic plans and cash dividend distributions from our subsidiaries, as well as restrictions imposed by applicable law and contractual restrictions (although as of the date of this annual report there are no contractual restrictions on our ability to pay dividends or other distributions to our shareholders), and other factors our board of directors may deem relevant at the time. Luxembourg law also imposes certain requirements regarding distributions. For additional information, see "Share ownership and trading—Distributions."

We are a holding company and have no material assets other than our ownership of shares in our subsidiaries. When we pay a dividend or other distribution on our common shares in the future, we generally cause our operating subsidiaries to make distributions to us in an amount sufficient to fund any such dividends or distributions. Although as of December 31, 2021, there are no material contractual restrictions on our subsidiaries' ability to make distributions to us, their ability to do so is subject to their capacity to generate sufficient earnings and cash flow and may also be affected by statutory accounting and tax rules in Brazil and Peru.

It could be difficult for investors to enforce any judgment obtained outside Luxembourg against us or any of our associates.

We are organized under the laws of Luxembourg. Furthermore, certain of our directors and officers reside outside the United States and Canada and most of their assets are located outside the United States and Canada. Most of our assets are located outside the United States or Canada. As a result, it may not be possible for investors to effect service of process upon us or our directors and officers within the United States, Canada or other jurisdictions outside Luxembourg or to enforce against us or our directors and officers, judgments obtained in the United States, Canada or other jurisdictions outside Luxembourg. Because judgments of United States or Canadian courts for civil liabilities based upon the U.S. federal securities laws or Canadian securities laws may only be enforced in Luxembourg if certain requirements are met, investors may face greater difficulties in protecting their interest in actions against us or our directors and officers than would investors in a corporation incorporated in a state or other jurisdiction of the United States or Canada.

I. INFORMATION ON THE COMPANY

BUSINESS OVERVIEW

Overview

We are a leading large-scale, low-cost integrated zinc producer with over 60 years of experience developing and operating mining and smelting assets in Latin America.

We operate and own five long life polymetallic mines, three located in the Central Andes of Peru and two located in the state of Minas Gerais in Brazil. In 2022, we expect to complete construction at our sixth underground mine in Brazil, the Aripuanã project, which is scheduled to ramp up in the third quarter of 2022.

Our operations are large-scale, modern, mechanized underground and open pit mines. Our mines are proximately located to one another, which creates efficiencies. Two of our mines, Cerro Lindo in Peru and Vazante in Brazil, are among the top 30 largest zinc-producing mines in the world and, combined with our other mining operations, placed us among the top five producers of mined zinc globally in 2021, according to Wood Mackenzie. In addition to zinc, which accounted for 59.6% of our mined metal production in 2021 measured on a zinc equivalent basis, we produce substantial amounts of copper, lead, silver and gold as by-products, which reduce our overall costs to produce mined zinc. At Aripuanã, which is an underground polymetallic project containing zinc, lead and copper, located in the state of Mato Grosso, we estimate annual average production of approximately 70kt of zinc, 24kt of lead, 4kt of copper, 1.8Moz of silver and 14.5koz of gold, considering the current mine life of 11 years.

We also own a zinc smelter in Peru (Cajamarquilla) and two zinc smelters in Brazil (Três Marias and Juiz de Fora), which produce metallic zinc, zinc oxide and several by-products. We were the fifth largest producer of refined zinc globally in 2021, according to Wood Mackenzie. Our smelters are the only units in Latin America (excluding Mexico), resulting in benefits from higher premiums. Cajamarquilla is the only operating zinc smelter in Peru and was the fifth largest globally in 2021 by production volume, according to Wood Mackenzie. Peru is the second largest producer of mined zinc in the world, assuring long-term supply of zinc concentrates to Cajamarquilla. Given our proximity to concentrate producers (our own mines and third-party producers), we also benefit from freight parity.

In 2020, government authorities in the countries in which we operate implemented policies in response to the COVID-19 pandemic that negatively affected our financial position, results of operations and cash flows. In particular, the state of emergency declared by the Peruvian government in the first half of 2020 led to the temporary suspension of our Peruvian operations through May 2020 as restrictions were imposed on non-essential industries, which included the mining sector. While conditions improved in the second half of 2020 and throughout 2021, COVID-19 and related government measures enacted to contain the spread of the virus and emerging variants have affected, and are expected to continue to affect, our results of operations. For additional information, see “Risk Factors—Global or regional health considerations, including the outbreak of a pandemic or contagious disease, such as the ongoing COVID-19 pandemic, have had and could continue to have adverse effects on our business, financial condition and results of operations” and “Operating and Financial Review and Prospects—Overview—Key factors affecting our business and results of operations—COVID-19.”

We safely operated our mining and smelting businesses throughout 2021 and production in both segments increased from 2020.

In Peru, although production at Atacocha was temporarily suspended in March and September, and at Cerro Lindo in December due to communities’ blockades, we were able to operate at high levels of capacity utilization rates throughout the year.

In Brazil, during a regular inspection it was identified that the Extremo Norte underground mine presented above-normal ground displacements at the main ramp area and, as a preventive measure, production was suspended in mid-March. We were able to partially mitigate the decrease in production in Extremo Norte by increasing throughput at the Vazante mine and reaching ore sorter circuit at maximum capacity to offset the grade drop. Extremo Norte underground mine production was resumed in December 2021 and is currently operating at normal utilization rates.

In 2021, our mining operations produced 319.9 thousand tonnes of zinc contained in concentrates, 29.6 thousand tonnes of copper contained in concentrates, 45.6 thousand tonnes of lead contained in concentrates, 8,808.3 thousand ounces of silver and 25.5 thousand ounces of gold, for a total of 537.0 thousand tonnes of metal on a zinc equivalent basis.

In March 2021, one of our third-party raw material suppliers shut down its facility. We were able to partially offset this reduction in calcine, as well as the supply reduction from Extremo Norte by sourcing raw materials from other suppliers. Metal production in 2021 increased 3.4% compared to 2020. Our smelters produced 607.6 thousand tonnes of zinc metal available for sale in different formats and sizes during 2021, along with by-products, including sulfuric acid, silver concentrate, copper cement and copper sulfate.

Our smelters process mostly zinc concentrate, 50.5% of which was sourced from our mines during 2021, and 49.5% purchased from third parties or obtained as secondary raw material. Approximately 100% of the total volume of the contained zinc in concentrates produced by our mines was processed by our own smelters in 2021, with the remainder and all our copper and lead concentrates sold to third parties. We market our products in Latin America and globally, through our commercial offices in Luxembourg, the United States, Brazil and Peru. We also own energy assets (hydroelectric power plants) in both Brazil and Peru, which provide access to a reliable and competitive power supply.

In 2021, we also made significant progress on the Aripuanã project. In October 2021, we obtained the operating license and overall progress reached 99.3% at the end of December 2021. Nevertheless, the emergence of new variants of COVID-19 and related health protocols, along with heavy levels of rainfall experienced in the region, impacted our productivity (lower-than-anticipated workforce), which added additional pressure on costs and timeline. The Aripuanã ramp-up is now scheduled for 3Q22 and the total CAPEX was revised from US$575-595 million to US$625 million.

In response to the global COVID-19 pandemic, in 2020 we created a Crisis Committee, which includes all executive officers, certain key general managers and personnel to carry out preventive safety and health procedures in our operations and offices. The Crisis Committee remains in place and in 2021 met regularly to discuss the proper measures to be implemented and the ongoing impact of the COVID-19 pandemic in our operations and projects. Our COVID-19 associated costs during 2021 amounted to US$18 million. For more information, see "Operating and Financial Review and Prospects—Overview—Executive Summary—COVID-19" below.

History

We commenced operating in 1956 under the name "Companhia Mineira de Metais", in the state of Minas Gerais, Brazil. After a series of restructurings in the subsequent fifty-eight years, in 2014, a new corporate governance model was implemented by our controlling shareholder VSA in the corporate group. VSA took on the roles of providing guidance and portfolio management, while its subsidiaries (including us) gained autonomy. The main consequence of this new corporate model was that the new governance structure demanded a higher level of empowerment and accountability of senior management, and the establishment of a board of directors at each company. In addition, in connection with the implementation of the new corporate governance model, VSA's equity participations in Nexa CJM (formerly Votorantim Metais – Cajamarquilla S.A.) and Nexa Brazil (formerly Votorantim Metais Zinco S.A.) were transferred to Nexa Resources on June 18, 2014 and July 1, 2014, respectively.

In 2016, VSA reorganized the zinc, copper, aluminum and nickel businesses previously managed under the name Votorantim Metais S.A. The aluminum and nickel businesses of Votorantim Metais S.A. were consolidated under Companhia Brasileira de Alumínio, or CBA. The zinc and copper production units in Brazil and Peru were transferred to Nexa Resources. Following this reorganization, Nexa Resources became the holding entity solely responsible for the zinc and copper business and CBA became responsible for the aluminum and nickel businesses.

In October 2017, we completed our initial public offering and listed our common shares on the New York Stock Exchange ("NYSE") and on the Toronto Stock Exchange ("TSX") under the ticker symbol NEXA. In connection with becoming a public company, VM Holding S.A. changed its corporate name to Nexa Resources S.A. and our subsidiaries Votorantim Metais—Cajamarquilla S.A., Votorantim Metais Zinco S.A. and Compañía Minera Milpo S.A.A. changed their corporate names to Nexa CJM, Nexa Brazil and Nexa Peru, respectively.

During the first half of 2021, Nexa acquired 30,550,512 common shares of Tinka Resources Limited and owns approximately 9% of the issued and outstanding common shares of the company. Tinka Resources is progressing towards development of the Ayawilca project (100% owned), one of the largest zinc projects in Peru with excellent resource expansion potential.

On November 9, 2021, following an internal assessment of the relative advantages and disadvantages associated with our listing on the TSX in Canada, we announced Nexa's intention to voluntarily delist its common shares from the TSX. In deciding to delist, we considered, among other things, the regulatory reporting burdens associated with the listing, the minimal trading volumes on the TSX and the availability of an alternative market for the common shares on the NYSE. Nexa subsequently announced that it received approval for a voluntary delisting from the TSX and the common shares were delisted from the TSX as of the close of trading on November 30, 2021. Nexa will remain a reporting issuer in each of the provinces and territories of Canada following the delisting and continue to file in Canada and disseminate to Canadian resident holders of the common shares its continuous and periodic disclosure documents until such time as it ceases to be obligated to do so. Furthermore, in 2022, Nexa intends to apply to cease to be a reporting issuer in Canada under Canadian securities laws, subject to the satisfaction of applicable regulatory requirements.

Corporate structure and principal subsidiaries

Nexa CJM

Currently, Nexa Resources is the beneficial owner of 99.92% of the outstanding shares of Nexa CJM, and the remaining outstanding shares are owned by Nexa Recursos Minerais S.A. with 0.08% and by other minority shareholders holding 0.003% in aggregate.

Nexa Peru

Currently, Nexa Peru's share capital consists of 1,257,754,353 common shares. In addition to common shares, Nexa Peru has issued investment shares that represent a participation in its net worth (*patrimonio*). Although the investment shares do not represent a participation in the capital of Nexa nor grant any voting rights, they grant their holders the right, among others, to participate in any dividend distributions and liquidation proceeds, pro rata to the percentage they represent in the total net worth of Nexa Peru; as well as to participate in any capital increases (in order to maintain the participation they represent in the total net worth) and the right to have their shares redeemed in certain circumstances. As of December 31, 2021, approximately 67.02% of the investment shares are free float and 32.98% are treasury shares.

Both the common shares and the investment shares of Nexa Peru are registered with the Peruvian Public Registry of Securities (*Registro Público del Mercado de Valores*) and listed on the Lima Stock Exchange. As a result, Nexa Peru is required to comply with certain disclosure obligations such as filing quarterly and annual financial statements, reporting on material events (*hechos de importancia*) and disclosing information regarding the economic group to which it belongs.

The following table sets forth information concerning the ownership of the capital stock of Nexa Peru, excluding the investment shares.

Shareholder	Number	Share Capital (%)
Nexa CJM	1,048,621,896	83.37%
Nexa Resources	2,277,601	0.18%
Public float	206,854,856	16.45%
Total	**1,257,754,353**	**100.0%**

Nexa Brazil

Nexa Brazil, which is 100% owned by Nexa Resources, holds directly and indirectly 100% of Mineração Dardanelos Ltda., which owns 100% of the Aripuanã project.

Producing mines and smelters

Our mines are:

- ***Cerro Lindo***. Our Cerro Lindo mine is an underground mine located in Peru wholly-owned by Nexa Peru. Operations began in 2007 and, in 2021, the Cerro Lindo mine produced approximately 102.3 thousand tonnes of zinc contained in concentrates, 29.1 thousand tonnes of copper contained in concentrates, 12.8 thousand tonnes of lead contained in concentrates, 3,813.7 thousand ounces of silver contained in concentrates and 4.8 thousand ounces of gold contained in concentrates. The ore is treated at a concentrate plant that has a processing capacity to 21.0 thousand tonnes of ore per day.

- ***Vazante***. Our Vazante mine is an underground and open pit mine located in Brazil wholly-owned by Nexa Brazil. Operations began in 1969 and, in 2021, the Vazante mine produced approximately 140.5 thousand tonnes of zinc contained in concentrates, 1.6 thousand tonnes of lead contained in concentrates and 500.5 thousand ounces of silver contained in concentrates. The ore is treated at a concentrate plant that has a processing capacity of 4.6 thousand tonnes of ore per day.

- ***El Porvenir.*** Our El Porvenir mine is an underground mine located in Peru wholly-owned by Nexa Resources El Porvenir S.A.C. Operations began in 1949 and, in 2021, the El Porvenir mine produced approximately 51.4 thousand tonnes of zinc contained in concentrates, 0.5 thousand tonnes of copper contained in concentrates, 17.7 thousand tonnes of lead contained in concentrates, 3,467.2 thousand ounces of silver contained in concentrates and 8.7 thousand ounces of gold contained in concentrates. The ore is treated at a concentrate plant that has a processing capacity of 6.5 thousand tonnes of ore per day.

- ***Atacocha***. Our Atacocha mine is an underground and open pit mine located in Peru wholly-owned by Nexa Resources Atacocha S.A.A. (formerly Compañía Minera Atacocha). Operations began in 1938 and, in 2021, the Atacocha mine produced approximately 8.5 thousand tonnes of zinc contained in concentrates, 8.7 thousand tonnes of lead contained in concentrates, 1,026.8 thousand ounces of silver contained in concentrates and 11.9 thousand ounces of gold contained in concentrates. The ore is treated at a concentrate plant that has a processing capacity of 4.3 thousand tonnes of ore per day. In 2020, in response to COVID-19 and the uncertain macroeconomic scenario and our efforts to reduce costs and improve operational efficiency, we decided to not resume the higher-cost Atacocha underground mine after the mandatory temporary suspension of our operations in Peru and placed it under care and maintenance, which it remains to date.

- ***Morro Agudo***. Our Morro Agudo mine is an underground and open pit mine located in Brazil wholly-owned by Nexa Brazil. Operations began in 1988 and, in 2021, the Morro Agudo mine produced approximately 17.3 thousand tonnes of zinc contained in concentrates and 4.7 thousand tonnes of lead contained in concentrates. The ore mill feed material is treated at a concentrate plant that has a processing capacity of 3.4 thousand tonnes per day.

Our smelters are:

- ***Cajamarquilla***. Our Cajamarquilla smelter, which is wholly-owned by Nexa CJM, is located in Peru and began operating in 1981. It is currently the largest zinc smelter in Latin America and was the fifth largest zinc smelter in the world in 2021, according to Wood Mackenzie. Cajamarquilla uses Roast-Leach-Electrowinning technology. With a nominal production capacity of 344.4 thousand tonnes of contained zinc per year, Cajamarquilla produced 328.1 thousand tonnes of zinc metal available for sales in 2021 and 305.4 thousand tonnes in 2020. In 2021, 36.9% of the zinc contained in raw material used by Cajamarquilla was sourced from our mines in Peru and 63.1% was purchased from third parties or obtained from secondary feed materials.

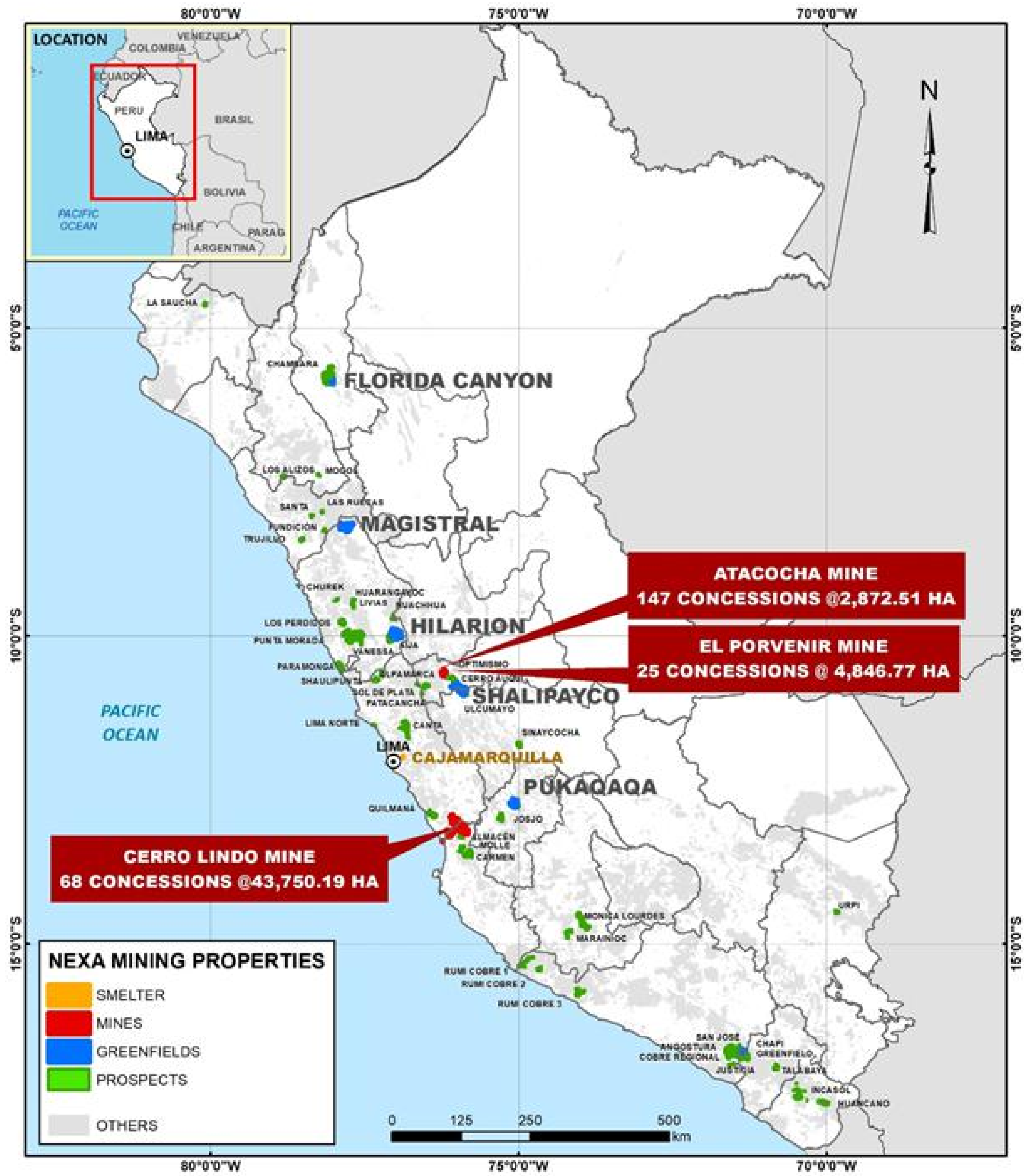
- ***Três Marias***. Our Três Marias smelter, which is wholly-owned by Nexa Brazil, is located in Brazil and began operating in 1969. Três Marias processes zinc silicate concentrate from our Vazante mine and zinc sulfide concentrate from our Morro Agudo mine and uses Roast-Leach-Electrowinning technology. With a nominal production capacity of 192.2 thousand tonnes of refined metal per year, Três Marias produced 198.4 thousand tonnes of zinc metal and oxide available for sale in 2021 and 202.8 thousand tonnes in 2020. In 2021, 82.8% of the zinc contained in raw materials used by Três Marias was sourced from our mining operations in Brazil and Peru and 17.2% was purchased from third parties or obtained from secondary feed materials.

- ***Juiz de Fora***. Our Juiz de Fora smelter, which is wholly-owned by Nexa Brazil, is located in Brazil and began operating in 1980. This smelter uses Roast-Leach-Electrowinning and Waelz Furnace technologies. With a nominal production capacity of 96.9 thousand tonnes per year, Juiz de Fora produced 81.1 thousand tonnes of zinc metal available for sale in 2021 and 79.4 thousand tonnes in 2020. In 2021, 32.8% of the zinc raw material used by Juiz de Fora was zinc concentrate sourced from our mining operations, 47.9% was purchased from third parties and 19.3% was obtained from secondary feed materials from electric arc furnace ("EAF") and brass oxide.

In addition to our operating mines and smelters, we have interests in five greenfield mining projects in Peru (Shalipayco, Magistral, Hilarión, Pukaqaqa and Florida Canyon Zinc) and two in Brazil (Aripuanã, which is currently nearing completion with production expected to begin in 3Q22 and is considered a development stage property under subpart 1300 of Regulation S-K ("S-K 1300"), and Caçapava do Sul). For more information about these projects, please see "Information on the Company—Mining operations—Growth projects."

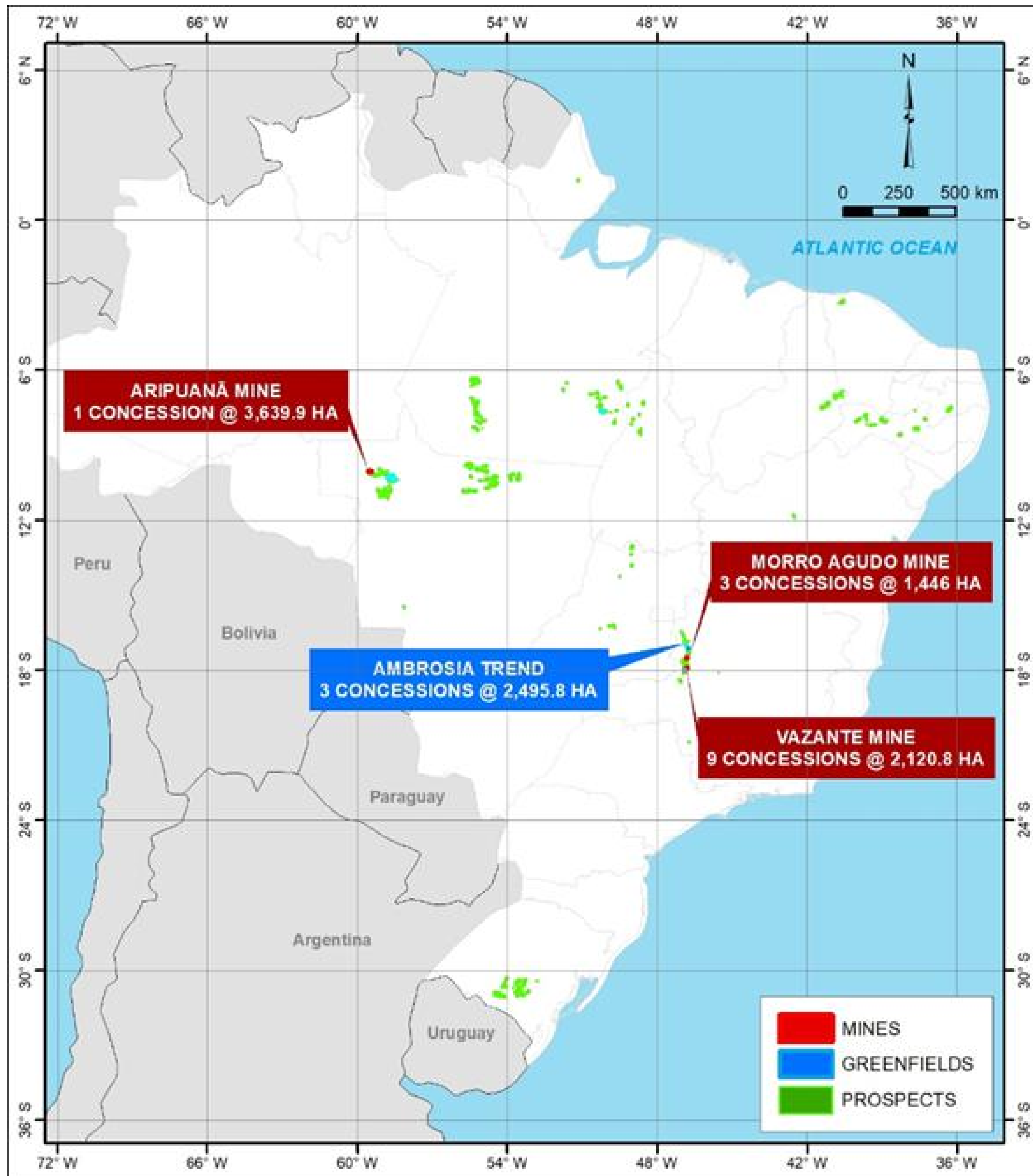
MINING OPERATIONS

Map 1. Mines, Projects and Prospects in Peru



Source: Nexa Resources.

Map 2. Mines, Projects and Prospects in Brazil



Source: Nexa Resources.

The following table summarizes our concentrate production, metal contained in concentrate production in each metal and zinc equivalent production in each of our operating mines.

To calculate the zinc equivalent production for the years ended December 31, 2021, 2020 and 2019, we convert the relevant metal contained in concentrate production used in the zinc equivalent grade based on the average benchmark prices for 2021, namely, US$3,007.4 per tonne (US$1.36 per pound) for zinc, US$9,317.5 per tonne (US$4.23 per pound) for copper, US$2,206.2 per tonne (US$1.00 per pound) for lead, US$25.1 per ounce for silver and US$1,798.6 per ounce for gold.

	For the Year Ended December 31,		
	2021	**2020**	**2019**
Treated Ore (in tonnes)	12,330,469	10,853,740	13,001,535
Mining Production—Metal Contained in Concentrate			
Zinc (in tonnes)	319,950	313,074	361,061
Copper (in tonnes)	29,607	28,154	38,184
Lead (in tonnes)	45,565	38,009	51,349
Silver (in oz) [(1)]	8,808,291	6,825,882	8,900,995
Gold (in oz)	25,501	16,179	24,955
Mining Production—Zinc Equivalent Production			
Cerro Lindo (in tonnes of zinc equivalent)	236,629	217,090	281,870
El Porvenir (in tonnes of zinc equivalent)	100,121	66,744	103,755
Atacocha (in tonnes of zinc equivalent)	30,638	30,750	50,168
Vazante (in tonnes of zinc equivalent)	145,869	152,173	142,571
Morro Agudo (in tonnes of zinc equivalent)	23,780	31,209	30,435
Total	537,038	497,965	608,799

(1) Silver volumes include silver in lead concentrate produced in Vazante.

The following table summarizes the average ore grade for the periods indicated.

	For the Year Ended December 31,		
	2021	**2020**	**2019**
Average Ore Grade			
Zinc (%)	2.98	3.28	3.16
Copper (%)	0.31	0.33	0.37
Lead (%)	0.51	0.49	0.52
Silver (in ounces per tonne)	0.95	0.90	0.94
Gold (in ounces per tonne)	0.005	0.004	0.005

Each mine consists of one mine, one treatment plant and related infrastructure. We summarize below information as of December 31, 2021 for each of our five mines. For further information about our greenfield projects, including the Aripuanã project, for which mechanical construction is nearly completed and production is expected to commence in the third quarter of 2022, see “Greenfield projects—Aripuanã.” For an overview of our reserves and resources, see “Mineral Reserves and Resources—Disclosure of Mineral Reserves and Resources”, “Mineral Reserves and Resources—Mineral Reserves” and “Mineral Reserves and Resources—Mineral Resources.”

Cerro Lindo

Location and means of access

The Cerro Lindo mine is an underground, polymetallic mine located in the Chavín District, Chincha Province, Peru, approximately 268 km southeast of Lima and 60 km from the coast. Access from Lima is available via the paved Pan American Highway south to Chincha, and then via an unpaved road up the Topara River valley to the mine site. Internal roadways connect the various mine site components. The approximate coordinates of the mine are 392,780m East and 8,554,165m North, using the Universal Transverse Mercator WGS84 datum and the project site is located at an average elevation of 2,000 meters above sea level.

History

Several companies have held interests in the Cerro Lindo mine area, including BTX, Phelps Dodge, and Nexa Peru. Exploration work completed to date includes geological mapping, rock chip and soil sampling, trenching, ground geophysical surveys, and exploration, definition and underground operational core drilling. Feasibility studies were completed in 2002 and 2005, with mine construction commencing in 2006. Formal production started in 2007, and the mine has been operational since that date.

Title, leases and options

All mineral concessions are held in the name of Nexa Peru. The tenure consists of 68 mining concessions totaling approximately 43,750.2 hectares and one beneficiation concession, covering an area of 518.8 hectares.

Nexa Peru currently holds surface rights or easements for the following infrastructure at Cerro Lindo: mine site, access roads, power transmission line and water pipeline for the mine, old and new power transmission lines to Cerro Lindo, desalination plant, water process plant, and the water pipeline from the desalination plant to the mine site. There is sufficient suitable land available within the mineral tenure held by Nexa Peru for tailings disposal, mine waste disposal and installations such as the process plant and related mine infrastructure.

Cerro Lindo is currently subject to payment of royalties. The tax stability agreement expired on December 31, 2021. As of January 2022, Nexa Peru is required to pay royalties and special mining tax to the Peruvian government. For more information, see "Information on the Company—Regulatory matters—Peruvian regulatory framework." As of December 31, 2021, Nexa Peru had a total of six water licenses, one for use of seawater, and the remaining five for ground water extraction.

Cerro Lindo holds a number of permits in support of the current operations. The permits are Directorial Resolutions issued by the Peruvian authorities upon approval of mining environmental impact assessments filed by the mining companies. Nexa Peru maintains an up-to-date record of the legal permits obtained to date.

Mineralization

Cerro Lindo is classified as a volcanogenic massive sulfide ("VMS") deposit. The Cerro Lindo deposit is 1,500 meters long, 1,000 meters wide, and has a current vertical development of 470 meters below the surface. Mineralization consists of at least 10 discrete mineralized zones. The Cerro Lindo deposit comprises lens-shaped massive bodies, composed of pyrite (50.0% to 90.0%), yellow sphalerite, brown sphalerite, chalcopyrite, and minor galena. Significant barite is present mainly in the upper portions of the deposit. A secondary-enrichment zone, composed of chalcocite and covellite, has formed near the surface where massive sulfides have oxidized. Silver-rich powdery barite remains at the surface as a relic of sulfide oxidation and leaching.

During 2021, we completed approximately 90.0 km of diamond drilling, divided between exploration and infill drilling. By the end of 2021, we drilled in our exploration program, 19.0 km in 26 drill holes from surface in Pucasalla target, 4.2 km northwest from Cerro Lindo from March 2021, confirming sulfide lens of sphalerite, galena and chalcopyrite in a dacite host rock with gangue of barite. In underground, we drilled 14.2 km in 33 drill holes, confirming the continuity of the east extension of the orebody OB-9 and the southeast extension of the orebody OB-5B. Pucasalla superficial bodies are located north of Topará River and near mine ore bodies are located to the south of the Topará River.

During 2022, we expect to complete a total of 38.7 km of exploratory drilling. Our objective in surface is to continue the exploratory drilling program to the northwest and east extension of Pucasalla, construction of new access and platforms to test Pucasalla Sur and Festejo targets. In underground exploration we will drill towards the OB-9, OB-8, OB-6 extensions and Festejo, Festejo West and Pucasalla Sur targets. In 2021, we spent US$7.7 million in exploration expenses for Cerro Lindo, primarily associated with diamond drilling, geochemistry analysis and geological research works. We have budgeted US$8.9 million for the project during 2022 to maintenance office, data interpretations and exploratory drilling campaign.

Operations and infrastructure

The Cerro Lindo mine is completely mechanized, using rubber-tired equipment for all development and production operations. There is no shaft; all access is through 15 portals servicing adits, drifts and declines. Ore is extracted from nine separate ore bodies and delivered to the process plant via a series of conveyors. All ore is commingled during transport to the concentrator stockpile; ore from different ore bodies is not segregated.

We have completed construction of all key infrastructure required for mining and processing operations, including the underground mine, access roads, power lines, water pipelines, the desalination plant, offices and warehouses, accommodations, the process plant/concentrator, conveyor systems, waste rock facilities, temporary ore stockpiles, the paste-fill plant and the dry-stack tailings storage facilities. A new freshwater pipeline from the desalination plant on the coast to the mine was completed in February 2020 and is operational. The national grid supplies electrical power for the mine site.

In 2021, we spent US$36.6 million on sustaining capital expenditures for Cerro Lindo, primarily associated with mine development, equipment replacement and other major infrastructure projects.

Production

The Cerro Lindo mine is in the production stage and has a treatment plant capacity of 21,000 tonnes of ore per day. The Cerro Lindo unit has an authorized capacity of 20,000 tonnes of ore per day, but Peruvian law allows units to operate at a capacity 5.0% higher than their authorized capacity.

In December 2021, the road access to the mine was disrupted by a local community group's protest activity and production was suspended, consequently reducing ore throughput for four days.

The table below summarizes the Cerro Lindo mine's concentrate production, metal contained in concentrates produced and average grades for the periods indicated. Production in 2021 was significantly higher than 2020 due to higher ore treated, since in 2020 operations were temporarily suspended due to the impact of mandatory government measures related to COVID-19.

	For the Year Ended December 31,		
	2021	**2020**	**2019**
Treatment ore (in tonnes)	6,369,044	5,482,211	6,799,747
Average ore grade			
Zinc (%)	1.79	1.93	2.05
Copper (%)	0.54	0.59	0.64
Lead (%)	0.28	0.29	0.25
Silver (ounces per tonne)	0.79	0.78	0.69
Gold (ounces per tonne)	0.002	0.003	0.002
Metal contained in concentrates production			
Zinc (in tonnes)	102,275	95,426	126,310
Copper (in tonnes)	29,102	27,820	37,678
Lead (in tonnes)	12,849	11,590	12,256
Silver (in oz)	3,813,731	2,938,985	3,250,479
Gold (in oz)	4,829	4,020	4,458
Cash Cost, net of by-product credits (in US$/t)	(525.0)	(8.7)	356.0
Cash Cost, net of by-product credits (in US$/lb)	(0.24)	(0.00)	0.16
Capital Expenditures (in millions of US$)	40.6	27.7	50.5

Mineral Reserves and Mineral Resources

The Cerro Lindo Mineral Reserves estimates are based on the definitions for Mineral Reserves in SK-1300 and the tables below are based on costs and modifying factors from the Cerro Lindo mine.

Cerro Lindo – Year End Mineral Reserves as of December 31, 2021 (on an 83.48% Nexa attributable ownership basis) (1)

Ownership	Class	Tonnage(2) (Mt)	Grade Zinc (%)	Grade Copper (%)	Grade Silver (g/t)	Grade Lead (%)	Grade Gold (g/t)	Contained Metal Zinc (kt)	Contained Metal Copper (kt)	Contained Metal Silver (koz)	Contained Metal Lead (kt)	Contained Metal Gold (koz)
83.48%	Proven	20.29	1.61	0.65	21.8	0.21	-	327.4	132.1	14,217	42.3	-
	Probable	16.48	1.21	0.59	22.9	0.20	-	198.7	97.0	12,120	32.6	-
	Subtotal	**36.76**	**1.43**	**0.62**	**22.3**	**0.20**	**-**	**526.1**	**229.1**	**26,337**	**74.9**	**-**

Notes:

1. Subpart 1300 of Regulation S-K definitions were followed for Mineral Reserves, which also are consistent with the CIM (2014) definitions.
2. Mineral Reserves data presented in this table are reported on 83.48% Nexa attributable ownership.
3. Numbers may not add due to rounding.
4. The qualified person for the Mineral Reserves estimate is SLR Consulting Ltd., an independent mining consulting firm.

Cerro Lindo – Year End Mineral Reserves as of December 31, 2021 (on a 100% ownership basis) (1)

Ownership	Class	Tonnage(2) (Mt)	Grade Zinc (%)	Grade Copper (%)	Grade Silver (g/t)	Grade Lead (%)	Grade Gold (g/t)	Contained Metal Zinc (kt)	Contained Metal Copper (kt)	Contained Metal Silver (koz)	Contained Metal Lead (kt)	Contained Metal Gold (koz)
83.48%	Proven	24.30	1.61	0.65	21.8	0.21	-	392.2	158.3	17,030	50.6	-
	Probable	19.74	1.21	0.59	22.9	0.20	-	238.0	116.2	14,519	39.1	-
	Subtotal	**44.04**	**1.43**	**0.62**	**22.3**	**0.20**	**-**	**630.3**	**274.4**	**31,549**	**89.7**	**-**

Notes:

1. Subpart 1300 of Regulation S-K definitions were followed for Mineral Reserves, which also are consistent with the CIM (2014) definitions.
2. Mineral Reserves data presented in this table represents 100% of the Mineral Reserves estimates for the property. Nexa owns 83.48%
3. Numbers may not add due to rounding.
4. The qualified person for the Mineral Reserves estimate is SLR Consulting Ltd., an independent mining consulting firm.

The Cerro Lindo Mineral Reserves are estimated at an NSR cut-off value of US$38.43/t processed. A number of incremental material (with values between US$29.13/t and US$38.84/t was included in estimate. A minimum mining width of 5.0m was used, inclusive of extraction factors and dilution are applied based on stope type and location. The net smelter return ("NSR") cut-off value is determined using the mineral reserve metal prices, metal recoveries, concentrate transport, treatment and refining costs, as well as mine operating costs. Metal prices used for Mineral Reserves are based on consensus, long term forecasts from banks, financial institutions and other sources. Mineral Reserves are estimated using average long-term metal prices of zinc: US$2,722.20/t (US$1.23/lb); lead: US$1,997.21/t (US$0.91/lb); copper: Cu: US$7,288.26/t (US$3.31/lb) and silver: US$19.68/oz. Metallurgical recoveries are accounted for in NSR calculations based on historical processing data and are variable as a function of head grade. Recoveries at Life of Mine average head grade are 88.1% for Zn, 68.9% for Pb, are 86.6% for Cu, and 68.8% for Ag. The current life of mine ("LOM") plan continues to 2029.

Cerro Lindo – Net Difference in Mineral Reserves between December 31, 2021 versus December 31, 2020

Class	Tonnage (Mt)	Contained Metal Zinc (kt)	Copper (kt)	Silver (koz)	Lead (kt)	Gold (koz)
Proven	(3.26)	(74.6)	(10.0)	(1,576)	(10.7)	-
Probable	(1.74)	1.2	(16.7)	(521)	0.5	-
Subtotal	**(5.00)**	**(73.4)**	**(26.7)**	**(2,097)**	**(10.2)**	**-**

Notes:
1. The total Mineral Reserves dated from December 31, 2020 considered an ownership basis of 80.16%.
2. The total Mineral Reserves dated from December 31, 2021 considered an ownership basis of 83.48%.

Cerro Lindo – Net Difference in Mineral Reserves between December 31, 2021 versus December 31, 2020

Class	Tonnage[(1)] (Mt)	Contained Metal Zinc (kt)	Copper (kt)	Silver (koz)	Lead (kt)	Gold (koz)
Proven	(5.07)	(109.2)	(19.0)	(2,672)	(15.5)	-
Probable	(2.99)	(8.4)	(25.7)	(1,251)	(1.0)	-
Subtotal	**(8.06)**	**(117.6)**	**(44.7)**	**(3,923)**	**(16.4)**	**-**

Notes:
1. The total Mineral Reserves data presented in this table are calculated on 100% basis. Nexa owns 83.48%.

In comparison to 2020, Cerro Lindo's Mineral Reserves have decreased mainly due depletion from mining, increase in NSR cut-off values and geotechnical issues related to deteriorating ground conditions.

Cerro Lindo – Year End Mineral Resources as of December 31, 2021 (on an 83.48% Nexa attributable ownership basis) [(1)]

Ownership	Class	Tonnage[(2)] (Mt)	Grade Zinc (%)	Copper (%)	Silver (g/t)	Lead (%)	Gold (g/t)	Contained Metal Zinc (kt)	Copper (kt)	Silver (koz)	Lead (kt)	Gold (koz)
83.48%	Measured	3.24	1.93	0.61	21.6	0.23	-	62.5	19.8	2,249	7.4	-
	Indicated	2.97	1.04	0.48	28.1	0.26	-	30.9	14.3	2,685	7.8	-
	Subtotal	**6.21**	**1.50**	**0.55**	**24.7**	**0.24**	**-**	**93.4**	**34.1**	**4,934**	**15.2**	**-**
	Inferred	6.87	1.40	0.29	39.2	0.46	-	96.2	19.9	8,659	31.6	-

Notes:
1. Subpart 1300 of Regulation S-K definitions were followed for Mineral Resources, which also are consistent with the CIM (2014) definitions.
2. Mineral Resources Tonnes and Contained Metal presented in this table are reported on 83.48% Nexa attributable ownership.
3. Mineral Resources are reported exclusive of those Mineral Resources that were converted to Mineral Reserves, and Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.
4. Numbers may not add due to rounding.
5. The qualified person for the Mineral Resources estimate is José Antonio Lopes, B.Geo., FAusIMM (CP) Geo, a Nexa Resources employee.

Cerro Lindo – Year End Mineral Resources as of December 31, 2021 (on a 100% Nexa ownership basis) (1)

Ownership	Class	Tonnage (Mt)	Grade Zinc (%)	Grade Copper (%)	Grade Silver (g/t)	Grade Lead (%)	Grade Gold (g/t)	Contained Metal Zinc (kt)	Contained Metal Copper (kt)	Contained Metal Silver (koz)	Contained Metal Lead (kt)	Contained Metal Gold (koz)
83.48%	Measured	3.88	1.93	0.61	21.6	0.23	-	74.9	23.7	2,694	8.9	-
	Indicated	3.56	1.04	0.48	28.1	0.26	-	37.0	17.1	3,216	9.3	-
	Subtotal	**7.44**	**1.50**	**0.55**	**24.7**	**0.24**	**-**	**111.9**	**40.8**	**5,910**	**18.2**	**-**
	Inferred	8.23	1.40	0.29	39.2	0.46	-	115.2	23.9	10,372	37.9	-

Notes:

1. Subpart 1300 of Regulation S-K definitions were followed for Mineral Resources, which also are consistent with the CIM (2014) definitions.
2. Mineral Resources data presented in this table represents 100% of the Mineral Resources estimates for the property. Nexa owns 83.48%.
3. Mineral Resources are reported exclusive of those Mineral Resources that were converted to Mineral Reserves, and Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.
4. Numbers may not add due to rounding.
5. The qualified person for the Mineral Resources estimate is José Antonio Lopes, B.Geo., FAusIMM (CP) Geo, a Nexa Resources employee.

The Cerro Lindo Mineral Resources estimates in the table above were completed using Datamine Studio RM (“Datamine”) and Seequent’s Leapfrog Geo (“Leapfrog”) software. Wireframes for geology and mineralization were constructed in Leapfrog based on geology sections, assay results, lithological information, underground mapping and structural data. Assays were capped to various levels based on exploratory data analysis and then composited to 2.5 m lengths. Wireframes were filled with blocks sub-celled at wireframe boundaries. Blocks were interpolated with grade using the ordinary kriging (“OK”) and inverse distance cubed (“ID3”) interpolation algorithms. Block estimates were validated using industry standard validation techniques. Classification of blocks used distance-based and other criteria. The Cerro Lindo Mineral Resources estimates were reported using all the material within resource shapes generated in Deswik Stope Optimizer (“DSO”) software. The estimate satisfied the minimum mining width of 4.0 m for resource shapes, and used NSR cut-off value of US$38.84/t. NSR cut-off values for Cerro Lindo’s Mineral Resources estimate are based on an average long-term zinc price of US$3,130.52/t (US$1.42/lb), a lead price of US$2,296.79/t (US$1.04/lb), a copper price of US$8,381.50/t (US$3.80/lb) and a silver price of US$22.63/oz. Metallurgical recoveries are accounted for in NSR calculations based on historical processing data, and are variable as a function of head grade. Recoveries at Life of Mine average head grade are 88.1% for Zn, 68.9% for Pb, are 86.6% for Cu, and 68.8% for Ag.

Cerro Lindo – Net Difference in Mineral Resources between December 31, 2021 versus December 31, 2020

Class	Tonnage (Mt)	Contained Metal Zinc (kt)	Contained Metal Copper (kt)	Contained Metal Silver (koz)	Contained Metal Lead (kt)	Contained Metal Gold (koz)
Measured	(0.29)	(7.9)	(3.8)	25	0.3	-
Indicated	(0.56)	(7.0)	1.8	460	0.8	-
Subtotal	**2.68**	**(14.9)**	**(1.9)**	**486**	**1.1**	**-**
Inferred	3.34	7.1	(3.4)	1,647	7.1	-

Notes:

1. The total Mineral Reserves dated from December 31, 2020 considered an ownership basis of 80.16%.
2. The total Mineral Reserves dated from December 31, 2021 considered an ownership basis of 83.48%.

Cerro Lindo – Net Difference in Mineral Resources between December 31, 2021 versus December 31, 2020

Class	Tonnage (Mt)	Contained Metal Zinc (kt)	Copper (kt)	Silver (koz)	Lead (kt)	Gold (koz)
Measured	(0.52)	(12.9)	(5.7)	(80)	0.0	-
Indicated	0.10	(10.3)	1.6	440	0.5	-
Subtotal	**(0.42)**	**(23.2)**	**(4.1)**	**360**	**0.6**	**-**
Inferred	(0.48)	4.1	(5.2)	1,624	7.3	-

Notes:

1. Mineral Resources data presented in this table are calculated on 100% basis. Nexa owns 83.48%.

In comparison to 2020, Cerro Lindo's Mineral Resources have slightly decreased, mainly due to changes in mining constrains and stope optimization.

Vazante

Location and means of access

The Vazante mine is an underground and open pit, polymetallic mine located about 8.5 km from the municipality of Vazante, in the state of Minas Gerais, Brazil. The approximate coordinates of the mine are 17 57' 33" S and a longitude of approximately 46° 49' 42" W, within Zone 23S of the Universal Transverse Mercator coordinate system (Corrego Alegre Datum) at approximately 306,000m E and 8,016,000m N and the project area has elevations ranging from 690 to 970 meters above sea level. Access from Brasilia is via federal highway BR-040 toward Paracatu. Internal roadways connect the various mine-site components. Concentrates are trucked about 250 km to the Três Marias smelter. The closest commercial airport is located in Brasilia. The Vazante municipal airport for light aircraft is adjacent to the mine site.

History

Mineralization was initially exploited by artisanal miners during the 1950s. Mechanized open pit mining and underground mining commenced in 1969 and 1983, respectively. The current primary ore types mined are hydrothermal zinc silicates and willemite. Initial mining operations exploited supergene calamine ores and a mixture of the zinc secondary minerals hemimorphite and smithsonite, which are derived from the weathering of silicate ore.

Title, leases and options

Nexa Brazil owns 100.0% of the Vazante project. Mineral concessions are divided into core tenements, where the known mineral deposits are located and where we have active mining operations, and the surrounding exploration concessions. Nexa Brazil holds one mining concession application, two mining concessions and one group of mining concessions in the core area that have a total area of 2,120.8 hectares. The group of mining concessions comprises six mining concessions, totaling an area of 819.5 hectares. The Mineral Reserves and Resources are located within the limits of one mining concession application and seven mining concessions with a total area of 1,894.3 hectares, which host the active mining operations. One mining concession (tenement # 14.840/1967), which is part of the group of mining concessions, has a potential to host zinc and lead mineralization, however it does not yet have associated mineral reserves and resources.

Nearby the main area, Nexa Brazil also holds 4 exploration applications totaling 1,287.2 hectares, 60 exploration authorizations totaling 47,050.5 hectares, one right to apply for mining concession totaling 344.5 hectares, one mining concession application totaling 190.0 hectares and one mining concession totaling 52.5 hectares, in addition to the core tenements.

Nexa Brazil holds surface rights sufficient to support the current operations. Some surface rights agreements require annual payments to the owners. Three easements have been granted in support of the mining activities. There is sufficient suitable land available within the mineral tenure held by Nexa Brazil for tailings disposal, mine waste disposal, and installations such as the process plant and related mine infrastructure.

Brazilian companies that hold mining concessions are subject to a royalty payment imposed by the National Mining Agency. For more information, see “Information on the Company—Regulatory matters—Brazilian regulatory framework—Royalties and other taxes on mining activities.”

Nexa Brazil holds nine licenses for water management and water use in the operations. Nexa Brazil has lodged renewal applications, where applicable, for the water management.

The Vazante Operation holds several permits in support of the current operations. The main instrument to regulate the Vazante Operation is a set of operating licenses issued by the COPAM from the state of Minas Gerais. The licenses are active, some of them under renewal process.

Mineralization

The Vazante and Extremo Norte zinc deposits are epigenetic zinc silicate deposits, and Vazante is one of the largest deposits of its type worldwide. Mineralization exists within a sequence of pelitic carbonate rocks belonging to the Serra do Poço Verde formation of the Vazante group. The major structural control is the Vazante fault.

We are conducting ongoing tests to explore extensions of known mineralization, infilling areas where no data are currently available, and identifying other areas where mineralization may be present. Examples of exploration successes using these methods within the Vazante mine area include our projects Lumiadeira, Ramp 29, and Deep Exploration.

In 2021, we completed approximately 73.5 km of diamond drilling, divided between exploratory (7.5 km) and infill (66.0 km) drilling. The focus of the exploratory drilling was on the extension of the Vazante mine ore bodies, exploring the targets Lumiadeira, Extremo Norte and Sucuri Norte. In addition, exploratory drilling at Varginha Norte and Vazante Sul targets confirmed the presence of a hydrothermal breccia with moderate Fe-rich carbonation alteration and punctual occurrences of willemite.

In 2021, we spent US$1.3 million on brownfield projects for life of mine extension, including exploration project maintenance and geological activities. In 2021, we drilled 16 exploration drill holes, totaling 7.547,5 meters. We have budgeted US$2.0 million for the project during 2022 and we expect to drill 7.000,0 meters.

Operations and infrastructure

The Vazante operation consists of two mechanized underground mines, the Vazante Mine and Extremo Norte Mine, currently operating at a rate of approximately 1.5 Mtpy. Production drilling operations have been performed by company personnel using a variety of drilling machines throughout the history of the Vazante mine.

The Vazante underground mine has been in operation since 1983 and is a fully mechanized mine using rubber-tired diesel equipment for development and production activities. Access is through two portals for Vazante and one portal for Extremo Norte. As development progresses at Extremo Norte, a connecting drift will be established from Vazante to Extremo Norte.

All infrastructure required for the current mining and processing operations has been constructed and is operational. This includes the underground mines, access roads, power lines, water pipelines, offices and warehouses, a process plant/concentrator, conveyor systems, waste rock facilities, temporary ore stockpiles, paste-fill plants, and tailings storage facilities.

The power supply to the Vazante operation is provided by one independent 138 kV transmission lines that feed the site and that can provide up to 55 MW. There are two 30/40 MVA and one 18/23 MVA transformers in the surface substation at the Vazante Operation and power is distributed to other areas of the mine at 13.8 kV and 440 V via transformer secondaries to power mine equipment. The power demand by 2026 is expected to reach approximately 46 MW as dewatering demands continue to grow. Companhia Energética de Minas Gerais S.A (“CEMIG”) is building a new transmission line from Paracatu to Vazante of 60 MW capacity, which is expected to be concluded in 2022. There are two 700 kVA diesel generators on site to provide backup power in case of main line interruption. The price of electrical energy is budgeted at R$0.339/kWh for 2022.

In 2021, we spent US$28.6 million on sustaining capital expenditures for this property, primarily associated with mine development, equipment replacement and other major infrastructure. In addition, we invested US$3.4 million in capital expenditures related to the Vazante mine deepening, focusing on expansion. For more information, see “Information on the Company—Mining Operations—Growth Projects—Vazante mine deepening project.”

In March 2021, during a regular inspection of the Extremo Norte mine in Vazante, we identified that the area around the main access and the escape route of the mine presented above-normal ground displacements. The Extremo Norte mine requires dewatering of the aquifer for its operations, which leads to depressurization and may cause local disturbances in the rock mass around the mine. As a preventive measure, activities in this area were temporarily suspended. Mine activities restarted in the third quarter of 2021 and the rehabilitation plan was concluded ahead of schedule, allowing us to resume mine production during the fourth quarter of 2021.

In January 2022, the daily production of the underground operations at Vazante was reduced to 60% of its capacity due to heavy rainfall levels in the state of Minas Gerais. As a result of the heavy rainfall, Vazante’s underground mine received more water than it could pump to the surface, partially flooding the lower levels of the mine. The Extremo Norte underground mine was not affected and continued to operate at full capacity. Nexa took all necessary measures to support the mine, focused on precautions to ensure the safety of its employees and the host communities, and continued to monitor the rainfall scenario in Minas Gerais in order to ensure the safety of workers and the resumption of mine activities. As of the date of this report, dewatering process is still in progress and we expect operations to resume at full capacity in early April 2022.

Production

The Vazante mine is in the production stage and has a treatment plant with a nominal design processing capacity of approximately 4,600 tonnes of ore per day. The table below summarizes the Vazante mine’s concentrate production, metal contained in concentrates produced and average grades for the periods indicated.

	For the Year Ended December 31,		
	2021	**2020**	**2019**
Treatment ore (in tonnes)	1,630,690	1,622,927	1,407,199
Average ore grade			
Zinc (%)	9.98	10.43	11.45
Lead (%)	0.35	0.36	0,31
Silver (ounces per tonne)	0.67	0.63	0.57
Metal contained in concentrate production			
Zinc (in tonnes)	140,500	147,990	139,041
Lead (in tonnes)	1,616	1,333	1,015
Silver (in oz)	500,549	383,509	333,141
Cash cost, net of by-product credits (in US$/t)	893.1	1,180.6	1,138.5
Cash cost, net of by-product credits (in US$/lb)	0.41	0.54	0.52
Capital Expenditures (in millions of US$)	45.4	37.6	70.0

Mineral Reserves and Mineral Resources

The Vazante Mineral Reserves estimates are based on the definitions for Mineral Reserves in SK-1300 and the tables below are based on costs and modifying factors from the Vazante mine.

Vazante – Year End Mineral Reserves as of December 31, 2021 (on a 100% ownership basis) (1)

Ownership	**Class**	**Tonnage(2) (Mt)**	**Grade**					**Contained Metal**				
			Zinc (%)	**Copper (%)**	**Silver (g/t)**	**Lead (%)**	**Gold (g/t)**	**Zinc (kt)**	**Copper (kt)**	**Silver (koz)**	**Lead (kt)**	**Gold (koz)**
100%	Proven	7.39	8.90	-	17.2	0.25	-	657.6	-	4,097	18.8	-
	Probable	8.52	8.66	-	10.6	0.19	-	737.6	-	2,896	16.4	-
	Subtotal	**15.91**	**8.77**	**-**	**13.7**	**0.22**	**-**	**1,395.2**	**-**	**6,992**	**35.3**	**-**

Notes:

1. Subpart 1300 of Regulation S-K definitions were followed for Mineral Reserves, which also are consistent with the CIM (2014) definitions.
2. Mineral Reserves data presented in this table represents 100% of the Mineral Reserves estimates for the property. Nexa owns 100%.
3. Numbers may not add due to rounding.
4. The qualified person for the Mineral Reserves estimate is SLR Consulting Ltd., an independent mining consulting firm.

The Vazante Mineral Reserves estimates in the table above consider actual costs and modifying factors from the Vazante mine, as well as operational level mine planning and budgeting. The dilution that has been applied is related to the selected mining method. The Vazante Mineral Reserves are estimated at a NSR cut-off grade of 4% Zn. The NSR cut-off value was determined using the mineral reserve metal prices, metal recoveries, transport, treatment and refining costs, as well as mine operating costs. A minimum mining width of 4.0 m was applied and average bulk density of 3.1 t/m^3. Mineral Reserves are estimated using average long-term metal prices of zinc: Zn: US2,722.20/t (US$1.23/lb); lead: Pb: US$1,997.21/t (US$0.91/lb); and silver: US$19.68/oz (using an average long term Brazilian Real (R$) to U.S. dollar exchange rate of 4.98). Long-term metal prices used for Mineral Reserves are based on consensus and long-term forecasts from banks, financial institutions and other sources. Metallurgical recoveries are accounted for in NSR calculations based on historical processing data, and are variable as a function of head grade. Recoveries at Life of Mine average head grade are 84.7% for Zn, 22.1% for Pb, and 42.0% for Ag. The current LOM plan continues to 2032.

Vazante – Net Difference in Mineral Reserves between December 31, 2021 versus December 31, 2020

Class	Tonnage (1)	Contained Metal				
		Zinc	Copper	Silver	Lead	Gold
	(Mt)	(kt)	(kt)	(koz)	(kt)	(koz)
Proven	(1.05)	(51.3)	-	(29)	(1.8)	-
Probable	0.28	9.7	-	(345)	(1.0)	-
Subtotal	**(0.78)**	**(41.5)**	**-**	**(374)**	**(2.8)**	**-**

Notes:

1. The total Mineral Reserves data presented in this table are calculated on 100% basis. Nexa owns 100%.

In comparison to 2020, Vazante's Mineral Reserves have decreased mainly due to depletion through mining, changes in mining costs, and cut-off grades. The slightly increase in Probable Reserves is associated with changes in mineral resource interpretation and estimates.

Vazante – Year End Mineral Resources as of December 31, 2021(1)

Ownership(2)	Class	Tonnage	Grade					Contained Metal				
			Zinc	Copper	Silver	Lead	Gold	Zinc	Copper	Silver	Lead	Gold
		(Mt)	(%)	(%)	(g/t)	(%)	(g/t)	(kt)	(kt)	(koz)	(kt)	(koz)
100%	Measured	2.34	3.63	-	6.4	0.12	-	84.9	-	466	2.8	-
	Indicated	2.94	5.53	-	3.4	0.07	-	162.7	-	311	2.1	-
	Subtotal	**5.28**	**4.69**	**-**	**4.7**	**0.09**	**-**	**247.6**	**-**	**777**	**4.9**	**-**
	Inferred	15.44	7.72	-	11.2	0.19	-	1,192.1	-	5,395	30.0	-

Notes:

1. Subpart 1300 of Regulation S-K definitions were followed for Mineral Resources, which also are consistent with the CIM (2014) definitions.
2. Mineral Resources data presented in this table represents 100% of the Mineral Resources estimates for the property. Nexa owns 100% of property.
3. Mineral Resources are reported exclusive of those Mineral Resources that were converted to Mineral Reserves, and Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.
4. Numbers may not add due to rounding.
5. The qualified person for the Mineral Resources estimate is José Antonio Lopes, B.Geo., FAusIMM (CP) Geo, a Nexa Resources employee.

The Vazante Mineral Resources estimates in the table above were completed using Datamine and Leapfrog software. The Mineral Resources at Vazante comprise three styles of mineralization. The first style of mineralization is represented by the hypogene (Willemite) mineralized zones that are found in the underground portions of the Vazante and Extremo Norte deposits. The second style of mineralization is represented by the supergene (Calamine) mineralized zones found in the Cava 3A, Matas dos Paulistas, and Braquiara areas of the Extremo Norte and Vazante deposits. This supergene (Calamine) mineralization is referred to at the Vazante Operation as calamine mineralization and comprises a mixture of smithsonite and hemimorphite minerals. The third type of mineralization comprises tailings that are contained within the Aroeira TSF. The material found in the Aroeira tailings comprise a mixture of hypogene (willemite) and supergene (calamine) minerals.

The Mineral Resource statements for the underground hypogene (willemite) mineralization are prepared within reporting panels prepared using the native functions and workflows available through the Deswik mine modelling software package considering spatial continuity, a minimum width of 3.0m and a NSR cut-off value of US$ 52.95/t for all resources shapes. The Mineral Resource estimates for the supergene (calamine) mineralization are prepared using an open pit shell that considers appropriate metal prices, mining costs, metallurgical recoveries and geotechnical considerations. The Mineral Resources are estimated at an NSR cut-off value of US$20.33/t for soil and US$22.18/t for fresh rock and transition material. The Mineral Resource statements for the tailings at Vazante are reported considering the material with an NSR value of greater than US$20.62/t which lies above the original topographic surface. All NSR cut-off values for Mineral Resources at Vazante are estimated using average long-term metal prices of zinc: US$3,130.52/t (US$1.42/lb), lead: US$2,296.79/t (US$1.04/lb) and silver: US$22.63/oz using an average long term Brazilian Real (R$) to U.S. dollar exchange rate of 4.98). Metallurgical recoveries are accounted for in NSR calculations based on historical processing data, and are variable as a function of head grade. Recoveries at LOM average hypogene head grades are 84.7% for Zn, 22.1% for Pb, and 42.0% for Ag.

Vazante – Net Difference in Mineral Resources between December 31, 2021 versus December 31, 2020

Class	Tonnage	Contained Metal				
		Zinc	Copper	Silver	Lead	Gold
	(Mt)	(kt)	(kt)	(koz)	(kt)	(koz)
Measured	(1.06)	(231.4)	-	(912)	(6.1)	-
Indicated	0.06	(191.8)	-	(520)	(3.9)	-
Subtotal	**(1.00)**	**(427.7)**	**-**	**(1,437)**	**(10.1)**	**-**
Inferred	1.59	(942.5)	-	(4,205)	(25.4)	-

Notes:

1. The total Mineral Reserves data presented in this table are calculated on 100% basis. Nexa owns 100%.

In comparison to 2020, Vazante's Mineral Resources have increased in inferred areas, mainly due to new interpretation of areas inside mine and due to changes in mineral resources estimation. The slight decrease in measured and indicated mineral resources are associated with the update of Mineral Reserves, as described above.

El Porvenir

Location and means of access

The El Porvenir mine is an underground, polymetallic mine located in the central Andes mountains region of Peru, specifically in the district of San Francisco de Asís de Yarusyacán, in the province of Pasco, Peru. The approximate coordinates of the mine are 367600m E, 8826850m N, using the Universal Transverse Mercator WGS84 datum, Z18S and the project site is located at an average elevation of 4,200 meters above sea level. The mine is situated at kilometer 340 of the Carretera Central Highway (Lima—Huánuco route), 13 km from the city of Cerro de Pasco. The mine is located in the Central Cordillera zone, which contains the communities of Parán, Lacsanga and Santo Domingo de Apache.

History

The El Porvenir mine began its operation as small-scale artisanal mine in 1949. We have been investing in the mine since then and, in 2012, production reached its current capacity of 6,500 tonnes per day. In 2013, we commenced the integration process with the Atacocha mine. In 2015, El Porvenir tailings deposit was integrated with Atacocha's. In 2016, we worked on integrating the energy supply between the two mines. In 2019, the two underground mines were connected allowing us to initiate an exploration program in the integration area. In 2020, in response to COVID-19 and based on our cost management strategy, the integration process was temporarily suspended and Atacocha's underground operations were not resumed after the mandatory restriction period from the Peruvian Government was lifted in June. As of the date of this annual report, the Atacocha underground mine is suspended under care and maintenance, and we intend to review and update the integration plan throughout 2022. For additional information on the integration of the El Porvenir and Atacocha mines, see "Information on the Company—Mining operations—Growth projects—Pasco mining complex" below.

Title, leases and options

The El Porvenir mine is operated by Nexa Resources El Porvenir S.A.C., a subsidiary of Nexa Peru in which Nexa Peru has directly and indirectly a 100% equity interest.

The El Porvenir mine has a total of 25 concessions covering approximately 4,846.8 hectares, as well as a beneficiation plant, "Acumulacion Aquiles 101". With respect to the surface property at El Porvenir project, there is a mining site of 450.8 hectares, where the mining concession is located, as well as additional surface property where tailings dams/ponds, camps sites and other ancillary infrastructure are located.

Mining operations at the El Porvenir mine are subject to certain royalties payable by Nexa Resources El Porvenir S.A.C. For more information, see "Information on the Company—Regulatory matters—Peruvian regulatory framework—Royalties and other taxes on mining activities."

The El Porvenir Mine holds several permits in support of the current operations. The permits are Directorial Resolutions issued by the Peruvian authorities upon approval of mining environmental management instruments filed by the mining companies. Nexa Peru maintains an up-to-date record of the legal permits obtained to date.

Mineralization

The El Porvenir mine is a typical skarn deposit. The mineralization occurs within the contact of the upper Triassic limestone (*i.e.*, exoskarn) and the granodioritic-dacitic intrusive rocks (*i.e.*, endoskarn). There are also recognized veins and replacement manto type, minor disseminated mineralization may occur within the intrusive units. West of the Milpo-Atacocha fault within the Goyllarisquizga Group, mineralization is characterized as veins and disseminations.

Four groups of vein/mineralized structures are reported. Structurally controlled veins are sub-vertical up to 150 meters long, with a vertical extent of 350 meters. Economic mineralogy is mostly comprised of galena, sphalerite, and tetrahedrite, as well as variable and lesser pyrite, quartz and rhodochrosite.

In 2021, we completed approximately 54.3 km of diamond drilling, divided between exploratory and infill drilling. The 2021 exploration program at El Porvenir was directed to increasing mineral resources, drilling the high-altitude zones of the mine (above the 3,700-meter level) in Sara Target and drilling the low-altitude zones of the mine in Integración Target (below the 3,300-meter level). The exploration program in the Sara target identified silver, lead, zinc and gold mineralization along the strike, based on the surface and underground drilling program. The exploration program in the Integración target identified zinc, lead, silver and gold mineralization based on the underground drilling program, which is open for expansion.

We spent approximately US$3.1 million on the El Porvenir brownfield project in 2021, including in exploration project maintenance and geological activities. In 2021, we drilled 39 drill holes totaling 18.6 km at El Porvenir. We have budgeted US$3.3 million for the project during 2022 and we expect to drill 19.2 km.

Operations and infrastructure

Most of the exploration is generally conducted simultaneously with underground development, which involves diamond core drilling and channel sampling following underground drifting.

The El Porvenir project site consists of an underground mine, tailings pond, waste rock stockpiles, a process facility with associated laboratory and maintenance facilities and maintenance buildings for underground and surface equipment. Facilities and structures include a warehouse, office, change house facilities, main shaft, ventilation shaft, backfill plant, explosives storage area, hydroelectric power generation, power lines and substation, fuel storage tanks, a warehouse and laydown area and a permanent accommodation camp.

The electrical power supply for the project comes from two sources: connection to the SEIN national power grid by a main substation located near the site, and the Candelaria Hydro, which consists of three turbines connected to the project through the main substation by a transmission line. All other loads of the project are fed from the main substation through overhead power lines. These power lines are used to deliver power to various locations to support activities during operation of the mine.

Site roads include main roads suitable for use by mining trucks that transport concentrates to Lima and service roads for use by smaller vehicles. The site roads are used by authorized mine personnel and equipment, with access controlled by Nexa Peru. An approximately 15-to-20-kilometer network of service roads was constructed to provide access to the underground mine, processing plant, tailings facility, waste rock stockpile, mine offices, workshops, mine camps and other surface infrastructure.

In 2021, we spent US$32.9 million on sustaining capital expenditures for this property, primarily associated with mine development, equipment replacement and other major infrastructure.

Production

The El Porvenir mine is in the production stage and has a treatment plant capacity of 6,500 tonnes of ore per day. The table below summarizes the El Porvenir mine's concentrate production, metal contained in concentrates produced and average grades for the periods indicated. Production in 2021 was higher than in 2020 due to higher ore treated, since in 2020 operations were temporarily suspended due to the impact of mandatory government measures related to COVID-19, and higher operational stability of the plant.

	For the Year Ended December 31,		
	2021	**2020**	**2019**
Treatment ore (in tonnes)	2,077,591	1,502,618	2,120,765
Average ore grade			
Zinc (%)	2.83	2.65	2.92
Copper (%)	0.19	0.17	0.15
Lead (%)	1.08	0.93	1.01
Silver (ounces per tonne)	2.10	2.00	2.08
Gold (ounces per tonne)	0.01	0.01	0.02
Metal contained in concentrate production			
Zinc (in tonnes)	51,375	34,867	54,689
Copper (in tonnes)	505	334	465
Lead (in tonnes)	17,700	10,858	16,914
Silver (in oz)	3,467,227	2,315,181	3,412,656
Gold (in oz)	8,725	5,899	11,191
Cash Cost, net of by-product credits (in US$/t)	875.1	1,338.0	1,372.9
Cash Cost, net of by-product credits (in US$/lb)	0.40	0.61	0.62
Capital Expenditures (in millions of US$)	36.5	12.9	32.9

Mineral Reserves and Mineral Resources

The El Porvenir Mineral Reserves estimates are based on the definitions for Mineral Reserves in SK-1300 and the tables below are based on costs and modifying factors from the El Porvenir mine.

El Porvenir – Year End Mineral Reserves as of December 31, 2021 (on an 83.48% Nexa attributable ownership basis) (1)

Ownership	Class	Tonnage(2)	Grade					Contained Metal				
			Zinc	Copper	Silver	Lead	Gold	Zinc	Copper	Silver	Lead	Gold
		(Mt)	(%)	(%)	(g/t)	(%)	(g/t)	(kt)	(kt)	(koz)	(kt)	(koz)
83.48%	Proven	2.77	3.70	0.24	68.6	1.08	-	102.5	6.7	6,119	29.8	-
	Probable	10.02	3.54	0.19	69.8	1.03	-	354.6	19.4	22,466	103.6	-
	Subtotal	**12.79**	**3.57**	**0.20**	**69.5**	**1.04**	**-**	**457.1**	**26.2**	**28,585**	**133.4**	**-**

Notes:

1. Subpart 1300 of Regulation S-K definitions were followed for Mineral Reserves, which also are consistent with the CIM (2014) definitions.
2. Mineral Reserves data presented in this table are reported on 83.48% Nexa attributable ownership.
3. Numbers may not add due to rounding.
4. The qualified person for the Mineral Reserves estimate is SLR Consulting Ltd., an independent mining consulting firm.

El Porvenir – Year End Mineral Reserves as of December 31, 2021 (on a 100% ownership basis) (1)

Ownership	Class	Tonnage(2)	Grade					Contained Metal				
			Zinc	Copper	Silver	Lead	Gold	Zinc	Copper	Silver	Lead	Gold
		(Mt)	(%)	(%)	(g/t)	(%)	(g/t)	(kt)	(kt)	(koz)	(kt)	(koz)
83.48%	Proven	3.32	3.70	0.24	68.6	1.08	-	122.8	8.1	7,329	35.7	-
	Probable	12.00	3.54	0.19	69.8	1.03	-	424.8	23.3	26,912	124.1	-
	Subtotal	**15.32**	**3.57**	**0.20**	**69.5**	**1.04**	**-**	**547.5**	**31.3**	**34,242**	**159.8**	**-**

Notes:

1. Subpart 1300 of Regulation S-K definitions were followed for Mineral Reserves, which also are consistent with the CIM (2014) definitions.
2. Mineral Reserves data presented in this table represents 100% of the Mineral Reserves estimates for the property. Nexa owns 83.48%
3. Numbers may not add due to rounding.
4. The qualified person for the Mineral Reserves estimate is SLR Consulting Ltd., an independent mining consulting firm.

The El Porvenir Mineral Reserves estimates in the table above were prepared using Deswik Stope Optimizer ("DSO") software, mine design and scheduling software. Mining methods used are C&F mining, using unconsolidated rock fill and hydraulic backfill, and SLS using unconsolidated rock fill. NSR values were calculated using mineral reserve metal prices, metallurgical recovery and consideration of smelter terms, including revenue from payable metals, price participation, penalties, smelter losses, transportation, treatment, refining and sales charges. A minimum mining width of 5.0m was used for reserves shapes and development design, and are reported inclusive of extraction losses and dilution. The Mineral Reserves were estimated at a NSR cut-off values ranging from US$57.63/t to US$62.19/t depending on the zone and mining method. Mineral Reserves are estimated using average long-term metal prices of zinc: US$2,722.20/t (US$ 1.23/lb); lead: US$1,997.21/t (US$0.91/lb); copper: US$7,288.26/t (US$3.31/lb) and silver: US$19.68/oz. Metallurgical recoveries are accounted for in NSR calculations based on historical processing data, and are variable as a function of head grade. Recoveries at Life of Mine average head grade are 89.59% for Zn, 77.74% for Pb, 14.29% for Cu, and 63% for Ag. The current LOM plan continues to 2028.

El Porvenir – Net Difference in Mineral Reserves between December 31, 2021 versus December 31, 2020

Class	Tonnage (Mt)	Contained Metal Zinc (kt)	Copper (kt)	Silver (koz)	Lead (kt)	Gold (koz)
Proven	(0.24)	(10.7)	(0.9)	25	0.3	-
Probable	1.93	51.8	1.5	6,143	35.0	-
Subtotal	**1.69**	**41.1**	**0.7**	**6,168**	**35.3**	**-**

Notes:

1. The total Mineral Reserves dated from December 31, 2020 considered an ownership basis of 80.16%.
2. The total Mineral Reserves dated from December 31, 2021 considered an ownership basis of 83.48%.

El Porvenir – Net Difference in Mineral Reserves between December 31, 2021 versus December 31, 2020

Class	Tonnage[(1)] (Mt)	Contained Metal Zinc (kt)	Copper (kt)	Silver (koz)	Lead (kt)	Gold (koz)
Proven	(0.44)	(18.4)	(1.4)	(273)	(1.1)	-
Probable	1.91	47.0	0.9	6,549	38.5	-
Subtotal	**1.47**	**28.6**	**(0.5)**	**6,276**	**37.4**	**-**

Notes:

1. The total Mineral Reserves data presented in this table are calculated on 100% basis. Nexa owns 83.48%.

In comparison to 2020, El Porvenir’s Mineral Reserves have increased, mainly due to mine design improvements, increase in metal prices and other exogenous factors, and addition of new mineralization domains as a result of exploration diamond drilling.

El Porvenir – Year End Mineral Resources as of December 31, 2021 (on an 83.48% Nexa Attributable ownership basis) [(1)]

Ownership	Class	Tonnage[(2)] (Mt)	Grade Zinc (%)	Grade Copper (%)	Grade Silver (g/t)	Grade Lead (%)	Grade Gold (g/t)	Contained Metal Zinc (kt)	Contained Metal Copper (kt)	Contained Metal Silver (koz)	Contained Metal Lead (kt)	Contained Metal Gold (koz)
83.48%	Measured	0.54	2.66	0.20	60.7	0.85	-	14.4	1.1	1,059	4.6	-
	Indicated	2.53	2.96	0.20	48.2	0.76	-	74.9	5.1	3,919	19.2	-
	Subtotal	**3.07**	**2.91**	**0.20**	**50.4**	**0.78**	**-**	**89.3**	**6.1**	**4,979**	**23.8**	**-**
	Inferred	8.70	3.85	0.21	69.2	0.95	-	334.9	18.3	19,353	82.6	-

Notes:

1. Subpart 1300 of Regulation S-K definitions were followed for Mineral Resources, which also are consistent with the CIM (2014) definitions.
2. Mineral Resources Tonnes and Contained Metal presented in this table are reported on 83.48% Nexa attributable ownership.
3. Mineral Resources are reported exclusive of those Mineral Resources that were converted to Mineral Reserves, and Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.
4. Numbers may not add due to rounding.
5. The qualified Person for the Mineral Resources estimate is José Antonio Lopes, B.Geo., FAusIMM (CP) Geo, a Nexa Resources employee.

El Porvenir – Year End Mineral Resources as of December 31, 2021 (on a 100% ownership basis) (1)

Ownership	Class	Tonnage(2) (Mt)	Grade Zinc (%)	Grade Copper (%)	Grade Silver (g/t)	Grade Lead (%)	Grade Gold (g/t)	Contained Metal Zinc (kt)	Contained Metal Copper (kt)	Contained Metal Silver (koz)	Contained Metal Lead (kt)	Contained Metal Gold (koz)
83.48%	Measured	0.65	2.66	0.20	60.7	0.85	-	17.3	1.3	1,269	5.5	-
	Indicated	3.03	2.96	0.20	48.2	0.76	-	89.7	6.1	4,695	23.0	-
	Subtotal	**3.68**	**2.91**	**0.20**	**50.4**	**0.78**	**-**	**107.0**	**7.4**	**5,964**	**28.5**	**-**
	Inferred	10.42	3.85	0.21	69.2	0.95	-	401.2	21.9	23,183	99.0	-

Notes:
1. Subpart 1300 of Regulation S-K definitions were followed for Mineral Resources, which also are consistent with the CIM (2014) definitions.
2. Mineral Resources data presented in this table represents 100% of the Mineral Resources estimates for the property. Nexa owns 83.48%.
3. Mineral Resources are reported exclusive of those Mineral Resources that were converted to Mineral Reserves, and Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.
4. Numbers may not add due to rounding.
5. The qualified person for the Mineral Resources estimate is José Antonio Lopes, B.Geo., FAusIMM (CP) Geo, a Nexa Resources employee.

The El Porvenir Mineral Resource estimates in the table above were completed using Datamine and Leapfrog software. Wireframes for geology and mineralization were constructed in Leapfrog based on geology sections, assay results, lithological information, underground mapping and structural data. Assays were capped to various levels based on exploratory data analysis and then composited to 2.0m lengths. Wireframes were filled with blocks and sub-celling at wireframe boundaries. Blocks were interpolated with grade using OK and ID^3 interpolation algorithms. Block estimates were validated using industry standard validation techniques. Classification of blocks used distance-based and mineralization continuity criteria.

Mineral Resources at El Porvenir are reported using all the material within resource shapes generated in DSO software, satisfying minimum mining width of 4.0m in areas with C&F stopes shapes and 3.0m for SLS stopes. The Mineral Resources are estimated at a NSR cut-off grade values ranging from of US$57.45/t to US$60.39/t for SLS areas and US$ 59.24/t to US$62.18 for C&F areas depending on the zone. The NSR cut-off values for El Porvenir's Mineral Resources estimates are based on an average long-term zinc price of US$3,130.52/t (US$1.42/lb), a lead price of US$2,296.79/t (US$1.04/lb), a copper price of US$8,381.50/t (US$3.80/lb) and a silver price of US$22.63/oz. Metallurgical recoveries are accounted for in NSR calculations based on historical processing data, and are variable as a function of head grade. Recoveries at LOM average head grade are 89.59% for Zn, 77.74% for Pb, 14.29% for Cu, and 63% for Ag.

El Porvenir – Net Difference in Mineral Resources between December 31, 2021 versus December 31, 2020

Class	Tonnage (Mt)	Contained Metal Zinc (kt)	Contained Metal Copper (kt)	Contained Metal Silver (koz)	Contained Metal Lead (kt)	Contained Metal Gold (koz)
Measured	0.35	9.6	0.7	681	2.8	-
Indicated	1.46	43.6	3.0	1,743	9.6	-
Subtotal	**1.82**	**53.2**	**3.6**	**2,425**	**12.4**	**-**
Inferred	1.91	90.5	2.4	2,243	17.8	-

Notes:
1. The total Mineral Resources dated from December 31, 2020 considered an ownership basis of 80.16%.
2. The total Mineral Resources dated from December 31, 2021 considered an ownership basis of 83.48%.

El Porvenir – Net Difference in Mineral Resources between December 31, 2021 versus December 31, 2020

Class	Tonnage (Mt)	Contained Metal Zinc (kt)	Copper (kt)	Silver (koz)	Lead (kt)	Gold (koz)
Measured	0.42	11.3	0.8	798	3.2	-
Indicated	1.70	50.7	3.4	1,980	11.1	-
Subtotal	**2.12**	**62.0**	**4.2**	**2,778**	**14.3**	**-**
Inferred	1.95	96.2	2.1	1,838	18.2	-

Notes:

1. The Mineral Resources data presented in this table are calculated based on 100% interested. Nexa owns 83.48%.

In comparison to 2020, El Porvenir's Mineral Resources have increased, mainly due to improvements in modelling with new structural data and the addition of new mineralization domains as a result of exploration diamond drilling near mine areas.

Atacocha

Atacocha is a polymetallic underground and open pit mine located in the district of San Francisco de Asís de Yarusyacán, in the province of Pasco, Peru. The property is located at approximate coordinates of 367160m E, 88304000m N, using the UTM WGS84 datum, Z18S and approximately 4,050 meters above sea level.

The Atacocha mine is operated by Nexa Resources Atacocha S.A.A., which is controlled by Nexa Peru.

The Atacocha mine has a total of 147 concessions covering approximately 2,872.5 hectares, as well as a beneficiation plant, "Chicrin N° 2." With respect to the surface property at the Atacocha project, there is a mining site of 1,343.0 hectares, where the mining concession is located, as well as additional surface property where tailings dams/ponds, camps sites and other ancillary infrastructure are located. There are royalties' payable in respect of mining operations at the Atacocha project for the mining concessions held by Nexa Resources Atacocha S.A.A. For more information, see "Information on the Company—Regulatory matters—Peruvian regulatory framework—Royalties and other taxes on mining activities."

The Atacocha mine holds a number of permits in support of the current operations. The permits are Directorial Resolutions issued by the Peruvian authorities upon approval of mining environmental management instruments filed by the mining companies. Nexa Peru maintains an up-to-date record of the legal permits obtained to date.

Atacocha operates two mines: the Atacocha underground mine and the San Gerardo open pit mine. As discussed below under "—Production", the underground mine is currently suspended, but mining continues in the San Gerardo open pit mine. Both mining operations feed the Atacocha processing plant.

In 2021, we spent US$11.1 million on sustaining capital expenditures for this property, primarily associated with mine development, equipment replacement and other major infrastructure.

Mineralization Developments

In 2021, we completed approximately 13.3 km of diamond drilling, divided between exploratory (3,145 meters) and infill (10,191 meters) drilling. The 2021 exploration program at Atacocha was focused on increasing mineral near of San Gerardo open pit in two targets: Extension NW and Ayarragram based on the surface drilling program. The drilling program identified zinc, lead, copper, silver, and gold mineralization, which is open for expansion.

We spent approximately US$0.5 million on the Atacocha brownfield project in 2021, including exploration project maintenance and geological activities. In 2021, we drilled 15 drill holes totaling 3.1 km at Atacocha. We have budgeted US$0.3 million for the project during 2022 for project maintenance and data interpretations, not including any drilling campaigns.

Atacocha does not currently have any estimated Mineral Reserves and is considered an exploration stage property under S-K 1300. Atacocha is not considered a material property for the purposes of S-K 1300.

Production

The Atacocha mine has a treatment plant capacity of 4,300 tonnes of ore per day. The table below summarizes the Atacocha mine's concentrate production, metal contained in concentrates produced and average grades for the periods indicated. Production in 2021 was significantly higher than in 2020 due to higher ore treated, since in 2020 operations were temporarily suspended due to the impact of COVID-19, and higher operational stability of the plant. In June 2020, once the Peruvian government allowed medium-sized mines to restart operations, we announced that Atacocha would resume operations at the San Gerardo open pit mine, but we decided that the higher-cost Atacocha underground mine would remain suspended due to our efforts to reduce costs and improve our operational efficiency, placing it under care and maintenance. As of the date of this annual report, the underground mine remains suspended.

In addition, in December 2020, a local community group's protest activities blocked road access to the Atacocha mine, leading to the temporary suspension of operations at the San Gerardo open pit mine until January 2021, when operations were resumed. In March 2021, new protest activities blocked road access to the Atacocha processing plant and the San Gerardo open pit mine was temporarily suspended. Similar protests also led to temporary suspension of operations during the third quarter. Throughout 2021, these protest activities amounted to, approximately, a 50-day suspension of operations.

In March 2022, new protest activities blocked road access to the Atacocha San Gerardo open pit mine and, as of the date of this annual report, the production is temporarily suspended. Mining activities are limited to critical operations with a minimum workforce to ensure appropriate maintenance, safety and security. The Company continues to pursue active dialogue with the local community and authorities for peaceful resolution of this situation.

	For the Year Ended December 31,		
	2021	**2020**	**2019**
Treatment ore (in tonnes)	1,271,107	1,065,363	1,505,428
Average ore grade			
Zinc (%)	0.88	1.20	1.43
Copper (%)	-	0.05	0.08
Lead (%)	0.82	1.15	1.30
Silver (ounces per tonne)	1.01	1.39	1.52
Gold (ounces per tonne)	0.01	0.01	0.01
Metal contained in concentrate production			
Zinc (in tonnes)	8,522	9,614	16,668
Copper (in tonnes)	0	0	40
Lead (in tonnes)	8,708	10,210	16,464
Silver (in oz)	1,026,783	1,184,750	1,882,138
Gold (in oz)	11,947	6,260	9,306
Cash cost, net of by-product credits (in US$/t)	(428.6)	17.8	1,052.0
Cash cost, net of by-product credits (in US$/lb)	(0.19)	0.01	0.48
Capital Expenditures (in millions of US$)	11.6	15.3	11.8

Morro Agudo

The Morro Agudo Complex consists of an underground mine and open pit, polymetallic mine, as well as three deposits along what is known as the Ambrosia Trend (Ambrosia Sul, Ambrosia Norte, and Bonsucesso). The Morro Agudo mine site is situated on Traíras Farm, about 45km south of the municipality of Paracatu, Brazil, at a latitude of approximately -17 57' 33" S and a longitude of approximately 46°49'42" W, within Zone 23S of the Universal Transverse Mercator coordinate system (Corrego Alegre Datum). The Ambrosia Trend deposits are situated about 15 to 20km northeast of Paracatu.

Nexa Brazil owns 100.0% of Morro Agudo. The total Morro Agudo project area is about 80 km long and 10 km wide at the widest extent and covers a significant strike extent of the lithologies that host mineralization at the Morro Agudo mine and along the Ambrosia Trend.

Nexa Brazil holds three granted mining concessions in the Morro Agudo mine area of approximately 1,446.1 hectares. In the Ambrosia Trend area, Nexa Brazil has three granted mining concessions totaling 2,495.8 hectares.

Nearby the Morro Agudo mine site and Ambrosia trend areas, Nexa Brazil also holds 4 exploration applications totaling 972.3 hectares, 48 exploration authorizations totaling 41,388.0 hectares, three rights to apply for mining concession totaling 2,679.9 hectares, three mining applications totaling 2,167.4 hectares and one mining concession totaling 1,000.0 hectares, in addition to the core tenements.

The Morro Agudo operation holds several permits in support of the current operations. The main instrument to regulate the operation is a set of operating licenses issued by the Environmental Agency from the state of Minas Gerais. The licenses are active, some of them under renewal process.

The Ambrosia mine in Morro Agudo reached the end of its life of mine during the fourth quarter of 2020 and operations were suspended due to the uncertainties associated with the geological model of the area, safety considerations and a greater movement of ore compared to the original plan.

In 2021, we spent US$6.6 million on sustaining capital expenditures for this property, primarily associated with the mine development and maintenance of plant and equipment.

Mineralization Developments

Exploration activities conducted to date have included geological mapping; rock chip, pan concentrate, stream sediment, and soil sampling; airborne and ground geophysical surveys and drilling. In 2021, the brownfield exploration program was directed towards intensifying the diamond drilling work at the Bonsucesso target, confirming zinc and lead mineralization along the strike of the mineralized zone and opening the potential to extend de mineralized bodies, totaling 8.3 km of exploratory drilling. In additional, Nexa performed additional 74 diamond drill holes in Morro Agudo mine with the purpose of Mineral Resources definition, totaling 10.8 km of infill drilling.

Our expenditures for the Morro Agudo brownfield project in 2021 were US$2.2 million directed towards drilling progress on the Bonsucesso project, and its extensions, primarily related to exploratory drilling and geological activities. In 2021, we drilled 32 exploration drill holes, totaling 10.5 km, which includes 8.3 km of exploration drilling in Bonsucesso and regional targets, in addition to 2.2 km of in fill drilling. For 2022, we have budgeted a total of US$2.2 million in mineral exploration expenditures and we expect to drill 8.8 km.

Morro Agudo does not currently have any estimated Mineral Reserves and is considered an exploration stage property under S-K 1300. Morro Agudo is not considered a material property for the purposes of S-K 1300.

Production

The Morro Agudo mine has a treatment plant capacity of 3,400 tonnes of mill feed per day. The table below summarizes the Morro Agudo mine's concentrate production, metal contained in concentrates produced and average grades for the periods indicated.

	For the Year Ended December 31,		
	2021	**2020**	**2019**
Treatment ore (in tonnes)	982,036	1,180,621	1,168,396
Average ore grade			
Zinc (%)	2.05	2.41	2.33
Lead (%)	0.73	0.49	0.52
Metal contained in concentrate production			
Zinc (in tonnes)	17.278	25,177	24,353
Lead (in tonnes)	4.691	4,019	4,700
Silver (in oz)	0	3,458	22,581
Cash cost, net of by-product credits (in US$/t)	1,841.2	1,726.9	2,076.7
Cash cost, net of by-product credits (in US$/lb)	0.84	0.78	0.94
Capital Expenditures (in millions of US$)	7.6	9.0	15.9

Concentrate Sales

All the metal produced by our mines is processed into concentrates. Our mining operations sell the concentrates that they produce to third parties and to our own smelters pursuant to arm's length transactions. Each mine bears the cost of transporting the concentrate to the point of sale where the smelter or trader purchases the concentrate. The smelter or trader pays the mine for the percentage of metals contained in the concentrate, net of charges for treating the concentrate and refining the metals. The typical payable percentage is 85% for zinc contained in concentrate minus treatment charges.

Growth projects

Vazante mine deepening project

One of our main brownfield projects is the Vazante Mine Deepening Project, which involves extending the mine life of Vazante mine from 2022 until 2028. The capital expenditures related to this project in 2021 totaled US$3.4 million and we expect to invest an additional US$2.0 million in 2022. This project began in 2013 and is expected to be completed in 2024.

In addition, we are conducting exploration activities below the mine's current level of operation and alongside the ore body, which we believe will maintain the Vazante mine's production at 135,000 tonnes of zinc per year until 2031. As part of this project, we are investing in ongoing exploration activities and infrastructure, including expansion of an underground pumping station, an increase in the capacity of the ventilation system, emergency paths, access ramps, electrical networks and substations. During 2020, we assembled and commenced operating the EB347 pumping station and during 2021, and the activities of CEMIG´s electric power line were still in progress. Due to hydrogeological studies based on the mine development review, phase 2 of the EB-140 has been rescheduled to 2023.

Bonsucesso

The Bonsucesso project is a brownfield underground mine project that belongs to the Morro Agudo complex (Ambrosia Trend) and is expected to extend the life of mine of the Morro Agudo complex. The project is located 8 km north of the Ambrosia Sul mine and approximately 60 km north of the Morro Agudo mine. The run-of-mine of Bonsucesso will feed the Morro Agudo processing plant.

The feasibility study was resumed in 2021 and is expected to be concluded in 2022. The total investments related to this project, as of December 31, 2021, totaled US$11.7 million, which includes all project studies (from the scoping study to the feasibility study) and anticipated expenses related to construction and operating infrastructure. The mine will be treated as a satellite mine for the Morro Agudo complex considering that minimum operational facilities are expected at the site and that the Morro Agudo plant will be used for ore processing. In 2020, the project obtained the environmental approval for the installation phase.

In 2021, the exploration program was focused on the northern part (infill program) and the central and southern part (extension) of the Bonsucesso deposit, confirming mineral resources and extending the mineralization.

Our expenditures for this project in 2021 were US$2.2 million, which was primarily related to exploration and geological activities. In 2021, we drilled 32 exploration drill holes in Bonsucesso, including 20 exploratory drill holes in Bonsucesso ore bodies extension and 12 drill holes in the infill drilling program, totaling 10.5 km. We have budgeted US$2.2 million in mineral exploration in expenditures for 2022 and we expect to drill 8.8 km of extension and infill drilling for Mineral Resource expansion.

Pasco mining complex

The Pasco mining complex project involves the integration of the El Porvenir and Atacocha mines. The project is intended to capture synergies between the two mining operations resulting from their proximity and operational similarities, with the goal of obtaining costs and investment savings and reducing our environmental footprint.

The integration project is being developed through four stages. The first stage involved the administrative integration of both mines, which was completed in 2014. The second stage involved the integration of the tailing disposal system, which consolidated the operations of the two mines with a single tailing disposal system and thereby helped reduce the environmental footprint. This stage was completed in 2015 and the integrated tailing disposal system commenced operations in the beginning of 2016. The third stage, which was completed in 2016, involved the construction of a new energy transmission line with a 138 kilovolt connection that supplies both mines, replacing the prior 50 kilovolt transmission lines. The development of 3.5 km connecting both underground mines, which is part of the fourth stage, was concluded in 2019.

Following the decree published by the Peruvian government that allowed medium-sized mines to resume their operations in June 2020, after the enforcement of a national state of emergency in response to the COVID-19 crisis, we announced the resumption of operations at the San Gerardo open pit mine but decided not to restart the higher-cost Atacocha underground mine, which was placed under care and maintenance. As of the date of this annual report, the Atacocha underground mine remains suspended, and the decision to resume operations will depend on an improvement in the mine's economic viability. In 2021, the modernization and debottleneck studies for El Porvenir to evaluate the deepening of the mine and extension of its life-of-mine were postponed due to the prioritization of the capital allocation strategy, and the reassessment of the integration with Atacocha underground mine.

Mining greenfield projects

Project Name	Current Project Status
Aripuanã	In execution
Magistral	Feasibility study
Pukaqaqa	Pre-feasibility study on hold
Shalipayco	Pre-feasibility study on hold
Hilarión	Exploration phase
Florida Canyon Zinc	Exploration phase
Caçapava do Sul	Suspended

We summarize below certain information, including the outlook, for each of our greenfield projects. As of the date of this annual report, other than the Aripuanã Project none of our other greenfield projects have Mineral Reserves under S-K 1300.

Aripuanã

Location and means of access

The Aripuanã project is located in the northwest corner of the Mato Grosso State in western Brazil, approximately 2,529 km by railroad and road to the Três Marias smelter, 2,831 km to the Juiz de Fora smelter or 2,660 km to the port of Santos. The approximate coordinates of the mine are 226,000m E and 8,888,000m N UTM 21L zone (South American 1969 datum) and the project is located at an average elevation of 250 meters above sea level. The project is accessible from the town of Aripuanã via a 25 km unpaved road, which is well maintained in the dry season. Aripuanã can be accessed from the state capital, Cuiabá, via a 16-hour drive (935 km) on paved and unpaved roads. The final 250 km between Cuiabá and Aripuanã are on unpaved roads.

The town of Aripuanã is also serviced by a paved airstrip suitable for light aircraft. There are no commercial flights travelling between Cuiabá and the town of Aripuanã, however the site can be accessed via a three-hour chartered flight.

History

Aripuanã is a world-class underground polymetallic project containing zinc, lead and copper, located in the state of Mato Grosso, Brazil. In 2000, Dardanelos was created to represent a joint venture, or "contract of association," between Karmin and Anglo American, with the intent of exploring the areas adjacent to the town of Aripuanã for base and precious metals. Anglo American and Karmin held 70% and 28.5% of Dardanelos, respectively, with the remaining interest (1.5%) owned by SGV Merchant Bank (SGV).

In 2004, the initial agreement between Karmin and Anglo American was amended to include Nexa Brazil's participation. Nexa Brazil subsequently acquired 100% of Anglo American's interest in the project. In 2007, Karmin purchased SGV's interests, raising its participation to 30%. In 2015, Nexa Peru acquired 7.7% of Nexa Brazil's interests in Dardanelos.

Up until 2019, Dardanelos was a joint venture between subsidiaries of Nexa (70%) and Karmin (30%), with Nexa acting as the operator. In 2019, Nexa purchased Karmin's interest and became the sole owner of the project. As a result of this acquisition and following the transfer of the Dardanelos interest in the Aripuanã project from Nexa Peru to Nexa Brazil, Nexa Brazil became the owner of 100% of the Aripuanã project.

In 2020, we reached an agreement with artisanal miners that are working adjacent to the property belonging to our Aripuanã project, the ANM and the state government whereby Nexa assigned these artisanal miners an area to exercise their activities subject to certain conditions. The increase of artisanal mining activity or the failure of these artisanal miners to abide with our agreement may have an adverse effect on the development of our operations in Aripuanã.

In 2021, Nexa acquired two estates (584.9 hectares) located at the vicinity of the project and concluded the process of documenting a third acquired in the past (100 hectares). The total land purchase of 684.9 hectares was required to meet the Rural Environmental Registration (CAR in Brazil) which requires areas of native vegetation that are not available within the area of enterprise.

On January 21, 2022, Nexa executed an Offtake Agreement in which it undertakes to sell 100% of the copper concentrate produced by Aripuanã for a 5-year period, at market price but subject to a price cap.

Titles, leases and options

The project holds one mining concession in the core area that has a total area of 3,639.9 hectares, two mining concession applications (1,387.2 hectares), one right to apply for mining concession (1,000.0 hectares), fifteen exploration authorizations (52,436.4 hectares) and two exploration applications (7,864.7 hectares), totaling 66,328.2 hectares.

The Aripuanã project holds surface rights sufficient to support the future operations. There is sufficient suitable land available within the mineral rights held by the Company for tailings disposal, mine waste disposal, and installations such as the process plant and related mine infrastructure.

Mineralization

The Aripuanã region contains polymetallic VMS deposits with zinc, lead and copper, as well as small amounts of gold and silver, present in the form of massive mantles and veins, located in volcano sedimentary sequences belonging to the Roosevelt Group of Proterozoic age.

Four main elongated mineralized zones have been defined in the central portion of the project: (1) Arex, (2) Link, (3) Ambrex and (4) Babaçu. Limited exploration has identified possible additional mineralized bodies including Massaranduba, Boroca and Mocotó to the south and Arpa to the north.

The Aripuanã polymetallic deposits are typical VMS deposits associated with felsic bimodal volcanism. The individual mineralized bodies have complex shapes due to intense tectonic activity. Stratabound mineralized bodies tend to follow the local folds, however, local-scale, tight isoclinal folds are frequently observed, usually with axes parallel to major reverse faults, causing rapid variations in the dips.

Massive, stratabound sulphide mineralization as well as vein and stockwork-type discordant mineralization have been described on the property. The stratabound bodies, consisting of disseminated to massive pyrite and pyrrhotite, with well-developed sphalerite and galena mineralization, are commonly associated with the contact between the middle volcanic and the upper sedimentary units. Discordant stringer bodies of pyrrhotite-pyrite-chalcopyrite mineralization are generally located in the underlying volcanic units or intersect the massive sulphide lenses and have been interpreted as representing feeder zones.

In 2021, the drilling campaign at Aripuanã focused on exploring the Babaçu mineralized zones and confirmed the presence of mineralization along 0.2 km of the strike. We spent US$1.8 million on Aripuanã exploration, maintenance, and geological activities. In 2021, we drilled six drill holes, including Aripuanã brownfield program and infill drilling, totaling 5.6 km, plus 2.7 km of infill drilling. In additional, a total of 29.6 km was drilled in Aripuanã with the purpose of grade control in infill areas. For 2022, we expect to invest an additional US$3.0 million in a brownfield exploration program, drilling 9.0 km. An additional 25,000 meters of infill drilling is planned for the Ambrex and Link orebodies for Mineral Resources expansion and reclassification.

Project implementation

On October 7, 2021, the operating license for the Aripuanã project was granted. At the end of 4Q21, overall physical progress of the project reached 99.3%. The commissioning process of the beneficiation plant reached more than 40% of progress. The comminution system and tailings flow are fully assembled, with mechanical completion and most testing done.

Among the delivered systems of the beneficiation plant are the following: crushing; crushed ore silo; grinding (SAG and ball mills); tailings thickener; tailings press filters; utilities systems (compressed air, raw water and water for fires). The environmental control systems, such as the wetlands destined to receiving the water from the mines, treating the water from the tailings and waste stockpile, are already in operation.

In 2Q21, the total estimated CAPEX for the project was revised from US$547 million to US$575-595 million. Cost increases resulted primarily from, among other factors, impacts related to COVID-19 and scope change due to additional houses for our employees. Inflationary cost pressures were partially offset by cost initiative reductions and foreign exchange rate gains. The main impacts related to COVID-19 costs that impacted the project were:

- Increased accommodation costs for lodging due to reduced occupancy requirements per COVID-19 distancing protocols;
- Higher costs due to increased frequency of sanitization in lodgings, offices and vehicles;
- Quarantine protocols that varied through the different outbreaks of COVID-19;
- Additional buses for the transportation of Nexa's team, contractors and subcontractors' workforce to and from the site due occupancy requirements, which was reduced to 50% to comply with distancing protocols;
- Increase in testing procedures that varied through the different COVID-19 outbreaks;
- Increase of the team dedicated to COVID-19 prevention and combat;
- Increases in manpower due to the impact of these factors on productivity and the aim of maintaining the project's intended schedule; and
- Claims from contractors due to COVID-19.

Abnormal rainfall levels and health protocols to combat the surge of COVID-19 variants have impacted our productivity (lower-than-anticipated workforce) in 4Q21 and beginning of 2022 and contributed to additional pressure on costs and the project timeline. Consequently, the total estimated CAPEX for the project was revised in February 2022 to US$625 million and ramp-up is now scheduled to commence in 3Q22 rather than 1Q22.

By year-end 2021, approximately 552 kt of ore was stockpiled. We also continued to make progress on related project infrastructure. This included placing lean concrete in the grinding area, constructing pipe rack foundations and assembling steel structures, laydown pipes and equipment, temporary buildings and laydown areas and constructing roads providing access to the site, as well as a water dam, beneficiation plant and waste ore stockpile. During 2021, we completed 100% of earthworks for the mine's waste stockpile (Pile 2) (drainage and waterproofing).

Horizontal mine development reached an accumulated of 15,900 meters developed for both mines (Arex and Link) by the end of 2021.

The total headcount was more than 585 employees working in the operational areas. We also implemented the qualification program for future mine and plant operating professionals, which had 283 candidates enrolled in 2021, of which approximately 197 obtained professional qualifications in the areas of maintenance and automation, and geology and surveying. Of the total number of participants, 42.6% were women.

In 2021, we invested US$257.6 million in capital expenditures on the project with cumulative incurred capital expenditures of US$ 565.8 million since the beginning of the construction.

In 2022, we estimate that we will invest US$59 million in Aripuanã, which represents 9.4% of the US$ 625.0 million in total estimated capital expenditures for the project.

As of the date of this annual report, mechanical completion is expected to be completed in 2Q22, while commissioning is proceeding in parallel, and production is expected to begin in 3Q22. All safety measures and procedures to mitigate any potential further impact related to the global COVID-19 pandemic remain in place.

Mineral Reserves and Mineral Resources

Aripuanã – Year End Mineral Reserves as of December 31, 2021 (on a 100% ownership basis) (1)

Ownership	Class	Tonnage(2) (Mt)	Grade Zinc (%)	Copper (%)	Silver (g/t)	Lead (%)	Gold (g/t)	Contained Metal Zinc (kt)	Copper (kt)	Silver (koz)	Lead (kt)	Gold (koz)
100.0%	Proven	8.97	3.80	0.28	35.7	1.43	0.26	340.7	25.4	10,279	128.1	75.2
	Probable	12.82	3.47	0.19	32.1	1.31	0.32	445.0	24.6	13,216	167.4	132.8
	Subtotal	**21.79**	**3.61**	**0.23**	**33.5**	**1.36**	**0.30**	**785.6**	**50.0**	**23,496**	**295.5**	**208.0**

Notes:

1. Subpart 1300 of Regulation S-K definitions were followed for Mineral Reserves, which also are consistent with the CIM (2014) definitions.
2. Mineral Reserves data presented in this table represents 100.0% of the Mineral Reserves estimates for the property. Nexa owns 100.00% of property.
3. Numbers may not add due to rounding.
4. The qualified person for the Mineral Reserves estimate is SLR Consulting Ltd., an independent mining consulting firm.

The Aripuanã Mineral Reserves estimates, are based on modifying factors from the Aripuanã Project and based on three main orebodies: Arex, Link and Ambrex and the two main types of mineralization in the deposit are stratabound and stringer. The main commodities produced are zinc, lead, copper, silver and gold. The dilution that has been applied is related to the selected mining method. The two main mining methods used at Aripuanã are longitudinal longhole retreat ("bench stoping") and transverse longhole mining (vertical retreat mining, or "VRM") with primary and secondary stope extraction. Dilution is applied on a percentage basis, with no grade applied to the diluting material. The NSR cut-off value was determined using the mineral reserve metal prices, metal recoveries, transport, treatment, and refining costs, as well as mine operating cost. The break-even NSR cut-off value is US$47.91/t processed and some incremental material between US$39.79/t and US$47.941/t was included. A minimum mining width of 4.0 m was used. The long-term prices derived are in line with the consensus forecasts from banks and independent institutions. The Mineral Reserves are estimated using an average long term zinc price of US2,722.20/t (US$1.23/lb), lead price of US$1,997.21/t (US$0.91/lb), copper price of US$7,288.26/t (US$3.31/lb), silver price of US$19.68/oz and gold price of US$ 1,454.12/oz. Metallurgical recoveries are accounted for in NSR calculations based on metallurgical testworks and are variable as a function of head grade and oretype. Recoveries at Life of Mine average head grade for stratabound material are 89.4% for Zn, 83.3% for Pb, 59.3% for Cu, 76.0% for Ag, and 70.0% for Au. Recoveries at the LOM average head grades for stringer material are 87.8% for Cu, 50.0% for Ag, and 63.0% for Au. The current LOM plan continues to 2032.

Aripuanã – Net Difference in Mineral Reserves between December 31, 2021 versus December 31, 2020

Ownership	Class	Tonnage (Mt)	Contained Metal Zinc (kt)	Copper (kt)	Silver (koz)	Lead (kt)	Gold (koz)
100%	Proven	(1.12)	(36.0)	(5.9)	(1,396)	(12.0)	(19.4)
	Probable	(0.60)	(38.2)	(3.8)	(995)	(11.5)	(8.7)
	Subtotal	**(1.72)**	**(74.2)**	**(9.7)**	**(2,391)**	**(23.5)**	**(28.1)**

Notes:

1. The total Mineral Resources data presented in this table are calculated on 100% basis. Nexa owns 100%.

In comparison to 2020, Aripuanã's Mineral Reserves have decreased, mainly due to geotechnical and operational parameter related to pillars and differences in cut-off values.

Aripuanã – Year End Mineral Resources as of December 31, 2021 (on a 100% ownership basis) (1)

Ownership	Class	Tonnage(2) (Mt)	Grade Zinc (%)	Copper (%)	Silver (g/t)	Lead (%)	Gold (g/t)	Contained Metal Zinc (kt)	Copper (kt)	Silver (koz)	Lead (kt)	Gold (koz)
100.0%	Measured	0.44	1.79	0.34	17.5	0.59	0.35	7.9	1.5	248	2.6	5.0
	Indicated	2.80	2.18	0.30	19.9	0.74	0.48	61.0	8.4	1,791	20.7	43.2
	Subtotal	**3.24**	**2.13**	**0.31**	**19.6**	**0.72**	**0.46**	**68.9**	**9.9**	**2,039**	**23.3**	**48.2**
	Inferred	38.48	3.51	0.33	35.5	1.29	0.55	1,350.6	127.0	43,919	496.4	680.4

Notes:

1. Subpart 1300 of Regulation S-K definitions were followed for Mineral Resources, which also are consistent with the CIM (2014) definitions.
2. Mineral Resources data presented in this table represents 100% of the Mineral Resources estimates for the property. Nexa owns 100.00% of property.
3. Mineral Resources are reported exclusive of those Mineral Resources that were converted to Mineral Reserves, and Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.
4. Numbers may not add due to rounding.
5. The qualified person for the Mineral Resources estimate is José Antonio Lopes, B.Geo., FAusIMM (CP) Geo, a Nexa Resources employee.

The Mineral Resources estimates for the Aripuanã Project were completed for Babaçu, Arex, Ambrex and Link. The block models were created using Datamine and Leapfrog software. Wireframes for geology and mineralization were constructed in Leapfrog based on geology sections, assay results, lithological information and structural data. Assays were capped to various levels based on exploratory data analysis and then composited to one meter lengths. Wireframes were filled with blocks measuring 5 meters by 5 meters by 5 meters for Arex, Link, and Ambrex, and 10 meters by 5 meters by 5 meters for Babaçú with sub-celling at wireframe boundaries. Blocks were interpolated with grade using OK and ID^3. Blocks estimates were validated using industry standard validation techniques. Classification of blocks was based on distance-based criteria. Potentially mineable shapes of underground mineral resources are generated using DSO software. The Mineral Resources of the Aripuanã project are reported using a cut-off value of US$47.91/t. Mineral Resources are estimated using average long-term metal prices of zinc: US$3,130.52/t (US$1.42/lb); lead: US$2,296.79/t (US$1.04/lb); copper: US$8,381.50/t (US$3.80/lb); gold: US$1,672.24/oz and silver: US$22.63/oz. Metallurgical recoveries are accounted for in NSR calculations based on metallurgical test work and are variable as a function of head grade and oretype. Recoveries at the LOM average head grades for stratabound material are 89.4% for Zn, 83.3% for Pb, 59.3% for Cu, 76.0% for Ag, and 70.0% for Au. Recoveries at the LOM average head grades for stringer material are 87.8% for Cu, 50.0% for Ag, and 63.0% for Au.

Aripuanã – Net Difference in Mineral Resources between December 31, 2021 versus December 31, 2020

Ownership	Class	Tonnage (Mt)	Contained Metal Zinc (kt)	Copper (kt)	Silver (koz)	Lead (kt)	Gold (koz)
100%	Measured	(2.48)	(65.0)	(9.6)	(2,547)	(24.7)	(22.4)
	Indicated	(2.37)	(35.3)	(5.5)	(1,230)	(11.7)	(27.8)
	Subtotal	**(4.85)**	**(100.3)**	**(15.2)**	**(3,777)**	**(36.4)**	**(50.2)**
	Inferred	(0.97)	44.0	(4.3)	1,013	14.3	(56.1)

Notes:

1. The total Mineral Resources data presented in this table are calculated on 100% basis. Nexa owns 100%.

Magistral

The Magistral mining project is located in the Ancash region of Peru, approximately 450 km northeast of the capital of Lima and approximately 140 km east of the port city of Trujillo. The Magistral property can be reached by vehicle by driving a total of 272 km from Trujillo, much of which consists of poorly maintained roads that traverse steep topography. The Magistral Project consists of a large, irregularly shaped block of contiguous concessions and two smaller, non-contiguous single concessions. The Magistral Project comprises 36 granted concessions, totaling 16,254.2 hectares. The project is an open pit copper mine with molybdenum concentrate as a byproduct. In 2016, ProInversión approved an initial feasibility study, which set forth production rates starting at 10 thousand tonnes per day and achieving 30 thousand tonnes per day. In 2016, the MINEM approved an environmental impact assessment (“EIA”), to process up to 30 ktpd. An EIA modification is currently in progress to adjust the location of some facilities.

Nexa Peru was awarded the contract to develop the Magistral mining project in 2011, which has been amended from time to time. Nexa made an initial payment of US$8.0 million to acquire the Magistral concessions, subject to a 2.0% NSR royalty upon production. Under the terms of the contract in 2016, Nexa Peru exercised the option by committing to invest a minimum 70% of declared initial capital expenditures by September 2024 and has previously extended this period. Pursuant to the terms of this commitment, Nexa Peru would be required to pay a penalty in the event it fails to invest the specified amounts during this period. Nexa Peru currently holds a 100.0% interest in 15 of the 36 concessions, Nexa holds 21 concessions by way of a lease agreement entered into with Companía Magistral S.A.C., a company also controlled by Nexa Peru. We spent approximately US$5.4 million on the project in 2021. The Magistral project is in the feasibility study phase and engineering studies continue to progress.

In 2022, we expect to advance further detailed engineering and optimization opportunities to mitigate the risk of project execution, and to approve the EIA amendment (“mEIA”), which was submitted in 4Q21.

Mineralization Developments

The Magistral property is near the northeastern end of the Cordillera Blanca, a region that is underlain predominantly by Cretaceous carbonate and clastic sequences. These units strike north to northwest and are folded into a series of anticlines and synclines with northwest-trending axes.

The Cretaceous sedimentary rocks are bounded to the east by an early Paleozoic metamorphic terrane composed mainly of micaceous schist, gneissic granitoid and slate. The Cretaceous sedimentary sequence unconformably overlies these metamorphic rocks. The Cretaceous rocks are structurally overlain by black shale and sandstone of the Upper Jurassic Chicama Formation that were thrust eastwards along a prominent regional structure. The Chicama Formation was intruded by granodiorite and quartz diorite related to the extensive Cordillera Blanca batholith, which has been dated at 8.2 +/- 0.2 Ma. Several major structural features are evident in the Cretaceous sedimentary rocks in the Magistral region, including anticlines, synclines, and thrust faults. The trend of the fold axes and the strike of the fault’s changes from northwest to north near Magistral.

Through the end of 2015, a total of approximately 101,900 m of surface diamond drilling has been completed in 486 drill holes. In addition, 14 short underground diamond holes were drilled for a total of 1,298.8 m in the San Ernesto, Arizona, and Sara zones between 1969 and 1973. In 1999, 2000, and 2001, Anaconda drilled 76 diamond drill holes totaling 24,640 m. All surface drilling from 2000 onward was carried out on northeast (035°) and northwest (305°) oriented sections. In 2004, Ancash Cobre (or Inca Pacific) completed 34 drill holes, totaling 7,985 m, and in 2005 Ancash Cobre (or Quadra) drilled 14,349 m in 60 holes. Milpo's drilling in 2012 was contracted to Redrilsa Drilling S.A. (or Redrilsa). Since 2012, the drilling has been contracted to Geotecnia Peruana S.R. Ltda. (or Geotecnia Peruana).

Of the 71 holes drilled in 2013, six were drilled to gain geotechnical information and the remainder were infill holes. Drilling in 2014 consisted of a combination of infill, geotechnical, and metallurgical holes. The 2015 drilling consisted entirely of infill holes. No drilling program was carried out on the project during 2020 and 2021.

Exploration Developments

Since acquiring the Magistral project in 2011, Nexa has initiated a comprehensive exploration program consisting of geological mapping, prospecting and sampling, ground geophysical surveying, and diamond drilling. Geological mapping at a scale of 1:2,000 was completed in the Ancapata area and the area north-northeast of Magistral over an area of 386.50 hectares. The objective was to verify and supplement the information available from Ancash Cobre's exploration.

From October 2012 to January 2014, Arce Geofisico SAC was contracted to complete ground magnetic and Induced Polarization (IP) surveying over an area of 520 hectares covering the Magistral deposit and the adjoining Ancapata area. The objective was to characterize the geophysical signature of the Magistral deposit and to survey the Ancapata area. Work was completed on 100 m spaced lines oriented at N125°W. An initial 30 line-km survey was expanded to 55.1 line-km of IP and 57.25 line-km of ground magnetics in order to delineate chargeability and resistivity anomalies. Drilling ceased on the property in 2015. No exploration work was carried out on the project during 2020 or 2021. No exploratory drilling program is scheduled for 2022.

Pukaqaqa

The Pukaqaqa project contemplates the development of an open pit copper and molybdenum mine, with gold credits, and is located in the Huancavelica region of Peru. The mineralization is hosted by an epithermal breccia system that is associated with exoskarn and endoskarn alterations. Given the geological setting, we believe that a porphyry copper system remains undiscovered below the currently explored mineralization, which will be explored in the following phases. The Pukaqaqa project has a total of 34 concessions covering approximately 11,131.3 hectares.

In 2015, the MINEM approved Pukaqaqa's EIA, which allowed a treatment capacity of up to 30 ktpd. In 2017, a scoping study was developed by JRI, a Chilean engineering firm, enabling the start of a drilling campaign in 2018 to obtain samples for metallurgical testing.

The pre-feasibility study progressed until the end of FEL2-A phase (equivalent to the trade-offs phase). Metallurgical results indicated the need to further explore copper and molybdenum recoveries prior to progressing with the pre-feasibility study. During 2019 and 2020 a new laboratory campaign was initiated in Chile, which was temporarily suspended due to COVID-19 restrictions. The first part was concluded in December 2020, demonstrating better results than previous campaigns, including improved recoveries and grades. During 2021, metallurgical tests were concluded. New mine studies are ongoing and project evaluation is expected to be updated in 2022. The project remains on hold.

In 2021, we spent approximately US$0.8 million on this project, related to metallurgical tests. In 2022, we have budgeted US$0.3 million for the Pukaqaqa project, which allows for further metallurgical testing and reclamation of the drill sites.

Shalipayco

The Shalipayco project, located in the Central Andes of Peru, is a joint venture between Nexa Peru (which holds a 75.0% interest) and Pan American Silver Perú S.A.C. (which holds a 25.0% interest). It is a potential underground polymetallic project containing zinc, lead and silver deposits. This project consists of mining concessions with evidence of MVT mineralization, which is a deposit type similar to our Morro Agudo mine. The Shalipayco mineralization is mainly located within the Chambará formation that is part of the Pucará Group, considered the most important Peruvian location for MVT mineralization. The Shalipayco project has a total of 52 concessions covering approximately 22,510 hectares and one mineral claim in process totaling 740.6 hectares.

In 2021, we spent approximately US$0.8 million on this project to maintain the office and warehouse facilities in Carhuamayo, as well as conducting some preliminary analysis in relation to the pre-feasibility study. All field activities in Shalipayco were on hold during 2020 due to the COVID-19 pandemic and, as a result of government ordered lockdowns, no exploration activities were carried out in 2021. The project is under review.

Hilarión

The Hilarión project is located in the Department of Ancash, approximately 230 km north of Lima, the capital of Peru, and approximately 80 km south of the city of Huaraz and is accessible by paved road from Lima. It consists of 71 mineral concessions covering an area of approximately 15,408.3 hectares and one mineral claim in process totaling 209.7 hectares. Hilarión is a skarn mineral deposit made of vertical tabular ore bodies containing sulfide zinc, lead, silver and copper deposits. Hilarión and El Padrino and other occurrences in proximity to them (Mia, Eureka and others) constitute a large mineralized system, open in several directions for a potential increase in resources, extended mine life and increased production capacity in the future. The conceptual plan for the project includes the development of an underground mine that could either use its own processing plant or use one of the several existing plants in the area, such as Pachapaqui, Huanzala and Atalaya plants.

From 2005 to 2014, in addition to mapping, remote sensing, topographical and geophysical surveys, we completed four drilling campaigns totaling 244.0km on Hilarión and El Padrino deposits. During 2018-2019, two additional drilling campaigns totaling 17.1km were carried out. The recent 2018-2019 drilling predominantly focused on the Hilarión North zone. During 2019, we drilled 12 drill holes totaling 9.1 km at Hilarión. High grade and thick intercepts revealed continuity of the mineralized zones of the deposit to the north and south and demonstrated the potential for resource increase.

In 2020, we drilled 5 drill holes totaling 4.6km and completed the sampling for metallurgical test studies. We also filed a preliminary economic assessment (“PEA”) for the Hilarión project, prepared jointly by Nexa and Roscoe Postle Associates Inc (“RPA”), disclosing an updated mineral resource, plant production and economics estimate in accordance with NI 43-101 (as of December 31, 2019 with a drilling cut-off date of December 5, 2014).

In 2021, we executed 21.3 km of diamond drilling to test Hilarión Sur target, totaling 32 drill holes confirming the southeast continuity of the Hilarión deposit towards the edge of the Hilarión stock with multiple thick intersections, in addition to 310 meters remaining from the 2020 drilling campaign, which were completed earlier this year.

In 2021, we spent approximately US$8.8 million on the Hilarión project, including project maintenance and exploration activities such as geological mapping, rock chipping, diamond drilling and social permittings to continue the exploration work for the coming years.

In 2022, we have budgeted US$5.5 million for the Hilarion project and planned 5.5 km of diamond drilling within three targets: El Padrino area, San Martin (two kilometers east of Hilarión deposit) and at the Yanashallash fault trend located 1,500 meters west of Hilarión.

Florida Canyon Zinc

The Florida Canyon Zinc project, comprised of 16 contiguous mining concessions, covering approximately 12,600.0 hectares, is owned by Minera Bongará S.A. and operated by Nexa Peru, a joint venture between Nexa Peru, Solitario Exploration and Royalty Corp. and Minera Solitario Peru S.A.C. (collectively, Solitario) in existence since 2006. As of December 31, 2021, Nexa Peru owns a 61.0% interest in this joint venture, which may increase up to 70.0% upon Nexa Peru’s satisfaction of certain conditions. Although a pre-feasibility study relating to the Florida Canyon Zinc was released in 2017, the project continues to be treated as an advanced mineral exploration project.

During 2019, we started work to improve the access road, which we expect to reduce logistical costs. We also drilled in the Florida Canyon region, focusing on two sulfide concentration areas, which are related to feeders that generate the concentration of sulphides in the mantos, bodies and veins mineralization.

In 2020, we continued to work on the access road repair to reduce logistical costs. Another important activity carried out in 2020 was the update of the geological model based on the 2018-2019 drilling campaign and by improving ore-type definition (oxide-mixed-sulfide) by using qualitative and quantitative analytic data, that helped in ore classification for the 2020 mineral resource estimation.

In 2021, field work was focus on mapping access road from 0 km up to 19.5 km; and mapping, sampling and topographic survey of Teodolfo, Matias, Berny, and Pizarro targets, in addition to a new mineral occurrence named Aron. Also, initial metallurgical testing using historic drill core material is ongoing. Further metallurgical test will be performed in 2022 depending on the results of the afore mentioned tests.

In 2021, we spent approximately US$1.9 million on this project. In 2022, we have budgeted another US $3.3 million for the Florida Canyon Zinc project, including US$2.0 million for access road maintenance and construction and US$0.3 million to obtain a new environmental permit for drilling plans beyond 2023. We expect to obtain the permit in 2022. The remaining budget is for maintenance of the project structure and social programs for the local community.

Caçapava do Sul

The Caçapava do Sul project is a joint venture between Mineração Santa Maria Ltda., a wholly owned subsidiary of Nexa Brazil, which holds a 56.00% interest, and IAMGOLD Corporation, which holds a 44.00% interest. Nexa Brazil is the operator of the joint venture. The Caçapava do Sul project is a polymetallic project that has the potential to be mined by open pit and underground methods.

In 2021, we spent approximately US$0.4 million on the Caçapava do Sul for maintenance of the project structures. The Caçapava do Sul project was suspended in 2021 as a result of our current capital allocation strategy.

Other Greenfield Exploration Projects

Project in Namibia

We have been developing exploratory work in Namibia since 2015, as part of a joint venture with the Japan, Oil, Gas and Metals National Corporation (“JOGMEC”), a Japanese state-owned company. The project was part of a farm-out process of the Namibian tenements inherited from the former strategy of Votorantim Metals to explore opportunities in Africa, where Nexa has a back-in right to invest and maintain participation depending on exploration results. The exploration area is located 360 km north of Windhoek. This early-stage exploratory program is targeting sediment-hosted copper mineralization, such as the Tsumeb and Kombat mines, both of which contain rocks from the Otavi Mountain land terrain.

Nexa currently holds 366,083.2 hectares in 16 exclusive prospective licenses (“EPL”). The 2021 exploration expenditures totaled US$2.9 million (US$2.2 million for JOGMEC expenditures and US$0.7 million for Nexa expenditures) with a total of 12,717 meters drilled. In 2022, we have budgeted US$3.1 million for this project (US$2.3 million for JOGMEC and US$ 0.8 million for Nexa) to execute 10,000 meters of exploratory drilling. Nexa is currently focusing on scout exploratory drilling to evaluate the mineral potential of previously defined targets in Namibia.

Permits & authorizations for greenfield projects

The following table summarizes the status of the main permits and authorizations for our greenfield projects.

Project	Status
Aripuanã	On December 20, 2018, SEMA/MT granted the installation license for the Aripuanã project, which allowed us to begin construction. The mineral exploration operation license (“LOPM”) is valid until May 2022 which allows drilling activities in the project. On November 27, 2020, the request for the Transmission Line 69kV Operation Permit was filed. The project is under development. On October 7, 2021, the operating license was granted. The license was issued by the Environmental Secretariat of the state of Mato Grosso (“SEMA”).
Magistral	The EIA was renewed in 2019 and was valid for an additional two years, until September 2021. An amendment to the EIA was submitted to the Ministry of the Environment (SENACE) in the fourth quarter of 2021 for its assessment.
Pukaqaqa	In 2020, a new environmental impact statement (“EIS”) was approved, with the purpose of developing exploration activities in Pukaqaqa Sur Exploration Project.
Shalipayco	The EIA for exploration activities approved in 2017 was modified in early 2019 and extended to 2023.
Hilarión	The most recent environmental study is the fifth modification to the Hilarion Project’s EIS, which consisted of obtaining approval for new exploration platforms and reviewing the drilling program. It was approved in 2020 and is valid until 2024. The authorization for exploratory activities at the El Padrino deposit was extended until March 2023 and a detailed EIS was approved in 2020, which is valid until 2025. For the Azulmina target, one possible location for the plant and tailings facilities, there is an approved EIS and Technical Sustaining Instrument (STI) that allows the execution of exploration activities until 2023.
Florida Canyon Zinc	The most recent environmental study is the STI of the Fourth Modification EIS of the Florida Canyon project, which was approved in 2021 and is valid until 2024.
Caçapava do Sul	The drilling environmental licensing process was cancelled in 2020 due to the stoppage of mineral exploration activities. An EIA was submitted in 2016 to the Fundação Estadual de Proteção Ambiental Henrique Luiz Roessler. A new term of reference was issued in 2020, with a two-year deadline for submitting new environmental studies. The project was suspended in 2021 as a result of our current capital allocation strategy.

Tailings disposal

Regulatory framework

We are subject to several environmental regulations related to the use of tailings dams and effluent dams.

In Brazil, tailings dams’ failures have triggered the issuance of new regulations. On January 25, 2019, there was a tragic failure of a tailings dam in the city of Brumadinho, in the state of Minas Gerais, Brazil. The Brumadinho dam was built using the upstream method and belongs to Vale S.A. A report by a panel of technical experts commissioned by Vale S.A. found that the tailings dam failure was the result of flow liquefaction within the tailings in the dam. Another upstream-method tailings dam in Brazil, the Fundão tailings dam owned by Samarco Mineração S.A., failed in November 2015. Each of these failures released muddy tailings downstream, flooded certain communities, caused fatalities and resulted in extensive environmental damage to the surrounding area.

In response to failures of tailings dams in Brazil, the state of Minas Gerais enacted regulations in February 2019 affecting the use of dams in the state, including tailings dams and effluent dams that mandate the decommissioning of all upstream tailings dams and prohibit construction of new tailings dams using the upstream method. Additionally, a rule approved by the ANM requires all inactive upstream dams to be decommissioned by 2021 and active upstream dams to be decommissioned by 2023. We have not been impacted by these regulations as all of our tailings dams in Brazil are downstream.

In addition, in February 2019, the state of Minas Gerais enacted regulations that prohibit the construction of a new dam or the expansion of existing dams if communities are established within its self-rescue zone, an area encompassing the portion of the valley downstream of the dam where timely evacuation and intervention by the competent authorities in emergency situations is not possible. All of tailings dams located in Minas Gerais have permission to operate, however, future licensing for new tailings storage facilities or new raises must consider any community in the hazardous zone. We are undertaking a new raise of the Três Marias tailings dam, Oeste 1 and Central, and different possibilities of disposal and consolidation of the disposed tailings are being studied to reduce that risk.

In 2020, the mining authorities in Brazil enacted two regulations that establish new procedures related to dams. The first resolution (Resolução ANM 32/2020), decreed in May 2020, determines procedures to develop dam break studies and deadlines to update the Emergency Action Plan ("EAP") depending on the dam class. This regulation updated previous mining agency standards. We have updated the dam break studies of all mining dams according to these procedures. The second resolution (Resolução ANM 51/2020), decreed in December 2020, defines procedures to certify the EAP. At the end of 2020, the Brazilian Federal Authorities decreed that the new dam safety law (law 14,006/2020) updates the previous dam safety law 12,334 enacted in 2010. Similar to the regulation enacted in February 2019, this new law defines that new upstream tailings dams and new raises are no longer permitted and, that the EAP is mandatory to all mining dams that storage tailings. This law also limited the construction of new tailings dams if communities are established within its self-rescue zone. In this case, the mining company must remove the residents or reinforce the dam structure according to the technical solution approved by the ANM.

In 2021, we began implementing requirements of these regulations to all mining dams, such as certification of the EAP, training staff, and dam break simulations according to the new regulation.

In January 2021, the request for environmental licensing for a new expansion of the Três Marias tailings dam was submitted to the environmental agency of the state of Minas Gerais. The public hearing of this expansion was held in November 2021. This may impact the licensing schedule for this expansion, scheduled to be completed by February 2023, as well as Três Marias expected operating capacity.

In 2021, we submitted to the environmental agency of the state of Minas Gerais the request for environmental licensing for a new expansion of the Três Marias tailings dam, which already follows the rules established by the new regulation described above. The need to remove all residents who are within the self-rescue zone may impact the licensing schedule for this expansion, estimated to be completed by February 2023, as well as Três Marias expected operating capacity.

In Peru, the upstream method has long been an abandoned practice due to seismic concerns in the region. As of 1995, compulsory guidelines were passed prohibiting the use of such method. Subsequently, in 2014 environmental regulators, and later technical regulators, in 2015, adopted the same guidelines prohibiting construction and operation under the upstream method, allowing only the use and construction under the centerline and downstream methods. A specialized governmental agency carries out annual inspections of tailings dam and mining infrastructure, ensuring technical and environmental regulations are complied with. In addition, mining operations must submit biannual stability studies, to which they are held liable. We follow these guidelines, and all operative tailings dams use the downstream and centerline lift methods.

El Porvenir's tailings dam is currently supported by an authorization for operation up to an altitude of 4060 meters above sea level ('masl"), granted by the Ministry of Energy and Mines on October 7, 2019. A new authorization for operation is currently underway which will allow operations to an altitude of 4062 masl.

For more information, see "Risk factors—Operational risks—The failure of a tailings dam could negatively impact our business, reputation and results of operations, and the implementation of associated regulations and decommissioning processes may be expensive."

Nexa's practices

We monitor tailings and waste dams in accordance with international best practice guidelines for management and project design based on criteria set by the International Commission on Large Dams ("ICOLD") and the Canadian Dam Association ("CDA") dam safety guidelines. In 2021, all of our tailings dams in Brazil received Stability Condition Declarations ("DCEs"), certifying that these facilities are safe and stable. In Brazil, these certifications are carried out twice a year, once for mining dams and once for smelting dams. In Peru, they occur once a year only for smelting dams. As of the date of this annual report, all tailings dams in Peru are undergoing the certification process, and we expect to conclude a technical report for these dams during the first half of 2022. In addition, all our dams and dry stacking structures are monitored under a system known as the Sistema de Gestão de Barragens ou Depósitos / Tailing Dam Management System ("SIGBAR/SIGDEP"), which consists of procedures, tools and key performance indicators, monthly reports and monitoring and analysis by an independent Geotechnical Engineer. The monitoring procedures include regular inspections, as well as internal and external audits.

In addition to the above-mentioned policies and procedures, our sustainability and capital projects committee assists and advises our board in supporting safe and sustainable business practices in our conduct and activities, as well as in reviewing technical, economic and social matters with respect to our projects.

In 2020, management reviewed the Emergency Action Plan ("EAP") for all mining dams in accordance with the new Brazilian regulations released midway through 2020 and we trained our internal team in these new procedures. In 2021, new EAP guidelines, detailed by specific terms of reference, were published in April, May and June 2021. We started to review all Brazilian EAP's and we estimate to present the update plan for management's approval in 2022.

For more information about our sustainability committee and ESG initiatives, see Information on the Company—Environmental, Social and Governance ("ESG") and corporate initiatives—Sustainability Committee and Reporting."

We use four disposal options for tailings. Our preferred option is to convert part or all of the tailings material into a commercially viable product. We use this method at our Morro Agudo mine, where most of the tailings that we produce are ZinCal, a limestone rich in zinc that is used as fertilizer. This option does not require disposal of tailings materials.

When the conversion method is not available, we prefer to use the backfill method for our underground mines. This technique involves removing moisture from tailings, creating a mixture with cement and filling open spaces in the mines with this combination. We believe this method reduces safety risks related to tailings disposal given that it provides greater geotechnical stability and does not involve the building of a dam or dry stacking structure.

If neither the conversion nor the backfill method is available, we prefer to use the dry stacking method, which involves removing moisture from tailings and stacking them in layers to form an artificial mountain covered with soil and vegetation, causing it to integrate into the local landscape. We use the dry stacking and backfill methods at our Cerro Lindo mine in Peru since the startup of our mine. In 2019, we started operating a dry stacking facility, which substituted the tailings dam in Vazante. With this new structure, over 80% of our tailings disposal is done either through backfill or dry staking, reducing our exposure to dams. We are currently developing the backfill and dry stacking methods at our Aripuanã greenfield project, which will start to operate this year.

When neither of these three methods is possible, we use tailings dams. The dam acts as a solid barrier engineered to prevent the tailings material from escaping to the environment around the mine. We use this method in Peru at our El Porvenir and Atacocha mines and at our Cajamarquilla smelter, and in Brazil at our Vazante and Morro Agudo mines and Juiz de Fora and Três Marias smelters. We also use a combination of the backfill method and tailings dams at our El Porvenir and Atacocha mines in Peru. At the Aripuanã project, we are building a water dam to supply water to our plant. This dam is engineered with borrowed material and uses the technical control of compaction of the soil.

We raise our tailings dams using the following two methods: (i) the downstream method, where the building material is disposed downstream of the crest of the dam body; and (ii) the center-line method, where the building material is disposed partially downstream and partially upstream of the crest of the dam body, while maintaining the same centerline of the crest. Historically, we have also used the upstream method – where the building material is disposed upstream of the crest of the dam body – in certain instances.

In addition, we also use effluent dams, which are dams used to treat water that contains tailings particles or other solid particles. The effluent dams separate the tailings particles or other solid particles from the water by retaining the particles and releasing the clean water downstream. Finally, we use products dams for the provisional storage of ZinCal prior to its sale.

We currently have 47 disposal facilities (including tailings dams, dry stacking facilities, effluent dams and products dams), 22 of which are operational. Of our eight operational tailings dams, seven were raised using either the downstream method or the center-line method, and one dam was at one point raised using the upstream method but was later raised using the downstream and the center-line methods. Of our 25 non-operational tailings dams, 16 are in the process of being decommissioned, and we have plans to decommission the others. Three of our non-operational dams in Peru were originally raised using the upstream method.

The following is an overview of the dams we have in place at our principal mining and smelting facilities:

Peru

- At Cerro Lindo, we have no tailings dams, and tailings are disposed of using a combination of the backfill method, two dry stacking structures and two effluent dams.
- At El Porvenir and Atacocha, tailings are disposed of using a combination of the backfill method and tailings dams; there are two tailings dams in active use and four non-operational tailings dams, which are in the process of being decommissioned.
- At Cajamarquilla, there are three tailings dams in active use and four non-operational tailings dams, which are in the process of being decommissioned.
- At the Chapi mine property, which is currently inactive, there are five non-operational tailings dams.
- At the Sinaycocha property, which is part of our Atacocha mine property, there are two non-operational tailings dams.

Brazil

- At Morro Agudo, most tailings are converted for sale, and the product is stored temporarily at two products dams until it is sold. A separate tailings dam is used to store tailings that are not convertible into product.
- At our Ambrósia mine, there is one effluent dam in active use. In 2020 the mine was closed, and it is in process of decommissioning.
- At Vazante, tailings are disposed of using a combination of tailings dams and dry stacking; there is one tailings dam and one effluent dam in active use.
- At Juiz de Fora, there is one tailings dam in active use, three effluent dams in active use and six non-operational tailings dams, five of which are in the process of being decommissioned.
- At Três Marias, there are three tailings dams in active use and three non-operational tailings dams, which are in the process of being decommissioned.

SMELTING OPERATIONS

The table below provides an overview of our smelting facilities:

Smelting Unit	Location	Smelting Process	Principal Refined Zinc Products	Plant Capacity	Metallic Zinc Production in 2021	Zinc Oxide Production in 2021	Other Products
				(in tonnes of refined zinc per year)	**(in tonnes of zinc metal available for sale, includes alloys)**	**(in tonnes of zinc oxide)**	
Cajamarquilla	Peru	RLE	Metallic zinc (SHG, CGG jumbos and alloys)	344,436	328,129	0	Sulfuric acid, silver concentrate, copper cement and cadmium sticks
Três Marias	Brazil	RLE	Metallic zinc (SHG, CGG jumbos, alloys and Zamac) and zinc oxide	192,199	198,367[1]	41,713	Cadmium briquettes
Juiz de Fora	Brazil	Waelz Furnace and RLE	Metallic zinc (SHG, alloys and Zamac)	96,923	81,119[2]	0	Sulfuric acid, sulfur dioxide, silver concentrate, copper sulfate and zinc ash
Total				**633,558**	**607,615**	**41,713**	

(1) Including 31,492 tonnes of zinc ashes and drosses, as well as metallic zinc used in the production of zinc oxide, zinc granules and zinc powder and 195 tonnes of zinc cathodes transferred from Juiz de Fora.

(2) Including 2,649 tonnes of zinc ashes and drosses. It does not include zinc cathode to Três Marias.

Notes:

RLE stands for Roast-Leach-Electrowinning.

Alloys are zinc-based products with the addition of up to 1.0% of a specified metal, which are primarily used in the galvanizing market.

Special alloys are zinc-based products with addition of specified metals, which are primarily used in galvanizing market.

Zamac is a zinc-based product with the addition of specified metals, which are primarily used in the die casting market.

Smelter sales

We produce various kinds of refined zinc products. In 2021, we sold a total of 577.9 thousand tonnes of our metallic zinc line of products (including SHG, CGG jumbos, alloys, and Zamac). In addition, we commercialized 40.9 thousand tonnes of zinc oxide at 80% standard zinc content in 2021, totaling 618.8 thousand tonnes of zinc metal products sold.

In March 2021, one of our calcine suppliers in Peru shut down its facility, reducing our calcine availability and, consequently, impacting our production and sales. However, we were able to mitigate this supply decrease by sourcing raw materials from other suppliers, in addition to sales of third-party products. Nonetheless, we anticipate that this will have an impact on our smelter's production in 2022.

Cajamarquilla

The Cajamarquilla smelter is located in the district of Lurigancho/Chosica in Lima, Peru, and is accessible by road.

The Cajamarquilla smelter is currently the largest zinc smelter in Latin America and the only zinc smelter in Latin America outside Mexico and Brazil, according to Wood Mackenzie. It uses the RLE process to produce metallic zinc. With an annual production capacity of 344.4 thousand tonnes of metallic zinc, the Cajamarquilla smelter produced 328.1 thousand tonnes of zinc metal available for sale in 2021. In recent years, Cajamarquilla developed operational efficiencies, including debottlenecking projects, which increased the production of calcine from concentrates obtained from Nexa Peru, and the use of calcine and waelz oxide processed by third parties. See "Risk factors—Operational risks—Inadequate supply of zinc secondary feed materials and zinc calcine could affect the results of our smelters."

The Cajamarquilla smelter produces zinc primarily from zinc concentrates and, to a lesser extent, recycled zinc secondary feeds (also referred to as pre-treated concentrate). In 2021, the Cajamarquilla smelter consumed approximately 344.3 thousand tonnes of zinc contained in concentrates. In 2021, 37.9% of the zinc contained in concentrates used by the Cajamarquilla smelter was sourced from our mines in Peru and 62.1% was purchased from third parties.

In 2021, the Cajamarquilla smelter sold approximately 333.4 thousand tonnes of metallic zinc, of which 39.1% of the volume was sold to Latin America (including Mexico), 16.4% to Europe, 10.9% to the United States, 3.1% to international traders, 25.5% to Asia and 5.1% to Africa. The Cajamarquilla smelter also produces sulfuric acid, silver concentrate, copper cement, manganese dioxide, oxides (ashes) and cadmium sticks. These products are sold primarily to international traders and local customers.

The following table presents the historical concentrates processed and zinc recovery rate in Cajamarquilla for the periods indicated.

	For the Year Ended December 31,		
	2021	**2020**	**2019**
Input (in tonnes)			
Zinc Contained in Concentrate from Our Mines	]130,614	119,843	135,104
Zinc Contained in Concentrate from Third Parties	213,703	202,687	230,938
Secondary Raw Material	9,583	1,966	—
Total Inputs	**353,899**	**324,495**	**366,042**
Zinc Recovery (%)	94.3	93.7	94.1

Brownfield project

Conversion to Jarosite process

In 2017, we announced our intention to convert our Cajamarquilla smelter to the Jarosite process, which would allow for the recovery of a greater percentage of zinc. The project was estimated to improve the zinc recovery rate by 3.0% at the Cajamarquilla smelter. We initiated the construction phase in 2018 and during 2019 civil works and procurement activities continued to progress. In December 2019, the implementation of the conversion process was suspended due to problems with contractors and suppliers. We intend to reassess the project throughout 2022.

Três Marias

The Três Marias smelter is located in the municipality of Três Marias in the state of Minas Gerais, Brazil, 250 km from the Morro Agudo mine and 253 km from the Vazante mine and is accessible by road.

The Três Marias smelter was built to treat the zinc silicate concentrates from the Vazante mine (willemite and calamine) and sulfide concentrates from the Morro Agudo mine, from Nexa Peru and from third-party concentrates. Currently, this smelter is integrated with the operations of the Vazante and Morro Agudo mines, and it uses the RLE process to produce metallic zinc and zinc oxide. The annual production capacity of our Três Marias smelter is 192.2 thousand tonnes of refined metal per year. Production in 2021 totaled 198.4 thousand tonnes of zinc metal available for sale.

The Três Marias smelter produces zinc primarily from zinc contained in concentrates and, to a lesser extent, recycled zinc secondary feeds. In 2021, this smelter consumed approximately 191.2 thousand tonnes of zinc contained in concentrates and 3.2 thousand tonnes of secondary raw material.

In 2021, Três Marias sold approximately 163.7 thousand tonnes of metallic zinc and 40.9 thousand tonnes of zinc oxide, of which 83.6% of the volume was sold to Latin America (including Mexico), 0.0% to international traders, 9.1% to Africa, 3.2% to Asia, 3.2% to Europe and 0.9% to the United States. The Três Marias smelter also produces copper/cobalt cement, Oxides (ashes) and cadmium briquettes. These products are sold to local customers.

The Três Marias smelter contains a zinc oxide production plant intended for the chemical, pneumatic, ceramic, animal feed and fertilizer industries. In 2021, the production of zinc oxide was approximately 41.7 thousand tonnes. In zinc content, approximately 69.8% of the raw material was electrolytic zinc that originated from the melting stage. In addition, we purchased 30.2% of raw material from third parties, in the form of dross and skims, to produce zinc oxide as well as the generation of by-products.

In 2021, the request for environmental licensing for a new expansion of the Três Marias tailings dam was submitted to the environmental agency of the state of Minas Gerais. For more information, see “Mining Operations—Tailings Disposals—Regulatory framework.”

The following table presents the historical concentrates processed and zinc recovery rate in Três Marias for the periods indicated.

	For the Year Ended December 31,		
	2021	**2020**	**2019**
Inputs (in tonnes) (1)			
Zinc Contained in Concentrate from Our Mines	161,070	176,893	178,928
Zinc Contained in Concentrate from Third Parties	30,148	26,403	22,470
Secondary Raw Material	3,231	1,374	2,642
Total Inputs	**194,449**	**204,669**	**204,040**
Zinc Recovery (%)	94.7	94.8	94.3

(1) Impacted by higher secondary raw material consumption and concentrates with contaminants (mainly iron and arsenic).

Juiz de Fora

The Juiz de Fora smelter is located in the municipality of Juiz de Fora in the state of Minas Gerais, Brazil, and is accessible by road.

The Juiz de Fora smelter produces zinc from sulfide concentrates and secondary sources such as EAF dust, batteries, and brass oxide, and uses the RLE process to produce metallic zinc. The annual production capacity of our Juiz de Fora smelter is 96.9 thousand tonnes of metallic zinc per year. In 2021, Juiz de Fora produced 81.1 thousand tonnes of zinc metal available for sale. In recent years, Juiz de Fora used calcine processed by third parties in its production process.

The Juiz de Fora smelter produces zinc from zinc concentrates and recycled zinc secondary feeds. In 2021, this smelter consumed 68.6 thousand tonnes of zinc contained in concentrates and 16.4 thousand tonnes of zinc from secondary raw material and secondary sources. This smelter also produces sulfuric acid, sulfur dioxide, silver concentrate and copper sulfate.

In 2021, the Juiz de Fora smelter sold approximately 80.8 thousand tonnes of metallic zinc, of which 100.0% of the volume was sold to Latin America (including Mexico).

The smelter operated at 60% of its normal production capacity in May and June 2020, in anticipation of a lower market demand due to the global economic conditions due to the COVID-19 pandemic. The Juiz de Fora smelter returned to normal production level during the second half of 2020. In 2021, although we had planned and unplanned maintenances, the Juiz de Fora Smelter operated at high-capacity utilization rates.

The following table presents the historical concentrates processed and zinc recovery rate in Juiz de Fora for the periods indicated.

	For the Year Ended December 31,		
	2021	**2020**	**2019**
Inputs (in tonnes)			
Zinc Contained in Concentrate from Our Mines	27,873	22,291	39,125
Zinc Contained in Concentrate from Third Parties	40,704	47,500	37,763
Secondary Raw Material	16,356	14,925	16,367
Total Inputs	**84,933**	**84,716**	**93,255**
Zinc Recovery (%)	93.6	92.8	93.4

OTHER OPERATIONS

Transportation and shipping

Concentrates in our mines

Our Cerro Lindo operation transports 100.0% of its concentrates by road. The concentrates are trucked in a dedicated fleet through the Panamericana Sur road to the port of Callao that is approximately 255 km north, or to the Cajamarquilla smelter. This transportation is covered by long-term contracts entered with two trucking companies.

Our Atacocha and El Porvenir operations use both road and rail transportation. The concentrates are trucked through the Carretera Central Road to the port of Callao that is approximately 315 km west, or to the Cajamarquilla smelter. We also use railway transportation to secure logistic availability and maintain high environmental standards. Our use of railway transportation is covered by a long-term contract.

The zinc concentrate produced in the Cerro Lindo, Atacocha and El Porvenir mines supply both our Peruvian and Brazilian smelters, as well as third-party customers, while the lead and copper concentrates produced by these mines are transported to third-party customers from the port of Callao. Our smelters use zinc concentrate supplied from our mines and from third-party suppliers to meet the blending needs of each smelter.

The Peruvian zinc concentrate supplied to the Brazilian smelters is loaded in bulk 17,000 tonne shipments and sent to the Port of Rio de Janeiro, where it is cleared through customs and then loaded into railcars to the Juiz de Fora smelter or into trucks and railcars to the Três Marias smelter. The ocean freight for this Peruvian zinc is covered by a long-term freight contract.

All the zinc concentrates produced at our Vazante and Morro Agudo mines are transported by road to the Três Marias smelter using two trucking companies. These mines also produce lead and lead/silver concentrates, which are loaded into containers at the mine and are transported using trucks and trains to the Sepetiba Tecon Terminal in Itaguaí, Rio de Janeiro, Brazil. The lead and lead/silver concentrates are then shipped to customers in Asia in accordance with our annual contracts with container shipping lines.

Smelters

The metallic zinc produced in the Cajamarquilla smelter is transported by train or truck to the terminals. The material intended for the Peruvian domestic market is distributed by truck from these terminals, while exports to foreign markets are loaded into containers and transported by truck from these terminals to the port of Callao.

The metallic zinc produced in the Juiz de Fora and Três Marias smelters is transported by truck for either local customers or exports. In the case of exports, the material is transported to terminals near the ports of Rio de Janeiro or Itaguaí, both in the state of Rio de Janeiro, or the port of Santos, in the state of São Paulo. The material is then loaded into containers at the terminal and transported to the ports by truck, where it is shipped to customers abroad.

The metallic zinc and zinc oxide production process in our smelters also produces by-products. The most relevant by-products are sulfuric acid and silver concentrate. Sulfuric acid produced in the Cajamarquilla smelter is loaded into dedicated FCCA tank railcars and transported to be stored. The sulfuric acid is then loaded in bulk into chemical ship-tanks destined to our customers and discharged at the Chilean ports of Mejillones and Barquito. The silver concentrate produced in the Cajamarquilla and Juiz de Fora smelters is loaded into containers and are dispatched to the port of Callao in Peru or to the port of Itaguaí.

We ship all our refined zinc and silver concentrate exports in containers. Transportation of this material is covered by annual agreements with the liner shipping providers, which are responsible for 70.0% of these shipments.

Sales and marketing

We sell most of our products through supply contracts with terms between one and four years. Only a small portion of our products is sold on the spot market. The agreements with our customers include customary international commercial terms, such as CIF, FOB and other delivery terms based on Incoterms 2010/2020. Our ability to deliver significant volumes across several regions worldwide makes us a significant supplier to a client base of end users and global traders. As a result, we can obtain competitive commercial terms for our products in the long-term. In 2021, our top 10 metallic zinc customers represented approximately 47.9% of the total sales volume for such products, with our top 10 zinc oxide customers representing 58.9% of the total sales volume for that product, and our top three concentrate customers represented approximately 90% of the total sales volume for such products, in each case excluding intercompany sales.

Concentrates

In 2021, 100.0% of our total production volume of zinc concentrates went to our smelting operations in Peru and Brazil. In 2021, we did not sell Zinc concentrates produced from our Peruvian operations to third-party customers. Sales prices are established mainly by reference to prices quoted on the LME less a discount based on either the treatment charge or smelter charge. The LME price quotes are based on prevailing LME average prices for the period set forth in our sale agreements, and generally refer to either the month following the shipment or the period near the execution date of the relevant agreement.

We also purchase zinc contained in concentrate from third-party suppliers to meet our raw material requirements. In 2021, 50.5% of the total zinc raw material consumption in our smelters was produced by our mines and 49.5% was purchased from third parties or obtained from secondary raw materials.

Refined Metals

Our metallic zinc and zinc oxide are sold worldwide through our commercial offices located in:

- São Paulo, Brazil;
- Lima, Peru;
- Houston, United States; and
- Luxembourg, Grand Duchy of Luxembourg.

We hold a leadership position in our home market, Latin America (excluding Mexico), with an estimated market share of 87.8% in 2021, according to our sales volume, import databases and demand forecasts sourced from specialized consultancy groups and customs websites. In other regions, we hold a strategic position, with estimated market share of 25.2% in Africa, 2.9% in North America, 2.7% in Europe and 1.0% in Asia, according to our sales volumes, import databases and demand forecasts sourced from specialized consultancy groups and customs websites. In recent years, we have increased our sales of metallic zinc and zinc oxide to end users in attractive markets, consolidating a commercial network in place to support volume growth.

In 2021, 85.3% of our total sales of refined metals were to customers in the continuous galvanizing, general galvanizing, die casting, transformers and alloy segments and 14.7% of our total sales were to international traders. Our products are sold to end users in the transport, construction, infrastructure, consumer goods and industrial machinery industries. Of our volume of metallic zinc and zinc oxide sales in 2021, 61.7% were to Latin America (including Mexico), 9.9% to Europe, 6.2% to the United States, 5.8% to Africa and 14.8% to Asia, with the remaining 1.7% to international traders. Sales prices are mainly established by reference to prices quoted on the LME plus a negotiable premium. Pricing is based on prevailing LME average prices for a period set forth in our sale agreements, which generally refer to the month or month prior to shipment.

By-products

We sell a wide variety of chemical and metallurgic by-products generated during the production processes in our smelters and mines to a broad customer base. Our sales include more than 25 different by-products, most of which are sold based on the characteristics of each market or region.

Power and energy supply

Peru

With respect to our Peruvian operating units, we obtained 98.0% (1,862 GWh) of the electricity for our operations from the SEIN and 2.0% (37.2 GWh) from our own hydroelectric power plants. We own three hydroelectric power plants, two at Atacocha and one at El Porvenir, with a total installed gross rated capacity of 11,824 kilowatts, or kW. We also received our energy from third parties through electricity supply contracts. Our Cerro Lindo, El Porvenir and Atacocha units have electricity supply contracts with Electroperú S.A., which cover 100% (273.6 GWh), 100% (128.6 GWh) and 37.2% (22.0 GWh) of their electricity requirements, respectively. In July 2019, we signed a new long-term energy agreement with Electroperú S.A, a well-known Peruvian state-owned company, which started supplying energy our operations in Peru in January 2020, totaling a supply of 1,842 GWh in 2021. Electroperú was the sole supplier for our operations in Peru following the expiration of an electricity spot supply contract between the Cajamarquilla unit and Engie Energía Perú S.A. (formerly Enersur S.A.) in July 2020.In June 2021, however, another spot contract was signed with Kallpa Generación S.A. for the supply of electricity to the Cajamarquilla unit. The contract, which expired on December 31, 2021, was automatically renewed for another six months, supplying a total of 19.4 GWh in 2021.

The following table sets forth the energy sources and electricity consumption with respect to our Peruvian operating units in 2021.

Operating Unit	Energy Source	Total Energy Consumed in 2021 (GWh)	Percentage of Total Energy Usage in 2021
Third Party			
Cerro Lindo	Third Party (Electroperú S.A.)	273.6	14.4%
El Porvenir	Third Party (Electroperú S.A.)	128.6	6.8%
Atacocha	Third Party (Electroperú S.A.)	22.0	1.1%
Cajamarquilla	Third Party (Kallpa Generación S.A.)	25.8	1.4%
Cajamarquilla	Third Party (Electroperú S.A.)	1,411.7	74.3%
Total Energy Usage		**1,861.7**	**98%**
Own Power Plant			
El Porvenir	Own Power Plant (Candelaria)	0	0%
Atacocha	Own Power Plant (Chaprin and Marcopampa)	37.2	2%
Total Energy Usage		**1,898.9**	**100%**

Hydroelectric plants

Candelaria

The El Porvenir unit has one hydroelectric plant, the Candelaria Hydroelectric Power Plant, which is located along the Lloclla River. The plant contains three separate hydroelectric turbines, two of which have been operational since 1957 and the third since 1998, and which together have an installed rated capacity of 4.8 MW.

Chaprin and Marcopampa

The Atacocha unit has two hydroelectric plants. The Chaprin Hydroelectric Power Plant is located along the Lagia Ravine near the Huallaga River. The plant has been operating since 1953 and its installed rated capacity is 5.9 MW. The Marcopampa Hydroelectric Power Plant has been operating since 1937, and was overhauled in 1984, increasing its installed rated capacity of 1.2 MW. Since the beginning of 2020, Marcopampa has been shut off indefinitely. During 2021, Atacocha consumed 37.2 GWh from these plants, which represented approximately 62.8% of the energy usage of the mine.

Brazil

With respect to our Brazilian operations, as of December 31, 2021, energy supply comes from various contracts, and our subsidiary Pollarix S.A ("Pollarix").

The five hydroelectric plants in which our subsidiary Pollarix has directly or indirectly the following interests: a 21.0% equity participation in Enercan (Campos Novos hydroelectric power plant), a 100.0% ownership of the hydroelectric power plant Picada located in Minas Gerais, a 12.6% equity participation in the Amador Aguiar I, a 12.6% equity participation in the Amador Aguiar II and a 23.9% equity participation in the Igarapava. These plants have hydroelectric power facilities in the states of Minas Gerais, Santa Catarina and São Paulo. All hydroelectric power plants of Pollarix provide electricity to the four operating units (Vazante, Morro Agudo, Três Marias and Juiz de Fora).

The only activity of Pollarix is to own our energy assets and sell energy to our Brazilian operating subsidiaries at market prices. We own all the common shares of Pollarix, which represents 33.33% of its total share capital. The remaining shares are preferred shares with limited voting rights, which are owned by our shareholder VSA and/or its affiliates. Under the terms of the preferred shares, VSA is entitled to dividends per share equal to 1.25 times the dividends per share payable on the common shares. See "Operating and financial review and prospects—Overview—Key factors affecting our business and results of operations—Operating costs and expenses—Energy costs."

We have a contract with Votorantim Energia, which provides energy from various sites, with a total of supply of 6.89 MW of energy in 2021 with a reference price of R$226/MWh (price annually adjusted for inflation). During 2021, it provided electricity only to the Aripuanã development project.

In January 2020, we began a new long-term energy supply agreement with Furnas, a Brazilian energy company, controlled by Eletrobras, to help address the increased electricity demand in our operations. Nexa Brazil currently consumes nearly all the energy supplied by Pollarix and Votorantim Energia in its existing operations. Furnas provides electricity to the four operating units (Vazante, Morro Agudo, Três Marias and Juiz de Fora), with 13.8 MW per year of energy, which represented 7.3% of our total energy purchased, with a reference price of R$154/MWh (price will be annually adjusted for inflation). The agreement is valid for 15 years.

The following table sets forth our energy sources and consumption with respect to our Brazilian operations in 2021.

Operating Unit	Energy Source	Total Energy Consumed in 2021 (GWh)	Percentage of Total Energy Usage in 2021
Third Party and Own Power Plants	Pollarix S.A. and Furnas S.A.		
Morro Agudo		70.8	4.8%
Vazante		254.5	17.3%
Três Marias		753.8	51.2%
Juiz de Fora		392.5	26.7%
Total Energy Usage		**1,471.6**	**100%**

Hydroelectric plants

Campos Novos

Campos Novos is a hydroelectric plant located along the Canoas River. The plant has an installed capacity of 880 MW and has been authorized by the Brazilian Electricity Regulatory Agency (*Agência Nacional de Energia Elétrica* or ANEEL), to produce 379.7 MWavg. In 2021, the plant's physical guarantee for ballast purposes was 3,211 GWh, 21% of this total was acquired to our operating plants. During 2021, our Morro Agudo, Vazante, Três Marias and Juiz de Fora units acquired 673.7 GWh from Campos Novos, which represented approximately 40.9% of our total energy purchased.

Picada

Picada is a hydroelectric plant located along the Peixe River. The plant has an installed capacity of 50 MW and has been authorized by ANEEL to produce 30.8 MWavg. During 2021, our Morro Agudo, Vazante, Três Marias and Juiz de Fora units acquired 264.4 GWh, which represented 16.1% of our total energy purchased.

Igarapava

Igarapava is a hydroelectric plant located along the Grande River. The plant has an installed capacity of 210 MW and has been authorized by ANEEL to produce 134.2 MWavg. During 2021, our Morro Agudo, Vazante, Três Marias and Juiz de Fora units acquired 276.1 GWh from Igarapava, which represented approximately 16.8% of our total energy purchased.

Amador Aguiar I

Amador Aguiar is a hydroelectric plant located along the Araguari River. The plant has an installed capacity of 240 MW and has been authorized by ANEEL to produce 154.4 MWavg. During 2021, our Morro Agudo, Vazante, Três Marias and Juiz de Fora units acquired 155.6 GWh from Amador Aguiar I, which represented 9.45% of our total energy purchased.

Amador Aguiar II

Amador Aguiar is a hydroelectric plant located along the Araguari River. The plant has an installed capacity of 210 MW and has been authorized by ANEEL to produce 131.7 MWavg. During 2021, our Morro Agudo, Vazante, Três Marias and Juiz de Fora units acquired 155.6 GWh from Amador Aguiar II, which represented 9.45% of our total energy purchased.

MINERAL RESERVES AND RESOURCES

Disclosure of Mineral Reserves and Resources

The Securities and Exchange Commission (“SEC”) amendments to its disclosure rules modernizing the mineral property disclosure requirements for mining registrants became effective on January 1, 2021. The amendments include the adoption of S-K 1300, which governs disclosure for mining registrants (the “SEC Mining Modernization Rules”). The SEC Mining Modernization Rules replaced the historical property disclosure requirements for mining registrants that were included in the SEC’s Industry Guide 7 and better align disclosure with international industry and regulatory practices, including the Canadian National Instrument 43-101—*Standards of Disclosure for Mineral Project*s (“NI 43-101”). We began voluntarily complying with the SEC Mining Modernization Rules in our 2020 annual report.

For the meanings of certain technical terms used in this prospectus, see “Additional Information—Glossary.”

As a reporting issuer in Canada, we are also subject to NI 43-101, which is an instrument administered by the provincial and territorial securities regulatory authorities that governs how issuers in Canada disclose scientific and technical information about their mineral projects to the public. NI 43-101 imposes certain requirements in respect of such disclosure, including the requirement to have prescribed information prepared by, or under the supervision of, a qualified person and the filing of NI 43-101 technical reports in the prescribed circumstances. Any reference to a NI 43-101 report is for informational purposes only, and such reports are not incorporated herein by reference.

Descriptions in this report of our mineral deposits prepared in accordance with S-K 1300, as well as similar information provided by other issuers in accordance with S-K 1300, may not be comparable to similar information prepared in accordance with NI 43-101 that is presented elsewhere outside of this report.

The qualified persons that have reviewed and approved the scientific and technical information contained in this annual report are identified in the footnotes to the tables summarizing the Mineral Reserves and Resources estimates below, see “Information on the Company—Mining operations” below. For the meanings of certain technical terms used in this report, see “Additional information—Glossary.”

Presentation of information concerning Mineral Reserves

The estimates of proven and probable reserves at our mines and projects and the estimates of life of mine included in this annual report have been prepared by the qualified persons referred to herein, and in accordance with the technical definitions established by the SEC. Under S-K 1300:

- Proven Mineral Reserves are the economically mineable part of a Measured mineral resource and can only result from conversion of a measured mineral resource.

- Probable Mineral Reserves are the economically mineable part of an indicated and, in some cases, a measured mineral resource.

- Indicated Mineral Resource is that part of a Mineral Resource for which quantity and grade or quality are estimated based on adequate geological evidence and sampling. The level of geological certainty associated with an Indicated Mineral Resource is sufficient to allow a qualified person to apply modifying factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit. Because an Indicated Mineral Resource has a lower level of confidence than the level of confidence of a measured mineral resource, an indicated mineral resource may only be converted to a probable mineral reserve.

- Inferred Mineral Resource is that part of a Mineral Resource for which quantity and grade or quality are estimated based on limited geological evidence and sampling. The level of geological uncertainty associated with an Inferred Mineral Resource is too high to apply relevant technical and economic factors likely to influence the prospects of economic extraction in a manner useful for evaluation of economic viability. Because an Inferred Mineral Resource has the lowest level of geological confidence of all mineral resources, which prevents the application of the modifying factors in a manner useful for evaluation of economic viability, an Inferred Mineral Resource may not be considered when assessing the economic viability of a mining project and may not be converted to a mineral reserve.

- Measured Mineral Resource is that part of a mineral resource for which quantity and grade or quality are estimated based on conclusive geological evidence and sampling. The level of geological certainty associated with a Measured Mineral Resource is sufficient to allow a qualified person to apply modifying factors, as defined in S-K 1300, in sufficient detail to support detailed mine planning and final evaluation of the economic viability of the deposit. Because a Measured Mineral Resource has a higher level of confidence than the level of confidence of either an Indicated Mineral Resource or an Inferred Mineral Resource, a Measured Mineral Resource may be converted to a Proven Mineral Reserve or to a Probable Mineral Reserve.

We periodically update our reserves and resources estimates when we have new geological data, economic assumptions or mining plans. During 2021, we performed an analysis of our reserves and resources estimates for certain operations, which is reflected in new estimates as of December 31, 2021. Reserves and resources estimates for each operation assume that we either have or expect to obtain all the necessary rights and permits to mine, extract and process mineral reserves or resources at each mine. Where we own less than 100% of the operation, reserves and resources estimates have been adjusted to reflect our ownership interest. Certain figures in the tables, discussions and notes have been rounded. For a description of risks relating to our estimates of Mineral Reserves and Resources, see “Risk factors—Risks related to our Mineral Reserves and Resources.”

Mineral Reserves

The following table shows our estimates of Attributable Mineral Reserves for our material mining properties as of December 31, 2021, prepared in accordance with Subpart 1300 of Regulation S-K. The Morro Agudo mine, Atacocha underground mine and Atacocha open pit mine do not have known Mineral Reserves under Subpart 1300 of Regulation S-K.

				Grade					Contained Metal				
	Ownership Interest (%)	Class	Total Attributable[1]	Zinc	Copper	Silver	Lead	Gold	Zinc	Copper	Silver	Lead	Gold
			(Mt)	(%)	(%)	(g/t)	(%)	(g/t)	(kt)	(kt)	(koz)	(kt)	(koz)
Cerro Lindo Mine[3]	83.48	Proven	20.29	1.61	0.65	21.8	0.21	-	327.4	132.1	14,217	42.3	-
		Probable	16.48	1.21	0.59	22.9	0.20	-	198.7	97.0	12,120	32.6	-
		Subtotal	**36.76**	**1.43**	**0.62**	**22.3**	**0.20**	**-**	**526.1**	**229.1**	**26,337**	**74.9**	**-**
El Porvenir Mine[4]	83.48	Proven	2.77	3.70	0.24	68.6	1.08	-	102.5	6.7	6,119	29.8	-
		Probable	10.02	3.54	0.19	69.8	1.03	-	354.6	19.4	22,466	103.6	-
		Subtotal	**12.79**	**3.57**	**0.20**	**69.5**	**1.04**	**-**	**457.1**	**26.2**	**28,585**	**133.4**	**-**
Vazante[5]	100	Proven	7.39	8.90	-	17.3	0.25	-	657.6	-	4,097	18.8	-
		Probable	8.52	8.66	-	10.6	0.19	-	737.6	-	2,896	16.4	-
		Subtotal	**15.91**	**8.77**	**-**	**13.7**	**0.22**	**-**	**1,395.2**	**-**	**6,992**	**35.3**	**-**
Aripuanã[6]	100	Proven	8.97	3.80	0.28	35.7	1.43	0.26	340.7	25.4	10,279	128.1	75.2
		Probable	12.82	3.47	0.19	32.1	1.31	0.32	445.0	24.6	13,216	167.4	132.8
		Subtotal	**21.79**	**3.61**	**0.23**	**33.5**	**1.36**	**0.30**	**785.6**	**50.0**	**23,496**	**295.5**	**208.0**
Total		**Proven**	**39.42**	**3.62**	**0.42**	**27.4**	**0.56**	**0.06**	**1,428.2**	**164.2**	**34,712**	**219.0**	**75.2**
		Probable	**47.84**	**3.63**	**0.29**	**33.0**	**0.67**	**0.09**	**1,735.9**	**141.0**	**50,698**	**320.0**	**132.8**
		Total	**87.25**	**3.63**	**0.35**	**30.5**	**0.62**	**0.07**	**3,164.0**	**305.3**	**85,410**	**539.1**	**208.0**

Notes:

* Numbers may not add due to rounding.

The following table shows our estimates of Mineral Reserves (100% ownership basis) for our material mining properties as of December 31, 2021 prepared in accordance with Subpart 1300 of Regulation S-K. The Morro Agudo mine, Atacocha underground mine and Atacocha open pit mine do not have known Mineral Reserves under Subpart 1300 of Regulation S-K.

				Grade					Contained Metal				
	Ownership Interest (%)	**Class**	**Total[(2)] (Mt)**	**Zinc (%)**	**Copper (%)**	**Silver (g/t)**	**Lead (%)**	**Gold (g/t)**	**Zinc (kt)**	**Copper (kt)**	**Silver (koz)**	**Lead (kt)**	**Gold (koz)**
Cerro Lindo Mine[(3)]	83.48	Proven	24.30	1.61	0.65	21.8	0.21	-	392.2	158.3	17,030	50.6	-
		Probable	19.74	1.21	0.59	22.9	0.20	-	238.0	116.2	14,519	39.1	-
		Subtotal	**44.04**	**1.43**	**0.62**	**22.3**	**0.20**	**-**	**630.3**	**274.4**	**31,549**	**89.7**	**-**
El Porvenir Mine[(4)]	83.48	Proven	3.32	3.70	0.24	68.6	1.08	-	122.8	8.1	7,329	35.7	-
		Probable	12.00	3.54	0.19	69.8	1.03	-	424.8	23.3	26,912	124.1	-
		Subtotal	**15.32**	**3.57**	**0.20**	**69.5**	**1.04**	**-**	**547.5**	**31.3**	**34,242**	**159.8**	**-**
Vazante[(5)]	100	Proven	7.39	8.90	-	17.2	0.25	-	657.6	-	4,097	18.8	-
		Probable	8.52	8.66	-	10.6	0.19	-	737.6	-	2,896	16.4	-
		Subtotal	**15.91**	**8.77**	**-**	**13.7**	**0.22**	**-**	**1,395.2**	**-**	**6,992**	**35.3**	**-**
Aripuanã[(6)]	100	Proven	8.97	3.80	0.28	35.7	1.43	0.26	340.7	25.4	10,279	128.1	75.2
		Probable	12.82	3.47	0.19	32.1	1.31	0.32	445.0	24.6	13,216	167.4	132.8
		Subtotal	**21.79**	**3.61**	**0.23**	**33.5**	**1.36**	**0.30**	**785.6**	**50.0**	**23,496**	**295.5**	**208.0**
Total		**Proven**	**43.98**	**3.44**	**0.44**	**27.4**	**0.53**	**0.05**	**1,513.3**	**191.7**	**38,736**	**233.3**	**75.2**
		Probable	**53.08**	**3.48**	**0.31**	**33.7**	**0.65**	**0.08**	**1,845.4**	**164.0**	**57,543**	**347.0**	**132.8**
		Total	**97.06**	**3.46**	**0.37**	**30.9**	**0.60**	**0.07**	**3,358.6**	**355.7**	**96,279**	**580.2**	**208.0**

Notes:

* Numbers may not add due to rounding.

(1) The qualified person for the Mineral Reserves estimate is SLR Consulting Ltd., an independent mining consulting firm. The total tonnage and content amounts presented in this table represent Nexa's attributable ownership basis.

(2) The qualified person for the Mineral Reserves estimate is SLR Consulting Ltd., an independent mining consulting firm. The total amounts and content presented in this table have not been adjusted to reflect our ownership interest. The information presented in this table includes 100% of the Mineral Reserve estimates for the property. Please refer to our ownership percentage for the amounts attributable to our ownership interest in the property.

(3) Subpart 1300 of Regulation S-K definitions were followed for Mineral Reserves, which also are consistent with the CIM (2014) definitions. Mineral Reserves are estimated at an NSR break-even cut-off value of US$38.73/t processed. Some incremental material with values between US$29.13/t and US$38.84/t was included. Mineral Reserves are estimated using average long-term metal prices of Zn: US2,722.20/t (US$1.23/lb), Pb: US$1,997.21/t (US$0.91/lb); Cu: US$7,288.26/t (US$3.31/lb); and Ag: US$19.68/oz. Metallurgical recoveries are accounted for in the NSR calculations based on historical processing data and are variable as a function of head grade. Recoveries at LOM average head grades 88.1% for Zn, 68.9% for Pb, are 86.6% for Cu, and 68.8% for Ag. A minimum mining width of 5.0m was used. Dilution and extraction factors are applied based on stope type and location. Bulk density varies depending on mineralization domain.

(4) Subpart 1300 of Regulation S-K definitions were followed for Mineral Reserves, which also are consistent with the CIM (2014) definitions. Mineral Reserves are estimated at NSR cut-off grade values ranging from US$57.63/t to US$62.19/t depending on the zone and mining method. Mineral Reserves are estimated using average long-term metal prices of Zn: US$2,722.20/t (US$ 1.23/lb); Pb: US$1,997.21/t (US$0.91/lb); Cu: US$7,288.26/t (US$3.31/lb); and Ag: US$19.68/oz. Metallurgical recoveries are accounted for in the NSR calculations based on historical processing data and are variable as a function of head grade. Recoveries at the LOM average head grades are 89.59% for Zn,77.74% for Pb, 14.29% for Cu, and 63% for Ag. Minimum mining width of 5.0m was applied. Average Bulk density of 3.12 t/m^3.

(5) Subpart 1300 of Regulation S-K definitions were followed for Mineral Reserves, which also are consistent with the CIM (2014) definitions. Mineral Reserves are estimated at a cut-off grade of 4% Zn. Mineral Reserves are estimated using average metal prices of Zn: US$2,722.20/t Zn, US$1,997.21/t Pb and US$19.68/oz Ag (using an average long term U.S. dollar to Brazilian real exchange rate of 4.98). Metallurgical recoveries are accounted for in the NSR calculations based on historical processing data and are variable as a function of head grade. Recoveries at the LOM average head grades are 84.7% for Zn, 22.1% for Pb, and 42.0% for Ag. A minimum mining width of 4.0m was applied. Average Bulk density of 3.1 t/m^3

(6) Subpart 1300 of Regulation S-K definitions were followed for Mineral Reserves, which also are consistent with the CIM (2014) definitions. Mineral Reserves are estimated at a NSR break-even cut-off value of US$47.91/t processed. Some incremental material with values between US$39.79/t and US$47.91/t was included. Mineral Reserves are estimated using average long-term metal prices of Zn: Zn: US2,722.20/t (US$1.23/lb), Pb: US$1997.21/t (US$0.91/lb); Cu: US$7,288.26/t (US$3.31/lb); Au: US$1,454.12/oz; and Ag: US$19.68/oz. Metallurgical recoveries are accounted for in the NSR calculations based on metallurgical test work and are variable as a function of head grade. Recoveries at the LOM average head grades for stratabound material are 89.4% for Zn, 83.3% for Pb, 59.3% for Cu, 76.0% for Ag, and 70.0% for Au. Recoveries at the LOM average head grades for stringer material are 87.8% for Cu, 50.0% for Ag, and 63.0% for Au. A minimum mining width of 4.0m was applied.

Mineral Resources

The following table shows our estimates of Attributable Mineral Resources for our material mining properties as of December 31, 2021 prepared in accordance with Subpart 1300 of Regulation S-K.

	Ownership Interest (%)	Class	Total Attributable[1] (Mt)	Grade					Contained Metal				
				Zinc (%)	Copper (%)	Silver (g/t)	Lead (%)	Gold (g/t)	Zinc (kt)	Copper (kt)	Silver (koz)	Lead (kt)	Gold (koz)
Cerro Lindo Mine[3]	83.48	Measured	3.24	1.93	0.61	21.6	0.23	-	62.5	19.8	2,249	7.4	-
		Indicated	2.97	1.04	0.48	28.1	0.26	-	30.9	14.3	2,685	7.8	-
		Subtotal	**6.21**	**1.50**	**0.55**	**24.7**	**0.24**	**-**	**93.4**	**34.1**	**4,934**	**15.2**	**-**
		Inferred	6.87	1.40	0.29	39.2	0.46	-	96.2	19.9	8,659	31.6	-
El Porvenir Mine[4]	83.48	Measured	0.54	2.66	0.20	60.7	0.85	-	14.4	1.1	1,059	4.6	-
		Indicated	2.53	2.96	0.20	48.2	0.76	-	74.9	5.1	3,919	19.2	-
		Subtotal	**3.07**	**2.91**	**0.20**	**50.4**	**0.78**	**-**	**89.3**	**6.1**	**4,979**	**23.8**	**-**
		Inferred	8.70	3.85	0.21	69.2	0.95	-	334.9	18.3	19,353	82.6	-
Vazante Mine[5]	100.0	Measured	2.34	3.63	-	6.4	0.12	-	84.9	-	466	2.8	-
		Indicated	2.94	5.53	-	3.4	0.07	-	162.7	-	311	2.1	-
		Subtotal	**5.28**	**4.69**	**-**	**4.7**	**0.09**	**-**	**247.6**	**-**	**777**	**4.9**	**-**
		Inferred	15.44	7.72	-	11.2	0.19	-	1,192.1	-	5,395	30.0	-
Aripuanã Project[6]	100.0	Measured	0.44	1.79	0.34	17.5	0.59	0.35	7.9	1.5	248	2.6	5.0
		Indicated	2.80	2.18	0.30	19.9	0.74	0.48	61.0	8.4	1,791	20.7	43.2
		Subtotal	**3.24**	**2.13**	**0.31**	**19.6**	**0.72**	**0.46**	**68.9**	**9.9**	**2,039**	**23.3**	**48.2**
		Inferred	38.48	3.51	0.33	35.5	1.29	0.55	1,350.6	127.0	43,919	496.4	680.4
Total		**Measured**	**6.56**	**2.59**	**0.34**	**19.1**	**0.27**	**0.02**	**169.7**	**22.4**	**4,022**	**17.4**	**5.0**
		Indicated	**11.24**	**2.93**	**0.25**	**24.1**	**0.44**	**0.12**	**329.5**	**27.8**	**8,706**	**49.8**	**43.2**
		Subtotal	**17.80**	**2.80**	**0.28**	**22.2**	**0.38**	**0.08**	**499.2**	**50.2**	**12,728**	**67.2**	**48.2**
		Inferred	**69.49**	**4.28**	**0.24**	**34.6**	**0.92**	**0.30**	**2,973.8**	**165.2**	**77,326**	**640.6**	**680.4**

Notes:

* Numbers may not add due to rounding.

* The estimation of Mineral Resources involves assumptions about future commodity prices and technical mining matters. Mineral Resources are reported exclusive of those Mineral Resources that were converted to Mineral Reserves, and Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.

The following table shows our estimates of Mineral Resources (100% ownership basis) for our material mining properties as of December 31, 2021 prepared in accordance with Subpart 1300 of Regulation S-K.

	Ownership Interest (%)	Class	Tonnage[2] (Mt)	Grade Zinc (%)	Grade Copper (%)	Grade Silver (g/t)	Grade Lead (%)	Grade Gold (g/t)	Contained Metal Zinc (kt)	Contained Metal Copper (kt)	Contained Metal Silver (koz)	Contained Metal Lead (kt)	Contained Metal Gold (koz)
Cerro Lindo Mine[3]	83.48	Measured	3.88	1.93	0.61	21.6	0.23	-	74.9	23.7	2,694	8.9	-
		Indicated	3.56	1.04	0.48	28.1	0.26	-	37.0	17.1	3,216	9.3	-
		Subtotal	**7.44**	**1.50**	**0.55**	**24.7**	**0.24**	**-**	**111.9**	**40.8**	**5,910**	**18.2**	**-**
		Inferred	8.23	1.40	0.29	39.2	0.46	-	115.2	23.9	10,372	37.9	-
El Porvenir Mine[4]	83.48	Measured	0.65	2.66	0.20	60.7	0.85	-	17.3	1.3	1,269	5.5	-
		Indicated	3.03	2.96	0.20	48.2	0.76	-	89.7	6.1	4,695	23.0	-
		Subtotal	**3.68**	**2.91**	**0.20**	**50.4**	**0.78**	**-**	**107.0**	**7.4**	**5,964**	**28.5**	**-**
		Inferred	10.42	3.85	0.21	69.2	0.95	-	401.2	21.9	23,183	99.0	-
Vazante Mine[5]	100	Measured	2.34	3.63	-	6.4	0.12	-	84.9	-	466	2.8	-
		Indicated	2.94	5.53	-	3.4	0.07	-	162.7	-	311	2.1	-
		Subtotal	**5.28**	**4.69**	**-**	**4.7**	**0.09**	**-**	**247.6**	**-**	**777**	**4.9**	**-**
		Inferred	15.44	7.72	-	11.2	0.19	-	1,192.1	-	5,395	30.0	-
Aripuanã Project[6]	100	Measured	0.44	1.79	0.34	17.5	0.59	0.35	7.9	1.5	248	2.6	5.0
		Indicated	2.80	2.18	0.30	19.9	0.74	0.48	61.0	8.4	1,791	20.7	43.2
		Subtotal	**3.24**	**2.13**	**0.31**	**19.6**	**0.72**	**0.46**	**68.9**	**9.9**	**2,039**	**23.3**	**48.2**
		Inferred	38.48	3.51	0.33	35.5	1.29	0.55	1,350.6	127.0	43,919	496.4	680.4
Total		**Measured**	**7.31**	**2.53**	**0.36**	**19.9**	**0.27**	**0.02**	**185.0**	**26.5**	**4,677**	**19.8**	**5.0**
		Indicated	**12.33**	**2.84**	**0.26**	**25.3**	**0.45**	**0.11**	**350.4**	**31.6**	**10,013**	**55.1**	**43.2**
		Subtotal	**19.64**	**2.73**	**0.30**	**23.3**	**0.38**	**0.08**	**535.4**	**58.1**	**14,690**	**74.9**	**48.2**
		Inferred	**72.57**	**4.22**	**0.24**	**35.5**	**0.91**	**0.29**	**3,059.1**	**172.8**	**82,869**	**663.3**	**680.4**

Notes:

* Numbers may not add due to rounding.

* The estimation of Mineral Resources involves assumptions about future commodity prices and technical mining matters. Mineral Resources are reported exclusive of those Mineral Resources that were converted to Mineral Reserves, and Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.

(1) The qualified person for the Mineral Resources estimate is José Antonio Lopes, B.Geo., FAusIMM (CP) Geo, a Nexa Resources employee. The total tonnage and content amounts presented in this table represents Nexa's attributable ownership basis.

(2) The qualified person for the Mineral Resources estimate is José Antonio Lopes, B.Geo., FAusIMM (CP) Geo, a Nexa Resources employee. The tonnage and content amounts presented in this table represents 100% of the Mineral Resources estimates for the property. Please refer to our ownership percentage for the amounts attributable to our ownership interest in the property.

(3) Subpart 1300 of Regulation S-K definitions were followed for Mineral Resources which also are consistent with the CIM (2014) definitions. Mineral Resources are estimated at an NSR cut-off value of US$ 38.84/t. Mineral Resources are estimated using an average long-term metal prices of Zn: US$3,130.52/t (US$1.42/lb), Pb: US$2,296.79/t (US$1.04/lb); Cu: US$8,381.50/t (US$3.80/lb); and Ag: US$22.63/oz. Metallurgical recoveries are accounted for in the NSR calculations based on historical processing data and are variable as a function of head grade. Recoveries at LOM average head grades 88.1% for Zn, 68.9% for Pb, are 86.6% for Cu, and 68.8% for Ag. A minimum mining width of 4.0m was used to create resource shapes. Bulk density varies depending on mineralization domain.

(4) Subpart 1300 of Regulation S-K definitions were followed for Mineral Resources, which also are consistent with the CIM (2014) definitions. Mineral Resources are estimated at NSR cut-off grade values ranging from of US$57.45/t to US$60.39/t for SLS areas and US$ 59.24/t to US$62.18 for C&F areas depending on the zone. Mineral Resources are estimated using an average long-term metal prices of Zn: US$3,130.52/t (US$1.42/lb), Pb: US$2,296.79/t (US$1.04/lb); Cu: US$8,381.50/t (US$3.80/lb) and Ag: US$22.63/oz. Metallurgical recoveries are accounted for in the NSR calculations based on historical processing data and are variable as a function of head grade. Recoveries at the LOM average head grades are 89.59% for Zn, 77.74% for Pb, 14.29% for Cu, and 63% for Ag. A minimum mining width of 4.0m and 3.0m was used for C&F and SLS resource stopes shapes respectively. Bulk density varies depending on mineralization domain.

(5) Subpart 1300 of Regulation S-K definitions were followed for Mineral Resources, which also are consistent with the CIM (2014) definitions. Mineral Resources are estimated at various NSR cut-off values appropriate to the mineralization style and mining method. For Supergene Mineralization (Calamine) the resources are estimated at a NSR cut-off value of US$20.33/t for soil and US$22.18/t for fresh rock and transition material. For Aroeira Tailings the resources are estimated ate a NSR cut-off value of US$20.62/t and for Hypogene Mineralization (Willeminte) a cut-off value of US$ 52.95/t for all resources shapes. Mineral Resources are estimated using an average long-term metal prices of Zn: US$3,130.52/t (US$1.42/lb), Pb: US$2,296.79/t (US$1.04/lb); and Ag: US$22.63/oz (using an average long-term U.S. dollar to Brazilian real exchange rate of 4.98). Metallurgical recoveries are accounted for in the NSR calculations based on historical processing data and are variable as a function of head grade. Recoveries at the LOM average hypogene head grades are 84.7% for Zn, 22.1% for Pb, and 42.0% for Ag. Bulk density was assigned based on rock type.

(6) Subpart 1300 of Regulation S-K definitions were followed for Mineral Resources, which also are consistent with the CIM (2014) definitions. Mineral Resources reported using a cut-of value of US$47.91/t. Mineral Resources are estimated using an average long-term metal prices of Zn: US$3,130.52/t (US$1.42/lb), Pb: US$2,296.79/t (US$1.04/lb); Cu: US$8,381.50/t (US$3.80/lb); Au: US$1,672.24/oz; and Ag: US$22.63/oz. Metallurgical recoveries are accounted for in the NSR calculations based on metallurgical test work and are variable as a function of head grade. Recoveries at the LOM average head grades for stratabound material are 89.4% for Zn, 83.3% for Pb, 59.3% for Cu, 76.0% for Ag, and 70.0% for Au. Recoveries at the LOM average head grades for stringer material are 87.8% for Cu, 50.0% for Ag, and 63.0% for Au. Bulk density varies depending on mineralization domain.

The following table shows our estimates of Attributable Mineral Resources for our other operating mines which do not currently have estimated Mineral Reserves as of December 31, 2021 prepared in accordance with Regulation S-K 1300.

	Ownership (%)	Class	Total Attributable[1] (Mt)	Grade Zinc (%)	Grade Copper (%)	Grade Silver (g/t)	Grade Lead (%)	Grade Gold (g/t)	Contained Metal Zinc (kt)	Contained Metal Copper (kt)	Contained Metal Silver (koz)	Contained Metal Lead (kt)	Contained Metal Gold (koz)
Atacocha (Underground Mine)[3]	75.96	Measured	2.88	4.87	-	101.1	1.98	-	140.2	-	9,358	57.0	-
		Indicated	3.33	4.14	-	75.6	1.41	-	137.7	-	8,084	46.9	-
		Subtotal	**6.21**	**4.48**	-	**87.4**	**1.67**	-	**277.9**	-	**17,442**	**103.9**	-
		Inferred	6.19	4.43	-	81.8	1.25	-	274.2	-	16,281	77.4	-
Atacocha (Open pit Mine)[4]	75.96	Measured	2.49	1.10	-	28.9	0.81	0.21	27.4	-	2,315	20.2	16.8
		Indicated	6.20	1.07	-	30.8	0.94	0.18	66.3	-	6,138	58.3	35.9
		Subtotal	**8.69**	**1.08**	-	**30.3**	**0.90**	**0.19**	**93.7**	-	**8,453**	**78.5**	**52.6**
		Inferred	1.52	0.93	-	32.0	0.92	0.26	14.1	-	1,563	14.0	12.7
Morro Agudo Mine[5]	100.0	Measured	-	-	-	-	-	-	-	-	-	-	-
		Indicated	13.92	3.39	-	-	0.59	-	472.1	-	-	82.4	-
		Subtotal	**13.92**	**3.39**	-	-	**0.59**	-	**472.1**	-	-	**82.4**	-
		Inferred	4.40	3.26	-	-	0.47	-	143.6	-	-	20.8	-
Total		**Measured**	**5.37**	**3.12**	-	**67.6**	**1.44**	**0.10**	**167.6**	-	**11,673**	**77.2**	**16.8**
		Indicated	**23.45**	**2.88**	-	**18.9**	**0.80**	**0.05**	**676.1**	-	**14,222**	**187.6**	**35.9**
		Subtotal	**28.82**	**2.93**	-	**27.9**	**0.92**	**0.06**	**843.7**	-	**25,895**	**264.8**	**52.6**
		Inferred	**12.11**	**3.57**	-	**45.8**	**0.93**	**0.03**	**431.9**	-	**17,844**	**112.2**	**12.7**

Notes:

* Numbers may not add due to rounding.

* The estimation of Mineral Resources involves assumptions about future commodity prices and technical mining matters. Mineral Resources are not mineral reserves and do not have demonstrated economic viability.

The following table shows our estimates of Mineral Resources (100% ownership basis) for our other operating mines which do not currently have estimated Mineral Reserves as of December 31, 2021 prepared in accordance with Regulation S-K 1300.

	Ownership (%)	**Class**	**Tonnage[(2)] (Mt)**	**Grade**					**Contained Metal**				
				Zinc (%)	**Copper (%)**	**Silver (g/t)**	**Lead (%)**	**Gold (g/t)**	**Zinc (kt)**	**Copper (kt)**	**Silver (koz)**	**Lead (kt)**	**Gold (koz)**
Atacocha (Underground Mine) (3)	75.96	Measured	3.79	4.87	-	101.1	1.98	-	184.6	-	12,319	75.0	-
		Indicated	4.38	4.14	-	75.6	1.41	-	181.3	-	10,643	61.8	-
		Subtotal	**8.17**	**4.48**	-	**87.4**	**1.67**	-	**365.9**	-	**22,962**	**136.8**	-
		Inferred	8.15	4.43	-	81.8	1.25	-	361.0	-	21,434	101.9	-
Atacocha (Open pit Mine)[(4)]	75.96	Measured	3.28	1.10	-	28.9	0.81	0.21	36.1	-	3,048	26.6	22.1
		Indicated	8.16	1.07	-	30.8	0.94	0.18	87.3	-	8,080	76.7	47.2
		Subtotal	**11.44**	**1.08**	-	**30.3**	**0.90**	**0.19**	**123.4**	-	**11,128**	**103.3**	**69.3**
		Inferred	2.00	0.93	-	32.0	0.92	0.26	18.6	-	2,058	18.4	16.7
Morro Agudo Mine[(5)]	100.0	Measured	-	-	-	-	-	-	-	-	-	-	-
		Indicated	13.92	3.39	-	-	0.59	-	472.1	-	-	82.4	-
		Subtotal	**13.92**	**3.39**	-	-	**0.59**	-	**472.1**	-	-	**82.4**	-
		Inferred	4.40	3.26	-	-	0.47	-	143.6	-	-	20.8	-
Total		**Measured**	**7.07**	**3.12**	-	**67.6**	**1.44**	**0.10**	**220.7**	-	**15,367**	**101.6**	**22.1**
		Indicated	**26.46**	**2.80**	-	**22.0**	**0.83**	**0.06**	**740.7**	-	**18,723**	**220.9**	**47.2**
		Subtotal	**33.53**	**2.87**	-	**31.6**	**0.96**	**0.06**	**961.4**	-	**34,090**	**322.5**	**69.3**
		Inferred	**14.55**	**3.60**	-	**50.2**	**0.97**	**0.04**	**523.2**	-	**23,492**	**141.1**	**16.7**

Notes:

* Numbers may not add due to rounding.

* The estimation of Mineral Resources involves assumptions about future commodity prices and technical mining matters. Mineral Resources are not mineral reserves and do not have demonstrated economic viability.

(1) The qualified person for the Mineral Resources estimate is José Antonio Lopes, B.Geo., FAusIMM (CP) Geo, a Nexa Resources employee. The total tonnage and content amounts presented in this table represents Nexa's attributable ownership basis.

(2) The qualified person for the Mineral Resources estimate is José Antonio Lopes, B.Geo., FAusIMM (CP) Geo, a Nexa Resources employee. The tonnage and content amounts presented in this table represents 100% of the Mineral Resources estimates for the property. Please refer to our ownership percentage for the amounts attributable to our ownership interest in the property.

(3) Subpart 1300 of Regulation S-K definitions were followed for Mineral Resources, which also are consistent with the CIM (2014) definitions. Mineral Resources are estimated at a NSR cut-off value of US$18.17/t. Some marginal material with cut-off value of US$15.66/t was included. Mineral Resources are estimated using an average long-term metal prices of Zn: US$3,130.52/t (US$1.42/lb), Pb: US$2,296.79/t (US$1.04/lb); and Ag: US$22.63/oz. Metallurgical recoveries are accounted for in the NSR calculations based on historical processing data and are variable as a function of head grade. Recoveries at the LOM average head grades are 85.44% for Zn, 84.92% for Pb, and 76% for Ag. A minimum mining width of 4.0m was used.

(4) Subpart 1300 of Regulation S-K definitions were followed for Mineral Resources, which also are consistent with the CIM (2014) definitions. Mineral Resources are reported within optimized pit shell. Mineral Resources are estimated at a NSR cut-off value of US$18.17/t. Some marginal material with cut-off value of US$15.66/t was included. Mineral Resources are estimated using an average long-term metal prices of Zn: US$3,130.52/t (US$1.42/lb), Pb: US$2,296.79/t (US$1.04/lb); Cu: US$8,381.50/t (US$3.80/lb); Au: US$1,672.24/oz; and Ag: US$22.63/oz. Metallurgical recoveries are accounted for in the NSR calculations based on historical processing data and are variable as a function of head grade. Recoveries at the LOM average head grades are 76.05% for Zn, 80.0% for Pb, 76% for Ag, and 53% for Au. Density was assigned based on rock type

(5) Subpart 1300 of Regulation S-K definitions were followed for Mineral Resources, which also are consistent with the CIM (2014) definitions. Mineral Resources are reported within underground mining shapes and the NSR cut-off values are calculated based on the life of mine costs for each mine. Morro Agudo: US$ 39.20/t and Bonsucesso: US$ 47.10/t. Mineral Resources are estimated using an average long-term metal prices of Zn: US$3,130.52/t (US$1.42/lb) and Pb: US$2,296.79/t (US$1.04/lb). Metallurgical recoveries are accounted for in the NSR calculations based on historical processing data and are variable as a function of head grade. Recoveries at the LOM average head grades are 89.84% for Zn and 75.52% for Pb. A minimum thickness of 3.0m was applied for Bonsucesso and 4.5m for Morro Agudo underground. Density was assigned based on rock type.

Internal Controls Disclosure

Nexa has used well-established quality assurance/quality controls ("QA/QC") protocols since 2007 for core samples from operating mines and its Brownfield/Greenfield projects. Nexa has used a corporate database (GDMS Fusion) from Datamine since 2017, which replaced the previous corporate database system used from 2007 to 2016. The current database system has several default laboratory packages, specific for different Business Units (ore deposit types/countries) with pre-defined preparation and assay methods, reporting units and over-limit methods. All assay dispatches from all mines and projects follows the same protocols for each medium type (core, rock, soil, stream sediment samples). All written protocols are in a corporate internal system that requires revisions and updates every three years.

Nexa Quality Control include three types of duplicates (pulp, coarse rejects and half core duplicates), blank controls and certified standards. Inter-laboratory checks are also carried out on an annual basis at certified laboratories. Fusion database has a collection of pre-defined QA/QC charts for each type of control where Nexa parameters for each control are built in. All blanks and certified standards are approved and registered in Fusion by the database administrator. Nexa protocols for construction and certification of new standards from operating mines and projects include a minimum of ten laboratories and minimum of five samples per lab in the Round Robin. Laboratories need to be form different continents and only three laboratories from the same group are allowed.

Every mine and advanced project provides a detailed QA/QC report at least once a year, which is appended to the updated mineral resources technical reports prepared by our engineers.

With respect to the verification of analytical procedures, Nexa carries out periodic reviews of the QA/QC programs to ensure that an adequate level of quality is maintained in the process of sampling, preparing and testing drill core samples and that the QA/QC programs are designed and implemented to prevent or detect contamination and allow analytical precision and accuracy to be quantified. Nexa's internal qualify person performed this review and concluded that Nexa's QA/QC programs meet or exceed industry standards and the data are suitable for Mineral Resources and Mineral Reserves purposes.

Internally, regular data verification workflows are carried out to ensure the collection of reliable data. Coordinates, core logging, surveying, and sampling are monitored by exploration, mine geologists, and verified routinely for consistency.

The Mineral Resource and Mineral Reserve estimates are supported by a review of the recent operation results including operating costs, production, metallurgical performance and reconciliation. The LOM plan supporting the estimates includes consideration of changes to the permits required, capital costs, tailings capacity and other production constraints. The estimates are subject to normal industry risks including metal prices, metallurgical performance and geological modeling. For geological risk Nexa has modeling and estimation procedures following mining industry best practices including drilling, borehole survey, core logging, sampling, and density protocols.

CAPITAL EXPENDITURES

Our capital expenditures from January 1, 2019 through December 31, 2021 totaled US$1,254.7 million and we have budgeted US$385.1 million for 2022 for investments in projects that are currently underway, reflecting a 24.2% decrease compared to our 2021 investment mainly driven by Aripuanã. The following table sets forth our capital expenditures for the periods indicated.

	For the Year Ended December 31,		
	2021	2020	2019
	(in millions of US$)		
Capital Expenditures			
Expansion [1]	271.2	221.7	188.5
Modernization	8.8	8.1	18.5
Sustaining	189.0	107.5	138.0
Health, Safety and Environment ("HSE")	31.6	16.2	57.4
Others	3.6	1.3	7.7
Subtotal	**504.3**	**354.8**	**410.1**
Reconciliation to Financial Statements [2]	3.6	(18.3)	0.2
Total	**507.9**	**336.5**	**410.3**

(1) For a description of the projects, see "Information on the Company—Mining operations."

(2) The amounts under "Reconciliation to Financial Statements" are mainly related to advance payment of imported materials, capitalization of interest net of advanced payments and tax credits"

Our main capital expenditures during the years ended December 31, 2021, 2020 and 2019 include the following:

- In 2021, our capital expenditures were US$507.9 million, a 50.9% increase compared to 2020, mainly due to expenditures related to the construction of the Aripuanã project (50.7% of total Capex) and higher non-expansion investments, including an increase in Sustaining and HSE expenses to historical levels, which were minimal in 2020 due to the impact of the COVID-19 pandemic.

- In 2020, our capital expenditures were US$336.5 million, mainly due to effects of the COVID-19 pandemic in international prices and demand in 1H21, leading to our decision to reduce exploration projects and maintain only essential investments (non-expansion), except for Aripuanã. In 2020, 65.9% of our capital expenditures were related to expansion, primarily the construction of Aripuanã (US$187 million), as well as the Vazante mine deepening project (US$13 million), which aims to extend the life of mine by seven years.

- In 2019, our capital expenditures were US$410.3 million, mainly allocated to the following projects: the continuation of construction at the Aripuanã greenfield project; the Vazante mine deepening project; sustaining capital expenditures; and the construction of our dry-stacking tailings disposal facility in Vazante.

For 2022, we have budgeted US$385 million to invest in projects that are currently underway. Our main projects include US$75 million directed towards expansion projects, of which US$59 million is allocated to construction of the Aripuanã project and US$292 million towards mainly to sustaining and HSE investments.

We expect to meet these capital expenditure needs from our operating cash flow and our current cash position. We may need to incur indebtedness to finance a portion of these expenditures or also incur indebtedness if financing is available at attractive terms. Our actual capital expenditures may vary from the expected amounts we have described here, both in terms of the aggregate capital expenditures we incur and when we incur them.

ENVIRONMENTAL, SOCIAL AND GOVERNANCE (“ESG”)

We are committed to fully integrating sustainability into our business through a comprehensive approach based on systematic planning and execution, prioritizing risk and impact management, and establishing a positive social, economic and environmental legacy in the places where we operate. Our practices related to ESG are continuously evolving to adapt to new frameworks and consider best practices, as well as to respond to stakeholder feedback.

Nexa integrates sustainability practices into its business, focused on generating a positive social, economic and environmental impact in the places where it operates. Within this context, the Company has a multidisciplinary and integrated task force that is currently complementing and defining its Environmental, Social and Governance (“ESG”) strategy and future actions including risks analyses with respect to climate change and global, regional and local weather conditions, as well as those related to the emission of greenhouse gases, among other matters. The Company’s objective is to continuously evolve and adapt to new frameworks, and regulatory and disclosure requirements as well as to respond to its stakeholder feedback. As a result of these definitions, the Company could have in the future some change in its accounting estimates, assumptions and judgments regarding new definitions, practices or commitments that would be assumed by management in relation to its ESG strategy.

Our sustainability approach is set out in our code of conduct and Compliance and Sustainability policies. We adhere to the United Nation’s Global Compact and the goals related to our material topics discussed below seek to contribute to fulfilling the UN’s Sustainable Development Goals (“SDGs”). Our current material topics and ESG initiatives, as discussed below, strive to meet the SDGs.

We view ESG as core to our efforts to generate shareholder and social-environmental value, including:

- Putting the health, safety and well-being of our people first;
- Being environmentally responsible and accountable;
- Respecting and fostering the human rights agenda; and
- Supporting and constantly dialoging with the communities where we operate.

Sustainability and Capital Projects Committee, Compensation, Nominating and Governance (“CNG”) Committee, and Audit Committee reporting

Our board of directors oversees our ESG strategy, given its strategic importance to the Company and our operations. The board of directors is responsible for guidance, governance and oversight of ESG, and overseeing the Company’s twelve current material topics described below, that emerged from the Nexa materiality matrix. The board committees, and in particular the CNG committee, the sustainability committee and the audit committee, support the board in its monitoring and oversight of ESG matters.

In 2017, we established a CNG committee to assist our board of directors in fulfilling its governance and supervisory responsibilities and advise our board of directors with respect to evaluation and monitoring of compensation models and policies and other related matters. The committee’s responsibilities also include the supervision and approval of our social responsibility plans and policies. In 2019, we established a sustainability and capital projects committee (“sustainability committee”) to oversee sustainability-related issues, which include the prioritization of safe and sustainable business practices with respect to environmental, health, safety and social matters, as well as the management and governance of our tailings disposals. In 2020, the sustainability committee assumed oversight of capital projects, as well. Its role expanded to monitor technical, economic and social issues with respect to our projects, including exploration, development, licensing, construction and operation of mines and metallurgical plants and key assets for our strategy and growth.

During 2021, our CNG and sustainability committees oversaw and contributed to our ESG strategy plan. The CNG committee focused on the governance approach, while the sustainability committee oversaw and contributed to the environmental and social aspects of ESG. Both committees ensured that we were considering material and relevant topics to Nexa and its stakeholders, as well as proposing reasonable ESG targets and benchmarks. Our sustainability committee also oversaw a study that focused on market references, benchmarks and frameworks, including ratings agencies such as S&P, Sustainalytics and MSCI, to guide our progress with respect to ESG disclosure and transparency. The CNG committee oversaw a study both contemplating external and internal governance aspects, such as industry best practices, board members and executives’ interviews, benchmarks evaluation, ESG rating methodology survey and simulations, extensive debates through leadership workshops and oriented meetings resulting in a new suggested ESG Governance framework for 2022 that could enable the Company to enhance its position in the industry and capture potential opportunities.

The audit committee is also involved in ESG matters, in particular with respect to the analysis of the impact on financial reporting, as well as preparedness in order to meet financial reporting and disclosure requirements that may be implemented in the near future.

In 2022, we intend to publish a sustainability report that will outline our ongoing commitment to ESG and discuss a range of strategy, risk and governance-related matters that we have implemented or are implementing to accelerate our ESG initiatives. We also intend to develop a dedicated website in order to provide our stakeholders and investors with greater transparency about our ESG initiatives.

Nexa Materiality Matrix

The Nexa materiality matrix defines the issues that are most relevant to our business and our stakeholders, guiding how we plan and execute our ESG initiatives. We use this matrix to help inform our sustainability strategies and to ensure that our sustainability disclosures include the issues of most interest to our business and stakeholders in line with the principles established by the International Integrated Reporting Council (“IIRC”) and Global Reporting Initiative (“GRI”). In 2020, we updated our matrix to evaluate the most relevant topics for the mining and metals sector by incorporating the Sustainability Accounting Standards Board (“SASB”) guidelines for the mining and metals sector and other sector benchmarks. The matrix additionally includes a survey of external stakeholders. We combined the results of these surveys with insights from our sustainability committee and leadership teams to define the 12 material topics that are most relevant to us and to our stakeholders. By reviewing these material topics regularly, we seek to guide our reporting and management strategies, considering the short, medium and long-term context, impacts, risks and opportunities of each material topic.

In 2020, we revised our previous eight material topics relating to corporate goals and ESG management guidelines – waste and tailings management, climate change (formerly called emissions), water resources management, social management (formerly called local development), health, safety and wellness, diversity (formerly called people), decommissioning and human rights (which was excluded because the scope of this topic will be addressed by others material topics) – and added five new topics: dam management, innovation, ethics and compliance, operational excellence and reputation.

In 2021, we began to define the key performance indicators (“KPIs”) and goals for each material topic until 2030, providing further transparency with respect to our socio-environmental management goals, and how they align with our business strategy. The development of these KPIs and goals is ongoing, along with our ESG strategy definition, and we intend to publish it in 2022.

Our twelve current material topics, including ongoing ESG initiatives, are further discussed below:

Environmental

- ***Waste management.*** We aim to reduce our residue footprint. Our activities generate a significant amount of waste. We seek to reduce the generation of mining and metallurgical waste, complying with applicable local legislation, and acting in accordance with our strategic commitment, attempting to co-create a positive legacy for society. Our Morro Agudo site is considered a pioneer in eliminating waste production with one of the main projects being agricultural lime powder, also known as Zincal200. The project is based on technology created to reprocess the tailings produced in the zinc beneficiation process, which used to be dumped in dams. In addition, our Cerro Lindo and Vazante mines already use the dry stacking method for tailings disposal (and our Aripuanã project is also designed to use the same). Peru’s mining operating units have a significant volume of tailings disposed in the backfill system. Approximately, 31% of the tailings generated by Nexa were disposed of in dams in 2021, as compared to 34% in 2020, because of the initiatives listed above.

- ***Climate change.*** We are also committed to reducing greenhouse gas emissions to minimize our impact on climate change, contributing to a low-carbon economy. We consume large amounts of energy due to the nature of our activities and transportation processes, which is why we seek new technologies and progress in sustainable energy generation. Much of the electric energy consumed by our operations is from renewable and low emission sources, predominantly hydroelectricity. In 2020, we implemented a project for a biomass boiler at the Três Marias unit, in which fuel oil was substituted by eucalyptus wood chips and sugar cane bagasse, highlighting our commitment to energy efficiency. Another important initiative is underway at the Cajamarquilla unit in Peru, which includes the substitution of diesel oil with natural gas, made viable through the implementation of a gas pipeline in the region. At the Juiz de Fora unit, we have an ongoing project to replace natural gas by reusing solid waste as fuel to generate steam. We remain committed to diminish our waste volumes and transforming them into secondary products, reducing the usage of our tailing dams.

- ***Water resources management.*** Our target is to reduce water consumption and increase recirculation. Mining activity involves technical procedures in which water assumes an important role, both for extraction and processing, making it even more important to reduce water use and increase reuse throughout the value chain. Advanced investments in efficient water recirculation programs contribute not only to lowering the intake of new water but also reducing the volume of effluents and the environmental impact of the discharge. In 2021, we have allocated approximately 30% of our environmental spending resources (17% in 2020) towards efforts to keep our effluents disposed through proper treatment and to comply with the new dam legislation published in the year. In our Cerro Lindo mine, we have 91% of water recirculation. We use a desalination plant, extracting salt by a reverse osmosis process and pumping it up to a plant, at an altitude of 2,200 meters. In an area with scarcity of water resources, this technology is important to avoid competing with the local population in demand for water. In addition, we encourage and guide the community in the region to store rainwater.

- ***Dam management.*** Tailings disposals are one of the main risks associated with mining activity. We have safe tailings disposal practices, and we constantly review our dam management policy, which goes beyond the requirements of the legislation of the jurisdictions in which we operate. We apply guidelines from the ICOLD to control and monitor our 47 dams and tailings deposits (23 in Brazil and 24 in Peru). We also have 7 Golden Rules for Managing Dams and Tailings Sites, which are internal guidelines that we use to ensure the management of geotechnical structures and the safety of all employees and third parties. All of our projects are required to comply with these guidelines and any non-compliance must be analyzed by the audit team.

- ***Decommissioning.*** Our activities impact the environment and the communities in the vicinity of our units. As a way of minimizing these impacts, we seek to designate alternative future uses, with the goal of co-creating a positive legacy in neighboring communities, free of environmental liabilities. Some of our achievements include: the definition of general guidelines for decommissioning (governance and corporate committee for approval of new plans); assessment of future uses and preliminary liabilities valuation; integrated management of decommissioning cash flow; and review of our decommissioning plans and updated Asset Retirement Obligation ("ARO") costs and liabilities. We also perform benchmark visits to assess best practices in decommissioning. For further details on our ARO and environmental obligations revisions, see Note 26 to our consolidated financial statements.

  We have developed decommissioning plans for all of our units that not only go beyond adopting best-practices and regulatory requirements from our operating markets (Peru and Brazil) but are also based on international standards from the EPA and Minerals Council of Australia ("MCA"), in addition to Environmental Resource Management consultants from Canada. These plans are developed at early stages of the projects, which are initially conceptual, and are revised and updated every five years or whenever there is a material change in the unit's operations. In addition, we develop a technical execution plan to decommission two years prior to closure which is submitted to local authorities in Brazil, while in Peru the execution plan submission is defined when the EIA is approved.

Social

- ***Social development.*** We aim to develop mutually beneficial relationships with the communities in which we operate. Nexa's social strategy is aimed at leaving a long-lasting relevant legacy for local communities by contributing to the improvement of social indicators and the quality of life of the people living in the municipalities near our operations. Nexa's social investments focus mostly on four levers for community improvement: economic diversification; childhood and youth; public administration and social participation; and socio-environmental development. Our achievements include the development and improvement of Nexa's social governance program. In addition, in 2021, we dedicated over 10,000 hours to volunteer work across our units, benefitting more than 17 thousand people. We aim to develop our greenfield projects aligned with social best practices, like Aripuanã's Socio-economic Integrated Plan and Bonsucesso's Social Entrance Plan, both are study projects that analyze the current scenarios related to social impacts and legal requirements in the territories where we operate, aiming to identify the communities' profile, as well as their interaction dynamics and possible impacts. In the case of Aripuanã, the program's objective is to build a development plan for the municipality, and in Bonsucesso, is to identify external aspects that may influence the Project's operations. We have conducted a sanitation diagnosis (water and sewage) in all communities surrounding our operations. In Aripuanã, we have a qualification program in place for future mine and plant operating professionals. In 2021, we had 283 candidates enrolled, of which approximately 181 received professional qualifications on maintenance and automation and geology and surveying. The company hired 181 people who attended the qualification program, of which 60% are men and 40% are women.

- ***Health, safety and wellness.*** Our goal is to reduce our injury frequency rate and to reduce fatalities to zero. We continuously invest in strengthening a culture focused on safety and health for both our own as well as outsourced employees, through training, especially for risky activities, and in enhancing working conditions. We launched a quality-of-life program in 2016, seeking to emphasize the dimensions of integral health. We also have health initiatives in place for the Aripuanã project, aimed at disease prevention and a much healthier operating environment (i.e., Dust Zero Project). We also try to maintain the adequacy level of Nexa's chemical management flow, which includes both the products used and produced. For further discussion of our safety records, please refer to "Health and safety compliance" in the following section. In response to the COVID-19 pandemic, we also created a Crisis Committee in 2020 to carry out preventive and protective procedures in our operations and offices and is still in place. For more information about the Crisis Committee, please see "Operating and Financial Review and Prospects—Operating costs and expenses—COVID-19."

Governance

- ***Diversity.*** We target the increase of diversity in the workplace. Our personnel management model and our policies and tools have guided the development of people based on performance, enthusiasm and courage. For further information please see "Corporate Governance, management and employees—Board of directors—Diversity" section. In 2021, we established a governance structure for the program, which involves not only the affinity groups, but also an Executive Committee, formed by our board of directors, CEO, and the Diversity Committee, formed by employees from key areas of the company so that the theme is multiplied: legal, compliance, sustainability, operations, and institutional relations. All of them have the objective of coordinating the implementation of several actions aimed at promoting diversity in a transversal and uniform manner, generating greater impact in all units.

  In 2021, we received the Women on Board certificate, which is an independent initiative that seeks to recognize and value the existence of corporate environments with the presence of women on boards of directors or advisory boards in order to highlight the benefits of this diversity to the business world and to the society.

  Also in 2021, 16% of Nexa's workforce was comprised of women (950 employees). According to Women in Mining, this index is higher than the global average of 8%. In 2021, Nexa also launched a talent program focused on the admission and training of diverse professionals with disabilities and/or special needs, who have graduated or will graduate in 2022.

In 2021, Nexa also signed the letter of adhesion and the 10 commitments of the LGBTI+ Business and Rights Forum, an institution that brings together companies committed to the inclusion and defense of the LGBTQIA+ community and human rights.

- ***Ethics and compliance.*** Acting responsibly and transparently is one of our core values. We are committed to high standards of ethics and integrity across the entire company, which are standards guaranteed through the Compliance Program. Our board of directors is one of the main agents in promoting the program and ensuring compliance with our code of conduct. Our code of conduct is a public document that is also shared with all stakeholders, including employees, suppliers, customers, communities, NGOs, government agencies, shareholders and other individuals and organizations with which we have a relationship. In 2021, we updated our Code of Conduct to include issues such as plurality and ESG practices, as well as adaptations to new laws, such as the general law of data. The code of conduct outlines an effective process for managing and mitigating risks, setting goals for us to achieve excellence in all our practices. The Company is enhancing its supplier assessment program to include reviews of ESG indicators and best practices and a new code of conduct for suppliers was also launched in 2021.

  In addition, in 2021, we conducted a reassessment of the Company’s risks aimed at continuously improving our risk management and governance. We also updated the charters of each of our committees to include the responsibility of supporting the Board in monitoring enterprise risk management in matters related to the responsibilities of each committee.

For further information on our Company's governance, see “Corporate governance, management and employees”.

Other

- ***Operational excellence.*** We seek continuous improvement in competitiveness to maximize the value of existing operations. We invest in projects that ensure we have operational stability, increased capacity utilization, constant cost improvement, productivity and rationalization of capital employed.

- ***Reputation.*** We want to stand out from our competitors and be recognized as one of the leading players of the mining of the future, through sustainable production and by co-creating a legacy for society.

- ***Innovation.*** Enabling the strategic axes of growth and operational excellence makes our operations safer, minimizes waste and optimizes production. For five years, we have managed a powerful tool for open innovation, the Mining Lab platform, which allows us to deliver projects in energy, circular economy, IT and automation, in Brazil and Peru.

Health and safety compliance

Health and safety in the workplace are among our main values, and our policies and procedures seek to eliminate accidents. We are committed to protecting the health and wellbeing of our employees and contractors, and have set standards to identify and assess health risks, manage their impact and monitor the health of our people. Nevertheless, mining is an activity that involves substantial risks. We established a Health and Safety Director Plan (“H&S Director Plan”) focused on the following objectives (i) eliminate fatalities; (ii) reduce the severity and number of accidents and illnesses; and (iii) raise the health, safety and well-being culture standards in our sites. The H&S Director Plan has facilitated the improvement of our health and safety culture and performance, and includes eight pillars of focus: cultural transformation, risk management, emergency response systems, health and safety management system, chemical safety guidelines, internal and external image, and infrastructure systems.

In 2021, we continued to reinforce the initiatives which have been set in the creation of the Master Plan in 2020, related to our health and safety culture, which are set to be implemented over a five-year term. Many of the initiatives, such as Global SIPAT (an internal week of discussion forums and seminars related to health and safety across our organization), Safety Workshops at all Nexa units performed virtually due to the COVID-19 pandemic and the PROA Movement (a year-end campaign by our safety department to promote prevention of work accidents), contribute to our enhanced safety culture. As a result of these actions and our leadership’s engagement in risk perception and management, we did not experience any work fatalities in our operations in Brazil and Peru in 2020 or 2021.

We have also sought to improve our safety record as it relates to recordable injury frequency, lost worktime incident, and severity rates, in conformity with standards in the mining industry. In 2021, our total recordable injury frequency rate was 1.92 compared to 2.39 in 2020 and 2.15 in 2019. This rate is defined as the number of injuries with and without lost time per one million man-hours worked. In 2021, our lost worktime incident rate was 0.60 compared to 0.79 in 2020 and 0.75 in 2019. This rate is defined as the number of injuries with lost time per one million man-hours worked. Our severity rate for 2021 was 24 compared to 178 in 2020 and 149 in 2019. To calculate the severity rate, we consider the sum of lost, transported and debited days, divided by the total number of man-hours worked times one million. In addition to these efforts, we also operate programs aimed at improving working conditions, including medical services, for our mining operations and monitoring employees’ health.

REGULATORY MATTERS

We are subject to a wide range of governmental regulation in the jurisdictions in which we operate. The following discussion summarizes the kinds of regulation that have the most significant impact on our operations.

Brazilian regulatory framework

Mining rights and regulation of mining activities

Mining activities in Brazil are governed by the Brazilian Federal Constitution of 1988, the Brazilian Mining Code and other decrees, laws, ordinances and regulations, such as the Decree nº 9.406/2018 which renewed the regulation of the Mining Code. These regulations impose several obligations on mining companies relating to, among other things, the way mineral deposits are exploited, the health and safety of workers and local communities where mines are located, and environmental protection and remediation measures. They also set forth the Brazilian federal government's jurisdiction over, and scope of activities within, the industry. The MME and ANM regulate mining activities in Brazil. As of July 2017, the ANM replaced the National Department of Mineral Production ("DNPM"), and is responsible for monitoring, analyzing and promoting the performance of the Brazilian mineral economy, granting rights related to the exploration and exploitation of mineral resources and other related activities in Brazil.

Under the Brazilian Federal Constitution, surface property rights are distinct from mineral rights, which belong exclusively to the Brazilian federal government, the sole entity responsible for governing mineral exploration and mining activity in Brazil.

Summary of Brazilian concessions

In Brazil, we hold 691 exploration authorizations (*autorizações de pesquisa*), 20 mining concessions (*concessões de lavra*), 10 mining concession applications (*requerimento de lavra*), 9 rights to apply for mining concession (*direitos de requerer a lavra*) and 74 exploration authorization applications (*requerimentos de pesquisa*), which we broadly and collectively refer herein to as mineral rights, that cover a total area of 2,066,834.3 hectares, of which: (i) 1,898,019.8 hectares, or 91.8%, are exploration licenses, (ii) 11,990.9 hectares, or 0.6%, are mining concessions, (iii) 6,721.6 hectares, or 0.3%, are mining concession applications, (iv) 7,661.9 hectares, or 0.4%, are rights to apply for mining concession and (v) 142,440.1 hectares, or 6.9%, remain as exploration authorization applications and are presently under initial geological reconnaissance.

The term of each of the mining concessions mentioned above is valid for the life of the mine, evaluated pursuant to the specific mining project. All our mineral rights in Brazil are in good standing. Maintaining our mineral rights in Brazil in good standing involves: (i) maintaining production on the mineral concessions and/or satisfying the ANM's requirements if production has been suspended; (ii) developing exploration work and paying an annual property fee for the exploration authorizations; and (iii) complying with all the legal requirements, including not only as to mining, but also as to environmental and real estate requirements applicable to claiming a property with respect to exploration applications.

Failure to pay the applicable fees for any given year will result in us forfeiting our mineral rights. As of December 31, 2021, we have paid all applicable royalties, taxes and fees on our mineral rights. Our mineral rights in Brazil that are not currently undergoing exploration or production will not expire unless we fail to timely pay the applicable royalties, taxes and fees, as well as the applicable penalties and meet the ANM's and environmental authorities' requirements, as applicable. See "Information on the Company—Regulatory matters—Brazilian regulatory framework—Royalties and other taxes on mining activities."

The following table summarizes our mineral rights in Brazil.

		Mineral Right	
	Project	Titles	Area (hectares)
Mines	Morro Agudo / Ambrósia Trend	6	3,941.9
	Vazante mine	9	2,120.8
Greenfield Projects	Aripuanã	21	66,328.2
	Caçapava do Sul	3	2,947.3
Prospective Projects	Various	765	1,991,496.1
Total		**804**	**2,066,834.3**

Exploration authorization and mining concession regimes

Exploration authorizations grant the rights to conduct exploration activities for a period from one to three years, which may be renewable for an additional period (and potentially additional renewals on a case-by-case basis). Exploration authorizations are granted on a first come, first serve basis, and the ANM will only grant one exploration authorization for any given area. Mining concessions are currently valid until the mineral deposit reserves are exhausted. Mining concessions may be transferred to eligible third parties with the ANM's prior approval, pursuant to applicable legislation.

Decommissioning

In Brazil, enterprises dedicated to the exploitation of mineral resources shall submit a recovery plan to receive a mining concession. Accordingly, the environmental recovery of the degraded areas caused by mineral exploitation activities shall have been planned since their conception. According to Minas Gerais law, entrepreneurs must also submit to the environmental agency an environmental plan for closing two years before the planned mine closing.

On October 1, 2020, the Brazilian federal government issued law No. 14,066 which, among other provisions, amended the Brazilian Mining Code in order to explicitly state that all mine closure plans must be approved by the ANM as well as the environmental licensing agency. We have been complying with legal requirements regarding mine closure plans and continue to comply with all regulatory and environmental requirements.

The state of Minas Gerais has also passed legislation on decommissioning plans for industrial activities. The Três Marias unit was the first metal production operation to prepare a decommissioning plan at the licensing stage, including the calculation of a financial provision. In the case of the Aripuanã greenfield projects, presentation of a decommissioning plan is one of the requirements for obtaining an environmental license.

Royalties and other taxes on mining activities

Revenues from mining activities are subject to the Brazilian mining royalty, *Compensação Financeira pela Exploração de Recursos Minerais* ("CFEM"), which is paid to the ANM. CFEM is a monthly royalty based on gross revenue, excluding taxes on the sale of minerals. When the produced minerals are used in its internal industrial processes, CFEM is determined based on the costs incurred to produce them. CFEM is determined by a reference price of the respective mineral to be defined by the ANM. The applicable rate varies according to the mineral product (currently 2.0% for zinc, lead, copper and silver). In addition, we are required to make certain fee payments for exploration authorizations known as the Annual Fee per Hectare (*Taxa Anual por Hectare*). There is also a monthly inspection fee related to the transfer and commercialization of certain minerals in some Brazilian states, such as Minas Gerais, where the concessions are located.

Environmental regulations

We are subject to several environmental regulations related to, among other matters, water resources, caves, waste management, contaminated areas, areas of permanent preservation, and conservation of protected areas. Specifically, we have taken the following actions regarding contaminated areas and areas of permanent preservation:

Contaminated areas. We have carried out environmental assessments on our operation units to verify the existence of contamination in groundwater and soil. The assessments prepared for the Brazilian units identified deviations in soil, groundwater and surface water quality standards. We are committed to improving the management of areas identified as contaminated. For most of the identified deviations, we developed a robust remediation plan in order to comply with all legal requirements. We recorded provisions in our consolidated financial statements in respect of any potential liabilities associated with these deviations from applicable standards. See "Operating and financial review and prospects—Overview—Key factors affecting our business and results of operations—Environmental expenses." We continue to conduct similar assessments with respect to the Peruvian operating units.

Areas of permanent preservation. Permanent Preservation Areas (*Áreas de Preservação Permanente*, or APP) are areas that, because of their importance for preserving water resources, geological stability, biodiversity protection and erosion control, receive special legal protection. The existence of such protected areas within a property, whether in urban or rural locations, may cause restrictions to the performance of the intended activities. Interference or removal of APP vegetation is only allowed in cases of public utility (such as mining activities), social interest or low environmental impact, if there is a prior authorization from the applicable environmental authorities. Most of our properties in the state of Minas Gerais interfere in APPs in some way. For such properties, we have either already established an advanced ongoing regularization process or have started the process for other properties. The regularization process includes the implementation of rigid controls over the properties.

Environmental licenses

The Brazilian Federal Constitution grants federal, state and municipal governments the authority to issue environmental protection laws and to publish regulations based on those laws. While the Brazilian federal government has authority to issue environmental regulations setting general standards for environmental protection, state governments have the authority to issue stricter environmental regulations. Municipal governments may only issue regulations regarding matters of local interest or as a supplement to federal or state laws.

Under Brazilian law, the construction, installation, expansion and operation of any establishment or activity that uses environmental resources, or is deemed to be actually or potentially polluting, as well as those capable of causing any kind of environmental degradation, is subject to a prior licensing process.

Notably, in addition to the general guidelines set by the Brazilian federal government, each state is legally competent to promulgate specific regulations governing environmental licensing procedures under its jurisdiction. Depending on the level of environmental impact caused by the exploration/exploitation activities, the procedures for obtaining an environmental license may require assessment of the environmental impact and public hearings, which may considerably increase the complexity and duration of the licensing process and expose the exploration/exploitation activities to potential legal claims.

Environmental liability

Environmental liability may be determined by civil, administrative and criminal courts, with the application of administrative and criminal sanctions, in addition to the obligation to redress the damages caused. All our operating units have obtained certification under the ISO 14001 standard.

Regulation of other activities

In addition to mining and environmental regulation, we must abide by regulations related to, among other things, the use of explosives and fuel storage. We are also subject to more general legislation on labor, occupational health and safety, and support of communities near mines, among other matters.

Peruvian regulatory framework

Mining rights and regulation of mining activities

The Natural Resources chapter of the Peruvian Constitution, enacted in 1993, states that mineral resources are the property of the Nation, and the Peruvian State is sovereign in their administration. The Peruvian government may establish by law the conditions for granting exploitation rights and titles to individuals and legal entities.

The General Mining Law (*Texto Único Ordenado de la Ley General de Minería*) is the primary law governing both metallic and non-metallic mining activities in Peru and is complemented by other regulations approved by the MINEM. Under the General Mining Law, mining activities such as exploration, exploitation, mining labor, beneficiation and mining transport (except storage, sampling, prospecting and trade) are carried out exclusively by means of concessions granted by the Peruvian State. The *Dirección General de Minería* ("DGM") is the regulatory body of the MINEM responsible for proposing and evaluating regulations in the Peruvian mining sector as well as authorizing the commencement of mining activities in Peru.

A mining concession allows its holder to carry out exploration and exploitation activities within the area established in the respective concession title, provided that prior to the beginning of any mining activity, such concession title is granted by the *Instituto Geológico, Minero y Metalúrgico* ("INGEMMET") and other applicable administrative authorizations are obtained (*e.g.*, mining, environmental, use of water, use of explosives, impact on indigenous communities, etc.). A concession provides its titleholder with the exclusive right to undertake mineral exploration and mining activity within a determined area but does not grant the titleholder the right to own the surface land where the concession is located. Therefore, for the holder of a mining concession to develop exploration and/or exploitation works, the latter must purchase the corresponding surface land from the owners, reach an agreement for its temporary use or obtain the imposition of a legal easement by the MINEM, which is rarely granted. There are special proceedings for purchasing or acquiring temporary rights over barren lands owned by the state.

Summary of Peruvian concessions

In Peru, we hold, through Nexa Peru and its subsidiaries, 870 mining and exploration concessions, which cover a total area of 389,022 hectares and 70 mineral claims totaling 45,501 hectares. Of our mines in Peru, the Atacocha mine property includes 147 mining concessions that cover an area of 2,872.5 hectares and one beneficiation concession, the El Porvenir mine property includes 25 mining concessions that cover an area of 4,846.8 hectares and one beneficiation concession, the Cerro Lindo mine has 68 mining concessions that cover an area of 43,750.2 hectares and one beneficiation concession and the inactive Chapi mine property includes 32 mining concessions that cover an area of 4,625.6 hectares and one beneficiation concession. In addition, we have 223 mineral rights concessions for greenfield projects in Peru that cover a total area of 83,760.1 hectares. Our prospective projects include 375 mining concessions that cover an area of 249,166.9 hectares.

All our mining and processing concessions in Peru are in good standing. Maintaining our concessions in Peru in good standing involves, among other requirements, (i) paying the annual validity fee and production penalties (when applicable) for mining concessions with no production or with no effective exploration or (ii) paying the annual validity fee and complying with minimum production or investment requirements established in mining law.

Failure to pay such validity fees or production penalties (when applicable) for two consecutive years results in the cancellation of the respective mining concessions or beneficiation concessions granted by the Peruvian government. Our mining and beneficiation concessions will not expire unless we do not timely comply in paying these fees or with the minimum production or investment as required by law in respect of such rights and depending on the applicable regime.

The following table summarizes our mining concessions in Peru.

		Concessions	
	Project	**Titles**	**Area (hectares)**
Mines	Atacocha mine	147	2,872.5
	El Porvenir mine	25	4,846.8
	Cerro Lindo mine	68	43,750.2
	Chapi mine (inactive)	32	4,625.6
Greenfield Projects	Florida Canyon Zinc	16	12,600.0
	Chapi Greenfield	14	5,856.3
	Hilarión	71	15,408.3
	Magistral	36	16,254.2
	Pukaqaqa	34	11,131.3
	Shalipayco	52	22,510.0
Prospective Projects	Various	375	249,166.9
Total		**870**	**389,022.0**

Exploration and authorization and mining concession regimes

Mining concessions are granted for an indefinite term, though dependent on the fulfillment of certain legal obligations. The commencement and re-commencement of exploration and/or exploitation mining activities are subject to the prior obtainment of an authorization for the commencement of activities before the DGM. Such authorizations could be subject to a prior consultation procedure with indigenous communities, carried out by MINEM, if mining activities were to impact said communities' collective rights and territories as determined by the Ministry of Culture.

As of December 31, 2021, we primarily owned metallic mining concessions with respect to zinc, copper, silver and lead. Substantially all of Nexa Peru's concessions were granted prior to 2008. Our mining rights and concessions are in full force and effect under applicable Peruvian laws. We believe that we comply in all material respects with the terms and requirements applicable to our mining rights and concessions.

Decommissioning

Title holders of mining exploitation and beneficiation activities, and, in some cases, of exploration activities require the prior approval of a mine closure plan, which includes the environmental rehabilitation, restoration and remediation measures that shall be executed along with the mining operations and until its closure. Once the corresponding mine closure plan is approved, a guarantee (usually a bank performance bond) must be granted in favor of the MINEM to back up the environmental costs associated with the execution of the mine closure plan. Mining exploitation and beneficiation activities may only be initiated once the mine closure plan is approved and the corresponding environmental guarantee is duly submitted before the competent authority. The referred guarantee is renewed yearly. If the titleholder of an ongoing mining operation fails to comply with this obligation, the MINEM is entitled to suspend the execution of such mining operation. For additional information, see "Risk Factors—Political, economic, social and regulatory risks—Our mineral rights may be terminated or not renewed by governmental authorities".

Royalties and other taxes on mining activities

Holders of mining concessions are required to pay a mining royalty (*regalía minera*) to the Peruvian government for the exploitation of metallic and non-metallic resources. The amount of the royalty is payable on a quarterly basis and is equal to the greater of (i) an amount determined in accordance with a statutory scale of marginal tax rates from 1.0% to 12.0% based on a company operating income margin and applied to that company's operating income and (ii) 1.0% of a company's sales, in each case during the applicable quarter. We are also required to pay annual fees (*derecho de vigencia*) for our mining concessions and, in some cases, mining production penalties for not timely reaching the minimum production levels set by Peruvian mining law.

Holders of mining concessions are also required to pay a Special Mining Tax (*Impuesto Especial a la Minería*) to the Peruvian government. The Special Mining Tax is payable on a quarterly basis and is calculated based on the operating income derived exclusively from the sale of metallic resources, with marginal rates between 2.0% and 8.4%.

Holders of mining concessions that are subject to administrative legal stability (in force as of the effective date) under an Agreement of Guarantees and Measures for Investment Protection entered into with the MINEM and Mining shall enter into an agreement with the Peruvian government for the payment of a Special Charge on Mining (*Gravamen Especial a la Minería*, or "GEM"). The GEM is payable on a quarterly basis and is calculated based on the operating income derived exclusively from the sale of metallic resources, with marginal rates between 4.00% and 13.12%.

Tax stability agreements

On March 26 of 2002, Nexa Peru entered into an Agreement of Guarantees and Measures for Investment Protection with the MINEM with respect to our Cerro Lindo unit. Pursuant to section 9 of said Agreement, until December 31, 2021, certain guarantees and benefits were available with respect to operations of the Cerro Lindo unit including, among others, free commercialization of the products proceeding from such unit, free disposition of the currencies generated from the export of the products proceeding from such unit, the right to use the global depreciation rate applicable on the fixed assets relating to the Cerro Lindo unit up to 20.0% per year, the right to keep the accounting corresponding to the Cerro Lindo unit in U.S. dollars, and tax stability. The tax stability agreement expired on December 31, 2021. As of January 2022, Nexa Peru is required to pay taxes to the Peruvian government.

Municipal permits

Under the General Mining Law, all Peruvian mines located in rural areas such as Cerro Lindo, Atacocha, El Porvenir and Chapi are exempted from paying municipal taxes and obtaining municipal permits.

Environmental regulations

The development of economic activities in Peruvian territory, such as those related to the mining industry, are subject to a broad range of general environmental laws and regulations related to the generation, storage, handling, use, disposal and transportation of hazardous and controlled materials; the emission and discharge of hazardous materials into the ground, air or water; and the protection of migratory birds and endangered and threatened species and plants. These regulations also set environmental quality standards for noise, water, air and soil, which shall be considered for the preparation, assessment and approval of the corresponding environmental management instrument, granted by the National Service for Environmental Certification of Sustainable Investments ("SENACE").

The Ministry of Environment and other administrative entities, such as the *Dirección General de Asuntos Ambientales Mineros* ("DGAAM"), have the authority to enact regulations related to environmental matters. Additionally, the Environmental Supervision Agency (*Organismo de Evaluación y Fiscalización Ambiental*, or "OEFA"), is the competent authority in charge of supervising and imposing sanctions on mining companies upon non-compliance of applicable environmental legislation. In addition, there are other competent governmental agencies or authorities on specific environmental matters such as water, forestry resources, protected natural areas and aquatic environment that regulate, authorize and supervise environmental compliance and liability.

Environmental permit regularization processes

Supreme Decree 040-2014-EM provided special procedures allowing us to acquire environmental and operational permits for mining operations and to regularize the mining of certain areas within the Cerro Lindo and Atacocha mines. These regularization procedures, however, are independent from any sanctioning administrative procedure that the OEFA may initiate in connection with the construction and operation of mining components in the first place without the corresponding environmental permits.

Similarly, Supreme Decree 013-2019-EM allowed for further regularization procedures to be carried out as of January 6, 2020, which will also allow us to acquire environmental and operational permits for infrastructure and mining areas in the Cerro Lindo, Atacocha, El Porvenir and Chapi mines. The regularization procedures for Cerro Lindo, Atacocha and El Porvenir mines are currently underway. The Chapi mine procedure did not fall through and the areas subject to the procedure must follow the standard mine closure regulations.

Regulation of other activities

In addition to mining and environmental regulation, we must abide by regulations related to, among other activities, the use of explosives, fuel storage, controlled substances, telecommunications, archeological remains and electricity concessions. We are also subject to more general legislation on labor, occupational health and safety, and peasant and indigenous communities, among others. Relating to labor, the Peruvian government is currently reviewing a new law that that proposes to eliminate outsourcing of main operational activities, with the aim of contracting workers directly by the company. If passed, this law would affect the mining sector and other economic sectors in the country that have a significant percentage of outsourced workforce. For additional information, see "Risk Factors—Operational risks—We may be liable for certain payments to individuals employed by third-party contractors" and "Risk Factors—Operational risks—The nature of our business includes risks related to litigation and administrative proceedings that could materially adversely affect our business and financial performance in the event of unfavorable rulings."

II. OPERATING AND FINANCIAL REVIEW AND PROSPECTS

OVERVIEW

Executive summary

The following is an overview for 2021, compared to 2020. For an of overview for 2020 compared to 2019, please refer to "Operating and financial review and prospects" in our Annual Report on Form 20-F for the year ended December 31, 2020, filed with the SEC on March 22, 2021.

During 2021, we operated our assets safely and delivered strong results and solid operational performance. Despite continued challenges associated with social and political instability, the COVID-19 pandemic and its macroeconomic effects, we achieved the highest Adjusted EBITDA in our history, US$704.2 million, up 74.8% compared to 2020, and we generated net cash from operating activities of US$493.0 million. Although we believe we are well-positioned for continued growth, benefitting from our unique position in Latin America, with flagship assets and a strong balance sheet, these challenges are likely to continue in 2022, particularly if there are new outbreaks of COVID-19 and/or the continued emergence of new variants, which could lead to new restrictive measures imposed by governments, affecting macroeconomic conditions and, as a result, our operations.

The Nexa Way program, initiated in mid-2019 and which aimed to structurally improve our business model and transform our organizational culture, has assisted us in overcoming these challenges and ongoing macroeconomic effects, positively contributing to our results. As the program is now completed and the improved culture is duly embedded in our operations' daily activities, we will henceforth cease to report further achievements on a segregated basis.

Following the end of government-mandated temporary suspension of our Peruvian mines and limited smelters production, we safely resumed our activities during the second half of 2020, and since then we have been operating at higher capacity utilization rates, despite some setbacks we faced during the year.

During a regular inspection at the Extremo Norte underground mine at Vazante, above-normal ground displacements were identified in the area around the mine's main access and the escape route. The Extremo Norte mine requires dewatering of the aquifer for its operation, which leads to depressurization and may cause local disturbances in the rock mass around the mine. As a preventive measure, activities in this area were suspended on March 19, 2021. No work accidents or environmental impacts were reported. With the support of external experts, an in-depth analysis of the geological and geotechnical conditions was carried out. Mine activities restarted in the third quarter of 2021 and the rehabilitation plan was concluded ahead of schedule, allowing us to resume mine production during the fourth quarter of 2021. During this temporary suspension, we were able to mitigate the decrease in production in Extremo Norte by increasing throughput at the Vazante mine and reaching ore sorter circuit at maximum capacity to offset the grade drop.

In March 2021, one of our third-party raw material suppliers closed its calcine facility in Peru. While we were able to partially offset this supply reduction in 2021 by sourcing raw materials from other suppliers and third-party materials, as of the date of this report we expect this will affect our smelters' production in 2022.

In 2021, in Peru, protest activities were intensified and carried out by several communities throughout the year, which illegally blocked the road access to the mines, mainly affecting our units in Cerro Pasco and Cerro Lindo. During the protests, mining activities were limited to critical operations with a minimal workforce to ensure appropriate maintenance, safety, and security. Even though production was temporally suspended during these periods, there was no material impact, and the Company has achieved its full guidance production for 2021.

In January 2022, the underground operation of Vazante mine reduced its daily production by approximately 60% of its daily capacity due to heavy rainfall levels in the state of Minas Gerais. As a result, Vazante's underground mine has received more water than it could pump to the surface, partially flooding the lower levels of the mine. The Extremo Norte underground mine has not been affected and continued to operate. As of the date of this report, dewatering process is still in progress and we expect operations to resume at full capacity in early April 2022.

During 2021, we made significant progress on the Aripuanã project, where mechanical completion is almost concluded. Overall, progress reached 99.3% at the end of December 2021, while the beneficiation plant commissioning is more than 40% complete. Nevertheless, the emergence of new variants of COVID-19 throughout the year, along with the health protocols adopted and heavy levels of rainfall experienced in the region, impacted our productivity (lower-than-anticipated workforce), which added additional pressure on costs and timeline. The ramp-up is now scheduled for the third quarter of 2022. The development of Aripuanã is aligned with our objectives to increase integration between our mining and smelting operations and to reduce third-party zinc concentrate supply needs.

Regarding our exploration activities, in 2021 we continued to focus our investments in projects around the mines we operate. We believe that our exploration program and disciplined approach on project evaluation, will contribute to replace and increase mineral reserves and resources of our current assets, and define potential in Hilarión and Bonsucesso orebodies. We will continue to seek new regional targets to identify prospective areas and define materiality for new projects.

In terms of our brownfield projects, the Vazante mine-deepening project continued to progress, and the investment amounted to US$3.4 million. In 2021, we reviewed our mine planning and due to capital allocation prioritization, phase 2 of EB-140 was rescheduled to 2023. Nevertheless, this will not impact mine production.

In the first quarter of 2021, exploration activities and engineering studies resumed at the Bonsucesso project. Bonsucesso is expected to extend the life of mine of Morro Agudo and use the existing mine facilities of the complex, reinforcing the integration of our mines and smelters in Brazil. Magistral engineering studies continue to progress, and we expect to advance further detailed engineering and optimization opportunities to mitigate the risk of project execution before consideration of project's approval. In 2021, we continued exploration activities at the Hilarión project, such as drilling program and geological mapping, and the maintenance of the access road to the Cañon Florida project. The pre-feasibility studies at Shalipayco, Pukaqaqa and Florida Canyon remain on hold.

Our 2021 financial results were affected by factors including: (i) higher metal prices and volumes, (ii) the increase in costs, following higher volumes, third-party services and maintenance activities, (iii) higher exploration and project evaluation expenses and (iv) the depreciation of the Brazilian real against the U.S. dollar. In addition, our 2021 results were impacted by the recognition of a US$19 million as a remeasurement adjustment to revenue recognized in our silver stream arrangement, according to our silver streaming accounting policy, and by the recognition of a US$6.7 million non-cash net expense related as part of our ARO review, increasing our expected disbursements on decommissioning obligations in certain operations. These factors were partially offset by the recovery of undue GSF energy costs of US$19 million in 2021, For further information, please refer to Notes 22, 26 and 28 of our consolidated financial statements.

In 2021, we had a 7.8% increase in our mine production (zinc equivalent), from 498.0 thousand tonnes in 2020 to 537.0 thousand tonnes in 2021, mainly driven by the decrease in processed ore volumes in our Peruvian mines, which were affected by the government-mandated temporary shutdowns in response to the COVID-19 pandemic. Our total zinc metal (metallic zinc and zinc oxide) sales increased by 5.7% in our smelting operations, from 585.4 thousand tonnes in 2020 to 618.8 thousand tonnes in 2021.

In 2021, our net revenues were 34.4% higher compared to 2020, reaching US$2,622.1 million, primarily impacted by higher prices and volumes. In 2021, we had a net income of US$156.1 million and Adjusted EBITDA of US$704.2 million, a 74.8% increase compared to 2020, the main factors that contributed to this strong improvement were the increase in prices and by-products contribution, which more than compensated for (i) higher exploration and project evaluation investments; (ii) the increase in operating costs due to higher volumes, increased maintenance activities and third-party services; (iii) the negative hedge variation of US$20 million; and (iv) the negative variation of US$21 million related to ARO remeasurement and pre-operating expenses of the Aripuanã project affecting other income and expenses. See "Results of Operations" for reconciliations of Adjusted EBITDA to net (loss) income.

Our capital expenditures totaled US$507.9 million in 2021, a 50.9% increase compared to 2020, mainly due to mainly due to Aripuanã's construction and higher non-expansion CAPEX postponed from 2020 due to COVID-19 pandemic. In 2021, 50.7% of our capital expenditures related to the construction of Aripuanã (US$257.6 million), as well as the Vazante mine deepening project (US$3.4 million), which aims to extend the life of mine by seven years.

Outlook

In 2022, we estimate that we will produce (i) between 287.0 thousand tonnes and 318.0 thousand tonnes of zinc contained in concentrate, (ii) between 28.0 thousand tonnes and 35.0 thousand tonnes of copper contained in concentrate, (iii) between 46.0 thousand tonnes and 55.0 thousand tonnes of lead contained in concentrate and (iv) between 8.6 million ounces to 10.0 million ounces of silver contained in concentrate.

In 2022, zinc production at the mid-range of the guidance is estimated to decrease 5% over 2021 (320kt) driven by expected lower grades in Cerro Lindo (from 1.79% to 1.49%) and the temporary capacity reduction of daily production in Vazante due to heavy rainfalls in the state of Minas Gerais. For 2023, zinc production is estimated to increase 16% over 2022 due to full ore throughput at the Aripuanã mine, with a further 1% in 2024 over 2023. For the forecasted period, zinc head grade is expected to be in the range of 2.70% and 3.13%, copper head grade is expected to be in the range of 0.29% and 0.36% and lead head grade is expected to be in the range of 0.50% and 0.63%.

In 2022, we expect to sell between 528.0 thousand tonnes and 551.0 thousand tonnes of metallic zinc product volume and between 37.0 thousand tonnes and 39.0 thousand tonnes of zinc oxide product volume.

Metal sales volume at the midpoint of the guidance range (565.0 to 590.0 thousand tonnes) in 2022 is estimated to decrease 7.0% compared to 2021, following lower production in Peru and Brazil. The estimated performance is explained by the fact that our third-party raw material Peruvian supplier, which shut down its facility in the beginning of 2021, will not resume its activities. Consequently, for the forecasted period, our consolidated smelter production is estimated to decrease by 30kt compared to historical levels. In addition, we estimate that the temporary decrease in Vazante mine's production will have an annual impact on our Brazilian smelters production from 10 to 15kt in 2022.

For 2023, metal sales volume is forecasted to increase 3.0% over 2022 (ranging from 580.0 to 605.0 thousand tonnes) and remain stable in 2024 (ranging from 580.0 to 605.0 thousand tonnes). For 2023-2024, we assume supply from our mines maintain historical levels.

These estimates are based on several assumptions, including but not limited to metal prices, operational performance, grades, maintenance, input costs, exchange rates, political and social situation in the countries where we operate, and that our assets continue to operate subject to additional measures and protocols to mitigate the spread of COVID-19.

Regarding our cash cost net of by-product credits estimates for 2022, for our mining segment, we estimate cash cost after by-product credits at US$0.23 per pound of zinc sold, mainly driven by higher benchmark treatment charges, higher unit costs due to inflationary costs pressure and decreased production volumes. For our smelting segment, cash cost after by-product credit is estimated at US$1.15 per pound of zinc sold, primarily due to inflation and higher energy costs, which should be partially offset by higher by-products credits (sulphuric acid prices), compared with US$1.13 per pound of zinc sold in 2021, due to an estimated increase in input costs and lower volumes.

Our estimated capital expenditures for 2022 is US$385.1 million and includes the estimated US$59.5 million investments in the Aripuanã project. In response to COVID-19, in 2021 we focused our efforts on preserving cash. Consequently, we temporarily reduced non-expansion investments, maintaining all the essential investments to operate safely. In 2022, we also expect to incur approximately US$82.4 million in mineral exploration and project evaluation expenses, with US$43.2 million allocated to mineral exploration (including brownfields, greenfields and administrative issues) and US$18.3 million allocated to project evaluation. In mineral exploration, we plan to continue our efforts to replace and increase mineral reserves and resources.

These estimates should be considered preliminary, subject to change and are based on several assumptions that management believes to be reasonable as of the date of this annual report, which are subject to change based on internal and external developments. As of the date of this annual report, we continue to monitor developments related to the COVID-19 pandemic and the resumption of Vazante mine at full capacity. We cannot predict how and to what extent the pandemic, any protest activities or other operational issues may impact our current plans and objectives for 2022, including with respect to our consolidated production guidance and our current capital expenditure, mineral exploration, and project evaluation disbursements. See "Forward-looking statements." For cash cost guidance, see "Presentation of financial and other information—Non-IFRS measures."

Key factors affecting our business and results of operations

Reporting segments

We have two reportable segments: mining and smelting. A major part of our zinc mining production, representing approximately 100% of production in 2021, is processed in our own smelters. Similarly, a major part of the zinc raw material consumption for our smelting operations, representing approximately 52.9% of concentrates in 2021, comes from our own mines. As a result, the revenues of our mining segment include sales to the smelting segment, and the costs of our smelting segment include purchases from the mining segment. We calculate internal transfer prices from our mines to the smelters on an arm's length basis to evaluate the performance of our mining and smelting segments individually. These revenues and costs are eliminated in our consolidated financial statements.

The profitability of our mining segment depends primarily on world prices of the metals we produce, and on our costs to produce concentrates. It is also affected by treatment charges, which are amounts representing the cost of further processing that are applied to reduce the price of concentrate. Other factors affecting pricing are discussed below.

The profitability of our smelting segment does not depend directly on market prices for metals because they have a similar impact on our revenues and our costs. It is affected primarily by treatment charges (which reduce our costs to acquire concentrates), by the premium over the market price of metals that we can charge for our products, and by the operating costs of our smelters and their efficiency in recovering the metal content of the concentrates we purchase.

Segments are reported in accordance with IFRS 8 "Operating Segments," and the information is presented to the chief executive officer, who is the chief operating decision maker in accordance with IFRS 8. Segment results are derived from the accounting records and are adjusted for reallocations between segments, impairment of non-current assets and other miscellaneous adjustments, if any, and transfer pricing adjustments. See Note 2 to our consolidated financial statements.

Metal prices

Our financial performance is significantly affected by the market prices of zinc, copper and lead, and, to a lesser extent, silver, gold and the other by-products of our smelting operations. Metal prices have historically been subject to wide fluctuations and are affected by numerous factors beyond our control, including the impact such factors have on industries representing first-uses and end-uses of our products. These factors, which affect each metal to varying degrees, include international economic and political conditions, political changes in the countries in which we operate (for example, political instability surrounding the recent presidential elections in Peru and its aftermath, including new government legislation that could affect our operations), levels of supply and demand, the availability and cost of substitutes, inventory levels maintained by producers and others and, to a lesser degree, inventory carrying costs and currency exchange rates. In addition, market prices have on occasion been subject to rapid short-term changes due to speculative activities.

The market prices for zinc, copper and lead are typically quoted as the daily cash seller and settlement price established by the LME. LME zinc prices are influenced by global supply and demand for metallic zinc and zinc oxide. The supply of metallic zinc and zinc oxide depends on the amount of zinc concentrates and secondary feed materials produced and the availability of smelting capacity to convert them into refined metal. This also applies to copper and lead.

The table below sets forth the average published market prices for the metals and periods indicated:

Average Market	For the Year Ended December 31,			
	2021		2020	
Prices of Base Metals	(US$/tonne)	(US¢/lb)	(US$/tonne)	(US¢/lb)
Zinc (LME)	3,007.38	136.41	2,267.00	102.83
Copper (LME)	9,317.49	422.63	6,180.63	280.35
Lead (LME)	2,206.23	100.07	1,825.58	82.81

	For the Year Ended December 31,	
Average Market Prices of Precious Metals	2021	2020
	(in US$/oz)	
Silver (LBMA)	25.14	20.55
Gold (Fix)	1,798.61	1,769.59

The key drivers and recent trends of each of the metals that we produce are discussed below.

Zinc

Zinc is a major material for the construction and transport industries, which represent approximately 50% and 21% of the zinc end-use, respectively, according to Wood Mackenzie.

The annual average price of zinc on the LME as of December 31, 2021, was 21.7% higher when compared to the corresponding period in 2020. In 2021, zinc prices continued to recover from downturns in 2020, mostly linked to an improvement in economic growth and tight concentrate and refined markets, which also impacted spot treatment charges levels throughout the year.

Spot treatment charges for imported concentrates in China increased from US$70 per tonne in January 2021 to US$85 per tonne in December 2021, as reported by Wood Mackenzie, while long-term treatment charges decreased from US$300 per tonne in 2020 to US$159 per tonne in 2021. The benchmark for long-term treatment charges was set in early April 2021, reflecting a tightening in the concentrates market, which was expected to continue through the year. According to Wood Mackenzie's December 2021 report, the different movements of spot treatment charges resulted from a concentrate market less tight than expected, as carbon emissions and energy consumption restrictions in China impacted smelter output, which led to a surplus of 155 thousand tonnes at the close of 2021.

In 2021, despite the increase in production year-over-year (1.1% higher than 2020), the zinc metal market closed with a deficit of 320 thousand tonnes resulting from a metal production of 13.8 million tonnes and consumption of 14.2 million tonnes (7.1% higher than 2020), according to Wood Mackenzie's December 2021 report.

Refined zinc supply presented an increase in 2021, mainly because of the return of Latin American and Chinese operations that had their production impacted by the pandemic related health protocols in 2020. China also contributed to an increase in demand, which was 7.0 million tonnes, or 1%, higher compared to 2020. As of December 31, 2021, refined zinc stock levels decreased, reaching 199.6 thousand tonnes at the LME, compared with 202.2 thousand tonnes on December 31, 2020.

Copper

Copper is used for building construction, power generation and transmission, electronic product manufacturing and the production of industrial machinery and transportation vehicles. The annual average price of copper on the LME as of December 31, 2021 was 50.8% higher than in the corresponding period in 2020. Copper prices reached a historical record price of US$10,724.5 per tonne on May 10, 2021 and maintained a high level over the remainder of the year. This was mainly a result from the favorable macroeconomic environment associated with strong demand, declining inventories and a tight concentrate market. According to LME data, copper stocks finished the year at 89.0 thousand tonnes, compared to 108.0 thousand tonnes in the December 31, 2020. Total mine production, refined production, as well as global demand for refined copper increased in 2021 compared to 2020, according to Wood Mackenzie.

Lead

Lead is used in batteries as energy storage and in other products such as ammunition, oxides in glass and ceramics, casting metals and sheet lead. The annual average price of lead on the LME as of December 31, 2021 was 20.9% higher than in the corresponding period in 2020. This increase reflects improvements on metal demand, combined with tight metal inventories due to pandemic effects in the supply chains (higher freight and storage costs).

Silver

Silver is considered a precious metal and generally seen as a store of value, so its price tends to be resilient in times of economic uncertainty. In addition, applications in electronics and solar cells have added to the already broad range of uses of silver in currency, jewelry, and silverware. The annual average LBMA silver price for the year ended December 31, 2021 was 22.3% higher than in the corresponding period in 2020. Silver prices hit the highest level of the year on February 1, 2021, US$ 29.59 per ounce, which was 146% above the lowest point of the previous year reached on March 19, 2020 and maintained a similarly high level over the remainder of 2021. This was mainly due to commodities stronger demand combined with investors moving towards lower risk assets, such as silver, amid a volatile economic scenario.

Production volumes, ore grade and metal mix

Our production volumes, the ore grade from our mines and the mix of metals in our product portfolio affect our business performance. For more details, see "Information on the Company—Mining operations." Our zinc, copper and lead contained in concentrates production increased by 2.2%, 5.2%, and 19.9%, respectively, in 2021. Production of silver contained in concentrates increased by 29.9% in 2021.

Commercial terms

We sell our concentrates and metallic zinc and zinc oxide products mostly through supply contracts with terms between one and four years, and only a small portion is sold on the spot market. The agreements with our customers include customary international commercial terms, such as cost, insurance and freight, or CIF; free on board, or FOB; free carrier, or FCA; and cost and freight, or CFR; pursuant to Incoterms 2010/2020, as published by the International Chamber of Commerce. For concentrates, revenues are recorded at provisional prices and, typically, an adjustment is then made after delivery, based on the pricing terms provided for under the relevant contract.

Sales prices for our products are based on LME and/or LBMA quotations. Concentrates are typically sold at the LME price reference minus a discount (treatment charge for zinc and lead; treatment charge and refining charge for copper). Metallic zinc and zinc oxide are typically sold at the LME quotation averaged during a quotation period, such as the month after shipment, the month prior to shipment or another agreed period, plus a negotiable premium that varies based on quality, shape, origin, and delivery terms and also according to the market where metal will be sold. In 2021, 49.4% of the total zinc raw material consumption in our smelters was produced by our mines and 50.6% was purchased from third parties or was obtained from secondary raw materials (including oxide). We buy zinc concentrates from different suppliers in the market to meet our raw material requirements. We sell all our copper and lead concentrates production to metal producers and international traders, on international market terms.

Our sales of metallic zinc are highly diversified. Our customer base is composed mainly of end users. Our products reach the following end use industries: transport, construction, infrastructure, consumer goods and industrial machinery. In 2021, 85.3% of our total sales were to customers in the continuous galvanizing, general galvanizing, die casting, transformers and alloy segments, and 14.7% were to international traders. Our ten largest customers represented approximately 58.9% of our total sales volume in 2021. In 2021, we sold to more than 335 customers across 46 different countries.

Free zinc, treatment charges, premiums and smelter by-products

Smelters are processing businesses that achieve a margin on the concentrates and other feedstocks they process; in large part, the price for the underlying metal is effectively passed through from the miner supplying the concentrate, or the supplier of the secondary feed material, to the smelter's customer. Our smelters use zinc concentrate as feedstock, which is supplied from our mines and from third-party suppliers. The smelter earns revenue from (i) the treatment charge reflected as a discount in the purchase price it pays, (ii) the refined metal it can produce and sell over and above the metal content it has paid for in concentrates purchased from the miner (free metal) and (iii) any premium it can earn on the refined products it sells to its customers. By-products can also contribute to a smelter's revenue. By-products from our smelting operations include, among others, silver, gold, copper, cement, sulfuric acid, lead concentrate, lead-silver concentrate, silver concentrates, limestone and copper sulfate.

Free zinc and treatment charges

Free zinc is the difference between the amount of zinc that is paid for in the concentrates and the total zinc recovered for sale by the smelter. The value of the zinc that is paid for corresponds to 85.0% of zinc content, which has historically been the industry standard, multiplied by the LME price of zinc. The zinc content which is not paid for is considered “free zinc.” The margin of a zinc smelter improves as the amount of metal in zinc concentrates that it can recover increases.

The treatment charge (“TC”) is a discount per tonne of concentrates, which is determined by negotiation between the seller (a mine or a trading company) and the buyer (a smelter). Treatment charges can be benchmark TC (negotiated by the major miners and buyers), spot or negotiated.

We apply a Benchmark TC for our integrated mining and smelter operations in Peru. For our other purchases of zinc concentrate from third-party miners and trading companies, the treatment charge is based on the Benchmark TC, spot treatment charges or treatment charges negotiated annually with miners or trading companies.

In order to reduce volatility, for most of our third-party contracts, which are renewed throughout different periods during the year, we consider the 3-years average TC. The reference (average benchmark TC of 2021, 2020 and 2019) for 2021 stood at US$232/t concentrate, up 2% from the previous reference (average benchmark TC of 2020, 2019 and 2018).

The market trend for treatment charges reflects the supply and demand for concentrates in the market. Treatment charges tend to fall when demand increases relative to supply, and they tend to rise when demand falls. In other words, when there is an excess of concentrate compared to the smelting processing capacity, treatment charges tend to rise and when there is a deficit of concentrate in the market, treatment charges tend to fall. For information regarding our actual treatment charges, see “Information on the Company—Smelting operations.”

The following table sets forth, for the periods indicated, the zinc realized Benchmark TC, expressed in dollars per dry metric tonne (“dmt”) of concentrate.

	For the Year Ended December 31,	
	2021	**2020**
Treatment Charge (in US$/dmt)	159	300

Source: Wood Mackenzie.

Premiums

Like other smelters, we sell metallic zinc and zinc oxide products at a premium over the base LME price. The premium reflects a combination of factors, including the service provided by the smelter in delivering zinc or lead of a certain size, shape or quality specified by its customers and transportation costs, as well as the conditions of supply and demand prevailing in the regional or local market where the metal is sold.

Premiums tend to vary from region to region, as transportation costs and the value attributable to customer specifications tend to be influenced by regional or local customs rather than being a function of global market dynamics.

The following table sets forth, for the periods indicated, information on premiums for the markets indicated, expressed in U.S. dollars per tonne.

	For the Year Ended December 31,	
	2021	2020
Rotterdam (in US$/tonne)	145	98
Singapore (in US$/tonne)	114	103
United States (in US$/tonne)	227	180

Source: Wood Mackenzie.

The following table sets forth, for the periods indicated, the gross premium over the base LME price for zinc oxide realized by our smelting operations in Brazil, expressed in dollars per tonne.

	For the Year Ended December 31,	
	2021	2020
Brazilian operations (in US$/tonne)	492	482

Smelter by-products

The quantity of by-products produced in our smelters depends on several factors, including the chemical composition of the concentrate and the recovery rates achieved. Concentrates from some mines contain higher levels of by-product metals than concentrates from other mines. In addition, the higher rate of by-product recovery, increase the number of by-products that can be produced and sold.

Sulfuric acid is the principal by-product we sell. It is manufactured from the sulfur dioxide gas generated from roasting zinc concentrates. While the zinc smelters use sulfuric acid in their leach plants, almost all this requirement is generated in each zinc smelter's electrolysis plant, and only small amounts of the sulfuric acid produced are used in its facilities, leaving the rest available for sale. We sell sulfuric acid under annual or multi-year contracts and spot sales.

Silver concentrate is another relevant by-product that we produce at our Cajamarquilla and Juiz de Fora smelters. Silver concentrate is one of the components of zinc concentrate and is obtained during the zinc metallurgical flotation process. Recovered silver is sold primarily to international traders and local customers.

Operating costs and expenses

Our ability to manage our operating costs and expenses is a significant driver of our business performance. We focus on controlling and limiting our costs and expenses so that we are better prepared to overcome less favorable pricing conditions.

Energy costs

Our total cost of energy is composed of the operating costs of our own hydroelectric power plants, long-term electricity supply contracts, transmission and distribution charges and fees.

In Peru, the energy market is more stable in terms of generation (hydrology forecast) and prices. We obtain 2.0% of the electricity for our operations from our own hydroelectric power plants and 98.0% from third parties with contracts with terms ranging from one to two years.

In Brazil, the electricity for our operations comes from five hydroelectric plants in which our subsidiary Pollarix has directly or indirectly the following interests as of December 31, 2021: a 21.0% participation in the consortium Enercan (Campos Novos hydroelectric power plant), 100.0% ownership of a hydroelectric power plant (Picada) located in Minas Gerais, a 12.6% participation in the consortium Amador Aguiar I, a 12.6% participation in the consortium Amador Aguiar II and a 23.9% participation in the consortium Igarapava. We account for the consortiums as joint operations, as discussed in Note 4(b) to our consolidated financial statements. On a consolidated basis, our costs for electricity in Brazil reflect the operating costs of the hydroelectric facilities and are sensitive to a variety of factors, including hydrologic variables.

The only activity of Pollarix is to own our energy assets, and it sells energy to our Brazilian operating subsidiaries at market prices. We own all the common shares of Pollarix, which represents 33.33% of its total share capital and/or its affiliates. The remaining shares are preferred shares with limited voting rights, which are owned by our major shareholder VSA. Under the terms of the preferred shares, VSA is entitled to dividends per share equal to 1.25 times the dividends per share payable on the common shares. See "Information on the Company—Other operations—Power and energy supply—Brazil." As a result, a substantial part of the profits recognized by Pollarix from selling energy to our Brazilian operating subsidiaries will represent non-controlling interest in our income statement.

Environmental expenses

Our mines and smelters operate under licenses issued by governmental authorities that control, among other things, air emissions and water discharges and are subject to stringent laws and regulations relating to waste materials and various other environmental matters. Additionally, each operation, when it ultimately ceases operations permanently, will need to be rehabilitated.

We have made significant investments to reduce our environmental impact in the areas in which we operate and to ensure that we are able to comply with environmental standards. All our operational units have environmental improvement initiatives relating to reducing emissions and waste and improving the efficiency of use of natural resources and energy.

Where appropriate, we establish environmental provisions for restoration or remediation of existing contamination and disturbance, with all material issues being reviewed annually. Provisions associated with smelter and mining operations sites primarily relate to soil and groundwater contamination.

Since 2016, we have conducted an extensive study and update of our decommissioning plans, including potential environmental obligations. During this period, we also modified our internal policies for decommissioning and environmental issues, which require frequent updates of environmental studies to reflect the best international practices. As a result of these adjustments, we recorded additional environmental provisions of US$3.1 million and US$2.6 million in 2020 and 2021, respectively. Although not expected in the near future, changes in legislation and adjustments to our internal policies after the ongoing evaluations could require additional provisions

COVID-19

COVID-19 has had a material impact on the global economy. As a response to COVID-19 in 2020, we implemented and continue to implement additional safety procedures in all our operations to ensure the health and safety of our employees, contractors and communities. While vaccination rates have increased and effective treatments have been developed, the emergence of additional COVID-19 variants continues to present risks to our operations and general macroeconomic activity. Business continuity measures to mitigate and reduce any impacts of the global pandemic on our operations, supply chain and financial situation also remains in place.

In 2021, COVID-19 direct costs amounted to US$18 million. COVID-19 costs are included in the cost of sales and operating expenses. Subject to the duration and extent of COVID-19, we expect these costs to be recurring in our operations in 2022, which are reflected in our cash cost guidance.

Although our operations and projects have returned to normal, the ultimate impact of the COVID-19 global pandemic on our financial condition, results of operations and cash flows depends on the continuing duration and severity of the pandemic and the possibility of new outbreaks or the emergence of new variants for which existing vaccines or treatments may not be as effective, as well as on global and local efforts to contain its spread, on the abilities of countries to access and distribute effective vaccines and on the impact of response measures taken by us, governments and others. A new period of disruption or an extended global recession caused by the pandemic could materially and adversely impact our results of operations, access to sources of liquidity and overall financial condition. See "Risk Factors—Global or regional health considerations, including the outbreak of a pandemic or contagious disease, such as the ongoing COVID-19 pandemic, have had and could continue to have adverse effects on our business, financial condition and results of operations."

Macroeconomic conditions of the countries and regions where we operate

Peru

The following table sets forth Peruvian inflation rates, interest rates and exchange rates for the dates and periods indicated.

	For the Year Ended December 31,	
	2021	2020
Real GDP growth rate [(1)(2)]	13.3%	(11.0%)
Internal demand growth rate [(2)]	14.4%	(9.5%)
Private investment growth rate [(2)]	37.6%	(16.5%)
Reference interest rate	2.50%	0.25%
CPI rate [(2)]	4.0%	1.8%
Appreciation (devaluation) of *sol* against the U.S. dollar	(10.6%)	(9.2%)
Exchange rate of *sol* to US$1.00 (end of period) [(3)]	4.0015	3.6180

Sources: Central Reserve Bank of Perú, Peruvian Ministry of Economy and Finance.

(1) Preview: Bloomberg consensus rate.
(2) Accumulated during each period.
(3) Official offer exchange rates.

Brazil

The following table sets forth Brazilian inflation rates, interest rates and exchange rates for the dates and periods indicated.

	For the Year Ended December 31,	
	2021	2020
Real GDP growth rate [(1)(2)]	4.6%	(4.4%)
Inflation rate (IGP-M) [(2)]	17.8%	23.1%
Inflation rate (IPCA) [(2)]	10.1%	4.4%
CDI rate (end of period)	9.2%	1.9%
SELIC rate (end of period)	9.3%	2.0%
TJLP	5.3%	4.6%
Appreciation (devaluation) of *real* against the U.S. dollar	(7.4%)	(28.9%)
Exchange rate of *real* to US$1.00 (end of period) [(3)]	5.5802	5.1967

Sources: IBGE, the Central Bank, Cetip, and FGV.

(1) Preview published by the Central Bank official report (Focus) as of December 31, 2021.
(2) Accumulated during each period.
(3) Official offer exchange rates.

Effects of exchange rate fluctuations

Prices for our products are based on international indices, such as LME prices, and denominated in U.S. dollars. A portion of our production costs, however, is denominated in *reais*, so there is a mismatch of currencies between our revenue and costs. In 2021, 18.2% of our production costs and operational expenses were denominated in *reais*. A smaller portion of our costs is denominated in *soles* since most of our costs in Peru are in U.S. dollars. In 2021, 15.1% of our production costs and operational expenses were denominated in *soles*. As a result, our results of operations are affected by changes in exchange rates between *reais* and, to a lesser extent, *soles*, and the U.S. dollar.

In addition, our Brazilian subsidiary Nexa Brazil has substantial intercompany debt to Nexa Resources that is denominated in U.S. dollars. The functional currency of Nexa Brazil is the *real*, so Nexa Brazil recognizes exchange gains or losses when the value of the *real* rises or falls against the U.S. dollar. These gains and losses are

not eliminated in consolidation because the functional currency of Nexa Resources is the U.S. dollar, so they do not recognize offsetting gains or losses. As of December 31, 2021, the aggregate amount outstanding under these intercompany loans was US$96.6 million.

The following table sets forth for the periods indicated (i) the high and low exchange rates, (ii) the average of the exchange rates on the last day of each month for each year and daily for each month and (iii) the exchange rate at the end of each period, expressed in *soles* per U.S. dollar (*sol*/US$) and *reais* per U.S. dollar (real/US$) as reported by the Peruvian Central Bank and the Brazilian Central Bank, respectively.

	Exchange Rates of S/ and R$ per US$1.00							
	Period-End		Average (1)		High		Low	
	S/	R$	S/	R$	S/	R$	S/	R$
Year ended December 31,								
2020	3.6193	5.1967	3.4984	5,1578	3.6685	5.9372	3.3000	4.0213
2021	4.0015	5.5802	3.8826	5.3952	4.1375	5.8394	3.5978	4.9203
Month								
January 2022	3.8450	5.3571	3.8862	5.5338	3.9680	5.7039	3.8340	5.3571
February 2022	3.7810	5.1391	3.7902	5.1963	3.8830	5.3281	3.7275	5.0140
March 2022 (through March 14)	3.7327	5.0644	3.7364	5.0616	3.7880	5.1344	3.7046	5.0091

Source: Central Reserve Bank of Peru, Brazilian Central Bank, official offer exchange rates.
(1) Annually, represents the average of the daily exchange rates during the periods presented.

Income taxes

Income taxes in Luxembourg, Peru and Brazil have a significant impact on our results. Due to economic and political conditions, tax rates in various jurisdictions may be subject to significant changes. Our future effective tax rates could be affected by changes in the mix of earnings in countries with different statutory tax rates, changes in the valuation of deferred tax assets and liabilities and changes in tax laws or their interpretation.

Luxembourg

The combined applicable income tax rate (including an unemployment fund contribution) is 24.9 % from 2019 onwards.

Brazil

Our Brazilian subsidiaries are subject to corporate income tax on their Brazilian and non-Brazilian income. In addition to corporate income tax, a social contribution tax is imposed on their worldwide income, and the combined applicable rate is 34.0%.

Peru

Our Peruvian subsidiaries are subject to Peruvian income tax on their worldwide income and are eligible for a potential credit for foreign taxes paid on income derived from foreign sources. The general income tax rate is 29.5 % from 2017 onwards.

To promote investments in Peru, investors and Peruvian companies may enter into an agreement with the Peruvian government, a Legal Stability Agreement, to provide a stable legal and tax regime for a specified period. In March 2002, Nexa Peru entered a guarantee and investment protection contract, or the stability agreement. Pursuant to the stability agreement, Nexa Peru has applied a special income tax rate of 20.0% from 2007 through 2021. The 29.5% income tax rate will become applicable to Nexa Peru from January 1, 2022 onwards.

Our Peruvian subsidiaries Nexa Resources El Porvenir S.A.C. and Nexa Resources Atacocha S.A.A., do not have stability agreements with the Peruvian government and are therefore subject to a special mining tax (*Impuesto Especial a la Minería*, or “IEM”), with marginal rates from 2.00% and 8.40% of operating income, depending on the operating margin. In addition, these companies are subject to a mining levy (*regalia minera*).

In 2022, Nexa Peru is subject to an IEM and mining royalties' tax once its tax stability agreement with the Peruvian government expires.

Dividends distributed to us by our Peruvian subsidiaries are subject to withholding tax, at a rate of 5.0 % for profits earned beginning in 2017 and onwards.

RESULTS OF OPERATIONS

The following discussion and analysis of our financial position and results of operations is based on our consolidated financial statements. The following table sets forth our summarized results of operations for the periods indicated.

	For the Year Ended December 31,		Variation	% of Net Revenue from Products Sold	
	2021	2020	2021/2020	2021	2020
	(in millions of US$)		(percentage)	(percentage)	
Consolidated income statement information:					
Net revenues	2,622.1	1,950.9	34.4	100.0	100.0
Cost of sales	(1,966.0)	(1,563.9)	25.7	(75.0)	(80.2)
Gross profit	**656.1**	**387.0**	**69.5**	**25.0**	**19.8**
Operating expenses:					
Selling, general and administrative	(156.8)	(151.6)	3.4	(6.0)	(7.8)
Mineral exploration and project evaluation	(85.0)	(57.2)	48.7	(3.2)	(2.9)
Impairment loss	—	(557.5)	(100.0)	0.0	(28.6)
Other income and expenses, net	31.9	(19.2)	(266.7)	1.2	(1.0)
Operating income (loss)	**446.2**	**(398.5)**	**(212.0)**	**17.0**	**(20.4)**
Financial income	11.5	11.2	2.7	0.4	0.6
Financial expenses	(142.3)	(159.8)	(10.9)	(5.4)	(8.2)
Foreign exchange (loss) gain, net	(6.1)	(129.6)	(95.3)	(0.2)	(6.6)
Net financial results	**(136.9)**	**(278.2)**	**(50.8)**	**(5.2)**	**(14.3)**
Share in the results of associates	—	—	—	—	—
Income (loss) before income tax	**309.3**	**(676.7)**	**(145.7)**	**11.8**	**(34.7)**
Current income tax	(122.1)	(63.2)	93.2	(4.7)	(3.2)
Deferred income tax	(31.1)	87.3	(135.6)	(1.2)	4.5
Net income (loss) for the year	**156.1**	**(652.6)**	**(123.9)**	**6.0**	**(33.4)**

The following is a discussion of results of operations for 2021, compared to 2020. For a discussion of the financial condition and results of operations for 2020 compared to 2019, please refer to "Operating and financial review and prospects" in our Annual Report on Form 20-F for the year ended December 31, 2020.

Net revenues

In 2021, net revenues increased by 34.4%, or US$671.2 million. This increase was primarily due to higher prices and volumes.

In 2021, zinc, copper and lead average LME prices increased by 33%, 51% and 21%, respectively. The average LME price of zinc increased from US$2,267 per tonne in 2020 to US$3,007 per tonne in 2021.

The following table shows a breakdown of our net revenues by destination of our sales.

	For the Year Ended December 31,	
	2021	2020
	(in millions of US$)	
Brazil	753.3	583.1
Peru	774.7	485.9
United States of America	119.6	116.7
Luxembourg	97.5	76.1
Switzerland	78.8	68.9
Singapore	56.9	76.7
South Korea	118.6	77.4
Chile	54.0	49.0
Taiwan	53.8	28.8
Japan	58.3	46.7
Argentina	93.1	56.2
Austria	45.1	35.2
Colombia	54.3	34.8
Turkey	34.5	25.0
Malaysia	25.7	13.9
South Africa	25.1	0.0
Netherlands	17.7	11.7
Ecuador	15.7	9.1
Italy	14.8	9.9
Vietnam	14.6	10.8
Belgium	13.7	30.2
Indonesia	11.8	8.6
Guatemala	11.1	4.7
Germany	7.3	33.9
Others	72.3	57.6
Net revenues	**2,622.1**	**1,950.9**

The following table sets forth the components of our production and sales volumes for the metals and periods indicated.

	For the Year Ended December 31,	
	2021	**2020**
Treatment Ore (in tonnes)	12,330,469	10,853,740
Mining Production—Metal Contained in Concentrate		
Zinc contained in concentrates (in tonnes)	319,950	313,074
Copper contained in concentrates (in tonnes)	29,607	28,154
Lead contained in concentrates (in tonnes)	45,565	38,009
Silver contained in concentrates (in oz)	8,808,291	6,825,883
Gold contained in concentrates (in oz)	25,501	16,179
External Mining Sales (1)		
Zinc concentrates (in dry metric tonnes)	9,926	0
Copper concentrates (in dry metric tonnes)	113,887	109,147
Lead concentrates (in dry metric tonnes)	83,464	73,238
External Mining Sales—Metal Contained in Concentrate (2)		
Zinc contained in concentrates (in tonnes)	5,089	0
Copper contained in concentrates (in tonnes)	29,677	28,077
Lead contained in concentrates (in tonnes)	43,232	38,761
Smelting Production—Zinc Contained in Product Volumes		
Cajamarquilla (metal available for sale in tonnes)	328,145	305,389
Três Marias (metal available for sale in tonnes)	156,654	167,505
Juiz de Fora (3) (metal available for sale in tonnes)	81,119	79,410
Total zinc metal available for sale production (in tonnes)	**565,918**	**552,304**
Zinc Oxide Production—Zinc Contained in Product Volumes		
Três Marias (4) (Zinc oxide, contained zinc in tonnes)	41,713	35,258
Smelting Sales—Product Volumes		
Metallic zinc (in tonnes)	577,899	550,698
Zinc oxide (in tonnes)	40,938	34,675
Total smelting sales volumes (in tonnes)	**618,837**	**585,373**
Smelting Sales—Zinc Contained in Product Volumes (4)		
Metallic zinc (in tonnes)	574,639	549,047
Zinc oxide (in tonnes)	32,751	27,740
Total zinc contained in product volumes (in tonnes)	**607,390**	**576,786**

(1) Excluding intercompany sales.
(2) Based on typical zinc contents in metallic zinc products and zinc oxide. For more details, see "Information on the Company—Smelting operations—Zinc contained in smelting products sold."
(3) Including 2,649 tonnes of zinc ashes and drosses in 2021 and 2,772 in 2020.
(4) Including 28,334 tonnes of zinc ashes and drosses in 2021, as well as metallic zinc used in the production of zinc oxide in 2021 and 23,256 in 2020.

Cost of sales

In 2021, our cost of sales increased by 25.7%, or US$402.1 million, primarily due to (i) higher concentrate costs as a result of higher prices and lower TCs; (ii) the increase in operational costs due to higher volumes and maintenance activities; and (iii) inflationary cost pressure. In addition, COVID-19 related expenses included in cost of sales amounted to US$15.5 million.

Selling, general and administrative expenses

In 2021, our selling, general and administrative ("SG&A") expenses increased by 3.4%, or US$5.2 million, to US$156.8 million. Inflationary costs pressures were partially offset by foreign exchange gains and increased control over fixed costs.

Mineral exploration and project evaluation

In 2021, our mineral exploration and project evaluation expenses increased by 48.7%, or US$27.8 million, primarily due to higher costs and projects expenses postponed from the previous year in order to revert the impact of the COVID-19 pandemic. In 2021, our exploration drilling totaled 110.3 km, compared to 67.9 km in 2020.

Impairment loss

In 2021, Nexa performed its annual test and analyzed all impairment indicators and found no need to recognize an additional impairment loss or reversal.

Other income and expenses, net

In 2021, our other income and expenses, net positively impacted our results by US$31.9 million, primarily due to tax benefits (ICMS subsidy) in the amount of US$71.9 million, partially offset by increase in expenses related legal claims provisions in the amount of US$13.2 million, pre-operational expenses of project Aripuanã in the amount of US$8.8 million, and remeasurement of asset retirement and environmental obligation of US$6.7 million.

The following table sets forth our other income and expenses, net for the periods indicated. For further information, please refer to Note 9 to our consolidated financial statements.

	For the Year Ended December 31,	
	2021	**2020**
	(in millions of US$)	
Other income and expenses, net		
ICMS tax incentives	71.9	—
Remeasurement of asset retirement and environmental obligations	(6.7)	(0.9)
Derivative financial instruments	7.5	0.9
Loss on sale of property, plant and equipment and intangible assets.	(4.9)	(2.3)
Pre-operating expenses related to Aripuanã	(8.8)	(1.9)
Contribution to communities	(7.1)	(2.8)
Provision of legal claims	(13.2)	(10.9)
Others	(6.9)	(1.4)
Total other income and expenses, net	**31.9**	**(19.2)**

Net financial results

We recognized a net financial expense of US$136.9 million in 2021 compared to a net financial expense of US$278.2 million in 2020. This decrease was mainly due to lower losses in foreign exchange variation, which are related to the outstanding intercompany debt, which was impacted by the continuous depreciation of the BRL during 2021 and 2020 and fair value of debts during the year.

Net foreign exchange (losses) reflects the accounting effect of the appreciation (depreciation) of the *real* against the U.S. dollar on certain U.S. dollar-denominated loans made by Nexa Resources to Nexa Brazil (which uses the *real* as its functional currency). During 2021, the 4.6% average depreciation of the *real* against the U.S. Dollar resulted in a foreign exchange loss.

Excluding the effect of foreign exchange variation and other financial items, the net financial expense in 2021 decreased 12.0% to US$130.8 million compared to US$148.6 million in 2020, which was affected by the premium paid on bonds repurchase.

In 2021, our financial income increased by 2.7%, or US$0.3 million, to US$11.5 million. The increase in 2021 was mainly due to higher interest on tax credits.

In 2021, our financial expenses decreased by 10.9%, or US$17.5 million, to US$142.3 million. The decrease was due to the premium of US$14.5 million paid on bonds repurchase in 2020 that didn't occur in 2021.

Income (loss) before income tax

As a result of the factors described above, our income before income tax was US$309.3 million in 2021, as compared to loss before income tax of US$676.7 million in 2020.

Income tax

In 2021, we recorded a net income tax expense of US$153.2 million.

In 2021, our current income tax expense increased by 93.2%, or US$58.9 million, to US$122.1 million, mainly due to better operational results in 2021 compared to 2020, which was positively affected by a deferred income tax benefit mainly due to impairment loss recognition during the year.

The difference between the nominal and effective tax rates in 2021 and 2020 are primarily a result of differences in tax rates from subsidiaries outside Luxembourg, the impairment recognized in our operations in 2020, the tax effect of the translation of non-monetary assets of the tax base of Nexa's Peruvian entities and the temporary special mining levy in Peru. In 2021, we recorded a deferred tax expense of US$31.1 million, mainly as a result of better operational results and the difference in tax rate of subsidiaries outside Luxembourg, partially offset by the deferred income of ICMS tax incentives.

Net income (loss) for the year

As a result of the foregoing, we had a net income of US$156.1 million in 2021 as compared to net loss of US$652.5 million in 2020.

Results by segment

The following table sets forth our summarized results of operations by segment for the periods indicated.

	For the Year Ended December 31,		Variation	Variation
	2021	2020	2021/ 2020	2021/ 2020
Consolidated Income Statement Information:	(in millions of US$)			(percentage)
Net revenues:				
Mining	1,165.6	748.5	417.1	55.7%
Smelting	2,028.8	1,550.3	478.5	30.9%
Intersegments Sales	(636.2)	(375.4)	(260.8)	69.5%
Adjustments (1)	63.9	27.5	36.4	132.0%
Total	**2,622.1**	**1,950.9**	**671.2**	**34.4%**
Cost of sales:				
Mining	(719.4)	(625.4)	(93.9)	15.0%
Smelting	(1,796.1)	(1,287.9)	(508.2)	39.5%
Intersegments Sales	636.2	375.4	260.8	69.5%
Adjustments (1)	(86.8)	(26.0)	(60.8)	233.5%
Total	**(1,966.0)**	**(1,563.9)**	**(402.1)**	**25.7%**
Gross profit:				
Mining	446.2	123.0	323.2	262.6%
Smelting	232.7	262.4	(29.7)	(11.3%)
Adjustments (1)	(22.9)	1.5	(24.4)	1,601.8%
Total	**656.1**	**387.0**	**269.1**	**69.5%**

(1) See Note 2 to our consolidated financial statements.

Mining

Net revenues

In 2021, our net revenues in the mining segment increased by 55.7%, or US$417.1 million. This increase was primarily due to higher average LME prices for zinc, copper, lead and silver, and lower benchmark TCs.

Our production of zinc contained in concentrates increased by 2.2% to 319.9 thousand tonnes in 2021, primarily due to an increase of 14% in treated ore volume compared to last year, which compensated for lower zinc grades (down 30bps to 2.98%).

In 2021, our volumes of copper in concentrates increased by 5.2% to 29.6 thousand tonnes of metal contained in concentrates, primarily due to an increase in production in 2021 compared to 2020 as a result of COVID-19. Our volumes of lead contained in concentrates followed the same trend and increased by 19.9% to 45.6 thousand tonnes of metal contained in concentrates in 2021 compared to 2020.

In 2021, there was no external sales volumes of zinc contained in concentrates.

Cost of sales

In 2021, our cost of sales in our mining segment increased by 15.0%, or US$93.9 million, mainly explained by the increase in operating costs driven by higher volumes, mine development, rehabilitation costs and maintenance activities, as well as the ongoing COVID-19 related costs.

Smelting

Net revenues

In 2021, our net revenues in the smelting segment increased 30.9%, or US$478.5 million, mainly due to higher LME prices and the increase in sales volume.

Our total metal sales were 618.8 thousand tonnes in 2021, up 5.7%, or 33.5 thousand tonnes compared to 2020. In 2021, our sales volume of zinc metal of 577.9 thousand tonnes increased 27.2 thousand tonnes versus 2020, driven mainly by higher demand at our homemarkets (Latin America excluding Mexico). In 2021, our sales volumes of zinc oxide increased by 18.1%, or 6.2 thousand tonnes, to 40.9 thousand tonnes.

Cost of sales

In 2021, our cost of sales in our smelting segment increased by 39.5%, or US$508.2 million, primarily due to (i) the increase in metal prices impacting the zinc concentrate purchase price; (ii) lower treatment costs paid to our smelters; and (iii) higher operating expenses, such as logistics, maintenance and personnel costs, as well as the ongoing COVID-19 related costs.

Non-IFRS measures and reconciliation

Our management uses non-IFRS measures such as Adjusted EBITDA, net debt and adjusted working capital, among other measures, for internal planning and performance measurement purposes. We believe these measures provide useful information about the financial performance of our operations that facilitates period-to-period comparisons on a consistent basis. Management uses Adjusted EBITDA internally to evaluate our underlying operating performance for the reporting periods presented and to assist with the planning and forecasting of future operating results. Management believes that Adjusted EBITDA is a useful measure of our performance because it reflects our cash generation potential from our operational activities excluding impairment of non-current assets and other miscellaneous adjustments, if any, for the period. These measures should not be considered individually or as a substitute for net income or operating income, as indicators of operating performance, or as alternatives to cash flow as measures of liquidity. Additionally, our calculation of Adjusted EBITDA and other non-IFRS measures may be different from the calculation used by other companies, including our competitors in the mining industry, so our measures may not be comparable to those of other companies.

In this report, we present Adjusted EBITDA, which we define as net income (loss) for the year, adjusted by (i) share in the results of associates, (ii) depreciation and amortization, (iii) net financial results, (iv) income tax, (v) (loss) gain on sale of investments, and (vi) impairment and impairment reversals. In addition, management may adjust the effect of certain types of transactions that in management's judgment are not indicative of our normal operating activities or do not necessarily occur on a regular basis.

A reconciliation of Adjusted EBITDA to our net income for the years indicated is presented below.

	For the Year Ended December 31,	
	2021	**2020**
	(in millions of US$)	
Reconciliation of Adjusted EBITDA:		
Net income (loss) for the year	156.1	(652.5)
(+) Depreciation and amortization	258.7	243.9
(-/+) Net financial results	136.9	278.2
(-/+) Income tax	153.2	(24.1)
(-/+) Impairment of non-current assets	—	557.5
(-/+) Gain on sale of investments and other miscellaneous adjustments	(0.7)	—
Adjusted EBITDA	**704.2**	**402.9**

We define Adjusted EBITDA by segment as net income (loss) for the year, adjusted by (i) depreciation and amortization, (ii) net financial results, (iii) income tax, (iv) gain on sale of investments, and (v) impairment and impairment reversals. See Note 2 to our consolidated financial statements.

A breakdown of the Adjusted EBITDA by segment is presented below.

	For the Year Ended December 31,	
	2021	**2020**
	(in millions of US$)	
Breakdown of Adjusted EBITDA by segment:		
Mining	440.6	140.5
Smelting	267.6	269.2
Other [1]	(4.0)	(6.7)
Adjusted EBITDA	**704.2**	**402.9**

[1] Represents the residual component of Adjusted EBITDA either not pertaining to the mining or smelting segments, or, represents items that, because of their nature, are not being allocated to a specific segment.

We also present herein our net debt, which we define as (i) loans and financing and lease liabilities *less* (ii) cash and cash equivalents, *less* (iii) financial investments, *plus*/*less* (iv) the fair value of derivative financial liabilities or assets, respectively. Our management believes that net debt is an important figure because it indicates our ability to repay outstanding debts that become due simultaneously using available cash and highly liquid assets.

A reconciliation of net debt to loans and financing as of December 31, 2021 and 2020 is presented below.

	As of December 31,	
	2021	**2020**
	(in millions of US$)	
Calculation of Net Debt:		
Loans and financing	1,699.3	2,024.3
Derivative financial instruments	6.5	(5.1)
Lease liabilities	19.6	25.7
Cash and cash equivalents	(743.8)	(1,086.2)
Financial investments	(19.2)	(35.0)
Net Debt	**962.5**	**923.7**

We define net debt to Adjusted EBITDA ratio as net debt divided by Adjusted EBITDA.

The calculation of our net debt to Adjusted EBITDA ratio for the periods indicated is presented below.

	As of and For the Year Ended December 31,	
	2021	**2020**
	(in millions of US$)	
Calculation of Net Debt to Adjusted EBITDA Ratio:		
Net debt (period end)	962.5	923.7
Adjusted EBITDA	704.2	402.9
Net Debt to Adjusted EBITDA Ratio	**1.37**	**2.29**

We define Adjusted EBITDA margin as Adjusted EBITDA divided by net revenues. The calculation of our Adjusted EBITDA margin for the periods indicated is presented below.

	For the Year Ended December 31,	
	2021	**2020**
	(in millions of US$)	
Calculation of Adjusted EBITDA Margin:		
Adjusted EBITDA	704.2	402.9
Net revenue	2,622.1	1,950.9
Adjusted EBITDA Margin	**26.9%**	**20.7%**

We calculate adjusted working capital as (i) trade accounts receivable, *plus* (ii) inventory, *plus* (iii) other assets, *less* (iv) trade payables, *less* (v) confirming payable, *less* (vi) salaries and payroll charges, *less* (vii) other liabilities. Our management believes that adjusted working capital is an important figure because it provides a relevant metric for the efficiency and liquidity of our operating activities.

The calculation of our adjusted working capital derived from our consolidated financial statements as of December 31, 2021 and 2020 is presented below.

	As of December 31,	
	2021	**2020**
	(in millions of US$)	
Calculation of Adjusted Working Capital:		
Trade accounts receivable	231.2	229.0
Inventory	372.5	256.5
Other assets	179.7	184.3
Trade payables	(411.8)	(370.1)
Confirming payable	(232.9)	(145.3)
Other liabilities	(64.7)	(55.0)
Adjusted working capital	**74.0**	**99.4**

Cash cost, net of by-product credits and related measures

In this report, we also present measures of costs that are widely used by peer companies operating in the mining and smelting industries. These performance measures are not IFRS measures, and they do not have a standard meaning and therefore may not be comparable to similar data presented by other mining and smelting companies. They should not be considered as a substitute for costs of sales, costs of selling and administrative expenses, or as an indicator of costs. Similar measures are also calculated by Wood Mackenzie for many market participants, but Wood Mackenzie's methodology differs from the methodology we use below.

Our management uses cash cost, net of by-product credits and related measures, among other measures, for internal planning and performance measurement purposes. We believe these measures provide useful information about the operational performance of our operations that facilitates period-to-period comparisons on a consistent basis.

In calculating cash cost, net of by-product credits, we account for transactions between our mining operations and our smelting operations using the same methodology we use to evaluate the performance of our mining and smelting segments. See Note 2 to our consolidated financial statements. We prepare an internal calculation based on transfer pricing adjustments made on an arm's length principal basis. All information disclosed for cash cost, net of by-product credits is consistent with this methodology.

Mining operations

Cash cost, net of by-product credits: For our mining operations, cash cost, net of by-product credits includes all direct costs associated with mining, concentrating, leaching, solvent extraction, on-site administration and general expenses, any off-site services essential to the operation, concentrate freight costs, marketing costs and property and severance taxes paid to state or federal agencies that are not profit-related. Treatment and refining charges on metal sales, which are typically recognized as a deduction component of sales revenues, are added to cash cost. Cash cost is calculated on a contained zinc sold basis, which indicates the percentage of zinc in metal sold, after the deduction of by-product credits attributable to mining operations, such as copper, silver, gold, and lead, which are deducted from total cash cost.

Sustaining cash cost, net of by-product credits: Sustaining cash cost, net of by-product credits is defined as the cash cost, net of by-product credits *plus* non-expansion capital expenditure, including sustaining health, safety and environment, modernization and other non-expansion-related capital expenditures.

All in sustaining cost, net of byproduct credits: All in sustaining cost ("AISC") is defined as sustaining cash cost, net of byproduct credits *plus* corporate general and administrative expenses, royalties and workers' participation.

Our cash cost and AISC net of by-products credits are measured with respect to zinc sold.

For mining operations, we present below cash cost, net of by-product credits, sustaining cash cost, net of by-product credits and all-in sustaining cost and a reconciliation to our consolidated financial statements.

For the year ended December 31, 2021

	Vazante	Morro Agudo	Cerro Lindo	El Porvenir	Atacocha	Consolidation of Operations	Corporate and Others (1)	Mining
	Operations (in millions of US$, unless otherwise indicated)							
Sales Volume (Zinc Contained in Concentrate)								
Tonnes	140,500	17,278	103,848	51,382	7,747	320,756	0	320,756
Cost of goods sold	89.5	46.7	377.1	148.4	50.7	712.5	6.8	719.4
On-site G&A	6.9	3.6	0.0	0.0	0.0	10.5	0.0	10.5
By-product credits	(13.0)	(17,6)	(358.2)	(105.0)	(49.9)	(543.6)	(0.0)	(543.7)
Treatment and refining charges	70.9	6.6	55.1	27.2	4.2	164.0	0.0	164.0
Selling expenses	0.3	1.7	1.9	0.3	0.0	4.2	0.0	4.2
Depreciation and amortization	(20.1)	(5.5)	(112.6)	(25.9)	(11.2)	(175.4)	0.5	(174.9)
Royalties	(1.6)	(1.0)	0.0	0.0	0.0	(2.6)	0.0	(2.6)
Workers' participation & bonus	(1.6)	(0.9)	(18.4)	(3.8)	(0.2)	(25.0)	0.0	(25.0)
Others	(5.9)	(1.6)	0.5	3.8	3.1	(0.1)	0.0	(0.1)
Cash cost net of by-product credits (sold)	**125.5**	**31.8**	**(54.5)**	**45.0**	**(3.3)**	**144.4**	**7.4**	**151.8**
Cash cost net of by-product credits (sold) (US$/tonne)	893.1	1,841.2	(525.0)	875.1	(428.6)	450.2	0.0	473.2
Non-expansion capital expenditure	42.0	7.6	40.56	36.5	11.6	138.23	23.87	162.0
Sustaining cash cost net of by-product credits	167.4	39.4	(14.0)	81.5	8.2	282.6	31.1	313.7
Sustaining cash cost net of by-product credits (sold) (per tonne)	**1,191.7**	**2,279.6**	**(134.5)**	**1,586.2**	**1,064.4**	**881.0**	**0.0**	**978.1**
Workers' participation & bonus	1.6	0.9	18.4	3.8	0.2	25.0	—	25.0
Royalties	1.6	1.0	0.0	2.3	0.7	5.5	—	5.5
Corporate G&A	—	—	—	—	—	—	50.7	50.7
AISC net of by-product credits (sold)	—	—	—	—	—	—	—	394.9
AISC net of by-product credits (sold) (per tonne)	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**1,231.2**

For the year ended December 31, 2020

	Vazante	Morro Agudo	Cerro Lindo	El Porvenir	Atacocha	Consolidation of Operations	Corporate and Others (1)	Mining
	Operations (in millions of US$, unless otherwise indicated)							
Sales Volume (Zinc Contained in Concentrate)								
Tonnes	147,990	25,177	96,198	35,734	10,389	315,488	0	315,488
Cost of goods sold	80.2	50.2	311.1	135.9	58.7	636.2	(10.8)	625.4
On-site G&A	5.0	4.2	0	0	0	9.2	0	9.2
By-product credits	(9.5)	(15.0)	(246.5)	(67.4)	(42.6)	(381.0)	15.9	(365.1)
Treatment and refining charges	122.1	15.6	56.0	25.4	7.0	226.2	0	226.2
Selling expenses	0.7	1.9	3.0	0.4	0.3	6.3	0	6.3
Depreciation and amortization	(15.8)	(10.0)	(94.6)	(27.8)	(10.5)	(158.7)	(1.3)	(160.0)
Royalties	(2.0)	(1.6)	0	(0.7)	(0.3)	(4.6)	0	(4.6)
Workers' participation & bonus	(1.3)	(0.8)	(6.0)	(0.7)	(0.5)	(9.3)	0	(9.3)
Others	(4.7)	(1.2)	(23.9)	(17.2)	(11.9)	(58.9)	0	(58.9)
Cash cost net of by-product credits (sold)	174.7	43.5	(0.8)	47.8	0.2	265.4	3.8	269.2
Cash cost net of by-product credits (sold) (US$/tonne)	1,180.6	1,726.9	(8.7)	1,338.0	17.8	841.1	0	853.2
Non-expansion capital expenditure	24.6	7.4	27.7	12.9	15.3	87.9	(10.9)	77.1
Sustaining cash cost net of by-product credits	199.4	50.9	26.8	60.8	15.5	353.3	(7.0)	346.2
Sustaining cash cost net of by-product credits (sold) (per tonne)	**1,347.1**	**2,020.2**	**279.0**	**1,700.3**	**1,487.9**	**1,119.8**	**0**	**1,097.5**
Workers' participation & bonus	1.3	0.8	6.0	0.7	0.5	9.3	0	9.3
Royalties	2.0	1.6	0	1.2	0.4	5.1	0	5.1
Corporate G&A	—	—	—	—	—	—	52.4	52.4
AISC net of by-product credits (sold)	—	—	—	—	—	—	—	413.1
AISC net of by-product credits (sold) (per tonne)	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**1,309.5**

Smelting operations

Cash cost, net of by-product credits: For our smelting operations, cash cost, net of by-product credits includes all the costs of smelting, including costs associated with labor, net energy, maintenance, materials, consumables and other on-site costs, as well as raw material costs. Cash cost is calculated on a contained zinc sold basis after the deduction of by-product credits attributable to smelting operations.

Sustaining cash cost, net of byproduct credits: Sustaining cash cost, net of byproduct credits is defined as the cash cost, after byproduct credits *plus* non -expansion capital expenditure, including sustaining health, safety and environment, modernization and other non-expansion-related capital expenditures.

All in sustaining cost, net of byproduct credits: All in sustaining cost is defined as sustaining cash cost, net of byproduct credits *plus* general and administrative expenses and workers' participation.

Our cash cost and AISC net of by-products credits are measured with respect to contained zinc sold, not considering resale operations of zinc from third parties. For our smelting operations, we present below cash cost, net of byproduct credits, sustaining cash cost, net of byproduct credits and all in sustaining cost and a reconciliation to our consolidated financial statements.

For the year ended December 31, 2021

	Três Marias	**Juiz de Fora**	**Cajamarquilla**	**Consolidation of Operations**	**Corporate and Others [1]**	**Smelting**
	Operations (in millions of US$, unless otherwise indicated)					
Sales Volume (Zinc Contained in Products)						
Tonnes	188,216	80,008	324,973	593,197	0.0	593,197
Cost of goods sold	519.6	224.9	1,003.8	1,748.3	(2.7)	1,745.6
Cost of services rendered	(21.2)	(2.8)	(36.3)	(60.2)	0.0	(60.2)
On-site G&A	5.4	4.4	20.1	29.9	0.0	29.9
Depreciation and amortization	(13.1)	(11.7)	(54.1)	(78.9)	0.0	(78.9)
By-product credits	(11.9)	(23.0)	(91.1)	(126.0)	3.9	(122.1)
Workers' participation & Bonus	(1.3)	(1.2)	(10.3)	(12.8)	0.0	(12.8)
Others	(17.8)	(9.2)	0.0	(26.9)	0.0	(26.9)
Cash cost, net of by-product credits (sold)	459.8	181.5	832.1	1,473.4	1.2	1,474.6
Cash cost, net of by-product credits (sold) (per tonne)	**2,442.7**	**2,269.1**	**2,560.4**	**2,483.8**	—	**2,485.8**
Non-expansion capital expenditure	17.7	19.0	39.3	76.0	(1.2)	74.8
Sustaining cash cost, net of by-product credits	477.4	200.6	871.4	1,549.4	(0.1)	1,549.4
Sustaining cash cost net of by-product credits (sold) (per tonne)	**2,536.6**	**2,507.1**	**2,681.5**	**2,612.0**	—	**2,611.9**
Workers' participation	1.3	1.2	10.3	12.8	0.0	12.8
Corporate G&A	0.0	0.0	0.0	0.0	28.1	28.1
AISC net of by-product credits (sold)	0.0	0.0	0.0	0.0	0.0	1,590.3
AISC net of by-product credits (sold) (per tonne)	—	—	—	—	—	**2,680.9**

For the year ended December 31, 2020

	Três Marias	Juiz de Fora	Cajamarquilla	Consolidation of Operations	Corporate and Others (1)	Smelting
	Operations (in millions of US$, unless otherwise indicated)					
Sales Volume (Zinc Contained in Products)						
Tonnes	196,327	77,965	302,495	576,788	0	576,788
Cost of goods sold	363.9	187.3	739.8	1,291.0	(3.2)	1,287.9
Cost of services rendered	(10.1)	(2.8)	(34.9)	(47.8)	0	(47.8)
On-site G&A	4.8	4.0	18.5	27.4	0	27.4
Depreciation and amortization	(14.5)	(11.7)	(56.4)	(82.7)	0	(82.7)
By-product credits	(14.6)	(18.0)	(83.9)	(116.5)	2.4	(114.1)
Workers' participation & Bonus	(1.2)	(1.0)	(7.6)	(9.7)	0	(9.7)
Others	(12.1)	(8.5)	(8.0)	(28.6)	0	(28.6)
Cash cost, net of by-product credits (sold)	316.2	149.3	567.6	1,033.1	(0.8)	1,032.3
Cash cost, net of by-product credits (sold) (per tonne)	**1,610.4**	**1,915.4**	**1,876.4**	**1,791.1**	**0**	**1,789.8**
Non-expansion capital expenditure	18.1	9.8	15.6	43.5	(5.8)	37.7
Sustaining cash cost, net of by-product credits	334.3	159.1	583.2	1,076.6	(6.6)	1,070.0
Sustaining cash cost net of by-product credits (sold) (per tonne)	**1,702.6**	**2,041.0**	**1,927.9**	**1,866.5**	**0**	**1,855.1**
Workers' participation	1.2	1.0	7.6	9.7	0	9.7
Corporate G&A	0	0	0	0	32.8	32.8
AISC net of by-product credits (sold)	0	0	0	0	0	1,112.5
AISC net of by-product credits (sold) (per tonne)	**0**	**0**	**0**	**0**	**0**	**1,928.7**

LIQUIDITY AND CAPITAL RESOURCES

Overview

In the ordinary course of business, our principal funding requirements are for working capital, capital expenditures relating to maintenance and expansion investments, servicing our indebtedness and distributions to our shareholders. We typically meet these requirements through operational cash flows, long-term borrowings from private banks, the Brazilian Economic and Social Development Bank (*Banco Nacional de Desenvolvimento Econômico e Social*, or "BNDES"), international export credit agencies, and the issuance of debt securities in the international capital markets.

In 2021, since the price of metals remained at high levels, consequently increasing Nexa's EBITDA, we implemented a liability management transaction by prepaying outstanding bank loans of approximately US$330 million. The prepaid amount consisted of several Brazilian NCEs (Export Credit Notes), an Export Pre-payment, an Export Credit Agency facility agreement, and a bilateral loan in Peru. Our financing strategy is to fund our necessary capital expenditures and to preserve our liquidity while meeting our debt payment obligations. We believe that our cash and cash equivalents on hand, cash from operations and available borrowings will be adequate to meet our capital expenditure requirements and liquidity needs for our current responsibilities. We may require additional capital to meet our longer-term liquidity and future growth requirements. Although we believe that our sources of liquidity are adequate, weaker economic conditions in Brazil, Peru or globally could materially adversely affect our business and liquidity.

Sources of funds

Our principal sources of funds are cash flows from operations and borrowings. The availability of cash flows from operations is affected by our working capital requirements, share premium reimbursements, dividends and investment activities, as well as a need to service our indebtedness. In 2021, our operating activities generated cash flows of US$493.0 million, compared to US$291.7 million in 2020, an increase of 69.0% primarily due to better operating results. In addition, throughout 2021 we disbursed US$136 million of the BNDES facility agreement to partially finance the Aripuanã Project.

Uses of funds

In the ordinary course of business, our principal funding requirements are related to capital expenditures, dividend payments and debt service. In 2021, we also raised capital to partially finance the Aripuanã project in Brazil, through the full drawdown of the BNDES loan agreement.

Capital expenditures

Our capital expenditures in 2021 before tax credits amounted to US$507.9 million. Of this amount, 53.4% was allocated to expansion projects mainly driven by Aripuanã's project (US$257.6 million) and Vazante's mine deepening (US$3.4 million).

Non-expansion projects, which include sustaining and HSE, among others, accounted for 45.9% of the total capital expenditures (or US$233.1 million) in 2021. The main investments were related to sustaining capital expenditures.

For 2022, we have budgeted US$385 million to invest in our operations and projects that are currently underway. Our main projects include US$75 million directed towards expansion projects—of which US$59 million is allocated mainly to the final implementation of the Aripuanã project, US$6.2 million to Magistral's FEL3 studies, US$5.8 million for the acquisition of lands in Aripuanã and US$2.0 million to the Vazante mine deepening project—and US$310 million towards non-expansion projects, which includes sustaining and HSE.

Expenses related to exploration and project evaluation

In 2021, exploration expenses were US$57.8 million, mainly driven by higher costs and the resumption of our greenfield and brownfield exploration programs, and also mine development. In mineral exploration, we continue our efforts to replace and increase mineral reserves and resources.

Project evaluation investment amounted to US$18.9 million in 2021, including approximately US$1.5 million directed towards greenfield projects in FEL1 and FEL2 stages and US$4.7 million to brownfield projects in the same stages.

We expect to continue to advance with our exploration and drilling campaigns and develop our pipeline of projects. In 2022, we estimate to spend US$82 million on expenses relating primarily to mineral exploration (US$64 million), which includes mineral rights and mine development, and project evaluation (US$18 million) activities.

Distributions and repurchases

On March 26, 2021, we paid a cash dividend of approximately US$35 million (US$0.26 per share) to our shareholders. Additionally, our subsidiary Pollarix declared dividends in the amount of US$23.7 million to the non-controlling interests owned by Votorantim Geração de Energia S.A. ("VGE") which is a related party.

On February 15, 2022, Nexa's Board approved a distribution to Nexa's shareholders of US$50 million, US$44 million (US$0.33 per share) as dividend and US$6 million (US$0.05 per share) as share premium to be paid on March 25, 2022

Debt

As of December 31, 2021, our total outstanding consolidated indebtedness (current and non-current loans and financings, including accrued interest as of December 31, 2021) is US$1,699.3 million, consisting of US$46.7 million of short-term indebtedness, including the current portion of long-term indebtedness (or 2.7% of the total indebtedness), and US$1,652.6 million of long-term indebtedness (or 97.3% of the total indebtedness).

Our U.S. dollar denominated indebtedness as of December 31, 2021 was US$1,427.0 million (or 84.0% of our total indebtedness), our Brazilian *real*-denominated indebtedness was US$270.6 million (or 15.9% of our total indebtedness) and our Peruvian *sol*-denominated indebtedness was US$1.8 million (or 0.1% of our total indebtedness).

As of December 31, 2021, US$359.1 million, or 21.1% of our total consolidated indebtedness, bears interest at floating rates, including US$270.4 million of *real*-denominated indebtedness that bear interest at rates based on the CDI rate, SELIC rate or *Taxa de Juros de Longo Prazo* ("TJLP") and *Taxa de Longo Prazo* ("TLP") rates (the long-term interest rates set by the Brazilian National Monetary Council and the basic costs of financing of the BNDES), and US$88.7 million of foreign currency-denominated indebtedness that bear interest at rates based on LIBOR.

We continue to discuss with financial entities which fallback rate will replace the interest rate for our relevant LIBOR-based debt. Given the extension of most U.S. Dollar LIBOR tenors until June 30, 2023, we do not expect any relevant impacts on our business, financial position and results of operations in the current year.

The following table sets forth selected information with respect to our total outstanding consolidated indebtedness as of December 31, 2021.

		As of December 31, 2021		
Indebtedness	**Average Annual Interest Rate**	**Current Portion [1]**	**Long-term Portion**	**Total**
			(in millions of US$)	
Eurobonds	Fixed + 5.73%	20.1	1,318. 3	1,338.3
BNDES	TJLP + 2.82% SELIC + 3.10% TLP – IPCA + 5.43%	18.7	197.1	215.8
Debentures	107.5% CDI	4.9	-	4.9
Export Credit Note	LIBOR + 1.54% 111.55% CDI	1.5	133.6	135.1
Other		1 .5	3.7	5.2
Total		**46.7**	**1,652.6**	**1.699.3**

[1] Includes principal and interest.

As of December 31, 2021, US$215.8 million remains outstanding under our loan agreements with BNDES, US$134.6 million regarding to the Nexa Dardanelos' facility agreement which are guaranteed by Nexa Brazil and Nexa Resources, and US$81.2 million regarding to Nexa Brazil's facility agreement which are guaranteed only by Nexa Resources.

Some of our debt instruments also contain other covenants that restrict, among other things, our ability and the ability of certain of our subsidiaries to incur liens and merge or consolidate with any other person or sell or otherwise dispose of all or substantially all its assets. These instruments also contained covenants requiring that we comply with certain financial ratios, including:

- a debt service coverage ratio of 1.0:1.0;
- a net debt to EBITDA ratio of 4.0:1.0; and
- a total debt to total capitalization ratio of 0.7:1.0.

As of December 31, 2021 we were in compliance with the above stated ratios.

Short-term indebtedness and revolving credit lines

Our consolidated short-term indebtedness, including the current portion of our long-term debt, was US$46.7 million, including principal and interest, as of December 31, 2021.

We maintain a US$300.0 million revolving credit facility with a syndicate of lenders that will mature on October 25, 2024. This facility is guaranteed by Nexa Brazil and Nexa CJM. If drawn, this facility will bear interest at three-month LIBOR plus 1.00% per annum. As of December 31, 2021, no amounts were drawn under this facility.

We believe that we will continue to be able to obtain sufficient credit to finance our working capital needs based on current market conditions and our liquidity position. See "Risk factors—Financial risk— Our business requires substantial capital expenditures and is subject to financing risks."

Long-term indebtedness

The following discussion briefly describes our principal financing agreements as of December 31, 2021. For additional information, see Note 24 to our consolidated financial statements.

Term Loan. On March 12, 2020, in order to reduce our cost of debt, enhance our short-term liquidity and manage our debt profile, we entered into a term loan with a global financial institution, in the principal amount of R$477.0 million (approximately US$100.0 million) at a cost of 8.5%, with a five-year maturity. Simultaneously, we contracted a swap to exchange the interest rate to 2.45% as well as the currency of debt service prepayments from Brazilian *real* to US dollar. The term loan is guaranteed by Nexa Resources.

Export Credit Notes. In March and April 2020, we entered into five Export Credit Note agreements in the total principal amount of R$1,477 million (approximately US$300 million) with maturity dates between one and five years and costs between 134.2% of CDI and CDI +1.8% up to CDI + 4.2%. In 2020, we prepaid the principal and accrued interest of two Export Credit Notes. As of December 31, 2021, our outstanding principal amount under the three remaining Export Credit Notes was US$135 million.

Export Prepayment Facilities. As of December 31, 2021, we have one export prepayment facility in an amount of US$96 million, which bears interest at a rate of six-month LIBOR plus 1.27%. The outstanding export prepayment facility is guaranteed by Nexa Brazil and Nexa CJM and is secured by liens on certain collection accounts associated with the facility.

Nexa Resources Bonds due 2028. On June 18, 2020, we issued an aggregate principal amount of US$500.0 million in bonds maturing in 2028 and bearing interest at 6.500% per year. The bonds are guaranteed by our subsidiaries Nexa Brazil, Nexa Peru and Nexa CJM. As of December 31, 2021, the outstanding amount under these bonds was US$508.8 million, which is related to a principal amount of US$500.0 million plus an accrual of US$14.7 million related to interest, net of borrowing costs of US$5.9 million.

Nexa Resources Bonds due 2027. On May 4, 2017, we issued an aggregate principal amount of US$700.0 million in bonds maturing in 2027 and bearing interest at 5.375% per year. These securities are guaranteed by our subsidiaries Nexa Brazil, Nexa Peru and Nexa CJM. As of December 31, 2021, the outstanding amount under these bonds was US$699.7 million, which is related to a principal amount of US$700.0 million plus an accrual of US$6.0 million related to interest, net of borrowing costs of US$6.3 million.

Nexa Peru Bonds due 2023. On March 28, 2013, we issued an aggregate principal amount of US$350.0 million in bonds maturing in 2023 and bearing interest at 4.625% per year. In 2020, we purchased an aggregate principal amount of US$214.5 million, or 62.55% of the outstanding principal amount, pursuant to a tender offer. As of December 31, 2021, the outstanding amount under these bonds was US$129.9 million, which is related to a principal amount of US$128.5 plus an accrual of US$1.5 million related to interest, net of borrowing costs of US$0.1 million.

On February 24, 2022, Nexa Resources Perú S.A.A. announced the early redemption and cancellation of all outstanding 4.625% bonds maturing in 2023. The bonds will be redeemed on March 28, 2022 at a price equal or the greater of (i) 100% of the outstanding principal amount, and (ii) the sum of the present values of the remaining scheduled payments of principal and interest on the bonds to be redeemed discounted to the redemption date on a semiannual basis at the applicable Treasury Rate plus 45 basis points, in each case plus accrued and unpaid interest and additional amounts, if any, to but excluding the redemption date, in accordance with the provisions of the indenture governing the bonds.

BNDES and FINEP. BNDES has been an important source of debt financing for our capital expenditures in Brazil. We, through our Brazilian subsidiaries, have entered into several loan agreements with BNDES for the expansion and modernization of certain fixed assets, studies and engineering projects, environmental investments and the acquisition of machinery and equipment. As of December 31, 2021, our aggregate outstanding principal amount under BNDES loan agreements was US$215.8 million. For further details on our long-term financings with BNDES, please see the table below.

On October 26, 2020, we disbursed the first tranche of the Credit Facility Agreement related to the Aripuanã Project signed with BNDES in the amount of approximately R$225 million or US$39.9 million at a cost of TLP plus 3.39%, with maturity in 2040. On December 28, 2020 we disbursed the second tranche of this facility in the amount of approximately R$250 million or US$47.7 million at a cost of TLP plus 3.39%, with maturity in 2040.

In December 2014, Nexa Brazil entered into a loan agreement with the Brazilian Financing Agency for Studies and Projects (*Financiadora de Estudos e Projetos* or "FINEP"), to finance the research and development of various projects. As of December 31, 2021, our outstanding principal amount under this loan agreement was R$18.5 million (or US$3.3 million).

The following table sets forth selected information with respect to Nexa Brazil's principal long term financings with BNDES and our outstanding amount under these financings as of December 31, 2021.

Indebtedness	Borrower	Guarantor	Interest Rate	Principal Payment Dates	Maturity Date	Principal Amount Outstanding As of December 31, 2021
						(in millions of US$)
R$1,000.0 million BNDES Revolving Credit Agreement	Nexa Brazil	Nexa Resources	TLP plus 2.09% per annum	120 monthly installments commencing on January 15, 2019	December 15, 2028	12.3
Total						12.3
R$1,200.0 million BNDES Revolving Credit Agreement [1]	Nexa Brazil	Nexa Resources	SELIC plus 3.10% per annum	60 monthly installments commencing on October 15, 2021	September 15, 2026	29.7
	Nexa Brazil	Nexa Resources	TJLP plus 2.82% per annum	60 monthly installments commencing on September 15, 2017	September 15, 2026	15.8
	Nexa Brazil	Nexa Resources	TLP plus 2.22% per annum	120 monthly installments commencing on January 15, 2019	December 15, 2028	23.5
Total						69.0
Credit Facility Agreement	Nexa Dardanelos	Nexa Brazil and Nexa Resources	TLP plus 3.39% per annum	210 monthly installments commencing on March 15, 2023	August 15, 2040	134.6
Total						134.6
Total BNDES Long-Term Indebtedness						**215.8**

[1] Consists of three tranches.

Cash flows

The table below sets forth our cash flows from operating activities, investing activities and financing activities for the years ended December 31, 2021 and 2020.

	For the Year Ended December 31,	
	2021	2020
	(in millions of US$)	
Consolidated Statement of Cash Flows Information		
Net cash flows provided by (used in):		
Operating activities	493.0	291.7
Investing activities	(469.3)	(369.2)
Financing activities	(344.1)	451.6
Effects of exchange rates on cash and cash equivalents	(21.9)	(16.1)
Other high liquid short term investments	—	29.5
Increase (decrease) in cash and cash equivalents	**(342.3)**	**387.5**
Cash and cash equivalents at the beginning of the year	1,086.2	698.6
Cash and cash equivalents at the end of the year	743.8	1,086.2

In 2021, our net cash flow provided by operating activities was US$493.0 million, primarily due to the improvement of Company's year results, partially offset by higher interest paid on loans and financings.

In 2021, our net cash flow used in investing activities was US$469.3 million, mainly due to capital expenditures, which totaled US$485 million, including Aripuanã, partially offset by a positive variation in financial investments.

In 2021, our net cash flow used in financing activities was US$344.1 million, mainly impacted by payments and prepayment of loans and financings, the acquisition of the common shares of Tinka and dividends paid in the amount of US$52 million.

At December 31, 2021, our cash and cash equivalents were US$743.8 million, US$342.3 million lower compared to our cash and cash equivalents at December 31, 2020.

CRITICAL ACCOUNTING ESTIMATES

The following discussion and analysis of our financial position and results of operations is based on our consolidated financial statements. The preparation of our consolidated financial statements requires us to make estimates and judgments that affect the reported amount of assets and liabilities, revenues and expenses and related disclosure of contingent assets and liabilities at the date of our consolidated financial statements. In the preparation of our consolidated financial statements, we believe that certain estimates and assumptions and other factors were reasonable and relevant. These estimates and assumptions are periodically reviewed, and adjustments are made to our consolidated financial statements, when appropriate. Each of the corresponding notes to our consolidated financial statements provides a detailed discussion of our significant accounting policies, as well as critical accounting estimates.

Critical accounting policies reflect significant estimates or judgments about matters that are both inherently uncertain and material to our financial position or results of operations. Below is a description of our critical accounting policies that require significant estimates and judgments.

Impairment of goodwill

We annually test whether goodwill has suffered any impairment, in accordance with the accounting policy stated in Note 31 to our consolidated financial statements. We assess the recovery of the carrying amount of goodwill of each cash generating unit or group of cash generating units based on value in use or fair value less costs to sell, using a discounted cash flow model.

We also assess at each reporting date, whether there is an indication that goodwill may be impaired. If any indication exists, such as volume and price reductions or unusual events that can affect the business, we estimate the recoverable amount of the cash generating unit or group of cash generating units.

The process of estimating the value in use and the fair value less costs to sell involves assumptions, judgment and projections of future cash flows. Our assumptions and estimates of future cash flow used for impairment testing of goodwill are subject to risk and uncertainties, particularly for markets—such as metals— subject to higher volatilities, which are outside our control. The calculations used for the impairment testing are based on discounted cash flow models as of September 30, 2021, market assumptions, such as LME prices, market interest rates and other available data regarding global demand. The discount factor applied to the discounted cash flow model is our pre-tax weighted average cost of capital for the applicable region, adjusted for country-specific risk factors. These calculations use cash flow projections before taxes on income, based on financial and operational budgets for a five-year period. After the five-year period, the projections are extended to the end of the mine life for our mines and indefinitely for our smelters. We do not use growth rates in cash flow projections of the terminal value for our smelters.

Impairment analysis

When performing its annual impairment assessments and after analyzing all impairment indicators we haven’t identified no need to recognize any impairment in 2021.

Fair value of derivatives and other financial instruments

We determine the fair value of financial instruments not traded in an active market by using valuation techniques. We use judgment to select among a variety of methods and make assumptions that are mainly based on market conditions existing at the end of each reporting period.

The main financial instruments and the assumptions we make for their valuation are described below.

- We consider the nature, terms and maturity of cash and cash equivalents, financial investments, trade accounts receivable and other current assets. The carrying amount of these items are similar to their respective fair value.

- Financial liabilities are subject to typical market interest rates. The market value is based on the present value of expected future cash disbursement, at interest rates currently available for debt with similar maturities and terms. We also consider Nexa’s credit risk when assessing the fair value of financial liabilities.

- The fair value of derivative financial instruments that we use for hedging transactions is evaluated by calculating their present value through yield curves at the closing dates. The curves and prices used in the calculation for each group of instruments are developed based on data from the Brazilian Securities, Commodities and Futures Exchange, Central Bank of Brazil, LME and Bloomberg, interpolated between the available maturities.

- Swap contracts: The present value of both the assets and liabilities is calculated through the discount of forecasted cash flows by the interest rate of the currency in which the swap is denominated. The difference between the present value of the assets and the liabilities generates its fair value.

- Forward contracts: The present value is estimated by discounting the notional amount multiplied by the difference between the future price in the reference date and contracted price. The future price is calculated using the convenience yield of the underlying asset. It is common to use Asian non-deliverable forwards for hedging non-ferrous metals positions. Asian contracts are derivatives in which the underlying asset price is the average price of certain assets over a range of days.

- Option contracts: The present value is estimated based on pricing methodologies such as the Black Scholes model, with assumptions that include the underlying asset price, strike price, volatility, time to maturity and interest rate. The underlying asset price is the average price of the foreign exchange rate in the fixing month.

Asset retirement obligations

Provision for asset retirement obligations include costs to restoration and closure of the mining assets and is recognized due to the development or mineral production, based on the net present value of estimated closure costs. Management uses its judgment and previous experience to determine the potential scope of rehabilitation work required and the related costs associated with that work, which are recognized as a Property plant and equipment for asset retirement obligations relating to operating mining assets or as Other income and expenses, net for non-operating structures. Environmental obligations include costs related to rehabilitation of areas damaged by the Company in its extractive actions (for example - soil contamination, water contamination, among others) or penalties. Therefore, it becomes an event that creates obligations when these environmental damages are detected by the Company, when a new law requires that the existing damage be rectified or when the Company publicly accepts any responsibility for the rectification, creating a constructive obligation. The costs to remedy an eventual unexpected contamination, which give rise to a probable loss and can be reliably estimated, are recognized in Other income and expenses, net in income statement.

In addition, investments in infrastructure, machinery and equipment regarding operational improvements to avoid future environmental damage, are not provisioned, because it is expected that these assets will bring future economic benefits to the operating units, thus it is capitalized as Property, plant and equipment.

The cash flows are discounted to present value using a credit risk adjusted rate that reflects current market assessments of the time value of money and the specific risks for the asset to be restored. The interest rate charges relating to the liability are recognized as an accretion expense in net financial results. Differences in the settlement amount of the liability are recognized in the income statement.

In 2021, as part of its annual asset retirement and environmental obligations review, the Company increased its expected disbursements on decommissioning obligations in certain operations, in accordance with updates in their asset retirement or environmental obligations studies and update in the discount rates. As a result, Nexa recognized a non-cash net expense of US$6 million in “Other income and expenses” in 4Q21, totaling US$7 million in 2021, and increased its “Operational assets, property, plant and equipment” by US$6 million.

For further information, please refer to Note 26 to our consolidated financial statements included herein.

Tax, civil, labor and environmental provision

We are party to ongoing labor, civil, tax and environmental lawsuits, which are pending at different court levels. We establish provisions for potentially unfavorable outcomes of litigation in progress and update them based on management evaluation, with support from the positions of external legal counsel. For additional information, see Note 27 to our consolidated financial statements.

Income tax and other taxes

We are subject to income tax in all countries in which we operate. Significant judgment is required in determining the income tax provision. The ultimate tax determination is uncertain for many transactions and calculations. We also recognize liabilities for anticipated tax audit issues based on estimates of whether additional taxes will be due. Where the final tax outcome of these matters is different from the amounts that were initially recorded, such differences will impact the current and deferred tax assets and liabilities in the period in which such determination is made. For additional information, see Note 11 to our consolidated financial statements.

Determination of Mineral Reserves and Mineral Resources as basis to determine life of mine

Mineral reserves are deposits estimated to be economically feasible for extraction under economic conditions as of the applicable measurement date. The amortization method and rates applied to the rights to use natural resources reflect the pattern in which the benefits are expected to be used by us and based on the estimated life of mine. Any changes to the life of mine, including as a result of changes in estimates of mineral deposits and mining plans, may affect prospective amortization rates and carrying values of these assets. The process of estimation of mineral deposits is based on a technical evaluation, which includes accepted geological, geophysics, engineering, environmental, legal and economic estimates. These estimates, when evaluated in the aggregate, can have a relevant impact on the economic viability of the mineral deposits. We use various assumptions with respect to conditions, such as metal prices, inflation rates, exchange rates, technology improvements and production costs, among others. Estimates of mineral reserves and resources are reviewed periodically, and any changes are adjusted to reflect life of mine and, consequently, adjustments to amortization periods. Costs for the acquisition of rights to explore and costs to develop mineral properties incurred as of the start of the feasibility study phase known as front end loading ("FEL 3"), are capitalized. Since April 1, 2018, these costs are amortized using the units of production method over the estimated useful lives of the mines. The impacts of the change in the accounting estimation were not considered to be material, and the change was accounted for prospectively. Once the mine is operational, these costs are amortized and considered a production cost.

Recently issued accounting standards and interpretations not yet adopted

For a discussion of new standards, interpretations and amendments to IFRS, see Note 5 to our consolidated financial statements.

RISK MANAGEMENT

Risk management is considered one of the key points in our business strategy and contributes to value creation and increasing the level of confidence in Nexa by its main stakeholders, including shareholders, employees, customers, suppliers and the local communities.

As a result, we have adopted an Enterprise Risk Management ("ERM") Policy, that describes Nexa's Risk Management Model, and its activities are an integral part of the processes in our operational units, corporate departments and projects, and provides support for decision-making by our executive officers and board of directors.

The risk assessment cycle is performed annually focusing on our strategy, operational aspects and key projects. We seek to identify material risks, which are then assessed with consideration of the potential health, safety, environmental, social, reputational, legal and financial impacts. By embedding risk management into our work processes and critical business systems, we work to ensure we make decisions based on relevant inputs and valid data. The material risks identified during the risk management process are monitored and reported to the executive team, audit committee and board of directors. We use a governance, risk and compliance management platform, BWise, to manage and assess our risks, to monitor our action plans and to create related reports.

We consider market risk to be the potential loss arising from adverse changes in market rates and prices. We are exposed to several market risks arising from our normal business activities. These market risks, which are beyond our control, principally involve the possibility that changes in commodity prices, interest rates or exchange rates will adversely affect the value of our inventory, financial assets and liabilities or future cash flows and earnings. For information on our risk management policies, see Note 12 to our consolidated financial statements.

Financial risk

Our financial risk management policy seeks to preserve our liquidity and protect our cash flow and its operating components (revenues and costs), as well as financial components (financial assets and liabilities) against adverse credit and market events such as fluctuations in currency and interest rates.

A significant portion of the products we sell are commodities, with prices based on international indices and denominated in U.S. dollars. A portion of our costs, however, are denominated in *reais* and *soles*, and therefore leads to a mismatch of currencies between our revenues and costs. Additionally, our indebtedness is based on different indices and currencies, which may impact our cash flows.

Our current financial risk management policy includes:

- Foreign Exchange Exposure Management. Foreign exchange exposure is our exposure to fluctuations in the currencies that make up our commercial, operational and financial relations (the *real* and *sol*), and that may impact our U.S. dollar cash flow. All actions in the financial risk management process are intended to hedge our cash flow in U.S. dollars, to maintain our ability to pay our financial obligations and to comply with liquidity and indebtedness levels defined by our management team. Our foreign exchange hedge mechanisms are based on the foreign exchange exposure that is projected at least for 12 months after a reference date.

- Interest Rate Exposure Management. Exposure to the interest rate is our exposure to fluctuations in each of the indices of interest rates (mainly CDI, LIBOR and TJLP) from loans and financing transactions and financial investment that may impact our cash flow. Interest rate fluctuations would also result in gains or losses in the market value of our fixed rate debt portfolio due to differences in market interest rates and the rates at the execution of the debt agreements.

- Commodity Exposure Management. Exposure to commodity prices is our exposure to income and operating costs fluctuations due to changes in the reference prices for commodities (*e.g.*, zinc, copper, silver) based on demand, production capacity, producers' inventory levels and commercial strategies and the availability of substitutes in the global market. We calculate our exposure at least for 12 months after a reference date, considering any derivative financial instrument that has a certain commodity as the underlying asset.

- Counterparties' and Issuers' Risk Management. This policy establishes exposure limits for financial and non-financial institutions that are counterparties of financial transactions and/or issuers of debt securities. The purpose of our counterparties' and issuers' risk management is to mitigate the occurrence of negative impacts on our cash flows from the non-fulfillment of financial obligations by these issuers and counterparties. In the case of financial investments (cash allocation), we measure exposure to credit risk of issuers by the sum of gross balances of financial investments. In the case of derivative transactions, the credit risk exposure of a certain counterparty and transaction is measured by the pre-settlement risk using statistical models. Exposure limits are determined based on ratings assigned by rating agencies and the equity of the relevant financial institution.

- Liquidity and Financial Indebtedness Management. This policy establishes guidelines for managing our liquidity and financial indebtedness. The main instrument for measuring and monitoring liquidity is a cash flow projection, considering a minimum projection period of 12 months from the reference date. Liquidity and debt management considers as an objective the comparable metrics provided by global credit rating agencies for investment grade entities. With respect to indebtedness, metrics considered compatible with the relevant objective are considered.

All proposals must comply with the guidelines and rules set forth in our Financial Risk Management Policy and subsequently submitted for review by our finance committee and then for our board of directors' approval, under the governance structure set forth in our Financial Risk Management Policy.

Foreign exchange risk

We are subject to foreign exchange risks resulting from the fluctuation of the *real* and the *sol* against the U.S. dollar, our functional currency. All actions in the financial risk management process related to our foreign exchange exposure are intended to hedge our cash flow in U.S. dollars, to maintain our ability to pay our financial obligations and to comply with liquidity and indebtedness levels defined by our management. We are also exposed to financial risk associated with changes in foreign currency exchange rates as certain costs incurred are in currencies other than our functional currency.

Assuming an exchange rate appreciation (devaluation) of 10.0% of the U.S. dollar against the real as of December 31, 2021, we estimate that our EBITDA for the year would have increased (decreased) by US$40.5 million for 2021. This calculation assumes that each exchange rate would change in the same direction relative to the U.S. dollar. In addition to the direct effects of changes in exchange rates, changes in exchange rates may also affect the volume of sales as other market participants become more or less competitive. This sensitivity analysis does not factor in a potential change in sales levels or actions that management could take to manage the potential impact. Accordingly, the actual effect of exchange rate fluctuations will vary from period to period. However, assuming all other factors are held constant, we would expect future fluctuations like those analyzed above to have a similar potential impact on our results for future periods. See "Forward-looking statements."

Interest rate risk

A portion of our outstanding debt bears interest at variable rates and, accordingly, is sensitive to changes in interest rates. Based upon our indebtedness as of December 31, 2021, an increase/(decrease) in LIBOR of 25.0% would impact our net income (loss) before income tax for the year and cash flows by US$(0.05)/0.05 million. We calculate our exposure to fluctuations in interest rates at least for 12 months after a reference date, considering any derivative financial instrument that has certain index as the underlying asset. Based on these exposures, we prepare financial protection proposals, which are submitted for our finance committee's approval. The hedges of interest rates, in general, seek to exchange fixed interest rate to floating interest rate or vice versa.

Metal price sensitivity

We are subject to financial risks arising from the volatility of prices of zinc, copper, lead and silver, and to a lesser extent gold. Assuming that expected metal production and sales are achieved, that tax rates are unchanged, and giving no effect to potential hedging programs, metal price sensitivity factors would indicate the following change in our 2021 Adjusted EBITDA (as previously defined) attributable to us resulting from metal price changes.

	Zinc	Copper	Silver
Change in metal price (in percentage)	10.0%	10.0%	10.0%
Change in Adjusted EBITDA (in millions of US$)	117.5	29.3	20.7

Derivative instruments

To hedge against financial risk, we enter derivative transactions under our Financial Risk Management Policy. Those transactions are carried out in the over-the-counter market under master agreements such as International Swaps and Derivative Association and Brazilian *Contrato Geral de Derivativos* ("CGD") Agreements.

None of the derivative transactions we are party to as of December 31, 2021 have corporate guarantees or require margin calls or any kind of collateral. None of the derivatives we were party to as of December 31, 2021 was entered into for speculative or arbitrage purposes.

We have the following recurring hedge programs in place:

- Fixed price commercial transactions (customer hedge): Hedging transactions that convert sales at fixed prices to floating prices in commercial transactions with customers interested in purchasing products at fixed prices. The purpose of this strategy is to maintain the revenue flow of the business unit with prices linked to the LME prices. These operations usually relate to purchases of zinc for future settlement on the over-the-counter market.

- Hedges for mismatches of "quotation periods" (book hedge): Hedges that set prices for the different "quotation periods" between the purchases of certain inputs (metal concentrate) and the sale of products arising from the processing of these inputs, or different "quotation periods" between the purchase and the sale of the same product. These operations usually relate to purchases and sales of zinc and silver for future trading on the over-the-counter market.

- Hedges for "operating margin" (strategic hedge): Derivatives contracted to reduce the volatility of the cash flow from its zinc, copper and silver operations. With a view to ensuring a fixed operating margin in *reais* for a portion of the Brazilian production of metals, the mitigation of risks is carried out through the sale of zinc forward contracts with the sale of U.S. dollar forward contracts.

To execute our hedge programs, as well as any sporadic hedging demands, we and our subsidiaries mainly enter into average rate (Asian) forwards, collars and swaps and standard interest rate swaps. These are the types of derivatives applicable for the hedge of our exposures, according to our Financial Risk Management Policy.

We initially recognize derivative instruments at fair value on the date a derivative contract is entered into and subsequently re-measure at their fair value. The method of recognizing the resulting gain or loss depends on whether we designate the derivative as a hedging instrument, in the case of adoption of hedge accounting, and if so, the nature of the item being hedged. We adopt the hedge accounting procedure and designate certain derivatives as either:

- hedges of the fair value of recognized assets or liabilities or a firm commitment (fair value hedge); or

- hedges of a particular risk associated with a recognized asset or liability or a highly probable forecast transaction (cash flow hedge).

We document the relationship between hedging instruments and hedged items at the inception of the hedging transaction, as well as the risk management objective and strategy for the undertaking of the various hedge transactions. We also document our assessment, both at the inception of the hedge and on an ongoing basis, of whether the derivatives that are used in hedging transactions have been and will continue to be highly effective in offsetting changes in fair values or cash flows or fair values of hedged items.

III. SHARE OWNERSHIP AND TRADING

MAJOR SHAREHOLDERS

As of March 17, 2022, Nexa Resources has 132,438,611 common shares outstanding, with par value of US$1.00 per share. The table below sets forth the list of our shareholders and their participation in our capital stock.

Votorantim S.A. is Nexa Resources' controlling shareholder. VSA does not have any different voting rights, but as long as it holds a majority of our voting stock, it can influence or control matters requiring approval by our shareholders, including the appointment of directors. VSA acquired all its shares in Nexa Resources on February 26, 2014.

Shareholder	Number	Share Capital (%)
VSA	85,655,128	64.68%
Public	46,783,483	35.32%
Total	**132,438,611**	**100.00%**

VSA

As of March 17, 2022, Hejoassu Administração S.A., or Hejoassu, is the sole shareholder of VSA's capital stock, which consists of 18,278,788,894 common shares. Hejoassu is indirectly wholly owned by Ermírio Pereira de Moraes, Maria Helena Moraes Scripilliti, José Ermírio de Moraes Neto, José Roberto Ermírio de Moraes, Neide Helena de Moraes and the descendants of Antonio Ermírio de Moraes through controlled companies.

RELATED PARTY TRANSACTIONS

We enter into transactions with related parties, including VSA and companies that are owned or controlled, directly or indirectly, by VSA, in our ordinary course of business. These transactions are conducted on an arms' length basis and in accordance with applicable laws and our corporate governance policies. See "Risk factors—Risks relating to our corporate structure—VSA has substantial control over us, which could limit our shareholders' ability to influence the outcome of important corporate decisions." In accordance with article 441-7 of the Luxembourg law of August 10, 1915 concerning commercial companies, as amended ("1915 Law"), any member of our board of directors having a direct or indirect financial interest conflicting with that of Nexa Resources in a transaction put before the board for consideration must advise the board thereof and cause a record of such member's statement to be included in the minutes of the meeting. The director may not take part in these deliberations and at the next following general meeting of shareholders of Nexa Resources, before any other resolution is put to vote, a special report shall be made on any such conflicted transactions. This shall not apply where the decision of the board relates to ordinary business entered into under normal market conditions. A similar rule is stated in the article 441-12 of the Law 1915 and applies to the members of the management committee.

Nexa has controls in place in order to identify related parties on a quarterly basis and approve related party transactions in advance. Such controls include an analysis by the related party internal committee, and in certain circumstances, the audit committee, which is required for the execution of related party transactions.

The table below sets forth the balances of our principal related party transactions as of the dates and periods indicated. The entities disclosed are entities part of the Votorantim Group. The transactions relate to shared project costs such as environmental protection; administrative services provided by the Center of Excellence (*Centro de Excelência*); sales of limestones and cement purchases, mainly for the Aripuanã project; purchases of energy to be used in Nexa Brazil operation units and construction services for the Aripuanã project, among others.

	As of December 31, 2021
	(in millions of US$)
Related Party Transaction Balances	
Related Party Assets	
Current assets	
Trade Accounts Receivable	0.2
Companhia Brasileira de Alumínio	0.6
Votener - Votorantim Comercializadora de Energia Ltda	0.3
Votorantim Cimentos S.A.	0.0
Total	**1.1**
Trade payables	
Votorantim S.A.	1.1
Andrade Gutierrez Engenharia S.A.	1.9
Companhia Brasileira de Alumínio	0.3
Votorantim Cimentos S.A.	0.1
Votener - Votorantim Comercializadora de Energia Ltda	0.9
Votorantim International CSC S.A.C	0.3
Other	0.2
Total	**4.8**
Dividends payable	
Other.	11.4
Total	**11.4**
Related parties liabilities	
Other	0.4
Total	**0.4**

We summarize below some of our principal related party transactions.

	For the Year Ended December 31,
	2021
	(in millions of US$)
Related Party Transactions	
Sales	
Votorantim S.A.	0.0
Companhia Brasileira de Alumínio	9.0
Votener - Votorantim Comercializadora de Energia Ltda.	6.0
Votorantim Cimentos S.A.	0.0
Other	0.1
Total	**15.1**
Purchases	
Votorantim S.A.	3.7
Andrade Gutierrez Engenharia S.A.	41.5
Companhia Brasileira de Alumínio	3.7
Votener - Votorantim Comercializadora de Energia Ltda.	16.2
Votorantim Cimentos S.A.	0.7
Votorantim International CSC S.A.C	4.3
Other	1.1
Total	**71.2**

Andrade Gutierrez Engenharia S.A

As part of the execution of the Aripuanã project, in June 2019 we entered into a mining development services agreement with Andrade Gutierrez Engenharia S.A., in which one of our director's close family members may have significant influence at its holding level. As of December 2021, the updated amount of this contract is US$55.1 million.

Shared arrangements

We have entered into a number of shared services contracts with other entities in the Votorantim Group in an effort to achieve operational efficiencies. These include joint contracts for insurance coverage and information technology. Entities in the Votorantim Group with whom we maintain such contracts have access to a substantial level of information about us. In addition, VSA negotiates our insurance coverage at the level of the Votorantim group and we thus depend on choices made by VSA for selecting the service providers to be used for all insurances contracted by us, including coverage related to property, transport, liability, credit and engineering risk insurances. We retain the right of approval of contract renewal terms negotiated by VSA.

In addition, all executive officers participate in the *Fundação Senador José Ermírio de Moraes* ("FUNSEJEM") pension fund, a private, closed and not-for-profit pension fund responsible for the management of the pension plans for the employees of companies linked to the Votorantim Group.

See "Risk Factors—Risks relating to our corporate structure—VSA has substantial control over us, which could limit our shareholders' ability to influence the outcome of important corporate decisions."

DISTRIBUTIONS

Distributions to our shareholders are subject to the requirements of Luxembourg law and the approval of our board of directors or our shareholders, as applicable, and will depend on a number of factors, including, but not limited to, our cash balance, cash flow, earnings, capital investment plans, expected future cash flows from operations, our strategic plans and cash dividend distributions from our subsidiaries, as well as legal requirements and other factors we may deem relevant at the time. As of December 31, 2021, there are no contractual restrictions on our ability to make distributions to our shareholders. Subject to these considerations, we estimate to distribute each year amounts equal to at least 2.0% of our average market capitalization.

Each common share entitles the holder to participate equally in distributions, unless the right to distributions has been suspended in accordance with our articles of association or applicable law.

Distributions in our common shares may be made in the form of either dividends or reimbursements of share premium. Under Luxembourg law, dividends are determined by a simple majority vote at a general shareholders' meeting based on the recommendation of our board of directors. Furthermore, pursuant to our articles of association, the board of directors has the power to declare interim dividends and/or proceed with reimbursements of share premium in accordance with the 1915 Law.

We and our subsidiaries are subject to certain legal requirements that may affect our ability to pay dividends or other distributions. Distributions to shareholders (including in the form of dividends or reimbursement of share premium) may only be made from amounts available for distribution in accordance with Luxembourg law, determined based on our standalone statutory accounts prepared under Luxembourg GAAP. Under Luxembourg law, the amount of a distribution paid to shareholders (including in the form of dividends or reimbursement of share premium) may not exceed the amount of the profits at the end of the last financial year plus any profits carried forward and any amounts drawn from reserves that are available for that purpose, less any losses carried forward and sums to be placed in reserve in accordance with Luxembourg law or our articles of association. Furthermore, no distributions (including in the form of dividends or reimbursement of share premium) may be made if at the end of the last financial year the net assets as set out in the standalone statutory accounts prepared under Luxembourg GAAP are, or following such a distribution would become, less than the amount of the subscribed share capital plus the non-distributable reserves. Distributions in the form of dividends may only be made from net profits and profits carried forward, whereas distributions in the form of share premium reimbursements may only be made from available share premium.

Luxembourg law also requires at least 5.0% of our net profits per year to be allocated to the creation of a legal reserve until such reserve has reached an amount equal to 10.0% of our issued share capital. If the legal reserve subsequently falls below the 10.0% threshold, at least 5.0% of net profits again must be allocated toward the reserve. The legal reserve is not available for distribution. As of December 31, 2021, the legal reserve is US$13,332,051.30.

The table below describes the distributions paid to our shareholders. Distributions for 2019, 2020 and 2021 were made in the form of a cash dividend.

	For the Year Ended December 31,		
	2021	**2020**	**2019**
		(in millions of US$)	
Distributions paid to shareholders	35.0	50.0	69.8

On March 26, 2021, we paid approximately US$35 million (US$0.26 per common share) of dividends to our shareholders. This dividend will be ratified, in accordance with Luxembourg laws, by our shareholders at the annual shareholders' meeting for the fiscal year ended December 31, 2021, which will occur in June 2022.

On February 15, 2022, our board of directors approved a distribution to Nexa's shareholders of US$50 million, US$44 million as dividend and US$6 million as share premium, or approximately US$0.331275 per common share and US$0.046258 per common share, respectively, to be paid on March 25, 2022. This dividend will be ratified, in accordance with Luxembourg laws, by our shareholders at the annual shareholders' meeting for the fiscal year ended December 31, 2022, which will occur in June 2023.

Nexa Resources is a holding company and has no material assets other than its ownership of shares in its subsidiaries. When Nexa Resources pays a dividend or other distribution on its common shares in the future, it generally causes its operating subsidiaries to make distributions to it in an amount sufficient to cover any such dividends or distributions. The ability of subsidiaries of Nexa Resources to make distributions to Nexa Resources is subject to their capacity to generate sufficient earnings and cash flow and may also be affected by statutory accounting and tax rules in Brazil and Peru, as well as any conditions under the corporate law applicable to each subsidiary.

A Luxembourg withholding tax of 15.0 % is generally due on dividends and similar distributions made by Nexa Resources to its shareholders. However, distributions on Nexa Resources' common shares that are sourced from a reduction of share capital or share premium are not subject to Luxembourg withholding tax if Nexa Resources does not have distributable reserves or profits in its standalone statutory accounts prepared under Luxembourg GAAP. See "Additional information—Taxation—Luxembourg tax considerations—Shareholders."

There is no law, governmental decree or regulation in Luxembourg that would affect the remittance of dividends or other distributions by Nexa Resources to nonresident holders of its common shares, other than withholding tax requirements. In certain limited circumstances, the implementation and administration of international financial sanctions may affect the remittance of dividends or other distributions. There are no specified procedures for nonresident holders to claim dividends or other distributions.

Computershare Trust Company, N.A. is the paying agent for shareholders who hold common shares listed on the NYSE. Dividends and other distributions on our common shares will be declared and paid in U.S. dollars.

TRADING MARKETS

Our publicly traded share capital consists of common shares with a par value of US$1.00 per share. Our common shares are publicly traded in the United States on the NYSE, under the ticker symbol NEXA. On March 17, 2022, there were 132,438,611 common shares issued and outstanding.

PURCHASES OF EQUITY SECURITIES BY THE ISSUER AND AFFILIATED PURCHASERS

Nexa did not repurchase any shares during 2021. As of December 31, 2021, there were no authorized share buyback programs.

IV. CORPORATE GOVERNANCE, MANAGEMENT AND EMPLOYEES

CORPORATE GOVERNANCE

Our corporate governance model is aimed at facilitating the flow of information between our executives and other key decision-makers on our management team, specifically, our board of directors, advisory committees and management committee. Our corporate governance model also provides a framework for the duties of our management team, including oversight of Nexa's performance and decision-making. Our main corporate governance activities include support for board of directors, board advisory committees and executive board meetings; contribution to the process of preparing the annual report on governance practices; and elaboration of governance documents and updating of best practices.

Our corporate governance model is designed to ensure that the proper corporate governance principles are consistently applied within our organization. We have adopted certain corporate governance policies and practices that include internal rules for the board of directors and key committees that have independent representation and leadership, including an audit committee and a compensation, nominating and governance committee. The charter for the compensation, nominating and governance committee includes responsibility for reviewing and assessing the size, composition and operation of the board of directors to ensure effective and independent decision making, advising on potential conflicts of interest situations and developing corporate governance guidelines and principles. The disclosure set out below describes in further detail our approach to corporate governance.

Code of conduct

We work with all of our employees, as well as third parties who we work with, to ensure they behave in a manner consistent with our values, code of conduct and the key principles of our compliance program, particularly as these relate to the environment, human rights and labor related issues, health and safety, and anti-bribery and corruption. In 2021, we updated our anti-corruption, anti-money laundering, anti-terrorist financing and antitrust policies based on laws in effect in the countries where we operate. As a result of this, the code of conduct was revised, disseminated and implemented throughout Nexa. This revised version of the Code of Conduct reflects our commitment to the principles of integrity, ethics, human rights, and social and environmental responsibilities. Our directors and executives have certified that they have read and that they will comply with our code of conduct. Furthermore, our board of directors periodically monitors compliance related topics. We also launched our code of conduct for suppliers in 2021 A conduct committee is in charge of promoting the implementation of the code and supervising the application of disciplinary measures.

Several anti-corruption, anti-money laundering and antitrust initiatives have been implemented, including, among other things, ethics and compliance training and an ethics hotline which enables employees and third parties to report misconduct. Information reported through our ethics hotline is investigated and following the investigation, disciplinary action may be taken, if necessary. We have not granted any implicit or explicit waivers from any provision of our code of conduct since its adoption.

Our code of conduct, code of conduct for suppliers and compliance-related policies are publicly available on our website at https://www.nexaresources.com. We will disclose future amendments to, or waivers of, our code of conduct on the same page of our corporate website. Information contained on our website is not incorporated by reference into this report, and you should not consider it to be part of this report.

Foreign private issuer and controlled company exemptions

Because we are a foreign private issuer, the NYSE rules applicable to us are considerably different from those applied to U.S. companies. Accordingly, we intend to take advantage of certain exemptions from NYSE governance requirements provided in the NYSE rules for foreign private issuers. Subject to the items listed below, as a foreign private issuer we are permitted to follow home country practice in lieu of the NYSE's corporate governance standards. Luxembourg law does not require that a majority of our board consist of independent directors or the implementation of a compensation committee or nominating and corporate governance committee. As a foreign private issuer, we must comply with four principal NYSE corporate governance rules: (i) we must satisfy the requirements of Exchange Act Rule 10A-3 relating to audit committees; (ii) our chief executive officer must promptly notify the NYSE in writing after any executive officer becomes aware of any non-compliance with the applicable NYSE corporate governance rules; (iii) we must provide the NYSE with annual and interim written affirmations as required under the NYSE corporate governance rules; and (iv) we must provide a brief description of any significant differences between our corporate governance practices and those followed by U.S. companies under NYSE listing standards.

In addition, for purposes of the NYSE rules, as VSA beneficially owns a majority of our outstanding common shares, we are a "controlled company." "Controlled companies" under those rules are companies of which more than 50.0% of the voting power is held by an individual, a group or another company. Accordingly, we are eligible to take advantage of certain exemptions from NYSE governance requirements provided in the NYSE rules. Specifically, as a controlled company under NYSE rules, we are not required to have a majority of independent directors or a compensation, nominating and corporate governance committee composed entirely of independent directors.

As described further above, we recognize that good corporate governance plays an important role in our overall success and in enhancing shareholder value and, accordingly, we have adopted certain corporate governance policies and practices that reflect these considerations, as well as our consideration of the recommended Canadian Corporate Governance Guidelines. The following table briefly describes the significant differences between our practices and the practices of U.S. domestic issuers under NYSE corporate governance rules.

Section	**NYSE corporate governance rule for U.S. domestic issuers**	**Our approach**
303A.01	A listed company must have a majority of independent directors. "Controlled companies" and "foreign private issuers" are not required to comply with this requirement.	We are a controlled company because more than a majority of our voting power for the appointment of directors is controlled by VSA. We are a foreign private issuer because we are incorporated in Luxembourg. As a controlled company and foreign private issuer, we are not required to comply with the majority of independent director requirements. Four of our nine directors are independent. Our board of directors has adopted internal rules equivalent to a charter. See "Corporate Governance, management and employees—Board of directors" for a description of our board and processes our board has implemented to promote the exercise of independent judgment.
303A.03	The non-management directors of a listed company must meet at regularly scheduled executive sessions without management.	We have no management directors.

303A.04	A listed company must have a nominating/corporate governance committee composed entirely of independent directors, with a written charter that covers certain minimum specified duties. “Controlled companies” and “foreign private issuers” are not required to comply with this requirement.	As a controlled company and foreign private issuer, we are not required to comply with the nominating/corporate governance committee requirements. However, we do have a compensation, nominating and governance committee composed of two independent directors and two non-independent directors, which has adopted a committee charter. As set for in the committee’s charter, this committee is responsible for, among other matters: • identifying individuals qualified to be nominated as members of the board of directors; • suggesting names to fill any vacancies on the board of directors; • developing corporate governance guidelines and principles; and • evaluating the performance and effectiveness of the board of directors, the CEO and each of committees. See “Corporate Governance, management and employees—Board of directors—Committees of our board of directors.”
303A.05	A listed company must have a compensation committee composed entirely of independent directors, with a written charter that covers certain minimum specified duties. “Controlled companies” and “foreign private issuers” are not required to comply with this requirement.	As a controlled company and foreign private issuer, we are not required to comply with the compensation committee requirements. However, we do have a compensation, nominating and governance committee composed of two independent directors and two non-independent directors, which has adopted a committee charter. As set forth in the committee’s charter, this committee is responsible for, among other matters: • reviewing and proposing new compensation models and changes to current compensation models; and • determining compensation of executive officers, directors and committee members. See “Corporate governance, management and employees—Board of directors—Committees of our board of directors.”

303A.06 303A.07	A listed company must have an audit committee with a minimum of three independent directors who satisfy the independence requirements of Rule 10A-3 under the Exchange Act, with a written charter that covers certain minimum specified duties.	We have an audit committee composed of three members, all of whom qualify as independent under Rule 10A-3 and applicable NYSE standards. Each member of the audit committee also satisfies the financial literacy requirement under applicable standards. The audit committee has adopted a committee charter, which was duly approved by our board of directors. As set forth in the committee's charter, the committee shall assist the board of directors in fulfilling its oversight responsibilities with respect to: • quality and integrity of our financial reporting and related financial disclosures; • the effectiveness of our internal control over financial reporting and disclosure controls and procedures; • our compliance with legal and statutory requirements as they relate to financial statements and related financial disclosures; • our risk management controls and monitoring processes, according to the ERM policy; and • the qualifications, performance and independence of our independent auditors and performance of the internal audit function. See "Corporate governance, management and employees—Board of directors—Committees of our board of directors."
303A.08	Shareholders must be given the opportunity to vote on all equity-compensation plans and material revisions thereto, with limited exemptions set forth in the NYSE rules.	Our articles of association require shareholder approval of overall remuneration, including any equity-compensation plans of members of the board of directors and members of board committees.
303A.09	A listed company must adopt and disclose corporate governance guidelines that cover certain minimum specified subjects.	We have corporate governance policies in place as described in "Corporate governance, management and employees" in this annual report.

303A.10	A listed company must adopt and disclose a code of business conduct and ethics for directors, officers and employees, and promptly disclose any waivers of the code for directors or executive officers.	We have adopted a formal code of conduct, which applies to our directors, officers, employees and third parties who interact with the Company. Our code of conduct has a scope that is similar, but not identical, to that required for a U.S. domestic company under the NYSE rules.
303A.12	(a) Each listed company CEO must certify to the NYSE each year that he or she is not aware of any violation by the Company of NYSE corporate governance listing standards. (b) Each listed company CEO must promptly notify the NYSE in writing after any executive officer of the listed company becomes aware of any non-compliance with any applicable provisions of this Section 303A. (c) Each listed company must submit an executed Written Affirmation annually to the NYSE. In addition, each listed company must submit an interim Written Affirmation as and when required by the interim Written Affirmation form specified by the NYSE.	As a foreign private issuer, we are subject to and comply with (b) and (c) of these requirements, but are not subject to (a).

BOARD OF DIRECTORS

Our board of directors is responsible for the general guidance of our business and affairs, including providing general guidance, governance and strategic oversight to our executives and other members of our management team. It is also responsible for ensuring that we meet our objectives, as well as for monitoring our performance and ensuring business continuity. The board of directors is vested with broad powers to act on behalf of Nexa and to perform or authorize all acts of administrative or ancillary nature necessary or useful to accomplish our corporate purpose. All powers not expressly reserved by law to the shareholders fall within the competence of our board of directors.

Appointment and term of members of our board of directors

In accordance with our articles of association and the 1915 Law, the members of our board of directors are elected by a resolution of a general meeting of shareholders adopted with a simple majority of the votes validly cast, regardless of the portion of capital represented at such general meeting. Votes are cast for or against each nominee proposed for election to the board and cast votes shall not include votes attaching to shares for which the shareholder has not participated in the vote, has abstained or has returned a blank or invalid vote.

Our directors are appointed for two-year terms and may be reelected. Members of our board of directors may be removed at any time, with or without cause, by a resolution adopted at a general meeting of our shareholders. Under Luxembourg law, in the case of a vacancy of the office of a director appointed by the general meeting of shareholders, the remaining directors may, by a simple majority vote of the directors present or represented, fill the vacancy. In these circumstances, the following general meeting of shareholders shall make the final appointment of the director.

Composition of the board of directors

Our board of directors is comprised of a minimum of five and a maximum of eleven members and currently has nine members, of which four are independent directors and five are non-independent, as set out below.

The term of each and all of our directors expires at the 2022 annual general meeting of shareholders. The following table sets forth our current directors, their respective board positions and their respective date of election to the board.

Name	Age	Principal Residence	Position	Elected Since
Jaime Ardila (2)(3)	66	Aventura, USA	Chair of the Board	June 18, 2019
Daniella Elena Dimitrov (1)(2)*	52	Toronto, Canada	Director	December 14, 2017
Diego Hernandez (2)	73	Vitacura, Chile	Director	August 25, 2016
Eduardo Borges de Andrade Filho (3)*	55	São Paulo, Brazil	Director	August 25, 2016
Edward Ruiz (1)(4)*	71	New Jersey, USA	Director	December 14, 2017
Gianfranco Castagnola (4)	61	Lima, Peru	Director	June 4, 2020
Jane Sadowsky (1)(3)*	60	New York, USA	Director	December 14, 2017
João Henrique Batista de Souza Schmidt (4)	43	São Paulo, Brazil	Director	October 18, 2016
Luís Ermírio de Moraes (3)	61	São Paulo, Brazil	Director	August 25, 2016

(1) Member of the audit committee.
(2) Member of the sustainability and capital projects committee.
(3) Member of the compensation, nominating and governance committee.
(4) Member of the finance committee.

* Independent pursuant to Rule 10A-3 under the Exchange Act (Rule 10A-3) and applicable NYSE standards, as well as National Instrument 52-110 *Audit Committees*.

The business address of each member of our board of directors is our corporate office, which is 37A, Avenue J.F. Kennedy, L-1855, Luxembourg, Grand Duchy of Luxembourg.

We present below a brief biographical description of each member of our board of directors:

Jaime Ardila. Mr. Ardila has been a member of our board of directors since June 2019 and has been Chairman of the board since July 30, 2020. Mr. Ardila founded The Hawksbill Group in 2016, which provides business advisory services, including strategy, operations, public relations, communications and investment advice. Prior to that, he held several positions at General Motors Company in the U.S., Europe and South America in a career spanning 30 years. He also worked at the Planning Department and the Ministry of Industry and Trade for the government of Colombia from 1981 to 1984 and the investment bank Rothschild from 1996 to 1998. At General Motors, Mr. Ardila served CFO of General Motors Chile; President and Managing Director of General Motors Ecuador; President of General Motors Colombia; President of General Motors Argentina; CFO for Latin America, Africa and the Middle East; President for Brazil and Mercosur; and President of General Motors South America from 2010-2016. He is currently a member of the Board of Directors of Accenture and Chairman of Goldman Sachs, BDC. Mr. Ardila earned his master's degree in Economics at the London School of Economics in 1981 and his bachelor's degree in Economics at the University of Bogota in 1977.

Daniella Elena Dimitrov. Ms. Dimitrov has been a member of our board of directors since January 2018. Ms. Dimitrov has over 20 years of leadership experience in building, leading and operating businesses in mining and financial services, including as CEO, COO and CFO. She was a partner at Sprott Capital Partners, a division of Sprott Capital Partners LP, a merchant bank with a focus on natural resources. Ms. Dimitrov is also a director of International Petroleum Corp. and Chemtrade Logistics Income Fund and served as director of Excellon Resources Inc. until April 2020. She is also CFO and Executive Vice President Strategy and Corporate Development of Iamgold Corporation and in January 2022 was appointed as interim CEO. Ms. Dimitrov's previous roles include President and CEO and CFO of a multi-mine gold/copper producer; Executive Vice Chair of an iron ore developer through its acquisition following a hostile take-over bid; COO of a Canadian national wealth management and capital markets firm; and various corporate development roles in mining and financial services. Ms. Dimitrov has been a director of various mining companies and has served as a member and chair of various board committees, including audit, technical, health and safety, compensation and governance. Ms. Dimitrov has received the NACD Directorship Certification. She has a Global EMBA from Kellogg School of Management and Schulich School of Business and a law degree from University of Windsor. She was chosen as one of the top 100 Global Inspirational Women in Mining in 2016.

Diego Hernandez. Mr. Hernández has been a member of our board of directors since 2016. He was a member of the board of directors of Nexa Brazil until 2018. Mr. Hernández has over 45 years of experience in the mining industry. He is currently the President of the Sociedad Nacional de Minería in Chile and Advisor to the Chairman of BAL Group. He also integrates the Executive Committee of the Confederación de la Producción y del Comercio de Chile. He served as CEO of Antofagasta Minerals from August 2012, and in September 2014 was appointed CEO of Antofagasta plc, a position he held until April 2016. He was CEO of CODELCO in 2010/2012 and President of Base Metals in BHP Billiton and Chairman of Minera Escondida during 2004/2010, based in Santiago. He served as Executive Director, Non-Ferrous Metals in Vale in 2001/2004, CEO of Compañía Minera Doña Inés of Collahuasi in 1996/2001 and has held other senior positions in Anglo American and Rio Tinto. Mr. Hernandez received a civil mining engineer degree from the University of Chile and from the École Nationale Supérieure des Mines de Paris. In 2010, he received an award granted by the Copper Club of New York, and in 2013 the Chilean Institute of Engineers awarded him the "Gold Medal" for his distinguished career and important contribution to the development of engineering in Chile.

Eduardo Borges de Andrade Filho. Mr. Andrade has been a member of our board of directors since 2016. He was a member of the board of directors of Nexa Brazil until 2018 and has been member of the board of directors of CBA since 2017. Mr. Andrade has over 20 years of experience working with large industrial conglomerates and international consulting firms on relevant issues related to strategy, corporate development, corporate finance, governance and organization. He is founder and managing director of Otinga Investimentos, a private equity firm focusing on mid-size companies in Brazil. Between 2011 and 2014, he was corporate planning officer at VSA and served as board member of four other companies of the Votorantim Group. From 2010 to 2011, he was vice president for corporate development at Usiminas, a steel company, where he was responsible for mining and capital goods businesses, as well as strategy, business development and M&A. Prior to that, between 1997 to 2010, he was a Partner at McKinsey & Company, a consulting firm, where he took various leadership roles such as the Basic Materials Practice and the Knowledge Committee in Latin America. He started his professional career as an entrepreneur and engineer in his home state of Minas Gerais. Mr. Andrade received a bachelor's degree in civil engineering from Fundação Mineira de Educação e Cultura in 1991 and holds a MBA from the University of Chicago in 1995.

Edward Ruiz. Mr. Ruiz has been a member of our board of directors since January 2018. Mr. Ruiz brings over 51 years of experience in public and private accounting. Mr. Ruiz currently serves on the audit committee of several publicly traded companies in Brazil, including Iochpe-Maxion SA and Arezzo & Co. He is a Certified Public Accountant since 1972 and has been responsible for audits of companies in the mining and energy sectors in Brazil and the United States. Mr. Ruiz retired from Deloitte in 2012, where he was employed since 1997 and most recently served as an audit partner and member of Deloitte's IFRS specialist group. As head of the Capital Markets group for Deloitte, Mr. Ruiz advised companies on financial and regulatory reporting matters related to initial public offerings and secondary offerings in the Brazilian, United States and European capital markets. Prior to Deloitte, he held executive positions in internal audit at JP Morgan and PepsiCo in the United States. He started his career in public accounting with Arthur Young in 1971. Mr. Ruiz obtained his bachelor's degree from Pace University, New York City in 1971.

Gianfranco Castagnola. Mr. Castagnola has been a member of our board of directors since June 2020. Mr. Castagnola is partner and CEO of Apoyo Consultoría, a leading firm specialized in economic, business and financial advisory services in Peru. He also serves as chairman of the board of directors of its subsidiary, AC Capitales SAFI, one of the largest Peruvian investment fund managers. He has been a member of the board of directors of the Peruvian Central Bank from 1996 to 2001 and was president of the Universidad del Pacífico board of trustees. He is chairman of the board of directors of Scotiabank Peru S.A., and member of the board of directors of Saga Falabella, the Austral Group and IKSA. Mr. Castagnola's previous roles include serving as member of the board of directors of Nexa Peru, Nexa Resources Atacocha S.A.A., Lima Airport Partners, Quimica Suiza, Cementos Pacasmayo, Camposol Holding and Redesur. Mr. Castagnola earned his master's degree in public policy from Harvard University and his bachelor's degree in Economics from the Universidad del Pacífico.

Jane Sadowsky. Ms. Sadowsky has been a member of our board of directors since January 2018. Ms. Sadowsky has a broad and diverse range of finance and deal-related expertise and also has sector expertise in power and utilities and the related fields of commodities, renewables, power technology, infrastructure, and energy. She has a depth of knowledge and experience in mergers and acquisitions, public and private debt and equity, corporate restructurings and cross border transactions. Ms. Sadowsky retired from Evercore Partners, after more than 22 years as an investment banker. Prior to Evercore Partners, she worked in Citigroup's Investment Bank and began her investment-banking career at Donaldson, Lufkin & Jenrette. Currently, Ms. Sadowsky serves on the board and the audit committee of Yamana Gold, a publicly traded gold mining company based in Toronto, Canada, and chairs Yamana's governance committee. She also serves as a senior advisor with responsibility for diversity and inclusion at Moelis &. Company, a U.S. publicly traded company. Ms. Sadowsky earned her MBA from the Wharton School in 1989 and her bachelor's degree in Political Science and International Relations from the University of Pennsylvania in 1983. She is a National Association of Corporate Directors Governance fellow and a frequent speaker at board governance conferences throughout the United States.

João Henrique Batista de Souza Schmidt. Mr. Schmidt has been a member of our board of directors since 2016. He has held the position of executive officer for Corporate Development at VSA, and in 2020 he assumed the position of CEO. He is the Chairman of the Board of Directors of Votorantim Geração de Energia S.A., a position he has held since 2017 and he served as Chairman of the Board of Directors of CESP – Companhia Energética de São Paulo in part of 2019. He also served as member of the Board of Directors of Citrosuco S.A. from 2014 to 2019 and Nexa Brazil from 2016 to 2018. Mr. Schmidt was previously a member of the board of directors of Fibria Celulose S.A. from 2014 to 2019. Prior to joining VSA, Mr. Schmidt had 15 years of experience in the financial sector. Mr. Schmidt was a Managing Director of Goldman Sachs do Brasil Banco Múltiplo S.A., where he worked from April 2010 to August 2014, and prior to that worked at Citigroup and Goldman Sachs in different capacities. Mr. Schmidt received a bachelor's degree in Business Administration from Fundação Getulio Vargas in 2001.

Luís Ermírio de Moraes. Mr. Moraes has been a member of our board of directors since 2016, and was the Chairman of the board until July 30, 2020. He was a member and the Chairman of the board of directors of Nexa Brazil until 2018. Mr. Moraes has over 35 years of experience working in mining and metallurgical operations. He is currently Vice President and a member of the board of directors of VSA, which is the Portfolio Manager Board of the Votorantim Group. Mr. Moraes is Chairman of CBA, the largest integrated aluminum producer in Brazil. He is a board member of Hejoassu, which is the ownership board of Votorantim. Mr. Moraes previous roles include director of VSA since 2000. Mr. Moraes also worked as an engineer in various processes in the areas of alumina refinery, smelter and aluminum smelting, pyrometallurgical and hydrometallurgical mineral processing of nickel laterites, developing novel projects for the separation and refining of cobalt. In the early 2000s, Mr. Moraes was the shareholder responsible for the creation and development of a new Votorantim business area with investments in IT and biotechnology. Mr. Moraes received a bachelor's degree in mineral and chemistry engineering from the Colorado School of Mines, in the state of Colorado, United States, in 1982.

Internal rules of the board of directors

Our board of directors adopted board internal rules, which includes the following, among other things:

- approve the general guidance of our business, its mission, strategic goals and guidelines;
- ensure that the executive officers comply with such mission, strategic goals and guidelines;
- approve the budget and a strategic plan which takes into account, among other things, the opportunities and risks of the business;
- approve the annual commercial agreements strategy;
- recommend the shareholders to approve mergers, spin-offs, incorporations, acquisitions, divestitures and joint venture operations related to Nexa and its subsidiaries according to our articles of association;
- promote and ensure compliance with our corporate purpose;
- ensure the sustainable, long-term continuity of Nexa, including with regard to economic, social and environmental aspects;
- develop our approach to corporate governance, including the creation and review, from time to time, of corporate governance principles and guidelines that are specifically applicable to us;
- evaluate the performance of our CEO and executive officers;
- exemplify and, together with the management committee, create a culture of integrity throughout the organization;
- approve and monitor compliance with the following policies: (a) code of conduct; (b) disclosure policy; (c) insider trading policy; (d) dividend policy; (e) compliance policy; (f) antitrust/competition policy; (g) anti-corruption policy; (h) money laundering and terrorist financing prevention policy; (i) financial risk management policy (and complementary policies proposed by the management committee, such as the hedge, derivatives, leverage, liquidity and foreign exchange exposure policy); (j) ERM policy; and (k) authorization policy;
- approve board members and executive officers' compensation, the amount of which shall not exceed the amount determined by the general meeting;
- ensure appropriate succession planning for our board of directors, CEO and executive officers;
- deliberate and approve the terms and conditions of any compensation arrangements or proposed material amendments to any terms and conditions of existing compensation arrangements entered between Nexa and any of our executive officers; and
- all further tasks as required by applicable laws.

The board internal rules are available on our website.

The board has at its disposal a set of provisions and practices that promotes independence in the decision-making process of the board. In accordance with the board's internal rules, the independent members of the board may hold separate meetings and each director has a duty to declare, prior to any board meeting, the existence of a particular reason or conflict of interest with Nexa with respect to a subject matter being discussed or considered by the board. Accordingly, such board member would be refrained from discussing and voting on a matter that could present a conflict of interest. Additionally, our board members are prohibited from holding executive positions with Nexa and/or serving on more than four boards of directors of companies that do not belong to the same conglomerate. As discussed above, our audit committee is comprised entirely of independent directors and we also have independent representation on all other committees.

Description of the position of Chair

Our board of directors has developed a written position description for the chair of the board of directors. The chairman of the board has the following responsibilities, subject to any other matters that may be set forth in our articles of association or provided for under applicable law:

- ensure the efficiency and proper performance of the board of directors;
- preside over the board meetings;
- prepare, organize, elaborate and distribute the agenda and minutes of the meetings aided by the board secretary, including all information necessary to discuss the matters on the agenda;
- coordinate the activities of other board members;
- ensure that all board members receive comprehensive information about the items on the board agenda in a timely manner;
- propose the annual corporate calendar to the board in coordination with Nexa's CEO, which shall necessarily set forth the dates of corporate events;
- organize the onboarding and education sessions for incoming members of the board in coordination with Nexa's CEO; and
- periodically arrange for continuing education opportunities for all board members, so that individuals may maintain or enhance their skills and abilities as members and ensure that their knowledge and understanding of Nexa's business remains current.

The chairman of our board of directors is not an independent director of Nexa Resources. The board of directors has carefully considered governance issues relating to chairman independence and believes that the chairman carries out separate responsibilities diligently and that, with the compensating practices in place, the board of directors operates effectively and in Nexa's best interest.

Meetings of the board of directors and attendance

The board of directors ordinarily meets in person or by other means of communication as may be required. The frequency of and agenda items for board meetings will vary depending on the state of affairs, requirements for approvals and opportunities available to Nexa and the risks and issues which Nexa faces. The agenda for meetings places priority and focuses on key issues for Nexa, which are identified by the chairman of our board. Routine business is dealt with after substantive discussions on the key issues.

Under the board of directors' internal rules and our articles of association, the board can validly consider any matters and make decisions provided at least a majority of the members are in attendance in person or by representation. The board of directors' internal rules further provides that each member is entitled to one vote either in person or where duly represented as required by the board's internal rules. In fiscal year 2021, our board of directors held 12 meetings, in which the rate of attendance in person or by representation was 100% of the directors. In addition, we had (i) six audit committee meetings, (ii) seven finance committee meetings, (iii) nine compensation, nominating and governance committee meetings, and (iv) fifteen sustainability and capital projects committee meetings.

Director	Board Meetings	Meetings Attended	Overall % Attendance
Jaime Ardila	12	12	100
Daniella Elena Dimitrov	12	12	100
Diego Hernandez	12	12	100
Eduardo Borges de Andrade Filho	12	12	100
Edward Ruiz	12	12	100
Gianfranco Castagnola	12	12	100
Ian Wilton Pearce (until July 29, 2021)	6	6	100
Jane Sadowsky	12	12	100
João Henrique Batista de Souza Schmidt	12	12	100
Luís Ermírio de Moraes	12	12	100

As set forth in the board of directors' internal rules, the independent directors may hold meetings in which members of the management team and the non-independent directors are not present. In 2021, our directors held *in camera* sessions without members of the management team prior and/or at the conclusion of each board meeting.

Committees of our board of directors

Our board of directors has an audit committee, a finance committee, a compensation, nominating and governance committee and a sustainability and capital projects committee. Our board of directors may have other committees as it may determine from time to time. Each of the standing committees of our board of directors has the composition and responsibilities assigned to them by the meeting of the board of directors that created such committee and as set forth in their respective committee charters. These charters set out, among other things, the roles and responsibilities of the chair of each committee. As set forth in the respective charters of the committees, each of the committees may meet with or without the management, as the case may be, at the discretion of the committee. The charter for each of the committees of our board of directors is available on our website.

Audit committee

Our audit committee is a standing committee established by our board of directors on March 28, 2017 to assist the board of directors in fulfilling certain of its oversight responsibilities. The audit committee may be composed of three to five members, each appointed by our board of directors for a term of one year. Daniella Elena Dimitrov, Edward Ruiz and Jane Sadowsky currently serve as its members. These individuals are independent under Rule 10A-3 and applicable NYSE standards, as well as Canadian securities regulators' National Instrument 52-110 *Audit Committees*. In addition, each of them satisfies the financial literacy requirement under applicable rules. Our board of directors has determined that Mr. Edward Ruiz qualifies as an "audit committee financial expert."

Our audit committee's primary responsibilities are to assist the board of directors' oversight of: (i) quality and integrity of our financial reporting and related financial disclosure; (ii) the effectiveness of our internal control over financial reporting and disclosure controls and procedures; (iii) our compliance with legal and statutory requirements as they relate to financial statements and related financial disclosures; (iv) the monitoring of risk management controls and processes, according to the ERM policy, and the oversight of financial reporting and related compliance, internal control over financial reporting and fraud risks; (v) the compliance and ethics program; (vi) review of, and approval of certain related party transactions; and (vii) the qualifications, performance and independence of our independent auditors and performance of the internal audit function. It is also the audit committee attribution to support the Board in its monitoring of the enterprise risk management in matters related to the responsibility of this Committee.

Nexa has established policies and procedures that require any engagement of our independent auditor for audit or non-audit services to be submitted to and pre-approved by the audit committee. In addition, our audit committee may delegate the authority to pre-approve non-audit services to one or more of its members. All non-audit services that are pre-approved pursuant to such delegated authority must be presented to the full audit committee at its first scheduled meeting following such pre-approval. Our audit committee shall pre-approve all audit and non-audit services to be provided to us by our independent auditor and also has the authority to recommend pre-approval policies and procedures to our board of directors and for the engagement of our independent auditor's services.

Finance committee

Our finance committee is a standing committee established by our board of directors on March 28, 2017 to assist the board of directors in fulfilling certain of its oversight responsibilities. The finance committee may be composed of three to five members, each appointed by our board of directors for a term of one year. Gianfranco Castagnola, Edward Ruiz and João Henrique Batista de Souza Schmidt currently serve as its members. It is also the finance committee attribution to support the Board in its monitoring of the enterprise risk management in matters related to the responsibility of this committee.

Our finance committee's primary responsibilities are to assist the board of directors in fulfilling its oversight responsibilities with respect to monitoring Nexa's balance sheet and by providing recommendations on our capital management strategy and capital structure, including indebtedness, investments and returns, , support the board in its monitoring of the enterprise risk management in matters related to the responsibilities of the committee, among others.

Compensation, nominating and governance committee

Our compensation, nominating and governance committee is a standing committee established by our board of directors on March 28, 2017 to assist the board of directors in fulfilling certain of its oversight responsibilities. The compensation, nominating and governance committee may be composed of two to five members, each appointed by our board of directors for a term of one year. Luís Ermírio de Moraes, Eduardo Borges de Andrade Filho, Jaime Ardila and Jane Sadowsky currently serve as its members. Two of the four members of the compensation, nominating and governance committee are independent directors. An external advisor with broad experience in the area was retained in 2021 to assist our compensation, nominating and governance committee in carrying out its mandate.

Our compensation, nominating and governance committee is responsible for: (1) new compensation models and changes to compensation models currently used by us, in order to guide and influence our actions; (2) the compensation of the executive officers, of the members of the board of directors and of the members of the committees of the board of directors; (3) the proposal of candidates to the chair of chief executive officer, when applicable, or any serious restrictions on the candidates proposed by the chief executive officer to the other chairs of the executive officers; (4) development of corporate governance guidelines and principles; (5) identification of individuals qualified to be nominated as members of the board of directors and suggesting nominees to fill any vacancies on the board of directors; (6) the structure and composition of board committees; (7) evaluation of the performance and effectiveness of the board of directors, the chief executive officer and each of the board's standing committees; (8) the supervision and approval of our social responsibility plans and policies; (9) support the board in its monitoring of the enterprise risk management in matters related to the responsibilities of the committee; and (10) any related matters required by applicable laws and stock exchange rules. For more information regarding our corporate governance policies, see "Information on the Company—Environmental, Social and Governance ("ESG")—Nexa Materiality Matrix—Governance."

Sustainability and capital projects committee

Our sustainability and capital projects committee is a standing committee established by our board of directors on April 29, 2019 to assist the board of directors in fulfilling certain of its oversight responsibilities. The sustainability and capital projects committee may be composed of at least three and no more than five members, each appointed by our board of directors for a term of one year. Diego Hernandez, Daniella Elena Dimitrov and Jaime Ardila currently serve as its members.

Our sustainability and capital projects committee's primary responsibilities are to assist the board of directors by supporting safe and sustainable business practices in the conduct of our activities in respect of environmental, health, safety and social matters, including tailings management. The committee also assists in the oversight of the estimate and disclosure of mineral reserves and resources related to our operations and projects and monitor our compliance with applicable laws and policies, provide oversight on the development and implementation of management systems relating to sustainability matters and capital projects matters, including the review of the suitability and effectiveness of our risk management processes with respect to sustainability matters and capital projects matters, including but not limited to, tailings facility management and emergency response plans.

The sustainability and capital projects committee is also responsible for assisting the board with the review of technical, economic and social matters with respect to our projects, including exploration, development, permitting, construction and operation of our mining and smelting assets, which are core to our strategy and growth. For more information regarding our sustainability policies, see "Information on the Company—Environmental, Social and Governance ("ESG")—Nexa Materiality Matrix—Environmental" and "Information on the Company—Environmental, Social and Governance ("ESG")—Nexa Materiality Matrix—Social."

Orientation and continuing education

We implemented an orientation program for new directors under which each new director meets with the chair of our board of directors and our executives. New directors are provided with comprehensive orientation and education as to our business, operations and corporate governance (including the role and responsibilities of the board of directors and each committee).

The chair of our board of directors is responsible for overseeing directors' continuing education and ensure that it is designed to maintain or enhance the skills and abilities of our directors and to ensure that their knowledge and understanding of our business remains current. The chair of each committee is responsible for coordinating orientation and continuing director development programs relating to the committee's mandate.

Our ongoing director education programs entails site visits, presentations from outside experts and consultants, discussions on ongoing governance trends and guidelines for public companies, briefings from staff and management, and reports on issues relating to our projects and operations, sustainability and social matters, competitive factors, reserves, legal issues, economic, accounting and financial disclosure, mineral and hydrocarbon education and other initiatives intended to keep the board abreast of new developments and challenges that we may face.

Evaluation of directors

Our compensation, nominating and governance committee established a framework for the implementation and administration of processes to assess the effectiveness of the board and each of its members. This includes peer reviews of each director's performance and self-assessments, as well as full board and committee review of the board and the respective committees, by way of questionnaires, interviews and sessions with the chairman. In addition to hiring external advisors to develop and undertake this assessment, the compensation, nominating and governance committee is also responsible for overseeing the process and evaluating the results, with the objective of improving the performance of each director and the board of directors as a whole.

Considerations in evaluating director nominees

Our board of directors is responsible for nominating members for election to the board and for filling vacancies on the board that may occur between annual meetings of shareholders. The process for nominating a new director initiates with our compensation, nominating and governance committee which evaluates Nexa's current circumstances and establishes a profile for a director candidate. Such profile is then shared with a specialized external executive search firm, who assists the compensation, nominating and governance committee in selecting candidates for interviews. Prior to the interview, the specialized external firm is responsible for a background check with former employers and colleagues of the respective candidates.

Following the interview(s), our compensation, nominating and governance committee recommends the nomination of the director candidate to our board of directors based upon an assessment of the independence, skills, qualifications and experience of such candidate. Specifically, the board seeks members from diverse professional and personal backgrounds who combine a broad spectrum of experience and expertise with a reputation for integrity.

Diversity

We value diversity of abilities, experience, perspective, education, gender, background, race and national origin. We believe that having a diverse board of directors can offer a breadth and depth of perspectives that enhance our performance. Recommendations concerning director nominees are based on merit and past performance as well as expected contribution to the board's performance and, accordingly, diversity is taken into consideration. We believe that having a diverse and inclusive organization overall is beneficial to our success, and we are committed to diversity and inclusion at all levels of our organization to ensure that we attract, retain and promote the brightest and most talented individuals. We have recruited and selected executives that represent a diversity of business understanding, personal attributes, abilities and experience.

The compensation, nominating and governance committee and our board of directors have the responsibility to review and assess the composition of the board and each of its committees, and to identify, evaluate and recommend potential new directors. With respect to our executive officers, the compensation, nominating and governance committee reviews candidates recommended by the chief executive officer and makes the final recommendation to the board of directors. In new director and executive officer appointments and ongoing evaluations of the effectives of our board and management team, each of the board's committees and each director, the board will take into consideration diversity as one of the factors in order to maintain an appropriate mix and balance of diversity, attributes, skills, experience and background on our board of directors and each of its committees and the management team. Ultimately, appointments to our board of directors and management team are based on merit against objective criteria and with due regard to the benefits of diversity in board and management team composition and the desire to maximize the effectiveness of corporate decision making, having regard to our best interests and strategies and objectives, including the interests of our shareholders and other stakeholders. During our selection process for board appointments, we seek to ensure that women candidates are always considered on the shortlist for nominations. Currently, two (or 22%) of our nine members of the board are women, and on a general basis, 16.2% of our overall employees are women.

Further, we developed a diversity program in 2019 as part of the Nexa Way program. This program is composed of affinity groups, which are formed by employees on a volunteer basis and divided into five themes: (i) women, (ii) race and ethnicity, (iii) LGBTQIA+, (iv) people with disabilities and (v) multigenerational. The affinity groups are assisted by a technical committee composed of executive officers and employees in key areas such as human resources, compliance, legal and institutional relations.

The program promotes knowledge and improvements for our employees. In 2021, we held a meeting with an LGBT forum in Brazil and Peru, updated specific accommodations for women in Peru, provided an antiracist guide, and provided support and care for employees aged 60 and over during the pandemic, among other measures. This year we also added 16 new employees identified as people with disabilities (PWDs). In Brazil, 5.2% of our employees are identified as PWDs, and by 2030 our diversity target is to have a workforce composed by 35% of women employees and, 6% of employees in Brazil and 3% of employees in Peru as PWDs, and 50% of diversity leadership represented companywide. These targets are frequently monitored, global and locally, and action plans are currently being implemented to achieve the proposed goal.

For more information on our practices related to diversity, see "Information on the Company—Environmental, Social and Governance ("ESG")—Nexa Materiality Matrix—Social" and "Information on the Company—Environmental, Social and Governance ("ESG")—Nexa Materiality Matrix—Governance."

Compensation-setting process

Our compensation, nominating and governance committee is responsible for assisting our board of directors in fulfilling its governance and supervisory responsibilities and advising our board of directors with respect to evaluation and monitoring of compensation models and policies performed every two years, which takes into account peer companies and the challenges and opportunities we face. The committee's responsibilities also include administering and determining our compensation objectives and programs, reviewing and making recommendations to our board of directors concerning the level and type of the compensation payable, evaluating performance, implementing evaluation and improvement processes, and ensuring that policies and processes are consistent with our philosophy and the objectives of our compensation program.

Share ownership

Luís Ermírio de Moraes, a member of our board of directors, directly and indirectly owns 2,379,259, or 1.80%, of our common shares. As of December 31, 2021, none of our executive officers own, beneficially or of record, any of our common shares.

EXECUTIVE OFFICERS AND MANAGEMENT COMMITTEE

Executive officers

We have global executives and management teams for our main subsidiaries. Each subsidiary team has a management structure that adheres to our corporate governance rules.

On September 16, 2021 we announced that Ignacio Rosado was selected to replace current President and Chief Executive Officer ("CEO") Tito Botelho Martins Júnior. Mr. Rosado joined Nexa on November 1, 2021, and started an orderly transition process with Mr. Martins, who remained as CEO until December 31, 2021. Our executives currently are as follows:

Name	Age	Principal Residence	Position
Ignacio Rosado	52	São Paulo, Brazil	President and Chief Executive Officer
Rodrigo Menck	47	São Paulo, Brazil	Senior Vice President Finance and Group Chief Financial Officer
Mauro Davi Boletta	61	São Paulo, Brazil	Senior Vice President Smelting
Leonardo Nunes Coelho	44	Lima, Peru	Senior Vice President Mining
Marcio Luis Silva Godoy	56	São Paulo, Brazil	Senior Vice President Project Development & Execution
Jones Aparecido Belther	54	São Paulo, Brazil	Senior Vice President Mineral Exploration & Technology
Felipe Baldassari Guardiano	59	São Paulo, Brazil	Vice President Sustainability, Strategic Planning & Corporate Affairs
Gustavo Cicilini	46	São Paulo, Brazil	Vice President Human Resources
Ricardo Moraes Galvão Porto	48	Lima, Peru	Senior Vice President Commercial & Supply Chain

The business address of our executives is Avenida Engenheiro Luís Carlos Berrini, n° 105, 6th floor, São Paulo, State of São Paulo, Brazil.

A brief biographical description of each of our executives is presented below:

Ignacio Rosado. Mr. Rosado has been our Chief Executive Officer since January 2022. He has more than 16 years of experience in the metals and mining industry, and extensive board experience in different countries. Mr. Rosado led the initial public offering of Hochschild Mining Plc, and its acquisition strategy on Canadian Mining Assets. He also led the reorganization and transformation of Volcan Compañia Minera S.A.A. ("Volcan") which included the construction of two new polymetallic mines and the issuance of bonds for more than US$1 billion. Prior to joining Nexa Resources, Mr. Rosado was the CEO of Volcan since 2014 and its Deputy CEO since 2010. Prior to Volcan, he served as Director and Chief Financial Officer at Hochschild Mining Plc. since 2005 and as a Senior Project Manager at McKinsey & Company since 2000. During his career, he also served on the Board of Directors of Lake Shore Gold Corp., Zincore Metals, Cordoba Minerals, and Kaizen Discovery. Mr. Rosado graduated with a degree in Economics in 1992 from Universidad del Pacifico and an MBA from the Ross School of Business, University of Michigan in 2000.

Rodrigo Menck. Mr. Menck has been our Senior Vice President Finance and Group Chief Financial Officer since March 2019. Mr. Menck has more than 20 years of experience in treasury, structured finance and capital markets. He joined Nexa Resources in 2016 as Head of Treasury & Investor Relations. He was also directly involved in Nexa Resources' initial public offering in 2017 as well as Nexa Resources' first debt issuance in May 2017. Prior to joining Nexa Resources, Mr. Menck held positions at BankBoston Corp., Itau Unibanco Holding S.A., WestLB A.G., Citibank and BNP Paribas S.A. He also worked at Braskem S.A. as a Structured Finance Manager and Finance and Shared Services Director and at Construtora Norberto Odebrecht S.A., as Head of Risk, Investments & Structured Finance (Latin America). Mr. Menck holds a degree in Business Administration and an MBA from the University of São Paulo, Brazil.

Mauro Davi Boletta. Mr. Boletta has been our Senior Vice President Smelting since 2016. Mr. Boletta has over 30 years of experience with operations. He joined Votorantim Metais S.A. in 1986, having served in several production areas. Between 2010 and 2011, he was responsible for the design review of an aluminum smelter in Trinidad and Tobago. Mr. Boletta graduated with a degree in electrical engineering from the Federal University of Itajubá, UNIFEI in 1985 and holds an MBA from FGV.

Leonardo Nunes Coelho. Mr. Coelho has been our Senior Vice President Mining since 2017. Mr. Coelho has over 20 years of experience managing mining operations with focus at gold and zinc. Prior to joining us, Mr. Coelho worked for Anglo Gold Ashanti Ltd. for 15 years, where he initiated his career as a Trainee. In Anglo Gold Ashanti Ltd., Mr. Coelho has led mining operations and the expansion of mining projects and served as General Manager of the Cuiabá and Lamego complexes as his last position at this company. Mr. Coelho graduated with a degree in Mine Engineering in 2001 from the Federal University of the State of Minas Gerais ("UFMG") and has obtained graduate degrees from the Kellogg Graduate School of Management in 2015 in the United States, the Dom Cabral Foundation in 2009 in Brazil and the University of Cape Town in 2005 in South Africa as well as a qualification at INSEAD in digital transformation in 2018 and MIT in 2019.

Marcio Luis Silva Godoy. Mr. Godoy has been our Senior Vice President Project Development & Execution since June 2020 and has also been responsible for engineering and IT. Mr. Godoy has over 27 years of experience in the mining industry. He has worked in different roles related to mineral exploration, mineral technology, project development and implementation and mining operations in several countries including Brazil, Mozambique, Chile, Zambia, Australia and Suriname. Mr. Godoy previously worked in well-known companies including Vale, Phelps Dodge, Golden Star Resources and Novo Astro Mining. He was also the chairman of the Agency for the technological development of the Brazilian Mining Industry ("ADIMB"). Mr. Godoy is a graduated Geologist and has a Masters in Geology from the São Paulo State University ("UNESP").

Jones Aparecido Belther. Mr. Belther has been our Senior Vice President Mineral Exploration & Technology since 2014. He has over 28 years of experience in the area. He held the same position at Votorantim Metais S.A. between 2004 and 2014. Prior to joining us, he was country manager at Vale in Peru between 2002 and 2004. He has worked in Brazil and abroad in companies such as Rio Tinto Brasil, Golden Star Resources, in Suriname, Phelps Dodge in Brazil and Chile, Vale in Brazil and Peru, and other companies. Mr. Belther graduated with a degree in Geology in 1991 from the São Paulo State University, UNESP, in Brazil, where he also obtained a Master's degree in 2000 in Mineral Exploration.

Felipe Baldassari Guardiano. Mr. Guardiano has been our Vice President Sustainability & Strategic Planning since 2014 and has also been our Vice President for Corporate Affairs since 2019. Prior to that, he served as Director of Performance Management at Votorantim Metais S.A. between 2012 and 2014. He is responsible for developing and implementing company policies for sustainability and coordinating the elaboration and implementation of our strategic plan. In addition, he is responsible for establishing targets for performance improvement at all operations and corporate divisions through the development and implementation of the Votorantim Performance Management System. In 2012, before joining Votorantim Metais S.A., he worked at Vale for seven years as Director of Performance Management and, later, as a Director of Pellet Plants. Prior to Vale, he worked as a consultant, serving as an engagement manager associate at McKinsey & Co. for approximately five years. Prior to 1999, he lived in the United States for 12 years, where he worked as a Geostatistician and Reserve Specialist for Mineral Resources Development Inc. ("MRDI"). While at MRDI, he provided advisory expertise on mines in the United States, Canada, Africa, Brazil, Australia, Chile and other countries. Mr. Guardiano graduated in Mining Engineering from the Ouro Preto School of Mines (Minas Gerais, Brazil), and holds a Master's degree in Mining Engineering from the Montana College of Mineral Sciences and Technology (Butte, Montana, United States), as well as executive education program certificates from the Massachusetts Institute of Technology (Boston, Massachusetts, United States), and the IMD (Lausanne, Switzerland).

Gustavo Cicilini. Mr. Cicilini became Vice President Human Resources in 2019. Mr. Cicilini joined Nexa Resources in 2018 as senior Human Resources manager for attraction, development and culture and has been responsible for leading a culture transformation program. He has over 20 years of professional experience in various business sectors, including telecommunication, food and beverage, mobility solutions, industrial technology, consumer goods, energy and building technology. He has previously worked in companies including Algar Telecom, AmBev and Robert Bosch and been located throughout Latin America, including in Peru, Colombia, Ecuador, Venezuela, Panama and Costa Rica. Mr. Cicilini previously worked as Regional Corporate Human Resources Project Manager and has been responsible for change management and innovation, business intelligence and cross-selling functions. He holds a degree in Psychology and an MBA in Business Administration.

Ricardo Moraes Galvão Porto. Mr. Porto has been our Senior Vice President Commercial and Supply Chain since July 2018. His previous position was as Vice President Commercial and Supply Chain at Nexa, a position he held since 2014. Mr. Porto has also been Chief Executive Officer at Nexa Peru since November 2017. Mr. Porto held a management position at Votorantim Metais S.A. between 2013 and 2014. Mr. Porto began its career as commercial manager at Esso do Brasil, an Exxon Mobil affiliate. Prior to joining Votorantim Metais S.A., from 2004 until 2012, Mr. Porto worked in several senior management positions as supply chain executive at Vale S.A., reaching the position of officer Procurement Director. After, served as Executive Officer at the Bravante Group, an oil & gas company. Mr. Porto graduated with a degree in chemical engineering from the Federal University of Rio de Janeiro ("UFRJ") and holds an Executive MBA from Fundação Dom Cabral. He has also obtained executive education program certificates from the Massachusetts Institute of Technology, and Kellogg Graduate School of Management in the United States and the IMD in Switzerland.

Evaluation of executive officers

On an annual basis, the performance of our executive officers is evaluated by the chief executive officer, the compensation, nominating and governance committee and ultimately, the board of directors. We strive to create a strong ethical and high-performance culture, as well work to ensure an appropriate succession plan that ensures the continuity of our business. In addition to future business needs, we consider the core skills, experience and diversity necessary to carry out our strategy.

Each year, our chief executive officer presents to the board of directors a report on potential successors to his position, which considers the ability of succession candidates to succeed the chief executive officer in an emergency, on an interim or permanent basis, as well as critical experiences and other attributes required in order for each candidate to enhance his or her readiness for succession. Our board of directors discusses potential successors with the chief executive officers, as well as potential successors to each member of the management team.

Position descriptions

Our board of directors has developed position descriptions for each of the chief executive officer and chief financial officer, which are discussed below.

Chief executive officer

Our board of directors believes that our chief executive officer must have experience in, among other things: leading businesses of a similar complexity and scale; carrying out growth and value creation mandates; participating in mergers and acquisitions; articulating and executing long-term corporate strategies; and facilitating development within high achieving organizations. In addition, our board of directors expects our chief executive officer to have knowledge of the mining and metals industry, international experience and an extensive global network. According to our board of directors, our chief executive officer should possess the following attributes, among others: a hands-on approach to the business; an alignment with our values; resiliency and credibility; a good reputation within the market; and the ability to communicate with and influence stakeholders.

Chief financial officer

Our board of directors believes that our chief financial officer must have experience in, among other things: leading accounting, controllership, financial planning and analysis, investor relations, treasury matters, mergers and acquisitions and risk management activities; formulating a company's plan and direction for the future; developing financial, operational and tax-related strategies; managing transactions; overseeing internal controls in compliance with applicable laws and regulations; and implementing all financial-related activities within a company. In addition, our board of directors expects our chief financial officer to have public company experience, strong analytical and business valuation skills and knowledge of national securities exchanges, such as the NYSE, international experience and an extensive global network. According to our board of directors, our chief financial officer should possess the following attributes, among others: a hands-on approach to the business; an alignment with our values; resiliency and credibility; a good reputation in the market; and the ability to communicate with and influence stakeholders.

Management committee

In accordance with our articles of association, the board of directors may delegate its powers to conduct our management and affairs, as well as its representation of us with respect to such matters, to a management committee. The management committee consists of at least three, and a maximum of seven, members. The members are not required to be shareholders or directors of Nexa. The board of directors may not delegate its powers related to general guidance of our business or acts reserved to the board of directors pursuant to the 1915 Law.

The following table sets forth the current members of our management committee, and their respective positions. The term of the members of our management committee expires on the day of the first board meeting held after the 2022 general shareholders' meeting.

Name	Age	Principal Residence	Position
Ignacio Rosado	52	São Paulo, Brazil	President and Chief Executive Officer
Rodrigo Menck	47	São Paulo, Brazil	Senior Vice President Finance and Group Chief Financial Officer
Mauro Davi Boletta	61	São Paulo, Brazil	Senior Vice President Smelting
Leonardo Nunes Coelho	44	Lima, Peru	Senior Vice President Mining
Marcio Luis Silva Godoy	56	São Paulo, Brazil	Senior Vice President Project Development & Execution
Jones Aparecido Belther	54	São Paulo, Brazil	Senior Vice President Mineral Exploration & Technology
Ricardo Moraes Galvão Porto	48	Lima, Peru	Senior Vice President Commercial & Supply Chain

Conduct Committee

Our conduct committee reports to the Chief Executive Officer and was created on January 1, 2014. Its internal rules were revised and updated on December 2, 2019.

The conduct committee may be composed of at least seven members, such members being necessarily the Chief Executive Officer, the Senior Vice President of Finance and Group Chief Financial Officer, the Vice President of Human Resources, the Head of Internal Audit and Compliance, the Group General Counsel, the Compliance Manager and two representatives of the Ethics Line program, a confidential reporting system available to internal and external parties designed to allow anonymous reporting of violations of our code of conduct, policies and internal procedures or applicable laws.

Our conduct committee's primary responsibilities are to assist the management committee in enforcing the code of conduct, reviewing any claims raised through the Ethics Line program, and identifying claims that should be rated as critical. The conduct committee also assists our audit committee by ensuring that any claim filed through the Ethics Line program and rated as critical is properly elevated to the audit committee for further review.

Family relationships among executives

Our executives do not have any family relationships among themselves or with any other of our employees.

EXECUTIVE AND DIRECTOR COMPENSATION

The following discussion describes the significant elements of the compensation of our executive officers and directors for the year ending December 31, 2021.

In 2021 our executive compensation program includes cash compensation in the form of base salary, short-term incentives and long-term incentives. We provide base salary to compensate executives for their day-to-day responsibilities, which is aligned to a market reference based on industry analysis. We evaluate our total compensation practices on an annual basis to ensure that our compensation remains competitive in light of market and industry trends.

Our compensation, nominating and governance committee is responsible for assisting our board of directors in fulfilling its governance and supervisory responsibilities and advising our board of directors with respect to evaluation and monitoring of compensation models and policies and other related matters. The committee’s responsibilities also include administering and determining our compensation objectives and programs, reviewing and making recommendations to our board of directors concerning the level and type of the compensation payable, evaluating performance, implementing evaluation and improvement processes, and ensuring that policies and processes are consistent with our philosophy and the objectives of our compensation program.

Compensation framework

Our compensation is comprised of three principal components: (i) base salary, (ii) short-term incentive and (iii) long-term incentive.

Principal elements of compensation

Base salary

Base salaries for executive officers are established based on the scope of their responsibilities and competencies and taking into consideration the median market reference. Adjustments to base salaries are expected to be determined annually and may be increased based on performance, as well as to maintain market competitiveness. Additionally, base salaries may be adjusted as warranted throughout the year to reflect promotions or other changes in the scope or breadth of roles or responsibilities.

Short-term incentive program / bonuses

The annual bonus or short-term incentive program aims to align short-term priorities with our strategic planning by rewarding achievement of our goals and targeted annual results, resulting in an alignment with our interests. Each named executive officer has a panel of individual goals, with scales of minimum performance, target and surpass results. Measurement in these panels is based on financial and non-financial indicators. These indicators represent the specific goals and challenges attributable to the position in alignment with our performance and strategic planning.

Financial indicators are based on internal metrics and represent up to 50% of the employee panel for corporate positions and up to 40% for operations positions. In 2021, the metrics used were Adjusted EBITDA and free cash flow.

Strategic goals represent up to 50% of the individual panel and are comprised of qualitative and quantitative factors. In 2021, the metrics used in this assessment included performance targets related to cost, production volume, safety and reserves and resources, Aripuanã project targets, ESG and performance, measured by Nexa Way program. We also recognize individual performance throughout targets thar supports different strategies in line with Nexa’s broader plan. the financial indicators applicable to our CEO represented 50% of the individual panel, and the metrics used were EBITDA and free cash flow. Strategic goals represented 50% of the individual panel reflecting Aripuanã project’s performance indicators, Nexa Way and ESG.

In 2021, up to 20% of the compensation of our executive committee was related to the achievement of ESG goals and we intend to set additional ESG goals for our executive officers in 2022.

Long-term incentive program

Our long-term incentive (“LTI”) program is designed to provide strong incentives for making decisions with a view to creating value for shareholders by linking cash compensation to our long-term performance, and by guiding executive actions towards the achievement of our strategic goals and growth plans.

The LTI program aligns interests among our executives and shareholders to ensure continued value creation. This incentive system is also intended to engage management in developing and delivering a consistent strategic plan, as well to attract and retain executive officers.

The LTI program is based on a five-year vesting period and comprised of three parts: (i) restricted grant, (ii) absolute performance grant and (iii) relative performance grant. All grants are defined amounts approved by the board of directors to be paid out at the end of the five-year vesting period. The restricted grant amount appreciates according to the total shareholder return (“TSR”) over the vesting period. The payment of the absolute performance grant is based on a targeted Company TSR combined with a performance curve, both approved by our board of directors at each granting period. The performance curve determines the amount to be paid in case of a performance equal or lower than expected in the targeted TSR. If the targeted TSR is achieved, the payment is fully due. If the performance of the TSR is greater than expected, the supplementary grant to be paid will be adjusted by up to 100%. The payment of relative performance grant depends on Nexa’s TSR performance when compared to a selected peer group approved by the board of directors.

The methodology is referenced to the market value of Nexa Resources’ shares at the end of the vesting period, calculated based on the weighted average price of the common shares during the months of October, November and December in the year immediately prior to the year in which the respective settlement date for the award occurs, together with dividends paid during the respective grant cycle.

Change of control

Upon the occurrence of a change of control event, all of the phantom shares will continue under the same terms, conditions and due dates, with the following exceptions:

- If Nexa terminates an executive’s employment without cause or if the executive resigns for good reason within 24 months of the change of control event, any unvested phantom shares will immediately fully vest as of the date of such termination or resignation for good reason. The exercise price will be calculated based on the weighted average price of the common shares during the three months immediately preceding the month of termination. In case termination occurs on the same date of the change of control event, the exercise price will be the share price (in US$/share) used as reference for the transaction that resulted in the change of control event.

- If the executive resigns within twelve months of the change of control event, he or she will be entitled to a portion of the granted shares, proportionate to the length of time served (1/60 for each 30-day period served), which will become immediately vested as of the date of resignation. The exercise price will be calculated based on the weighted average price of the common shares during the three months immediately preceding the month of resignation. The Board may approve special cases and adjust the aforementioned rules provided that the basic rights of the new shareholders as well as the executives are preserved.

Short selling

According to our insider trading policy, directors and officers must refrain from active or speculative trading involving Nexa’s securities based on short-term fluctuations in the price of Nexa’s securities or other market conditions. This includes, but is not limited to, short sales, trading in puts, calls or options or similar rights or obligations to buy or sell Nexa’s securities or derivative securities relating to Nexa’s securities, and the purchase of the Nexa’s securities with the intention of quickly reselling them. In addition, directors and officers may not purchase financial instruments, such as prepaid variable forward contracts, equity swaps or collars, designed to hedge or offset a decrease in the market value of Nexa’s securities.

2021 executive compensation

During fiscal year 2021, our executive officers received cash compensation in an aggregate amount of approximately US$6.6 million, which includes compensation paid to any officers whose terms ended on the first business day of 2021. The following table summarizes compensation we paid to our executive officers during the fiscal year 2021, including base salary, short-term incentive programs or bonuses, long-term incentive programs and pension value.

		Non-equity Incentive Plan Compensation			
Name and Title	Base Salary (US$)	Short-term incentive programs / bonuses (US$)	Long-term incentive programs (US$)	Pension Value (US$)	Total Compensation (US$)
Tito Botelho Martins Júnior *President and Chief Executive Officer* (1)	653,405	367,357	407,375	28,227	1,456,365
Ignacio Rosado *President and Chief Executive Officer* (2)	106,658	-	-	-	106,658
Rodrigo Menck *Senior Vice President Finance & Group Chief Financial Officer*	169,733	75,469	-	9,111	254,314
Mauro Davi Boletta *Senior Vice President Smelting*	163,084	147,288	60,180	8,800	379,353
Leonardo Nunes Coelho *Senior Vice President Mining*	363,859	288,740	-	9,839	662,439
Marcio Luiz Silva Godoy *Senior Vice President Project Development & Execution*	302,965	215,189	-	16,567	534,722
Jones Aparecido Belther *Senior Vice President Mineral Exploration and Technology*	164,533	124,648	64,810	8,840	362,831
Gustavo Cicilini (2) *Vice President Human Resources*	133,705	80,150	-	7,287	221,142
Ricardo Moraes Galvão Porto *Senior Vice President Commercial & Supply Chain*	324,270	285,853	63,442	8,577	682,143
Felipe Baldassari Guardiano *Vice President Sustainability, Strategic Planning & Corporate Affairs*	167,984	177,406	68,513	9,219	423,123

(1) Tito Martins remained in his position as CEO until December 31, 2021, as part of the transition process with Mr. Rosado.
(2) Ignacio Rosado joined Nexa as an officer on November 1, 2021 and as CEO on January 1, 2022.

2021 director compensation

During fiscal year 2021, our directors received total compensation in an aggregate amount of US$2,183,583.33 for their services as members of our board of directors. The chair of our board of directors received US$270,000 in annual fees, while each board member received an average of US$55,617.36 per quarter. In addition, each director is entitled to reimbursement for reasonable travel and other expenses incurred in connection with attending board meetings and meetings for any committee on which he or she serves.

We have no service contracts with members of our board of directors providing for benefits upon termination of employment.

Annual compensation levels for the directors are as set out below:

Name	Total Compensation
Jaime Ardila [(1)]	270,000
Daniella Elena Dimitrov [(2)]	228,000
Diego Hernandez [(3)]	222,500
Eduardo Borges de Andrade Filho [(3)]	222,500
Edward Ruiz [(2)]	236,750
Gianfranco Castagnola [(3)]	222,500
Ian Wilton Pearce (until July 29, 2021)	123,333
Jane Sadowsky [(2)]	228,000
João Henrique Batista de Souza Schmidt	215,000
Luís Ermírio de Moraes	215,000

1. The chairman of the board is entitled to additional compensation of US$60,000.00 per year.

2. The audit committee members are entitled to additional compensation of US$10,000.00 per year. The chair of the audit committee is entitled to additional compensation of US$20,000.00 per year.

3. Chairs of the other committees receive compensation of US$10,000.00. There are no additional payments per meeting for members who attend two committees concurrently.

Compensation consultants

We retained Korn Ferry in 2021 to provide competitive market analysis to assist in determining the appropriate level of compensation for executives, providing comprehensive competitive market clearing information on incentives, policies and benefits for each executive position. Korn Ferry has over 40 years of experience and deep knowledge in the Brazilian market. We paid Korn Ferry US$6,054.35 in consulting services fees in 2021.

We also retained Mercer's consulting services for a study of compensation competitiveness in the countries where Nexa operates. Mercer was founded in 1975 and has global experience in career and investment advice. We paid Mercer US$33,586 in consulting services fees in 2021.

We used survey reports compiled by the Bedford Consulting Group to assist in considerations related to board compensation. The Bedford Consulting Group's mining industry reports offer in-depth analysis to support mining companies in benchmarking executive and director compensation practices relative to peer group competitors.

Retirement benefit plans

All executive officers participate in the FUNSEJEM pension fund, a private, closed and not-for-profit pension fund responsible for the management of the pension plans for the employees of the companies that are linked with the Votorantim group.

The pension plan is a defined contribution plan. Participation is voluntary and thus supplemental to the Brazilian government's mandatory social security system. The plan is offered to employees through a specific fund that is maintained separately from the funds of each of the sponsoring organizations.

The plan's assets correspond to 100% of the value of the liabilities. Annually, an actuarial assessment is made in compliance with the current legislation. However, there is no risk of deficit, since it is a defined contribution plan, whose formation of the reserve results from the capitalization of the respective contributions to the plan.

An employee may choose to contribute between 0.5% and 6.0% of his or her base wage. Nexa also matches the contribution made by the participant depending on such participant's salary.

EMPLOYEES

As of December 31, 2021, we had 5,840 employees and 7,662 independent contractors. The following tables show the number of employees and contractors as of December 31, 2021, 2020 and 2019.

Number of Employees

	As of December 31,		
	2021	**2020**	**2019**
Brazil	3,631	3,193	3,310
Peru	2,185	2,131	2,427
United States and Luxembourg	24	25	23
Total	**5,840**	**5,349**	**5,760**

Number of Independent Contractors*

	As of December 31,		
	2021	**2020**	**2019**
Brazil	1,773	1,498	1,046
Peru	5,889	5,638	5,984
Total	**7,662**	**7,136**	**7,030**

*Refers to fixed-term contracts only.

Most of our employees are represented by labor unions. We negotiate collective bargaining agreements, relating to salaries, working conditions and welfare, with the various unions that represent our employees. Although we believe our present labor relations are good, there can be no assurance that a work slowdown, stoppage or strike will not occur prior to or upon the expiration of the current collective bargaining agreements, and we are unable to estimate the effect of any such work slowdown, stoppage or strike on our production levels, in spite of an established contingency plan.

We regularly invest in programs that ensure employee development and meet our specific business needs while continuously enhancing the qualifications of our staff so as to maintain and reinforce our competitiveness and our know-how as we continue to grow. The training programs include Technical/Operative Trainings, Mentoring Program, Leadership Development Program, Young Professional Training and an Individual Development Plan that, among other things, indicates the training that a given employee requires in order to continue to grow within Nexa Resources. In addition, we have a Trainee Program and the Academy of Excellence, a program created by Votorantim for leaders within Votorantim.

V. ADDITIONAL INFORMATION

LEGAL PROCEEDINGS

As of December 31, 2021, we were party to various legal and administrative proceedings relating to labor, civil, environmental and tax matters in which the disputed amount for probable and possible claims was an aggregate of approximately US$346.5 million. It is our policy to make provisions for legal contingencies when, based upon our judgment and the advice of our legal counsel, the risk of loss is probable. As of December 31, 2021, we had established a net provision in the amount of US$36.8 million to cover contingencies for proceedings for which the risk of loss was deemed probable.

The following tables summarize judicial and administrative proceedings to which we are a party, the amounts in dispute in these proceedings in which a loss is considered probable or possible and the aggregate amount of the net provision established for losses that may arise from these proceedings.

	As of December 31, 2021	
	Total Proceedings [1]	**Total Net Provisions** [2]
	(in millions of US$)	
Civil and environmental [3]	126.0	13.6
Tax	162.8	4.5
Labor	57.6	18.7
Total	**346.5**	**36.8**

1. Does not include claims with expectation of loss classified as remote.
2. Net of judicial deposits.
3. Includes environmental legal and administrative proceedings.

Civil and environmental liabilities and contingencies

As of December 31, 2021, we were party to civil and environmental judicial proceedings, with a probable or possible chance of loss in the aggregate amount of US$126.0 million, for which we have recorded a net provision in the amount of US$13.6 million for proceedings with probable losses. The civil and environmental judicial claims filed against us primarily relate to pollution and collection lawsuits, repossession actions and indemnity actions related to contract disputes.

Tax liabilities and contingencies

As of December 31, 2021, we were party to tax-related judicial proceedings, with a probable or possible chance of loss in the aggregate amount of US$162.8 million, for which we have recorded a net provision in the amount of US$4.5 million for proceedings with probable losses.

The tax-related judicial and administrative claims filed against us primarily relate to (i) value added tax on Sales and Services ("ICMS"), (ii) corporate income tax and social contribution on net profit ("IRPJ/CSLL"), (iii) Brazilian mining royalty ("CFEM"), (iv) Contribution to the Social Integration Program ("PIS") and (v) Social Contribution on Billing ("COFINS").

Labor liabilities and contingencies

As of December 31, 2021, we were party to labor judicial proceedings related to employment benefits, with a probable or possible chance of loss of a total amount of US$57.6 million, for which we have recorded a net provision in the amount of US$18.7 million for proceedings with probable losses. The judicial and administrative claims related to labor benefits that were filed against us are mainly related to (i) overtime payments, (ii) compensation for illness-related damages and (iii) payment of social benefits.

ARTICLES OF ASSOCIATION

Company objectives and purposes

We were incorporated in Luxembourg as a public limited liability company (*société anonyme*) on February 26, 2014. Our articles of association provide that our corporate purpose is to, among others, (i) carry out any trade, business or commercial activities whatsoever, including but not limited to the purchase, exchange and sale of goods and/or services to third parties; (ii) take participations and interests, in any form whatsoever, in any commercial, industrial, financial or other, Luxembourg or foreign companies or enterprises; (iii) acquire through participations, contributions, underwriting, purchases or options, negotiation or in any other way any securities, rights, patents and licenses and other property, rights and interest in property as we shall deem fit; (iv) generally to hold, manage, develop, sell or dispose of the same, in whole or in part, for such consideration as Nexa Resources may deem fit, and in particular for shares or securities of any company purchasing the same; (v) enter into, assist or participate in financial, commercial and other transactions; (vi) grant to any holding company, subsidiary or sister company, or any other company that belongs to the same group as Nexa Resources, any assistance, loans, advances or guarantees (in the latter case, even in favor of a third-party lender of any affiliates); (vii) borrow and raise money in any manner and to secure the repayment of any money borrowed; and (viii) generally to do all such other things as may appear to Nexa Resources to be incidental or conducive to the attainment of the above objects or any of them. We can perform all commercial, technical and financial operations, connected directly or indirectly in all areas as described above, in order to facilitate the accomplishment of its purpose, provided always that Nexa Resources will not enter into any transaction that would constitute a regulated activity of the financial sector without due authorization under Luxembourg law.

Our common shares are governed by Luxembourg law and our articles of association. Our articles of association were amended in June and August 2021. The following is a summary of the material terms of our common shares based on our articles of association and Luxembourg law. These rights may differ from those typically provided to shareholders of U.S. companies under the corporation laws of some states of the United States. We encourage you to read the complete form of our articles of association, filed as Exhibit 2.4 of this annual report on Form 20-F.

Common shares

On April 11, 2016, our shareholders approved the reduction of our share capital through the cancellation of 350,000,000 common shares, decreasing our share capital from US$1,280,505,254 to US$930,505,254.

On April 19, 2016, our shareholders approved the issuance of 110,910,811 new common shares fully paid via cash contributions by certain shareholders, increasing our capital from US$930,505,254 to US$1,041,416,065.

On June 28, 2017, our shareholders approved the reduction of our share capital through the cancellation of 200,000,000 common shares, decreasing our share capital from US$1,041,416,065 to US$841,416,065.

On September 18, 2017, our shareholders approved the reduction of our share capital through the cancellation of 300,000,000 common shares, decreasing our share capital from US$841,416,065 to US$541,416,065.

On October 6, 2017, our shareholders approved the reduction of our share capital through the cancellation of 428,595,552 common shares, decreasing our share capital from US$541,416,065 to US$112,820,513.

On October 31, 2017, our shareholders approved the issuance of 20,500,000 new common shares fully paid via cash contributions by certain shareholders, increasing our share capital from US$112,820,513 to US$133,320,513.

On September 13, 2018, our shareholders approved a general authorization to the board of directors to establish share buyback programs for a period of three years. On September 20, 2018, our board of directors approved a share buyback program under which we, directly or indirectly through our subsidiaries, may repurchase, from time to time, up to US$30.0 million of our outstanding common shares listed on the NYSE over a 12-month period beginning on November 6, 2018 and ending on November 6, 2019. As of March 25, 2019, we have repurchased 466,231 common shares, at an average price of US$10.63 per share, for an aggregate purchase price of US$4.96 million. All of the repurchased common shares were cancelled on June 4, 2020.

On June 4, 2020, our shareholders approved the reduction of our share capital through the cancellation of 881,902 treasury shares, decreasing our share capital from US$133,320,513 to US$132,438,611.

As of December 31, 2021, our issued share capital was US$132,438,611 represented by 132,438,611 common shares fully paid, with par value of US$1.00 per share. In addition to our issued share capital, we have an authorized share capital of US$231,924,819, represented by 231,924,819 common shares.

Distributions

Pursuant to our articles of association, the general meeting of shareholders may approve dividends and the board of directors may declare interim dividends, in each case to the extent permitted by Luxembourg law. Pursuant to our articles of association, the board of directors may also declare distributions to our shareholders in the form of reimbursement of share premium or interim dividends to the extent permitted by Luxembourg law. Each common share entitles the holder to participate equally in any distributions, if and when declared by the general meeting of shareholders or, in the case of interim dividends or reimbursements of share premium, the board of directors, out of funds legally available for such purposes.

Declared and unpaid distributions held by us for the account of the shareholders shall not bear interest. Under Luxembourg law, claims for unpaid distributions will lapse in our favor five years after the date such distribution has been declared.

For additional information regarding our policy on distributions, including procedures provided by Luxembourg law, see "Share ownership and trading—Distributions."

Voting rights

There are no restrictions on the rights of Luxembourg or non-Luxembourg residents to vote our shares. All of our shareholders, including our public shareholders, hold common shares with identical voting rights, preferences and privileges. Each common share entitles the shareholder to attend a general meeting of shareholders in person or by proxy, to address the general meeting of shareholders and to vote. Each common share entitles the holder to one vote at the general meeting of shareholders.

The board of directors may also decide to allow shareholders to vote by correspondence by means of a proxy form providing for a positive or negative vote or an abstention on each agenda item. The conditions for voting by correspondence are set out in the articles of association and in the convening notice.

The board of directors may decide to arrange for shareholders to be able to participate in the general meeting by conference call, video conference or similar means of communication, whereby (i) the shareholders attending the meeting can be identified, (ii) all persons participating in the meeting can hear and speak to each other, (iii) the transmission of the meeting is performed on an ongoing basis and (iv) the shareholders can properly deliberate without the need for them to appoint a proxyholder who would be physically present at the meeting.

General meeting of shareholders

In accordance with Luxembourg law and our articles of association, any regularly constituted general meeting of our shareholders has the power to order, carry out or ratify acts relating to our operations to the extent that such decisions are the domain of the shareholders and not the board of directors.

Our annual general meeting of shareholders shall be held at our registered office, or at such other place in Luxembourg as may be specified in the notice of the meeting, within six months after the end of the relevant financial year. Except as otherwise specified in our articles of association, resolutions at a general meeting of shareholders are adopted by a simple majority of shares present or represented and voting at such meeting.

A shareholder entitled to vote may act at any general meeting of shareholders by appointing another person (who need not be a shareholder) as his proxy, which proxy shall be in writing and comply with such requirements as determined by our board with respect to the attendance to the general meeting, and proxy forms in order to enable shareholders to exercise their right to vote. All proxies must be received by us (or our agents) no later than the day determined by our board of directors.

Issuance of shares and preferential subscription rights

Our shares may be issued pursuant to a resolution of the general meeting of shareholders. The general meeting of shareholders may also delegate the authority to issue shares to the board of directors for a renewable period of five years. The board of directors has been authorized to issue up to 231,924,819 common shares. Such authorization will expire five years after the date publication in the Luxembourg legal gazette (*Recueil Electronique des Sociétés et Associations*) of the minutes of the of the general meeting of shareholders held on June 4, 2020 (unless amended or extended by the general meeting of shareholders).

Each holder of shares has preferential subscription rights to subscribe for any issue of shares pro rata to the aggregate amount of such holder's existing holding of the shares. Each shareholder shall, however, have no preferential subscription right on shares issued for a contribution in kind.

Preferential subscription rights may be restricted or excluded by a resolution of the general meeting of shareholders, or by the board of directors if the shareholders so delegate. The general meeting of shareholders has delegated to the board of directors the power to cancel or limit the preferential subscription rights of the shareholders when issuing new shares, so long as the issuance of new shares is carried out through a public offering.

If we decide to issue new shares in the future and do not exclude the preferential subscription rights of existing shareholders, we will publish the decision by placing an announcement in the Luxembourg official journal *Recueil Electronique des Sociétés et Associations* and in a newspaper published in Luxembourg. The announcement will specify the period in which the preferential subscription rights may be exercised. Such period may not be shorter than 14 days from the publication of the offer. The announcement will also specify details regarding the procedure for exercise of the preferential subscription rights. Under Luxembourg law preferential subscription rights are transferable and tradable property rights.

Repurchase of shares

Nexa Resources is prohibited by the 1915 Law from subscribing for its own shares. Nexa Resources may, however, repurchase its own shares or have another person repurchase shares on its behalf, subject to certain conditions, including:

- prior authorization of the general meeting of shareholders setting out the terms and conditions of the proposed repurchase, including the maximum number of shares to be repurchased, the duration of the period for which the authorization is given (which may not exceed five years) and the minimum and maximum consideration per share;
- the repurchase may not reduce the net assets of Nexa Resources on a non-consolidated basis to a level below the aggregate of the issued share capital and the reserves that Nexa Resources must maintain pursuant to the 1915 Law or our articles of association;
- only fully paid-up shares may be repurchased; and
- the acquisition offer is made on the same terms and conditions to all the shareholders who are in the same position; however, listed companies may repurchase their own shares on the stock exchange without making an acquisition offer to the shareholders.

On September 13, 2018, our shareholders authorized us to purchase, acquire, receive or hold and sell shares of Nexa Resources in accordance with the 1915 Law and any other applicable laws and regulations. The authorization was effective immediately after the general meeting and valid for a period of three years. For more information, see "Share ownership and trading—Purchases of equity securities by the issuer and affiliated purchasers."

Form and transfer of shares

Our shares are issued in registered form only and are freely transferable. Luxembourg law does not impose any limitations on the rights of Luxembourg or non-Luxembourg residents to hold or vote our shares.

Under Luxembourg law, the ownership of registered shares is generally evidenced by the inscription of the name of the shareholder, the number of shares held by him or her in the shareholders' register, which is maintained at our registered office. Each transfer of shares is made by a written declaration of transfer recorded in our shareholders' register, dated and signed by the transferor and the transferee or by their duly appointed agent. We may accept and enter into its shareholders' register any transfer based on an agreement between the transferor and the transferee provided a true and complete copy of the agreement is provided to us.

Our articles of association provide that, in case our shares are recorded in the register of shareholders on behalf of one or more persons in the name of a securities settlement system or the operator of such a system, or in the name of a professional depositary of securities or any other depositary or of a sub-depositary designated by one or more depositaries, Nexa—subject to a confirmation in proper form received from the depositary—will permit those persons to exercise the rights attaching to those shares, including admission to and voting at general meetings of shareholders. The board of directors may determine the requirements with which such confirmations must comply. Shares held in such manner generally have the same rights and obligations as any other shares recorded in our shareholder register(s).

TAXATION

Luxembourg tax considerations

Scope of Discussion

This summary is based on the laws of Luxembourg, including the Income Tax Law of December 4, 1967, as amended, the Municipal Business Tax Act of December 1, 1936, as amended and the Net Wealth Tax Act of October 16, 1934, as amended, to which we jointly refer as the "Luxembourg tax law", existing and proposed regulations promulgated thereunder, and published judicial decisions and administrative pronouncements, each as in effect on the date of this report or with a known future effective date. This discussion does not generally address any aspects of Luxembourg taxation other than income tax, corporate income tax, municipal business tax, withholding tax and net wealth tax. This discussion, while not being a complete analysis or listing of all of the possible tax consequences of holding and disposing of shares, addresses the material tax issues. Also, there can be no assurance that the Luxembourg tax authorities will not challenge any of the Luxembourg tax consequences described below; in particular, changes in law and/or administrative practice, as well as changes in relevant facts and circumstances, may alter the tax considerations described below.

For purposes of this discussion, a "Luxembourg shareholder" is any beneficial owner of shares that for Luxembourg income tax purposes is:

- an individual resident of Luxembourg under article 2 of the Luxembourg Income Tax Law ("LITL"), as amended; or
- a corporation or other entity taxable as a corporation that is organized under the laws of Luxembourg or effectively managed from Luxembourg under article 159 of the Income Tax Law, as amended.

This discussion does not constitute tax advice and is intended only as a general guide. Shareholders should also consult their own tax advisors as to the Luxembourg tax consequences of the ownership and disposition of our common shares. The summary applies only to shareholders who will own our common shares as capital assets and does not apply to other categories of shareholders, such as dealers in securities, trustees, insurance companies, collective investment schemes and shareholders who have, or who are deemed to have, acquired their shares in the capital of Nexa Resources by virtue of an office or employment.

Shareholders

Luxembourg income tax on dividends and similar distributions

A non-Luxembourg shareholder will not be subject to Luxembourg income taxes on dividend income and similar distributions in respect of our common shares, other than a potential Luxembourg withholding tax as described below, unless the shares are attributable to a permanent establishment or a fixed place of business maintained in Luxembourg by such non-Luxembourg shareholder.

An individual Luxembourg shareholder will be subject to Luxembourg income tax on dividend income and similar distributions in respect of its shares in Nexa Resources at the applicable progressive rates. Such payments may benefit from a 50.0% exemption set forth in Article 115 15a of the LITL, subject to the conditions set out therein (or 50.0% exemption). If the 50.0% exemption applies, the applicable income tax will be levied on 50% of the gross amount of the dividends at the applicable progressive rates. Taxable dividends are also subject to dependence insurance contribution levied at a rate of 1.4% on the net income where certain Luxembourg shareholders are affiliated to the Luxembourg social security administration.

A corporate Luxembourg shareholder was subject to Luxembourg corporate income tax ("CIT") and municipal business tax ("MBT") at the aggregate rate of 24.94% in 2020 (i.e. Luxembourg CIT is 18.19% including the surcharge for the unemployment and MBT is 6.75% for having its statutory seat in Luxembourg City). The taxable basis of a corporate Luxembourg shareholder will, in principle, correspond to its accounting results, unless a specific treatment is provided for by the LITL. A corporate Luxembourg shareholder may benefit from the Luxembourg participation exemption (the "participation exemption") with respect to dividends received if the following two conditions are met: (a) the shareholder holds or commits itself to hold at least 10.0% of the share capital of Nexa Resources or a participation with an acquisition price of at least €1.2 million for an uninterrupted period of at least twelve months and (b) the shareholder is a Luxembourg fully taxable corporation. If these cumulative conditions are met, dividends received by the corporate Luxembourg shareholder would be fully exempt from CIT and MBT at the level of the corporate Luxembourg shareholder.

If the conditions with respect to the Luxembourg participation exemption are not met, the corporate Luxembourg shareholders can still benefit from the aforementioned 50.0% exemption, subject to the conditions set out therein.

Luxembourg withholding tax—Share capital reductions or share premium reimbursements

Share capital reductions or share premium reimbursements made by Nexa Resources to the Luxembourg and non-Luxembourg shareholders are in principle subject to a 15% Luxembourg withholding tax, unless they have been motivated by genuine economic reasons. Although genuine economic reasons are not defined by law, Luxembourg tax authorities may examine the given reasons. We do not intend to make capital reductions in the near future. Nexa Resources discloses distributable reserves, retained earnings and profits in its chart of accounts according to Decree dated June 10, 2009. As of December 31, 2021, we have the ability to pay dividends and share premiums. The share premium, if any, may be distributed to the shareholders in accordance with Luxembourg Commercial Companies Act by a resolution of the board of directors. See “Share ownership and trading—Distributions”.

Luxembourg withholding tax—Distributions to shareholders

A Luxembourg withholding tax of 15.0% is due on dividends and similar distributions made by Nexa Resources to its Luxembourg and non-Luxembourg shareholders unless a Luxembourg domestic dividend withholding tax exemption or a double tax treaty reduction is applicable, as described below. The tax will be withheld by Nexa Resources and remitted to the Luxembourg tax authorities within 8 days as of the date the income is made available to the Luxembourg and non-Luxembourg shareholders.

Exemption from Luxembourg withholding tax—Distributions to shareholders

Dividends paid by Nexa Resources will be exempt from Luxembourg withholding tax provided that the following cumulative conditions are met (or domestic exemption):

- at the date of the distribution, the shareholder holds at least 10% of the share capital of Nexa Resources or a participation with an acquisition price of at least €1.2 million for an uninterrupted period of at least twelve months; and
- the dividend is paid to a (i) fully taxable company resident in Luxembourg, (ii) a company resident in a EU Member State fulfilling the conditions of Article 2 of the Parent Subsidiary Directive and listed in the appendix to this directive, (iii) a company resident in a country with which Luxembourg has concluded a double tax treaty and which is fully subject to income tax comparable to the Luxembourg corporate income tax as well as a Luxembourg permanent establishment of such a company, (iv) a company resident of Switzerland and subject to tax without being exempt, (v) a company or a cooperative company resident in a Member State of the European Economic Area, other than a Member State of the EU, and that is fully subject to tax equivalent to the Luxembourg corporate income tax, or (vi) a Luxembourg permanent establishment of a company under (ii) or (v).

Shareholders that are companies’ resident in countries that have entered a double tax treaty with Luxembourg may qualify for the domestic exemption described above.

For a shareholder to benefit from such exemption upon a distribution date, Nexa Resources must file a properly competed form 900 with the Luxembourg tax authorities within 8 days following the earlier of (a) the distribution decision date in case no payment date is fixed, and (b) the effective date of payment of the dividend. Luxembourg tax authorities may request all relevant documentation showing fulfillment of the above-mentioned conditions (*e.g.*, including a tax residency certificate). Nexa makes no representation that this exemption procedure will be practicable with respect to shares held through a clearing system such as DTC (in the United States).

Alternatively, a shareholder may file a refund request (form 901bis, stamped and validated by the tax authorities of the State of residency of the shareholder) with the Luxembourg tax authorities before December 31 of the year following the taxable event (*i.e.*, the distribution). Nexa makes no representation that this refund procedure will be practicable for a shareholder residing in the United States or any other specific jurisdiction.

A shareholder that does not meet the twelve-month holding period described in the first bullet above can request a refund when the twelve-month period has elapsed. The refund request (form 901bis, stamped and validated by the tax authorities of the State of residency of the shareholder) has to be filed with the Luxembourg tax authorities before December 31 of the year following the taxable event.

Forms 900 and 901bis are generally made available on the website of the Luxembourg tax authorities (*Administration des contributions directes*).

The application of the dividend withholding tax exemption to taxable companies' residents in other EU member states or to their EU permanent establishments is not granted if the income allocated is part of a tax avoidance scheme.

Reduction of Luxembourg withholding tax—Distributions to shareholders

As mentioned above, pursuant to the provisions of certain bilateral treaties for the avoidance of double taxation concluded between Luxembourg and other countries, and if certain conditions are met, the aforementioned Luxembourg dividend withholding tax may be reduced. Many such treaties, including the double tax treaty with the United States, provide for a tax rate lower than 15 percent only for a shareholder that holds a substantial (generally, 10 percent or 25 percent) portion of a Luxembourg company's shares. Shareholders that hold such shares should consult their tax advisors to determine how to benefit from the reduction in withholding tax rates.

A shareholder that is a company resident in a country that has entered a double tax treaty with Luxembourg may qualify for the domestic exemption even if the treaty would not reduce the withholding tax rate applicable to dividends paid to that shareholder.

Luxembourg NWT

A non-Luxembourg shareholder will not be subject to Luxembourg net wealth tax ("NWT") unless the shares are attributable to a permanent establishment or a fixed place of business maintained in Luxembourg by such non Luxembourg shareholder.

Luxembourg individual shareholders are not subject to Luxembourg NWT. A Luxembourg corporate shareholder will be subject to Luxembourg NWT in respect of the shares held in the capital of Nexa Resources unless it holds more than 10% or €1.2 million of our common shares.

Luxembourg capital gains tax upon disposal of shares

Capital gains derived by a non-Luxembourg shareholder on the sale of our common shares will not be subject to taxation in Luxembourg, unless one of the following conditions applies:

- the shareholder does not benefit from a double tax treaty and (i) holds shares in Nexa Resources representing more than 10% of the share capital of Nexa Resources and such shares were held for less than six months prior to their sale or (ii) has been a resident taxpayer in Luxembourg for at least fifteen years and had acquired nonresident status less than five years prior to the disposal; or

- Our common shares are attributable to a permanent establishment or a fixed place of business maintained in Luxembourg by such non-Luxembourg shareholder. In such case, the non-Luxembourg shareholder is required to recognize capital gains or losses on the sale of such shares, which will be subject to CIT and MBT, unless the participation exemption applies.

Capital gains realized upon the sale of our common shares by a Luxembourg resident individual will be subject to Luxembourg income tax at the level of the Luxembourg resident individual only in case of (i) speculation gains or (ii) gains realized on a substantial participation.

Speculation gains

Capital gains realized upon the sale of our common shares within a shareholding period not exceeding six months will be subject to personal income taxation (unless such capital gain does not exceed €500) in the hands of a Luxembourg resident individual.

Substantial participation

In case where the Luxembourg resident individual has held the shares for at least six months and had a substantial participation, the capital gains realized will be subject to income tax at a rate equal to half the normal progressive rate applicable. A participation is considered as a substantial participation when a Luxembourg resident individual, jointly with his/her spouse and children under the age of 18, holds or has held, directly or indirectly, at any time during the five years prior to the date of the sale, 10.0% or more of the share capital of Nexa Resources.

Capital gains realized by the Luxembourg corporate shareholder (s*ociété de capitaux*) should be exempt from capital gains tax in Luxembourg if at the date of the disposal, the Luxembourg shareholder has held or undertakes to hold, for an uninterrupted period of at least 12 months, a direct participation which represents at least 10.0% of the share capital of Nexa Resources, or which acquisition price was at least €6.0 million. If these conditions are not met, the Luxembourg corporate shareholder would be fully taxed on the capital gains realized upon the sale of the common share. The exempt amount of the capital gains realized will be, however, reduced by the amount of any expenses related to the participation, including decreases in the acquisition cost that could have previously reduced such shareholder's Luxembourg taxable income.

ATAD rules

The European Council has adopted two Anti-Tax Avoidance Directives: Council Directive (EU) 2016/1164 of 12 July 2016 laying down rules against tax avoidance practices that directly affect the functioning of the internal market ("ATAD I") and Directive 2017/952/EU of 29 May 2017 amending ATAD I as regards hybrid mismatches with third countries ("ATAD II") that address many of the issues mentioned above. The measures included in ATAD I were implemented into Luxembourg law on December 21, 2018 and almost all of them have been applicable since January 1, 2019. The measures included in ATAD II were implemented into Luxembourg law on December 19, 2019 and almost all of them have been applicable since January 1, 2020. ATAD I and ATAD II may have a material impact on how returns to shareholders are taxed.

Peruvian tax considerations

The following is a general summary of material Peruvian tax matters, as in effect on the date of this report, and describes our understanding of the principal tax consequences of an investment in our common shares by a person or entity who is not considered a resident of Peru for tax purposes. This summary is not intended to be a comprehensive description of all the tax considerations that may be relevant to a decision to make an investment in the offered shares.

This summary is based on provisions of the Peruvian income tax law and its regulations in force as of the date hereof. No rulings from the Peruvian tax authorities or judicial rulings address the tax treatment of instruments similar to the shares of Nexa Resources. Accordingly, no assurance can be given that the Peruvian tax authorities will agree with the conclusions described below. If the Peruvian tax authorities were to take a position different from the conclusions described below, the Peruvian income tax consequences of investing in Nexa Resources may differ from those summarized below.

Sale, exchange or disposition of the shares or a beneficial interest therein

Investors who decide to invest in the shares of Nexa Resources hold the shares in book-entry form, in the name of a nominee holding such shares for the investors' benefit. Any future trading of such shares will be effected through a conveyance of the beneficial interest held by the investors thereupon through the designated clearing mechanism. Because the conveyance of such beneficial interest does not imply the actual transfer of shares, any capital gains resulting from the conveyance of the beneficial interest in such shares, obtained by a person or entity who is not considered a resident of Peru for Peruvian tax purposes, should not be subject to taxation in Peru.

Contrary to the conclusion stated above, if the sale of our common shares were to qualify as an "indirect transfer of Peruvian shares" (and the transfer of the beneficial interest in the shares were to be considered as an actual transfer of such shares), different rules would apply.

According to Peruvian income tax law, an "indirect transfer of Peruvian shares" is deemed to occur when there is a transfer of shares issued by a non-resident company which, in turn, owns—directly or through one or more companies—shares issued by a Peruvian company, and the following two conditions are concurrently met:

(i) during any of the 12 months preceding the transfer, the fair market value ("FMV") of the shares issued by the Peruvian company held directly or indirectly by the nonresident company which shares are being sold, is equivalent to 50% or more of the FMV of all the shares issued by said non-resident company; and

(ii) during any 12-month period, the shares transferred by a party, including those transferred by its related parties, represent at least 10% of the shares issued by such non-resident company.

Due to recent modifications to Peruvian income tax law, as of January 1, 2019, even if the abovementioned conditions are not met, an indirect transfer of Peruvian shares will also be deemed to exist if the "total value" of shares of the Peruvian company indirectly transferred within any 12-month period is equivalent to or higher than 40,000 Peruvian tax units (S/176 million or US$50.0 million approximately). Said "total value" is determined by multiplying: i) the "percentage" that the FMV of the shares issued by the Peruvian company held (directly or indirectly) by the non-resident company which shares are being transferred, represents with regard to the FMV of all the shares issued by said non-resident company; and, ii) the price agreed for the shares issued by the non-resident company directly transferred. To determine the "total value" threshold, transfers made by those parties which qualify as related to the transferor should also be considered. Nonetheless, the "taxable base" shall be determined, in any case, per party, considering the transfers made by the latter within the abovementioned 12-month period, but excluding those transfers previously taxed.

In case the sale of the shares were to qualify as an "indirect transfer of Peruvian shares" (and the transfer of the beneficial interest on the shares were to be considered as an actual transfer of such shares), any capital gain resulting therefrom will be subject to a 30% tax rate in Peru.

In case the corporate investor that makes the indirect transfer of Peruvian shares has a branch or a permanent establishment with assigned assets in Peru, said corporation will be jointly and severally liable for any income tax that resulted from the transfer of Peruvian shares; it will also be obligated to present to the Peruvian tax authority all the information related to the Peruvian shares of the non-resident investor that are being sold, particularly the information referred to the FMV; participation percentages; capital increase or reduction; issuance and placement of shares or participations; reorganization processes; patrimonial values and balance sheets; etc. Investors should consult their own tax advisors about the consequences of the acquisition, ownership, and disposition of their investment in the offered shares or any beneficial interest therein, including the possibility that the tax consequences of investing in the offered shares may differ from the description above.

United States federal income tax considerations

The following is a summary of certain U.S. federal income tax considerations that are likely to be relevant to the purchase, ownership and disposition of our common shares by a U.S. Holder (as defined below).

This summary is based on provisions of the Internal Revenue Code of 1986, as amended (the "Code"), and U.S. Treasury regulations (Regulations), rulings and judicial interpretations thereof, in force as of the date hereof, and the U.S.-Luxembourg Treaty dated December 20, 2000 (as amended by any subsequent protocols). Those authorities may be changed at any time, perhaps retroactively, so as to result in U.S. federal income tax consequences different from those summarized below.

This summary is not a comprehensive discussion of all of the tax considerations that may be relevant to a particular investor's decision to purchase, hold, or dispose of our common shares. In particular, this summary is directed only to U.S. Holders that hold common shares as capital assets and does not address tax consequences to U.S. Holders who may be subject to special tax rules, such as banks, brokers or dealers in securities or currencies, traders in securities electing to mark to market, financial institutions, life insurance companies, tax exempt entities, entities that are treated as partnerships for U.S. federal income tax purposes (or partners therein), holders that own or are treated as owning 10% or more of our common shares by vote or value, persons holding common shares as part of a hedging or conversion transaction or a straddle, nonresident alien individuals present in the United States for more than 182 days in a taxable year, or persons whose functional currency is not the U.S. dollar. Moreover, this summary does not address state, local or foreign taxes, U.S. federal estate and gift taxes, or the Medicare contribution tax applicable to net investment income of certain non-corporate U.S. Holders, or the alternative minimum tax consequences of acquiring, holding or disposing of common shares.

For purposes of this summary, a "U.S. Holder" is a beneficial owner of common shares that is a citizen or resident of the United States, a U.S. domestic corporation or that otherwise is subject to U.S. federal income taxation on a net income basis in respect of such common shares.

U.S. Holders should consult their tax advisors about the consequences of the acquisition, ownership, and disposition of the common shares, including the relevance to their particular situation of the considerations discussed below and any consequences arising under foreign, state, local or other tax laws.

Taxation of dividends

Subject to the discussion below under "Passive Foreign Investment Company Status" the gross amount of any distribution of cash or property with respect to our common shares that is paid out of our current or accumulated earnings and profits (as determined for U.S. federal income tax purposes) will generally be includible in a U.S. Holder's taxable income as ordinary dividend income on the day on which the U.S. Holder receives the dividend and will not be eligible for the dividends received deduction allowed to corporations under the Code.

We do not expect to maintain calculations of our earnings and profits in accordance with U.S. federal income tax principles. U.S. Holders therefore should expect that distributions generally will be treated as dividends for U.S. federal income tax purposes.

Subject to certain exceptions for short-term positions, dividends received by an individual with respect to the common shares will be subject to taxation at a preferential rate if the dividends are "qualified dividends." Dividends paid on the common shares will be treated as qualified dividends if:

- the common shares are readily tradable on an established securities market in the United States; and
- we were not, in the year prior to the year in which the dividend was paid, and are not, in the year in which the dividend is paid, a passive foreign investment company ("PFIC").

The common shares are listed on the NYSE and will qualify as readily tradable on an established securities market in the United States so long as they are so listed. Based on our consolidated financial statements and relevant market and shareholder data, we believe that we were not classified as a PFIC with respect to our prior taxable year. In addition, based on our consolidated financial statements and our current expectations regarding the value and nature of our assets, the sources and nature of our income and relevant market and shareholder data, we do not anticipate becoming a PFIC for our current taxable year or in the foreseeable future. Accordingly, we expect that dividends paid on the common shares will be treated as qualified dividends. U.S. Holders should consult their tax advisors regarding the availability of the reduced dividend tax rate in light of their own particular circumstances.

Dividend distributions with respect to our common shares generally will be treated as "passive category" income from sources outside the United States for purposes of determining a U.S. Holder's U.S. foreign tax credit limitation. Subject to the limitations and conditions provided in the Code and the applicable Regulations, a U.S. Holder may be able to claim a foreign tax credit against its U.S. federal income tax liability in respect of any Luxembourg income taxes withheld at the appropriate rate applicable to the U.S. Holder from a dividend paid to such U.S. Holder. Alternatively, the U.S. Holder may deduct such Luxembourg income taxes from its U.S. federal taxable income, provided that the U.S. Holder elects to deduct rather than credit all foreign income taxes for the relevant taxable year. The rules with respect to foreign tax credits are complex and involve the application of rules that depend on a U.S. Holder's particular circumstances. Accordingly, U.S. Holders are urged to consult their tax advisors regarding the availability of the foreign tax credit under their particular circumstances.

U.S. Holders that receive distributions of additional common shares or rights to subscribe for common shares as part of a pro rata distribution to all our shareholders generally will not be subject to U.S. federal income tax in respect of the distributions.

Taxation of dispositions of common shares

Subject to the discussion below under "—Passive Foreign Investment Company Status," a U.S. Holder generally will recognize gain or loss on the sale, exchange or other disposition of common shares in an amount equal to the difference, if any, between the amount realized upon the sale, exchange or other disposition and the U.S. Holder's adjusted tax basis in the common shares. A U.S. Holder's adjusted tax basis in its common shares generally will equal the purchase price for the common shares. Any gain or loss will be capital gain or loss and generally will be long-term capital gain or loss if the common shares have been held for more than one year. Long-term capital gain realized by a U.S. Holder that is an individual generally is subject to taxation at a preferential rate. The deductibility of capital losses is subject to limitations. Gain, if any, realized by a U.S. Holder on the sale or other disposition of the common shares generally will be treated as U.S. source income for U.S. foreign tax credit purposes.

Passive foreign investment company status

Special U.S. tax rules apply to companies that are considered to be PFICs. We will be classified as a PFIC in a particular taxable year if either:

- 75 percent or more of our gross income for the taxable year is passive income; or
- the average percentage of the value of our assets that produce or are held for the production of passive income is at least 50 percent.

Passive income generally includes dividends, interest, royalties, rents, annuities, net gains from the sale or exchange of property producing such income, net foreign currency gains, and gains from commodities transactions other than gains that are active business gains from the sale of commodities or arise from "commodity hedging transactions", within the meaning of the applicable rules ("Commodity Exception").

Based on certain estimates of our gross income and gross assets and relying on the Commodity Exception, we do not believe that we currently are a PFIC, and do not anticipate becoming a PFIC in the foreseeable future. However, since PFIC status will be determined by us on an annual basis and since such status depends upon the composition of our income and assets, and the nature of our activities (including our ability to qualify for the Commodity Exception or any similar exceptions), from time to time, there can be no assurance that we will not be considered a PFIC for any taxable year. In the event that, contrary to our expectation, we are classified as a PFIC in any year, and a U.S. Holder does not make a mark-to-market election, as described in the following paragraph, the U.S. Holder will be subject to a special tax at ordinary income tax rates on "excess distributions," including certain distributions by us and gain that the U.S. Holder recognizes on the sale of the common shares. The amount of income tax on any excess distributions will be increased by an interest charge to compensate for tax deferral, calculated as if the excess distributions were earned ratably over the period that the U.S. Holder holds the common shares. Classification as a PFIC may also have other adverse tax consequences.

A U.S. Holder can avoid the unfavorable rules described in the preceding paragraph by electing to mark the common shares to market. If a U.S. Holder makes this mark-to-market election, the U.S. Holder will be required in any year in which we are a PFIC to include as ordinary income the excess of the fair market value of the U.S. Holder's common shares at year-end over the U.S. Holder's basis in those shares. The U.S. Holder's basis in the shares will be adjusted to reflect the gain or loss. In addition, any gain that the U.S. Holder recognizes upon the sale of the common shares will be taxed as ordinary income in the year of sale.

A U.S. Holder that owns an equity interest in a PFIC must annually file IRS Form 8621 and may be required to file other IRS forms. A failure to file one or more of these forms as required may toll the running of the statute of limitations in respect of each of the U.S. Holder's taxable years for which such form is required to be filed. As a result, the taxable years with respect to which the U.S. Holder fails to file the form may remain open to assessment by the U.S. Internal Revenue Service ("IRS") indefinitely, until the form is filed.

U.S. Holders should consult their tax advisors regarding the U.S. federal income tax considerations discussed above and the desirability of making a mark-to-market election if we were to be classified as a PFIC.

Foreign financial asset reporting

Certain U.S. Holders that own "specified foreign financial assets" with an aggregate value in excess of US$50,000 on the last day of the taxable year or US$75,000 at any time during the taxable year are generally required to file an information statement along with their tax returns, currently on Form 8938, with respect to such assets. "Specified foreign financial assets" include any financial accounts held at a non-U.S. financial institution, as well as securities issued by a non-U.S. issuer that are not held in accounts maintained by financial institutions. The understatement of income attributable to "specified foreign financial assets" in excess of US$5,000 extends the statute of limitations with respect to the tax return to six years after the return was filed. U.S. Holders who fail to report the required information could be subject to substantial penalties. Prospective investors are encouraged to consult with their tax advisors regarding the possible application of these rules, including the application of the rules to their particular circumstances.

Backup withholding and information reporting

Dividends paid on, and proceeds from the sale or other disposition of, the common shares to a U.S. Holder generally may be subject to the information reporting requirements of the Code and may be subject to backup withholding unless the U.S. Holder provides an accurate taxpayer identification number and makes any other required certification or otherwise establishes an exemption. Backup withholding is not an additional tax. The amount of any backup withholding from a payment to a U.S. Holder will be allowed as a refund or credit against the U.S. Holder's U.S. federal income tax liability, provided the required information is furnished to the IRS in a timely manner.

A holder that is a foreign corporation or a non-resident alien individual may be required to comply with certification and identification procedures in order to establish its exemption from information reporting and backup withholding.

EXCHANGE CONTROLS AND OTHER LIMITATIONS AFFECTING SECURITY HOLDERS

We are not aware of any governmental laws, decrees, regulations or other legislation in Luxembourg that restrict the export or import of capital, including the availability of cash and cash equivalents for use by our affiliated companies, or that affect the remittance of dividends, interest or other payments to non-resident holders of our securities.

EVALUATION OF DISCLOSURE CONTROLS AND PROCEDURES

Our management, with the participation of our chief executive officer and chief financial officer, has evaluated the effectiveness of our disclosure controls and procedures as of December 31, 2021. There are inherent limitations to the effectiveness of any system of disclosure controls and procedures, including the possibility of human error and the circumvention or overriding of the controls and procedures. Accordingly, even effective disclosure controls and procedures can only provide reasonable assurance of achieving their control objectives.

We have evaluated, with the participation of our chief executive officer and chief financial officer, the effectiveness of our disclosure controls and procedures as of December 31, 2021. Based on our evaluation, our chief executive officer and chief financial officer concluded that our disclosure controls and procedures were effective as of December 31, 2021.

INTERNAL CONTROL OVER FINANCIAL REPORTING

Management report on internal control over financial reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting and for assessing its effectiveness.

Our internal control over financial reporting is a process designed by, or under the supervision of, our chief executive officer and our chief financial officer, and effected by our board of directors, management and other employees, and is designed to provide reasonable assurance regarding the reliability of financial reporting and of the preparation of our consolidated financial statements, in accordance with IFRS as issued by the IASB.

Due to its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness of internal control over financial reporting to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with our policies or procedures may deteriorate.

Our management has assessed the effectiveness of our internal control over financial reporting as of December 31, 2021, based upon the criteria established in Internal Controls—Integrated Framework (2013), issued by the Committee of Sponsoring Organizations of Treadway Commission ("COSO"). Based on this assessment and criteria, our management has concluded that our internal control over financial reporting was effective as of December 31, 2021.

Audit of the effectiveness of internal control over financial reporting

Our independent registered public accounting firm, PricewaterhouseCoopers Auditores Independentes Ltda., has audited the effectiveness of our internal control over financial reporting, as stated in its report as of December 31, 2021, which is included herein.

Changes in internal control over financial reporting

There were no changes in our internal control over financial reporting during the fiscal year of 2021, which have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PRINCIPAL ACCOUNTANT FEES AND SERVICES

The following table summarizes the fees billed to us by our independent auditors PricewaterhouseCoopers Auditores Independentes Ltda. for professional services in 2021 and 2020:

	For the Year Ended December 31,	
	2021	2020
	(US$ thousand)	
Audit fees	1,936.3	1,762.4
Audit-related fees	112,4	543.9
Tax fees	-	-
Other fees	-	17.5
Total fees	**2,048.7**	**2,323.9**

"Audit fees" are the aggregate fees billed by PricewaterhouseCoopers Auditores Independentes Ltda. for the audit of our annual financial statements, the audit of the statutory financial statements of our subsidiaries, and reviews of interim financial statements and attestation services that are provided in connection with statutory and regulatory filings or engagements. They also include fees for services that only the independent auditor reasonably can provide, including the provision of comfort letters and consents in connection with statutory and regulatory filings and the review of documents filed with the SEC and other capital markets or local financial reporting regulatory bodies. "Audit-related fees" are fees charged by PricewaterhouseCoopers Auditores Independentes Ltda. for assurance and related services that are reasonably related to the performance of the audit or review of our consolidated financial statements and are not reported under "Audit fees". "Tax fees" are the aggregate fees billed by PricewaterhouseCoopers Auditores Independentes Ltda. for services rendered for tax compliance, tax advice and tax planning. "Other fees" are the aggregate fees billed by PricewaterhouseCoopers Auditores Independentes Ltda. for services related with assurance and review procedures not related with regulatory or financial reporting of our consolidated financial statements.

Nexa has established policies and procedures that require any engagement of our independent auditor for audit or non-audit services to be submitted to and pre-approved by the audit committee. In addition, our audit committee may delegate the authority to pre-approve non-audit services to one or more of its members. All non-audit services that are pre-approved pursuant to such delegated authority must be presented to the full audit committee at its first scheduled meeting following such pre-approval. Our audit committee also has the authority to recommend pre-approval policies and procedures to our board of directors and for the engagement of our independent auditor's services.

INFORMATION FILED WITH SECURITIES REGULATORS

We are subject to various information and disclosure requirements in those countries in which our securities are traded, and we file financial statements and other periodic reports with the SEC and Canadian securities regulatory authorities.

- *United States*. We are subject to the information requirements of the Securities Exchange Act of 1934, as amended, and accordingly file reports and other information with the SEC. Our SEC filings are available to the public from the SEC at http://www.sec.gov. You may also inspect Nexa Resources' reports and other information at the offices of the New York Stock Exchange, 11 Wall Street, New York, New York 10005, on which our common shares are listed. For further information on obtaining copies of Nexa Resources' public filings at the NYSE, you should call (212) 656-5060.

- *Canada*. We must comply with certain Canadian periodic and ongoing disclosure rules under applicable Canadian provincial and territorial securities laws. However, with respect to the rules under applicable Canadian provincial and territorial securities laws, we are able to rely on certain exemptions from many of the requirements under such laws through our compliance with U.S. disclosures given our status in the U.S as a foreign private issuer. Our Canadian filings are available to the public from the website maintained by the Canadian Securities Administrators at www.sedar.com.

GLOSSARY

Brownfields project: An exploration or development project near or within an existing operation, which can share infrastructure and management.

Concentration: The process by which crushed and ground ore is separated into metal concentrates and reject material through processes such as flotation.

Concentrate plant: A plant where metal concentration occurs.

Cut-off grade: is the grade (*i.e.,* the concentration of metal or mineral in rock) that determines the destination of the material during mining.

Development: The process of constructing a mining facility and the infrastructure to support the facility is known as mine development.

Diamond drilling: A method of drilling that uses a diamond bit, which rotates at the end of a drill rod or pipe. The opening at the end of the diamond bit allows a solid column of rock to move up into the drill pipe and be recovered at the surface. This column of rock is named drill core and is used for geological, geotechnical logging and for sampling for chemical analysis to define the metal content of the rock or mineralized material. Standard core sizes/diameters are 63.5 mm (defined as HQ), 46.7 mm (defined as NQ) and 36.5 mm (defined as BQ). Most drill rods are 10 feet long. After the first 10 feet are drilled, a new section of pipe is screwed into the top end, so the combination of pipes can be driven another 10 feet into the ground.

Exploration: Activities associated with ascertaining the existence, location, extent or quality of a mineral deposit.

Exploration stage property: is a property that has no mineral reserves disclosed.

Greenfields project: An exploration or development projects that is located outside the area of influence of existing mine operations and/or infrastructure and will be independently developed and managed.

Indicated Mineral Resource: is that part of a mineral resource for which quantity and grade or quality are estimated on the basis of adequate geological evidence and sampling.

***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.

km: kilometer.

ktpd: thousand tonnes per day.

LBMA: The London Bullion Market Association.

LME: London Metal Exchange.

LOM: life of mine.

Measured Mineral Resource: is that part of a mineral resource for which quantity and grade or quality are estimated on the basis of conclusive geological evidence and sampling.

Metal concentrate: The crushed and ground material obtained after concentration, including zinc, lead and copper concentrates. This is the product from our mining operations. Most of the zinc concentrate we produce is used in our smelting operations and the remaining portion, along with our lead and copper concentrates, is sold to our customers.

Metallic zinc: Pure metal (99.995% zinc) obtained from the electrodeposition of a zinc sulfate solution, free of impurities, through the Roaster-Leaching-Electrolysis (“RLE”) process.

Mineralization: The process or processes by which a mineral or minerals are introduced into a rock, resulting in a potentially valuable or valuable deposit.

Mineralized material: Mineral bearing material that has been physically delineated by one or more methods, including drilling and underground work, and is supported by sampling and chemical analysis. This material has been found to contain a sufficient amount of mineralization of an average grade of metal or metals to have economic potential that warrants further exploration evaluation. While this material is not currently or may never be classified as ore reserves, it is reported as mineralized material only if the potential exists for reclassification into the reserves category. This material cannot be classified in the reserves category until final technical, economic and legal factors have been determined. Under the SEC's standards, a mineral deposit does not qualify as a reserve unless it can be economically and legally extracted at the time of reserve determination and it constitutes a proven or probable reserve (as defined below).

Mineral Reserve: is an estimate of tonnage and grade or quality of indicated and measured mineral resources that, in the opinion of the qualified person, can be the basis of an economically viable project. More specifically, it is the economically mineable part of a measured or indicated mineral resource, which includes diluting materials and allowances for losses that may occur when the material is mined or extracted.

Mineral Resource: is a concentration or occurrence of 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 economic extraction. A mineral resource is a reasonable estimate of mineralization, taking into account relevant factors such as cut-off grade, likely mining dimensions, location or continuity that, with the assumed and justifiable technical and economic conditions, is likely to, in whole or in part, become economically extractable.

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

NSR: Net Smelter Return is the net revenue that the owner of a mining property receives from the sale of the mine's metal/nonmetal products less transportation and refining costs.

Open pit: Surface mining in which the ore is extracted from a pit. The geometry of the pit may vary with the characteristics of the ore body.

Ore: A mineral or aggregate of minerals from which metal can be economically mined or extracted.

Ore grade: The average amount of metal expressed as a percentage, grams per tonne or in ounces per tonne.

Ounces or oz: Unit of weight. A troy ounce equals 31.1034 grams. All references to ounces in this report are to troy ounces unless otherwise specified.

Probable Mineral Reserve: is the economically mineable part of an indicated and, in some cases, a measured mineral resource.

Production stage property: is a property with material extraction of mineral reserves.

Proven Mineral Reserve: is the economically mineable part of a measured mineral resource and can only result from conversion of a measured mineral resource.

Reclamation: The process of stabilizing, contouring, maintaining, conditioning and/or reconstructing the surface of disturbed land (*i.e.*, used or affected by the execution of mining activities) to a state of "equivalent land capability." Reclamation standards vary widely, but usually address issues of ground and surface water, topsoil, final slope gradients, overburden and revegetation.

Refining: The process of purifying an impure metal; the purification of crude metallic substances.

Secondary feed materials: By-products of industrial processes such as smelting and refining that are then available for further treatment/recycling. It can cover foundry ashes, zinc oxides from brass and bronze production, electric arc furnace ("EAF") dust and slags.

SHG: Special High Grade.

Skarn: Metamorphic zone developed in the contact area around igneous rock intrusions when carbonate sedimentary rocks are invaded by large amounts of silicon, aluminum, iron and magnesium. The minerals commonly present in a skarn include iron oxides, calc-silicates, andradite and grossularite garnet, epidote and calcite. Many skarns also include ore minerals. Several productive deposits of copper or other base metals have been found in and adjacent to skarns.

Tailings: Finely ground rock from which valuable minerals have been extracted by concentration.

Tonne: A unit of weight. One metric tonne equals 2,204.6 pounds or 1,000 kilograms. One short tonne equals 2,000 pounds. Unless otherwise specified, all references to "tonnes" in this report refer to metric tonnes.

Zinc equivalent: A metric used to compare mineralization that is comprised of different metals in terms of zinc. Copper, lead, silver and gold contents in our concentrate production have been converted to a zinc equivalent grade at the average benchmark prices for 2019, *i.e.*, US$2,546.34 per tonne (US¢115.50 per pound) for zinc, US$5,999.73 per tonne (US¢272.14 per pound) for copper, US$1,999.68 per tonne (US¢90.70 per pound) for lead, US$16.21 per ounce for silver and US$1,392.60 per ounce for gold.

Zinc oxide: A chemical compound that results from the sublimation of zinc (Zn-metal) by oxygen in the atmosphere. Zinc oxide is in the form of powder or fine grains that is insoluble in water but very soluble in acid solutions.

EXHIBITS

Exhibit Number	
1	Amended and Consolidated Articles of Association of Nexa Resources S.A., dated as of August 27, 2021.
2.1	Indenture with respect to the 6.500% Notes due 2028, dated June 18, 2020, among Nexa Resource S.A., as issuer, Nexa Resources Cajamarquilla S.A., Nexa Resources Peru S.A. and Nexa Recursos Minerais S.A., as guarantors, and The Bank of New York Mellon, as trustee, registrar, paying agent and transfer agent (incorporated by reference to Exhibit 2.1 to our annual report on Form 20-F (file no. 001-38256) filed with the SEC on March 22, 2021).
2.2	Indenture with respect to the 5.375% Notes due 2027, dated as of May 4, 2017, among VM Holding S.A., as issuer, Votorantim Metais Zinco S.A., Compañía Minera Milpo S.A.A. and Votorantim Metais Cajamarquilla S.A., as guarantors, and The Bank of New York Mellon, as trustee, registrar, paying agent and transfer agent (incorporated by reference to Exhibit 4.1 to our Registration Statement on Form F-1 (file no. 333-220552) filed with the SEC on September 21, 2017).
2.3	Indenture with respect to the 4.625% Notes due 2023, dated as of March 28, 2013, among Compañía Minera Milpo S.A.A., as issuer, Deutsche Bank Trust Company Americas, as trustee, registrar, paying agent and transfer agent, and Deutsche Bank Luxembourg S.A., as Luxembourg paying agent (incorporated by reference to Exhibit 4.2 to our Registration Statement on Form F-1 (file no. 333-220552) filed with the SEC on September 21, 2017).
2.4	Description of Securities.
8	List of Subsidiaries.
12.1	Certification of Chief Executive Officer of Nexa Resources S.A. pursuant to Rules 13a-14 and 15d-14 under the Securities Exchange Act of 1934, as amended.
12.2	Certification of Chief Financial Officer of Nexa Resources S.A. pursuant to Rules 13a-14 and 15d-14 under the Securities Exchange Act of 1934, as amended.
13.1	Certification of Chief Executive Officer and Chief Financial Officer of Nexa Resources S.A., pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS	XBRL Instance Document -- the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document

SIGNATURES

The registrant hereby certifies that it meets all of the requirements for filing on Form 20-F and that it has duly caused and authorized the undersigned to sign this annual report on its behalf.

NEXA RESOURCES S.A.

By: /s/ Ignacio Rosado
Name: Ignacio Rosado
Title: *President and Chief Executive Officer*

By: /s/ Rodrigo Menck
Name: Rodrigo Menck
Title: *Senior Vice President Finance and Group Chief Financial Officer*

Date: March 17, 2022

Nexa Resources S.A.

Consolidated financial statements at December 31, 2021 and independent auditor's report

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Nexa Resources S.A.

Consolidated income statement
Years ended December 31
All amounts in thousands of US dollars, unless otherwise stated

	Note	2021	2020	2019
Net revenues	6	2,622,110	1,950,929	2,332,715
Cost of sales	7	(1,966,036)	(1,563,931)	(1,947,828)
Gross profit		**656,074**	**386,998**	**384,887**
Operating expenses				
Selling, general and administrative	7	(156,786)	(151,619)	(216,511)
Mineral exploration and project evaluation	7 and 8	(85,043)	(57,201)	(119,063)
Impairment of non-current assets	31	-	(557,497)	(142,133)
Other income and expenses, net	9	31,948	(19,164)	(18,206)
		(209,881)	**(785,481)**	**(495,913)**
Operating income (loss)		**446,193**	**(398,483)**	**(111,026)**
Net financial results	10			
Financial income		11,472	11,168	31,054
Financial expenses		(142,275)	(159,759)	(117,399)
Other financial items, net		(6,099)	(129,584)	(18,509)
		(136,902)	**(278,175)**	**(104,854)**
Income (loss) before income tax		**309,291**	**(676,658)**	**(215,880)**
Income tax	11 (a)			
Current		(122,081)	(63,192)	(46,382)
Deferred		(31,123)	87,344	104,746
Net income (loss) for the year		**156,087**	**(652,506)**	**(157,516)**
Attributable to NEXA's shareholders		114,332	(559,247)	(145,135)
Attributable to non-controlling interests		41,755	(93,259)	(12,381)
Net income (loss) for the year		**156,087**	**(652,506)**	**(157,516)**
Weighted average number of outstanding shares – in thousands		132,439	132,439	132,622
Basic and diluted earnings (losses) per share – USD	30 (f)	0.86	(4.22)	(1.09)

The accompanying notes are an integral part of these consolidated financial statements

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Nexa Resources S.A.

Consolidated statement of comprehensive income
Years ended December 31
All amounts in thousands of US dollars, unless otherwise stated

	Note	2021	2020	2019
Net income (loss) for the year		**156,087**	**(652,506)**	**(157,516)**
Other comprehensive loss, net of income tax - items that can be reclassified to the income statement				
Cash flow hedge accounting	16 (b)	488	(98)	1,332
Deferred income tax		(161)	101	(453)
Translation adjustment of foreign subsidiaries	30 (e)	(64,575)	(138,840)	(21,115)
		(64,248)	**(138,837)**	**(20,236)**
Other comprehensive loss, net of income tax - items that will not be reclassified to the income statement				
Changes in fair value of financial liabilities related to changes in the Company's own credit risk	24 (c)	(5,066)	(787)	-
Deferred income tax		(2,375)	(88)	-
Changes in fair value of investments in equity instruments		(2,632)	-	-
		(10,073)	**(875)**	**-**
Other comprehensive loss for the year, net of income tax		**(74,321)**	**(139,712)**	**(20,236)**
Total comprehensive income (loss) for the year		**81,766**	**(792,218)**	**(177,752)**
Attributable to NEXA's shareholders		43,828	(682,132)	(172,453)
Attributable to non-controlling interests		37,938	(110,086)	(5,299)
Total comprehensive income (loss) for the year		**81,766**	**(792,218)**	**(177,752)**

The accompanying notes are an integral part of these consolidated financial statements

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Nexa Resources S.A.

Consolidated balance sheet
As at December 31
All amounts in thousands of US dollars, unless otherwise stated

Assets	Note	2021	2020
Current assets			
Cash and cash equivalents	15 (a)	743,817	1,086,163
Financial investments		19,202	35,044
Derivative financial instruments	16 (a)	16,292	16,329
Trade accounts receivables	17	231,174	229,032
Inventory	18	372,502	256,522
Recoverable income tax		8,703	12,953
Other assets	19	81,119	91,141
		1,472,809	**1,727,184**
Non-current assets			
Investments in equity instruments	13 (b)	3,723	-
Derivative financial instruments	16 (a)	102	15,651
Deferred income tax	11 (b)	168,205	221,580
Recoverable income tax		4,223	13,110
Other assets	19	98,584	93,131
Property, plant and equipment	21	2,087,730	1,898,296
Intangible assets	22	1,056,771	1,076,405
Right-of-use assets	23 (a)	12,689	18,869
		3,432,027	**3,337,042**
Total assets		**4,904,836**	**5,064,226**
Liabilities and shareholders' equity			
Current liabilities			
Loans and financings	24 (a)	46,713	146,002
Lease liabilities	23 (b)	16,246	15,999
Derivative financial instruments	16 (a)	22,684	5,390
Trade payables	25	411,818	370,122
Confirming payables	29	232,860	145,295
Dividends payable		11,441	4,557
Asset retirement and environmental obligations	26	31,953	33,095
Contractual obligations	28	33,156	27,132
Salaries and payroll charges		76,031	56,107
Tax liabilities		65,063	43,630
Other liabilities		41,317	29,230
		989,282	**876,559**
Non-current liabilities			
Loans and financings	24 (a)	1,652,602	1,878,312
Lease liabilities	23 (b)	3,393	9,690
Derivative financial instruments	16 (a)	241	21,484
Asset retirement and environmental obligations	26	232,197	242,951
Provisions	27	36,828	30,896

Deferred income tax	11 (b)	208,583	218,392
Contractual obligations	28	114,076	138,893
Other liabilities		23,354	25,805
		2,271,274	**2,566,423**
Total liabilities		**3,260,556**	**3,442,982**
Shareholders' equity	30		
Attributable to NEXA's shareholders		1,386,273	1,377,445
Attributable to non-controlling interests		258,007	243,799
		1,644,280	**1,621,244**
Total liabilities and shareholders' equity		**4,904,836**	**5,064,226**

The accompanying notes are an integral part of these consolidated financial statements

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Nexa Resources S.A.

Consolidated statement of cash flows
Years ended December 31
All amounts in thousands of US dollars, unless otherwise stated

	Note	2021	2020	2019
Cash flows from operating activities				
Income (loss) before income tax		309,291	(676,658)	(215,880)
Impairment loss of non-current assets	31	-	557,497	142,133
Depreciation and amortization	21, 22 and 23	258,711	243,925	317,892
Interest and foreign exchange effects		143,496	157,806	63,286
Loss on sale of property, plant and equipment and intangible assets	9	4,891	2,268	857
Changes in accruals		21,325	13,159	3,854
Changes in fair value of loans and financings	10	(19,380)	8,058	6,640
Changes in fair value of derivative financial instruments	16 (b)	26,408	7,809	4,649
Contractual obligations	28 (a)	(25,729)	(20,679)	(25,660)
GSF recovered costs	22 (a)	(19,407)	-	-
Changes in operating assets and liabilities	15 (b)	(38,487)	105,330	(50,623)
Cash provided by operating activities		**661,119**	**398,515**	**247,148**
Interest paid on loans and financings	24 (c)	(121,112)	(69,906)	(71,804)
Interest paid on lease liabilities	23 (b)	(1,415)	(1,385)	(3,259)
Premium paid on bonds repurchase	24 (c)	-	(14,481)	-
Income tax paid		(45,607)	(21,043)	(49,262)
Net cash provided by operating activities		**492,985**	**291,700**	**122,823**
Cash flows from investing activities				
Additions of property, plant and equipment		(485,204)	(323,688)	(396,672)
Net sales (purchases) of financial investments		20,076	(47,522)	54,710
Proceeds from the sale of property, plant and equipment		2,210	2,014	6,570
Investments in equity instruments		(6,356)	-	-
Net cash used in investing activities		**(469,274)**	**(369,196)**	**(335,392)**
Cash flows from financing activities				
New loans and financings	24 (c)	59,771	1,296,496	106,229
Debt issue costs	24 (c)	(178)	(9,921)	(255)
Payments of loans and financings	24 (c)	(251,044)	(542,983)	(19,437)
Prepayment of fair value debt	24 (c)	(90,512)	-	-
Bonds repurchase	24 (c)	-	(214,530)	-
Payments of lease liabilities	23 (b)	(9,827)	(9,100)	(13,280)
Dividends paid		(52,344)	(55,964)	(113,389)
Dividends not withdrawn		-	1,009	-
Repurchase of the Company's own shares		-	-	(8,103)
Acquisition of non-controlling interests		-	-	(71,054)
Capital reduction of subsidiary – non-controlling interests		-	(13,392)	-
Net cash (used in) provided by financing activities		**(344,134)**	**451,615**	**(119,289)**
Foreign exchange effects on cash and cash equivalents		(21,923)	(16,070)	(2,462)

Other high liquid short term investments	-	29,496	-
(Decrease) increase in cash and cash equivalents	**(342,346)**	**387,545**	**(334,320)**
Cash and cash equivalents at the beginning of the year	1,086,163	698,618	1,032,938
Cash and cash equivalents at the end of the year	**743,817**	**1,086,163**	**698,618**

The accompanying notes are an integral part of these consolidated financial statements

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Nexa Resources S.A.

Consolidated statement of changes in shareholders' equity
At and for the years ended December 31
All amounts in thousands of US dollars, unless otherwise stated

	Capital	Treasury shares	Share premium	Additional paid in capital	Retained earnings (cumulative deficit)	Accumulated other comprehensive loss	Total NEXA's shareholders	Non-controlling interests	Total shareholders' equity
At January 1, 2019	**133,320**	**(1,352)**	**1,043,755**	**1,318,728**	**18,112**	**(79,288)**	**2,433,275**	**425,208**	**2,858,483**
Net loss for the year	-	-	-	-	(145,135)	-	(145,135)	(12,381)	(157,516)
Other comprehensive loss for the year	-	-	-	-	-	(27,318)	(27,318)	7,082	(20,236)
Total comprehensive loss for the year	**-**	**-**	**-**	**-**	**(145,135)**	**(27,318)**	**(172,453)**	**(5,299)**	**(177,752)**
Acquisition of non-controlling interests	-	-	-	(71,054)	-	-	(71,054)	-	(71,054)
Repurchase of the Company's own shares	-	(8,103)	-	-	-	-	(8,103)	-	(8,103)
Dividends distribution to NEXA's shareholders - USD 0.53 per share	-	-	-	-	(69,832)	-	(69,832)	-	(69,832)
Dividends distribution to non-controlling interests	-	-	-	(2,256)	-	-	(2,256)	(47,300)	(49,556)
Total contributions by and distributions to shareholders	**-**	**(8,103)**	**-**	**(73,310)**	**(69,832)**	**-**	**(151,245)**	**(47,300)**	**(198,545)**
At December 31, 2019	**133,320**	**(9,455)**	**1,043,755**	**1,245,418**	**(196,855)**	**(106,606)**	**2,109,577**	**372,609**	**2,482,186**
Net loss for the year	-	-	-	-	(559,247)	-	(559,247)	(93,259)	(652,506)
Other comprehensive loss for the year	-	-	-	-	-	(122,885)	(122,885)	(16,827)	(139,712)
Total comprehensive loss for the year	**-**	**-**	**-**	**-**	**(559,247)**	**(122,885)**	**(682,132)**	**(110,086)**	**(792,218)**
Dividends distribution to NEXA's shareholders - USD 0.38 per share	-	-	-	-	(50,000)	-	(50,000)	-	(50,000)
Cancellation of 881,902 treasury shares acquired for USD 9,455	(882)	9,455	-	-	(8,573)	-	-	-	-
Dividends distribution to non-controlling interests	-	-	-	-	-	-	-	(5,332)	(5,332)
Capital reduction of subsidiary - non-controlling interests	-	-	-	-	-	-	-	(13,392)	(13,392)
Total contributions by and distributions to shareholders	**(882)**	**9,455**	**-**	**-**	**(58,573)**	**-**	**(50,000)**	**(18,724)**	**(68,724)**
At December 31, 2020	**132,438**	**-**	**1,043,755**	**1,245,418**	**(814,675)**	**(229,491)**	**1,377,445**	**243,799**	**1,621,244**

The accompanying notes are an integral part of these consolidated financial statements

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Nexa Resources S.A.

Consolidated statement of changes in shareholders' equity
At and for the years ended December 31
All amounts in thousands of US dollars, unless otherwise stated

	Capital	Treasury shares	Share premium	Additional paid in capital	Retained earnings (cumulative deficit)	Accumulated other comprehensive loss	Total NEXA's shareholders	Non-controlling interests	Total shareholders' equity
At January 1, 2021	**132,438**	**-**	**1,043,755**	**1,245,418**	**(814,675)**	**(229,491)**	**1,377,445**	**243,799**	**1,621,244**
Net income for the year	-	-	-	-	114,332	-	114,332	41,755	156,087
Other comprehensive loss for the year	-	-	-	-	-	(70,504)	(70,504)	(3,817)	(74,321)
Total comprehensive income (loss) for the year	**-**	**-**	**-**	**-**	**114,332**	**(70,504)**	**43,828**	**37,938**	**81,766**
Transfer of the changes in fair value of prepaid debt related to changes in the Company's own credit risk to retained earnings	**-**	**-**	**-**	**-**	**(10,965)**	**10,965**	**-**	**-**	**-**
Dividends distribution to NEXA's shareholders - USD 0.26 per share - note 30 (g)	-	-	-	-	(35,000)	-	(35,000)	-	(35,000)
Dividends distribution to non-controlling interests - note 30 (g)	-	-	-	-	-	-	-	(23,730)	(23,730)
Total contributions by and distributions to shareholders	**-**	**-**	**-**	**-**	**(45,965)**	**10,965**	**(35,000)**	**(23,730)**	**(58,730)**
At December 31, 2021	**132,438**	**-**	**1,043,755**	**1,245,418**	**(746,308)**	**(289,030)**	**1,386,273**	**258,007**	**1,644,280**

The accompanying notes are an integral part of these consolidated financial statements

1 General information

Nexa Resources S.A. ("NEXA") is a public limited liability company (société anonyme) incorporated and domiciled in the Grand Duchy of Luxembourg. Its shares are publicly traded on the New York Stock Exchange ("NYSE"). As a result of a voluntary delisting, November 30, 2021 was the last trading day of the Company's shares on the Toronto Stock Exchange ("TSX"), and NEXA intends to cease to be a reporting issuer under Canadian securities laws, when applicable.

The Company's registered office is located at 37A, Avenue J. F. Kennedy in the city of Luxembourg in the Grand Duchy of Luxembourg.

NEXA and its subsidiaries (the "Company") have operations that comprise large-scale, mechanized underground and open pit mines and smelters. The Company owns and operates three polymetallic mines in Peru, and two polymetallic mines in Brazil and is completing the development of its third polymetallic mine in Brazil. The Company also owns and operates a zinc smelter in Peru and two zinc smelters in Brazil.

The Company's majority shareholder is Votorantim S.A. ("VSA"), which holds 64.68% of its equity. VSA is a Brazilian privately-owned industrial conglomerate that holds ownership interests in metal, steel, cement, and energy companies, among others.

COVID-19 outbreak impacts on NEXA´s financial statements and operations

In March 2020, the World Health Organization characterized the current COVID-19 disease ("COVID- 19") as a pandemic. Since then, COVID-19 spread across the world, through different waves, with severe effects that impacted the global economy in general and the Company's business.

Throughout this pandemic, government authorities in the countries in which the Company operates responded and continue to respond in different ways to deal with this global outbreak. In Peru, for example, during the first and second quarters of 2020, the Company's Peruvian mines were suspended, and its Peruvian smelter reduced production in response to the Peruvian Government mandated health and safety measures. No other material impacts have occurred within the Company since the beginning of the pandemic.

As a result of a combination of factors, including suspended and reduced production, the decrease in short- and mid-term commodities prices, discontinued projects, and increased operating costs, in 2020, the Company recognized an impairment loss of non-current assets of USD 557,497, as mentioned in note 31.

Currently, although the Peruvian and Brazilian subsidiaries continue to operate subject to additional measures to control and mitigate the spread of COVID-19, they have returned to their pre-pandemic production levels, with the exception of the Atacocha underground mine in Peru, which continues suspended under care and maintenance given its higher operating costs. Ultimately, the impact of the COVID-19 global outbreak on the Company's financial condition depends on the pandemic's continuing duration and severity, on the efforts to contain its spread, on the abilities of countries to continue advancing in the distribution of effective vaccines against it, on the recovery of global and regional economies, and on the impact of response measures taken by the Company, governments, and others.

2 Information by business segment

Business segment definition

The Company's Chief Executive Officer has been identified as the chief operating decision maker ("CODM") since the role encompasses authority over resource allocation decisions and performance assessment. The CODM analyzes performance mainly from the production obtained in the operations. The Company has identified two reportable segments:

- Mining: consists of five long-life polymetallic mines, three located in the Central Andes of Peru and two located in the state of Minas Gerais in Brazil. In addition to zinc, the Company produces substantial amounts of copper, lead, silver, and gold as by-products, which reduce the overall cost to produce mined zinc.
- Smelting: consists of three operating units, one located in Cajamarquilla in Peru and two located in the state of Minas Gerais in Brazil. The facilities recover and produce metallic zinc (SHG zinc and zinc alloys), zinc oxide and by-products, such as sulfuric acid.

Accounting policy

Segment performance is assessed based on Adjusted EBITDA, since financial results, comprising financial income and expenses and other financial items, and income tax are managed at the corporate level and are not allocated to operating segments. Adjusted EBITDA is defined as net income (loss) for the year, adjusted by (i) share in the results of associates, (ii) depreciation and amortization, (iii) net financial results, (iv) income tax, (v) (loss) gain on sale of investments, and (vi) impairment and impairment reversals. In addition, management may adjust the effect of certain types of transactions that in its judgment are not indicative of the Company´s normal operating activities or do not necessarily occur on a regular basis.

The internal information used for making decisions is prepared using International Financial Reporting Standards ("IFRS") based on accounting measurements and management reclassifications between income statement lines items, which are reconciled to the consolidated financial statements in the column "Adjustments". These adjustments include reclassifications of the effects of derivative financial instruments from Other income and expenses, net to Net revenues and Cost of sales; and, of certain overhead costs from Other income and expenses, net to Cost of sales and/or Selling, general and administrative expenses.

The Company uses customary market terms for intersegment sales. The Company's corporate headquarters expenses are allocated to the reportable segments to the extent they are included in the measures of performance used by the CODM.

The presentation of segment results and reconciliation to income (loss) before income tax in the consolidated income statement is as follows:

					2021
	Mining	**Smelting**	**Intersegment sales**	**Adjustments**	**Consolidated**
Net revenues	1,165,584	2,028,831	(636,212)	63,907	2,622,110
Cost of sales	(719,358)	(1,796,111)	636,212	(86,779)	(1,966,036)
Gross profit	**446,226**	**232,720**	**-**	**(22,872)**	**656,074**
Selling, general and administrative	(70,271)	(68,593)	-	(17,922)	(156,786)
Mineral exploration and project evaluation	(75,549)	(9,494)	-	-	(85,043)
Other income and expenses, net	(34,050)	34,196	-	31,802	31,948
Operating income (loss)	**266,356**	**188,829**	**-**	**(8,992)**	**446,193**
Depreciation and amortization	174,891	78,861	-	4,959	258,711
Miscellaneous adjustments (i)	(664)	-	-	-	(664)
Adjusted EBITDA	**440,583**	**267,690**	**-**	**(4,033)**	**704,240**
Miscellaneous adjustments (i)					664
Depreciation and amortization					(258,711)
Net financial results					(136,902)
Income before income tax					**309,291**

(i) Related to minor impairment reversals of equipment costs previously impaired and that were sold in 2021. Due to the low amounts, these are included as Other income and expenses, net.

					2020
	Mining	**Smelting**	**Intersegment sales**	**Adjustments**	**Consolidated**
Net revenues	748,462	1,550,323	(375,402)	27,546	1,950,929
Cost of sales	(625,408)	(1,287,902)	375,402	(26,023)	(1,563,931)
Gross profit	**123,054**	**262,421**	**-**	**1,523**	**386,998**
Selling, general and administrative	(70,354)	(64,874)	-	(16,391)	(151,619)
Mineral exploration and project evaluation	(48,555)	(5,466)	-	(3,180)	(57,201)
Impairment of non-current assets	(512,706)	(44,791)	-	-	(557,497)
Other income and expenses, net	(23,648)	(5,545)	-	10,029	(19,164)
Operating (loss) income	**(532,209)**	**141,745**	**-**	**(8,019)**	**(398,483)**
Depreciation and amortization	159,984	82,650	-	1,291	243,925
Impairment of non-current assets	512,706	44,791	-	-	557,497
Adjusted EBITDA	**140,481**	**269,186**	**-**	**(6,728)**	**402,939**
Impairment of non-current assets					(557,497)
Depreciation and amortization					(243,925)
Net financial results					(278,175)
Loss before income tax					**(676,658)**

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Nexa Resources S.A.

Notes to the consolidated financial statements
At and for the year ended December 31, 2021
All amounts in thousands of US dollars, unless otherwise stated

					2019
	Mining	**Smelting**	**Intersegment sales**	**Adjustments**	**Consolidated**
Net revenues	1,000,580	1,865,733	(535,776)	2,178	2,332,715
Cost of sales	(805,058)	(1,655,062)	535,776	(23,484)	(1,947,828)
Gross profit	**195,522**	**210,671**	**-**	**(21,306)**	**384,887**
Selling, general and administrative	(117,280)	(89,540)	-	(9,691)	(216,511)
Mineral exploration and project evaluation	(109,549)	(9,503)	-	(11)	(119,063)
Impairment of non-current assets	(142,133)	-	-	-	(142,133)
Other income and expenses, net	(13,955)	(29,569)	-	25,318	(18,206)
Operating (loss) income	**(187,395)**	**82,059**	**-**	**(5,690)**	**(111,026)**
Depreciation and amortization	217,870	97,975	-	2,047	317,892
Impairment of non-current assets	142,133	-	-	-	142,133
Adjusted EBITDA	**172,608**	**180,034**	**-**	**(3,643)**	**348,999**
Impairment of non-current assets					(142,133)
Depreciation and amortization					(317,892)
Net financial results					(104,854)
Loss before income tax					**(215,880)**

3 Basis of preparation of the consolidated financial statements

These consolidated financial statements have been prepared in accordance with IFRS and interpretations issued by the IFRS Interpretations Committee applicable to companies reporting under IFRS, as issued by the International Accounting Standards Board ("IASB").

The consolidated financial statements have been prepared under the historical cost convention, except for certain financial assets and financial liabilities (including derivative financial instruments) measured at fair value at the end of each reporting period.

The consolidated financial statements of the Company for the year ended on December 31, 2021, were approved for issue in accordance with a resolution of the Board of Directors on February 15, 2022.

4 Principles of consolidation

The consolidated financial statements comprise the financial statements of NEXA and its subsidiaries on December 31, 2021.

(a) Subsidiaries

Subsidiaries include all entities over which the Company has control. The Company controls an entity when it (i) has the power over the entity; (ii) is exposed, or has the right, to variable returns from its involvement with the entity; and (iii) has the ability to affect those returns through its power over the entity. Subsidiaries are fully consolidated from the date on which control is transferred to the Company, except when the predecessor basis of accounting is applied. Subsidiaries are deconsolidated from the date that control ceases.

Accounting policies of subsidiaries are usually consistent with the policies adopted by the Company. If there are differences, to ensure the standardization of the accounting policies, an adjustment is performed in the consolidation

process.

Non-controlling interests in the subsidiaries' equity and results are shown separately in the consolidated balance sheet, income statement, statement of comprehensive income and statement of changes in shareholders' equity. A change in ownership interest of a subsidiary, without loss of control, is accounted for as an equity transaction.

If the Company loses control over a subsidiary, it derecognizes the related assets, liabilities, non-controlling interests and other equity components and any resultant gain or loss is recognized in the income statement. Any investment retained is recognized at fair value.

In general, there is a presumption that a majority of voting rights results in control. When the Company has less than a majority of the voting rights of an investee, it considers all relevant facts and circumstances to determine whether it has power over this investee. This may include contractual arrangements with the other holders of voting rights in the investee; rights arising from other contractual arrangements; and the Company's voting rights and potential voting rights that will give it the practical ability to direct the relevant activities of the investee unilaterally.

Intercompany transactions, balances, and unrealized gains on transactions between companies in the consolidated group are eliminated in full on consolidation. Unrealized losses are also eliminated unless the transaction indicates impairment of the transferred asset.

(b) Joint operations

The Company recognizes its direct right to the assets, liabilities, revenues and expenses of joint operations and its share of any jointly held assets or incurred liabilities or revenues and expenses. These have been included in the consolidated financial statements under the appropriate headings.

A joint operation is a joint arrangement whereby the parties that have joint control of the arrangement have rights to the assets, and obligations for the liabilities, relating to the arrangement. Joint control is the contractually agreed sharing of control of an arrangement, which exists only when decisions about the relevant activities require unanimous consent of the parties sharing control.

Transactions, balances and unrealized gains and losses between consolidated entities are eliminated. The main entities included in the consolidated financial statements are:

Schedule of ownership percentages

	Percentage of shares		Company	Headquarter	Activities
	2021	2020	controls		
Subsidiaries					
L.D.O.S.P.E. Geração de Energia e Participações Ltda. – "L.D.O.S.P.E."	100	100	Indirectly	Brazil	Energy
L.D.Q.S.P.E. Geração de Energia e Participações Ltda. - "L.D.Q.S.P.E."	100	100	Indirectly	Brazil	Energy
L.D.R.S.P.E. Geração de Energia e Participações Ltda. - "L.D.R.S.P.E."	100	100	Indirectly	Brazil	Energy
Mineração Dardanelos Ltda. - "Dardanelos"	100	100	Indirectly	Brazil	Mining projects
Nexa Recursos Minerais S.A. - "NEXA BR"	100	100	Directly	Brazil	Mining / Smelting
Mineração Santa Maria Ltda.	99.99	99.99	Indirectly	Brazil	Mining projects
Pollarix S.A. - "Pollarix" (i)	33.33	33.33	Indirectly	Brazil	Holding and others
Karmin Holding Ltda.	100	100	Indirectly	Brazil	Holding and others
Mineração Rio Aripuaña Ltda.	100	100	Indirectly	Brazil	Holding and others
Votorantim Metals Canada Inc.	100	100	Indirectly	Canada	Holding and others
Nexa Resources El Porvenir S.A.C.	99.99	99.99	Indirectly	Peru	Mining
Minera Pampa de Cobre S.A.C	99.99	99.99	Indirectly	Peru	Mining
Nexa Resources Cajamarquilla S.A. - "NEXA CJM"	99.99	99.99	Directly	Peru	Smelting
Nexa Resources Perú S.A.A. - "NEXA Peru"	83.55	83.55	Indirectly	Peru	Mining
Nexa Resources Atacocha S.A.A. - "NEXA Atacocha"	66.62	66.62	Indirectly	Peru	Mining
Nexa Resources UK Ltd. - "NEXA UK"	100	100	Indirectly	United Kingdom	Mining

Nexa Resources US. Inc.	100	100	Directly	United States	Trading
Exploraciones Chimborazo Metals & Mining	100	-	Directly	Ecuador	Holding and others
Joint-operations					
Campos Novos Energia S.A. - "Enercan"	20.98	20.98		Brazil	Energy
Cia. Minera Shalipayco S.A.C	75	75		Peru	Mining projects

(i) NEXA BR owns all the common shares of Pollarix, which represents 33.33% of its total share capital. The remaining shares are preferred shares with limited voting rights, which are indirectly owned by NEXA's controlling shareholder, VSA.

(c) Transactions with non-controlling interests

Transactions with non-controlling interests that do not result in a loss of control are recognized within shareholders' equity as transactions with equity owners of the consolidated group. A change in ownership interest results in an adjustment between the carrying amounts of the controlling and non-controlling interests to reflect their relative interests in the subsidiary. Any difference between the amount of the adjustment to non-controlling interests and any consideration paid or received is recognized in Additional paid in capital within shareholders' equity.

(d) Foreign currency translation

(i) Functional and presentation currency

Items included in the financial statements of each of the Company's entities are measured using the currency of the primary economic environment in which each entity operates ("the functional currency"). The Company's consolidated financial statements are presented in US Dollars ("USD"), which is NEXA's functional currency and the Company's reporting currency.

(ii) Transactions and balances

Foreign currency transactions are initially recorded by each entity in the Company at their respective functional currency spot rates at the date the transaction is recognized. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation of monetary assets and liabilities denominated in foreign currencies at the functional currency spot rates at the end of each reporting period are recognized in the income statement. Non-monetary items that are measured at historical cost in a foreign currency are translated using the exchange rates at the dates of the initial transaction. Translation differences on assets and liabilities carried at fair value are reported as part of the fair value gain or loss.

(iii) Consolidated entities

The results of operations and financial position of the consolidated entities that have a functional currency different from the Company's reporting currency are translated into the reporting currency as follows:

- Assets and liabilities for each balance sheet presented are translated at the closing rate at the date of that balance sheet;
- Income and expenses for each income statement and statement of comprehensive income presented are translated at average exchange rates for the annual period of that income statement and statement of comprehensive income, which are a reasonable approximation of the cumulative effect of the rates prevailing on the transaction dates; and,
- All resulting exchange differences are recognized in other comprehensive income and accumulated in a separate component of shareholders' equity.

5 Changes in the main accounting policies and disclosures

(a) New standards and amendments – applicable as of January 1, 2021 or thereafter

There were some new standards and amendments effective for annual periods commencing on January 1, 2021. The adoption of these new standards and amendments did not have an impact on the Company's financial statements. The Company has not early adopted any other standard, interpretation or amendment that has been issued but is not yet effective and does not expect that the adoption of such issued but not early adopted standard, interpretation or amendment will have a material impact on the Company's financial statements.

(b) Benchmark interest rate reform

In 2014, developments in the global markets revealed weaknesses in the London Interbank Offered Rate's ("LIBOR") sustainability as a reference rate. Since then, regulators around the world have focused on the transition to a new benchmark that would replace this rate.

On March 5, 2021, the UK Financial Conduct Authority ("FCA"), announced that the LIBOR will either be discontinued or become non-representative:

- Immediately after December 31, 2021, 1-week and 2-month USD LIBOR tenors and for all EUR, GBP, CHF and JPY LIBOR tenors.
- Immediately after June 30, 2023, for the remaining USD LIBOR tenors (Overnight, and 1-, 3-, 6- and 12-month).

The Company does not have any financial instruments associated with LIBOR in other currencies and continues to discuss with the financial entities which interest rate reference will replace the loans measured by USD LIBOR, and does not expect any significant impacts on its financial statements.

(c) Credit risk – local rating Peru

Until 2020, the Company used only global ratings for assessing the credit risk of financial institutions in Peru. In 2021, the Company modified its Financial Risk Management Policy, allowing the use of their local ratings, but only if these local agencies were homologated by the global agencies used by NEXA. For more details see note 12 (b).

(d) Critical estimates and judgments

The preparation of the Company's consolidated financial statements requires the use of estimates, assumptions and judgments that affect the reported amounts of revenues, expenses, assets and liabilities, the accompanying disclosures, and the disclosure of contingent liabilities at the date of the consolidated financial statements. Accounting estimates and assumptions, by definition, will seldom equal the actual results and are continually evaluated to reflect changing expectations about future events. Management also needs to exercise judgment in applying the Company's accounting policies.

This note provides an overview of the areas that involve a higher degree of judgment or complexity, and of items which are more likely to be materially adjusted due to estimates and assumptions turning out to be wrong due to their uncertainty. Detailed information about each of these estimates, assumptions and judgments is included in other notes together with information about the basis of calculation for each affected item in the financial statements.

The critical accounting estimates, assumptions and judgments applied by the Company in the preparation of these financial statements are as follows:

- estimation of current and deferred income taxes – note 11

- estimation of fair value of financial instruments – note 13
- estimation of impairment of trade accounts receivables – note 17
- estimation of quantification of mineral reserves and resources for useful life calculation – note 22
- estimation of asset retirement and environmental obligations – note 26
- estimation of provisions for legal claims – note 27
- estimation of contractual obligations – note 28
- estimation of impairment of non-current assets – note 31

Estimates, assumptions and judgments are continuously evaluated. They are based on historical experience and other factors, including expectations of future events that may have a financial impact on the Company and that are believed to be reasonable under the circumstances.

The Company has considered the effects of COVID-19 when making its estimates, assumptions and judgments. Events and changes in circumstances arising after December 31, 2021, including those resulting from the impacts of COVID-19, will be reflected in management's estimates for future periods.

Nexa integrates sustainability practices into its business, focused on generating a positive social, economic and environmental impact in the places where it operates. Within this context, the Company has a multidisciplinary and integrated task force which is currently complementing and defining its Environmental, Social and Governance ("ESG") strategy and future actions including risks analyses with respect to climate change and global, regional and local weather conditions, as well as those related to the emission of greenhouse gases, among other matters. The Company's objective is to continuously evolve and adapt to new frameworks, as well as to respond to its stakeholder feedback. As a result of these definitions, the Company could have in the future some change in its accounting estimates, assumptions and judgments regarding new definitions, practices or commitments that would be assumed by management in relation to its ESG strategy.

6 Net revenues

Accounting policy

Revenues represent the fair value of the consideration received or receivable for the sale of goods in the ordinary course of the Company's activities. Revenues are shown net of value-added tax, returns, rebates and discounts, after eliminating sales between the consolidated companies.

The Company recognizes revenues when a performance obligation is satisfied by transferring a promised good or service to a customer. The asset is transferred when the customer obtains control of that asset. To determine the point in time at which a customer obtains control of a promised asset the Company considers the following indicators: (i) the Company has a present right to payment for the asset; (ii) the customer has legal title to the asset; (iii) the Company has transferred physical possession of the asset; (iv) the customer has the significant risks and rewards of ownership of the asset; (v) the customer has accepted the asset.

Identification and timing of satisfaction of performance obligations

The Company has two distinct performance obligations included in certain sales contracts:

(i) the promise to provide goods to its customers; and, (ii) the promise to provide freight and insurance services to its customers.

Promise to provide goods: this performance obligation is satisfied when the control of such goods is transferred to the final customer, which is substantially determined based on the Incoterms agreed upon in each of the contracts with customers.

Promise to provide freight and insurance services: this performance obligation is satisfied when the freight and insurance services contracted to customers are completed.

As a result of the distinct performance obligations identified, part of the Company's revenues is presented as revenues from services. Cost related to revenues from services is presented as Cost of sales.

Revenues from the sale of goods and from freight and insurance services are recognized at a point in time when control is transferred and when contracted services are provided. It is at this point that a trade receivable is recognized because only the passage of time is required before the consideration is due. The Company does not have any contract assets, which give right to consideration in exchange for goods or services that the Company has transferred to the customer, since all rights to consideration of the contracts are unconditional.

Deferred revenues are related to contract obligations that are an entity's obligation to transfer goods or services to a customer for which the entity has received consideration from the customer (or the payment is due) but the transfer has not yet been completed. For contracts where performance obligations are satisfied over a period of time, the stage of completion is required to calculate how much revenue should be recognized to date and revenue shall be deducted from the prepayment to the extent that performance obligations are delivered. Refer to note 28 for the specific accounting policy and information related to NEXA's contractual obligations.

Determining the transaction price and the amounts allocated to performance obligations

The Company considers the terms of the contract and its customary business practices to determine the transaction price. The transaction price is the amount of consideration that the Company expects to be entitled to receive in exchange for transferring promised goods or services to its customers. Transaction price is allocated to each performance obligation on a relative standalone selling price basis.

The transaction prices included in the Company's sales contracts are mainly based on international prices references and subject to price adjustments based on the market price at the end of the relevant quotation period stipulated in the sales contract. These are referred to as provisional pricing arrangements which are subject to a monthly price adjustment. The period between the provisional and final pricing is approximately two months. As of December 31, 2021, the pending price adjustments to be made were not material.

Additionally, the Company has a contractual obligation related to a long-term silver streaming arrangement linked to specific production of its Cerro Lindo mine. The Company received an upfront payment in advance of this specific production. The transaction price is linked to the silver production and spot market prices, which change over time and, therefore, it is accounted for as variable consideration. For more details about this streaming transaction see note 28.

(a) Composition of net revenues

(i) Gross billing reconciliation

	2021	2020	2019
Gross billing	**2,974,850**	**2,138,786**	**2,552,275**
Billing from products	2,898,210	2,074,203	2,473,534
Billing from freight and insurance services	76,640	64,583	78,741
Taxes on sales	(347,311)	(184,714)	(216,141)
Return of products sales	(5,429)	(3,143)	(3,419)
Net revenues	**2,622,110**	**1,950,929**	**2,332,715**

In 2021, a gross billing of approximately USD 390,469 was generated from a single customer, and there was no other customer to which the Company sold more than 10% of its gross billing individually. Net revenues were generated by NEXA's both segments, mining and smelting.

In 2021, taxes on sales include ICMS expenses of USD 71,949 related to the Company's adoption of the tax incentive allowed by Complementary Law No. 160/2017, as detailed in note 9 (i).

(ii) Net revenues breakdown

	2021	2020	2019
Zinc	1,844,632	1,323,287	1,592,050
Lead	223,341	161,964	259,238
Copper	305,793	197,756	174,697
Silver	69,691	58,568	63,867
Other products	102,013	144,771	164,122
Freight and insurance services	76,640	64,583	78,741
Net revenues	**2,622,110**	**1,950,929**	**2,332,715**
Taxes on sales	347,311	184,714	216,141
Return of products sales	5,429	3,143	3,419
Gross billing	**2,974,850**	**2,138,786**	**2,552,275**

(b) Information on geographical areas in which the Company operates

The geographical areas are determined based on the location of the Company's customers. The net revenues of the Company, classified by geographical location and currency, are as follows:

(i) Net revenues by geographical location

	2021	2020	2019
Peru	774,735	485,850	595,601
Brazil	753,280	583,141	625,033
United States	119,564	116,717	159,672
South Korea	118,596	77,429	95,913
Luxembourg	97,462	76,072	145,493
Argentina	93,107	56,165	60,850
Switzerland	78,770	68,912	101,636
Japan	58,296	46,719	71,352
Singapore	56,879	76,724	99,488
Colombia	54,325	34,768	37,149
Chile	54,044	48,969	80,849
Taiwan	53,752	28,764	33,551
Austria	45,057	35,197	39,897
Turkey	34,493	25,005	33,905
Malaysia	25,681	13,948	6,535
South Africa	25,126	-	1,892
Netherlands	17,693	11,740	9,381
Ecuador	15,652	9,095	13,012
Italy	14,834	9,895	9,000
Vietnam	14,555	10,798	3,142
Belgium	13,690	30,174	25,500
Indonesia	11,774	8,609	1,098
Guatemala	11,101	4,738	7,094
Germany	7,297	33,869	20,749
Other	72,347	57,631	54,923
Net revenues	**2,622,110**	**1,950,929**	**2,332,715**

(ii) Net revenues by currency

	2021	2020	2019
USD	1,914,905	1,388,746	1,731,765
Brazilian Real (“BRL”)	707,205	562,183	600,950
Net revenues	**2,622,110**	**1,950,929**	**2,332,715**

7 Expenses by nature

Accounting policy

Cost of sales mainly consists of the cost of manufacturing the products sold by the Company and is recognized in the income statement on the date of delivery to the customer at the same time revenue is recognized from the related sale.

Selling, general and administrative expenses are recognized on the accrual basis regardless of when they are paid and, if applicable, in the same period in which the income with which they are related is recognized.

				2021	**2020**	**2019**
	Cost of sales (i)	**Selling, general and administrative**	**Mineral exploration and project evaluation**	**Total**	**Total**	**Total**
Raw materials and consumables used	(1,188,495)	(1,233)	-	(1,189,728)	(856,300)	(1,063,094)
Third-party services	(373,282)	(40,839)	(52,950)	(467,071)	(407,695)	(574,228)
Depreciation and amortization	(251,657)	(7,019)	(35)	(258,711)	(243,925)	(317,892)
Employee benefit expenses	(140,418)	(65,009)	(17,688)	(223,115)	(213,865)	(254,251)
Others	(12,184)	(42,686)	(14,370)	(69,240)	(50,966)	(73,937)
	(1,966,036)	**(156,786)**	**(85,043)**	**(2,207,865)**	**(1,772,751)**	**(2,283,402)**

(i) In 2021, cost of sales was reduced by USD 19,407 due to GSF recovered costs related to the extension of the concession period of NEXA's Brazilian energy power plants as explained in note 22.

8 Mineral exploration and project evaluation

Accounting policy

Mineral exploration and project evaluation costs are expensed in the year in which they are incurred.

Mineral exploration activities involve the search for mineral resources from potential areas up to the determination of commercial viability and technical feasibility of an identified resource. Mineral exploration costs include gathering exploration data through geological and geophysical studies, conducting exploratory drilling and sampling, and determining and examining the volume and grade of the identified resources.

Project evaluation costs are mainly related to scoping, pre-feasibility and feasibility studies for greenfield and brownfield projects. Additionally, these evaluation costs could also include costs incurred for studies related to other corporate projects, research, innovation, automation, and information technology projects.

Note 21 describes when mineral exploration and project evaluation costs begin to be capitalized.

Composition of mineral exploration and project evaluation costs

Schedule of mineral exploration and project evaluation costs

	2021	**2020**	**2019**
Mineral exploration	(55,594)	(38,519)	(79,838)
Project evaluation	(29,449)	(18,682)	(39,225)
	(85,043)	**(57,201)**	**(119,063)**

9 Other income and expenses, net

	2021	2020	2019
Remeasurement of asset retirement and environmental obligations – note 26	(6,664)	(900)	4,810
Provision of legal claims – note 27	(13,173)	(10,912)	(4,424)
Contribution to communities	(7,070)	(2,773)	(3,893)
Derivative financial instruments - note 16 (b)	7,486	948	(833)
Loss on sale of property, plant and equipment and intangible assets	(4,891)	(2,268)	(857)
Pre-operating expenses related to Aripuanã	(8,753)	(1,885)	(1,312)
ICMS tax incentives [(i)]	71,949	-	-
Others	(6,936)	(1,374)	(11,697)
	31,948	**(19,164)**	**(18,206)**

(i) The Brazilian Complementary Law No. 160/2017, which amended Law No. 12.973/2014, states that government grants of ICMS tax incentives are considered investment subsidies and excluded from taxable income for the purpose of calculating the corporate income taxes IRPJ and CSLL. In 2021, the Company, supported by the opinion of its external legal advisors, concluded that the ICMS tax incentives obtained in 2021 and 2020 for a total amount of US$ 71,949 could be excluded from the corporate income taxes basis for the fiscal year ended on December 31, 2021 and recognized ICMS taxes in Taxes on Sales and ICMS tax incentives in Other income and expense, net. The ICMS tax incentives are a permanent difference and the related corporate income tax effect in the amount of USD 24,463 reduced the current tax expense in 2021 as shown in note 11 (a).

10Net financial results

Accounting policy

(i) Financial expenses

Financial costs of obligations are recognized as expenses when accrued, except for those directly attributable to the acquisition or the construction of qualifying assets, that is, assets that require a substantial time to be ready for use, which are capitalized at cost within Property, plant and equipment and/or Intangibles to which they relate.

(ii) Financial income

Financial income is mainly composed of interest income and is recognized on an accrual basis to reflect the asset's effective yield under the effective interest rate method.

(iii) Other financial items, net

Other financial items net is composed by the net of the income and expenses related to the fair value of loans and financings, derivative financial instruments, and foreign exchange losses.

	2021	2020	2019
Financial income			
Interest income on financial investments and cash equivalents	6,074	7,295	20,909
Interest on tax credits	1,377	854	5,498
Other financial income	4,021	3,019	4,647
	11,472	**11,168**	**31,054**
Financial expenses			
Interest on loans and financings	(96,565)	(97,422)	(67,369)
Premium paid on bonds repurchase – note 24 (c)	-	(14,481)	-
Interest on other liabilities	(12,371)	(8,051)	(10,864)
Interest on contractual obligations	(6,936)	(6,182)	(6,526)
Interest on lease liabilities – note 23 (b)	(1,272)	(1,757)	(3,416)
Other financial expenses	(25,131)	(31,866)	(29,224)
	(142,275)	**(159,759)**	**(117,399)**
Other financial items, net			
Fair value of loans and financings – note 24 (c)	19,380	(8,058)	(6,640)
Derivative financial instruments - note 16 (b)	(5,640)	(717)	1,024
Foreign exchange losses (i)	(19,839)	(120,809)	(12,893)
	(6,099)	**(129,584)**	**(18,509)**
Net financial results	**(136,902)**	**(278,175)**	**(104,854)**

(i) The amounts for years 2021 and 2020 include losses of USD 10,468 and USD 65,689 respectively, which are related to the outstanding USD denominated intercompany debt of NEXA BR with NEXA, which is impacted by the volatility of the BRL, which depreciated continuously during 2021 and 2020.

11 Current and deferred income tax

Accounting policy

The current income tax is calculated based on the tax laws enacted or substantively enacted as of the balance sheet date in the countries where the Company's entities operate and generate taxable income. Management periodically evaluates positions taken by the Company in the taxes on income returns with respect to situations in which the applicable tax regulations are subject to interpretation.

It establishes provisions, where appropriate, considering amounts expected to be paid to the tax authorities.

The current income tax is presented net, separated by tax paying entity, in liabilities when there are amounts payable, or in assets when the amounts prepaid exceed the total amount due on the reporting date.

Deferred income tax is provided in full, using the balance sheet liability method, on temporary differences arising between the tax bases of assets and liabilities and their carrying amounts for financial reporting purposes at the reporting date. However, deferred tax liabilities are not recognized if they arise from the initial recognition of goodwill. Deferred income tax is also not accounted for if it arises from the initial recognition of an asset or liability in a transaction other than a business combination that, at the time of the transaction affects neither the accounting nor the

taxable income or loss. Deferred income tax is determined using tax rates (and laws), of the Company's entities, that have been enacted or substantially enacted at the end of the reporting period and that are expected to be applied when the related deferred income taxes asset is realized, or the deferred income tax liability is settled.

Deferred tax assets are recognized only to the extent it is probable that future taxable income will be available against which the temporary differences and/or tax losses can be utilized. Deferred tax assets and liabilities are offset when there is a legally enforceable right and an intention to offset them in the calculation of current taxes, generally when they are related to the same legal entity and the same tax authority. Accordingly, deferred tax assets and liabilities in different entities or in different countries are generally presented separately, and not on a net basis.

Deferred tax liabilities and assets are not recognized for temporary differences between the carrying amounts and tax bases of investments in foreign operations where the Company is able to control the timing of the reversal of the temporary differences and it is probable that the differences will not be reversed in the foreseeable future.

Critical accounting estimates and judgments

The Company is subject to income tax in all countries in which it operates where uncertainties arise in the application of complex tax regulations. Significant judgment, estimates and assumptions are required to determine the amount of deferred taxes that would be recovered since this amount may be affected by factors including, but not limited to: (i) internal assumptions on the projected taxable income, which are based on production and sales planning, commodity prices, operational costs and planned capital costs; (ii) macroeconomic environment; and, (iii) trade and tax scenarios.

In addition, there are many transactions and calculations for which the ultimate tax determination is uncertain. The Company also exercises judgment in the identification of these uncertainties over income tax treatments which could impact the consolidated financial statements as the Company operates in a complex multinational environment.

The Company and its subsidiaries are subject to reviews of income tax filings and other tax payments, and disputes can arise with the tax authorities over the interpretation of the applicable laws and regulations.

(a) Reconciliation of income tax (expense) benefit

	2021	**2020**	**2019**
Income (loss) before income tax	309,291	(676,658)	(215,880)
Statutory income tax rate	24.94%	24.94%	24.94%
Income tax (expense) benefit at statutory rate	**(77,137)**	**168,759**	**53,840**
Tax effects of translation of non-monetary assets/liabilities to functional currency	(32,998)	(28,174)	(3,575)
Unrecognized deferred tax benefit on net operating losses	(35,735)	(35,849)	-
Special mining levy and special mining tax	(17,279)	(5,909)	(7,431)
Withholding tax on dividends paid by subsidiaries	-	-	(9,764)
Difference in tax rate of subsidiaries outside Luxembourg (i)	(3,179)	36,390	24,698
Withholding tax over subsidiary capital reduction (ii)	(10,526)	-	-
Impairment of goodwill	-	(78,866)	-
ICMS tax incentives (iii)	24,463	-	
Other permanent tax differences	(813)	(32,199)	596
Income tax (expense) benefit	**(153,204)**	**24,152**	**58,364**
Current	(122,081)	(63,192)	(46,382)
Deferred	(31,123)	87,344	104,746
Income tax (expense) benefit	**(153,204)**	**24,152**	**58,364**

(i) The Company's activities are subject to the income tax regime of each country where it operates. However, NEXA's Cerro Lindo mining unit had a lower income tax rate in comparison with that of other Peruvian operations because it was taxed under the laws and guarantees of a stability agreement signed by NEXA PERU, which was valid until the end of 2021. The deferred taxes of NEXA's Cerro Lindo unit, however, are calculated considering the statutory income tax rate of 29.5% applicable as of January 1, 2022, since they will be recovered after 2021.

(ii) On June 10, 2021, NEXA and the other shareholders of NEXA CJM approved a capital reduction of USD 210,703 which was paid on July 27, 2021. Given this capital reduction, the Company recognized USD 10,526 of tax expenses because the tax withheld by NEXA CJM on the corresponding participation of NEXA in its capital was considered not recoverable.

(iii) See note 9.

(b) Analysis of deferred income tax assets and liabilities

	2021	**2020**
Tax credits on net operating losses [(i)]	116,284	108,767
Uncertain income tax treatments	(5,279)	(6,712)
Tax credits on temporary differences		
Foreign exchange losses	-	33,123
Environmental liabilities	13,923	16,611
Asset retirement obligations	17,698	20,507
Tax, labor and civil provisions	7,797	7,162
Other provisions	8,613	9,825
Provision for obsolete and slow-moving inventory	7,224	6,813
Provision for employee benefits	7,138	5,299
Revaluation of derivative financial instruments	506	3,056
Other	7,039	6,513
Tax debits on temporary differences		
Foreign exchange gains	(16,365)	-
Capitalized interest	(9,261)	(10,274)
Revaluation of loans and financings	(1,945)	(88)
Depreciation, amortization and asset impairment	(189,799)	(190,970)
Other	(3,951)	(6,444)
	(40,378)	**3,188**
Deferred income tax assets	168,205	221,580
Deferred income tax liabilities	(208,583)	(218,392)
	(40,378)	**3,188**

(i) As a result of adopting Complementary Law No. 160/2017, as described in note 9, there was also an increase in the amount of USD 11,996 in the balance of tax losses for the year, amount which is included in the tax credits on net operating losses.

(c) Effects of deferred income tax on income statement and other comprehensive income

	2021	2020	2019
Balance at the beginning of the year	**3,188**	**(48,212)**	**(136,810)**
Effect on income (loss) for the year	(31,123)	87,344	104,746
Effect on other comprehensive income (loss) - Fair value adjustment	(2,536)	13	453
Prior years uncertain income tax treatment payment	-	4,706	-
Impact of adoption IFRIC 23	-	-	(10,070)
Foreign exchange (loss) gain	(9,907)	(40,663)	(6,531)
Balance at the end of the year	**(40,378)**	**3,188**	**(48,212)**

(d) Summary of contingent liabilities on income taxes

There are uncertainties and legal proceedings for which it is not probable that an outflow of resources will be required. In such cases, a provision is not recognized. As of December 31, 2021, the main legal proceedings are related to: (i) the interpretation of the application of Cerro Lindo´s stability agreement; (ii) the carryforward calculation of net operating losses; and, (iii) the deductibility of foreign exchange losses and expenses. The estimated amount of these contingent liabilities on December 31, 2021 is USD 134,804 which decreased in comparison to the estimate of USD 163,670 on December 31, 2020 due to a favorable decision received in 2021 with respect to one of its pending income tax assessments as recognized by the corresponding tax authority.

Regarding Cerro Lindo´s stability agreement, in December 2021, the Peruvian tax authority ("SUNAT") concluded its income tax inspection of NEXA PERU's fiscal year 2014. As a result of this procedure, SUNAT determined an amount to be paid by the Company of USD 47,575 (including principal, penalties and interest) arguing that NEXA PERU's income tax expense should be calculated considering the Peruvian statutory income tax rate for 2014 fiscal year of 30% instead of the 20% income tax rate that the stability agreement granted to Cerro Lindo's operations. According to SUNAT, the Company should separate the income coming from the facilities built under the approved feasibility study (which includes a plant with a production capacity of 5,000 tpd) from that coming from the other facilities and since this is not possible, SUNAT disregarded the stabilized rate. On January 18, 2022, the Company filed its defense stating to SUNAT's reclamation office that this assessment was non-compliant with applicable law mainly because: i) SUNAT determined a presumed tax base that is expressly denied by the Peruvian Tax Code; and, ii) SUNAT misinterpreted the stability agreement scope. Company's management, supported by the opinion of its external advisors, concluded that there are strong legal grounds to obtain a favorable outcome ("more likely than not") in this discussion and, accordingly, no contingency provision has been set up. Finally, fiscal years 2015 through 2021 are still opened to be audited by SUNAT. Even if SUNAT maintains its position disregarding the stabilized rate and taxing the whole income of the Company at the statutory income tax rate, the entity will keep maintaining its position that no provision should be recognized. This evaluation must be updated year by year, reflecting changes on tax jurisprudence and regulations in force.

12 Financial risk management

Financial risk factors

The Company's activities expose it to a variety of financial risks: a) market risk (including currency risk, interest rate risk and commodities risk); b) credit risk; and c) liquidity risk.

A significant portion of the products sold by the Company are commodities, with prices pegged to international indices and denominated in USD. Part of the production costs, however, is denominated in BRL and Peruvian Soles ("PEN"), and therefore, there is a mismatch of currencies between revenues and costs. Additionally, the Company has debts linked to different indices and currencies, which may impact its cash flows.

In order to mitigate the potential adverse effects of each financial risk factor, the Company follows a Financial Risk Management Policy that establishes governance and guidelines for the financial risk management process, as well as metrics for measurement and monitoring. This policy establishes guidelines and rules for: (i) Commodities Exposure Management, (ii) Foreign Exchange Exposure Management, (iii) Interest Rate Exposure Management, (iv) Issuers and Counterparties Risk Management, and (v) Liquidity and Financial Indebtedness Management. All strategies and proposals must comply with the Financial Risk Management Policy guidelines and rules, be presented to and discussed with the Finance Committee of the Board of Directors, and, when applicable, submitted for the approval of the Board of Directors, under the governance structure described in the Financial Risk Management Policy.

(a) Market risk

The purpose of the market risk management process and all related actions are intended to protect the Company's cash flows against adverse events, such as changes in foreign exchange rates, interest rates and commodity prices, to maintain the ability to pay financial obligations, and to comply with liquidity and indebtedness levels defined by management.

(i) Sensitivity analysis

Presented below is a sensitivity analysis of the main risk factors that affect the pricing of the outstanding financial instruments relating to cash and cash equivalents, financial investments, loans and financings, and derivative financial instruments. The main sensitivities are the exposure to changes in the USD exchange rate, the Interbank Deposit Certificate ("CDI") interest rates, the National Broad Consumer Price Index ("IPCA") and the commodity prices. The scenarios for these factors are prepared using market sources and other relevant sources, in compliance with the Company's policies. The scenarios on December 31, 2021 are described below:

- Scenario I: considers a change in the market forward yield curves and quotations as of December 31, 2021, according to the base scenario defined by the Company for March 31, 2022.
- Scenario II: considers a change of + or -25% in the market forward yield curves as of December 31, 2021.
- Scenario III: considers a change of + or -50% in the market forward yield curves as of December 31, 2021.

					Impacts on income statement						Impacts on statement of comprehensive income				
							Scenarios II and III					Scenarios II and III			
Risk factor	**Quotation at December 31, 2021**	**Cash and cash equivalents and financial investments**	**Loans and financings**	**Derivative financial instruments**	**Changes from 2021**	**Scenario I**	**-25%**	**-50%**	**+25%**	**+50%**	**Scenario I**	**-25%**	**-50%**	**+25%**	**+50%**
Foreign exchange rates															
BRL	5.5805	65,403	272,323	(66)	1.46%	(1)	19	38	(19)	(38)	(3,029)	51,730	103,460	(51,730)	(103,460)
EUR	1.1327	3,604	-	-	1.53%	55	(901)	(1,802)	901	1,802	-	-	-	-	-
PEN	4.0069	23,846	1,783	-	-0.33%	(72)	(5,515)	(11,031)	5,515	11,031	-	-	-	-	-
CAD	1.2718	1,040	-	-	0.94%	-	-	-	-	-	10	(260)	(520)	260	520
NAD	15.9600	1,427	-	-	-6.08%	-	-	-	-	-	(87)	(357)	(713)	357	713
Interest rates															
BRL - CDI - SELIC	9.15%	64,871	81,473	(66)	191 bps	(40)	1,466	3,083	(1,339)	(2,570)	-	-	-	-	-
USD - LIBOR	0.22%	-	88,677	(6,465)	2 bps	(24)	53	107	(53)	(107)	4	(5)	(10)	5	10
IPCA - TLP	10.06%	-	171,346	-	-456 bps	7,813	4,309	8,619	(4,309)	(8,619)	-	-	-	-	-
TJLP	5.32%	-	19,325	-	44 bps	(85)	257	514	(257)	(514)	-	-	-	-	-
Commodities price															
Zinc	3,630	-	-	(6,465)	-18.73%	33,485	23,740	47,481	(23,740)	(47,481)	(6,613)	(4,689)	(9,378)	4,689	9,378

(ii) Foreign exchange risk

Foreign exchange risk is managed through the Company's Financial Risk Management Policy, which states that the objectives of derivative transactions are to reduce cash flow volatility, hedge against foreign exchange exposure and minimize currency mismatches.

Presented below are the financial assets and liabilities in foreign currencies on December 31, 2021. These mainly result from NEXA BR's operations, for which the functional currency is the BRL.

Intercompany loans balances are fully eliminated in the consolidated financial statements. However, the related foreign exchange gain or loss is not, and is presented as foreign exchange effects.

USD amounts of foreign currency balances	2021	2020
Assets		
Cash, cash equivalents and financial investments	95,320	257,706
Derivative financial instruments	314	22,376
Trade accounts receivables	34,858	42,612
	130,492	**322,694**
Liabilities		
Loans and financings	272,353	454,372
Derivative financial instruments	380	21,484
Trade payables	200,983	165,019
Lease liabilities	7,921	20,792
Use of public assets	24,384	20,787
	506,021	**682,454**
Net exposure	**(375,529)**	**(359,760)**

(iii) Interest rate risk

The Company's interest rate risk arises mainly from long-term loans. Loans at variable rates expose the Company to cash flow interest rate risk. Loans at fixed rates expose the Company to fair value risk associated with interest rates. For further information related to interest rates, refer to note 24.

The Company's Financial Risk Management Policy establishes guidelines and rules to hedge against changes in interest rates that impact the Company's cash flows. Exposure to each interest rate is projected until the maturity of the assets and liabilities exposed to this index. Occasionally the Company enters into floating to fixed interest rate swaps to manage its cash flow interest rate risk. In the case of loans and financings contracted together with swaps, the Company accounts for them under the fair value option to eliminate the accounting mismatch that would arise if amortized cost were used. For more information, please refer to note 24 (c).

(iv) Commodity price risk

The commodity price risk is related to the volatility in the prices of the Company's commodities. Prices fluctuate depending on demand, production capacity, producers' inventory levels, the commercial strategies adopted by large producers, and the availability of substitutes for these products in the global market.

The Company's Financial Risk Management Policy establishes guidelines to mitigate the risk of fluctuations in commodity prices that could impact the Company's cash flows. The exposure to the price of each commodity considers the monthly production projections, inputs purchases and the maturity flows of hedges associated with them.

Commodity prices hedge transactions are classified into the following hedging strategies:

Hedges for sales of zinc at a fixed price (Customer Hedge)

The objective is to convert fixed priced sales to floating prices, observed on the London Metal Exchange (LME). The purpose of the strategy is to maintain the revenues of a business unit linked to the LME prices. These transactions usually relate to purchases of zinc for future settlement on the over-the-counter market.

Hedges for mismatches of quotational periods (Hedge Book)

The objective is to hedge quotational periods mismatches arising between the purchases of metal concentrate or processed metal and the sale of the processed metal. These transactions usually relate to purchases and sales of zinc and silver for future trading on the over-the-counter market.

Hedges for the operating margin of metals (Strategic Hedges)

The objective is to reduce the volatility of the cash flow from LME prices for zinc, copper and silver and ensure a more predicable operating margin. This strategy is carried out through the sale of zinc forward contracts. For NEXA BR, the transaction also involves the sale of USD forward contracts to hedge the operating margin in BRL.

(b) Credit risk

Trade receivables, derivative financial instruments, term deposits, bank deposit certificates ("CDBs") and government securities create exposure to credit risk with respect to the counterparties and issuers. The Company has a policy of making deposits in financial institutions that have, at least, a rating from two of the following international rating agencies: Fitch, Moody’s or Standard & Poor’s. The minimum rating required for counterparties is determined as follows:

- Onshore operations: rating "A", or equivalent, on a local scale by two rating agencies. In the case of foreign financial institutions that have a local rating by only one rating agency, it should be at least "AA-", and its headquarters should have a rating "A" minimum on a global scale.

- Offshore operations: rating "BBB-", or equivalent, on a global scale by two rating agencies.

In the case of financial institutions in Peru or in Luxembourg, local ratings from local agencies associated with rating agencies approved in the Company’s policy are accepted. In case that only a global rating is available, it will be eligible provided that it has a rating "BBB-" at least by one rating agency.

In the case of financial institutions that do not have a rating available for a specific country, it will be eligible provided that its headquarters follow the minimum ratings specified above.

The pre-settlement risk methodology is used to assess counterparty risks in derivative transactions. This methodology consists of determining the risk associated with the likelihood (via Monte Carlo simulations) of a counterparty defaulting on the financial commitments defined by contract.

The global ratings were obtained from the rating agencies Fitch, Moody’s or Standard & Poor’s ratings and are related to commitments in foreign or local currency and, in both cases, they assess the capacity to honor these commitments, using a scale applicable on a global basis. Therefore, both ratings in foreign currency and in local currency are internationally comparable ratings.

The ratings used by the Company are always the most conservative ratings of the referred agencies.

In the case of credit risk arising from customer credit exposure, the Company assesses the credit quality of the customer, considering mainly the history of the relationship and financial indicators defining individual credit limits, which are continuously monitored.

The Company performs initial analyses of customer credit and, when deemed necessary, guarantees or letters of credit are obtained to mitigate the credit risk. Additionally, most sales to the United States of America, Europe and Asia are collateralized by letters of credit and credit insurance.

The carrying amount of the Company's financial instruments best represents the maximum exposure to their credit risk.

The following table reflects the credit quality of issuers and counterparties for transactions involving cash and cash equivalents, financial investments and derivative financial instruments. The variations presented are mainly related to the Company's transactions in the year and not to changes in the counterparties' ratings.

			2021			**2020**
	Local rating	**Global rating**	**Total**	**Local rating**	**Global rating**	**Total (ii)**
Cash and cash equivalents						
AAA	117,439	-	117,439	131,489	-	131,489
AA+	-	-	-	1,959	-	1,959
AA	19	-	19	30,178	-	30,178
AA-	-	21,252	21,252	8,754	21,632	30,386
A+	35,923	318,120	354,043	164,987	249,197	414,184
A	25,354	115,653	141,007	69,608	257,999	327,607
A-	-	104,528	104,528	-	116,992	116,992
BBB+	-	-	-	-	-	-
BBB	-	-	-	-	-	-
BBB-	-	-	-	-	30,706	30,706
BB-	-	-	-	-	-	-
No rating (i)	2,660	2,869	5,529	1,289	1,373	2,662
	181,395	**562,422**	**743,817**	**408,264**	**677,899**	**1,086,163**
Financial investments						
AAA	16,849	-	16,849	32,411	-	32,411
AA+	-	-	-	2,257	-	2,257
AA	2,353	-	2,353	46	-	46
AA-	-	-	-	330	-	330
	19,202	**-**	**19,202**	**35,044**	**-**	**35,044**
Derivative financial instruments						
AAA	314	-	314	2,068	-	2,068
A+	-	8,491	8,491	-	1,977	1,977
A-	-	7,589	7,589	-	27,935	27,935
	314	**16,080**	**16,394**	**2,068**	**29,912**	**31,980**

(i) Refers to subsidiaries of international financial institutions that do not have a global rating available in the international rating agencies. According to the Company's policy, for these financial institutions, the rating of the financial institution controlling entities is assumed, which must be at least BBB-.

(ii) As mentioned in note 5 (c), in 2021, the Company modified its Financial Risk Management Policy, allowing the use of local ratings available from local agencies in Peru, for assessing the credit risks of financial institutions in Peru. Therefore, the Company is presenting the 2020 comparative balances according to the updated policy.

(c) Liquidity risk

Liquidity risk is managed through the Company's Financial Risk Management Policy, which aims to ensure the availability of funds to meet the Company's financial obligations. The main liquidity measurement and monitoring instrument is the cash flow projection, using a minimum projection period of 12 months from the benchmark date.

The table below shows the Company's financial obligations to be settled by the Company based on their maturity (the remaining period from the balance sheet up to the contractual maturity date). The amounts below represent the estimated undiscounted future cash flows, which include interests to be incurred and, accordingly, do not reconcile directly with the amounts presented in the consolidated balance sheet.

2021	Less than 1 year	Between 1 and 3 years	Between 3 and 5 years	Over 5 years	Total
Loans and financings	114,240	443,780	247,226	1,439,295	2,244,541
Lease liabilities	17,340	3,744	-	-	21,084
Derivative financial instruments	22,684	146	71	24	22,925
Trade payables	411,818	-	-	-	411,818
Confirming payables	232,860	-	-	-	232,860
Salaries and payroll charges	76,031	-	-	-	76,031
Dividends payable	11,441	-	-	-	11,441
Related parties	321	71	-	-	392
Asset retirement and environmental obligations	31,953	64,752	85,021	243,076	424,803
Use of public assets	1,368	3,244	3,657	21,840	30,109
	920,056	**515,737**	**335,975**	**1,704,235**	**3,476,004**

2020	Less than 1 year	Between 1 and 3 years	Between 3 and 5 years	Over 5 years	Total
Loans and financings	214,614	484,579	459,215	1,490,253	2,648,661
Lease liabilities	15,999	9,690	-	-	25,689
Derivative financial instruments	5,390	51	21,374	59	26,874
Trade payables	370,122	-	-	-	370,122
Confirming payables	145,295	-	-	-	145,295
Salaries and payroll charges	56,107	-	-	-	56,107
Dividends payable	4,557	-	-	-	4,557
Related parties	-	561	-	-	561
Asset retirement and environmental obligations	33,714	53,501	70,444	220,241	377,900
Use of public assets	1,270	2,943	5,131	20,200	29,544
	847,068	**551,325**	**556,164**	**1,730,753**	**3,685,310**

(d) Capital management

The Company's objectives when managing capital are to safeguard its ability to continue as a going concern, so it can continue to provide returns for shareholders and benefits for other stakeholders; and to maintain an optimal capital structure to reduce the cost of capital.

To maintain or adjust the capital structure, the Company may adjust the dividends level paid to shareholders, return capital to shareholders, issue new shares or sell assets to reduce debt. The Company monitors capital mainly using the leverage ratio, calculated as net debt to Adjusted EBITDA.

Net debt and Adjusted EBITDA measures should not be considered in isolation or as a substitute for net income or operating income, as indicators of operating performance, or as alternatives to cash flow as measures of liquidity. Additionally, management's calculation of Adjusted EBITDA may be different from the calculation used by other companies, including competitors in the mining and smelting industry, so these measures may not be comparable to those of other companies.

	Note	2021	2020	2019
Loans and financings	24	1,699,315	2,024,314	1,508,557
Derivative financial instruments	16 (a)	6,531	(5,106)	2,294
Lease liabilities	23 (b)	19,639	25,689	34,384
Cash and cash equivalents	15	(743,817)	(1,086,163)	(698,618)
Financial investments	-	(19,202)	(35,044)	(58,775)
Net debt (i)		**962,466**	**923,690**	**787,842**
Net income (loss) for the period		156,087	(652,506)	(157,516)
Plus (less):				
Depreciation and amortization	21, 22 and 23	258,711	243,925	317,892
Net financial results	10	136,902	278,175	104,854
Income tax expense (benefit)	11 (a)	153,204	(24,152)	(58,364)
EBITDA		**704,904**	**(154,558)**	**206,866**
Impairment of non-current assets		-	557,497	142,133
Miscellaneous adjustments		(664)	-	-
Adjusted EBITDA (ii)		**704,240**	**402,939**	**348,999**
Leverage ratio (Net debt/Adjusted EBITDA)		**1.37**	**2.29**	**2.26**

(i) Net debt is defined as (a) loans and financings, plus lease liabilities, plus or minus (b) the fair value of derivative financial instruments less (c) cash and cash equivalents, less (d) financial investments.

(ii) Adjusted EBITDA for capital management calculation uses the same assumptions described in note 2 for Adjusted EBITDA by segment.

13 Financial instruments

Accounting policy

Normal purchases and sales of financial assets are recognized on the trade date – the date on which the Company commits to purchase or sell the asset. Financial assets are initially recognized at fair value plus transaction costs for all financial assets not carried at fair value through profit or loss. Financial assets carried at fair value through profit or loss, if any, are initially recognized at fair value, and transaction costs are expensed in the income statement.

Financial assets are derecognized when the rights to receive cash flows from the investments have expired or the Company has transferred substantially all the risks and rewards of ownership. Financial assets at fair value through profit or loss and at fair value through other comprehensive income are subsequently carried at fair value. Financial assets at amortized costs are subsequently measured using the effective interest rate method.

Equity instruments may be irrevocably elected on their initial recognition for their fair value changes to be presented in other comprehensive income instead of in the income statement. Since the objective of the Company's equity instruments is to buy more participation in a project and not sell the investment, they are classified as fair value through other comprehensive income.

Then, the Company classifies its financial assets and liabilities under the following categories: amortized cost, fair value through profit or loss and fair value through other comprehensive income.

(i) Amortized cost

Financial assets measured at amortized cost are assets held within a business model whose objective is to hold financial assets to collect contractual cash flows and for which the contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest ("SPPI") on the principal amount outstanding.

Financial liabilities are measured at amortized cost, except for financial liabilities at fair value through profit or loss such as derivatives and some specific loans and financings.

(ii) Fair value through profit or loss

Financial assets measured at fair value through profit or loss are assets which an entity manages with the objective of realizing cash flows through the sale of such assets and financial assets that do not give rise to cash flows that are SPPI on the principal amount outstanding.

Financial liabilities measured at fair value through profit or loss are liabilities which were not measured at amortized cost, such as derivatives and loans and financings that are designated at fair value option when is necessary to eliminate the accounting mismatch that would arise if amortized cost were used.

(iii) Fair value through other comprehensive income

Financial assets measured at fair value through other comprehensive income are held within a business model whose objective is achieved by both collecting contractual cash flows and selling financial assets and for which the contractual terms of the financial asset give rise on specified dates to cash flows that are SPPI on the principal amount outstanding. Also, investments in equity instruments are measured at fair value through other comprehensive income as mentioned above.

(a) Breakdown by category

The Company's financial assets and liabilities are classified as follows:

					2021
Assets per balance sheet	**Note**	**Amortized cost**	**Fair value through profit or loss**	**Fair value through Other comprehensive income**	**Total**
Cash and cash equivalents	15	743,817	-	-	743,817
Financial investments		19,202	-	-	19,202
Derivative financial instruments	16 (a)	-	16,394	-	16,394
Trade accounts receivables	17	84,969	146,205	-	231,174
Investments in equity instruments	13 (b)	-	-	3,723	3,723
Related parties [(i)]	20	2	-	-	2
		847,990	**162,599**	**3,723**	**1,014,312**

2021

Liabilities per balance sheet	Note	Amortized cost	Fair value through profit or loss	Fair value through Other comprehensive income	Total
Loans and financings	24 (a)	1,610,638	88,677	-	1,699,315
Lease liabilities	23 (b)	19,639	-	-	19,639
Derivative financial instruments	16 (a)	-	22,925	-	22,925
Trade payables	25	411,818	-	-	411,818
Confirming payables	29	232,860	-	-	232,860
Use of public assets (ii)		24,384	-	-	24,384
Related parties (ii)	20	392	-	-	392
		2,299,731	**111,602**	**-**	**2,411,333**

2020

Assets per balance sheet	Note	Amortized cost	Fair value through profit or loss	Fair value through Other comprehensive income	Total
Cash and cash equivalents	15	1,086,163	-	-	1,086,163
Financial investments		35,044	-	-	35,044
Derivative financial instruments	16 (a)	-	31,980	-	31,980
Trade accounts receivables	17	64,262	164,770	-	229,032
Related parties (i)	20	2	-	-	2
		1,185,471	**196,750**	**-**	**1,382,221**

2020

Liabilities per balance sheet	Note	Amortized cost	Fair value through profit or loss	Fair value through Other comprehensive income	Total
Loans and financings	24 (a)	1,822,756	201,558	-	2,024,314
Lease liabilities	23 (b)	25,689	-	-	25,689
Derivative financial instruments	16 (a)	-	26,874	-	26,874
Trade payables	25	370,122	-	-	370,122
Confirming payables	29	145,295	-	-	145,295
Use of public assets (ii)		19,215	-	-	19,215
Related parties (ii)	20	561	-	-	561
		2,383,638	**228,432**	**-**	**2,612,070**

(i) Classified as Other assets in the consolidated balance sheet.

(ii) Classified as Other liabilities in the consolidated balance sheet.

(b) Investment in equity instruments – Tinka shares acquisition

On March 17, 2021, the Company acquired 29,895,754 common shares of Tinka Resources Limited ("Tinka"), an exploration and development company which holds 100% of the Ayawilca zinc-silver project in Peru, from an arm's length shareholder in a private transaction at a market price of CAD 0.26 per share for a total consideration of CAD 7,773 thousand (USD 6,220).

On April 16, 2021, the Company acquired 654,758 additional common shares of Tinka at the same market price for a total consideration of approximately CAD 170 thousand (approximately USD 136).

After these acquisitions, the Company holds approximately 9.0% of the issued and outstanding common shares of Tinka. This transaction is accounted for as an investment in equity instruments at its acquisition cost and is being subsequently measured at fair value through other comprehensive income.

14 Fair value estimates

Critical accounting estimates and judgments

The fair value of financial instruments that are not traded in an active market is determined using valuation techniques. The Company uses judgment to select among a variety of methods and makes estimates and assumptions that are mainly based on market conditions existing at the end of each reporting period.

Although management has used its best judgment in estimating the fair value of its financial instruments, any technique for making said estimates and assumptions involves some level of inherent fragility.

(a) Analysis

The main financial instruments and the estimates and assumptions made by the Company for their valuation are described below:

- Cash and cash equivalents, financial investments, trade accounts receivables and other current assets – considering their nature, terms and maturity, the carrying amounts approximate their fair value.
- Financial liabilities – these instruments are subject to the usual market interest rates. The fair value is based on the present value of expected future cash disbursements, at interest rates currently available for debt with similar maturities and terms and adjusted for the Company's credit risk. Loans and financings are measured at amortized cost, except for certain contracts for which the Company has elected the fair value option.
- Derivative financial instruments – the fair value is determined by calculating their present value through yield curves at the closing dates. The curves and prices used in the calculation for each group of instruments are developed based on data from Brazilian Securities, Commodities and Futures Exchange – B3, Central Bank of Brazil, LME and Bloomberg, interpolated between the available maturities. The main derivative financial instruments are:

  - Swap contracts – the present value of both the assets and liabilities are calculated through the discount of forecasted cash flows by the interest rate of the currency in which the swap is denominated. The difference between the present value of the assets and the liabilities generates its fair value.

  - Forward contracts – the present value is estimated by discounting the notional amount multiplied by the difference between the future price at the reference date and the contracted price. The future price is calculated using the convenience yield of the underlying asset. It is common to use Asian non-deliverable forwards for hedging non-ferrous metals positions. Asian contracts are derivatives in which the underlying is the average price of certain asset over a range of days.
  - Option contracts – the present value is estimated based on the Black and Scholes model, with assumptions that include the underlying asset price, strike price, volatility, time to maturity and interest rate. The underlying asset price is the average price of the foreign exchange rate in the fixing month.

(b) Fair value by hierarchy

	Note	Level 1	Level 2	2021 Total
Assets				
Derivative financial instruments	16 (a)	-	16,394	16,394
Trade accounts receivables		-	146,205	146,205
Investments in equity instruments (i)		3,723	-	3,723
		3,723	**162,599**	**166,322**
Liabilities				
Derivative financial instruments	16 (a)	-	22,925	22,925
Loans and financings designated at fair value (ii)		-	88,677	88,677
		-	**111,602**	**111,602**

	Note	Level 1	Level 2	2020 Total
Assets				
Derivative financial instruments	16 (a)	-	31,980	31,980
Trade accounts receivables		-	164,770	164,770
		-	**196,750**	**196,750**
Liabilities				
Derivative financial instruments	16 (a)	-	26,874	26,874
Loans and financings designated at fair value (ii)		-	201,558	201,558
		-	**228,432**	**228,432**

(i) The Level 1 fair value amount of the investments in equity instruments is determined using the share´s quotation as of the last day of the reporting period.

(ii) As explained above, certain loans and financings are measured at fair value. The carrying amount of other financial instruments measured at amortized cost do not differ significantly from their fair value.

The Company discloses fair value measurements based on their level on the following fair value measurement hierarchy:

Level 1:

Quoted prices (unadjusted) in active markets for identical assets and liabilities traded in active markets at the balance sheet date. A market is regarded as active if quoted prices are readily and regularly available from an exchange, dealer, broker, industry group, pricing service, or regulatory agency, and those prices represent actual and regularly occurring market transactions on an arm’s length basis. The quoted market price used for financial assets held by the Company is the current bid price.

Level 2:

Financial instruments not traded in an active market for which fair value is determined using valuation techniques, when all of the significant inputs required to identify the fair value of an instrument are observable. Specific valuation techniques used to value financial instruments include:

- Quoted market prices or dealer quotes for similar instruments are used where available;
- The fair values of interest rate swaps are calculated at the present value of the estimated future cash flow based on observable yield curves; and

- The fair value of forward foreign exchange contracts is determined using forward exchange rates at the balance sheet date, with the resulting value discounted to present value.

Other techniques, such as discounted cash flows analysis, are used to determine the fair value of the remaining financial instruments.

Level 3:

Inputs for the asset or liability that are not based on observable market data (that is, unobservable inputs) are classified as Level 3. As of December 31, 2021, there were no financial assets and liabilities carried at fair value classified as Level 3.

Fair value estimates were assessed by the Company to evaluate the impacts of the COVID-19 and the only impact identified is related to the changes in the Company's credit risk which affect the fair value of debts which are designated as fair value option. Refer to note 24.

15Cash and cash equivalents

Accounting policy

Cash and cash equivalents include cash, bank deposits, and highly liquid short-term investments (investments with an original maturity less than 90 days), which are readily convertible into a known amount of cash and subject to an immaterial risk of changes in value. Bank overdrafts are shown within Loans and financings in current liabilities in the balance sheet.

(a)Composition

	2021	**2020**
Cash and banks	276,761	113,017
Term deposits	467,056	973,146
	743,817	**1,086,163**

(b)Changes in operating assets and liabilities

Schedule of changes in operating assets and liabilities

	2021	**2020**	**2019**
Decrease (increase) in assets			
Trade accounts receivables	(9,375)	(68,896)	(8,634)
Inventory	(102,068)	8,883	(35,425)
Derivative financial instruments	(14,936)	(7,809)	(4,649)
Other assets	(47,312)	30,557	(45,872)
Increase (decrease) in liabilities			
Trade payables	44,880	21,589	18,823
Confirming payables	87,565	62,525	12,278
Other liabilities	2,759	58,481	12,856
	(38,487)	**105,330**	**(50,623)**

(c) Main non-cash investing and financing transactions

During 2021, the Company had: (i) additions to right-of-use assets in the amount of USD 5,174 (December 31, 2020: USD 5,785); (ii) write-offs of property, plant and equipment in the amount of USD 3,343; (iii) decreases in loans and financings in the total amount of USD 14,314 related to a decrease in their fair value of USD 19,380 net of the changes in the Company´s credit risk of USD 5,066, see note 24; and (iv) additions in intangible assets in the amount of USD 19,407 related to the GSF recovered costs.

16 Derivative financial instruments

Accounting policy

Derivatives are initially recognized at fair value as at the date on which a derivative contract is entered into and are subsequently measured at fair value. Derivatives are only used for risk mitigation purposes and not as speculative investments. When derivatives do not meet the hedge accounting criteria, they are classified as held for trading and accounted for at fair value through profit or loss.

The Company documents at the inception of the hedging transaction the relationship between hedging instruments and hedged items, as well as its risk management objectives and strategy for undertaking the hedge transactions. The Company also documents its assessment, both at hedge inception and on an ongoing basis, whether the derivatives that are used in hedging transactions and accounted for as hedge accounting were, and will continue to be, highly effective in offsetting changes in the fair value or cash flow of hedged items.

(i) Cash flow hedge

Derivatives that are designated for hedge accounting recognition are qualified as cash flow hedges when they are related to a highly probable forecasted transaction. The effective portion of the changes in fair value is recognized in shareholders' equity in Accumulated other comprehensive income and is subsequently reclassified to the income statement in the same period when the hedged expected cash flows affect the income statement.

The reclassification adjustment is recognized in the same income statement line item affected by the highly probable forecasted transaction, while gains or losses related to the non-effective portion are immediately recognized as Other income and expenses, net.

When a hedging instrument expires, is sold or no longer meets the criteria for hedge accounting, any cumulative gain or loss existing in shareholders' equity at that time remains in shareholders' equity and is recognized when the forecast transaction is ultimately recognized in the income statement. When a forecasted transaction is no longer expected to occur, the cumulative gain or loss that was previously accounted in shareholders' equity is immediately transferred to the income statement within Other income and expenses, net.

Currently, the Company classifies as cash flow hedge only the strategies related to mismatches of quotational periods.

(ii) Fair value hedge

Derivatives that are designated for hedge accounting recognition are qualified as fair value hedges when they are related to assets or liabilities already recognized in the consolidated balance sheet. Changes in the fair values of derivatives that are designated and qualify as fair value hedges and changes in the fair value of the hedged item are recorded in the income statement in the same period.

Currently, the Company classifies as fair value hedge the strategies related to interest rate risk, foreign exchange risk, and some mismatches of quotational periods.

(iii) Derivatives not designated as hedging instruments

Changes in the fair value of derivative financial instruments not designated as hedging instruments are recognized immediately in the income statement within Other income and expenses, net when related to price risk and within Net financial results when related to interest rate or foreign exchange rate risk.

Currently, the Company do not designate as hedging instruments the strategies related to the sales of zinc at a fixed price.

(a) Fair value by strategy

			2021		2020
Strategy	**Per Unit**	**Notional**	**Fair value**	**Notional**	**Fair value**
Mismatches of quotational periods					
Zinc forward	ton	215,809	(9,898)	204,394	2,398
			(9,898)		**2,398**
Sales of zinc at a fixed price					
Zinc forward	ton	8,787	3,433	15,695	1,815
			3,433		**1,815**
Interest rate risk					
IPCA vs. CDI	BRL	226,880	(66)	226,880	1,310
			(66)		**1,310**
Foreign exchange risk					
BRL vs. USD (i)	BRL	-	-	477,000	(417)
			-		**(417)**
			(6,531)		**5,106**
Current assets			16,292		16,329
Non-current assets			102		15,651
Current liabilities			(22,684)		(5,390)
Non-current liabilities			(241)		(21,484)

(i) Related to a derivative financial instrument entered into at the same time of a debt contract (a term loan in NEXA PERU) in order to manage some of the risks of such debt contract. As explained in note 24 (c), both the debt and the related derivative were prepaid on July 09, 2021

(b) Changes in fair value

							2021
Strategy	**Inventory**	**Cost of sales**	**Net revenues**	**Other income and expenses, net**	**Net financial results**	**Other comprehensive income**	**Realized (loss) gain**
Mismatches of quotational periods	1,146	(37,963)	9,709	1,820	-	454	(12,538)
Sales of zinc at a fixed price	-	-	-	5,666	-	34	4,082
Interest rate risk – IPCA vs. CDI	-	-	-	-	1,211	-	2,587
Foreign exchange ri–k - BRL vs USD (i)	-	-	-	-	(6,851)	-	(7,268)
2021	**1,146**	**(37,963)**	**9,709**	**7,486**	**(5,640)**	**488**	**(13,137)**

(i) Related to a derivative financial instrument entered into at the same time of a debt contract (a term loan in NEXA PERU) in order to manage some of the risks of such debt contract. As explained in note 24 (c), both the debt and the related derivative were prepaid on July 09, 2021.

17 Trade accounts receivables

Accounting policy

Trade accounts receivables are amounts due from customers for goods sold or services provided in the ordinary course of the Company's business.

Trade accounts receivables are recognized initially at fair value and subsequently measured at:

(i) Fair value through profit or loss when are related to the Company's accounts receivables portfolio that is included in a forfaiting program whereby the Company, at its discretion, can discount certain outstanding trade accounts receivables and receive payments in advance. The program is used to meet short-term liquidity needs. Trade accounts receivables within this program are derecognized since all risks and rewards, control of the assets and contractual rights to receive the assets cash flows are transferred to the counterparty.

(ii) Fair value through profit or loss when are related to sales that are subsequently adjusted to changes in LME prices. These accounts receivable do not meet the SPPI criteria because there is a component of commodity price risk that modifies the cash flows that otherwise would be required by the sales contract.

(iii) Amortized cost using the effective interest rate method, less impairment, when the receivables do not meet the aforementioned classifications.

Credit risk can arise from non-performance by counterparties of their contractual obligations to the Company. To ensure an effective credit risk evaluation, management applies procedures related to the application for credit granting and approvals, renewal of credit limits, continuous monitoring of credit exposure in relation to established limits and events that trigger requirements for secured payment terms. As part of the Company's process, the credit exposures with all counterparties are regularly monitored and assessed.

The Company applies the IFRS 9 simplified approach to measure the impairment losses for trade accounts receivables. This approach requires the use of the lifetime expected credit losses on its trade accounts receivables measured at amortized cost. To calculate the lifetime expected credit losses the Company uses a provision matrix and forward-looking information. The additions to impairment of trade accounts receivables are included in selling expenses. Trade accounts receivables are generally written off when there is no expectation of recovering additional cash.

(a) Composition

	2021	2020
Trade accounts receivables	233,623	229,800
Related parties - note 20	1,016	2,411
Impairment of trade accounts receivables	(3,465)	(3,179)
	231,174	**229,032**

(b) Changes in impairment of trade accounts receivables

	2021	2020
Balance at the beginning of the year	**(3,179)**	**(2,337)**
Additions	(1,586)	(2,643)
Reversals	1,206	1,288
Foreign exchange gains	94	513
Balance at the end of the year	**(3,465)**	**(3,179)**

(c) Analysis by currency

	2021	2020
USD	196,316	186,420
BRL	34,464	41,601
Other	394	1,011
	231,174	**229,032**

(d) Aging of trade accounts receivables

	2021	2020
Current	222,083	222,670
Up to 3 months past due	9,201	6,728
From 3 to 6 months past due	51	102
Over 6 months past due	3,304	2,711
	234,639	**232,211**
Impairment	(3,465)	(3,179)
	231,174	**229,032**

18 Inventory

Accounting policy

Inventory is stated at the lower of cost and net realizable value. Cost is determined using the weighted average cost method. The cost of finished goods and work in progress comprises raw materials, direct labor, other direct costs and related fixed production overheads (based on normal operating capacity). Variable production overhead costs are included in inventory cost based on the actual production level. The net realizable value is the estimated selling price in the ordinary course of business, less any additional selling expenses. Imports in transit are stated at the accumulated cost of each import. A provision for obsolete inventory - finished products, semi-finished products, raw materials and auxiliary materials - is recognized when items cannot be used in normal production or sold because they are damaged or do not meet the Company's specification. Slow-moving provision is recognized for inventory items that are in excess of the expected normal use or sale. The amount of slow-moving provision recognized is determined based on 20% of the carrying amount for each six-month period without use or sale.

(a) Composition

	2021	2020
Finished products	157,285	94,033
Semi-finished products	60,315	56,335
Raw materials (i)	90,087	66,278
Auxiliary materials and consumables	94,564	68,950
Inventory provisions	(29,749)	(29,074)
	372,502	**256,522**

(i) Raw materials include a USD 23,009 reclassification from Assets and projects under construction, within Property, plant and equipment, to Inventory, related to the ore pile costs that were incurred during Aripuanã's commissioning phase and which should already be included in the Company's inventory.

(b) Changes in the provision of the year

	2021	2020
Balance at the beginning of the year	**(29,074)**	**(28,398)**
Additions	(15,094)	(11,439)
Reversals	13,986	9,647
Exchange variation gains	433	1,116
Balance at the end of the year	**(29,749)**	**(29,074)**

19 Other assets

	2021	2020
Other recoverable taxes	128,377	127,815
Advances to third parties	8,545	15,006
Prepaid expenses	10,361	10,522
Judicial deposits	5,446	5,566
Other assets	26,974	25,363
	179,703	**184,272**
Current assets	81,119	91,141
Non-current assets	98,584	93,131

20 Related parties

	Trade accounts receivables		Related parties' assets		Trade payables		Dividends payable		Related parties' liabilities	
Assets and liabilities	**2021**	**2020**	**2021**	**2020**	**2021**	**2020**	**2021**	**2020**	**2021**	**2020**
Parent										
Votorantim S.A. (i)	-	-	2	2	1,102	809	-	-	-	-
Related parties										
Andrade Gutierrez Engenharia S.A. (ii)	-	-	-	-	1,890	1,160	-	-	-	-
Companhia Brasileira de Alumínio	158	1,479	-	-	264	175	-	-	-	-
Votorantim Cimentos S.A.	551	595	-	-	64	121	-	-	-	-
Votener - Votorantim Comercializadora de Energia Ltda.	302	332	-	-	945	6,330	-	-	-	-
Votorantim International CSC S.A.C	-	-	-	-	306	421	-	-	152	-
Other	5	5	-	-	240	871	11,441	4,557	240	561
	1,016	**2,411**	**2**	**2**	**4,811**	**9,887**	**11,441**	**4,557**	**392**	**561**
Current	1,016	2,411	-	-	4,811	9,887	11,441	4,557	-	-
Non-current	-	-	2	2	-	-	-	-	392	561
	1,016	**2,411**	**2**	**2**	**4,811**	**9,887**	**11,441**	**4,557**	**392**	**561**

	Sales			Purchases		
Profit and loss	**2021**	**2020**	**2019**	**2021**	**2020**	**2019**
Parent						
Votorantim S.A. (i)	-	-	26	3,735	4,378	6,176
Related parties						
Andrade Gutierrez Engenharia S.A. (ii)	-	-	-	41,498	26,280	5,046
Companhia Brasileira de Alumínio	8,988	7,828	2,157	3,736	1,156	1,964
Votorantim Cimentos S.A.	-	-	196	661	524	2,186
Votener - Votorantim Comercializadora de Energia Ltda.	5,993	9,740	3,288	16,207	7,721	9,596
Votorantim International CSC S.A.C	-	-	-	4,278	6,638	5,584
Other	113	11	510	1,120	582	1,581
	15,094	**17,579**	**6,177**	**71,235**	**47,279**	**32,133**

(i) The Company entered into an agreement with VSA on September 4, 2008, for services provided by its Center of Excellence ("CoE") related to administrative activities, human resources, back office, accounting, taxes, technical assistance, and training, among others. Under a cost sharing agreement, the Company reimburses VSA for the expenses related to these activities in respect of the Company.

(ii) As part of the execution of the Aripuanã project, in June 2019 the Company entered into a mining development services agreement with Andrade Gutierrez Engenharia S.A., in which one of the Company director's close family member may have significant influence at its holding level. Additionally, in June 2020, NEXA entered into one additional agreement with Consórcio Construtor Nova Aripuanã (a consortium of the Andrade Gutierrez group of companies) in connection with construction services for the Aripuanã project.

(a) Key management compensation

Key management includes the members of the Company's global executive team and Board of Directors. Key management compensation, including all benefits, was as follows:

	2021	2020
Short-term benefits	6,602	6,765
Other long-term benefits	664	1,791
	7,266	**8,556**

Short-term benefits include fixed compensation, payroll charges and short-term benefits under the Company's variable compensation program. Other long-term benefits relate to the variable compensation program.

21 Property, plant and equipment

Accounting policy

Property, plant and equipment are stated at their historical cost of acquisition or construction less accumulated depreciation and any recognized impairment losses. Historical cost includes expenditures that are directly attributable to the acquisition and construction of the assets. The mining projects development costs that are registered within Property, plant and equipment include (i) direct and indirect costs attributed to building the mining facilities; (ii) financial charges incurred during the construction period; (iii) depreciation of other fixed assets used during construction; and, (iv) estimated decommissioning and site restoration expenses.

Subsequent costs are included in the asset's carrying amount, or recognized as a separate asset as appropriate, only when it is probable that future economic benefits associated with the item will flow to the Company and they can be measured reliably. The carrying amount of any component accounted for as a separate asset is derecognized when replaced. All other repairs and maintenance are charged to the income statement during the reporting period in which they are incurred.

Replacement costs are included in the carrying amount of the asset when it is probable that the Company will realize future economic benefits in excess of the benefits expected from the asset in its current condition. Replacement costs are depreciated over the remaining useful life of the related asset.

Land is not depreciated. Depreciation of other assets is calculated using the straight-line method to reduce their costs to their residual values over their estimated useful lives.

The assets' residual values and useful lives are reviewed annually and adjusted if appropriate.

An asset's carrying amount is reduced to its recoverable amount when it is greater than the estimated recoverable amount, in accordance with the criteria adopted by the Company to determine the recoverable amount.

Gains and losses on disposals are determined by comparing the proceeds with the carrying amount and are recognized within Other income and expenses, net in the income statement.

Loans and financings costs directly related to the acquisition, construction or production of a qualifying asset that requires a substantial period of time to prepare for its intended use or sale are capitalized as part of the cost of that asset when it is probable that future economic benefits associated with the item will flow to the Company and costs can be measured reliably.

Stripping costs

In its surface mining operations, the Company must remove overburden and other waste to gain access to mineral ore deposits. The removal process is referred to as stripping. During the development of a mine, before production commences, when the stripping activity improves access to the ore body, the component of the ore body for which access has been improved can be identified and the costs can be measured reliably, a stripping activity asset is capitalized as part of the investment in the construction of the mine and is accounted for as part of Property, plant and equipment within Assets and projects under construction. Subsequently, when the operation starts, the stripping costs are transferred to Buildings and are depreciated by a linear calculation considering the asset's useful life.

Stripping costs incurred during the production phase of operations are treated as production costs and are part of the inventory cost.

Mining Projects

The Company starts to capitalize a project's mineral exploration and evaluation costs at the beginning of its feasibility study phase, following completion of a pre-feasibility study in which probability of economic feasibility has been established and where there is sufficient geologic and economic certainty of converting mineral resources into proven and probable mineral reserves at a development stage (construction or execution phase) or production stage based on various factors including the known geology, metallurgy and life-of-mine plans.

Capitalized costs incurred during a project's mineral exploration and evaluation stages are classified within Mining projects, under Property, plant and equipment until the project starts its development stage and are only depreciated by the units of production ("UoP") method once the development stage finishes and the project's operation starts.

Costs incurred during a project's development stage are also capitalized under Property, plant, and equipment but within Assets and projects under construction. In this way, the capitalized mineral exploration and evaluation costs will remain within Mining projects and will only be depreciated once the development stage finishes and the project´s operation starts.
Once the development stage is finished and the project's operation starts, the capitalized development costs are reclassified to the appropriate group of assets considering their nature and are depreciated on a linear calculation based on the assets' useful life.

Based on the above, once a project begins operation, there will be depreciation coming from the project's capitalized mineral exploration and evaluation costs within the Mining projects account and based on the UoP method and from the project's capitalized development costs within the corresponding group of assets based on their useful life.

The carrying value of the capitalized mineral exploration and evaluation costs, which remain within Mining projects, and the capitalized development costs, which are within Assets and projects under construction, of the projects are assessed for impairment at least annually or whenever evidence indicates that the assets may be impaired in accordance with IFRS 6 and IAS 36. If the Company decides at any moment to discontinue the project, this could be an impairment indicator that will be assessed under the impairment test. For purposes of this impairment assessment, the projects are

allocated to cash-generating units when applicable. The annual impairment test is disclosed in note 31.

Refer to note 8 for the Company’s accounting policy related to expensed mineral exploration and project evaluation costs for mining projects.

Costs to acquire exploration legal mining rights are included as Intangible within Rights to use natural resources as explained in note 23.

Asset retirement obligations

An asset retirement obligation is an obligation related to the permanent removal from service of a tangible long-lived asset that results from the acquisition, construction or development, or the normal operations of a tangible long-lived asset. At the initial recognition of an asset retirement obligation and at the periodical revisions of the expected disbursements and the discount rate, the changes in the liability are charged to Property, plant and equipment.

The capitalized amount recognized in Property, plant and equipment is depreciated based on the UoP method. Any reduction in the provision that exceeds the carrying amount of the asset, is immediately recognized in the income statement as Other income and expenses, net.

Impairment

Refer to note 31 for the Company’s accounting policy related to impairment of Property, plant and equipment.

(a) Changes in the year

							2021
	Dam and buildings	Machinery, equipment, and facilities	Assets and projects under construction	Asset retirement obligations	Mining projects (iii)	Other	Total
Balance at the beginning of the year							
Cost	1,022,432	2,360,426	596,675	211,650	292,322	36,816	4,520,321
Accumulated depreciation and impairment	(567,829)	(1,734,232)	(69,143)	(124,838)	(108,698)	(17,285)	(2,622,025)
Net balance at the beginning of the year	**454,603**	**626,194**	**527,532**	**86,812**	**183,624**	**19,531**	**1,898,296**
Reclassification (i)	-	-	-	-	(31,851)	-	(31,851)
Net balance at the beginning of the year - adjusted	**454,603**	**626,194**	**527,532**	**86,812**	**151,773**	**19,531**	**1,866,445**
Additions (ii)	12	671	507,907	-	-	1,576	510,166
Disposals and write-offs	(567)	(7,663)	(454)	-	-	(1,751)	(10,435)
Depreciation	(56,493)	(110,895)	-	(6,436)	(2,062)	(1,143)	(177,029)
Foreign exchange effects	(15,963)	(23,188)	(40,278)	(2,452)	(1,027)	(631)	(83,539)
Transfers (iv)	57,393	82,252	(182,612)	-	16,553	2,657	(23,757)
Remeasurement of asset retirement obligations – note 26	-	-	-	5,879	-	-	5,879
Balance at the end of the year	**438,985**	**567,371**	**812,095**	**83,803**	**165,237**	**20,239**	**2,087,730**
Cost	1,054,413	2,330,748	874,776	202,242	158,642	35,266	4,656,087
Accumulated depreciation and impairment	(615,428)	(1,763,377)	(62,681)	(118,439)	6,595	(15,027)	(2,568,357)
Balance at the end of the year	**438,985**	**567,371**	**812,095**	**83,803**	**165,237**	**20,239**	**2,087,730**
Average annual depreciation rates %	4	7	-	UoP	UoP		

							2020
	Dam and buildings	**Machinery, equipment, and facilities**	**Assets and projects under construction**	**Asset retirement obligation**	**Mining projects**	**Other**	**Total**
Balance at the beginning of the year							
Cost	1,050,632	2,419,034	549,903	201,892	261,117	45,035	4,527,613
Accumulated depreciation and impairment	(511,973)	(1,666,480)	(14,811)	(97,233)	(93,009)	(21,417)	(2,404,923)
Net balance at the beginning of the year	**538,659**	**752,554**	**535,092**	**104,659**	**168,108**	**23,618**	**2,122,690**
Additions	-	3,315	336,457	-	-	935	340,707
Disposals and write-offs	(240)	(1,732)	(662)	-	-	(42)	(2,676)
Depreciation	(48,938)	(110,515)	-	(6,096)	(869)	(1,261)	(167,679)
Impairment of non-current assets	(45,188)	(26,521)	(57,621)	(13,804)	(15,805)	(106)	(159,045)
Foreign exchange effects	(60,934)	(78,038)	(83,982)	(12,821)	(3,852)	(4,182)	(243,809)
Transfers – note 22	71,244	88,047	(201,752)	-	36,042	1,770	(4,649)
Reclassification	-	(916)	-	-	-	(1,201)	(2,117)
Remeasurement of asset retirement obligations	-	-	-	14,874	-	-	14,874
Balance at the end of the year	**454,603**	**626,194**	**527,532**	**86,812**	**183,624**	**19,531**	**1,898,296**
Cost	1,022,432	2,360,426	596,675	211,650	292,322	36,816	4,520,321
Accumulated depreciation and impairment	(567,829)	(1,734,232)	(69,143)	(124,838)	(108,698)	(17,285)	(2,622,025)
Balance at the end of the year	**454,603**	**626,194**	**527,532**	**86,812**	**183,624**	**19,531**	**1,898,296**
Average annual depreciation rates %	4	7	-	5	UoP		

(i) Reclassification of USD 31,851 from Mining projects to Intangible assets (Rights to use natural resources), as explained in note 22 (a).

(ii) Additions include capitalized borrowing costs on Assets and projects under construction in the amount of USD 19,614 for the year ended on December 31, 2021 (December 31, 2020: USD 2,023).

(iii) Only the amounts related to the operating unit Atacocha are being depreciated under the UoP method.

(iv) Amount includes: (i) a transfer from Assets and projects under construction to Inventories (raw materials) of USD 23,009 related to the ore pile costs that were incurred during Aripuanã´s commissioning phase and which should already be included in the Company's inventory; and, (ii) USD 748 thousand related to other intangibles.

22 Intangible assets

Accounting policy

Goodwill

Goodwill arising from business combinations is measured as the excess of the sum of the consideration transferred, the amount of any non-controlling interests in the acquiree, and the fair value of the acquirer's previously held equity interest in the acquiree (if any) over the net assets acquired. Goodwill is not amortized but is tested for impairment annually and whenever circumstances indicate that the carrying amount may not be recovered. Refer to note 31 for the Company's impairment accounting policy and critical estimates and assumptions and judgments.

Rights to use natural resources

The significant costs incurred for the acquisition of legal rights to explore mining concessions and develop mineral properties are capitalized and are amortized as production costs when the associated projects start their commercial operation using the UoP method over their useful lives. Useful lives consider the period of extraction for both mineral reserves and mineral resources, which includes a portion of the Company's inferred resources in the Company's mining operations. The costs for the acquisition of legal rights attributed to mining projects are not depreciated until the project becomes operational and production activities start.

The costs incurred are impaired if the Company determines that the projects and their mineral rights associated have no future economic value. For purposes of impairment assessment, rights to use natural resources are allocated to Cash Generating Units ("CGUs"). Refer to note 31 for the Company's impairment accounting policy.

Critical accounting estimates and judgments - Quantification of mineral reserves and resources for useful life calculation

The Company classifies proven and probable reserves, and measured, indicated and inferred resources based on the definitions of the Canadian Institute of Mining, Metallurgy and Petroleum (or CIM) Definition Standards for Mineral Resources and Mineral Reserves (or the 2014 CIM Definition Standards).

The useful life determination applied to the rights to use natural resources reflect the pattern in which the benefits are expected to be derived by the Company and is based on the estimated life of mine. Any changes to the life of mine, based on new information regarding estimates of mineral reserves and mineral resources and mining plan, may affect prospectively the life of mine and amortization rates.

The estimation process of mineral reserves and mineral resources is based on a technical evaluation, which includes geological, geophysics, engineering, environmental, legal and economic estimates and may have relevant impact on the economic viability of the mineral reserves and mineral resources. These estimates are reviewed periodically, and any changes are reflected in the expected life of mine. Management is confident based on testing, continuity of the ore bodies and conversion experience that a part of the inferred resources will be converted into measured and indicated resources, and if they are economically recoverable, and such inferred resources may also be classified as proven and probable mineral reserves. Where the Company can demonstrate the expected economic recovery with a high level of confidence, inferred resources are included in the amortization calculation.

nexa

Nexa Resources S.A.

Notes to the consolidated financial statements
At and for the year ended December 31, 2021
All amounts in thousands of US dollars, unless otherwise stated

However, the future conversion of inferred resources is inherently uncertain and involves estimates and assumptions and judgments that could have a material impact on the Company's results of operations.

Schedule of reconciliation of changes in intangible assets

(a) Changes in the year

				2021
	Goodwill	**Rights to use natural resources**	**Other**	**Total**
Balance at the beginning of the year				
Cost	673,776	1,665,149	53,463	2,392,388
Accumulated amortization and impairment	(267,342)	(1,016,279)	(32,362)	(1,315,983)
Net balance at the beginning of the year	**406,434**	**648,870**	**21,101**	**1,076,405**
Reclassification (i)	-	31,851	-	31,851
Net balance at the beginning of the year - adjusted	**406,434**	**680,721**	**21,101**	**1,108,256**
Additions (ii)	-	-	21,821	21,821
Disposals	-	-	(9)	(9)
Amortization	-	(67,829)	(3,550)	(71,379)
Foreign exchange effects	(206)	(622)	(1,838)	(2,666)
Transfers – note 21	-	-	748	748
Balance at the end of the year	**406,228**	**612,270**	**38,273**	**1,056,771**
Cost	673,570	1,791,643	72,414	2,537,627
Accumulated amortization and impairment	(267,342)	(1,179,373)	(34,141)	(1,480,856)
Balance at the end of the year	**406,228**	**612,270**	**38,273**	**1,056,771**
Average annual depreciation rates %	-	UoP	-	

				2020
	Goodwill	**Rights to use natural resources**	**Other**	**Total**
Balance at the beginning of the year				
Cost	674,645	1,668,956	59,408	2,403,009
Accumulated amortization and impairment	-	(825,163)	(39,320)	(864,483)
Net balance at the beginning of the year	**674,645**	**843,793**	**20,088**	**1,538,526**
Disposals	-	-	(55)	(55)
Amortization	-	(60,936)	(2,842)	(63,778)
Impairment of non-current assets	(267,342)	(131,110)	-	(398,452)
Foreign exchange effects	(869)	(2,877)	(739)	(4,485)
Transfers – note 21	-	-	4,649	4,649
Balance at the beginning of the year	**406,434**	**648,870**	**21,101**	**1,076,405**
Cost	673,776	1,665,149	53,463	2,392,388
Accumulated amortization and impairment	(267,342)	(1,016,279)	(32,362)	(1,315,983)
Balance at the end of the year	**406,434**	**648,870**	**21,101**	**1,076,405**
Average annual depreciation rates %	-	UoP	-	

(i) The Company identified USD 31,851 of legal mining rights that were being classified as Mining projects within Property, Plant and Equipment, instead of as Rights to use natural resources within Intangible assets. Given the nature

of this reclassification, only between Property, Plant and Equipment and Intangible assets, the Company made an out-of-period adjustment, to account for the correct classification of those legal mining rights as of December 31, 2021.

(ii) The main addition is due to GSF recovered costs. In past years, Brazilian energy power plants were charged with increased costs related to the Generation Scaling Factor (GSF), which showed a

generation deficit in relation to the total energy expected for the National Energy System calculated by the regulator. However, as the generation deficit was not due to hydrological risks, the generators should not have been charged with these increased costs since non-hydrological risks are not managed by them. The affected energy power plants include those of NEXA: Picada, Armador Aguiar I, Armador Aguiar II, Igarapava and Enercan.

Law No. 14.052 published on September 09, 2020 established new conditions for the renegotiation of hydrological risks, providing compensation to the energy power plants that were affected by the increased costs related to GSF, including the plants owned by NEXA, by extending their concession periods.

In 2021, the Brazilian Electric Energy Chamber ("CCEE") finalized the necessary calculations for the extension of the concession period for the energy power plants that were affected by the increased costs related to GSF and after evaluating the amounts involved, NEXA agreed to accept the renegotiation agreement with the Brazilian Electricity Regulator Agency ("ANEEL") and to waive any future judicial claim related to the increased GSF costs. This had an impact of USD 19,407 (Picada – 5 years of extended concession period: USD 4,592; Armador Aguiar I – 6 years and 2 months of extended concession period: USD 3,293; Igarapava – 2 years and 7 months of extended concession period: USD 2,565; and, Enercan – 3 years and 6 months of extended concession period: USD 8,957).

These amounts have been recognized as an Intangible asset against recovered energy costs (note 7) in the income statement within Cost of sales, and will be amortized using the straight-line method until the end of the extended concession period without any direct cash benefit in 2021.

As of December 31, 2021, the adhesion of Armador Aguiar II energy power plant was still pending and will be recognized once all the external and internal approvals are obtained during the following months.

23Right-of-use assets and lease liabilities

Accounting policy

Right-of-use assets represent the right to use an underlying asset for the lease term and lease liabilities represent the Company's obligation to make lease payments arising from the lease.

Lease terms are negotiated on an individual asset basis and contractual provisions contain a wide range of different terms and conditions. The lease agreements do not impose any covenants, but leased assets may not be used as security for borrowing purposes.

The Company accounts for non-lease components such as service costs separately, whenever applicable. The Company's lease terms may include options to extend or terminate the lease and when it is reasonably certain that we will exercise that option, the financial effect is included in the contract's measurement.

Measurement

Liabilities arising from a lease contract are initially measured on a present value basis, using the incremental borrowing rate approach. The incremental borrowing rate is determined by the Company based on equivalent financial costs that would be charged by a counterparty for a transaction with the same currency and a similar amount, term and risk of the lease contract. The finance cost charged to the income statement produces a constant periodic rate of interest over the lease term. On December 31, 2021, interest rates were between 5.68% to 11.39% for Brazil; and, 2.65% to 5.93% for Peru.

Lease contracts are recognized as a liability with a corresponding right-of-use asset at the date at which the leased asset is available for use by the Company. The right-of-use asset also includes any lease payments made and it is amortized over the shorter of the asset's useful life and the lease term on a straight-line basis. Amortization expenses are classified either in Cost of sales or Administrative expenses based on the designation of the related assets.

(a) Right-of-use assets - Changes in the year

					2021	2020
	Buildings	**Machinery, equipment, and facilities**	**IT equipment**	**Vehicles**	**Total**	**Total**
Balance at the beginning of the period						
Cost	6,461	10,639	5,846	24,616	47,562	45,772
Accumulated amortization	(3,129)	(5,699)	(5,562)	(14,303)	(28,693)	(16,225)
Net balance at the beginning of the period	**3,332**	**4,940**	**284**	**10,313**	**18,869**	**29,547**
New contracts	-	2,723	-	2,451	5,174	5,785
Amortization	(1,063)	(2,668)	(284)	(6,288)	(10,303)	(12,468)
Remeasurement	(290)	-	-	-	(290)	-
Foreign exchange effects	(92)	(192)	-	(477)	(761)	(3,995)
Balance at the end of the period	**1,887**	**4,803**	**-**	**5,999**	**12,689**	**18,869**
Cost	5,731	17,560	5,427	21,285	50,003	47,562
Accumulated amortization	(3,844)	(12,757)	(5,427)	(15,286)	(37,314)	(28,693)
Balance at the end of the period	**1,887**	**4,803**	**-**	**5,999**	**12,689**	**18,869**
Average annual amortization rates %	31	34	33	34		

(b) Lease liabilities - Changes in the year

	2021	2020
Balance at the beginning of the year	**25,689**	**34,384**
New contracts	5,174	5,785
Payments of lease liabilities	(9,827)	(9,100)
Interest paid on lease liabilities	(1,415)	(1,385)
Remeasurement	(302)	-
Accrued interest – note 10	1,272	1,757
Foreign exchange effects	(952)	(5,752)
Balance at the end of the year	**19,639**	**25,689**
Current liabilities	16,246	15,999
Non-current liabilities	3,393	9,690

24 Loans and financings

Accounting policy

Loans and financings are recognized initially at fair value, net of transaction costs incurred, and are subsequently measured at amortized cost, unless they are designated as fair value option, if necessary to eliminate the accounting mismatch that would arise if amortized cost were used. Any difference between the proceeds (net of transaction costs) and the total amount payable is recognized in the income statement as interest expense over the period of the loans using the effective interest rate method, except for the loans measured at fair value.

Loans and financings are classified as current liabilities unless the Company has the unconditional right to defer repayment of the liability for at least 12 months after the reporting period.

Fees paid on the establishment of loan facilities are recognized as transaction costs of the loan to the extent that it is probable that some or all of the facility will be drawn down. In this case, the fee is deferred until the drawdown occurs.

To the extent that there is no evidence that it is probable that some or all of the facility will be drawn down, the fee is capitalized as a prepayment for liquidity services and amortized over the period of the facility to which it relates.

(a) Composition

				2021	2020
Type	**Average interest rate**	**Current**	**Non-current**	**Total**	**Total**
Eurobonds – USD	Fixed + 5.73 %	20,081	1,318,253	1,338,334	1,338,972
BNDES	TJLP + 2.82 % SELIC + 3.10 % TLP - IPCA + 5.46 %	18,721	197,080	215,801	179,828
Export credit notes	LIBOR + 1.54 % 134.20 % CDI 115.55% CDI	1,466	133,611	135,077	234,221
Term loans	LIBOR + 1.27 % Fixed + 8.49 %	-	-	-	213,735
Debentures	107.5 % CDI	4,916	-	4,916	10,388
Other		1,529	3,658	5,187	47,170
		46,713	**1,652,602**	**1,699,315**	**2,024,314**
Current portion of long-term loans and financings (principal)		19,276			
Interest on loans and financings		27,437			

(b) Loans and financing transactions during the year ended on December 31, 2021

Prepayment of debts

On January 22, 2021, the Company prepaid the outstanding principal of an Export Credit Note in Brazil in the amount of BRL 250,000 thousand, with accrued interest of BRL 12,905 thousand (a total of approximately USD 51,105).

On June 23, 2021, the Company prepaid the outstanding principal of an Export Credit Note in Brazil in the amount of BRL 245,000 thousand, with accrued interest of BRL 2,974 thousand (a total of approximately USD 50,077).

On June 28, 2021, the Company prepaid the outstanding principal of a Credit Facility in the amount of USD 42,969, with accrued interest of USD 294.

On July 09, 2021, NEXA PERU prepaid the outstanding principal of a term loan it had with a global financial institution in the amount of BRL 477,000 thousand (approximately USD 90,512), with accrued interest of BRL 12,592 thousand (approximately USD 2,389). The contracted cross-currency swap associated with this debt, as explained in note 16 (b), was also unwound in the amount of USD 12,398.

On July 28, 2021, the Company prepaid the outstanding principal of a Loan Facility in the amount of USD 80,000, with accrued interest of USD 211.

BNDES disbursements

In relation to the loan agreement subscribed in July 2020 between NEXA, through its subsidiary Dardanelos, and the Brazilian Economic and Social Bank ("BNDES"), to finance the ongoing construction of the Aripuanã project, during the second quarter of 2021, the Company drew down the following amounts:

a. On May 28, 2021, BRL 160,000 thousand (approximately USD 30,608); and

b. On June 18, 2021, BRL 101,300 thousand (approximately USD 20,136).

Of the total facility of BRL 750,000 thousand approved by BNDES, the Company has drawn down BRL 736,300 thousand (BRL 261,300 thousand in 2021; and, BRL 475,000 thousand in 2020) which corresponds to approximately USD 140,000 (USD 50,744 in 2021; and, USD 87,664 in 2020). This loan is guaranteed by NEXA BR and NEXA and was contracted at a cost of TLP ("Taxa a longo prazo" or "Long term rate") + 3.39%, with a maturity date in 2040.

(c) Changes in the year

	2021	2020
Balance at the beginning of the year	**2,024,314**	**1,508,557**
New loans and financings	59,771	1,296,496
Debt issue costs	(178)	(9,921)
Payments of loans and financings	(251,044)	(542,983)
Prepayment of fair value debt – note 24 (b)	(90,512)	-
Bonds repurchase	-	(214,530)
Foreign exchange effects	(21,066)	(45,295)
Changes in fair value of financing liabilities related to changes in the Company´s own credit risk (i)	5,066	787
Fair value of loans and financings (ii) - note 10	(10,784)	8,058
Write off of fair value of loans and financings (iii) - note 10	(8,596)	-
Interest accrual	113,456	107,532
Premium paid on bonds repurchase – note 10	-	(14,481)
Interest paid on loans and financings	(121,112)	(69,906)
Balance at the end of the year	**1,699,315**	**2,024,314**

(i) On June 30, 2021, NEXA had two debt contracts measured at fair value through profit or loss, of which one was prepaid in July 2021. In 2021, the Company's credit risk decreased, in comparison to 2020, mainly due to the normalization of its operations, with a consequent increase in the fair value of these debts in USD 5,066 (USD 5,188 related to the term loan in NEXA PERU which was prepaid as mentioned above, partially compensated by USD 122 related to a Brazilian Export Credit Note which is the only fair value debt outstanding as of December 31, 2021).

(ii) During the year, the Company recognized a gain in the income statement of USD 10,784 related to the fair value adjustment of the two debts mentioned above, composed by a gain of USD 12,228 on the term loan already prepaid and a loss of USD 1,444 on the Export Credit Note.

(iii) As mentioned above, on July 9, the Company prepaid its term loan debt, together with the respective SWAP contract. The carrying amount of the debt at the date of prepayment was USD 102,042 and the amount paid was USD 92,902 resulting in a gain of USD 9,140, of which USD 8,596 was included in other financial items, net – fair value of loans and financings and USD 544 was included in Other financial items – foreign exchange.

(d) Maturity profile

							2021
	2022	**2023**	**2024**	**2025**	**2026**	**As from 2027**	**Total**
Eurobonds – USD	20,081	126,370	-	-	-	1,191,883	1,338,334
BNDES	18,721	21,381	22,336	21,429	19,216	112,718	215,801
Export credit notes	1,466	-	-	133,611	-	-	135,077
Debentures	4,916	-	-	-	-	-	4,916
Other	1,529	461	35	451	451	2,260	5,187
	46,713	**148,212**	**22,371**	**155,491**	**19,667**	**1,306,861**	**1,699,315**

(e) Analysis by currency

			2021	2020
	Current	**Non-current**	**Total**	**Total**
USD	20,281	1,406,681	1,426,962	1,569,942
BRL	25,073	245,498	270,571	451,634
Other	1,359	423	1,782	2,738
	46,713	**1,652,602**	**1,699,315**	**2,024,314**

(f) Analysis by index

			2021	2020
	Current	**Non-current**	**Total**	**Total**
Fixed rate	21,530	1,318,717	1,340,247	1,456,090
LIBOR	248	88,429	88,677	230,574
TLP	8,559	161,765	170,324	132,280
BNDES SELIC	6,613	23,067	29,680	30,683
CDI	6,134	45,182	51,316	156,683
TJLP	3,629	15,442	19,071	17,962
Other	-	-	-	42
	46,713	**1,652,602**	**1,699,315**	**2,024,314**

(g) Guarantees and covenants

The Company has loans and financings that are subject to certain financial covenants at the consolidated level which are measured annually and semiannually, as required by the debt contracts. These financial covenants include the: (i) leverage ratio; (ii) capitalization ratio; and, (iii) debt service coverage ratio. When applicable, these compliance obligations are standardized for all debt agreements. As of December 31, 2021, the Company was in compliance with all its financial covenants. There were no changes to the contractual guarantees provided by the Company during the year and as of December 31, 2021.

25 Trade Payables

Accounting policy

Trade payables represent liabilities for goods and services that were provided to the Company before the end of the financial year which are unpaid. Trade and other payables are presented as current liabilities unless payment is not due within 12 months after the reporting period. These amounts are recognized initially at their fair value and subsequently measured at amortized cost using the effective interest method.

(a) Composition

	2021	2020
Trade payables	407,007	360,235
Related parties - note 20	4,811	9,887
	411,818	**370,122**

26 Asset retirement and environmental obligations

Accounting policy

Provision for asset retirement obligations include costs to restoration and closure of the mining assets, and is recognized due to the development or mineral production, based on the net present value of estimated closure costs. Management uses its judgment and previous experience to determine the potential scope of rehabilitation work required and the related costs associated with that work, which are recognized as a Property plant and equipment for asset retirement obligations relating to operating mining assets or as Other income and expenses, net for non-operating structures.

Environmental obligations include costs related to rehabilitation of areas damaged by the Company in its extractive actions (for example - soil contamination, water contamination, among others) or penalties. Therefore, it becomes an event that creates obligations when these environmental damages are detected by the Company, when a new law requires that the existing damage be rectified or when the Company publicly accepts any responsibility for the rectification, creating a constructive obligation. The costs to remedy an eventual unexpected contamination, which give rise to a probable loss and can be reliably estimated, must be recognized in Other income and expenses, net in income statement.

In addition, investments in infrastructure, machinery and equipment regarding operational improvements to avoid future environmental damage, are not provisioned, because it is expected that these assets will bring future economic benefits to the operating units, thus it is capitalized as Property, plant and equipment.

The cash flows are discounted to present value using a credit risk-adjusted rate that reflects current market assessments of the time value of the money and the specifics risks for the asset to be restored. The interest rate charges relating to the liability are recognized as an accretion expense in the Net financial results. Difference in the settlement amount of the liability is recognized in the income statement.

Critical accounting estimates and judgments

The initial recognition and the subsequent revisions of the asset retirement obligations and environmental obligations consider critical future closure and repairing costs and several assumptions such as interest rates, inflation, useful lives of the assets and the estimated moment that the expenditure will be executed. These estimates are reviewed annually by the Company or when there is a relevant change in these assumptions.

Cost estimates can vary in response to many factors of each site that include timing, expected life of mine, changes to the relevant legal or government requirements and commitments with stakeholders, review of remediation and relinquishment options, emergence of new restoration techniques, among others.

External experts support the cost estimation process where appropriate. These factors either isolated or consolidated could significantly affect the future financial results and balance sheet position.

(a) Changes in the year

			2021	2020
	Asset retirement obligations	Environmental obligations	Total	Total
Balance at the beginning of the year	**227,189**	**48,857**	**276,046**	**293,828**
Payments	(19,932)	(6,323)	(26,255)	(10,426)
Foreign exchange effects	(4,848)	(3,003)	(7,851)	(37,145)
Interest accrual	7,051	2,616	9,667	14,015
Remeasurement and additions (i)	12,250	293	12,543	15,774
Balance at the end of the year	**221,710**	**42,440**	**264,150**	**276,046**
Current liabilities	20,826	11,127	31,953	33,095
Non-current liabilities	200,884	31,313	232,197	242,951

(i) As of December 31, 2021, the credit risk-adjusted rate used for Peru was between 3.54% to 7.28% (December 31, 2020: 1.70% to 4.00%) and for Brazil was between 7.68% to 8.67% (December 31, 2020: 0.07% to 6.75%). Besides, as part of its annual asset retirement and environmental obligations review, the Company increased its expected disbursements on decommissioning obligations in certain operations, in accordance with updates in their asset retirement or environmental obligations studies and update in the discount rates. For operational assets, Property, plant and equipment has been increased in an amount of USD 5,879; and, for non-operational structures and environmental obligations, an expense of USD 6,664 was recognized in Other income and expenses, net, according to the updates mentioned above.

27 Provisions

Accounting policy

Provisions for legal claims and judicial deposits

Provisions for legal claims are recognized when there is a combination of the following conditions: (i) the Company has a present legal or constructive obligation as a result of past events; (ii) it is probable (more likely than not) that an outflow of resources will be required to settle the obligation;

And, (iii) the amount can be reliably estimated. The provisions are periodically estimated, and the likelihood of losses is supported by the Company's legal counsel.

Provisions are measured at the present value of the expenditure expected to be required to settle the obligation using a discount rate that reflects current market assessments of the time value of money and the risks specific to the obligation. The increase in the provision due to the passage of time is recognized as Financial expenses.

When a claim is secured by a judicial deposit, the Company offsets the provision with the judicial deposit amount in the consolidated balance sheet. However, the Company also has judicial deposits for claims for which the likelihood of loss is possible or remote and for which no provision is recognized. In such cases, these amounts are recognized as outstanding judicial deposits in the Company's assets.

Critical accounting estimates – Provisions for legal claims

The Company is part of ongoing tax, labor, civil and environmental lawsuits which are pending at different court levels. The provisions for potentially unfavorable outcomes of litigation in progress are established and updated based on management evaluation and require a high level of judgment regarding the matters involved, supported by the positions of external legal advisors. Income tax claims are discussed at the current and deferred income tax section (note 11).

(a) Changes in the year

					2021	2020
	Tax	Labor	Civil	Environmental	Total	Total
Balance at the beginning of the year	**6,234**	**15,208**	**785**	**8,669**	**30,896**	**26,070**
Additions	9,943	12,328	1,676	9,358	33,305	24,052
Reversals	(8,572)	(7,012)	(754)	(3,794)	(20,132)	(13,140)
Interest accrual	(418)	1,131	40	(7)	746	1,389
Payments	(2,162)	(1,739)	(935)	(491)	(5,327)	(1,721)
Foreign exchange effects	(448)	(1,087)	(30)	(820)	(2,385)	(5,147)
Other	(43)	(150)	(82)	-	(275)	(607)
Balance at the end of the year	**4,534**	**18,679**	**700**	**12,915**	**36,828**	**30,896**

(b) Breakdown of legal claims provisions

The provisions and the corresponding judicial deposits are as follows:

			2021			2020
	Judicial deposits	Provisions	Carrying amount	Judicial deposits	Provisions	Carrying amount
Tax	(1,528)	6,062	4,534	(1,594)	7,828	6,234
Labor	(2,752)	21,431	18,679	(2,797)	18,005	15,208
Civil	(751)	1,451	700	(722)	1,507	785
Environmental	-	12,915	12,915	-	8,669	8,669
Balance at the end of the year	**(5,031)**	**41,859**	**36,828**	**(5,113)**	**36,009**	**30,896**

The outstanding judicial deposits of the Company as of December 31, 2021 are USD 5,446 (December 31, 2020: USD 5,566).

(c) Contingent liabilities

Legal claims that have a possible likelihood that an obligation will arise are disclosed in the Company's financial statements. The Company does not recognize a liability because it is not probable that an

outflow of resources will be required or because the amount of the liability cannot be reliably calculated. These legal claims are summarized below:

	2021	2020
Tax (i)	156,779	182,380
Labor (ii)	36,215	33,205
Civil (iii)	14,617	17,502
Environmental (iv)	97,027	85,390
	304,639	**318,477**

As of December 31, 2021, contingent liabilities decreased in comparison to those of December 31, 2020 mainly related to an agreement with the corresponding tax authority, by which NEXA desisted from a litigation related to social security contributions levied upon profit sharing (PLR), receiving a 50% discount over principal, interest and penalties.

(i) Comments on contingent tax liabilities

The main contingent liabilities relating to tax lawsuits are discussed below.

Income tax over transfers of shares in Peru

Relates to assessments issued by the SUNAT, where the Company was jointly and severally liable for the payment of income tax by a foreign investor, in a supposed capital gain on transfer of shares. The estimated financial effect of this contingent liability is USD 91,781.

Compensation for exploration for mineral resources

Relates to assessments issued by the Brazilian National Department of Mineral Production for the alleged failure to pay or underpayment of financial compensation for the exploration of mineral resources ("CFEM"). The estimated financial effect of this contingent liability is USD 10,176.

Indirect taxes on sales

Relates to assessments issued by the Brazilian Internal Revenues Service concerning certain credits taken by the Company when calculating those indirect taxes on sales. The estimated financial effect of this contingent liability is USD 3,491.

Value-added tax on sales

Relates to assessments issued by the tax authorities of the State of Minas Gerais concerning the following:

- Incidence of value-added tax on sales of certain energy contracts. The estimated financial effect of this contingent liability is USD 11,498.
- The tax rate applied to interstate sales for manufactured goods with imported content. The estimated financial effect of this contingent liability is USD 3,131.
- The Company was challenged by the tax authorities regarding certain credits to the purchases of property, plant and equipment. The estimated financial effect of this contingent liability is USD 6,075.

(ii) Comments on contingent labor liabilities

Include several claims filed by former employees, third parties and labor unions and labor public attorney's office mostly claiming the payment of indemnities related to dismissals, such as overtime, work at night hours, commuting hours, health hazard premiums and hazardous duty premiums, as well as indemnity claims by former employees and third parties based on alleged occupational

illnesses, work accidents and payment of social benefits. The individual amount of the claims are not material.

(iii) Comments on contingent civil liabilities

The main contingent civil liability is related to indemnity lawsuits against the Company alleging property, contractual and general damages/losses. The estimated financial effect of this contingent liability is USD 15,456.

(iv) Comments on contingent environmental liabilities

The main contingent environmental liabilities in Brazil were filed by fishermen communities against the Company for indemnification, compensation for material and moral damages due to alleged pollution of the São Francisco River close to the Company's Três Marias operation in Brazil. The estimated financial effect of these contingent liabilities is USD 67,385. In Peru, the main environmental liabilities come from alleged non-compliance of NEXA's Atacocha mine closure plan regarding inoperative tailing dams. This process was filed by the Peruvian environmental enforcement agency (OEFA) and its estimated financial effect is of USD 6,934.

28 Contractual obligations

Accounting policy

Contractual obligations consist of advance payments received by the Company under a silver streaming agreement, signed with a counterparty (the Streamer) and by which referential silver contents found in the ore concentrates produced by the Company's Cerro Lindo mining unit are sold to the Streamer.

Determining the accounting treatment of silver streaming transactions requires the exercise of high degree of judgment.

The Company assesses whether those advances obtained under this agreement should be recognized as contractual obligations (a sale of a non-financial item) or as a financial liability. For that purpose, the Company takes into consideration factors such as which party is exposed to the operational risk, the risk of access to the resources, the price risk, and assesses whether the transaction involves a sale of an own use asset for the counterparty. In those cases, in which the Company concludes that, in essence, the Streamer shares substantially the operational risks, the resource access and price risks, it delivers a non-financial item that qualifies as an "own use" item; any advance payment obtained is recognized as a contractual obligation in the framework of IFRS 15: Revenue from contracts with customers. Otherwise, the Company would recognize a financial liability in the framework of the provisions of IFRS 9: Financial instruments.

When a contractual obligation is recognized, the balance is initially recognized at the amount received, and it is subsequently recognized as revenue when the control of the respective assets is transferred, that is, upon the physical delivery of the nonfinancial item (silver certificate). Contractual obligations are recognized within non-current liabilities, except for the portion of silver certificates that are estimated to be delivered over the 12 months following the balance sheet date.

The advance payment obtained under the silver streaming transaction entered by the Company in 2016 is recognized as contractual obligation to the extent that the risk assessment conducted by the management indicates the relevant risks are substantially shared with the Streamer and the qualifying conditions of a sale of an "own use" item are met.

Determination of the transaction price

The transaction price is the amount of consideration to which the Company expects to be entitled in return for transferring the promised goods to its counterparty. The transaction price is allocated to each performance obligation based on the relative standalone selling prices. In the silver streaming transaction, the Company has variable considerations related to the production capacity of the mine linked to its life of mine and to the LME. IFRS 15 requires that for contracts containing variable considerations, the transaction price be continually updated and re-allocated to the transferred goods. For this purpose, the contractual obligations require an adjustment to the transaction price per unit each time there is a change in the underlying production profile of a mine or the expected metal prices. The change in the transaction price per unit results in a retroactive adjustment to revenues in the period in which the change is made, reflecting the new production profile expected to be delivered under the streaming agreement or the expected metal prices. A corresponding retroactive adjustment is made to accretion expenses, reflecting the impact of the change in the contractual obligation balance.

Critical accounting estimates and judgments

The recognition of revenues and of the contractual obligation related to the silver transaction require the use of critical accounting estimates and assumptions including, but not limited to: (i) allocation of revenues on relative prices; (ii) estimative prices for determining the upfront payment; (iii) discount rates used to measure the present value of future inflows and outflows (iv) estimative of life of mine, reserves and mineral production.

(a) Composition

In 2016, the Company entered a silver streaming arrangement, which consisted of an upfront payment of USD 250,000 for the anticipated sale of a portion of the silver contained in the ore concentrates produced by the Cerro Lindo mining unit. The advance payment was recognized as a Contractual obligation and the corresponding revenues are recognized as the silver is delivered, which is the time that the contractual performance obligations are satisfied.

The changes in the contractual obligation are shown below:

	2021	2020
Balance at the beginning of the year	**166,025**	**180,522**
Revenues recognition upon ore delivery	(45,309)	(28,492)
Remeasurement of revenues based on new reserves (i)	19,580	7,813
Accretion for the year	6,936	6,182
Balance at the end of year	**147,232**	**166,025**
Current	33,156	27,132
Non-current	114,076	138,893

i) In September 2021, the Company recognized a remeasurement adjustment in its contractual obligations of silver streaming with a corresponding reduction in revenues for an amount of USD19,312 (December 31, 2020: USD 7,813) and an increase in accretion for an amount of USD1,658, given the higher long-term prices and the updated mining plan for its Cerro Lindo Mining Unit. According to the Company's silver streaming accounting policy, prices and changes in the life of mine given an update in mining plans are variable considerations and then, the recognized income under the streaming agreement should be adjusted to reflect the updated variables.

29Confirming Payables

Accounting policy

The Company has contracts with some suppliers in which the commercial payment term is 180 days. In these contracts, the suppliers have the option to request a bank to advance the payment of their commercial invoice within 180 days, before the invoice matures. As a result of those contracts between the suppliers and the bank, the commercial terms agreed with the Company do not change. In accordance with the commercial agreement, the supplier communicates to the Company its interest in selling the invoice to the bank, and it is only the supplier who can decide to sell its invoice at any time during the commercial period. With this option, suppliers can improve their working capital position. The bank pays the supplier with an interest discount and the Company assumes part of the interest payment to the supplier.

Applying the concepts of IFRS 9, this transaction maintains its essence as a trade account payable since the Group has not derecognized the original liabilities to which the agreement applies because neither a legal release was obtained, nor the original liability was substantially modified in the execution of the agreement. The Company understands that the 180-day period can be considered common for the sector, as it is a specific product and the 90% of the outstanding balance of the concentrate belongs to these suppliers. The Company, however, understands that the separate presentation of these accounts within Confirming payables is relevant to the understanding of the entity's financial position.

Payments of the principal amounts and interest reimbursements are presented within the operating activities group in the Company's cash flow statement, in accordance with IAS 7.

The total amount of interests paid in the reverse factoring program in 2021 was of USD 1,290 (December 31, 2020: USD 1,234).

As of December 31, 2021, accounts payable of USD 232,860 were included in these contracts (December 31, 2020: USD 145,295; December 31, 2019: USD 82,770).

30Shareholders' equity

Accounting policy

Common shares are classified in shareholders' equity. Each time a share premium is paid to the Company for an issued share, the respective share premium is allocated to the share premium account. Each time the repayment of a share premium is decided, such repayment shall be done pro-rata to the existing shareholders.

The distribution of dividends to the Company's shareholders is recognized as a liability in the Company's consolidated financial statements in the period in which the dividends are approved by the Company's shareholders.

Shares repurchased under buyback programs that are not cancelled, are reported as treasury shares and are deducted from shareholders' equity. These shares are also deducted in the earnings per share calculation.

(a) Capital

As of December 31, 2021, the outstanding capital of USD 132,439 (2020: USD 132,439) is comprised of 132,439 thousand subscribed and issued common shares (2020: 132,439 thousand), with par value of US$ 1.00 per share. In addition to the subscribed and issued common shares, NEXA also has an authorized, but unissued and unsubscribed share capital set at USD 231,925.

(b) Treasury shares

On September 20, 2018, the Company's Board of Directors approved a share buyback program to repurchase up to USD 30,000 of its outstanding common shares, over the 12-month period beginning on November 6, 2018 and ending on November 6, 2019. The repurchased shares were not cancelled but held in treasury at that time. As of December 31, 2019, the Company had repurchased USD 9,435, corresponding to 881,902 shares.

On June 4, 2020, at NEXA's Extraordinary General Meeting ("EGM"), the Company's shareholders approved the cancellation of the 881,902 shares held in treasury, previously repurchased as explained above. For this reason, after the cancellation shares occurred on June 4, 2020, VSA holds 64.68% of NEXA's equity.

(c) Share premium

The share premium, if any, may be distributed to the shareholders in accordance with Luxembourg Commercial Companies Act by a resolution of the Board of Directors.

(d) Additional paid in capital

Additional paid in capital arises from transactions recognized in equity that do not qualify as capital or share premium in accordance with Luxembourg Commercial Companies Act and, therefore, cannot be distributed to the shareholders of the Company.

(e) Accumulated other comprehensive income

The changes in the accumulated other comprehensive income are as follows:

	Cumulative translation adjustment	Hedge accounting	Changes in fair value of financial instruments	Total
At January 01, 2019	**(109,788)**	**384**	**-**	**(109,404)**
Translation adjustment on foreign subsidiaries	(21,115)	-	-	(21,115)
Cash flow hedge accounting	-	879	-	879
At December 31, 2019	**(130,903)**	**1,263**	**-**	**(129,640)**
Translation adjustment on foreign subsidiaries	(138,840)	-	-	(138,840)
Cash flow hedge accounting	-	3	-	3
Changes in fair value of financial liabilities related to changes in the Company's own credit risk	-	-	(875)	(875)
At December 31, 2020	**(269,743)**	**1,266**	**(875)**	**(269,352)**
Translation adjustment on foreign subsidiaries	(64,575)	-	-	(64,575)
Cash flow hedge accounting	-	327	-	327
Changes in fair value of financial liabilities related to changes in the Company's own credit risk	-	-	(7,441)	(7,441)
Changes in fair value of investments in equity instruments	-	-	(2,632)	(2,632)
At December 31, 2021	**(334,318)**	**1,593**	**(10,948)**	**(343,673)**
Attributable to NEXA's shareholders				(299,995)
Attributable to non-controlling interests				(43,678)

(f) Earnings per share

Basic earnings per share are computed by dividing the net income attributable to the NEXA's shareholders by the average number of outstanding shares for the year. Diluted earnings per share is computed in a similar way, but with the adjustment in the denominator when assuming the conversion of all shares that may be dilutive. The Company does not have any dilutive shares and consequently the basic and diluted earnings per share are the same.

	2021	2020	2019
Net income (loss) for the year attributable to NEXA's shareholders	114,332	(559,247)	(145,135)
Weighted average number of outstanding shares – in thousands	132,439	132,439	132,622
Earnings (losses) per share - USD	**0.86**	**(4.22)**	**(1.09)**

(g) Dividend distribution

On February 11, 2021, the Company's Board of Directors approved, subject to ratification by the Company's shareholders at the 2022 annual shareholders' meeting in accordance with Luxembourg laws, a cash dividend distribution to the Company's shareholders of record on March 12, 2021 of USD 35,000.

Additionally, during the year ended on December 31, 2021, the Company's subisidiary Pollarix declared USD 23,730 of dividends to non-controlling interests owned by Votorantim Geração de Energia S.A., a related party.

(h) Non-controlling interests

Summarized balance sheet	NEXA PERU		Pollarix S.A.	
	2021	2020	2021	2020
Current assets	680,609	590,948	23,070	14,537
Current liabilities	288,736	225,424	13,279	7,699
Current net assets	**391,872**	**365,524**	**9,791**	**6,838**
Non-current assets	1,345,420	1,472,015	53,516	48,831
Non-current liabilities	566,059	745,179	-	-
Non-current net assets	**779,361**	**726,836**	**53,516**	**48,831**
Net assets	**1,171,233**	**1,092,360**	**63,307**	**55,669**
Accumulated non-controlling interests	213,997	201,964	44,011	41,835

Summarized income statement	NEXA PERU		Pollarix S.A.	
	2021	2020	2021	2020
Net revenues	828,571	541,099	20,996	8,591
Net income (loss) for the year	94,706	(207,866)	39,136	26,943
Other comprehensive loss	(940)	(5,575)	(2,977)	(28,548)
Total comprehensive income (loss) for the year	**93,766**	**(213,441)**	**36,159**	**(1,605)**
Comprehensive income (loss) attributable to non-controlling interests	12,991	(99,500)	24,947	(10,586)
Dividends paid to non-controlling interests	**-**	**-**	**23,730**	**5,332**

Summarized statement of cash flows	NEXA PERU		Pollarix S.A.	
	2021	2020	2021	2020
Net cash provided by (used in) operating activities	179,842	31,370	(8,522)	(82)
Net cash used in investing activities	(93,632)	(48,883)	-	-
Net cash (used in) provided by financing activities	(92,905)	(113,415)	8,997	(868)
(Decrease) increase in cash and cash equivalents	**(8,542)**	**(132,544)**	**475**	**(950)**

31 Impairment of non-current assets

Accounting policy

Impairment of goodwill

As part of the impairment testing procedures, the goodwill arising from a business combination is allocated to a CGU or groups of CGUs that are expected to benefit from the related business combination and is tested at the lowest level that goodwill is monitored by management. Goodwill is tested annually for impairment as of September 30, regardless of whether there has been an impairment indicator or, more frequently, if circumstances indicate that the carrying amount may not be recovered.

Impairment of non-financial assets

The Company assesses at each reporting date, whether there are indicators that the carrying amount of an asset or CGU, including goodwill balance, may not be recovered. If any indicator exists, such as a change in forecasted commodity prices, a significant increase in operational costs, a significant decrease in production volumes, a reduction in life of mine, the cancelation or significant reduction in the scope of a project, market conditions or unusual events that can affect the business, the Company estimates the recoverable amount of the assets or CGUs.

The recoverable amount is estimated by reference to the higher of an asset's or CGU's fair value less cost of disposal ("FVLCD") and its value in use ("VIU"). The recoverable amount is determined for an individual asset unless the asset does not generate cash inflows that are largely independent of those from other assets or groups of assets, in which case, the asset is tested as part of a larger CGU to which it belongs.

If the carrying amount of an asset or CGU exceeds its recoverable amount, the asset or CGU is considered impaired and is reduced to its recoverable amount. Non-financial assets other than goodwill that were adjusted due to impairment are subsequently reviewed for possible reversal of the impairment at each reporting date. Generally, the opposite of indicators that gave rise to an impairment loss would be considered indicators that impairment losses might have to be reversed. If the underlying reasons for the original impairment have been removed or the service potential of the asset or CGU has increased, an assessment of impairment reversals is performed by the Company. Reversals of impairment losses that arise simply from the passage of time are not recognized.

Impairment of mineral exploration and evaluation costs and project development costs

Exploration assets representing mineral rights acquired in business combinations, mineral rights, and other capitalized mineral exploration and evaluation costs in accordance with the accounting policy described in note 8, as well as project development costs capitalized included in Property, plant and equipment are tested for impairment in aggregation with CGU or groups of CGUs that include producing assets or tested individually through FVLCD when there are indicators that capitalized costs might not be recoverable. The allocation of mineral exploration and evaluation costs, and project development costs to CGUs or group of CGUs is based on 1) expected synergies or share of producing assets infrastructure, 2) legal entity level, and 3) country level. When testing a CGU or a group of CGUs that include mineral exploration and evaluation costs and development projects costs, the Company performs the impairment test in two steps. In the first step, producing assets our group of producing assets are tested for impairment on an individual basis. In the second step, mineral exploration and evaluation costs and project development costs are allocated to a CGU or a group of CGUs and tested for impairment on a combined basis.

Valuation methods and assumptions for recoverable amount based on FVLCD

FVLCD

FVLCD is an estimate of the price that the Company would receive to sell an asset, CGU or group of CGUs in an orderly transaction between market participants at the measurement date, less the cost of disposal. FVLCD is not an entity-specific measurement but is focused on market participants' assumptions for a particular asset. FVLCD is estimated by the Company using discounted cash flows techniques and, although the Company considers observable inputs, a substantial portion of the assumptions used in the calculations are unobservable. These cash flows are classified as level 3 in the fair value hierarchy. No CGUs are currently assessed for impairment by reference to a recoverable amount based on FVLCD classified as level 1 or level 2.

VIU

VIU is determined as the present value of the estimated future cash flows expected to arise from the continued use of the asset in its current condition and its residual value. VIU is determined by applying assumptions specific to the Company's continued use and does not consider enhancements or future developments. These assumptions are different from those used in calculating FVLCD and consequently the VIU calculation is likely to give a different result (usually lower) than a FVLCD calculation.

Forecast assumptions

The cash flow forecasts are based on management's best estimates of expected future revenues and costs, including the future production cash costs, capital expenditure, and closure, restoration, and environmental costs. The resulting estimates are based on detailed life of mine and long-term production plans. When calculating FVLCD, these forecasts include anticipated expansions (greenfield projects), considering their evaluation, eventual change in their scope or feasibility, and the development stage.

The cash flow forecasts may include net cash flows expected to be realized from the extraction, processing and sale of material that does not currently qualify for inclusion in ore reserves. Such non-reserve material is only included when the Company has confidence it will be converted to reserves. This expectation is usually based on preliminary drilling and sampling of areas of mineralization that are contiguous with existing ore reserves, as well as on the historical internal conversion ratio. Typically, the additional evaluation required for conversion to reserves of such material has not yet been done because this would involve incurring evaluation costs earlier than is required for the efficient planning and operation of the producing mine.

For purposes of determining FVLCD from a market participant's perspective, the cash flows incorporate management's internal price forecasts. The internal price forecasts are developed using a robust model that incorporates market-based supply, demand and cost data. The internal price forecasts used for ore reserve estimation testing and the Company's strategic planning are generally consistent with those used for the impairment testing.

Cost levels incorporated in the cash flow forecasts are based on the current life of mine plan and long-term production plan for the CGU, which are based on detailed research, analysis and iterative modeling to optimize the level of return from investment, output and sequence of extraction. The mine plan takes into account all relevant characteristics of the orebody, including waste-to-ore ratios, ore grades, haul distances, chemical and metallurgical properties of the ore, process recoveries and capacities of processing equipment that can be used. The life of mine plan and long-term production plans are, therefore, the basis for forecasting production output and production costs in each future year.

The discount rates applied to the future cash flow forecasts represent the Company's estimate of the rate that a market participant would apply to have regard to the time value of money and the risks specific to the asset for which the future cash flow estimates have not been adjusted. The Company's weighted average cost of capital is generally used for determining the discount rates, with appropriate adjustments for the risk profile of the countries in which the individual CGUs operate.

With respect to the estimated future cash flows of capitalized mineral exploration assets and development projects, the Company applies a price to net assets value ratio discount in order to reflect the inherent risk of such projects and that are neither adjusted in the discount rate nor in the future cash flows.

The discount is based on the stage of the project and the type of metal.

Critical accounting estimates and judgments - Impairment of non-current assets

Impairment is assessed at the CGU level. A CGU is the smallest identifiable asset or group of assets that generates independent cash inflows. Judgment is applied to identify the Company's CGUs, particularly when assets belong to integrated operations, and changes in CGUs could impact impairment charges and reversals. When applying its judgment in grouping CGUs, the Company concluded that its mining operations in Vazante and Morro Agudo should be grouped with its Três Marias smelter operation, as these two mines are vertically integrated operations with the smelter.

External and internal factors are quarterly monitored for impairment indicators. Judgment is required to determine, for example, whether the impact of adverse spot commodity price movements is significant and structural in nature. Also, the Company's assessment of whether internal factors such as an increase in production costs and delays in projects result in impairment indicators require significant judgment. Among others, the long-term zinc price and the discount rate may have a significant impact in the Company's' impairment estimations.

The process of estimating the recoverable amount involves the use of estimates and assumptions, judgment and projections for future cash flows. These calculations use cash flow projections, based on approved financial and operational budgets for a five-year period. After the five-year period, the cash flows are extended until the end of the useful life of mine or indefinitely for the smelters. The smelters cash flows do not use growth rates in the cash flow projections of the terminal value. Management's estimates and assumptions of future cash flow used for the Company's impairment testing of goodwill and non-financial assets are subject to risk and uncertainties, including metal prices and macroeconomic conditions, which are particularly volatile and partially or totally outside the Company's control. Future changes in these variables may differ from management's expectations and may materially change the recoverable amounts of the CGUs.

Impairment analysis

According to NEXA's policy, the Company performs its annual impairment test for the CGUs that have goodwill allocated (Cerro de Pasco, Cerro Lindo and Cajamarquilla) and every quarter it performs an additional assessment of impairment indicators for all its CGUs. For the year ended on December 31, 2021, the Company performed its annual test and analyzed all impairment indicators and found no need to recognize an additional impairment loss or reversal.

For the year ended on December 31, 2020, the Company recognized an impairment loss of USD 557,497.

32 Long-term commitments

(a) Capital commitments – Aripuanã project

At December 31, 2021, the Company had contracted USD 75,250 (December 31, 2020: 156,893) of capital expenditures for the purchase of property, plant and equipment that had not been incurred yet, mainly related to the Aripuanã project.

(b) Projects evaluation

As part of NEXA's activities for the execution of certain greenfield projects, the Company has agreed, with the Peruvian Government, to minimum investments levels in the Magistral Project, that if the Company does not meet by September 2024, would require additional disbursements of USD 102,900 as a penalty for the non-execution of the agreed levels.

33 Events after the reporting period

(a) Offtake agreement

On January 21, 2022, the Company signed an Offtake Agreement, in which it undertakes to sell 100% of the copper concentrate produced by Aripuanã for a 5-year period, at market price but subject to a price cap.

(b) Cash distribution

On February 15, 2022, the Company's Board of Directors approved, subject to ratification by the Company's shareholders at the 2023 annual shareholders' meeting in accordance with Luxembourg laws, a cash distribution to the Company's shareholders of approximately USD 50,000 to be paid on March 25, 2022.

***

Management's report on internal control over financial reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting and for assessing its effectiveness.

Our internal control over financial reporting is a process designed by, or under the supervision of, our chief executive officer and our chief financial officer, and effected by our board of directors, management and other employees, and is designed to provide reasonable assurance regarding the reliability of financial reporting and of preparation of our consolidated financial statements, in accordance with IFRS as issued by the IASB.

Due to its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. In addition, projections of any evaluation of effectiveness of internal control over financial reporting to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with our policies or procedures may deteriorate.

Our management has assessed the effectiveness of internal control over financial reporting as of December, 31, 2021, based upon the criteria established in Internal Controls – Integrated Framework (2013), issued by the Committee of Sponsoring Organizations of Treadway Commission (COSO). Based on this assessment and criteria, our management has concluded that our internal control over financial reporting was effective as of December 31, 2021.

Audit of the effectiveness of internal control over financial reporting

Our independent registered public accounting firm, PricewaterhouseCoopers Auditores Independentes Ltda has audited the effectiveness of internal control over financial reporting, as stated in their report as of December 31, 2021.

Changes in internal control over financial reporting

There were no changes in our internal control over financial reporting during 2021, which have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Sincerely,

Nexa Resources S.A.

/s/ Juan Ignacio Rosado Gomez de La Torre	/s/ Rodrigo Nazareth Menck
Juan Ignacio Rosado Gomez de La Torre	Rodrigo Nazareth Menck
President and Chief Executive Officer	Senior VP Finance and Group CFO

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Nexa Resources S.A. and its subsidiaries (the "Company") as of December 31, 2021 and 2020, and the related consolidated income statement, consolidated statement of comprehensive income, consolidated statement of changes in shareholders' equity and consolidated statement of cash flows for each of the three years in the period ended December 31, 2021, including the related notes (collectively referred to as the "consolidated financial statements"). We also have audited the Company's internal control over financial reporting as of December 31, 2021, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2021 and 2020, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2021 in conformity with International Financial Reporting Standards as issued by the International Accounting Standards Board. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2021, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the Management's Report on Internal Control over Financial Reporting appearing under Item 15. Our responsibility is to express opinions on the Company's consolidated financial statements and on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) ("PCAOB") and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that were communicated or required to be communicated to the audit committee and that (i) relate to accounts or disclosures that are material to the consolidated financial statements and (ii) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing separate opinion on the critical audit matter or on the accounts or disclosures to which they relate.

Impairment Assessment – non-current assets

As described in Note 31 to the consolidated financial statements, management conducts an annual impairment test as of September 30 of each year for non-current assets of the Cash Generating Units where goodwill is allocated, regardless of whether there has been an impairment indicator, or more frequently if events or circumstances indicate that the carrying amount of non-current assets of Cash Generating Units may be impaired. Potential impairment is identified by comparing the recoverable amount to its carrying amount, including goodwill where applicable. The recoverable amount is the higher of fair value less costs of disposal and value in use. Management estimated the fair value less cost of disposal using discounted cash flow techniques. Management's cash flow projections for each Cash Generating Units tested for impairment included significant judgments and assumptions relating to long-term metal prices and discount rate. No impairment adjustments were required as a result of the annual impairment test in 2021.

The principal consideration for our determination that performing procedures relating to impairment assessment of Cash Generating Units is a critical audit matter is there was significant judgment by management when developing the recoverable value of the Cash Generating Units. This in turn led to a high degree of auditor judgment, subjectivity, and effort in performing procedures to evaluate management's cash flow projections and significant assumptions, including long-term metal prices and discount rate. In addition, the audit effort involved the use of professionals with specialized skill and knowledge to assist in performing these procedures and evaluating the audit evidence obtained.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to management's impairment assessment, including controls over the valuation of the Company's Cash Generating Units. These procedures also included, among others, testing management's process for developing the recoverable amount; evaluating the appropriateness of the discounted cash flow model; testing the completeness and accuracy of underlying data used in the model; and evaluating the significant assumptions used by management, related to the long-term metal prices and discount rate. Evaluating management's assumptions related to long-term metal prices and discount rate involved evaluating whether the assumptions used by management were reasonable considering (i) the current and past performance of the Cash Generating Units, (ii) the consistency with external market and industry data, and (iii) whether these assumptions were consistent with evidence obtained in other areas of the audit. Professionals with specialized skill and knowledge were used to assist in the evaluation of the Company's discounted cash flow model and certain significant assumptions, including the discount rate.

/s/ PricewaterhouseCoopers Auditores Independentes Ltda.
Curitiba, Brazil
February 15, 2022

We have served as the Company's auditor since 2001.

Nexa Resources S.A.

Société anonyme

37A, Avenue J.F. Kennedy

L-1855 Luxembourg

Grand Duchy of Luxembourg

R.C.S. Luxembourg: B 185.489

ARTICLES OF ASSOCIATION AS OF 27 AUGUST 2021

TITLE I - DENOMINATION, REGISTERED OFFICE, OBJECT, DURATION

1. ARTICLE 1.-

There is hereby established a public limited liability company ("*société anonyme*") under the name of "**Nexa Resources S.A.**" (the "**Company**") governed by the present articles of association (the "**Articles**") and by current Luxembourg law ("**Luxembourg Law**"), in particular the law of 10 August 1915 on commercial companies, as amended (the "**Commercial Companies Law**").

2. ARTICLE 2.

2.1 The Company has its registered office in the City of Luxembourg, Grand Duchy of Luxembourg.

2.2 The registered office may be transferred within the Grand Duchy of Luxembourg by decision of the board of directors of the Company (the "**Board of Directors**"). The Board of Directors is authorized to amend these Articles to reflect the change of registered office and to proceed to such formalities as may be required under Luxembourg Law.

2.3 The registered office of the Company may be transferred outside the Grand Duchy of Luxembourg by means of a resolution of the shareholders adopted at a general meeting of shareholders of the Company (the "**General Meeting**") under the conditions required by these Articles.

2.4 The Company may have offices and branches (whether or not a permanent establishment) both in Luxembourg and abroad.

2.5 In the event that the Board of Directors should determine that extraordinary political, economic or social developments have occurred or are imminent that would interfere with the normal activities of the Company at its registered office or with the ease of communication between such office and persons abroad, the registered office may be temporarily transferred abroad until the complete cessation of these extraordinary circumstances; such temporary measures shall have no effect on the nationality of the Company which, notwithstanding the temporary transfer of its registered office, will remain a Luxembourg company. Such temporary measures will be taken and notified to any interested parties by the Board of Directors.

3. ARTICLE 3.-

The Company is established for an unlimited period of time.

4. ARTICLE 4.-

The Company's purpose is:

1) To carry out any trade, business or commercial activities whatsoever, including but not limited to the purchase, exchange and sale of goods and/or services to third parties;

2) To take participations and interests, in any form whatsoever, in any commercial, industrial, financial or other, Luxembourg or foreign companies or enterprises;

3) To acquire through participations, contributions, underwriting, purchases or options, negotiation or in any other way any securities, rights, patents and licenses and other property, rights and interest in property as the Company shall deem fit;

4) Generally to hold, manage, develop, sell or dispose of the same, in whole or in part, for such consideration as the Company may think fit, and in particular for shares or securities of any company purchasing the same;

5) To enter into, assist or participate in financial, commercial and other transactions;

6) To grant to any holding company, subsidiary, or fellow subsidiary, or any other company which belong to the same group of companies as the Company (the "**Affiliates**") any assistance, loans, advances or guarantees (in the latter case, even in favour of a third-party lender of the Affiliates);

7) To borrow and raise money in any manner and to secure the repayment of any money borrowed; and

8) Generally to do all such other things as may appear to the Company to be incidental or conducive to the attainment of the above objects or any of them.

The Company can perform all commercial, technical and financial operations, connected directly or indirectly in all areas as described above in order to facilitate the accomplishment of its purpose, provided always that the Company will not enter into any transaction which would constitute a regulated activity of the financial sector without due authorization under Luxembourg Law.

TITLE II - CAPITAL, SHARES

5. ARTICLE 5.

5.1 The subscribed share capital is set at USD 132,438,611 (one hundred thirty-two million four hundred thirty eight six hundred eleven United States Dollars) divided into 132,438,611 (one hundred thirty-two million four hundred thirty eight six hundred eleven) shares having a nominal value of USD 1 (one United States Dollar) each (the "**Shares**").

5.2 The Shares can only be in registered form.

5.3 The Company may, without limitation, accept equity or other contributions without issuing Shares or other securities in consideration for the contribution and may credit the contributions to one or more accounts. Decisions as to the use of any such accounts are to be taken by the Board of Directors subject to the Commercial Companies Law and these Articles. For the avoidance of doubt, any such decision may, but needs not to, allocate any amount contributed to the contributor.

5.4 The subscribed share capital and any Authorized Capital (as defined below) may be increased or reduced by a resolution of the General Meeting adopted in accordance with the conditions required for the amendment of the Articles, as further detailed in Article
13.18.2 and in accordance with Luxembourg Law.

5.5 All Shares must be fully paid up on issue by contributions in cash or in kind.

5.6 The Company may have a sole shareholder. The death or dissolution of a sole shareholder will not result in the dissolution of the Company.

5.7 In addition to its issued and subscribed share capital, the Company has also an authorized, but unissued and unsubscribed share capital set at USD 231,924,819 (two hundred thirty-one million nine hundred twenty-four thousand eight hundred nineteen United States Dollars) (the "**Authorized Capital**").

5.8 The Board of Directors is authorized, during a period starting on the day of the general meeting of shareholders held on 4 June 2020 and ending on the fifth anniversary of the date of publication in the Luxembourg legal gazette (*Recueil Electronique des Sociétés et Associations*) of the minutes of such general meeting, without prejudice to any renewals, to increase the issued share capital on one or more occasions within the limits of the Authorized Capital.

5.9 The Board of Directors is authorized to determine the conditions of any capital increase and the issuance of new Shares and the instruments to be issued in accordance with the above provisions through contributions in cash or in kind, among others, by the conversion of debt into equity, by offsetting receivables, by the incorporation of reserves, issue premiums or retained earnings, with or without the issue of new Shares, or following the issue and the exercise of subordinated or non-subordinated bonds, convertible into or repayable by or exchangeable for Shares (whether provided in the terms at issue or subsequently provided), or following the issue of bonds with warrants or other rights to subscribe for Shares attached, or through the issue of stand-alone warrants or any other instrument carrying an entitlement to, or the right to subscribe for, Shares.

5.10 The Board of Directors may approve the issuance of new Shares and, where applicable, the instruments to be issued in accordance with the provisions of this Article 5 of the present Articles without reserving (i.e. by cancelling or limiting) the preferential right to subscribe for such Shares and instruments for the existing shareholders so long as such issuance of new Shares and instruments is carried out through a public offering process.

5.11 The Board of Directors is authorized to set the subscription price, with or without issue premium, the date from which the Shares or other financial instruments will carry beneficial rights and, if applicable, the duration, amortization, other rights (including early repayment), interest rates, conversion rates and exchange rates of the aforesaid financial instruments as well as all the other conditions and terms of such financial instruments including as to their subscription, issue and payment, for which the Board of Directors may decide that, if the proposed increase of capital is not entirely subscribed for, the capital shall be increased by the amount of subscriptions received.

5.12 The Board of Directors is authorized to allocate existing Shares or new Shares issued under the Authorized Capital, free of charge, to employees and corporate officers (including directors) of the Company and of companies of which at least 10 per cent of the capital or voting rights is directly or indirectly held by the Company. The terms and conditions of such allocations are to be determined by the Board of Directors.

5.13 When the Board of Directors has implemented a complete or partial increase in capital as authorized by the foregoing provisions, Article 5 of the present Articles shall be amended to reflect that increase.

5.14 The Board of Directors is expressly authorized to delegate to any natural or legal person to organize the market in subscription rights, accept subscriptions, conversions or exchanges, receive payment for the price of Shares, bonds, subscription rights or other financial instruments, to have registered increases of capital carried out as well as the corresponding amendments to Article 5 of the present Articles and to have recorded in said Article 5 of the present Articles the amount by which the authorization to increase the capital has actually been used and, where appropriate, the amounts of any such increase that are reserved for financial instruments which may carry an entitlement to Shares. The non-subscribed portion of the Authorized Capital may be drawn on by the exercise of conversion or subscription rights already conferred by the Company.

5.15 The Company may, to the extent and under the terms permitted by Luxembourg Law, purchase its own Shares or cause them to be repurchased by its subsidiaries.

5.16 The Company shall consider the person in whose name the Shares are recorded in the register of shareholders to be the owner of those Shares.

5.17 Only if a public offering of Shares on a stock exchange, either regulated or not, in the European Economic Area, the United Kingdom, the United States of America, or Canada occurred and in case Shares are recorded in the register of shareholders on behalf of one or more persons in the name of a securities settlement system or the operator of such a system or in the name of a professional depositary of securities or any other depositary (such systems, professionals or other depositaries being referred to hereinafter as "**Depositaries**") or of a sub-depositary designated by one or more Depositaries, the Company—subject to a confirmation in proper form received from the Depositary—will permit those persons to exercise the rights attaching to those Shares, including admission to and voting at General Meetings. The Board of Directors may determine the requirements which such confirmations must comply with.

5.18 Confirmations that an entry has been made in the register of shareholders will be provided to shareholders directly recorded in the register of shareholders or, in case of Depositaries or sub-depositaries recorded in the register, upon their request. Except for transfers in accordance with the rules and regulations of the relevant Depositary, the transfer of Shares shall be made by a written declaration of transfer recorded in the register of shareholders and dated and signed by the transferor and the transferee or by their duly-appointed agents. The Company may accept any other document, instrument, writing or correspondence as sufficient proof of the transfer.

TITLE III - MANAGEMENT

6. ARTICLE 6.

6.1 The Company shall be managed by a board of directors comprising at least five (5) members and a maximum of eleven (11) members (each a "**Director**" and together the "**Directors**"), who shall be appointed by the General Meeting in accordance with Article 13.18.1. The Board of Directors shall at all times be composed as required pursuant to applicable law, including, if applicable, the rules and regulations of any stock exchange on which part or all of the Shares of the Company are listed. In particular, at least three (3) Directors shall meet the independence and financial literacy requirements for audit committee members set forth in the listing rules of the New York Stock Exchange, Toronto Stock Exchange, or any stock exchange on which any Shares of the Company are then listed and any additional requirements under the rules and regulations of the U.S. Securities and Exchange Commission, Canadian securities laws and other applicable law, subject to any available exemptions.

6.2 The Directors, whether shareholders or not, are appointed for a period not exceeding two (2) years (renewable) by the General Meeting, which may at any time and "ad nutum" remove them.

6.3 The maximum number of Directors and the overall remuneration of the Board of Directors are approved by the General Meeting. The Board of Directors determines the remuneration of each Director based on the total amount approved by the General Meeting.

6.4 Any Director may resign at any time by delivering his or her resignation in writing or by electronic transmission to the Chairman (as defined below) or to the Board of Directors. Such resignation shall be effective upon receipt by the Company unless it is specified therein to be effective at some later time, and the acceptance of a resignation shall not be necessary to make it effective unless such resignation specifies otherwise.

6.5 In the event that a Director appointed by the General Meeting ceases to be a Director for any reason, the remaining Directors, by a simple majority vote of the Directors present or represented, may, at their discretion, fill such vacancy. This Director will be in office up to the next General Meeting taking place.

6.6 Any Director may be suspended or dismissed at any time by a resolution of the General Meeting adopted at a simple majority.

7. ARTICLE 7.

7.1 The Board of Directors shall elect from its members a chairman (the "**Chairman**") and who may choose a secretary for each meeting, who need not be a director and who shall be responsible for keeping the minutes of such meeting of the Board of Directors. The Chairman will preside at all meetings of the Board of Directors. In his absence, the other members of the Board of Directors will appoint another chairman “pro tempore”, by simple majority vote of the Directors present or represented at such meeting, who will preside at the relevant meeting.

7.2 The Board of Directors is convened upon call by the Chairman or at least three (3) Directors, as often as the interest of the Company so requires.

7.3 No separate notice is required for meetings held at times and places specified in a schedule previously adopted by a resolution of the Board of Directors.

7.4 Any director may act at any meeting of the Board of Directors by appointing in writing, whether in original, by mail or email, another Director as his or her proxy. A Director may represent more than one of his or her colleagues, provided that at least two (2) directors are present in person or participate by telephone conference or similar means in any meeting.

7.5 The Board of Directors can validly debate and take decisions only if at least the majority of its members is present or represented. Resolutions of the Board of Directors are only validly adopted if carried by a majority of the votes of the members of the Board of Directors present or represented. In case of a tie vote, the matter shall be deferred by the Chairman.

7.6 Directors may participate in a meeting of the Board of Directors by means of telephone conference or similar communications equipment allowing the identification of each participating Director and by means of which all persons participating in the meeting can hear and speak to each other on a continuous basis, and such participation in a meeting will constitute presence in person at the meeting, provided that all actions approved by the Directors at any such meeting will be reproduced in writing in the form of resolutions.

7.7 The deliberations of the Board of Directors shall be recorded in the minutes, shall be signed by the Chairman and by the secretary of the meeting or a member of the Board of Directors who participated to the meeting. Any transcript of or excerpt from these minutes shall be signed by the Chairman or by the secretary of such meeting.

7.8 Resolutions in writing signed by all members of the Board of Directors will be as valid and effective as if passed at a meeting duly convened and held. The signatures of such resolutions may appear on a single document or multiple counterparts of an identical document and may be evidenced by mail, email or any similar means. Resolutions adopted in accordance with this procedure are deemed to have been taken at the registered office of the Company.

7.9 The Board of Directors shall approve the internal regulation of the Board of Directors.

8. ARTICLE 8.

8.1 The Board of Directors is vested with the powers to perform all acts of administration and disposition in compliance with the corporate object of the Company, with the exception of the powers reserved by Luxembourg Law or by the Articles to the General Meeting.

8.2 The Board of Directors may establish and dissolve committees including, but not limited to, an audit committee, a compensation, nominating and governance committee, a finance committee, and a sustainability committee set forth their respective duties, approve the internal regulations of those committees, elect the respective members thereof and define and approve, based on the total amount determined by the General Meeting, the remuneration of the members of such committees, including as required pursuant to applicable law (including the rules and regulations of any stock exchange applicable to the Company). Such committee members shall exercise their duties under the responsibility of the Board of Directors.

9. ARTICLE 9.

9.1 The Company is validly bound or represented towards third parties by:

9.1.1 the joint signature of two (2) Directors;

9.1.2 if the Board of Directors of the Company has delegated certain powers to a Management Committee (as defined in Article 10), by the joint signature of two (2) Managing Officers, but only within the limits of such delegated powers;

9.1.3 if a sole Daily Manager (as defined in Article 11.1) has been appointed, the Company will be bound by the sole signature of such Daily Manager to the extent powers have been delegated to him under Article 11.1, but only within the limits of such delegated powers;

9.1.4 if more than one Daily Manager as defined in Article 11.1 has been appointed, the Company will be bound by the joint signature of two Daily Managers, to the extent powers have been delegated to them under Article 11.1, but only within the limits of such delegated powers; or

9.1.5 the sole signature or joint signature of any other person(s) to whom such a power has been delegated in accordance with Article 11.2, but only within the limits of such delegated powers.

10. ARTICLE 10.

10.1 The Board of Directors may delegate its powers to conduct the management and affairs of the Company, except the general guidance of the Company's business and the acts reserved by the Commercial Companies Law to the Board of Directors, and the representation of the Company for such management and affairs to a management committee (the "**Management Committee**") comprising at least three (3) members and a maximum of eleven (11) members, who need not be shareholders or Directors (each a "**Managing Officer**").

10.2 The Managing Officers are appointed by the Board of Directors of the Company for a period not exceeding one (1) year (renewable) which may at any time and "ad nutum" remove and replace them. Their remuneration is determined by the Board of Directors.

10.3 The Board of Directors shall approve the internal regulations of the Management Committee, which shall set forth its duties and any other management powers and attributions including, but not limited to: the powers to perform acts or transactions involving the Company, the authorization limits of the Management Committee, appointment and removal of the Daily Managers (as defined below), and any other specific power that may be attributed to the Management Committee by the Board of Directors as determined in the relevant resolution of the Board of Directors to that effect or in the internal regulations of the Management Committee.

11. ARTICLE 11.

11.1 The day-to-day management of the business of the Company and the power to represent the Company with respect thereto may be delegated by decision of the Management Committee, if any has been established, or otherwise by decision of the Board of Directors, to one or more Directors, members of the Management Committee, officers, employees or third parties (each a "**Daily Manager**"), acting either alone or jointly, as determined in the relevant internal regulation. A majority of the Daily Managers shall be resident in Luxembourg. The Board of Directors or the Management Committee, if any, shall approve, by a simple majority vote of the Directors or the Managing Officers, respectively, present at such meeting the internal regulations of the Daily Managers and set forth their duties.

11.2 The Board of Directors, the Management Committee, if any, and/or the Daily Manager(s), if any, may delegate any of their powers for specific tasks to one or more ad hoc agents, Directors, Managing Officers, Daily Managers, employee or third party and may remove any such agent(s) and will determine any such agent's powers and responsibilities and remuneration (if any), and any other relevant conditions of such agent's agency.

TITLE IV - SUPERVISION

12. ARTICLE 12.

12.1 The Company is supervised by one or more independent auditors (*réviseur(s) d'entreprises agréé(s)*) (the "**Statutory Auditors**"), which are appointed by a General Meeting.

12.2 Their term of office must not exceed one (1) year, however, Statutory Auditors may be re-elected. In the event that an Independent Auditor is appointed without any indication of the term of his appointment, his term is deemed to be one (1) year.

12.3 A Statutory Auditor may only be removed by a General Meeting for cause in accordance with Luxembourg Law or with the Statutory Auditors' approval.

TITLE V. - GENERAL MEETING

13. ARTICLE 13.

13.1 The annual General Meeting shall be held in Luxembourg at the address of the registered office of the Company or at such other place as may be specified in the convening notice of the meeting within six (6) months after the end of the accounting year as set out in Article 14.

13.2 Other meetings of the shareholders of the Company may be held at such place and time as may be specified in the respective convening notices of the meeting.

13.3 Any shareholder may participate in a General Meeting by conference call, video conference or similar means of communications equipment whereby (i) the shareholders attending the meeting can be identified, (ii) all persons participating in the meeting can hear and speak to each other, (iii) the transmission of the meeting is performed on an on-going basis, and (iv) the shareholders can properly deliberate, and participating in a meeting by such means shall constitute presence in person at such meeting.

13.4 Except as otherwise required by Luxembourg Law, by the rules of the New York Stock Exchange, Toronto Stock Exchange, or any stock exchange on which any Shares of the Company are then listed and any additional requirements under the rules and regulations of the U.S. Securities and Exchange Commission, Canadian securities laws and other applicable law or by these Articles, General Meetings shall be convened by the Board of Directors with at least a thirty (30) days prior notice. The quorum provided for by Luxembourg Law shall govern the notice for, and the conduct of, the General Meetings.

13.5 The convening notices shall be sent by registered letter or, alternatively, in any manner as set forth in applicable law or in these Articles.

13.6 The convening notice may be sent to a shareholder by any other means of communication having been accepted by such shareholder. Alternative means of communication are email, fax, ordinary letter and courier services.

13.7 Only the contact details on record with the Company at least five (5) days before the issue by the Board of Directors of any notice to such shareholder shall be valid and binding on the Company. The Board of Directors shall at the registered office keep a list of the email addresses communicated by the shareholders to the Company and no third party other than the notary recording shareholder decisions shall have access to such a list.

13.8 Any shareholder may change its street address or email address or revoke its consent or deemed consent to alternative means of convening provided that its revocation or its new contact details are received by the Company no later than five (5) days before the issue of any notice. The Board of Directors is authorized to ask for confirmation of such new contact details by sending a registered letter or an email, as appropriate, to this new street address or email address. If the shareholder fails to confirm its new contact details, the Board of Directors shall be authorized to send any subsequent notice to the previous contact details.

13.9 The Board of Directors as well as the Statutory Auditors may convene a General Meeting. They shall be obliged to convene it so that it is held within a period of one month, if shareholders representing one tenth (1/10th) of the Company's share capital require it in writing, with an indication of the agenda. One or more shareholders representing at least one tenth (1/10th) of the subscribed capital may require the entry of one or more items on the agenda of any General Meeting. This request must be addressed to the Company at least ten (10) days prior to the relevant General Meeting.

13.10 The Board of Directors may fix in advance a date preceding the date of (i) any General Meeting and/or (ii) for the payment of any dividend (including, without limitation, an interim dividend) as a record date for the determination of the shareholders entitled to vote at such General Meeting and/or receive payment of any such dividend, respectively, notwithstanding any transfer of any Shares on the register of the Company after any such record date.

Notwithstanding the provisions of the foregoing paragraph of this Article 13.10, the fixing of a record date shall be in conformity with Luxembourg Law and the rules of the New York Stock Exchange, Toronto Stock Exchange, or any stock exchange on which any Shares of the Company are then listed.

13.11 Each share is entitled to one vote.

13.12 Any shareholder may in abidance with statutory rules vote in person or through a proxy. A shareholder may act at any General Meeting by appointing any other natural or legal person who need not be a shareholder as its proxy in writing whether in original, by telefax, or e-mail to which an electronic signature (which is valid under Luxembourg Law) is affixed. Such proxy shall enjoy the same rights to speak and ask questions during the General Meeting as those to which the shareholder thus represented would be entitled. All the proxies must be received by the Company no later than the day preceding the fifth (5th) Business Day before the General Meeting unless the Board of Directors fixes a shorter period. A person acting as proxy may represent more than one shareholder.

13.13 Except as otherwise required by Luxembourg Law, the rules of the New York Stock Exchange, Toronto Stock Exchange, or any stock exchange on which any Shares of the Company are then listed and any additional requirements under the rules and regulations of the U.S. Securities and Exchange Commission, Canadian securities laws and other applicable law or by these Articles, resolutions at a duly convened General Meeting will be adopted by a simple majority of those present or represented and voting.

13.14 If all the shareholders of the Company are present or represented at a General Meeting, and consider themselves as being duly convened and informed of the agenda of the meeting, the meeting may be held without prior notice.

13.15 The minutes of the General Meeting will be signed by the members of the bureau of the General Meeting and by any shareholder who wishes to do so.

13.16 However, in case decisions of the General Meeting have to be certified, copies or extracts for use in court or elsewhere must be signed by the Chairman of the Board of Directors or by the secretary of the meeting.

13.17 Each shareholder may vote through voting forms in the manner set out in the convening notice in relation to a General Meeting. The shareholders may only use voting forms provided by the Company and which contain at least the place, date and time of the meeting, the agenda of the meeting, the proposal submitted to the decision of the meeting, as well as for each proposal three boxes allowing the shareholder to vote in favour, against, or abstain from voting on each proposed resolution by ticking the appropriate box. Voting forms which show neither a vote in favor, nor against the resolution, nor an abstention, shall be void. The Company will only take into account voting forms received three (3) days prior to the General Meeting to which they relate and which comply with the requirements set out on the convening notice.

13.18 Without prejudice to any legal requirements in relation to such matters being approved by a meeting of the Board of Directors and without prejudice of any other matters that must be approved by the General Meeting according to Luxembourg Law, the General Meeting is in particular (but not limited to) vested with the rights and powers in relation to the matters set out in Articles 13.18.1 and 13.18.2.

13.18.1 Decisions by the General Meeting with regard to the following matters shall be adopted by a simple majority of the votes validly cast, regardless of the portion of the capital represented:

(a) approval of the annual accounts and respective inventory and balance sheet of the Company;

(b) distribution of dividends;

(c) appointment and removal of Directors, as provided in Article 6 above;

(d) appointment and removal of Statutory Auditor(s), as the case may be, as provided in Article 12 above; and

(e) the appointment and dismissal of liquidators and judgment of their accounts.

13.18.2 Decisions by the General Meeting with regard to the following matters shall be adopted with a majority of two-thirds of the votes validly cast at a meeting in which holders of at least half of the Company's issued share capital are present or represented:

(a) amendments to the Articles;

(b) transfer of the registered office of the Company outside the Grand Duchy of Luxembourg;

(c) capital increases other than under the Authorized Capital and capital decreases; and

(d) the dissolution of the Company.

13.18.3 If the quorum requirement set out in the preceding paragraph is not satisfied, a second meeting may be convened, in the manner prescribed by these Articles or by the Commercial Companies Law. The second convening notice shall reproduce the agenda and indicate the date and the results of the previous notice.

13.19 Bondholders cannot attend a General Meeting. This does not preclude shareholders who are also bondholders to attend a General Meeting in their quality as shareholders of the Company.

TITLE VI - ACCOUNTING YEAR, ALLOCATION OF PROFITS

14. ARTICLE 14.-

The accounting year of the Company shall begin on the 1st of January and shall terminate on the 31st of December of each year.

15. ARTICLE 15.

15.1 Each year on the 31st of December, the accounts are closed and the Board of Directors prepares an inventory including an indication of the value of the Company's assets and liabilities. Each shareholder may inspect the above inventory and balance sheet at the Company's registered office.

15.2 From the annual net profits of the Company, five per cent (5%) shall be allocated to the legal reserve. This allocation shall cease to be mandatory as soon and as long as such reserve amounts to ten per cent (10%) of the subscribed capital of the Company, as stated in Article 5 hereof or as increased or reduced from time to time as provided in Article 5 hereof.

15.3 The balance is at the disposal of the General Meeting.

15.4 Under the terms and conditions provided by the Luxembourg Law, the Board of Directors may proceed to the payment of interim dividends to the shareholder(s) which shall be paid at the places and on the dates decided by the Board of Directors with respect to Article 13.10.

15.5 The share premium, if any, may be freely distributed to the shareholder(s) according to Luxembourg Law by a resolution of the Board of Directors.

TITLE VII - DISSOLUTION, LIQUIDATION

16. ARTICLE 16.-

The Company may be dissolved by a resolution of the General Meeting. If the Company is dissolved, the liquidation will be carried out by one or more liquidators, physical or legal persons, appointed by the General Meeting, which will specify their powers and fix their remuneration.

TITLE VIII.- GENERAL PROVISIONS

17. ARTICLE 17.

17.1 In these Articles:

17.1.1 a reference to:

(a) one gender shall include each gender;

(b) (unless the context otherwise requires) the singular shall include the plural and vice versa;

(c) a "**person**" includes a reference to any individual, firm, company, corporation or other body corporate, government, state or agency of a state or any joint venture, association or partnership, works council or employee representative body (whether or not having a separate legal personality);

(d) a statutory provision or statute includes all modifications thereto and all re-enactments (with or without modifications) thereof;

(e) a "**Business Day**" shall mean any day (other than a Saturday or a Sunday) on which banks in the Grand Duchy of Luxembourg are open for the conduct of non-automated banking operations.

17.1.2 the words "include" and "including" shall be deemed to be followed by the words "without limitation" and general words shall not be given a restrictive meaning by reason of their being preceded or followed by words indicating a particular class of acts, matters or things or by examples falling within the general words;

17.1.3 the headings to these Articles do not affect their interpretation or construction.

17.2 All matters not governed by these Articles are to be construed in accordance with the Commercial Companies Law, as amended.

Exhibit 2.1

NEXA RESOURCES S.A.
as Issuer,

NEXA RESOURCES CAJAMARQUILLA S.A.

NEXA RESOURCES PERU S.A.A.

and

NEXA RECURSOS MINERAIS S.A.
as Guarantors,

and

THE BANK OF NEW YORK MELLON
as Trustee, Principal Paying Agent, Transfer Agent and Registrar,

Indenture

Dated as of June 18, 2020

U.S.$500,000,000

6.500% Notes due 2028

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Exhibit D-2	—	FORM OF CERTIFICATION FOR TRANSFER OR EXCHANGE OF NON-GLOBAL REGULATION S SECURITY TO REGULATION S GLOBAL SECURITY

Note: This Table of Contents shall not, for any purpose, be deemed to be part of this Indenture.

THIS INDENTURE, dated as of June 18, 2020, among Nexa Resources S.A., a public limited liability company validly organized under the laws of the Grand Duchy of Luxembourg having its registered office at 37A Avenue J.F. Kennedy, L-1855, Luxembourg, Grand Duchy of Luxembourg and registered with the *Registre de Commerce et des Sociétés* in Luxembourg under number B 185.489 (the "Issuer"), Nexa Resources Cajamarquilla S.A., a corporation (*sociedad anónima*) validly organized under the laws of the Republic of Peru ("Nexa CJM"), Nexa Resources Perú S.A.A., a publicly held corporation (*sociedad anónima abierta*) validly organized under the laws of the Republic of Peru ("Nexa Peru"), Nexa Recursos Minerais S.A., a corporation (*sociedade anônima*) validly organized under the laws of the Federative Republic of Brazil ("Nexa Brazil", and, together with Nexa CJM and Nexa Peru, the "Guarantors"), and The Bank of New York Mellon, a New York banking corporation, as trustee (the "Trustee"), a paying agent (the "Principal Paying Agent" and any other paying agents to be appointed hereunder, the "Paying Agents"), transfer agent (the "Transfer Agent"), and registrar (the "Registrar") and any other paying agents to be appointed hereunder, the "Paying Agents".

RECITALS

WHEREAS, the Issuer has duly authorized the creation of an issue of U.S.$500,000,000 of its 6.500% Notes due 2028 (the "Initial Notes" and, together with any Additional Notes (as defined herein) issued as provided for in Section 2.2 and 2.17 hereof, the "Notes") of substantially the tenor and amount hereinafter set forth, and to provide therefor the Issuer has duly authorized the execution and delivery of this Indenture.

WHEREAS, Nexa CJM, Nexa Peru and Nexa Brazil have duly authorized the execution and delivery of this Indenture to provide for their Guarantees with respect to the Notes as set forth in this Indenture.

WHEREAS, all things necessary (i) to make the Initial Notes, when executed by the Issuer and authenticated and delivered hereunder and duly issued by the Issuer, the valid obligations of the Issuer, (ii) to make the Guarantees of Nexa CJM, Nexa Peru and Nexa Brazil, when executed by Nexa CJM, Nexa Peru and Nexa Brazil and endorsed on the Notes executed, authenticated and delivered hereunder, the valid obligations of Nexa CJM, Nexa Peru and Nexa Brazil and (iii) to make this Indenture a valid agreement of the Issuer, Nexa CJM, Nexa Peru and Nexa Brazil, all, in accordance with their respective terms, have been done.

NOW, THEREFORE, THIS INDENTURE WITNESSETH:

For and in consideration of the premises and the purchase of the Notes by the Holders (as defined below) thereof, it is mutually covenanted and agreed, for the equal and proportionate benefit of all Holders of the Notes, as follows:

ARTICLE I

DEFINITIONS AND OTHER PROVISIONS
OF GENERAL APPLICATION

Section 1.1. Definitions.

For all purposes of this Indenture, except as otherwise expressly provided or unless the context otherwise requires:

(1) the terms defined in this Article have the meanings assigned to them in this Article and include the plural as well as the singular;

(2) all accounting terms not otherwise defined herein have the meanings assigned to them in accordance with GAAP (whether or not such is indicated herein);

(3) the words "herein," "hereof" and "hereunder" and other words of similar import refer to this Indenture as a whole and not to any particular Article, Section or other subdivision;

(4) whenever there is mentioned in this Indenture, in any context, the payment of, or in respect of, a Redemption Price, the principal of or any premium or interest on any Note or the net proceeds received on the sale or exchange of any Notes, such mention shall be deemed to include mention of the payment of Additional Amounts to the extent that, in such context, Additional Amounts are, were or would be payable in respect thereof pursuant to this Indenture;

(5) All references in this Indenture to "$," "U.S.$," "dollars" or "United States dollars" shall refer to the lawful currency of the United States.

"Act" when used with respect to any Holder, has the meaning specified in Section 1.4. "Additional Amounts" has the meaning specified in Section 11.9.

"Additional Notes" means additional 6.500% Notes due 2028 issued from time to time after the Issue Date under the terms of this Indenture.

"Affiliate" of any Person means any other Person controlling or controlled by or under direct or indirect common control with such Person. For the purposes of this definition, "control," when used with respect to any Person, means the power to direct the management and policies of such Person, directly or indirectly, whether through the ownership of voting securities, by contract or otherwise; and the terms "controlling" and "controlled" have meanings correlative to the foregoing.

"Agent Member" means any member of, or participant in, the Depositary.

"Agents" means any Paying Agent, the Registrar, the Transfer Agent and any Principal Paying Agent appointed hereunder.

"Bankruptcy Law" means Title 11, United States Code, Brazilian Federal Law No. 11,101, dated February 9, 2005, as amended, or any similar federal or state law relating to bankruptcy, insolvency, receivership, winding-up, suspension of payments, liquidation, reorganization or relief of debtors or the law of any other jurisdiction relating to bankruptcy, insolvency, receivership, winding-up, suspension of payments, liquidation, dissolution, "*procedimiento concursal ordinario*," "*procedimiento concursal preventivo*," "*procedimiento acelerado de refinanciación concursal*," "*recuperação judicial*," "*recuperação extrajudicial*," reorganization or relief of debtors, the judicial proceedings referred to in article 13, items 2 to 11 of the Luxembourg law dated 19 December 2002 relating to the register of commerce and companies as well as the accounting and the annual accounts of companies, as amended, including in particular, bankruptcy (*faillite*), controlled management (*gestion contrôlée*), suspension of payments (*sursis de paiement*), arrangement with creditors (*concordat préventif de la faillite*) and judicial liquidation (*liquidation judiciaire*) proceedings or any amendment to, succession to or change in any such law, procedure or process.

"Bankruptcy Order" means any court order made in a proceeding pursuant to or within the meaning of any Bankruptcy Law, containing an adjudication of bankruptcy or insolvency, or providing for liquidation, receivership, winding-up, dissolution, "*procedimiento concursal ordinario*," "*procedimiento concursal preventivo*," "*procedimiento acelerado de refinanciación concursal*," "*recuperação judicial*," "*recuperação extrajudicial*," or reorganization, or appointing a custodian of a debtor or of all or any substantial part of a debtor's property, or providing for the staying, arrangement, adjustment or composition of Indebtedness or other relief of a debtor or in any court order made in connection with the judicial proceedings referred to in article 13, items 2 to 11 of the Luxembourg law dated 19 December 2002 relating to the register of commerce and companies as well as the accounting and the annual accounts of companies, as amended, including in particular, bankruptcy (*faillite*), controlled management (*gestion contrôlée*), suspension of payments (*sursis de paiement*), arrangement with creditors (*concordat préventif de la faillite*) and judicial liquidation (*liquidation judiciaire*) proceedings.

"Base Currency" has the meaning set forth in Section 1.14.

"Board of Directors" means the board of directors of the Issuer.

"Board Resolution" means a duly adopted resolution of the Board of Directors in full force and effect at the time of determination.

"Brazil" means the Federative Republic of Brazil and any ministry, department, authority (including the Central Bank of Brazil) or statutory corporation or other entity (including a trust), owned or controlled directly or indirectly by the Federative Republic of Brazil or any of the foregoing.

"Business Day" means each day that is not a Saturday, Sunday or other day on which banking institutions in New York, United States, Luxembourg, Grand Duchy of Luxembourg, São Paulo, Brazil or Lima, Peru are authorized or required by law to close.

"Capital Lease Obligation" of any Person means the obligation to pay rent or other payment amounts under a lease of (or other Indebtedness arrangements conveying the right to use) real or personal property of such Person which is required to be classified and accounted for as a capital lease or a liability set forth on a balance sheet of such Person in accordance with applicable GAAP. The stated maturity of such obligation shall be the date of the last payment of rent or any other amount due under such lease prior to the first date upon which such lease may be terminated by the lessee without payment of a penalty. The principal amount of such obligation shall be the capitalized amount thereof that would appear on the face of a balance sheet of such Person in accordance with applicable GAAP.

"Capital Stock" of any Person means any and all shares, interests, participations or other equivalents (however designated and whether voting or non-voting) of corporate stock or other equity participations or ownership interests, including quotas in a Brazilian limited liability quota company (*limitada*) or partnership interests, whether general or limited, of such Person.

"Cash Equivalents" means:

(1) United States dollars, Brazilian *reais*, Peruvian *soles*, euros, or money in other currencies received in the ordinary course of business of the Issuer and its Subsidiaries that are readily convertible into United States dollars or euros,

(2) any evidence of Debt with a maturity of 180 days or less issued or directly and fully guaranteed or insured by Brazil, Peru or the United States or any agency or instrumentality thereof, provided that the full faith and credit of Brazil, Peru or the United States is pledged in support thereof,

(3) (i) demand deposits, (ii) time deposits and certificates of deposit with maturities of one year or less from the date of acquisition, (iii) bankers' acceptances with maturities not exceeding one year from the date of acquisition, and (iv) overnight bank deposits, in each case with any bank or trust company organized or licensed under the laws of Luxembourg, Brazil, Peru or the United States or any political subdivision or state thereof having capital, surplus and undivided profits in excess of U.S.$500.0 million whose short-term debt is rated "A-2" or higher by S&P or "P-2" or higher by Moody's,

(4) repurchase obligations with a term of not more than seven days for underlying securities of the type described in clauses (2) and (3) above entered into with any financial institution meeting the qualifications specified in clause (3) above,

(5) commercial paper rated at least P-1 by Moody's or A-1 by S&P and maturing within six months after the date of acquisition, and

(6) money market funds at least 95% of the assets of which consist of investments of the type described in clauses (1) through (5) above.

"Change of Control" means that the Permitted Holders shall cease to own, directly or indirectly, at least a majority of the outstanding voting power of the Voting Stock of the Issuer and shall cease to have the power to direct or cause the direction of the management and policies of the Issuer.

"Change of Control Offer" has the meaning specified in Section 11.5.

"Change of Control Payment" has the meaning specified in Section 11.5.

"Change of Control Payment Date" has the meaning specified in Section 11.5.

"Central Bank" means (i) the Central Bank of Luxembourg, (ii) the Central Bank of Brazil and (iii) the Central Reserve Bank of Peru or, in each case, any successor entity thereto.

"Change of Law" has the meaning specified in Section 3.1.

"Clearstream" means Clearstream Banking, *société anonyme*.

"Code" means the United States Internal Revenue Code of 1986, as amended.

"Comparable Treasury Issue" means the United States Treasury security or securities selected by an Independent Investment Banker as having an actual or interpolated maturity comparable to the period from the Redemption Date to the Par Call Date that would be utilized, at the time of selection and in accordance with customary financial practice, in pricing new issues of corporate debt securities of a comparable maturity to the period from the Redemption Date to the Par Call Date.

"Comparable Treasury Price" means, with respect to any Redemption Date, (1) the average of the Reference Treasury Dealer Quotations for such redemption date, after excluding the highest and lowest such Reference Treasury Dealer Quotation, or (2) if the Issuer or a Guarantor obtains fewer than four such Reference Treasury Dealer Quotations, the average of all such quotations.

"Consolidated Total Assets" means, on a consolidated basis, the Issuer's total amount of assets, calculated based on the most recent balance sheet delivered by the Issuer to the Trustee pursuant to this Indenture, after giving pro forma effect to any acquisition or disposition of companies, divisions, lines of businesses, operations or assets by the Issuer and its Subsidiaries subsequent to such date.

"Corporate Trust Office" means the principal office of the Trustee in The City of New York, New York, at which at any particular time its corporate trust business shall be administered, which at the date hereof is located at 240 Greenwich Street, New York, New York 10286, United States, Attention: Global Corporate Trust, Fax: (212) 815-5603, and such other offices as the Trustee may designate from time to time.

"corporation" means a corporation, association, company, limited liability company, joint stock company or business trust.

"covenant defeasance" has the meaning specified in Section 12.3.

"Default" means an event that with the passing of time or the giving of notice or both shall constitute an Event of Default.

"Defaulted Interest" has the meaning specified in Section 3.6.

"Depositary" means, with respect to the Notes issuable or issued in whole or in part in the form of one or more Global Notes, DTC for so long as it shall be a clearing agency registered under the Exchange Act, or such successor as the Issuer shall designate from time to time in an Officer's Certificate delivered to the Trustee.

"Designated Subsidiary" means (i) each Guarantor and (ii) any other Subsidiary of the Issuer which, as of the date of the Issuer's most recent quarterly or annual, as applicable, consolidated balance sheet, constituted 15% or more of the Consolidated Total Assets of the Issuer, after giving pro forma effect to any acquisition or disposition of companies, divisions, lines of businesses, operations or assets by the Issuer and its Subsidiaries subsequent to such date.

"Director" means a member of the Board of Directors.

"Disqualified Stock" of any Person means any Capital Stock of such Person which, by its terms (or by the terms of any security into which it is convertible or for which it is exchangeable), or upon the happening of any event, matures or is mandatorily redeemable, pursuant to a sinking fund obligation or otherwise, or is redeemable at the option of the holder thereof, in whole or in part, on or prior to the Stated Maturity of the Notes.

"DTC" means The Depository Trust Company.

"Euroclear" means Euroclear Bank S.A./N.V., as operator of the Euroclear system or its successors.

"Event of Default" has the meaning specified in Section 6.1.

"Exchange Act" means the United States Securities Exchange Act of 1934, as amended (or any successor act), and the rules and regulations thereunder.

"Expiration Date" has the meaning set forth in Section 1.4.

"FATCA" means Sections 1471 to 1474 of the U.S. Internal Revenue Code of 1986, as amended.

"Fitch" means Fitch Rating Service, Inc. and its successors.

"GAAP" means, as elected from time to time by the Issuer, (i) generally accepted accounting principles prescribed by the laws, rules and regulations applicable in the jurisdiction of incorporation of the Issuer, (ii) International Financial Reporting Standards, or (iii) accounting practices generally accepted in the United States, in each case, as in effect from time to time.

"Global Note" means, as the context may require, any or all of the Regulation S Global Note(s) and the Restricted Global Note(s), evidencing all or part of a series of Notes which is issued to the Depositary or its nominee and is registered in the name of the Depositary or its nominee.

"guarantee" by any Person means any obligation, contingent or otherwise, of such Person guaranteeing, or having the economic effect of guaranteeing, any Indebtedness of any other Person (the "primary obligor") in any manner, whether directly or indirectly, and including, without limitation, any obligation of such Person, (i) to purchase or pay (or advance or supply funds for the purchase or payment of) such Indebtedness or to purchase (or to advance or supply funds for the purchase of) any security for the payment of such Indebtedness, (ii) to purchase property, securities or services for the purpose of assuring the holder of such Indebtedness of the payment of such Indebtedness, or (iii) to maintain working capital, equity capital or other financial statement condition or liquidity of the primary obligor so as to enable the primary obligor to pay such Indebtedness (and "guaranteed," "guaranteeing" and "guarantor" shall have meanings correlative to the foregoing); provided that, the guarantee by any Person shall not include endorsements by such Person for collection or deposit, in either case, in the ordinary course of business; provided further that, the Incurrence by the Issuer or a Designated Subsidiary of a Lien permitted under clause (2) of Section 11.10 shall not be deemed to constitute a guarantee by the Issuer or a Designated Subsidiary of any purchase money debt of such Person secured thereby.

"Guarantee" means the guarantee by the Guarantors of the due and punctual payment of the principal (and premium, if any) and interest (including any Additional Amounts) on, the Notes and other amounts due under this Indenture.

"Guarantors" mean Nexa CJM, Nexa Peru and Nexa Brazil.

"Holder" means a Person in whose name a Note is registered on the Registrar's books.

"Incur" means, with respect to any Indebtedness or other obligation of any Person, to create, issue, incur (by conversion, exchange or otherwise), assume, guarantee or otherwise become liable in respect of such Indebtedness or other obligation including by acquisition of Subsidiaries or the recording, as required pursuant to applicable GAAP or otherwise, of any such Indebtedness or other obligation on the balance sheet of such Person (and "Incurrence," "Incurred," "Incurrable" and "Incurring" shall have meanings correlative to the foregoing); provided that a change in applicable GAAP that results in an obligation of such Person that exists at such time becoming Indebtedness shall not be deemed an Incurrence of such Indebtedness and that neither the accrual of interest nor the accretion of original issue discount shall be deemed an Incurrence of Indebtedness; provided further that, the Issuer may elect to treat all or any portion of revolving credit debt commitments, whether or not then outstanding, of the Issuer or a Subsidiary as being incurred from and after any date beginning the date the relevant revolving credit commitment is extended to the Issuer or a Subsidiary, as the case may be, by furnishing written notice thereof to the Trustee, and any borrowings or reborrowings by the Issuer or a Subsidiary under such commitment up to the amount of such commitment designated by the Issuer or such Subsidiary as Incurred shall not be deemed to be new Incurrences of Indebtedness by the Issuer or such Subsidiary, as the case may be.

"Indebtedness" means (without duplication), with respect to any Person, whether recourse is to all or a portion of the assets of such Person and whether or not contingent, (i) every obligation of such Person for money borrowed, (ii) every obligation of such Person evidenced by bonds, debentures, notes or other similar instruments, including any such obligations Incurred in connection with the acquisition of property, assets or businesses, (iii) every reimbursement obligation of such Person with respect to letters of credit, bankers' acceptances or similar facilities issued for the account of such Person, (iv) every obligation of such Person issued or assumed as the deferred purchase price of property or services (including securities repurchase agreements but excluding trade accounts payable or accrued liabilities arising in the ordinary course of business which are payable on customary trade terms or which are being contested in good faith), (v) all obligations to redeem Disqualified Stock issued by such Person, (vi) every Net Obligation under Interest Rate or Currency Protection Agreements of such Person, (vii) every Capital Lease Obligation of such Person, and (viii) every obligation of the type referred to in clauses (i) through (vii) of another Person and all dividends of another Person the payment of which, in either case, such Person has guaranteed, other than with respect to clauses (iii) and (vi) above, in each case, if and to the extent any of the preceding items would appear as a liability upon the financial statements of the specified Person in accordance with applicable GAAP.

"Indenture" means this instrument as originally executed or as it may from time to time be supplemented or amended by one or more supplemental indentures hereto entered into pursuant to the applicable provisions hereof.

"Independent Investment Banker" means one of the Reference Treasury Dealers appointed by the Issuer or a Guarantor.

"Initial Notes" means the U.S.$500,000,000 of Notes designated in the first paragraph of the Recitals.

"Interest Payment Date" means each January 18 and July 18, commencing January 18, 2021.

"Interest Rate or Currency Protection Agreement" of any Person means any forward contract, futures contract, swap, option, hedge or other financial agreement or arrangement (including, without limitation, caps, floors, collars and similar agreements) relating to, or the value of which is dependent upon, interest rates or currency exchange rates or indices.

"Investment Grade Rating" means a rating equal to or higher than (i) BBB- (or the equivalent) by S&P, (ii) Baa3 (or the equivalent) by Moody's or (iii) BBB- (or the equivalent) by Fitch.

"Issuer" means the Person named as the "Issuer" in the first paragraph of this instrument until a successor Person shall have become such pursuant to the applicable provisions of this Indenture and thereafter "Issuer" shall mean such successor Person.

"Issue Date" means June 18, 2020.

"Issuer Request" or "Issuer Order" means a written request or order signed in the name of the Issuer by an authorized signatory of the Issuer and delivered to the Trustee.

"Lien" means any mortgage, pledge, security interest, encumbrance or charge of any kind (including, without limitation, any conditional sale or other title retention agreement or lease in the nature thereof or any agreement to give any security interest).

"Luxembourg" means the Grand Duchy of Luxembourg and any ministry, department, authority (including the Central Bank of Luxembourg) or statutory corporation or other entity (including a trust), owned or controlled directly or indirectly by the Grand Duchy of Luxembourg or any of the foregoing.

"Maturity" when used with respect to any Note, means the date on which the principal of such Note becomes due and payable as therein or herein provided, whether at the Stated Maturity or by declaration of acceleration, call for redemption or otherwise.

"Maturity Date" means January 18, 2028.

"Moody's" means Moody's Investors Service, Inc. and its successors.

"Net Obligation" at any date of determination means the net amount, exclusive of any commissions or administrative fees that a Person would be obligated to pay upon the termination of an Interest Rate or Currency Protection Agreement as of such date.

"Nexa Brazil" means the Person named as "Nexa Brazil" in the first paragraph of this instrument until a successor Person shall have become such pursuant to the applicable provisions of this Indenture and thereafter "Nexa Brazil" shall mean such successor Person.

"Nexa CJM" means the Person named as "Nexa CJM" in the first paragraph of this instrument until a successor Person shall have become such pursuant to the applicable provisions of this Indenture and thereafter "Nexa CJM" shall mean such successor Person.

"Nexa Peru" means the Person named as "Nexa Peru" in the first paragraph of this instrument until a successor Person shall have become such pursuant to the applicable provisions of this Indenture and thereafter "Nexa Peru" shall mean such successor Person.

"Note Register" has the meaning specified in Section 3.4(b).

"Notes" has the meaning specified in the first paragraph of the Recitals.

"Notice of Default" has the meaning set forth in Section 7.2.

"OECD" means the Organization for Economic Co-operation and Development.

"Officer's Certificate" means a certificate signed by any of the following: the Chief Executive Officer, President, Chief Financial Officer or a Vice President; and delivered to the Trustee and containing the statements provided for in Section 1.2 hereof (if applicable).

"Opinion of Counsel" means a written opinion of legal counsel, who may be counsel for the Issuer or a Guarantor, containing the statements provided for in Section 1.2 in form and substance reasonably acceptable to the Trustee.

"Outstanding" when used with respect to the Notes, means, as of the date of determination, all the Notes theretofore authenticated and delivered under this Indenture (including, as of such date, all the Notes represented by Global Notes authenticated and delivered under this Indenture), except the reduced portion or portions of any Global Note, as such reduction or reductions shall have been endorsed on such Global Note by the Trustee as provided herein and, except:

(i) the Notes theretofore cancelled by the Trustee or delivered to the Trustee for cancellation;

(ii) the Notes for whose payment or redemption money in the necessary amount has been theretofore deposited with the Trustee or any Paying Agent (other than the Issuer) in trust or set aside and segregated in trust by the Issuer (if the Issuer shall act as its own Paying Agent) for the Holders of such Notes; provided that if such Notes are to be repurchased, notice of such repurchase has been duly given pursuant to this Indenture; and

(iii) Notes which have been issued pursuant to Section 3.5 or in exchange for or in lieu of which other Notes have been authenticated and delivered pursuant to this Indenture, other than any such Notes in respect of which there shall have been presented to the Trustee proof satisfactory to it that such Notes are held by a bona fide purchaser in whose hands such Notes are valid obligations of the Issuer;

provided, however, that in determining whether the Holders of the requisite principal amount of the Outstanding Notes have given any request, demand, authorization, direction, notice, consent or waiver hereunder, Notes owned by the Issuer or any other obligor upon the Notes or any Affiliate of the Issuer or of such other obligor shall be disregarded and deemed not to be Outstanding, except that, in determining whether the Trustee shall be protected in relying upon any such request, demand, authorization, direction, notice, consent or waiver, only Notes which a Responsible Officer of the Trustee actually knows to be so owned shall be so disregarded. Notes so owned which have been pledged in good faith may be regarded as Outstanding if the pledgee establishes to the satisfaction of the Trustee the pledgee's right so to act with respect to such Notes and that the pledgee is not the Issuer or any other obligor upon the Notes or any Affiliate of the Issuer or of such other obligor.

"Paying Agent" means any Person authorized by the Issuer to pay the principal of (and premium, if any) or interest on any Notes on behalf of the Issuer. The Issuer has initially appointed the Principal Paying Agent to act as Paying Agent.

"Payment Date" has the meaning set forth in Section 3.11(b).

"Permitted Holders" mean (i) the estate of Mr. Antonio Ermírio de Moraes and any of Mr. Ermírio Pereira de Moraes, Mrs. Maria Helena de Moraes Scripilliti and Mr. José Ermírio de Moraes Filho and any of their descendants, (ii) any Affiliate of any of the foregoing and (iii) any corporation, partnership, joint venture, association, trust, fund, unincorporated organization, or any other entity or group formed pursuant to a shareholders, control or voting agreement or similar agreement, of which any one or more of the Permitted Holders referred to in clauses (i) or (ii) hereof is a shareholder, partner, beneficiary, member or party.

"Permitted Holding Company" means any entity which owns at least 95% of the outstanding Capital Stock or other ownership interests (other than directors' qualifying shares) of the Issuer.

"Person" means any individual, corporation, partnership, joint venture, association, trust, unincorporated organization, government or agency or political subdivision thereof or any other entity.

"Peru" means the Republic of Peru and any ministry, department, authority (including the Central Reserve Bank of Peru) or statutory corporation or other entity (including a trust), owned or controlled directly or indirectly by the Republic of Peru or any of the foregoing.

"Predecessor Note" of any particular Note means every previous Note evidencing all or a portion of the same debt as that evidenced by such particular Note; and, for the purposes of this definition, any Note authenticated and delivered under Section 3.5 in exchange for or in lieu of a mutilated, destroyed, lost or stolen Note shall be deemed to evidence the same debt as the mutilated, destroyed, lost or stolen Note.

"Principal Paying Agent" means The Bank of New York Mellon, a New York banking corporation, or any successor in its capacity as Principal Paying Agent.

"Rating Agency" means each of S&P, Moody's and Fitch; provided that if any of S&P, Moody's or Fitch ceases to rate the Notes or fails to make a rating on the Notes publicly available, the Issuer will appoint a replacement for such Rating Agency that is a "nationally recognized statistical rating organization" within the meaning of Rule 15c3-1(c)(2)(vi)(F) under the Exchange Act.

"Rating Date" means the date which is 90 days prior to the earlier of (i) a Change of Control and (ii) public notice of the occurrence of a Change of Control or of the intention of the Permitted Holders or the Issuer to effect a Change of Control.

"Rating Decline" means the occurrence of the following on, or within 90 days after, the date of public notice of the occurrence of a Change of Control or of the intention by a Permitted Holder or the Issuer to effect a Change of Control (which period shall be extended so long as the rating of the Notes is under publicly announced consideration for possible downgrade by any of the Rating Agencies): (i) in the event the Notes are assigned an Investment Grade Rating by at least two of the Rating Agencies on the Rating Date, the rating of the Notes by at least two of the Rating Agencies shall be below an Investment Grade Rating; or (ii) in the event the Notes are rated below an Investment Grade Rating by at least two of the Rating Agencies on the Rating Date, the rating of the Notes by at least two of the Rating Agencies shall be decreased by one or more gradations (including gradations (but not outlooks) within rating categories as well as between rating categories); provided that any such Rating Decline is in whole or in part in connection with a Change of Control. The Issuer will provide the Trustee with prompt written notice of any Rating Decline, and the Trustee shall not be deemed to have knowledge of any Rating Decline until it receives such notice.

"rate(s) of exchange" has the meaning set forth in Section 1.14.

"Receivables" means receivables, chattel paper, instruments, documents or intangibles evidencing or relating to the right to payment of money in respect of the sale of goods or services.

"Redemption Date" when used with respect to any Note to be redeemed, means the date fixed for such redemption by or pursuant to this Indenture.

"Redemption Price" when used with respect to any Note to be redeemed, means the price at which it is to be redeemed pursuant to this Indenture.

"Reference Treasury Dealer" means at least four dealers which are primary United States government securities dealers in New York City reasonably designated by the Issuer or a Guarantor.

"Reference Treasury Dealer Quotation" means, with respect to each Reference Treasury Dealer and any Redemption Date, the average, as determined by the Issuer, of the bid and asked prices for the Comparable Treasury Issue (expressed in each case as a percentage of its principal amount) quoted in writing to the Issuer or a Guarantor by such Reference Treasury Dealer at 3:30p.m. New York time on the third business day preceding such Redemption Date.

"Registrar" has the meaning specified in Section 3.4(b).

"Regular Record Date" for the interest payable on any Interest Payment Date means the second day (whether or not a Business Day), as the case may be, next preceding such Interest Payment Date.

"Responsible Officer" means any officer within the corporate trust department of the Trustee, including any director, managing director, vice president, assistant vice president, trust officer, assistant trust officer or any other officer or assistant officer of the Trustee customarily performing functions similar to those performed by the persons who at that time shall be such officers having direct responsibility for the administration of this Indenture, and also means, with respect to a particular corporate trust matter, any other officer to whom such trust matter is referred because of his or her knowledge of and familiarity with the particular subject.

"Regulation S" means Regulation S (including any successor regulation thereto) under the Securities Act, as it may be amended from time to time.

"Regulation S Global Note" has the meaning set forth in Section 2.1

"Restricted Global Note" has the meaning set forth in Section 2.1.

"Restricted Notes" means the Restricted Global Note and any Successor Note, other than (i) any Note issued upon a transfer or exchange for which a certificate substantially in the form set forth in (a) Exhibit A is required to be provided and is provided pursuant to Section 3.4(c)(2) or (b) Exhibit C-2 is required to be provided and is provided pursuant to Section 3.4(c)(5), (ii) any Note issued in exchange for or in lieu of any Note specified in clause (i) of this definition or any Note issued in exchange therefor or in lieu thereof, or (iii) any Note as to which the Issuer has removed and has not replaced the legend described in Section 3.4(b).

"Restricted Property" means any mineral property (including any mineral concessions, authorizations or rights in respect of minerals granted by any governmental authority), concentrate plant, manufacturing or processing plant used in connection with the processing, refining or manufacturing of metals or minerals, power plant or transmission lines of the Issuer or any Designated Subsidiary and any capital stock of any Subsidiary directly owning any such mineral property, concentrate, manufacturing or processing plant, power plant or transmission lines.

"Reuters" means Reuters Group plc, a U.K. corporation, and its successors and assigns.

"Rule 144A" means Rule 144A (including any successor regulation thereto) under the Securities Act, as it may be amended from time to time.

"S&P" means S&P Global Ratings, a business unit of Standard & Poor's Financial Services LLC and its successors.

"SEC" means the United States Securities and Exchange Commission.

"Securities Act" means the United States Securities Act of 1933, as amended, and the rules and regulations of the SEC promulgated thereunder.

"Securitization Transaction" means a transaction in which the Issuer or a Subsidiary thereof sells or transfers an interest in Receivables (and/or any rights arising under the documentation governing or relating to such Receivables covered by such transaction, any proceeds of Receivables and any lockboxes or accounts in which such proceeds are deposited and any related assets) to a special purpose entity that issues securities payable from collections of such Receivables or other assets.

"Special Record Date" for the payment of any Defaulted Interest means a date fixed by the Trustee pursuant to Section 3.6.

"Stated Maturity" when used with respect to any Note or any installment of interest thereon, means the date specified in such Note as the date on which the principal of such Note or such installment of interest, as the case may be, is due and payable.

"Subsidiary" of any Person means (i) a corporation more than 50% of the combined voting power of the outstanding Voting Stock of which is owned, directly or indirectly, by such Person or by one or more other Subsidiaries of such Person or by such Person and one or more Subsidiaries thereof or (ii) any other Person (other than a corporation) in which such Person, or one or more other Subsidiaries of such Person or such Person and one or more other Subsidiaries thereof, directly or indirectly, has at least a majority ownership and power to direct the policies, management and affairs thereof.

"Successor Note" of any particular Note means every Note issued after, and evidencing all or a portion of the same debt as that evidenced by, such particular Note; and, for the purposes of this definition, any Note authenticated and delivered under Section 3.5 in exchange for or in lieu of a mutilated, destroyed, lost or stolen Note shall be deemed to evidence the same debt as the mutilated, destroyed, lost or stolen Note.

"Taxes" has the meaning set forth in Section 11.9.

"Transaction Documents" has the meaning set forth in Section 11.1.

"Transfer Agent" means the agent designated by the Issuer (not including the Registrar) for the registration of transfer of securities as provided in Section 11.2.

"Treasury Rate" means, with respect to any Redemption Date, the rate per annum equal to the semi-annual equivalent yield to maturity or interpolated maturity (on a day count basis) of the Comparable Treasury Issue, assuming a price for the Comparable Treasury Issue (expressed as a percentage of its principal amount) equal to the Comparable Treasury Price for such Redemption Date.

"Trustee" means the Person named as the "Trustee" in the first paragraph of this instrument until a successor Trustee shall have been appointed pursuant to the applicable provisions of this Indenture, and thereafter "Trustee" shall mean such successor Trustee.

"United States" means the United States of America.

"U.S. Dollar Equivalent" means, with respect to any monetary amount in a currency other than the U.S. Dollar, at any time for the determination thereof, the amount of U.S. Dollars obtained by converting such foreign currency involved in such computation into U.S. Dollars at the spot rate for the purchase of U.S. Dollars with the applicable foreign currency as quoted by Reuters at approximately 11:00 a.m. (New York time) on the date not more than two Business Days prior to such determination.

"U.S. Global Notes" has the meaning specified in Section 2.1.

"Vice President" when used with respect to the Issuer or any Guarantor, means any vice president, whether or not designated by a number or a word or words added before or after the title "vice president."

"Voting Stock" of a Person means all classes of Capital Stock of such Person then outstanding that are entitled (without regard to the occurrence of any contingency) to vote in the election of the directors of such Person, but excluding such classes of Capital Stock or other interests that are entitled, as a group in a separate cast, to appoint one director of such Person as representative of the minority shareholders.

"Wholly Owned Subsidiary" of any Person means any entity owned by such Person of which at least 95% of the outstanding Capital Stock or other ownership interests (other than directors' qualifying shares) of such entity shall at the time be owned by such Person or by one or more Wholly Owned Subsidiaries of such Person.

Section 1.2. Compliance Certificates and Opinions.

Upon any application or request by the Issuer or a Guarantor to the Trustee to take any action under any provision of this Indenture, the Issuer or such Guarantor shall furnish to the Trustee such certificates and opinions as may be required under this Indenture; provided, however, that such certificate and opinion shall not be required in the case of the initial issuance of Notes hereunder. Each such certificate or opinion, and any certificate evidencing a determination required to be made by the Issuer or a Guarantor under this Indenture, shall be given in the form of an Officer's Certificate, if to be given by an officer of the Issuer or such Guarantor, or an Opinion of Counsel, if to be given by counsel, and shall comply with the requirements set forth in this Indenture.

Every certificate or opinion with respect to compliance by or on behalf of the Issuer or a Guarantor with a condition or covenant provided for in this Indenture shall include:

(1) a statement that each individual signing such certificate or opinion has read such covenant or condition and the definitions herein relating thereto;

(2) a brief statement as to the nature and scope of the examination or investigation upon which the statements or opinions contained in such certificate or opinion are based;

(3) a statement that, in the opinion of each such individual, he has made such examination or investigation as is necessary to enable him or her to express an informed opinion as to whether or not such covenant or condition has been complied with; and

(4) a statement as to whether, in the opinion of each such individual, such condition or covenant has been complied with.

Section 1.3. Form of Documents Delivered to Trustee.

In any case where several matters are required to be certified by, or covered by an opinion of, any specified Person, it is not necessary that all such matters be certified by, or covered by the opinion of, only one such Person, or that they be so certified or covered by only one document, but one such Person may certify or give an opinion with respect to some matters and one or more other such Persons as to other matters, and any such Person may certify or give an opinion as to such matters in one or several documents.

Any certificate of an officer of the Issuer or a Guarantor may be based, insofar as it relates to legal matters, upon an Opinion of Counsel submitted therewith, unless such officer knows, or in the exercise of reasonable care should know, that the opinion with respect to the matters upon which his certificate is based is erroneous. Any Opinion of Counsel may be based, insofar as it relates to factual matters, upon a certificate of an officer or officers of the Issuer or a Guarantor submitted therewith stating the information on which counsel is relying, unless such counsel knows, or in the exercise of reasonable care should know, that the certificate with respect to such matters is erroneous.

Where any Person is required to make, give or execute two or more applications, requests, consents, certificates, statements, opinions or other instruments under this Indenture, they may, but need not, be consolidated and form one instrument.

Section 1.4. Acts of Holders; Record Date.

Any request, demand, authorization, direction, notice, consent, waiver or other action provided by this Indenture to be given or taken by Holders may be embodied in and evidenced by one or more instruments of substantially similar tenor signed by such Holders in person or by an agent duly appointed in writing; and, except as herein otherwise expressly provided, such action shall become effective when such instrument or instruments are delivered to the Trustee and, where it is hereby expressly required, to the Issuer. Such instrument or instruments (and the action embodied therein and evidenced thereby) are herein sometimes referred to as the "Act" of the Holders signing such instrument or instruments. Proof of execution of any such instrument or of a writing appointing any such agent shall be sufficient for any purpose of this Indenture and (subject to Section 6.1) conclusive in favor of the Trustee and the Issuer, if made in the manner provided in this Section.

The fact and date of the execution by any Person of any such instrument or writing pursuant to this Section 1.4 may be proved by the affidavit of a witness of such execution or by a certificate of a notary public or other officer authorized by law to take acknowledgments of deeds, certifying that the individual signing such instrument or writing acknowledged to him or her the execution thereof. Where such execution is by a signer acting in a capacity other than his individual capacity, such certificate or affidavit shall also constitute sufficient proof of his authority. The fact and date of the execution of any such instrument or writing, or the authority of the Person executing the same, may also be proved in any other manner which the Trustee deems sufficient.

The ownership of Notes shall be proved by the Note Register.

Any request, demand, authorization, direction, notice, consent, waiver or other Act of the Holder of any Note shall bind every future Holder of the same Note and the Holder of every Note issued upon the registration of transfer thereof or in exchange therefor or in lieu thereof in respect of anything done, omitted or suffered to be done by the Trustee or the Issuer in reliance thereon, whether or not notation of such action is made upon such Note.

The Issuer may set any day as a record date for the purpose of determining the Holders of Outstanding Notes entitled to give, make or take any request, demand, authorization, direction, notice, consent, waiver or other action provided or permitted by this Indenture to be given, made or taken by Holders of Notes, provided that the Issuer may not set a record date for, and the provisions of this paragraph shall not apply with respect to, the giving or making of any notice, declaration, request or direction referred to in the next paragraph. If not set by the Issuer prior to the first solicitation of a Holder made by any Person in respect of any such matter referred to in the foregoing sentence, the record date for any such matter shall be the 30th day (or, if later, the date of the most recent list of Holders required to be provided pursuant to Section 7.1) prior to such first solicitation. If any record date is set pursuant to this paragraph, the Holders of Outstanding Notes on such record date, and no other Holders, shall be entitled to take the relevant action, whether or not such Holders remain Holders after such record date; provided that no such action shall be effective hereunder unless taken on or prior to the applicable Expiration Date by Holders of the requisite principal amount of Outstanding Notes on such record date.

The Trustee may set any day as a record date for the purpose of determining the Holders of Outstanding Notes entitled to join in the giving or making of (i) any Notice of Default, (ii) any declaration of acceleration referred to in Section 5.1, (iii) any request to institute proceedings referred to in Section 5.6(2) or (iv) any direction referred to in Section 5.11. If any record date is set pursuant to this paragraph, the Holders of Outstanding Notes on such record date, and no other Holders, shall be entitled to join in such notice, declaration, request or direction, whether or not such Holders remain Holders after such record date; provided that no such action shall be effective hereunder unless taken on or prior to the applicable Expiration Date by Holders of the requisite principal amount of Outstanding Notes on such record date. Nothing in this paragraph shall be construed to prevent the Trustee from (i) giving or making any notice required to be made pursuant to the Trustee's duties and obligations under this Indenture and (ii) setting a new record date for any action for which a record date has previously been set pursuant to this paragraph (whereupon the record date previously set shall automatically and with no action by any Person be cancelled and of no effect), and nothing in this paragraph shall be construed to render ineffective any action taken by Holders of the requisite principal amount of Outstanding Notes on the date such action is taken. Promptly after any record date is set pursuant to this paragraph, the Trustee, at the Issuer's expense, shall cause notice of such record date, the proposed action by Holders and the applicable Expiration Date to be given to the Issuer in writing and to each Holder of Notes in the manner set forth in Section 1.6.

Nothing in this paragraph shall be construed to prevent the Issuer from setting a new record date for any action for which a record date has previously been set pursuant to this paragraph (whereupon the record date previously set shall automatically and with no action by any Person be cancelled and of no effect), and nothing in this paragraph shall be construed to render ineffective any action taken by Holders of the requisite principal amount of Outstanding Notes on the date such action is taken. Promptly after any record date is set pursuant to this paragraph, the Issuer, at its own expense, shall cause notice of such record date, the proposed action by Holders and the applicable Expiration Date to be given to the Trustee in writing and to each Holder of Notes in the manner set forth in Section 1.6.

With respect to any record date set pursuant to this Section, the party hereto which sets such record dates may designate any day as the "Expiration Date," and from time to time may change the Expiration Date to any earlier or later day; provided that no such change shall be effective unless notice of the proposed new Expiration Date is given to the other party hereto in writing, and to each Holder of Notes in the manner set forth in Section 1.6, on or prior to the existing Expiration Date. If an Expiration Date is not designated with respect to any record date set pursuant to this Section, the party hereto which set such record date shall be deemed to have initially designated the 180th day after such record date as the Expiration Date with respect thereto, subject to its right to change the Expiration Date as provided in this paragraph. Notwithstanding the foregoing, no Expiration Date shall be later than the 180th day after the applicable record date.

Without limiting the foregoing, a Holder entitled hereunder to take any action hereunder with regard to any particular Note may do so with regard to all or any part of the principal amount of such Note or by one or more duly appointed agents each of which may do so pursuant to such appointment with regard to all or any part of such principal amount.

Section 1.5. Notices, Etc., to Trustee, the Paying Agents and the Issuer.

Any request, demand, authorization, direction, notice, consent, waiver or Act of Holders or other document provided or permitted by this Indenture to be made upon, given or furnished to, or filed with:

(1) the Trustee or any Agent by any Holder or by the Issuer or the Guarantor shall be sufficient for every purpose hereunder if made, given, furnished or filed, in writing in English or accompanied by a certified translation to English, to or with the Trustee at The Bank of New York Mellon, 240 Greenwich Street, New York, New York 10286, United States, Attention: Global Corporate Trust, Fax: (212) 815-5630, and such other offices as the Trustee may designate from time to time or at any other address previously furnished in writing to the Holders, the Issuer by the Trustee;

(2) the Principal Paying Agent by the Trustee, the Issuer or any Holder shall be sufficient for every purpose hereunder (except as otherwise expressly provided herein) if in writing and mailed, first class postage prepaid, to the Principal Paying Agent addressed to it at 240 Greenwich Street, New York, New York 10286, United States, Attention: Global Corporate Trust, or at any other address previously furnished in writing to the Trustee by the Principal Paying Agent;

(3) the Issuer by the Trustee or by any Holder shall be sufficient for every purpose hereunder (except as otherwise expressly provided herein) if in writing and mailed, first-class postage prepaid, to the Issuer addressed to it at 37A, Avenue J.F. Kennedy, L-1855, Luxembourg, Grand Duchy of Luxembourg, Attention: Rodrigo Menck (Group Chief Financial Officer), or at any other address previously furnished in writing to the Trustee by the Issuer;

(4) Nexa CJM by the Trustee or by any Holder shall be sufficient for every purpose hereunder (except as otherwise expressly provided herein) if in writing and mailed, first-class postage prepaid, to Nexa CJM addressed to it at Carretera Central Km 9.5, desvío a Huachipa, Lurigancho-Chosica, Provincia y Departamento de Lima, Peru, Attention: Rodrigo Menck (Group Chief Financial Officer), or at any other address previously furnished in writing to the Trustee by Nexa CJM;

(5) Nexa Peru by the Trustee or by any Holder shall be sufficient for every purpose hereunder (except as otherwise expressly provided herein) if in writing and mailed, first-class postage prepaid, to Nexa Peru addressed to it at Avenida San Borja Norte 523, Lima, Peru, Attention: Rodrigo Menck (Group Chief Financial Officer), or at any other address previously furnished in writing to the Trustee by Nexa Peru; and

(6) Nexa Brazil by the Trustee or by any Holder shall be sufficient for every purpose hereunder (except as otherwise expressly provided herein) if in writing and mailed, first-class postage prepaid, to Nexa Brazil addressed to it at Av. Engenheiro Luis Carlos Berrini, 105, São Paulo, SP 04571-010, Brazil, Attention: Rodrigo Menck (Treasurer), or at any other address previously furnished in writing to the Trustee by Nexa Brazil.

Section 1.6. Notice to Holders; Waiver.

Where this Indenture provides for notice to Holders of any event, such notice shall be sufficiently given (unless otherwise herein expressly provided) if (i) in the case of a Global Note, in writing by electronic mail, facsimile and/or by first-class mail to the Depositary, and (ii) in the case of securities other than Global Notes, in writing and mailed, first-class postage prepaid, to each Holder affected by such event, at his address as it appears in the Note Register on the Business Day immediately preceding the date of mailing, which shall be not later than the latest date (if any), and not earlier than the earliest date (if any), prescribed for the giving of such notice. In any case where notice to Holders is given by mail, neither the failure to mail such notice, nor any defect in any notice so mailed, to any particular Holder shall affect the sufficiency of such notice with respect to other Holders. Where this Indenture provides for notice in any manner, such notice may be waived in writing by the Person entitled to receive such notice, either before or after the event, and such waiver shall be the equivalent of such notice. Waivers of notice by Holders shall be filed with the Trustee, but such filing shall not be a condition precedent to the validity of any action taken in reliance upon such waiver.

In case by reason of the suspension of regular mail service or by reason of any other cause it shall be impracticable to give such notice by mail, then such notification as shall be made with the approval of the Trustee shall constitute a sufficient notification for every purpose hereunder.

Any obligation the Issuer (and the Paying Agents on its behalf) may have to publish a notice to Holders shall have been met upon delivery of the notice to the Depositary.

Section 1.7. Effect of Headings and Table of Contents.

The Article and Section headings herein and the Table of Contents are for convenience only and shall not affect the construction hereof.

Section 1.8. Successors and Assigns.

All covenants and agreements in this Indenture by each of the Issuer and the Guarantors shall bind its successors and assigns, whether so expressed or not.

Section 1.9. Separability Clause.

In case any provision in this Indenture or in the Notes or in the Guarantees shall be invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions of each of this Indenture, the Notes or the Guarantees shall not in any way be affected or impaired thereby.

Section 1.10. Benefits of Indenture.

Nothing in this Indenture or in the Notes, express or implied, shall give to any Person, other than the parties hereto and their successors hereunder and the Holders of Notes, any benefit or any legal or equitable right, remedy or claim under this Indenture, the Notes or the Guarantees.

Section 1.11. Governing Law.

THIS INDENTURE, THE NOTES AND THE GUARANTEES SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE LAWS OF THE STATE OF NEW YORK, without regard to conflicts of laws principles thereof. For the purposes of paragraph 2 of article 9 of the Brazilian Decree-Law No. 4,567, dated September 4, 1942, as amended, the Trustee shall be deemed the "proponent" of the transactions contemplated by this Indenture. Articles 470-1 through 470-19 of the Luxembourg law dated August 10, 1915 on commercial companies, as amended, which set the provisions related to the representation of the Holders of the Notes, are not applicable to the Notes or the Guarantees.

EACH OF THE PARTIES HERETO HEREBY IRREVOCABLY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY AND ALL RIGHT TO TRIAL BY JURY IN ANY LEGAL PROCEEDING ARISING OUT OF OR RELATING TO THIS INDENTURE, THE NOTES OR THE TRANSACTION CONTEMPLATED HEREBY.

Section 1.12. Legal Holidays.

In any case where any Interest Payment Date, Redemption Date or Stated Maturity of any Note shall not be a Business Day, then (notwithstanding any other provision of this Indenture, the Notes or the Guarantees) payment of interest or principal (and premium, if any) need not be made on such date, but may be made on the next succeeding Business Day with the same force and effect as if made on the Interest Payment Date or Redemption Date, or at the Stated Maturity, provided that no interest shall accrue on account of such delay for the period from and after such Interest Payment Date or Redemption Date or Stated Maturity, as the case may be.

Section 1.13. Consent to Jurisdiction and Service of Process.

(a) Each of the Issuer and the Guarantors agrees that any suit, action or proceeding against it brought by any Holder or the Trustee arising out of or based upon this Indenture, the Notes or the Guarantees may be instituted in any state or Federal court in the Borough of Manhattan in The City of New York, New York, and waives any objection which it may now or hereafter have to the laying of venue of any such proceeding, and irrevocably submits to the non-exclusive jurisdiction of such courts in any suit, action or proceeding.

(b) By the execution and delivery of this Indenture or any amendment or supplement hereto, each of the Issuer and the Guarantors (i) acknowledges that it has, by separate written instrument, designated and appointed Cogency Global Inc. currently located at 122 East 42nd Street, 18th Floor, New York, NY 10168, as its authorized agent upon which process may be served in any suit, action or proceeding with respect to, arising out of, or relating to, the Notes, this Indenture or the Guarantees, that may be instituted in any Federal or state court in the State of New York, The City of New York, the Borough of Manhattan, or brought under Federal or state securities laws or brought by the Trustee or the Paying Agent (whether in its individual capacity or in its capacity as Trustee or the Paying Agent, as the case may be, hereunder), and acknowledges that Cogency Global Inc. has accepted such designation, (ii) submits to the jurisdiction of any such court in any such suit, action or proceeding, and (iii) agrees that service of process upon Cogency Global Inc. shall be deemed in every respect effective service of process upon the Issuer and the Guarantors, as the case may be, in any such suit, action or proceeding. Each of the Issuer and the Guarantors further agrees to take any and all action, including the execution and filing of any and all such documents and instruments as may be necessary to continue such designation and appointment of Cogency Global Inc. in full force and effect so long as this Indenture shall be in full force and effect; provided that the Issuer and the Guarantors may and shall (to the extent Cogency Global Inc. ceases to be able to be served on the basis contemplated herein), by written notice to the Trustee, designate such additional or alternative agents for service of process under this Section 1.13 that (i) maintains an office located in the Borough of Manhattan, The City of New York in the State of New York, (ii) are either (x) counsel for the Issuer and the Guarantors or (y) a corporate service company which acts as agent for service of process for other persons in the ordinary course of its business and (iii) agrees to act as agent for service of process in accordance with this Section 1.13. Such notice shall identify the name of such agent for process and the address of such agent for process in the Borough of Manhattan, The City of New York, State of New York. Upon the request of any Holder, the Trustee shall deliver such information to such Holder. Notwithstanding the foregoing, there shall, at all times, be at least one agent for service of process for the Issuer and the Guarantors appointed and acting in accordance with this Section 1.13.

(c) To the extent that the Issuer or the Guarantors has or hereafter may acquire any immunity from jurisdiction of any court or from any legal process (whether through service of notice, attachment prior to judgment, attachment in aid of execution, execution or otherwise) with respect to itself or its property, each of the Issuer and the Guarantors hereby irrevocably waives such immunity in respect of its obligations under this Indenture, the Notes and the Guarantees, to the fullest extent permitted by law.

Section 1.14. Currency of Account; Conversion of Currency; Foreign Exchange Restrictions.

(a) U.S. Dollars are the sole currency of account and payment for all sums payable by the Issuer and the Guarantors under or in connection with the Notes, the Guarantees or this Indenture, including damages. Any amount received or recovered in a currency other than U.S. dollars (whether as a result of, or of the enforcement of, a judgment or order of a court of any jurisdiction, in the winding-up or dissolution of the Issuer or the Guarantors or otherwise) by any Holder of the Notes in respect of any sum expressed to be due to it from the Issuer or the Guarantors shall only constitute a discharge to the Issuer or the Guarantors, as the case may be, to the extent of the U.S. dollar amount which the recipient is able to purchase with the amount so received or recovered in that other currency on the date of that receipt or recovery (or, if it is not practicable to make that purchase on that date, on the first date on which it is practicable to do so). If that U.S. dollar amount is less than the U.S. dollar amount expressed to be due to the recipient under the Notes, the Issuer and the Guarantors shall, jointly and severally, indemnify it against any loss sustained by it as a result as set forth in Section 1.14(b). In any event, the Issuer and the Guarantors shall, jointly and severally, indemnify the recipient against the cost of making any such purchase. For the purposes of this Section 1.14, it will be sufficient for the Holder of a Note to certify in a satisfactory manner (indicating sources of information used) that it would have suffered a loss had an actual purchase of U.S. dollars been made with the amount so received in that other currency on the date of receipt or recovery (or, if a purchase of U.S. dollars on such date had not been practicable, on the first date on which it would have been practicable, it being required that the need for a change of date be certified in the manner mentioned above). The indemnities set forth in this Section 1.14 constitute separate and independent obligations from other obligations of the Issuer and the Guarantors, shall give rise to a separate and independent cause of action, shall apply irrespective of any indulgence granted by any Holder of the Notes and shall continue in full force and effect despite any other judgment, order, claim or proof for a liquidated amount in respect of any sum due under the Notes.

(b) The Issuer and the Guarantors covenant and agree that the following provisions shall apply to conversion of currency in the case of the Notes, the Guarantees and this Indenture:

(i) (A) if for the purpose of obtaining judgment in, or enforcing the judgment of, any court in any country, it becomes necessary to convert into a currency (the "judgment currency") an amount due in any other currency (the "Base Currency"), then the conversion shall be made at the rate of exchange prevailing on the Business Day before the day on which the judgment is given or the order of enforcement is made, as the case may be (unless a court shall otherwise determine), and

(B) if there is change in the rate of exchange prevailing between the Business Day before the day on which the judgment is given or an order of enforcement is made, as the case may be (or such other date as a court shall determine), and the date of receipt of the amount due, the Issuer or the Guarantors, as the case may be, will pay such additional (or, as the case may be, such lesser) amount, if any, as may be necessary so that the amount paid in the judgment currency when converted at the rate of exchange prevailing on the date of receipt will produce the amount in the Base Currency originally due;

(ii) in the event of the winding-up of the Issuer or the Guarantors at any time while any amount or damages owing under the Notes, the Guarantees and this Indenture, or any judgment or order rendered in respect thereof, shall remain outstanding, the Issuer and the Guarantors shall, jointly and severally, indemnify and hold the Holders and the Trustee harmless against any deficiency arising or resulting from any variation in rates of exchange between (1) the date as of which the U.S. Dollar Equivalent of the amount due or contingently due under the Notes, the Guarantees and this Indenture (other than under this Subsection (b)(ii)) is calculated for the purposes of such winding-up and (2) the final date for the filing of proofs of claim in such winding-up. For the purpose of this subsection (b)(ii), the final date for the filing of proofs of claim in the winding-up of the Issuer or the Guarantors, as the case may be, shall be the date fixed by the liquidator or otherwise in accordance with the relevant provisions of applicable law as being the latest practicable date as at which liabilities of the Issuer or the Guarantors, as the case may be, may be ascertained for such winding-up prior to payment by the liquidator or otherwise in respect thereto;

(iii) the obligations contained in Subsections (a), (b)(i)(B) and (b)(ii) of this Section 1.14 shall constitute separate and independent obligations from the other obligations of the Issuer and the Guarantors under the terms of this Indenture, shall give rise to separate and independent causes of action against the Issuer and the Guarantors, shall apply irrespective of any waiver or extension granted by any Holder or the Trustee or either of them from time to time and shall continue in full force and effect notwithstanding any judgment or order or the filing of any proof of claim in the winding-up of the Issuer or the Guarantors for a liquidated sum in respect of amounts due hereunder (other than under Subsection (b)(ii) above) or under any such judgment or order. Any such deficiency as aforesaid shall be deemed to constitute a loss suffered by the Holders or the Trustee, as the case may be, and no proof or evidence of any actual loss shall be required by the Issuer or the Guarantors or the liquidator or otherwise or any of them. In the case of subsection (b)(ii) above, the amount of such deficiency shall not be deemed to be reduced by any variation in rates of exchange occurring between the said final date and the date of any liquidating distribution; and

(iv) the term "rate(s) of exchange" shall mean the rate of exchange quoted by Reuters at 10:00 a.m. (New York time) for spot purchases of the Base Currency with the judgment currency other than the Base Currency referred to in Subsections (b)(i) and (b)(ii) above and includes any premiums and costs of exchange payable.

(c) In the event that on any Interest Payment Date, the Maturity Date or Redemption Date, as the case may be, in respect of the Guarantee provided by a Guarantor, any restrictions or prohibition of access to the foreign exchange market of the jurisdiction of incorporation of a Guarantor exists, such Guarantor agrees to pay all amounts payable under the Notes and such Guarantee in the currency of the Notes by means of any legal procedure existing in such jurisdiction of incorporation (except commencing legal proceedings against the relevant Central Bank), on any due date for payment under the Notes, for the purchase of the currency of such Notes. All costs and taxes payable in connection with the procedures referred to in this Section 1.14 shall be borne by the relevant Guarantor.

(d) Notwithstanding anything to the contrary contained herein, neither the Trustee nor the Principal Paying Agent shall have any liability for converting into U.S. Dollars any amount received by any Holder in a currency other than U.S. Dollars.

Section 1.15. Counterparts.

This Indenture may be executed in two or more counterparts, each of which shall be deemed to be an original, but all of which together shall constitute one and the same instrument. The words "execution," signed," "signature," and words of like import in this Indenture or in any other certificate, agreement or document related to this Indenture shall include images of manually executed signatures transmitted by facsimile or other electronic format (including, without limitation, "pdf", "tif" or "jpg") and other electronic signatures (including, without limitation, DocuSign and AdobeSign). The use of electronic signatures and electronic records (including, without limitation, any contract or other record created, generated, sent, communicated, received, or stored by electronic means) shall be of the same legal effect, validity and enforceability as a manually executed signature or use of a paper-based recordkeeping system to the fullest extent permitted by applicable law, including, without limitation, the Federal Electronic Signatures in Global and National Commerce Act, the New York State Electronic Signatures and Records Act and any other applicable law, including, without limitation, any state law based on the Uniform Electronic Transactions Act or the Uniform Commercial Code.

Section 1.16. Force Majeure.

In no event shall the Trustee or any Agent be responsible or liable for any failure or delay in the performance of its obligations hereunder arising out of or caused by, directly or indirectly, forces beyond its control, including, without limitation, strikes, work stoppages, accidents, acts of war or terrorism, civil or military disturbances, nuclear or natural catastrophes or acts of God, and interruptions, loss or malfunctions of utilities, communications or computer (software and hardware) services; it being understood that the Trustee or such Agent shall use reasonable efforts which are consistent with accepted practices in the banking industry to resume performance as soon as practicable under the circumstances.

Section 1.17. U.S.A. PATRIOT Act.

In order to comply with the laws, rules, regulations and executive orders in effect from time to time applicable to banking institutions, including, without limitation, those relating to the funding of terrorist activities and money laundering, including Section 326 of the USA PATRIOT Act of the United States ("Applicable Law"), the Trustee and Agents are required to obtain, verify, record and update certain information relating to individuals and entities which maintain a business relationship with the Trustee and Agents. Accordingly, each of the parties agrees to provide to the Trustee and Agents, upon their request from time to time such identifying information and documentation as may be available for such party in order to enable the Trustee and Agents to comply with Applicable Law.

Section 1.18. Anti-Money Laundering, Terrorism and Economic Sanctions.

(a) The Trustee or any Agent may take and instruct any delegate to take any action which it in its sole discretion considers appropriate so as to comply with any applicable law, regulation, request of a public or regulatory authority or any internal group policy (including any "Know Your Client" and/or other compliance policy) which relates to the prevention of fraud, money laundering, terrorism or other criminal activities or the provision of financial and other services to sanctioned persons or entities. Such action may include but is not limited to the interception and investigation of transactions on the Issuer's or any Guarantor's accounts (particularly those involving the international transfer of funds) including the source of the intended recipient of funds paid into or out of the Issuer's or any Guarantor's accounts. None of the Trustee, any Agent or any delegate will be liable for any loss (whether direct or consequential and including, without limitation, loss of profit or interest) caused in whole or in part by any actions which are taken by the Trustee, any Agent or any delegate pursuant to this Section 1.18.

(b) The Issuer and each Guarantor covenants and represents, jointly and severally, that neither it nor any of their respective subsidiaries or their respective directors or officers, and, to the knowledge of the Issuer or any Guarantor, any of their affiliates are the target or subject of any sanctions enforced by the US Government, (including, without limitation, the Office of Foreign Assets Control of the US Department of the Treasury or the US Department of State), the United Nations Security Council, the European Union, Her Majesty's Treasury, or other relevant sanctions authority (collectively "Sanctions");

(c) The Issuer and each Guarantor covenants and represents, jointly and severally, that neither it nor any of their respective subsidiaries or their respective directors or officers will directly or indirectly use any repayments/reimbursements made pursuant to this Indenture, (i) to fund or facilitate any activities of or business with any person who, at the time of such funding or facilitation, is the subject or target of Sanctions, (ii) to fund or facilitate any activities of or business with any country or territory that is the target or subject of Sanctions, or (iii) in any other manner that will result in a violation of Sanctions by any Person.

Section 1.19. Effective Date.

This Indenture shall become effective on the date hereof and shall be binding upon the Issuer, the Guarantors, the Trustee, the Registrar, the Paying Agent and the Principal Paying Agent.

ARTICLE II

NOTE FORMS

Section 2.1. Forms Generally.

The Notes, the Trustee's certificates of authentication thereof and the Guarantees endorsed thereon shall be substantially in the forms set forth in this Article, with such appropriate legends, insertions, omissions, substitutions and other variations as are required or permitted by this Indenture, and may have such letters, numbers or other marks of identification and such legends or endorsements placed thereon as may be required to comply with the rules of any securities exchange or as may, consistently herewith, be determined by the officers executing such Notes or Guarantees, as the case may be, as evidenced by their execution of the Notes.

The definitive Notes and the Guarantees to be endorsed thereon shall be printed, lithographed or engraved or produced by any combination of these methods on steel engraved borders or may be produced in any other manner all as determined by the officers executing such Notes, as evidenced by their execution of such Notes or Guarantees, as the case may be.

In certain cases described elsewhere herein, the legends set forth in the first three paragraphs of Section 2.2 may be omitted from Notes issued hereunder.

Notes offered and sold in their initial distribution in reliance on Regulation S will be initially issued in the form of one or more Global Notes in fully registered form without interest coupons, substantially in the form of Note set forth in Section 2.2 and 2.3 (the "Regulation S Global Note"), which shall be registered in the name of the Depositary or its nominee and deposited with the Trustee, at its Corporate Trust Office, as custodian for the Depositary, duly executed by the Issuer and the Guarantors and authenticated by the Trustee as hereinafter provided, for credit by the Depositary to the respective accounts of the beneficial owners of the Notes represented thereby (or such other accounts as they may direct).

Notes offered and sold in their initial distribution in reliance on Rule 144A shall be issued in the form of one or more Global Notes (collectively, and, together with their Successor Notes, the "Restricted Global Note") in fully registered form without interest coupons, substantially in the form of Note set forth in Section 2.2 and 2.3, with such applicable legends as are provided for in Section 2.2, except as otherwise permitted herein. Such Restricted Global Note shall be registered in the name of the Depositary or its nominee and deposited with the Trustee, at its Corporate Trust Office, as custodian for the Depositary, duly executed by the Issuer and the Guarantors and authenticated by the Trustee as hereinafter provided, for credit by the Depositary to the respective accounts of beneficial owners of the Notes represented thereby (or such other accounts as they may direct). The aggregate principal amount of the Restricted Global Note may be increased or decreased from time to time by adjustments made on the records of the Trustee, as custodian for the Depositary, in connection with a corresponding decrease or increase in the aggregate principal amount of the Regulation S Global Note, as hereinafter provided.

Section 2.2. Form of Face of Note.

[Include if Note is a Restricted Global Note — THIS NOTE (OR ITS PREDECESSOR) WAS ORIGINALLY ISSUED IN A TRANSACTION EXEMPT FROM REGISTRATION UNDER THE UNITED STATES SECURITIES ACT OF 1933, AS AMENDED, OR THE SECURITIES ACT, AND THIS NOTE MAY NOT BE REOFFERED, SOLD OR

OTHERWISE TRANSFERRED IN THE ABSENCE OF SUCH REGISTRATION OR AN APPLICABLE EXEMPTION THEREFROM. EACH PURCHASER OF THIS NOTE IS HEREBY NOTIFIED THAT THE SELLER OF THIS NOTE MAY BE RELYING ON THE EXEMPTION FROM THE PROVISIONS OF SECTION 5 OF THE SECURITIES ACT PROVIDED BY RULE 144A THEREUNDER. THE HOLDER OF THIS NOTE AGREES FOR THE BENEFIT OF THE ISSUER OR ANY SUBSIDIARY THAT (A) THIS NOTE MAY BE REOFFERED, RESOLD, PLEDGED OR OTHERWISE TRANSFERRED, ONLY (I) TO A PERSON WHOM THE SELLER REASONABLY BELIEVES IS A QUALIFIED INSTITUTIONAL BUYER (AS DEFINED IN RULE 144A UNDER THE SECURITIES ACT) IN A TRANSACTION MEETING THE REQUIREMENTS OF RULE 144A, (II) OUTSIDE THE UNITED STATES TO A PERSON THAT IS NOT A U.S. PERSON IN AN OFFSHORE TRANSACTION IN ACCORDANCE WITH RULE 904 UNDER THE SECURITIES ACT, (III) PURSUANT TO ANOTHER AVAILABLE EXEMPTION UNDER THE SECURITIES ACT, (IV) TO THE ISSUER OR ANY SUBSIDIARY OF THE ISSUER OR (V) PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT UNDER THE SECURITIES ACT, IN EACH OF CASES (I) THROUGH (V) IN ACCORDANCE WITH ANY APPLICABLE SECURITIES LAWS OF ANY STATE OF THE UNITED STATES; AND (B) THE HOLDER WILL, AND EACH SUBSEQUENT HOLDER IS REQUIRED TO, NOTIFY ANY PURCHASER OF THIS NOTE FROM IT OF THE RESALE RESTRICTIONS REFERRED TO IN (A) ABOVE. THIS LEGEND MAY ONLY BE REMOVED AT THE OPTION OF THE ISSUER.]

[Include if Note is a Regulation S Global Note — THIS NOTE (OR ITS PREDECESSOR) WAS ORIGINALLY ISSUED IN A TRANSACTION EXEMPT FROM REGISTRATION UNDER THE UNITED STATES SECURITIES ACT OF 1933, AS AMENDED, OR THE SECURITIES ACT, AND MAY NOT BE TRANSFERRED IN THE UNITED STATES OR TO, OR FOR THE ACCOUNT OR BENEFIT OF, ANY U.S. PERSON EXCEPT PURSUANT TO AN AVAILABLE EXEMPTION FROM THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT AND ALL APPLICABLE STATE SECURITIES LAWS. TERMS USED ABOVE HAVE THE MEANINGS GIVEN TO THEM IN REGULATION S UNDER THE SECURITIES ACT.]

NEXA RESOURCES S.A.
(organized under the laws of the Grand Duchy of Luxembourg)

[REGULATION S GLOBAL NOTE/RESTRICTED GLOBAL NOTE] [Delete as appropriate for either Regulation S Global Security or Restricted Global Security]
representing
U.S.$[   ]

6.500% NOTES DUE 2028
guaranteed by
NEXA RESOURCES CAJAMARQUILLA S.A.
NEXA RESOURCES PERU S.A.A.
and
NEXA RECURSOS MINERAIS S.A.

ISIN Number: [144A: US65290DAA19] [REG S: USL67359AA48]
CUSIP Number: [144A: 65290D AA1] [REG S: L67359 AA4]
Common Code: [144A: 219373309] [REG S: 219373368]
[Delete as appropriate for either Regulation S Global Security or Restricted Global Security]

Nexa Resources S.A., a validly organized public limited liability company validly organized under the laws of the Grand Duchy of Luxembourg having its registered office at 37A Avenue J.F. Kennedy, L-1855, Luxembourg, Grand Duchy of Luxembourg and registered with the *Registre de Commerce et des Sociétés* in Luxembourg under number B 185.489 (herein called the "Issuer," which term includes any successor Person under the Indenture hereinafter referred to), for value received, hereby promises to pay to Cede & Co. or its registered assigns, the principal sum of Dollars [*include if Note is a Global Note — (or such other Principal Sum as is noted in the records of the Custodian for the Depositary as being the Principal Amount of this Regulation S Global Note/Restricted Global Note for the time being*)] on January 18, 2028, and to pay interest thereon from June 18, 2020, or from the most recent Interest Payment Date to which interest has been paid or duly provided for, semi-annually on January 18 and June 18 in each year, commencing on January 18, 2021, at the rate of 6.500% per annum, until the principal hereof is paid or made available for payment. The interest so payable, and punctually paid or duly provided for, on any Interest Payment Date will, as provided in such Indenture, be paid to the Person in whose name this Note (or one or more Predecessor Notes) is registered at the close of business on the Regular Record Date for such interest, which shall be two calendar days prior to payment (whether or not a Business Day), as the case may be, next preceding such Interest Payment Date. Any such interest not so punctually paid or duly provided for will forthwith cease to be payable to the Holder on such Regular Record Date and may either be paid to the Person in whose name this Note (or one or more Predecessor Notes) is registered at the close of business on a Special Record Date for the payment of such Defaulted Interest to be fixed by the Trustee, notice whereof shall be given to Holders of Notes not less than 10 days prior to such Special Record Date, or be paid at any time in any other lawful manner not inconsistent with the requirements of any securities exchange on which the Notes may be listed, and upon such notice as may be required by such exchange, all as more fully provided in said Indenture. In addition, the Issuer will pay to the Holder of this Note such Additional Amounts as may become payable under Section 11.9 of the Indenture.

In the case of a default in payment of principal and premium, if any, upon acceleration or repayment, interest shall be payable pursuant to the preceding paragraph on such overdue principal (and premium, if any), such interest shall be payable on demand and, if not so paid on demand, such interest shall itself bear interest at the rate per annum stated above plus 1% (to the extent that the payment of such interest shall be legally enforceable), and shall accrue from the date such principal and/or premium, as the case may be, was due and payable to the date payment of such interest has been made or duly provided for, and such interest on unpaid interest shall also be payable on demand.

Payment of the principal of (and premium, if any) and interest on this Note will be made at the Corporate Trust Office of the Trustee, at the offices of a Paying Agent, at the office or agency of the Issuer maintained for that purpose in The City of New York, New York, and at any other office or agency maintained by the Issuer for such purpose, in such coin or currency of the United States as at the time of payment is legal tender for payment of public and private debts; provided, however, that at the option of the Issuer payment of interest may be made by check mailed to the address of the Person entitled thereto as such address shall appear in the Note Register.

Reference is hereby made to the further provisions of this Note set forth on the reverse hereof, which further provisions shall for all purposes have the same effect as if set forth at this place.

Unless the certificate of authentication hereon has been executed by the Trustee referred to on the reverse hereof by manual or electronic signature, this Note shall not be entitled to any benefit under the Indenture or be valid or obligatory for any purpose.

IN WITNESS WHEREOF, the Issuer has caused this instrument to be duly executed.

NEXA RESOURCES S.A.

By: ______________________________
Name:
Title:

By: ______________________________
Name:
Title:

Section 2.3. Form of Reverse of Note.

This Note is one of a duly authorized issue of Notes of the Issuer designated as its 6.500% Notes due 2028 (the "Notes") issued under an Indenture, dated as of June 18, 2020 (herein called the "Indenture"), among the Issuer, the Guarantors named therein, and The Bank of New York Mellon, a New York banking corporation, as trustee (the "Trustee"), as principal paying agent (the "Principal Paying Agent" and any other paying agents to be appointed hereunder, the "Paying Agents"), as transfer agent (the "Transfer Agent") and registrar (the "Registrar"). Reference is hereby made to the Indenture and all indentures supplemental thereto for a statement of the respective rights, limitations of rights, duties and immunities thereunder of the Issuer, the Guarantors, the Trustee, the Transfer Agent and the Notes are, and are to be, authenticated and delivered. Terms used but not defined in this Note are defined in the Indenture.

As provided in the Indenture and subject to certain limitations therein set forth, the obligations of the Issuer under the Indenture and this Note are guaranteed pursuant to the Guarantees set forth in the Indenture. Each Holder, by holding this Note, agrees to all of the terms and provisions of said Guarantees. Reference is hereby made to the Indenture for a statement of the respective rights, limitations of rights, duties and obligations thereunder of the Guarantors, the Trustee and the Holders.

The Issuer may from time to time, without the consent of the Holders of the Notes, create and issue Additional Notes having the same terms and conditions as the Notes in all respects, except that the issue date, the issue price and the first payment of interest thereon may differ; provided, however, that unless the Additional Notes are treated as part of the same "issue" of debt instruments as the original series or are issued pursuant to a "qualified reopening" of the original series, or are issued with no more than a *de minimis* amount of original issue discount, in each case for U.S. federal income tax purposes the additional notes will have a separate CUSIP, or ISIN number. Additional Notes shall be consolidated with and shall form a single series and vote together with the previously issued Notes for all purposes hereof.

If as a result of any Change of Law (as defined in the Indenture): (i) the Issuer or a Guarantor is or would be required on the next succeeding Interest Payment Date to pay any Additional Amounts referred to in Section 11.9 of the Indenture; or (ii) the issuers/borrowers of certain intercompany debt are or would be required on the next succeeding Interest Payment Date to pay Brazilian withholding taxes in excess of a general rate of 15%, or 25% in case of amounts paid to residents of countries which do not impose any income tax or which impose it at a maximum rate lower than 20% (or 17% if the relevant jurisdiction is committed to adopt international standards on tax transparency) or where the laws of that country or location impose restrictions on the disclosure of (x) shareholding composition; (y) the ownership of the investment; or (z) the beneficial ownership of income paid to non-resident persons, pursuant to Law No. 9,779, dated January 19, 1999; provided that, such requirement to pay such taxes in excess of such rate was not caused by, or otherwise the result of, whether directly or indirectly, wholly or in part, any amendment to the intercompany debt, and in either case, the payment of such excess amounts cannot be avoided by the use of any reasonable measures available to the Issuer or a Guarantor, the Notes may be repurchased, by the Issuer at the option of the Issuer or a Guarantor, in whole but not in part, upon not less than 30 nor more than 90 days' notice to the Holders, which notice will be published, at any time following such Change of Law at a repurchase price equal to the principal amount thereof, plus accrued and unpaid interest, if any, to the date fixed for repurchase.

The Issuer or a Guarantor will also pay to Holders of the Notes on the Redemption Date any Additional Amounts which are payable. Following such repurchase, the Notes will be cancelled, or remain Outstanding, at the Issuer's or a Guarantor's election. Prior to the delivery of any notice of repurchase in accordance with the foregoing, the Issuer or a Guarantor shall deliver to the Trustee and the Principal Paying Agent an Officer's Certificate stating that the Issuer or a Guarantor, as the case may be, is entitled to effect such repurchase based on an Opinion of Counsel or written advice of a qualified tax expert, that the Issuer or a Guarantor has or will, or there is a substantial probability that the Issuer or a Guarantor has or will, become obligated to pay such Additional Amounts as a result of such Change of Law. Such notice, once delivered by the Issuer or a Guarantor to the Trustee, will be irrevocable.

At any time before October 18, 2027 (which is the date that is three months prior to maturity of the notes (the "Par Call Date")), the Issuer or a Guarantor has the right to redeem the Notes, in whole or in part and from time to time, at a redemption price equal to the greater of (1) 100% of the principal amount of the Notes being redeemed and (2) the sum of the present values of the remaining scheduled payments of principal and interest on the Notes being redeemed that would be due if the Notes matured on the Par Call Date (inclusive of interest accrued to the redemption date), discounted to the Redemption Date on a semi-annual basis (assuming a 360-day year consisting of twelve 30-day months) at the Treasury Rate plus 50 basis points, and in the case of clause (1) only, accrued and unpaid interest on the principal amount of the Notes being redeemed to, but excluding, such Redemption Date.

At any time on or after the Par Call Date, the Issuer or a Guarantor has the right to redeem the Notes, in whole or in part and from time to time, at a redemption price equal to 100% of the principal amount of the Notes being redeemed plus accrued and unpaid interest on the principal amount of the Notes being redeemed to, but excluding, such Redemption Date.

The Issuer, any Guarantor or any of their respective Affiliates may at any time repurchase the Notes at any price in the open market or otherwise. The Issuer, any Guarantor or any of their respective Affiliates may hold or resell the Notes it purchases or may surrender them to the Trustee or an Agent for cancellation.

[Include if Note is a Regulation S Global Note — If the holder of a beneficial interest in this Regulation S Global Note at any time wishes to transfer such interest to a Person who wishes to take delivery thereof in the form of a beneficial interest in the Restricted Global Note, such transfer may be effected, subject to the rules and procedures of the Depositary, Euroclear and Clearstream, in each case to the extent applicable and as in effect from time to time, only in accordance with the terms of this paragraph. Upon receipt by the Trustee, as Registrar, of (A) written instructions given by or on behalf of the Depositary in accordance with the rules and procedures of the Depositary, Euroclear and Clearstream, in each case to the extent applicable and as in effect from time to time directing the Trustee to credit or cause to be credited to a specified Agent Member's account a beneficial interest in the Restricted Global Note in a specified principal amount and to cause to be debited from another specified Agent Member's account a beneficial interest in this Regulation S Global Note in an equal principal amount; and (B) a certificate in substantially the form set forth in Exhibit B to the Indenture signed by or on behalf of the Agent Member holding such beneficial interest in this Regulation S Global Note, the Trustee, as Registrar, shall reduce the principal amount of this Regulation S Global Note and increase the principal amount of the Restricted Global Note by such specified principal amount.]

[Include if Note is a Restricted Global Note — If the holder of a beneficial interest in this Restricted Global Note wishes at any time to transfer such interest to a Person who wishes to take delivery thereof in the form of a beneficial interest in the Regulation S Global Note, such transfer may be effected, subject to the rules and procedures of the Depositary, Euroclear and Clearstream, in each case to the extent applicable and as in effect from time to time, only in accordance with the terms of this paragraph. Upon receipt by the Trustee, as Registrar of:

(A) written instructions given by or on behalf of the Depositary in accordance with the rules and procedures of the Depositary, Euroclear and Clearstream, in each case to the extent applicable and as in effect from time to time directing the Trustee to credit or cause to be credited to a specified Agent Member's account a beneficial interest in the Regulation S Global Note in a specified principal amount and to cause to be debited from another specified Agent Member's account a beneficial interest in the Restricted Global Note in an equal principal amount; and

(B) a certificate in substantially the form set forth in Exhibit A of the Indenture signed by or on behalf of the Agent Member holding such beneficial interest in this Restricted Global Note,

the Trustee, as Registrar, shall reduce the principal amount of this Restricted Global Note, and increase the principal amount of the Regulation S Global Note by such specified principal amount.]

The Notes do not have the benefit of any sinking fund obligations.

In the event of redemption or purchase of this Note in part only, a new Note or Notes of like tenor for the unredeemed or unpurchased portion hereof will be issued in the name of the Holder hereof upon the cancellation hereof.

If an Event of Default shall occur and be continuing, the principal of all the Notes may be declared due and payable in the manner and with the effect provided in the Indenture.

The Indenture contains provisions for defeasance at any time of (i) the entire indebtedness of this Note, or (ii) certain restrictive covenants and Events of Default with respect to this Note, in each case upon compliance with certain conditions set forth therein.

Unless the context otherwise requires, the Notes shall constitute one series for all purposes under the Indenture, including without limitation, amendments, waivers or redemption.

The Indenture permits, with certain exceptions as therein provided, the amendment thereof and the modification of the rights and obligations of the Issuer and the Guarantors and the rights of the Holders of the Notes under the Indenture at any time by the Issuer and the Trustee with the consent of the Holders of a majority in aggregate principal amount of the Notes at the time Outstanding. The Indenture also contains provisions permitting the Holders of specified percentages in aggregate principal amount of the Notes at the time Outstanding, on behalf of the Holders of all the Notes, to waive compliance by the Issuer or the Guarantors with certain provisions of the Indenture and certain past defaults under the Indenture and their consequences.

Any such consent or waiver by the Holder of this Note shall be conclusive and binding upon such Holder and upon all future Holders of this Note and of any Note issued upon the registration of transfer hereof or in exchange herefor or in lieu hereof, whether or not notation of such consent or waiver is made upon this Note.

No reference herein to the Indenture and no provision of this Note or of the Indenture shall alter or impair the obligation of the Issuer, which is absolute and unconditional, to pay the principal of (and premium, if any) and interest on this Note at the times, place and rate, and in the coin or currency, herein prescribed.

As provided in the Indenture and subject to certain limitations therein set forth, the transfer of this Note is registrable in the Note Register, upon surrender of this Note for registration of transfer at the office or agency of the Issuer in the Borough of Manhattan, The City of New York, New York, or of any of the Transfer Agents duly endorsed by, or accompanied by a written instrument of transfer in form satisfactory to the Issuer duly executed by, the Holder hereof or his attorney duly authorized in writing, and thereupon one or more new Notes, of authorized denominations and like tenor and for the same aggregate principal amount, will be issued to the designated transferee or transferees.

The Notes are issuable only in registered form without coupons in minimum denominations of U.S.$200,000 and integral multiples of U.S.$1,000 in excess thereof. As provided in the Indenture and subject to certain limitations therein set forth, Notes are exchangeable for a like tenor and aggregate principal amount of Notes of a different authorized denomination, as requested by the Holder surrendering the same.

No service charge shall be made for any such registration of transfer or exchange, but the Issuer or the Trustee may require payment of a sum sufficient to cover any tax or other governmental charge payable in connection therewith.

Prior to due presentment of this Note for registration of transfer, the Issuer, the Trustee, the Transfer Agents and any agent of the Issuer or the Trustee may treat the Person in whose name this Note is registered as the owner hereof for all purposes, whether or not this Note be overdue, and none of the Issuer, the Trustee or any such agent shall be affected by notice to the contrary.

Interest on this Note shall be computed on the basis of a 360-day year of twelve 30-day months each and, in the case of an incomplete month, on the number of days elapsed based on a 30-day month.

All terms used in this Note which are defined in the Indenture shall have the meanings assigned to them in the Indenture.

THE INDENTURE, THIS NOTE AND THE GUARANTEES SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE LAWS OF THE STATE OF NEW YORK, without regard to conflicts of laws principles thereof. For the purposes of paragraph 2 of article 9 of the Brazilian Decree-Law No. 4,567, dated September 4, 1942, as amended, the Trustee shall be deemed the "proponent" of the transactions contemplated by the Indenture. Articles 84 through 94-8 of the Luxembourg law dated August 10, 1915 on commercial companies, as amended, which set the provisions related to the representation of the Holders of the Notes, are not applicable to the Notes or the Guarantees.

The Issuer and the Guarantors agree that any suit, action or proceeding against any of them brought by any Holder or the Trustee arising out of or based upon this Indenture, the Notes or the Guarantees may be instituted in any state or Federal court in The City of New York, New York, and waive any objection which any of them may now or hereafter have to the laying of venue of any such proceeding, and irrevocably submits to the non-exclusive jurisdiction of such courts in any suit, action or proceeding.

The Issuer may change any Paying Agent, the Registrar or Transfer Agent; provided that the Issuer will maintain an office or agency where the Notes may be presented or surrendered for payment and for registration of transfer in the Borough of Manhattan, The City of New York. Upon any such change, the Issuer shall give written notice thereof to the Trustee, the Principal Paying Agent and the Holders.

U.S. dollars are the sole currency of account and payment for all sums payable by the Issuer and the Guarantors under or in connection with the Notes, the Guarantees or the Indenture, including damages. The Issuer and the Guarantors have agreed that the provisions of Section 1.14 of the Indenture shall apply to conversion of currency in the case of the Notes, the Guarantees and the Indenture. Among other things, Section 1.14 specifies that if there is a change in the rate of exchange prevailing between the Business Day before the day on which a judgment is given or an order of enforcement is made, as the case may be (or such other date as a court shall determine), and the date of receipt of the amount due, the Issuer or the relevant Guarantor, as the case may be, will pay such additional (or, as the case may be, such lesser) amount, if any, as may be necessary so that the amount paid in the judgment currency when converted at the rate of exchange prevailing on the date of receipt will produce the amount in the Base Currency originally due.

Each of the Issuer and the Guarantors has appointed Cogency Global Inc., currently located at 122 East 42nd Street, 18th Floor, New York, NY 10168, as its authorized agent upon which process may be served in any suit, or proceeding with respect to, arising out of, or relating to, this Note, the Indenture or the Guarantees, that may be instituted in any Federal or state court in the State of New York, The City of New York, the Borough of Manhattan, or brought under Federal or state securities laws and has agreed that there shall, at all times, be at least one agent for service of process for the Issuer and the Guarantors appointed and acting in accordance with the provisions of Section 1.13 of the Indenture relating to agent for service of process. To the extent that the Issuer or the Guarantors has or hereafter may acquire any immunity from jurisdiction of any court or from any legal process (whether through service of notice, attachment prior to judgment, attachment in aid of execution, execution or otherwise) with respect to itself or its property, each of the Issuer and the Guarantors has irrevocably waived such immunity in respect of its obligations under the Indenture, this Note and the Guarantees, to the fullest extent permitted by law.

Section 2.4. Form of Trustee's Certificate of Authentication.

This is one of the Notes with the Guarantees referred to in the within-mentioned Indenture.

THE BANK OF NEW YORK MELLON *as Trustee*

By: ______________________________
Authorized Signatory

Dated: ____________________

Each of the Guarantors, jointly and severally, guarantees the due and punctual payment of all sums from time to time payable in respect of the Notes as set forth in the Indenture.

NEXA RESOURCES CAJAMARQUILLA S.A.

By: ______________________________
Name:
Title:

By: ______________________________
Name:
Title:

NEXA RESOURCES PERU S.A.A.

By: ______________________________
Name:
Title:

By: ______________________________
Name:
Title:

NEXA RECURSOS MINERAIS S.A.

By: ______________________________
Name:
Title:

By: ______________________________
Name:
Title:

ARTICLE III

THE NOTES

Section 3.1. Title and Terms.

On the Issue Date, the Trustee shall authenticate and deliver U.S.$500,000,000 aggregate principal amount of 6.500% Notes due 2028. The Issuer may from time to time, without the consent of the Holders of the Notes, create and issue Additional Notes having the same terms and conditions as the Notes in all respects, except that the issue date, the issue price and the first payment of interest thereon may differ; provided, however, that unless the Additional Notes are treated as part of the same "issue" of debt instruments as the original series or are issued pursuant to a "qualified reopening" of the original series, or are issued with no more than a *de minimis* amount of original issue discount, in each case for U.S. federal income tax purposes the additional notes will have a separate CUSIP, or ISIN number. Additional Notes shall be consolidated with and shall form a single series and vote together with the previously issued Notes for all purposes hereof.

The Notes shall be known and designated as the "6.500% Notes due 2028" of the Issuer. The Stated Maturity of the Notes shall be January 18, 2028. The Notes shall bear interest at the rate of 6.500% per annum, from June 18, 2020 or from the most recent Interest Payment Date thereafter to which interest has been paid or duly provided for, as the case may be, payable semiannually in arrears on January 18 and June 18, commencing January 18, 2021, until the principal thereof is paid or made available for payment.

In the case of a default in payment of principal and premium, if any, upon acceleration or redemption, interest (and Additional Amounts, if any) shall be payable pursuant to the second paragraph of this Section 3.1 on such overdue principal (and premium, if any), such interest shall be payable on demand and, if not so paid on demand, such interest shall itself bear interest at the rate per annum stated in the form of security contained herein plus 1% per annum (to the extent that the payment of such interest shall be legally enforceable), and shall accrue from the date such principal and/or premium, as the case may be, was due and payable to the date payment of such interest (and Additional Amounts, if any) has been made or duly provided for, and such interest on unpaid interest shall also be payable on demand.

The principal of and premium, if any, and interest on the Notes shall be payable at the Corporate Trust Office, the office of the Paying Agents and at any other office or agency maintained by the Issuer for such purpose; provided, however, that at the option of the Issuer upon five (5) Business Days' notice to the applicable Paying Agent, payment of interest may be made by check mailed to the address of the Person entitled thereto as such address shall appear in the Note Register.

The Notes shall be redeemable or repurchasable as provided in Article XI. The Notes shall not have the benefit of any sinking fund obligations.

The Notes shall be subject to defeasance at the option of the Issuer as provided in Article XII.

Unless the context otherwise requires, the Notes shall constitute one series for all purposes under this Indenture, including, without limitation, amendments, waivers or redemptions

Section 3.2. Denominations.

The Notes are issuable only in fully registered form, without coupons, in a minimum denomination of U.S.$200,000 and integral multiples of U.S.$1,000 in excess thereof.

Section 3.3. Execution, Authentication, Delivery and Dating.

The Notes shall be executed on behalf of the Issuer by an authorized signatory or authorized signatories of the Issuer. The signature of any signatory on the Notes may be manual, electronic or facsimile.

Notes bearing the manual, electronic or facsimile signatures of individuals who were at any time the proper officers of the Issuer shall bind the Issuer, notwithstanding that such individuals or any of them have ceased to hold such offices prior to the authentication and delivery of such Notes or did not hold such offices at the date of such Notes.

At any time and from time to time after the execution and delivery of this Indenture, the Issuer may deliver Notes executed by the Issuer and having endorsed (by attachment or imprint) thereon the Guarantees executed as provided in Section 14.2 by the Guarantors, to the Trustee for authentication, together with an Issuer Order for the authentication and delivery of such Notes; and the Trustee in accordance with such Issuer Order shall authenticate and deliver such Notes as in this Indenture provided and not otherwise.

Each Note shall be dated the date of its authentication.

No Note or Guarantee shall be entitled to any benefit under this Indenture or be valid or obligatory for any purpose unless there appears on such Note a certificate of authentication substantially in the form provided for herein executed by the Trustee by manual or electronic signature, and such certificate upon any Note shall be conclusive evidence, and the only evidence, that such Note has been duly authenticated and delivered hereunder and that the Guarantees referred to therein have been duly executed and delivered hereunder.

Section 3.4. Global Notes; Registration, Registration of Transfer and Exchange.

(a) *Global Notes*. The provisions of clauses (1) through (7) below shall apply only to Global Notes:

(1) each Global Note authenticated under this Indenture shall be registered in the name of the Depositary or a nominee thereof and delivered to the Depositary or a nominee thereof or custodian therefore, and each such Global Note shall constitute a single Note for all purposes of this Indenture;

(2) notwithstanding any other provision in this Indenture, no Global Note may be exchanged in whole or in part for Notes registered, and no transfer of a Global Note in whole or in part may be registered, in the name of any Person other than the Depositary or a nominee thereof unless (A) the Depositary (i) has notified the Issuer that it is unwilling or unable to continue as Depositary for such Global Note and the Issuer thereupon fails to appoint a successor Depositary or (ii) has ceased to be a clearing agency registered under the Exchange Act, (B) the Issuer, at its option, notifies the Trustee in writing that it elects to cause the issuance of the Notes in definitive registered certificated form, or (C) an Event of Default has occurred and is continuing and the Registrar has received a written request from a beneficial owner of the Notes through an Agent Member to issue its proportionate interest in the Global Note in certificated form;

(3) if any Global Note is to be exchanged for other Notes or cancelled in whole, it shall be surrendered by or on behalf of the Depositary or its nominee to the Trustee, as Registrar, for exchange or cancellation as provided in this Article III. If any Global Note is to be exchanged for other Notes or cancelled in part, or if another Note is to be exchanged in whole or in part for a beneficial interest in any Global Note, such Global Note shall be so surrendered for exchange or cancellation as provided in this Article III or, if the Trustee is acting as custodian for the Depositary or its nominee (or is party to a similar arrangement) with respect to such Global Note, the principal amount thereof shall be reduced or increased by an amount equal to the portion thereof to be so exchanged or cancelled, or the principal amount of such other Note to be so exchanged for a beneficial interest therein, as the case may be, in each case by means of an appropriate adjustment made on the records of the Trustee, whereupon the Trustee, in accordance with the Applicable Procedures, shall instruct the Depositary or its authorized representatives to make a corresponding adjustment to its records (including by crediting or debiting any Agent Member's account as necessary to reflect any transfer or exchange of a beneficial interest pursuant to Section 3.4(c)). Upon any such surrender or adjustment of a Global Note, the Trustee shall, subject to Section 3.4(a)(2) and as otherwise provided in this Article III, authenticate and deliver any Notes issuable in exchange for such Global Note (or any portion thereof) to or upon the order of, and registered in such names as may be directed by, the Depositary or its authorized representative. Upon the request of the Trustee in connection with the occurrence of any of the events specified in the preceding paragraph, the Issuer shall promptly make available to the Trustee a reasonable supply of Notes that are not in the form of Global Notes. The Trustee shall be entitled to conclusively rely upon any order, direction or request of the Depositary or its authorized representative which is given or made pursuant to this Article III if such order, direction or request is given or made in accordance with the Applicable Procedures;

(4) every Note authenticated and delivered upon registration of transfer of, or in exchange for or in lieu of, a Global Note or any portion thereof, whether pursuant to this Article III or Section 10.5 or otherwise, shall be authenticated and delivered in the form of, and shall be, a Global Note, unless such Note is registered in the name of a Person other than the Depositary or a nominee thereof;

(5) none of the Issuer, the Guarantors, the Trustee, any agent of the Trustee, any Paying Agent or the Registrar will have any responsibility or liability for any aspect of the Depositary's records (or the records of the participant of such Depositary) relating to or payments made on account of beneficial ownership interests of a Global Note or for maintaining, supervising or reviewing any records of the Depositary relating to such beneficial ownership interests;

(6) subject to the provisions in the legends required by Section 2.2 above, the registered Holder may grant proxies and otherwise authorize any Person, including Agent Members and Persons who may hold interests in Agent Members, to take any action that such Holder is entitled to take under this Indenture;

(7) except as provided in Section 3.4(a)(2) herein, neither Agent Members nor any other Person on whose behalf Agent Members may act shall have any rights under this Indenture with respect to any Global Note held on their behalf by the Depositary or under the Global Note, and the Depositary may be treated by the Issuer, the Trustee and any agent of the Issuer or the Trustee as the absolute owner of such Global Note for all purposes whatsoever. Notwithstanding the foregoing, nothing herein shall prevent the Issuer, the Guarantors, the Trustee or any agent of the Issuer or the Trustee from giving effect to any written certification, proxy or other authorization furnished by the Depositary or impair, as between the Depositary and its Agent Members, the operation of customary practices governing the exercise of the rights of a Holder of any Note.

(b) *Registration, Registration of Transfer and Exchange and Legends*. The Issuer shall cause to be kept at the Corporate Trust Office of the Trustee a register (the register maintained in such office and in any other office or agency designated pursuant to Section 11.2 being herein sometimes collectively referred to as the "Note Register") in which, subject to such reasonable regulations as they may prescribe, the Issuer shall provide for the registration of Notes and of transfers and exchanges of Notes. The Trustee is hereby appointed "Registrar" for the purpose of registering Notes and transfers and exchanges of Notes as herein provided.

Upon surrender for registration of transfer of any Note at an office or agency of the Issuer designated pursuant to Section 11.2 for such purpose in accordance with the terms hereof, the Issuer shall, subject to the other provisions of this Section 3.4, execute, and the Trustee shall, upon receipt of an Issuer Order, authenticate and deliver, in the name of the designated transferee or transferees, one or more new Notes of any authorized denominations and of a like tenor and aggregate principal amount and bearing the applicable legends set forth in Section 2.2.

Subject to Section 3.4(c), at the option of the Holder, Notes may be exchanged for other Notes of any authorized denominations and of a like tenor and aggregate principal amount and bearing the applicable legend set forth in Section 2.2, if any, each such new Note having the benefit of the Guarantees executed by the Guarantors, upon surrender of the Note to be exchanged at such office or agency. Whenever any Note is so surrendered for exchange, the Issuer shall execute, and the Trustee shall, upon receipt of an Issuer Order, authenticate and deliver, the Note which the Holder making the exchange is entitled to receive.

The Trustee shall have no obligation or duty to monitor, determine or inquire as to compliance with U.S. securities laws, including but not limited to any restrictions on transfer imposed under this Indenture or under applicable law with respect to any transfer of any interest in any Note (including any transfers between or among Agent Members or beneficial owners of interests in any Global Note) other than to require delivery of such certificates and other documentation or evidence as are expressly required by, and to do so if and when expressly required by the terms of, this Indenture, and to examine the same to determine substantial compliance solely as to form with the express requirements hereof. Neither the Trustee nor any Agent shall have any responsibility or liability for any actions taken or not taken by the Depositary.

All Notes and the Guarantees issued upon any registration of transfer or exchange of Notes shall be the valid obligations of the Issuer and the Guarantors, evidencing the same debt, and entitled to the same benefits under this Indenture, as the Notes and the Guarantees endorsed thereon, respectively, surrendered upon such registration of transfer or exchange.

Every Note presented or surrendered for registration of transfer or for exchange shall (if so required by the Issuer or the Trustee) be duly endorsed, or be accompanied by a written instrument of transfer in form satisfactory to the Issuer and the Registrar duly executed, by the Holder thereof or his attorney duly authorized in writing.

No service charge shall be made to the Holder for any registration of transfer or exchange of Notes, but the Issuer or the Trustee may require payment of a sum sufficient to cover any tax or other governmental charge that may be imposed in connection with any registration of transfer or exchange of Notes, other than exchanges pursuant to Section 3.4, 3.5 or 10.5.

The Issuer and the Registrar shall not be required (i) to issue, register the transfer of or exchange any Note during a period beginning at the opening of business 15 days before the due date for any payment of principal in respect of the Notes selected for redemption under Section 4.6 and ending at the close of business on the day of such mailing, or (ii) to register the transfer of or exchange any Note so selected for redemption in whole or in part, except the unredeemed portion of any Note being redeemed in part.

All Notes, initially issued hereunder shall, upon issuance, bear the relevant legends specified in Section 2.2, if any, to be applied to such a Note and, in the case of the legend specifically required for the Restricted Global Note, such required legend shall not be removed unless the Issuer shall have delivered to the Trustee (and the Notes Registrar, if other than the Trustee) an Issuer Order which states that such Note may be issued without such legend thereon. If such legend has been removed from a Note as provided above, no other Note issued in exchange for all or any part of such Note shall bear such legend, unless the Issuer has reasonable cause to believe that such other Note is a "restricted security" within the meaning of Rule 144 of the Notes Act and instructs the Trustee to cause a legend to appear thereon:

(c) *Certain Transfers and Exchanges*. Upon presentation for transfer or exchange of any Note at the office of the Trustee, as Registrar, located in The City of New York, accompanied by a written instrument of transfer or exchange in the form approved by the Issuer (it being understood that, until notice to the contrary is given to Holders of Notes, the Issuer shall be deemed to have approved the form of instrument of transfer or exchange, if any, printed on any Note), executed by the registered Holder, in person or by such Holder's attorney thereunto duly authorized in writing, and upon compliance with this Section 3.4, such Note shall be transferred upon the Note Register, and a new Note shall be authenticated and issued in the name of the transferee. Notwithstanding any provision to the contrary herein or in the Notes, transfers of a Global Note, in whole or in part, and transfers of interests therein of the kind described in this Section 3.4 (c), shall only be made in accordance with this Section 3.4(c). Transfers and exchanges subject to this Section 3.4(c) shall also be subject to the other provisions of this Indenture that are not inconsistent with this Section 3.4(c).

(1) *General*. A Global Note may not be transferred, in whole or in part, to any Person other than the Depositary or a nominee thereof, and no such transfer to any such other Person may be registered; provided, however, that this clause (1) shall not prohibit any transfer of a Note that is issued in exchange for a Global Note but is not itself a Global Note. No transfer of a Note to any Person shall be effective under this Indenture or the Notes unless and until such Note has been registered in the name of such Person. Nothing in this clause (1) shall prohibit or render ineffective any transfer of a beneficial interest in a Global Note effected in accordance with the other provisions of this Section 3.4(c).

(2) *Restricted Global Note to Regulation S Global Note*. If the holder of a beneficial interest in the Restricted Global Note wishes at any time to transfer such interest to a Person who wishes to take delivery thereof in the form of a beneficial interest in the Regulation S Global Note, such transfer may be effected, subject to the rules and procedures of the Depositary, Euroclear and Clearstream, in each case to the extent applicable and as in effect from time to time (the "Applicable Procedures"), only in accordance with this clause (2). Upon receipt by the Trustee, as Registrar, of (A) written instructions given by or on behalf of the Depositary in accordance with the Applicable Procedures directing the Trustee to credit or cause to be credited to a specified Agent Member's account a beneficial interest in the Regulation S Global Note in a specified principal amount and to cause to be debited from another specified Agent Member's account a beneficial interest in the Restricted Global Note in an equal principal amount and (B) a certificate in substantially the form set forth in Exhibit A signed by or on behalf of the Agent Member holding such beneficial interest in the Restricted Global Note, the Trustee, as Registrar, shall reduce the principal amount of a Restricted Global Note, and increase the principal amount of the Regulation S Global Note by such specified principal amount as provided in Section 3.4(a)(3).

(3) *Regulation S Global Note to Restricted Global Note*. If the holder of a beneficial interest in the Regulation S Global Note at any time wishes to transfer such interest to a Person who wishes to take delivery thereof in the form of a beneficial interest in the Restricted Global Note, such transfer may be effected, subject to the Applicable Procedures, only in accordance with this clause (3). Upon receipt by the Trustee, as Registrar, of (A) written instructions given by or on behalf of the Depositary in accordance with the Applicable Procedures directing the Trustee to credit or cause to be credited to a specified Agent Member's account a beneficial interest in the Restricted Global Note in a specified principal amount and to cause to be debited from another specified Agent Member's account a beneficial interest in the Regulation S Global Note and (B) a certificate in substantially the form set forth in Exhibit B signed by or on behalf of the Agent Member holding such beneficial interest in the Regulation S Global Note, the Trustee, as Registrar, shall reduce the principal amount of such Regulation S Global Note and increase the principal amount of the Restricted Global Note by such specified principal amount as provided in Section 3.4(a)(3).

(4) *Non-Global Restricted Note to Global Note*. If the holder of a Restricted Note (other than a Global Note) wishes at any time to transfer all or any portion of such Note to a Person who wishes to take delivery thereof in the form of a beneficial interest in the Restricted Global Note or the Regulation S Global Note, such transfer may be effected, subject to the Applicable Procedures, only in accordance with this clause (4). Upon receipt by the Trustee, as Registrar, of (A) such Note and written instructions given by or on behalf of such Holder as provided in Section 3.4(b) directing the Trustee to credit or cause to be credited to a specified Agent Member's account a beneficial interest in the Restricted Global Note or the Regulation S Global Note, as the case may be, in a specified principal amount equal to the principal amount of the Restricted Note (or portion thereof) to be so transferred, and (B) an appropriately completed certificate substantially in the form set forth in Exhibit C-1 hereto, if the specified account is to be credited with a beneficial interest in the Restricted Global Note, or Exhibit C-2 hereto, if the specified account is to be credited with a beneficial interest in the Regulation S Global Note, signed by or on behalf of such Holder, then the Trustee, as Registrar, shall cancel such Restricted Note (and issue a new Note in respect of any untransferred portion thereof) as provided in Section 3.4(b) and increase the principal amount of the Restricted Global Note or Regulation S Global Note, as the case may be, by the specified principal amount as provided in Section 3.4(a)(3).

(5) *Non-Global Regulation S Note to Restricted Global Note or Regulation S Global Note*. If the Holder of a Regulation S Note (other than a Global Note) wishes at any time to transfer all or any portion of such Note to a Person who wishes to take delivery thereof in the form of a beneficial interest in the Restricted Global Note or the Regulation S Global Note, as the case may be, such transfer may be effected only in accordance with this clause (5) and subject to the Applicable Procedures. Upon receipt by the Trustee, as Registrar, of (A) such Note and written instructions given by or on behalf of such Holder as provided in Section 3.4(b) directing the Trustee to credit or cause to be credited to a specified Agent Member's account a beneficial interest in the Restricted Global Note or the Regulation S Global Note, as the case may be, in a principal amount equal to the principal amount of the Note (or portion thereof) to be so transferred, and (B)(i) with respect to a transfer which is to be delivered in the form of a beneficial interest in the Restricted Global Note, a certificate in substantially the form set forth in Exhibit D-l, signed by or on behalf of such Holder, and (ii) with respect to a transfer which is to be delivered in the form of a beneficial interest in the Regulation S Global Note, a certificate in substantially the form set forth in Exhibit D-2, signed by or on behalf of such Holder, then the Trustee, as Registrar, shall cancel such Note (and issue a new Note in respect of any untransferred portion thereof) as provided in Section 3.4(b) and increase the principal amount of the Restricted Global Note or the Regulation S Global Note, as the case may be, by the specified principal as provided in Section 3.4(a)(3).

Section 3.5. Mutilated, Destroyed, Lost and Stolen Notes.

If any mutilated or defaced Note is surrendered to the Trustee, the Issuer shall execute and the Trustee shall, upon receipt of an Issuer Order, authenticate or cause to be authenticated and deliver in exchange therefore a new Note of like tenor and principal amount, having endorsed thereon the Guarantees executed by the Guarantors and bearing a number not contemporaneously outstanding.

If there shall be delivered to the Issuer and the Trustee (i) evidence to their satisfaction of the destruction, loss or theft of any Note and (ii) such security or indemnity as may be required by them to save each of them, the Guarantors and any agent of either of them harmless, then, in the absence of notice to the Issuer or the Trustee that such Note has been acquired by a bona fide purchaser, the Issuer shall execute and the Trustee shall, upon receipt of an Issuer Order, authenticate and deliver, in lieu of any such destroyed, lost or stolen Note, a new Note of like tenor and principal amount, having endorsed thereon the Guarantees executed by the Guarantors and bearing a number not contemporaneously outstanding.

In case any such mutilated, defaced, destroyed, lost or stolen Note has become or is about to become due and payable, the Issuer may in its discretion, instead of issuing a new Note, pay such Note.

Upon the issuance of any new Note under this Section, the Issuer may require the payment of a sum sufficient to cover any tax or other governmental charge that may be imposed in relation thereto and any other expenses (including the fees and expenses of the Trustee, its counsel, the Registrar and the Paying Agents) connected therewith.

Every new Note issued pursuant to this Section in lieu of any destroyed, defaced, lost or stolen Note, and the Guarantees endorsed thereon, shall constitute an original additional contractual obligation of the Issuer and the Guarantors, respectively, whether or not the destroyed, lost or stolen Note shall be at any time enforceable by anyone, and shall be entitled to all the benefits of this Indenture equally and proportionately with any and all other Notes and Guarantees, respectively duly issued hereunder.

The provisions of this Section are exclusive and shall preclude (to the extent lawful) all other rights and remedies with respect to the replacement or payment of mutilated, destroyed, lost or stolen Notes.

Section 3.6. Payment of Interest; Interest Rights Preserved.

Interest on any Note which is payable, and is punctually paid or duly provided for, on any Interest Payment Date shall be paid to the Person in whose name that Note (or one or more Predecessor Notes) is registered at the close of business on the Regular Record Date for such interest.

Any interest on any Note which is payable, but is not punctually paid or duly provided for, on any Interest Payment Date (herein called "Defaulted Interest") shall (a) bear interest at the rate per annum stated in the form of Note included herein, (to the extent that the payment of such interest shall be legally enforceable), and (b) forthwith cease to be payable to the Holder on the relevant Regular Record Date by virtue of having been such Holder, and such Defaulted Interest may be paid by the Issuer, at its election in each case, as provided in clause (1) or (2) below:

(1) the Issuer may elect to make payment of any Defaulted Interest to the Persons in whose names the Notes (or their respective Predecessor Notes) are registered at the close of business on a Special Record Date for the payment of such Defaulted Interest, which shall be fixed in the following manner. The Issuer shall notify the Trustee in writing of the amount of Defaulted Interest proposed to be paid on each Note and the date of the proposed payment, and at the same time the Issuer shall deposit with the Trustee an amount of money equal to the aggregate amount proposed to be paid in respect of such Defaulted Interest or shall make arrangements satisfactory to the Trustee for such deposit prior to the date of the proposed payment, such money when deposited to be held in trust for the benefit of the Persons entitled to such Defaulted Interest as in this clause provided.

Thereupon the Trustee shall fix a Special Record Date for the payment of such Defaulted Interest which shall be not more than 15 days and not less than 10 days prior to the date of the proposed payment and not less than 10 days after the receipt by the Trustee of the notice of the proposed payment. The Trustee shall promptly notify the Issuer of such Special Record Date and, in the name and at the expense of the Issuer, shall cause notice of the proposed payment of such Defaulted Interest and the Special Record Date therefore to be mailed, first- class postage prepaid, to each Holder at his address as it appears in the Note Register, not less than 10 days prior to such Special Record Date. Notice of the proposed payment of such Defaulted Interest and the Special Record Date therefore having been so mailed, such Defaulted Interest shall be paid to the Persons in whose names the Notes (or their respective Predecessor Notes) are registered at the close of business on such Special Record Date and shall no longer be payable pursuant to the following clause (2); and

(b) the Issuer may make payment of any Defaulted Interest in any other lawful manner not inconsistent with the requirements of any securities exchange on which the Notes may be listed, and upon such notice as may be required by such exchange, if, after notice given by the Issuer to the Trustee of the proposed payment pursuant to this clause, such manner of payment shall be deemed practicable by the Trustee.

Subject to the foregoing provisions of this Section, each Note delivered under this Indenture upon registration of transfer of or in exchange for or in lieu of any other Note shall carry the rights to interest accrued and unpaid, and to accrue, which were carried by such other Note.

Section 3.7. Persons Deemed Owners.

Prior to due presentment of a Note for registration of transfer and the effective registration of such transfer by the Registrar, the Issuer, the Guarantors, the Trustee and any agent of the Issuer, the Guarantors or the Trustee may treat the Person in whose name such Note is registered as the owner of such Note for the purpose of receiving payment of principal of and premium, if any, and (subject to Section 3.6) interest on such Note and for all other purposes whatsoever, whether or not such Note be overdue, and none of the Issuer, the Guarantors, the Trustee or any agent of the Issuer, the Guarantors or the Trustee shall be liable for so treating such Holder.

Section 3.8. Cancellation.

Except as provided for in Section 4.2 and 4.3, Notes surrendered for payment, redemption, registration of transfer or exchange shall, if surrendered to any Person other than the Trustee, be delivered to the Trustee and shall be promptly cancelled by it. The Issuer may at any time deliver to the Trustee for cancellation, accompanied by an Issuer Order, any Notes previously authenticated and delivered hereunder which the Issuer may have acquired in any manner whatsoever, and all Notes so delivered shall be promptly cancelled by the Trustee. No Notes shall be authenticated in lieu of or in exchange for any Notes cancelled as provided in this Section, except as expressly permitted by this Indenture. All cancelled Notes held by the Trustee shall be disposed of in accordance with its standard procedures or as directed by an Issuer Order; provided, however, that the Trustee shall not be required to destroy such Notes.

Section 3.9. Computation of Interest.

The amount of interest payable on the Notes for any interest period will be calculated by applying the rate of interest to the principal amount of such Note, on the basis of a year of 360 days consisting of 12 months of 30 days each and, in the case of an incomplete month, on the number of days elapsed based on a 30 day month provided, however, that Defaulted Interest shall be computed on the basis of a 365 or 366-day year, as the case may be, and the number of days actually elapsed.

Section 3.10. CUSIP Numbers.

The Issuer shall in issuing the Notes use CUSIP numbers, and the Trustee shall use the applicable CUSIP number in notices of redemption or exchange as a convenience to the Holders; provided, that any such notice may state that no representation is made as to the accuracy or correctness of the CUSIP number or numbers printed in the notice or on the certificates representing the Notes and that reliance may be placed only on the other identification numbers printed on the certificates representing the Notes. The Issuer shall promptly notify the Trustee in writing of any change in CUSIP numbers.

Section 3.11. Paying Agents; Discharge of Payment Obligations; Indemnity of Holders.

(a) The Issuer may from time to time appoint one or more paying agents under this Indenture and the Notes. By its execution and delivery of this Indenture, the Issuer hereby initially designates and appoints The Bank of New York Mellon, as Principal Paying Agent. Subject to Section 11.3, the Issuer or a Guarantor may act as paying agent.

(b) Unless the Issuer or a Guarantor shall be acting as paying agent as provided in Section 11.3, the Issuer shall, by 11:00 a.m. New York City time, no later than one Business Day prior to each Interest Payment Date, Redemption Date or Maturity Date on any Notes (whether on maturity, redemption or otherwise) (each, a "Payment Date"), deposit with the Principal Paying Agent in immediately available funds a sum sufficient to pay such principal, any premium, and interest when so becoming due (including any Additional Amounts). The Issuer shall request that the bank through which such payment is to be made agree to supply to the Principal Paying Agent in New York City by 11:00 a.m. (New York City time) two Business Days prior to the due date for any such payment an irrevocable confirmation (by authenticated SWIFT MT 100 Message) of its intention to make such payment. The Principal Paying Agent shall arrange with all other Paying Agents for the payment, from funds furnished by the Issuer or the Guarantors to the Principal Paying Agent pursuant to this Indenture, of the principal, and premium, if any, and interest (including Additional Amounts, if any) on the Notes and of the compensation of such Paying Agents for their services as such.

All Paying Agents will hold in trust, for the benefit of Holders or the Trustee, all money held by such Paying Agent for the payment of principal, or premium if any, of or interest on the Notes and shall notify the Trustee in writing of any default by the Issuer in making any such payment. The Issuer at any time may require a Paying Agent to pay all money held by it to the Trustee and to account for any funds disbursed by it. Upon complying with this Section 3.11 and the applicable provisions of Section 11.3, the Paying Agents shall have no further liability for the money delivered to the Trustee.

(c) Any payment to be made in respect of the Notes or the Guarantees by the Issuer or the Guarantors, as the case may be, to or to the order of any Paying Agent shall be in satisfaction *pro tanto* of the obligations of the Issuer under the Notes.

(d) Each payment in full of principal, redemption amount, Additional Amounts and/or interest payable under this Indenture in respect of any Note made by or on behalf of the Issuer to or to the order of any Paying Agent in the manner specified in this Indenture on the date due shall be valid and effective to satisfy and discharge the obligation of the Issuer to make payment of principal, redemption amount, Additional Amounts and/or interest payable under this Indenture on such date, provided, however, that the liability of any Paying Agent hereunder shall not exceed any amounts paid to it by the Issuer, or held by it, on behalf of the Holders under this Indenture; and provided further that, in the event that there is a default by the Paying Agent or the Principal Paying Agent in any payment of principal, redemption amount, Additional Amounts and/or interest in respect of any Note in accordance with this Indenture, the Issuer and the Guarantors shall pay on demand such further amounts as will result in receipt by the Holder of such amounts as would have been received by it had no such default. This obligation constitutes a separate and independent obligation from the other obligations of the Issuer under the Notes and the Guarantors under the Guarantees, shall give rise to a separate and independent cause of action, will apply irrespective of any waiver granted by the Trustee and/or any Holder of Notes and shall continue in full force and effect despite any judgment, order, claim, or proof for a liquidated amount in respect of any sum due under this Indenture, the Notes or any judgment or order.

ARTICLE IV

REDEMPTION OF NOTES

Section 4.1. Redemption for Tax Reasons.

If as a result of any Change of Law (as defined below):

(1) the Issuer or a Guarantor is or would be required on the next succeeding interest payment date to pay any Additional Amounts; or

(2) the issuers/borrowers of certain intercompany debt are or would be required on the next succeeding Interest Payment Date to pay Brazilian withholding taxes in excess of a general rate of 15%, or 25% in case of amounts paid to residents of countries which do not impose any income tax or which impose it at a maximum rate lower than 20% (or 17% if the relevant jurisdiction is committed to adopt international standards on tax transparency) or where the laws of that country or location impose restrictions on the disclosure of (x) shareholding composition; (y) the ownership of the investment; or (z) the beneficial ownership of income paid to non-resident persons, pursuant to Law No. 9,779, dated January 19, 1999; provided that, such requirement to pay such taxes in excess of such rate was not caused by, or otherwise the result of, whether directly or indirectly, wholly or in part, any amendment to the intercompany debt,

and in any such case the payment of such excess amounts cannot be avoided by the use of any reasonable measures available to the Issuer or a Guarantor, the Notes may be repurchased, by the Issuer at the option of the Issuer or a Guarantor, in whole but not in part, upon not less than 30 nor more than 90 days' notice to the Holders, which notice will be published, at any time following such Change of Law at a repurchase price equal to the principal amount thereof, plus accrued and unpaid interest, if any, to the date fixed for repurchase. The Issuer or a Guarantor will also pay to the Holders on the repurchase date any Additional Amounts which are payable. Following such repurchase, the Notes will be cancelled, or remain Outstanding, at the Issuer's or a Guarantor's election.

"Change of Law" means any change in or amendment to the laws or regulations of Luxembourg, Brazil or Peru (or of any political subdivision thereof or therein) or the adoption, amendment or modification of any resolution of the Central Bank of Luxembourg, the Central Bank of Brazil or the Central Reserve Bank of Peru (or any successor authority thereto) which becomes effective on or after the date of this Indenture (or with respect to a successor, on or after the date such successor assumes the obligations under the Notes), resulting in the Issuer or a Guarantor on a consolidated basis being required to pay amounts with respect to Taxes above in a total aggregate amount in excess of that payable immediately prior to such change or amendment.

Prior to the delivery of any notice of repurchase in accordance with the foregoing, the Issuer or a Guarantor shall deliver to the Trustee and the Principal Paying Agent an Officer's Certificate stating that the Issuer or a Guarantor, as the case may be, is entitled to effect such repurchase based on an Opinion of Counsel or written advice of a qualified tax expert, that the Issuer or a Guarantor has or will, or there is a substantial probability that the Issuer or a Guarantor has or will, become obligated to pay such excess amounts with respect to Taxes as a result of such Change of Law. Such notice, once delivered by the Issuer or a Guarantor to the Trustee, will be irrevocable.

If the Issuer or a Guarantor becomes subject at any time to any taxing jurisdiction other than Luxembourg, Brazil or Peru, references herein to Luxembourg, Brazil or Peru, as applicable, shall be construed to include such other jurisdiction.

Section 4.2. Optional Redemption.

At any time before October 18, 2027 (which is the date that is three months prior to maturity of the notes (the "Par Call Date")), the Issuer or a Guarantor has the right to redeem the Notes, in whole or in part and from time to time, at a redemption price equal to the greater of (1) 100% of the principal amount of the Notes being redeemed and (2) the sum of the present values of the remaining scheduled payments of principal and interest on the Notes being redeemed that would be due if the Notes matured on the Par Call Date (inclusive of interest accrued to the redemption date), discounted to the Redemption Date on a semi-annual basis (assuming a 360-day year consisting of twelve 30-day months) at the Treasury Rate plus 50 basis points, the case of clause (1) only, accrued and unpaid interest on the principal amount of the Notes being redeemed to, but excluding, such Redemption Date.

At any time on or after the Par Call Date, the Issuer or a Guarantor has the right to redeem the Notes, in whole or in part and from time to time, at a redemption price equal to 100% of the principal amount of the Notes being redeemed plus accrued and unpaid interest on the principal amount of the Notes being redeemed to, but excluding, such Redemption Date.

The Issuer, any Guarantor or any of their respective Affiliates may at any time repurchase the Notes at any price in the open market or otherwise. The Issuer, any Guarantor or any of their respective Affiliates may hold or resell the Notes it purchases or may surrender them to the Trustee or an Agent for cancellation.

Section 4.3. Applicability of Article.

Redemption of Notes at the election of the Issuer, as permitted or required by any provision of this Indenture, shall be made in accordance with such provision and this Article.

Section 4.4. Election to Redeem; Notice to Trustee, Registrar and Paying Agent.

In the case of any redemption of Notes prior to the expiration of any restriction on such redemption provided in the terms of such Notes or elsewhere in this Indenture, the Issuer shall furnish the Trustee with an Officer’s Certificate evidencing compliance with such restriction.

The Issuer shall provide notice of redemption to the Trustee, Registrar and Paying Agents at least 15 days (or such shorter period as agreed to by the Trustee) prior to when such notice of redemption shall be provided to the Holders.

Section 4.5. Notice of Redemption.

Notice of redemption pursuant to Section 4.1 and 4.2 hereof shall be given in the manner provided for in Section 1.6 hereof. The Trustee, Registrar and Paying Agent will notify the Holders at such Holder’s address appearing in the Note register at least 30 but not more than 60 days prior to the Redemption Date. A notice of any redemption may, at the Issuer’s or a Guarantor’s discretion, be subject to one or more conditions precedent.

All notices of redemption shall state:

(1) the Redemption Date;

(2) the Redemption Price;

(3) that on the Redemption Date, the Redemption Price will become due and payable upon each such Note to be redeemed and that interest thereon will cease to accrue on and after said date;

(4) the place or places where such Notes are to be surrendered for payment of the Redemption Price;

(5) the aggregate principal amount of Notes being redeemed;

(6) the CUSIP number or numbers of the Notes being redeemed;

(7) if fewer than all the outstanding Notes are to be redeemed, or if a Note is to be redeemed in part only, the identification and principal amounts at maturity of the particular Notes (or portion thereof) to be redeemed; and

(8) that no representation is made as to the correctness or accuracy of the CUSIP numbers, if any, listed in such notice or printed on the Notes.

Section 4.6. Deposit of Redemption Price.

By 11:00 a.m. (New York City time) on the Business Day prior to any Redemption Date, the Issuer or a Guarantor shall deposit with the Principal Paying Agent (or, if the Issuer is acting as its own Paying Agent, segregate and hold in trust as provided in Section 11.3) an amount of money sufficient to pay the Redemption Price on all of the Notes which are to be repurchased on that date. In the case of a partial redemption of Notes that are represented by a Global Note, the relevant Notes will be redeemed in accordance with the rules of DTC.

Section 4.7. Notes Payable on Redemption Date.

Notice of redemption having been given as aforesaid, the Notes so to be redeemed shall, on the Redemption Date, become due and payable at the Redemption Price therein specified, and from and after such date (unless the Issuer shall default in the payment of the Redemption Price and accrued and unpaid interest) such Notes shall cease to bear interest. Upon surrender of any such Note for redemption in accordance with said notice, such Note shall be paid by the Issuer at the Redemption Price, together with accrued and unpaid interest to the Redemption Date; provided, however, that installments of interest whose Maturity Date is on or prior to the Redemption Date shall be payable to the Holders of such Notes, or one or more Predecessor Notes, registered as such at the close of business on the relevant Record Dates according to their terms and the provisions of Section 3.7.

If any Note called for redemption shall not be so paid upon surrender thereof for redemption, the principal (and premium, if any) shall, until paid, bear interest from the Redemption Date at the rate provided by the Note.

ARTICLE V

SATISFACTION AND DISCHARGE

Section 5.1. Satisfaction and Discharge of Indenture.

This Indenture shall cease to be of further effect as to all Outstanding Notes, and the Trustee, on demand of and at the expense of the Issuer, shall execute proper instruments acknowledging satisfaction and discharge of this Indenture, when

(1) (A) all Outstanding Notes (except lost, stolen or destroyed Notes which have been replaced or paid) have been delivered to the Trustee for cancellation; or

(B) all Outstanding Notes that have not been delivered to the Trustee for cancellation (i) have become due and payable, (ii) will become due and payable at their Stated Maturity within one year, or (iii) are to be called for redemption within one year under arrangements satisfactory to the Trustee for the giving of notice of a redemption by the Issuer or a Guarantor; and, in each case, the Issuer or a Guarantor irrevocably deposits or causes to be deposited with the Trustee or its designee as funds in trust solely for the benefit of the Holders, cash, Cash Equivalents or U.S. Government Obligations in an amount as will be sufficient without consideration of any reinvestment of interest, to pay and discharge all principal, premium and Additional Amounts, if any, and accrued and unpaid interest to the date of maturity or redemption on the Notes not delivered to the Trustee for cancellation and delivers irrevocable instructions to the Trustee to apply the deposited money toward the payment of the Notes at maturity or the redemption date, as the case may be;

(2) the Issuer or a Guarantor has paid or caused to be paid all other sums payable hereunder;

(3) the Issuer or a Guarantor has delivered to the Trustee an Officer's Certificate and an Opinion of Counsel, each stating that all conditions precedent herein provided for relating to the satisfaction and discharge of this Indenture have been complied with; and

(4) the Trustee shall have received such other documents and assurances as the Trustee shall have reasonably requested.

Notwithstanding the satisfaction and discharge of this Indenture, (i) the obligations of the Issuer to the Trustee under Section 7.7 hereof, (ii) substitution of apparently mutilated, defaced, destroyed, lost or stolen Notes, (iii) rights of Holders of Notes to receive payment of principal of and premium, if any, and interest (including Additional Amounts, if any) on the Notes, (iv) rights, obligations and immunities of the Trustee under this Indenture (including, if money shall have been deposited with the Trustee pursuant to subclause (B) of clause (1) of this Section, the obligations of the Trustee under Section 5.2 hereof and the last paragraph of Section 11.3 hereof), and (v) rights of Holders of the Notes as beneficiaries of this Indenture with respect to any property deposited with the Trustee payable to all or any of them, shall survive.

Section 5.2. Application of Trust Money.

Subject to the provisions of the last paragraph of Section 11.3, all money deposited with the Trustee pursuant to Section 5.1 hereof shall be held in trust and applied by it, in accordance with the provisions of the Notes and this Indenture, to the payment, either directly or through any Paying Agent (including the Issuer or a Guarantor acting as its own Paying Agent) as the Trustee may determine, to the Persons entitled thereto, of the principal (and premium, if any) and interest for whose payment such money has been deposited with the Trustee.

ARTICLE VI

REMEDIES

Section 6.1. Events of Default.

"Event of Default," wherever used herein, means any one of the following events (whatever the reason for such Event of Default and whether it shall be voluntary or involuntary or be effected by operation of law or pursuant to any judgment, decree or order of any court or any order, rule or regulation of any administrative or governmental body):

(1) failure to pay any amount of principal of (or premium, if any) any Note when due;

(2) failure to pay any interest, including Additional Amounts, if any, on any Note when due and such failure shall continue for a period of 30 days;

(3) failure to perform any covenant or agreement of the Issuer or any Guarantor under this Indenture or the Notes and such failure remains unremedied for 60 days after the Trustee has given written notice thereof to the Issuer or any Guarantor;

(4) failure to pay when due or, as the case may be, within any originally applicable grace period, any amount of principal and premium, if any, or interest (including Additional Amounts, if any), due under the terms of any instrument evidencing Indebtedness of the Issuer or any of its Designated Subsidiaries, or any such Indebtedness of the Issuer or any of its Designated Subsidiaries that becomes due and payable prior to its stated maturity otherwise than at the option of the issuer thereof by reason of the occurrence of an event of default howsoever described; provided that the aggregate amount of any such Indebtedness equals with respect to such Person, on a consolidated basis U.S.$100.0 million or more (or its equivalent in other currency or currencies);

(5) the rendering of a final judgment or judgments (not subject to appeal) for the payment of money against the Issuer or any of its Designated Subsidiaries which remains undischarged, unbonded or unstayed (and otherwise not covered by enforceable insurance policies issued by reputable and creditworthy insurance companies) for a period of 60 consecutive days after the date on which the right to appeal all such judgments has expired or, if later, the date therein specified for payment; provided that the aggregate amount of any such final judgment equals or exceeds with respect to such Person, on a consolidated basis U.S.$100.0 million (or its equivalent in other currency or currencies);

(6) all or substantially all of the assets of the Issuer (on a consolidated basis) shall be condemned, seized or otherwise appropriated, or custody of such property shall be assumed by any governmental authority or court or other person purporting to act under the authority of the federal government of any jurisdiction, or the Issuer shall be prevented from exercising normal control over all or substantially all of its property or revenues (on a consolidated basis), if the whole or part of such property or revenues is material to the Issuer (on a consolidated basis);

(7) (a) a secured party takes possession of all or substantially all the assets or revenues of the Issuer (on a consolidated basis) or (b) a receiver or similar officer is appointed, of all or substantially all the assets or revenues of the Issuer (on a consolidated basis);

(8) the Issuer or any Guarantor pursuant to or under or within the meaning of any Bankruptcy Law (a) commences a voluntary case or proceeding; (b) consents to the making of a Bankruptcy Order in an involuntary case or proceeding or the commencement of any case against it; (c) consents to the appointment of a custodian of it or for substantially all its property; (d) makes a general assignment for the benefit of its creditors; (e) files an answer or consent seeking reorganization or relief; (f) shall admit in writing its inability to pay its debts generally; or (g) consents to the filing of a petition in bankruptcy;

(9) a court of competent jurisdiction in any involuntary case or proceeding enters a Bankruptcy Order against the Issuer or any Guarantor, and such Bankruptcy Order remains unstayed and in effect for 60 consecutive days; and

(10) any of the Guarantees is not (or is claimed by any Guarantor not to be) in full force and effect.

If any Event of Default (other than an Event of Default described in clause (8) with respect to the Issuer or Nexa Peru) shall occur and be continuing, either (i) the Trustee or (ii) the Holders, with written notice to the Trustee, of at least 25% in aggregate principal amount of the Outstanding Notes may accelerate the maturity of all Notes; provided that, after such acceleration, but before a judgment or decree based on acceleration, the Holders of a majority in aggregate principal amount of Outstanding Notes may, as provided in Section 6.12, rescind and annul such acceleration if all Events of Default, other than the nonpayment of accelerated principal, have been cured or waived as provided in this Indenture. The Trustee shall not be deemed to have notice of any Default or Event of Default (other than a payment default) unless a Responsible Officer of the Trustee has actual knowledge thereof or unless written notice of any event which is in fact such a default is received by a Responsible Officer of the Trustee at the Corporate Trust Office of the Trustee, and such notice references the Notes and this Indenture. If an Event of Default specified in clause (8) above occurs with respect to the Issuer or Nexa Peru, the Outstanding Notes will *ipso facto* become immediately due and payable without any declaration or other act on the part of the Trustee or any Holder.

Section 6.2. Collection of Indebtedness and Suits for Enforcement by Trustee. The Issuer and the Guarantors covenant that if

(1) default is made in the payment of any interest on any Note, (including Additional Amounts, if any), when such amounts become due and payable and such default continues for a period of 30 days; or

(2) default is made in the payment of the principal of (or premium, if any, on) any Note at the Maturity thereof or, with respect to any Note to be redeemed, at the Redemption Date thereof,

the Issuer and the Guarantors (subject to the limitations provided in this Indenture) will, jointly and severally, upon demand of the Trustee, pay to it, for the benefit of the Holders of such Notes, the whole amount then due and payable on such Notes for principal (and premium, if any) and interest (including Additional Amounts, if any), and, to the extent that payment of interest on overdue amounts shall be legally enforceable, interest on any overdue principal (and premium, if any) and on any overdue interest, at the rate provided by the Notes, and, in addition thereto, such further amount as shall be sufficient to cover the costs and expenses incurred by the Trustee under this Indenture, including the reasonable compensation, expenses, disbursements and advances of the Trustee, its agents and counsel.

If the Issuer and the Guarantors fail to pay such amounts forthwith upon such demand, the Trustee, in its own name and as trustee of an express trust, may institute a judicial proceeding for the collection of the sums so due and unpaid, may prosecute such proceeding to judgment or final decree, and may enforce the same against the Issuer, the Guarantors or any other obligor upon the Notes and collect the moneys adjudged or decreed to be payable in the manner provided by law out of the property of the Issuer, the Guarantors or any other obligor upon the Notes, wherever situated.

If an Event of Default occurs and is continuing, the Trustee may in its discretion proceed to protect and enforce its rights and the rights under this Indenture of the Holders by such appropriate judicial proceedings as the Trustee shall deem most effective to protect and enforce any such rights, whether for the specific enforcement of any covenant or agreement in this Indenture or in aid of the exercise of any power granted herein including, without limitation, seeking recourse against the Issuer or the Guarantors or proceeding to enforce any other proper remedy.

Section 6.3. Trustee May File Proofs of Claim.

The Trustee may file such proofs of claim and other papers or documents as may be necessary or advisable in order to have the claims of the Trustee and the Holders allowed in any judicial proceedings relative to the Issuer, the Guarantors, their respective creditors or its property and, unless prohibited by law or applicable regulations, may vote on behalf of the Holders at their direction in any election of a trustee in bankruptcy or other Person performing similar functions, and any custodian in any such judicial proceeding is hereby authorized by each Holder to make payments to the Trustee and, in the event that the Trustee shall consent to the making of such payments directly to the Holders, to pay to the Trustee any amount due it for the reasonable compensation, expenses, disbursements and advances of the Trustee, its agents and its counsel, and any other amounts due the Trustee under Section 7.7.

Section 6.4. Trustee May Enforce Claims Without Possession of Notes.

All rights of action and claims under this Indenture or the Notes may be prosecuted and enforced by the Trustee without the possession of any of the Notes or the production thereof in any proceeding relating thereto, and any such proceeding instituted by the Trustee shall be brought in its own name as trustee of an express trust, and any recovery of judgment shall, after provision for the payment of the reasonable compensation, expenses, disbursements and advances of the Trustee, its agents and counsel, be for the ratable benefit of the Holders of the Notes in respect of which such judgment has been recovered.

Section 6.5. Application of Money Collected.

Any money collected by the Trustee pursuant to this Article shall be applied in the following order, at the date or dates fixed by the Trustee and, in case of the distribution of such money on account of principal (or premium, if any) or interest, upon presentation of the Notes and the notation thereon of the payment if only partially paid and upon surrender thereof if fully paid;

FIRST: To the payment of all amounts due to the Trustee and the Agents under this Indenture; and

SECOND: To the payment of the amounts then due and unpaid for principal of (and premium, if any) and interest on the Notes in respect of which or for the benefit of which such money has been collected, ratably, without preference or priority of any kind, according to the amounts due and payable on such Notes for principal (and premium, if any) and interest, respectively.

The Trustee, upon prior written notice to the Issuer, may fix a record date and payment date for any payment to the Holders pursuant to this Section 6.5.

Section 6.6. Limitation on Suits.

No Holder of any Note shall have any right to institute any proceeding, judicial or otherwise, with respect to this Indenture, or for the appointment of a receiver or trustee, or for any other remedy hereunder, unless:

(1) such Holder shall have previously given written notice to the Trustee of a continuing Event of Default;

(2) the Holders of at least 25% in aggregate principal amount of the Outstanding Notes shall have made written request to the Trustee to institute proceedings in respect of such Event of Default in its own name as Trustee hereunder and shall have offered to the Trustee indemnity and/or security reasonably satisfactory to the Trustee against the costs, expenses and liabilities to be incurred in compliance with such request;

(3) the Trustee for 60 days after its receipt of such notice, request and offer shall have failed to institute any such proceeding; and

(4) no direction inconsistent with such written request shall have been given to the Trustee during such 60-day period by the Holders of a majority in principal amount of the Outstanding Notes;

it being understood and intended that no one or more Holders shall have any right in any manner whatever by virtue of, or by availing of, any provision of this Indenture or any Note or the Guarantees to affect, disturb or prejudice the rights of any other Holders, or to obtain or to seek to obtain priority or preference over any other Holders or to enforce any right under this Indenture (it being understood that the Trustee does not have an affirmative duty to ascertain whether or not such actions or forbearances are unduly prejudicial to such Holders), any Note or the Guarantees, except in the manner herein provided and for the equal and ratable benefit of all the Holders.

Section 6.7. Unconditional Right of Holders to Receive Principal, Premium and Interest.

Notwithstanding any other provision in this Indenture, the Notes or the Guarantees, the Holder of any Note shall have the right, which is absolute and unconditional, to receive payment of the principal of (and premium, if any) and (subject to Section 3.6) interest on such Note on the respective Stated Maturities expressed in such Note (or earlier Redemption Date) and to institute suit for the enforcement of any such payment, and such rights shall not be impaired without the consent of such Holder.

Section 6.8. Restoration of Rights and Remedies.

If the Trustee or any Holder has instituted any proceeding to enforce any right or remedy under this Indenture, any Note or the Guarantees, and such proceeding has been discontinued or abandoned for any reason, or has been determined adversely to the Trustee or to such Holder, then and in every such case, subject to any determination in such proceeding, the Issuer, the Guarantor, the Trustee and the Holders shall be restored severally and respectively to their former positions hereunder and thereafter all rights and remedies of the Trustee and the Holders shall continue as though no such proceeding had been instituted.

Section 6.9. Rights and Remedies Cumulative.

Except as otherwise provided with respect to the replacement or payment of mutilated, destroyed, lost or stolen Notes in the last paragraph of Section 3.5 hereof, no right or remedy herein conferred upon or reserved to the Trustee or to the Holders is intended to be exclusive of any other right or remedy, and every right and remedy shall, to the extent permitted by law, be cumulative and in addition to every other right and remedy given hereunder or now or hereafter existing at law or in equity or otherwise. The assertion or employment of any right or remedy hereunder, or otherwise, shall not prevent the concurrent assertion or employment of any other appropriate right or remedy.

Section 6.10. Delay or Omission Not Waiver.

No delay or omission of the Trustee or of any Holder of any Note to exercise any right or remedy accruing upon any Event of Default shall impair any such right or remedy or constitute a waiver of any such Event of Default or an acquiescence therein. Every right and remedy given by this Article or by law to the Trustee or to the Holders may be exercised from time to time, and as often as may be deemed expedient, by the Trustee or by the Holders, as the case may be.

Section 6.11. Control by Holders.

The Holders of a majority of the aggregate principal amount of the Outstanding Notes shall have the right to direct the time, method and place of conducting any proceeding for any remedy available to the Trustee or exercising any trust or power conferred on the Trustee, provided that:

(1) such direction shall not be in conflict with any rule of law or with this Indenture or expose the Trustee to personal liability (as determined in the sole discretion of the Trustee); and

(2) the Trustee may take any other action deemed proper by the Trustee which is not inconsistent with such direction.

The Trustee may refuse, however, to follow any direction that the Trustee, in its sole discretion, determines may be unduly prejudicial to the rights of the Holders or that may subject the Trustee to any liability, loss or expense if the Trustee determines, in its sole discretion, that it lacks satisfactory indemnification and/or security against such liability, loss or expense.

Section 6.12. Waiver of Past Defaults.

The Holders of not less than a majority in aggregate principal amount of the Outstanding Notes may by written notice to the Issuer and the Trustee waive any past default hereunder and rescind and annul any declaration of acceleration and its consequences, except a default:

(1) in the payment of the principal of (or premium, if any) or interest on any Note; or

(2) in respect of a covenant or provision hereof which under Article X cannot be modified or amended without the consent of the Holder of each Outstanding Note affected.

Upon any such waiver, such default shall cease to exist, and any Event of Default arising therefrom shall be deemed to have been cured, for every purpose of this Indenture; but no such waiver shall extend to any subsequent or other default or impair any right consequent thereon.

Section 6.13. Undertaking for Costs.

In any suit for the enforcement of any right or remedy under this Indenture or in any suit against the Trustee for any action taken or omitted by it as a Trustee, a court in its discretion may require the filing by any party litigant in the suit of an undertaking to pay the costs of the suit, and the court in its discretion may assess reasonable costs, including reasonable attorney's fees and expenses, against any party litigant in the suit, having due regard to the merits and good faith of the claims or defenses made by the party litigant. This Section 6.13 does not apply to a suit by the Trustee, a suit by a Holder pursuant to Section 6.7 hereof, or a suit by Holders of more than 10% in principal amount of the then Outstanding Notes.

ARTICLE VII

THE TRUSTEE

Section 7.1. Certain Duties and Responsibilities.

(a) Except during the continuance of an Event of Default,

(1) the Trustee undertakes to perform solely such duties and only such duties as are specifically set forth in this Indenture, and Trustee shall not be liable except for the performance of such duties; and no implied covenants or obligations shall be read into this Indenture against the Trustee; and

(2) in the absence of gross negligence on its part, the Trustee may conclusively rely, as to the truth of the statements and the correctness of the opinions expressed therein, upon certificates or opinions furnished to the Trustee and conforming to the requirements of this Indenture; but in the case of any such certificates or opinions which by any provision hereof are specifically required to be furnished to the Trustee, the Trustee shall be under a duty to examine the same to determine whether or not they conform to the form requirements of this Indenture (but need not confirm or investigate the accuracy of mathematical calculations or other facts stated therein).

(b) In case an Event of Default has occurred and is continuing, the Trustee shall exercise such of the rights and powers vested in it by this Indenture, and use the same degree of care and skill in their exercise, as a prudent person would exercise or use under the circumstances in the conduct of such person's own affairs.

(c) No provision of this Indenture shall be construed to relieve the Trustee from liability for its own grossly negligent action or its own willful misconduct, *except* that:

(1) this Subsection shall not be construed to limit the effect of Subsection (a) of this Section;

(2) the Trustee shall not be liable for any error of judgment made in good faith by a Responsible Officer or Officers of the Trustee, unless it shall be proved that the Trustee was grossly negligent in ascertaining the pertinent facts;

(3) the Trustee shall not be liable with respect to any action taken or omitted to be taken by it in good faith in accordance with the direction of the Holders of a majority in principal amount of the Outstanding Note of any series, determined as provided in Section 6.2, relating to the time, method and place of conducting any proceeding for any remedy available to the Trustee, or exercising any trust or power conferred upon the Trustee, under this Indenture with respect to the Note;

(4) no provision of this Indenture shall require the Trustee to expend or risk its own funds or otherwise incur any financial liability in the performance of any of its duties hereunder, or in the exercise of any of its rights or powers, if it shall have reasonable grounds for believing that repayment of such funds or adequate indemnity and/or security against such risk or liability is not reasonably assured to it;

(5) the Trustee shall not be liable in respect of any payment (as to the correctness of amount, entitlement to receive or any other matters relating to payment) or notice effected by the Issuer or any Paying Agent or any records maintained by any co-Note Registrar with respect to the Notes;

(6) if any party fails to deliver a notice relating to an event the fact of which, pursuant to this Indenture, requires notice to be sent to the Trustee, the Trustee may conclusively rely on its failure to receive such notice as reason to act as if no such event occurred, unless a Responsible Officer of the Trustee had actual knowledge of such event;

(7) the delivery of any information to the Trustee under this Indenture, including but not limited to any Rule 144A information, or reports to the Trustee is for informational purposes only and the receipt of such information or reports by the Trustee shall not constitute constructive notice of any information contained therein;

(8) in the absence of written investment direction from the Issuer, all cash received by the Trustee shall be placed in a non-interest bearing trust account, and in no event shall the Trustee be liable for the selection of investments or for investment losses incurred thereon or for losses incurred as a result of the liquidation of any such investment prior to its maturity date or the failure of the party directing such investments prior to its maturity date or the failure of the party directing such investment to provide timely written investment direction, and the Trustee shall have no obligation to invest or reinvest any amounts held hereunder in the absence of such written investment direction from the Issuer;

(9) in the event that the Trustee is also acting as custodian, Registrar, Paying Agent, exchange agent, bid solicitation agent or transfer agent hereunder, the rights and protections afforded to the Trustee pursuant to this Article VII shall also be afforded to such custodian, Registrar, Paying Agent, exchange agent, bid solicitation agent or transfer agent;

(10) any application by the Trustee for written instructions from the Issuer (other than with regard to any action proposed to be taken or omitted to be taken by the Trustee that affects the rights of the Holders of the Notes under this Indenture) may, at the option of the Trustee, set forth in writing any action proposed to be taken or omitted by the Trustee under this Indenture and the date on and/or after which such action shall be taken or such omission shall be effective. The Trustee shall not be liable to the Issuer for any action taken by, or omission of, the Trustee in accordance with a proposal included in such application on or after the date specified in such application (which date shall not be less than three Business Days after the date any officer that the Issuer has indicated to the Trustee should receive such application actually receives such application, unless any such officer shall have consented in writing to any earlier date), unless, prior to taking any such action (or the effective date in the case of any omission), the Trustee shall have received written instructions in accordance with this Indenture in response to such application specifying the action to be taken or omitted.

(d) Whether or not therein expressly so provided, every provision of this Indenture relating to the conduct or affecting the liability of or affording protection to the Trustee shall be subject to the provisions of this Section.

Section 7.2. Notice of Defaults.

The Trustee shall give the Holders notice of any Default ("Notice of Default") that has occurred and is continuing and of which a Responsible Officer of the Trustee has actual knowledge, within 90 days after the occurrence of such Default (but not less than 15 days after knowledge thereof). The Trustee may withhold from Holders notice of any continuing Default or Event of Default (except a Default or Event of Default relating to the payment of principal, premium, if any, or interest on, the Notes) if it determines that withholding such notice is in their interest; provided that, in the case of a default of a character specified in Section 6.1(4), no such notice to Holders shall be given until at least 30 days after the occurrence thereof.

Section 7.3. Certain Rights of Trustee and the Agents.

Subject to the provisions of Section 7.1:

(a) the Trustee and the Agents may rely conclusively and shall be protected in acting or refraining from acting upon any resolution, certificate, statement, instrument, opinion, report, notice, request, direction, consent, order, bond, debenture, note, other evidence of indebtedness or other paper or document believed by it to be genuine and to have been signed or presented by the proper party or parties;

(b) any request or direction of the Issuer mentioned herein shall be sufficiently evidenced by an Issuer Request or an Issuer Order and any resolution of the Board of Directors of the Issuer may be sufficiently evidenced by a Board Resolution;

(c) whenever in the administration of this Indenture the Trustee or an Agent shall deem it desirable that a matter be proved or established prior to taking, suffering or omitting any action hereunder, the Trustee or such Agent, as the case may be, (unless other evidence be herein specifically prescribed) may, in the absence of gross negligence on its part, rely upon an Officer's Certificate or an Opinion of Counsel;

(d) the Trustee or the Agents may consult with counsel of its selection, at the expense of the Issuer, and the advice of such counsel or any Opinion of Counsel shall be full and complete authorization and protection in respect of any action taken, suffered or omitted by it hereunder in good faith and in reliance thereon;

(e) the Trustee and each Agent shall be under no obligation to exercise any of the rights or powers vested in it by this Indenture at the request or direction of any of the Holders pursuant to this Indenture, unless such Holders shall have offered to the Trustee or such Agent, as applicable, security and/or indemnity satisfactory to it against the costs, expenses and liabilities which might be incurred by it in compliance with such request or direction satisfactory to the Trustee or such Agent, as applicable;

(f) neither the Trustee nor any Agent shall be bound to make any investigation into the facts or matters stated in any resolution, certificate, statement, instrument, report, opinion, notice, request, direction, consent, order, bond, debenture, note, other evidence of indebtedness or other paper or document, but the Trustee and each Agent, in its discretion, may make such further inquiry or investigation into such facts or matters as it may see fit, and, if the Trustee or an Agent shall determine to make such further inquiry or investigation, it shall be entitled to examine the books, records and premises of the Issuer and the Guarantor, personally or by agent or attorney at the sole cost of the Issuer and shall incur no liability or additional liability of any kind by reason of such inquiry or investigation;

(g) the Trustee and each Agent may execute any of the trusts or powers hereunder or perform any duties hereunder either directly or by or through agents or attorneys and the Trustee and each Agent shall not be responsible for any misconduct or negligence on the part, or for the supervision of, any agent or attorney appointed with due care by it hereunder;

(h) neither the Trustee nor any Agent shall be liable for any action taken, suffered or omitted by it in good faith which the Trustee or such Agent, as applicable, believed to have been authorized or within its rights or powers;

(i) neither the Trustee nor any Agent shall be charged with knowledge of any default or Event of Default with respect to the Notes, unless either (1) a Responsible Officer shall have actual knowledge of such default or Event of Default, or (2) written notice of such default or Event of Default shall have been received by a Responsible Officer of the Trustee by the Issuer, the Guarantor or by any Holder of the Notes;

(j) in no event shall the Trustee or any Agent be responsible or liable for special, indirect, punitive or consequential loss or damage of any kind whatsoever (including, but not limited to, loss of profit) irrespective of whether the Trustee or such Agent has been advised of the likelihood of such loss or damage and regardless of the form of action;

(k) the rights, privileges, protections, immunities and benefits given to the Trustee and the Agents, including, without limitation, its right to be indemnified, are extended to, and shall be enforceable by, the Trustee and the Agents in each of their capacities hereunder, and each agent, custodian and other Person employed to act hereunder;

(l) neither the Trustee nor the Agents shall be required to give any bond or surety in respect of the performance of its powers and duties hereunder;

(m) the Trustee and the Agents may request that the Issuer deliver a certificate setting forth the names of individuals and/or titles of officers authorized at such time to take specified actions pursuant to this Indenture; and

(n) the permissive rights of the Trustee enumerated herein shall not be construed as duties.

Section 7.4. Not Responsible for Recitals or Issuance of Notes.

The recitals contained herein, in the Notes and in the Guarantees endorsed thereon, except the Trustee's certificates of authentication, shall be taken as the statements of the Issuer or the Guarantors, as the case may be, and the Trustee assumes no responsibility for their correctness. The Trustee makes no representations as to the validity or sufficiency of this Indenture or the Notes. The Trustee shall not be accountable for the use or application by the Issuer of Notes or the proceeds thereof.

Section 7.5. May Hold Notes.

The Trustee, any Paying Agent or Transfer Agent, any Registrar (if other than the Trustee) or any other agent of the Issuer or the Guarantors, in its individual or any other capacity, may become the owner or pledgee of Notes and, subject to Section 7.8 and 7.12, may otherwise deal with the Issuer and the Guarantors with the same rights it would have if it were not Trustee, Paying Agent, Transfer Agent, Registrar or such other agent.

Section 7.6. Money Held in Trust.

All moneys received by the Trustee or any Paying Agent shall, until used or applied as herein provided, be held in trust for the purposes for which they were received, and need not be segregated from other funds of the Trustee or Paying Agent, except as otherwise required by law. Neither the Trustee nor any Paying Agent shall be under any liability for interest on any moneys received by it hereunder except such as it may agree in writing with the Issuer to pay thereon.

Section 7.7. Compensation and Reimbursement.

The Issuer and the Guarantors agree:

(1) to, jointly and severally, pay to the Trustee and the Agents from time to time upon demand such compensation for all services rendered by it hereunder as shall be agreed upon in writing (which compensation shall not be limited by any provision of law in regard to the compensation of a trustee of an express trust), as such fees may be adjusted from time to time;

(2) except as otherwise expressly provided herein, to, jointly and severally, reimburse each of the Trustee and the Agents upon its request for all reasonable expenses and disbursements incurred or made by it in accordance with any provision of this Indenture (including the reasonable compensation and the expenses and disbursements of their agents and counsel), except any such expense, disbursement or advance as may be attributable to its gross negligence or willful misconduct; and

(3) to, jointly and severally, indemnify each the Trustee and the Agents for, and to hold each harmless against, any loss, liability, cost, damage, claim or expense (including taxes and the reasonable compensation, expenses and disbursements of its agents, accountants, experts and counsel) incurred without gross negligence or willful misconduct on its part as determined in a final judgment of a court with competent jurisdiction, arising out of or in connection with the acceptance or administration of this trust or the performance by it of its duties and obligations or the exercise of its rights hereunder, including the costs and expenses of enforcing this Indenture against the Issuer or the Guarantors, as the case may be (including, without limitation, this Section 7.7), and of defending against any claim (whether asserted by any Holder or the Issuer or the Guarantors or any other Person, as the case may be) or liability in connection with the exercise or performance of any of its powers or duties hereunder. The provisions of this Section 7.7 shall survive any termination of this Indenture and the resignation or removal of the Trustee, the Principal Paying Agent or other Paying Agent.

As security for the performance of the obligations of the Issuer or the Guarantors, as the case may be, under this Section 7.7, the Trustee shall have a lien prior to the Notes upon all property and funds held or collected by the Trustee, except funds held in trust for the payment of principal of (and premium, if any) or interest on particular Notes. The Trustee's right to receive payment of any amounts due under this Section 7.7 shall not be subordinate to any other liability or indebtedness of the Issuer or the Guarantors, as the case may be (even though the Notes may be so subordinated).

The obligation of the Issuer under this Section 7.7 shall survive the satisfaction and discharge of this Indenture and the earlier resignation or removal or the Trustee. The indemnification provided in this Section 7.7 shall extend to the officers, directors, agents and employees of the Trustee.

When the Trustee incurs expenses or renders services after an Event of Default specified in Section 6.1 occurs, the expenses and the compensation for such services are intended to constitute expenses of administration under Title 11, U.S. Code, or any similar Federal, State or analogous foreign law for the relief of debtors.

Section 7.8. Corporate Trustee Required; Eligibility.

There shall at all times be a Trustee hereunder which shall be a Person that is eligible pursuant to the Trust Indenture Act to act as such and has a combined capital and surplus of at least U.S.$50,000,000 and its Corporate Trust Office in The City of New York, New York. If such Person publishes reports of condition at least annually, pursuant to law or to the requirements of a Federal, State, Territorial or District of Columbia supervising or examining authority, then for the purposes of this Section, the combined capital and surplus of such Person shall be deemed to be its combined capital and surplus as set forth in its most recent report of condition so published. If at any time the Trustee shall cease to be eligible in accordance with the provisions of this Section, it shall resign immediately in the manner and with the effect hereinafter specified in this Article.

Section 7.9. Resignation and Removal; Appointment of Successor.

(a) No resignation or removal of the Trustee and no appointment of a successor Trustee pursuant to this Article shall become effective until the acceptance of appointment by the successor Trustee under Section 7.10, at which time the retiring Trustee shall be fully discharged from its obligations hereunder.

(b) The Trustee and the Principal Paying Agent may resign at any time by giving written notice thereof to the Issuer. If an instrument of acceptance by a successor Trustee or Principal Paying Agent shall not have been delivered to the Trustee or Principal Paying Agent, as the case may be, within 30 days after the giving of such notice of resignation, the resigning Trustee or Principal Paying Agent may petition, at the expense of the Issuer, any court of competent jurisdiction for the appointment of a successor Trustee or Principal Paying Agent, as the case may be.

(c) The Trustee may be removed at any time by Act of the Holders of a majority in principal amount of the Outstanding Notes, delivered to the Trustee and to the Issuer. If an instrument of acceptance by a successor Trustee shall not have been delivered to the Trustee within 30 days after the giving of such notice of removal, the Issuer may petition, at its expense, any court of competent jurisdiction for the appointment of a successor Trustee.

(d) The Agents (other than the Principal Paying Agent) may resign at any time by giving written notice thereof to the Issuer. The Agents may appoint a successor Agent if the Issuer does not.

(e) So long as no Event of Default has occurred and is continuing, the Issuer may remove the Trustee or any Agent and appoint a new Trustee or Agent, as applicable, provided that such Trustee meets the eligibility requirements of Section 7.8.

(f) If at any time:

(1) the Trustee shall fail to comply with Section 7.8 after written request therefore by the Issuer or by any Holder who has been a bona fide Holder of a Note for at least six months; or

(2) the Trustee shall cease to be eligible under Section 7.8 and shall fail to resign after written request therefore by the Issuer or by any such Holder; or

(3) the Trustee shall become incapable of acting or shall be adjudged a bankrupt or insolvent or a receiver of the Trustee or of its property shall be appointed or any public officer shall take charge or control of the Trustee or of its property or affairs for the purpose of rehabilitation, conservation or liquidation, then, in any such case, (i) the Issuer by a Board Resolution may remove the Trustee, or (ii) any Holder who has been a bona fide Holder of a Note for at least six months may, on behalf of himself or herself and all others similarly situated, petition any court of competent jurisdiction for the removal of the Trustee and the appointment of a successor Trustee.

(g) If the Trustee shall resign, be removed or become incapable of acting, or if a vacancy shall occur in the office of Trustee for any cause, the Issuer, by a Board Resolution, shall promptly appoint a successor Trustee. If, within one year after such resignation, removal or incapability, or the occurrence of such vacancy, a successor Trustee shall be appointed by Act of the Holders of a majority in principal amount of the Outstanding Notes delivered to the Issuer and the retiring Trustee, the successor Trustee so appointed shall, forthwith upon its acceptance of such appointment, become the successor Trustee and supersede the successor Trustee appointed by the Issuer. If no successor Trustee shall have been so appointed by the Issuer or the Holders and accepted appointment in the manner hereinafter provided, any Holder who has been a bona fide Holder of a Note for at least six months may, on behalf of himself or herself and all others similarly situated, petition any court of competent jurisdiction at the expense of the Issuer for the appointment of a successor Trustee.

(h) The Issuer shall give notice of each resignation and each removal of the Trustee and each appointment of a successor Trustee to all Holders in the manner provided in Section 1.6. Each notice shall include the name of the successor Trustee and the address of its Corporate Trust Office at the expense of the Issuer.

Section 7.10. Acceptance of Appointment by Successor.

Every successor Trustee appointed hereunder shall execute, acknowledge and deliver to the Issuer, the Guarantors and to the retiring Trustee an instrument accepting such appointment, and thereupon the resignation or removal of the retiring Trustee shall become effective and such successor Trustee, without any further act, deed or conveyance, shall become vested with all the rights, powers, trusts and duties of the retiring Trustee; but, on request of the Issuer or the successor Trustee, such retiring Trustee shall, upon payment of its charges, execute and deliver an instrument transferring to such successor Trustee all the rights, powers and trusts of the retiring Trustee and shall duly assign, transfer and deliver to such successor Trustee all property and money held by such retiring Trustee hereunder, subject nevertheless to its Lien, if any, provided for in Section 7.7. Upon request of any such successor Trustee, the Issuer and the Guarantors shall execute any and all instruments for more fully and certainty vesting in and confirming to such successor Trustee all such rights, powers and trusts. No successor Trustee shall accept its appointment unless at the time of such acceptance such successor Trustee shall be qualified and eligible under this Article.

Section 7.11. Merger, Conversion, Consolidation or Succession to Business.

Any corporation or other entity into which the Trustee may be merged or convened or with which it may be consolidated, or any corporation or other entity resulting from any merger, conversion or consolidation to which the Trustee shall be a party, or any corporation or other entity succeeding to all or substantially all the corporate trust business of the Trustee, shall be the successor of the Trustee hereunder, provided that such corporation or other entity shall be otherwise qualified and eligible under this Article, without the execution or filing of any paper or any further act on the part of any of the parties hereto. In case any Notes shall have been authenticated, but not delivered, by the Trustee then in office, any successor by merger, conversion or consolidation to such authenticating Trustee may adopt such authentication and deliver the Notes so authenticated with the same effect as if such successor Trustee had itself authenticated such Notes.

Section 7.12. Appointment of Authenticating Agent.

The Trustee may appoint an Authenticating Agent or Agents with respect to the Notes which shall be authorized to act on behalf of the Trustee to authenticate Notes issued upon original issue and upon exchange, registration of transfer or partial redemption thereof or pursuant to Section 3.5, and Notes so authenticated shall be entitled to the benefits of this Indenture and shall be valid and obligatory for all purposes as if authenticated by the Trustee hereunder. Wherever reference is made in this Indenture to the authentication and delivery of Notes by the Trustee or the Trustee's certificate of authentication, such reference shall be deemed to include authentication and delivery on behalf of the Trustee by an Authenticating Agent and a certificate of authentication executed on behalf of the Trustee by an Authenticating Agent. Each Authenticating Agent shall be acceptable to the Issuer and shall at all times be a corporation organized and doing business under the laws of the United States, any State thereof or the District of Columbia, authorized under such laws to act as Authenticating Agent, having a combined capital and surplus of not less than U.S.$50,000,000 and subject to supervision or examination by Federal or State authority. If such Authenticating Agent publishes reports of condition at least annually, pursuant to law or to the requirements of said supervising or examining authority, then for the purposes of this Section, the combined capital and surplus of such Authenticating Agent shall be deemed to be its combined capital and surplus as set forth in its most recent report of condition so published. If at any time an Authenticating Agent shall cease to be eligible in accordance with the provisions of this Section, such Authenticating Agent shall resign immediately in the manner and with the effect specified in this Section.

Any corporation or other entity into which an Authenticating Agent may be merged or converted or with which it may be consolidated, or any corporation or other entity resulting from any merger, conversion or consolidation to which such Authenticating Agent shall be a party, or any corporation or other entity succeeding to all or substantially all the corporate agency or corporate trust business of an Authenticating Agent, shall continue to be an Authenticating Agent, provided such corporation or other entity shall be otherwise eligible under this Section, without the execution or filing of any paper or any further act on the part of the Trustee or the Authenticating Agent.

An Authenticating Agent may resign at any time by giving written notice thereof to the Trustee and to the Issuer. The Trustee may at any time terminate the agency of an

Authenticating Agent by giving written notice thereof to such Authenticating Agent and to the Issuer. Upon receiving such a notice of resignation or upon such a termination, or in case at any time such Authenticating Agent shall cease to be eligible in accordance with the provisions of this Section, the Trustee may appoint a successor Authenticating Agent which shall be acceptable to the Issuer and shall give notice of such appointment in the manner provided in Section 1.6 to all Holders of Notes. Any successor Authenticating Agent upon acceptance of its appointment hereunder shall become vested with all the rights, powers and duties of its predecessor hereunder, with like effect as if originally named as an Authenticating Agent. No successor Authenticating Agent shall be appointed unless eligible under the provisions of this Section.

The Issuer agrees to pay to each Authenticating Agent from time to time reasonable compensation for its services under this Section.

If an appointment is made pursuant to this Section, the Notes may have endorsed thereon, in lieu of the Trustee’s certificate of authentication, an alternative certificate of authentication in the following form:

"This is one of the Notes referred to in the within-mentioned Indenture.

THE BANK OF NEW YORK MELLON *as Trustee*

By: ______________________________
as Authenticating Agent"

ARTICLE VIII

HOLDERS LISTS AND COMMUNICATIONS BY TRUSTEE AND ISSUER

Section 8.1. Issuer to Furnish Trustee; Names and Addresses of Holders.

The Issuer will furnish or cause to be furnished to the Trustee

(a) semi-annually, not more than 15 days after each Regular Record Date, a list, in such form as the Trustee may reasonably require, of the names and addresses of the Holders as of such Regular Record Date; and

(b) at such other times as the Trustee may request in writing, within 30 days after the receipt by the Issuer of any such request, a list of similar form and content as of a date not more than 15 days prior to the time such list is furnished;

excluding from any such list names and addresses received by the Trustee in its capacity as Registrar.

Section 8.2. Preservation of Information; Communications to Holders.

(a) The Trustee shall preserve, in as current a form as is reasonably practicable, the names and addresses of Holders contained in the most recent list furnished to the Trustee as provided in Section 8.1 and the names and addresses of Holders received by the Trustee in its capacity as Registrar. The Trustee may destroy any list furnished to it as provided in Section 8.1 upon receipt of a new list so furnished.

(b) If a Holder (herein referred to as an "applicant") applies in writing to the Trustee, and furnishes to the Trustee reasonable proof that each such applicant has owned a Note for a period of at least six months preceding the date of such application, and such application states that such applicant desires to communicate with other Holders with respect to their rights under this Indenture or under the Notes and is accompanied by a copy of the form of proxy or other communication which such applicant proposes to transmit, then the Trustee shall, within five Business Days after the receipt of such application, at its election, either

(1) afford such applicant access to the information preserved at the time by the Trustee in accordance with Section 8.2(a); or

(2) inform such applications as to the approximate number of Holders whose names and addresses appear in the information preserved at the time by the Trustee in accordance with Section 8.2(a), as to the approximate cost of mailing to such Holders the form of proxy or other communication, if any, specified in such application.

(c) Every Holder of Notes, by receiving and holding the same, agrees with the Issuer and the Trustee that neither the Issuer nor the Trustee nor any agent of either of them shall be held accountable by reason of the disclosure of any such information as to the names and addresses of the Holders in accordance with Section 8.2(b), regardless of the source from which such information was derived, and that the Trustee shall not be held accountable by reason of mailing any material pursuant to a request made under Section 8.2(b).

ARTICLE IX

CONSOLIDATION, MERGER, CONVEYANCE, TRANSFER OR LEASE

Section 9.1. Mergers, Consolidations and Certain Sales of Assets.

So long as any of the Notes are Outstanding, neither the Issuer nor any Guarantor may, in a single transaction or a series of related transactions:

(1) unless the Issuer or such Guarantor, as applicable, is the surviving Person, consolidate with or merge into any other Person or permit any other Person to consolidate with or merge into the Issuer or such Guarantor, as applicable, (other than a consolidation or merger of a Wholly Owned Subsidiary organized under the laws of Luxembourg, Brazil, Peru, the United States or any OECD country, in each case, with or into the Issuer or such Guarantor, as applicable); or

(2) directly or indirectly, transfer, sell, lease or otherwise dispose of all or substantially all of its assets (determined on a consolidated basis of the Issuer and its Subsidiaries or the relevant Guarantor and its Subsidiaries, as applicable) to any Person (other than the Issuer or a Guarantor) (provided that the creation of a Lien on or in any of its assets shall not in and of itself constitute the transfer, sale, lease or disposition of the assets subject to the Lien),

unless the following conditions, to the extent applicable, are met:

(i) in the case of a transaction in which the Issuer or a Guarantor does not survive or in which the Issuer or a Guarantor sells, leases or otherwise disposes of all or substantially at of its assets to any other Person, the successor entity to the Issuer or such Guarantor (1) shall expressly assume, by a supplemental indenture executed and delivered to the Trustee, all of the Issuer's or such Guarantor's obligations under this Indenture and (2) shall be organized under the laws of (x) Luxembourg, Brazil, Peru or any state or political subdivision thereof, (y) the United States or any state thereof or the District of Columbia or (z) any other country if such successor entity undertakes, in such supplemental indenture, to pay such additional amounts in respect of principal (and premium, if any) and interest as may be necessary in order that the net amounts paid pursuant to the Notes after deduction or withholding of any present or future withholding taxes, levies, imposts or charges whatsoever imposed by or for the account of such country or any political subdivision or taxing authority thereof or therein shall equal the respective amounts of principal (and premium, if any) and interest specified in the Notes, subject to the same exceptions set forth under clauses (1) through (7) of Section 11.9, but replacing existing references in such clauses to the jurisdiction of incorporation of the Issuer or such Guarantor, as applicable, with references to such other country and references to the jurisdiction of incorporation of the Issuer or such Guarantor, as applicable, under Section 4.1 shall automatically be deemed to be references to such other country;

(ii) if, as a result of any such transaction, property or assets of the Issuer or such Guarantor would become subject to a Lien prohibited by Section 12.10, the Issuer or such Guarantor, as applicable, or the successor entity to the Issuer or such Guarantor, as applicable, shall have secured the Notes as described thereunder; and

(iii) the Issuer or such Guarantor, as applicable, has delivered to the Trustee an Officer's Certificate and an Opinion of Counsel, each stating that such consolidation, merger, conveyance, transfer, lease or acquisition and, if a supplemental indenture is required in connection with such transaction, such supplemental indenture complies with this covenant and that all conditions precedent provided for in this Indenture relating to such transaction have been complied with.

In the event of any transaction (other than a lease) described in and complying with the provisions of this Section 9.1 in which the Issuer or a Guarantor, as applicable, is not the surviving Person and the surviving Person assumes all the obligations of the Issuer or such Guarantor, as applicable, under this Indenture and the Notes or the Guarantee, as applicable, pursuant to a supplemental Indenture, such surviving Person shall succeed to, and be substituted for, and may exercise every right and power of, the Issuer or such Guarantor, as applicable, and the Issuer or such Guarantor, as applicable, will be discharged from its obligations under this Indenture and the Notes or the Guarantee, as applicable.

ARTICLE X

SUPPLEMENTAL INDENTURES

Section 10.1. Supplemental Indentures Without Consent of Holders.

Without the consent of any Holders, the Issuer and the Trustee, at any time and from time to time, may enter into one or more supplemental indentures hereto in form satisfactory to the Trustee, for any of the following purposes:

(1) to evidence the succession of another Person to the Issuer or any Guarantor and the assumption by any such successor of the covenants of the Issuer or any Guarantor, as applicable, herein and in the Notes or the Guarantees, as applicable;

(2) to add to the covenants of the Issuer for the benefit of the Holders, or to surrender any right or power herein conferred upon the Issuer;

(3) to cure any ambiguity, defect or inconsistency or to correct a manifest error;

(4) to provide for uncertificated Notes in addition to or in place of certificated Notes;

(5) to comply with Section 9.1 of this Indenture;

(6) to evidence and provide for the acceptance of an appointment by a successor trustee;

(7) to provide for any additional guarantee of the Notes;

(8) to secure the Notes or to confirm and evidence the release, termination or discharge of any guarantee of or Lien securing the Notes when such release, termination or discharge is permitted by this Indenture;

(9) to provide for or confirm the issuance of Additional Notes;

(10) to conform the provisions of this Indenture to the caption entitled "Description of the Notes" in the offering memorandum relating to the Notes; or

(11) to make any other modification and any waiver or authorization of any breach or proposed breach of any provision of this Indenture or the Notes which is not materially prejudicial to the Holders.

Section 10.2. Supplemental Indentures with Consent of Holders.

With the consent of the Holders of not less than a majority in aggregate principal amount of the Outstanding Notes, by Act of said Holders delivered to the Issuer and the Trustee, and consistent with Section 6.13, the Issuer and the Trustee may enter into an indenture or supplemental indentures hereto for the purpose of adding any provisions to or changing in any manner or eliminating any of the provisions of this Indenture or of modifying in any manner the rights of the Holders under this Indenture; provided, however, that no such supplemental indenture shall, without the consent of the Holder of each outstanding Note affected thereby:

(1) change the Stated Maturity of the principal of, or any installment of interest on, any Note, or reduce the principal amount thereof or the rate of interest thereon or any premium payable thereon, or change the place of payment where, or the coin or currency in which, any Note or any premium or interest thereon is payable, or impair the right to institute suit for the enforcement of any such payment on or with respect to any Note on or after the Stated Maturity thereof (or, in the case of redemption, on or after the Redemption Date),

(2) reduce the percentage in principal amount of the Outstanding Notes, the consent of whose Holders is required for any such supplemental indenture, or the consent of whose Holders is required for any waiver (of compliance with certain provisions of this Indenture or certain defaults hereunder and their consequences) provided for in this Indenture;

(3) modify any of the provisions of this Section 10.2 or Section 6.12 or Section 11.9, except to increase any such percentage described in clause (2) above or to provide that certain other provisions of this Indenture cannot be modified or waived without the consent of the Holder of each Outstanding Note affected thereby;

(4) release any Guarantors from its obligations under its Guarantee or this Indenture, except in compliance with the terms of this Indenture.

It shall not be necessary for any Act of Holders under this Section to approve the particular form of any proposed supplemental indenture, but it shall be sufficient if such Act shall approve the substance thereof.

Section 10.3. Execution of Supplemental Indentures.

In executing, or accepting the additional trusts created by, any supplemental indenture permitted by this Article or the modifications thereby of the trusts created by this Indenture, the Trustee shall receive, and (subject to Section 7.1) shall be fully protected in conclusively relying upon, in addition to the documents required by Section 1.2, an Officer's Certificate and Opinion of Counsel stating that the execution of such supplemental indenture is authorized or permitted by this Indenture. The Trustee may, but shall not be obligated to, enter into any such supplemental indenture which affects the trustee's own rights, duties or immunities under this Indenture.

Section 10.4. Effect of Supplemental Indentures.

Upon the execution of any supplemental indenture under this Article, this Indenture shall be modified in accordance therewith, and such supplemental indenture shall form a part of this Indenture for all purposes; and every Holder of Notes theretofore or thereafter authenticated and delivered hereunder shall be bound thereby.

Section 10.5. Reference in Notes to Supplemental Indentures.

Notes authenticated and delivered after the execution of any supplemental indenture pursuant to this Article may, and shall if required by the Trustee, bear a notation in form approved by the Trustee as to any matter provided for in such supplemental indenture. If the Issuer shall so determine, new Notes so modified as to conform, in the opinion of the Issuer, to any such supplemental indenture may be prepared and executed by the Issuer and authenticated and delivered by the Trustee in exchange for Outstanding Notes.

Section 10.6. Notice to Holders.

After a supplemental indenture under this Article becomes effective, the Issuer will send to the Holders affected thereby a notice briefly describing the terms of the supplement. The Issuer will send supplemental indentures to Holders upon request. Any failure of the Issuer to send such notice, or any defect therein, will not, however, in any way impair or affect the validity of any such supplemental indenture.

ARTICLE XI

COVENANTS

Section 11.1. Payment Under the Notes.

Each of the Issuer and the Guarantors shall duly and punctually pay all amounts owed by it, and comply with all its other obligations, under the terms of the Notes, the Guarantees and this Indenture (collectively, the "Transaction Documents").

Section 11.2. Maintenance of Office or Agency.

The Issuer and the Guarantors will maintain in the Borough of Manhattan, The City of New York, New York, an office or agency where Notes may be presented or surrendered for payment, where Notes may be surrendered for registration of transfer or exchange and where notices and demands to or upon the Issuer or the Guarantors in respect of the Notes, the Guarantees and this Indenture may be served. Initially, this office will be at the Corporate Trust Office of the Trustee, unless the Issuer shall designate and maintain any other office or agency for one or more such purposes, and the Issuer and the Guarantors shall agree not to change the designation of such office without prior written notice to the Trustee and designation of a replacement office in the same general location. The Issuer will give prompt written notice to the Trustee of the location, and any change in the location, of such offices or agencies. If at any time the Issuer or the Guarantors shall fail to maintain any such required offices or agencies or shall fail to furnish the Trustee with the address thereof, such presentations, surrenders, notices and demands may be made or served at the Corporate Trust Office of the Trustee. The Issuer and the Guarantors hereby appoint the Trustee as their agent to receive all such presentations, surrenders, notices and demands.

The Issuer may also from time to time designate one or more other offices or agencies (in or outside the Borough of Manhattan, The City of New York, New York) where the Notes may be presented or surrendered for any or all such purposes and may from time to time rescind such designations (each, a "Transfer Agent"); provided, however, that no such designation or rescission shall in any manner relieve the Issuer of its obligation to maintain an office or agency in the Borough of Manhattan, The City of New York, New York. The Issuer has initially designated the offices of The Bank of New York Mellon to act as Transfer Agent. The Issuer will give prompt written notice to the Trustee of any such designation or rescission and of any change in the location of any such other office or agency.

Section 11.3. Money for Note Payments to Be Held in Trust.

If the Issuer shall at any time act as its own Paying Agent, it will, on or before each due date of the principal of (and premium, if any) or interest on any of the Notes, segregate and hold in trust for the benefit of the Persons entitled thereto a sum sufficient to pay the principal (and premium, if any) or interest so becoming due until such sums shall be paid to such Persons or otherwise disposed of as herein provided and will promptly notify the Trustee in writing of its action or failure so to act.

Whenever the Issuer shall have one or more Paying Agents, it will, prior to each due date of the principal of (and premium, if any) or interest on any Notes, deposit with the Principal Paying Agent a sum sufficient to pay the principal (and premium, if any) or interest (including Additional Amounts, if any) so becoming due, such sum to be held in trust for the benefit of the Persons entitled to such principal, premium or interest, and (unless such Paying Agent is the Trustee) the Issuer will promptly notify the Trustee in writing of its action or failure so to act.

The Issuer will cause each Paying Agent other than the Trustee and the Principal Paying Agent to execute and deliver to the Trustee an instrument in which such Paying Agent shall agree with the Trustee, subject to the provisions of this Section 11.3, that such Paying Agent will:

(1) hold all sums held by it for the payment of the principal of (and premium, if any) or interest on Notes in trust for the benefit of the Persons entitled thereto until such sums shall be paid to such Persons or otherwise disclosed of as herein provided;

(2) give the Trustee written notice of any default by the Issuer (or any other obligor upon the Notes) in the making of any payment of principal (and premium, if any) or interest;

(3) at any time during the continuance of any such default, upon the written request of the Trustee, forthwith pay to the Trustee all sums so held in trust by such Paying Agent; and

(4) acknowledge, accept and agree to comply in all respects with the provisions of this Indenture relating to the duties, rights and obligations of such Paying Agent.

The Issuer may at any time, for the purpose of obtaining the satisfaction and discharge of this Indenture or for any other purpose, pay, or by Issuer Order direct any Paying Agent to pay, to the Trustee all sums held in trust by the Issuer or such Paying Agent, such sums to be held by the Trustee upon the same trusts as those upon which such sums were held by the Issuer or such Paying Agent; and, upon such payment by any Paying Agent to the Trustee, such Paying Agent shall be released from all further liability with respect to such money.

Any money deposited with the Trustee or any Paying Agent, or then held by the Issuer, in trust for the payment of the principal of (and premium, if any) or interest on any Note and remaining unclaimed for two years after such principal (and premium, if any) or interest has become due and payable shall be paid to the Issuer on the Issuer's Request, or (if then held by the Issuer) shall be discharged from such trust; and the Holder of such Note shall thereafter, as an unsecured general creditor, look only to the Issuer for payment thereof, and all liability of the Trustee or such Paying Agent with respect to such trust money, and all liability of the Issuer as trustee thereof, shall thereupon cease.

Section 11.4. Maintenance of Corporate Existence.

The Issuer and the Guarantors shall, and shall cause each of their respective Subsidiaries to, maintain in effect its corporate existence and all registrations necessary therefore and take all actions to maintain all rights, privileges, titles to property, franchises and the like necessary or desirable in the normal conduct of its business, activities or operations provided that this covenant shall not require (i) the Issuer, the Guarantors or any of their respective Subsidiaries to maintain any such registration, right, privilege, title to property, franchise or the like or require the Issuer or the Guarantors to preserve the corporate existence of any of their respective Subsidiaries (other than a Subsidiary that is a Guarantor), if the failure to do so would not have a material adverse effect on the Issuer and its Subsidiaries taken as a whole or have a material adverse effect on the rights of the Holders or (ii) the Guarantors or the Issuer to preserve its corporate existence if it complies with the provisions of Section 9.1.

Section 11.5. Repurchases at the Option of the Holders upon Change of Control.

If a Change of Control occurs that results in a Rating Decline, each Holder will have the right to require the repurchase of all or any part (equal to U.S.$200,000 and integral multiples of U.S.$1,000 in excess thereof) of the Notes of that Holder pursuant to a Change of Control Offer by the Issuer or the Guarantors. No such purchase in part shall reduce the principal amount of the Notes held by any Holder to below U.S.$200,000. In the Change of Control Offer, the Issuer or a Guarantor will offer a "Change of Control Payment" in U.S. dollars equal to 101% of the aggregate principal amount of Notes repurchased plus accrued and unpaid interest and Additional Amounts, if any, on the Notes repurchased, to the date of purchase (subject to the right of the Holders of record on the relevant Record Date to receive interest and Additional Amounts, if any, on the relevant Interest Payment Date).

Within 30 days following any Change of Control that results in a Rating Decline the Issuer or the Guarantor will make a "Change of Control Offer" by notice to each Holder of Notes in accordance with the provision set out under Section 1.6, describing the transaction or transactions that constitute the Change of Control and offering to repurchase Notes on the date specified in the notice (the "Change of Control Payment Date"), which date will be no earlier than 30 days and no later than 60 days from the date such notice is mailed, pursuant to the procedures required by this Indenture and described in such notice.

The Issuer or the applicable Guarantor will comply, to the extent applicable, with the requirements of Section 14(e)-1 of the Exchange Act and any other applicable securities laws or regulations in connection with the repurchase of Notes pursuant to this covenant. To the extent that the provisions of any applicable securities laws or regulations conflict with provisions of this covenant, the Issuer or the applicable Guarantor will comply with the applicable securities laws and regulations and will not be deemed to have breached its obligations under this covenant by virtue of its compliance with such securities laws or regulations.

On the Change of Control Payment Date, the Issuer or the applicable Guarantor will, to the extent lawful:

(1) accept for payment all Notes or portions of Notes properly tendered pursuant to the Change of Control Offer; and

(2) procure that the Change of Control Payment is made in respect of all Notes or portions of Notes properly tendered.

The Paying Agents will promptly mail to each Holder who properly tendered Notes the Change of Control Payment for such Notes, and the Trustee will promptly authenticate and mail (or cause to be transferred by book entry) to each Holder a new Note equal in principal amount to any unpurchased portion of the Notes surrendered, if any; provided that each new Note will be in minimum denominations of U.S.$200,000 and integral multiples of U.S.$1,000 in excess thereof.

The provisions described above that require the Issuer or a Guarantor to make a Change of Control Offer following a Change of Control will be applicable whether or not any other provisions of this Indenture are applicable. However, a Change of Control Offer is only required to be made in the event that a Change of Control results in a Rating Decline. Consequently, if a Change of Control were to occur which does not result in a Rating Decline, none of the Issuer and the Guarantors would be required to launch a Change of Control Offer. Except as described above with respect to a Change of Control, this Indenture does not contain provisions that permit the Holders to require that the Issuer or a Guarantor repurchase or redeem the Notes in the event of a takeover, recapitalization or similar transaction.

None of the Issuer or the Guarantors will be required to make a Change of Control Offer upon a Change of Control if (1) a third party makes the Change of Control Offer in the manner, at the times and otherwise in compliance with the requirements, set forth in this Indenture, that are applicable to a Change of Control Offer made by the Issuer or a Guarantor and such third party purchases all Notes properly tendered and not withdrawn under the Change of Control Offer or (2) a notice of redemption has been given for all outstanding Notes pursuant to this Indenture as described under Section 4.2 unless and until there is a default in payment of the applicable redemption price.

Notwithstanding anything to the contrary contained herein and subject to applicable law, a Change of Control Offer may be made in advance of a Change of Control and conditioned upon the occurrence of such Change of Control and Rating Decline if a definitive agreement is in place for the Change of Control at the time of making of the Change of Control Offer.

In the event that the Holders of not less than 90% of the aggregate principal amount of Outstanding Notes accept a Change of Control Offer and the Issuer or a Guarantor or a third party purchases all the Notes held by such holders, the Issuer or a Guarantor will have the right, on not less than 30 nor more than 60 days' prior notice to the Holders, given not more than 30 days following the purchase date pursuant to the Change of Control Offer, to redeem all of the Notes that remain outstanding following such purchase at the purchase price equal to that in the Change of Control Offer plus, to the extent not included in the purchase price, accrued and unpaid interest and additional amounts, if any, on the Notes that remain Outstanding, to, but excluding, the date of redemption.

Section 11.6. Payment of Taxes and Other Claims.

The Issuer and the Guarantors shall, and shall cause each of their respective Subsidiaries to, pay or discharge or cause to be paid or discharged before the same shall become delinquent, (i) all taxes, assessments and governmental charges levied or imposed upon the Issuer and the Guarantors or any of their respective Subsidiaries, as the case may be, and (ii) all lawful claims for labor, materials and supplies which, if unpaid, might by law become a lien upon the property of the Issuer or a Guarantor or any of their respective Subsidiaries, as the case may be; provided, however, that neither the Issuer nor any Guarantor nor any of their respective Subsidiaries shall be required to pay or discharge or cause to be paid or discharged any such tax, assessment, charge or claim whose amount, applicability or validity is being contested in good faith and, if appropriate, by appropriate legal proceedings, or where the failure to do so would not have a material adverse effect on the Issuer and its Subsidiaries taken as a whole or have a material adverse effect on the rights of the Holders.

Section 11.7. Provision of Financial Information.

The Issuer has agreed that it will furnish to the Trustee and the Holders and to any prospective purchasers of such Notes, to the extent permitted by applicable law or contractual restrictions, upon their request, the information required to be delivered pursuant to Rule 144A(d)(4) under the Securities Act; provided that the foregoing obligation will only apply to the Issuer if it ceases to be subject to and in compliance with the reporting requirements of Section 13 or 15(d) of the Exchange Act or exempt from reporting pursuant to Rule 12g3-2(b) under the Exchange Act.

Additionally, the Issuer shall provide the Trustee and the Holders, within 120 days of the end of each fiscal year and within 60 days of the end of each of the first three fiscal quarters, annual or quarterly financial statements, as applicable, in accordance with applicable GAAP and audited in the case of annual financial statements.

Notwithstanding the foregoing, if the Issuer makes available the information described above on the Issuer's or an Affiliate's website or on the Electronic Data Gathering, Analysis, and Retrieval (EDGAR) website of the SEC, the Issuer will be deemed to have satisfied the reporting requirement set forth in such applicable clause. It is understood that the Trustee shall have no responsibility to determine whether any information has been posted on such websites.

Delivery of such reports, information and documents to the Trustee is for informational purposes only and the Trustee's receipt of such reports shall not constitute constructive notice of any information contained therein or determinable from information contained therein, including the Issuer's compliance with any of its covenants hereunder (as to which the Trustee is entitled to rely exclusively on an Officer's Certificate or notice). The Trustee shall have no obligation to determine if and when the Issuer's statements or reports are publicly available and accessible electronically.

Section 11.8. Statement by Officers as to Default.

(a) The Issuer will be required to furnish to the Trustee together with the delivery (or the posting on the Issuer's or an Affiliate's website) of its annual financial statements and in any event within 120 days after the end of each such fiscal period, an Officer's Certificate statin whether or not to the best knowledge of the signer thereof none of the Issuer or any Guarantor is in default in the performance and observance of any of the terms, provisions and conditions of this Indenture and if the Issuer or any Guarantor is in default, specifying all such defaults and the nature and status thereof of which they may have knowledge.

(b) The Issuer shall deliver to the Trustee, as soon as is practicable and in any event within ten calendar days after the Issuer becomes aware of the occurrence of a Default or an Event of Default, an Officer's Certificate of the Issuer, setting forth the details of such Default or Event of Default and stating what action the Issuer, proposes to take with respect thereto. None of the Agents shall have notice of any Default or Event of Default unless a Responsible Officer of such Agent has actual knowledge thereof.

Section 11.9. Payment of Additional Amounts.

Any and all payments to a Holder of principal (and premium, if any) and interest in respect of the Notes, and any and all payments to indemnify a Holder for taxes or duties as a result of a substitution of the issuer, as provided in Section 13.1(a)(2), will be made free and clear of, and without withholding or deduction for, any and all present and future withholding taxes, duties, assessments, levies, imposts or charges ("Taxes") whatsoever imposed by or on behalf of, Luxembourg, Brazil, Peru or any political subdivision or taxing authority thereof or therein, unless such withholding or deduction is required by law. In that event, the Issuer or a Guarantor, as the case may be, shall pay such additional amounts (the "Additional Amounts") as will result in the receipt by the Holders of such amounts as would have been received by them if no such withholding or deduction had been required, except that no such Additional Amounts shall be payable in respect of any Note:

(1) held by, or by a third party on behalf of, a Holder or beneficial owner which is liable for such taxes, duties, assessments, levies, imposts or governmental charges in respect of such Note by reason of its (or a fiduciary, settlor, member or shareholder, beneficiary of, or possessor of a power over, such Holder, if such Holder is an estate, trust, partnership or corporation) having some present or former connection with Luxembourg, Brazil or Peru (including being or having been a citizen or resident of Luxembourg, Brazil or Peru or being or having been engaged in trade or business therein) other than the mere holding of such Note; or

(2) where (in the case of a payment of principal, premium, if any, or interest on the Maturity Date or date of earlier redemption) the relevant Note is surrendered for payment more than 30 days after the Relevant Date except to the extent that the relevant Holder would have been entitled to such Additional Amounts if it had surrendered the relevant Note on the last day of such period of 30 days; or

(3) if such Tax is an estate, inheritance, gift, sales, transfer or personal property tax or any similar Tax, assessment, levy, impost or governmental charge; or

(4) if such amount is (a) payable other than by withholding or deduction from a payment on such Note, or (b) required to be withheld or deducted by a Paying Agent and such Holder of a Note would have been able to avoid such withholding or deduction by presenting the relevant Note to another Paying Agent; or

(5) if such Tax, duty, assessment, levy, impost or governmental charge would not have been imposed but for the failure of such Holder to comply with applicable certification, information, documentation or other reporting requirements concerning the nationality, residence, identity or connection with Luxembourg, Brazil or Peru of the Holder or beneficial owner of such Note if (i) such compliance is required as a precondition to relief or exemption from withholding or deduction of all or part of such tax, duty, assessment, levy, impost or governmental charge and (ii) at least 30 days prior to the date on which the Issuer or a Guarantor, as the case may be, applies this clause (5), it will have notified such Holder or beneficial owner of a Note that it will be required to comply with such requirement; or

(6) if such amount to be paid with respect to a payment on a note to a Holder that is a fiduciary or partnership or other than the sole beneficial owner of such payment to the extent a beneficiary or settlor with respect to such fiduciary or a member of such partnership or a beneficial owner would not have been entitled to the additional interest had such beneficiary, settlor, member or beneficial owner been the Holder of such note; or

(7) in the case of any combination of items (1) through (6).

"Relevant Date" means whichever is the later of (a) the date on which the payment in question first becomes due and (b) if the full amount payable has not been received by the Principal Paying Agent on or prior to such due date, the date on which (the full amount having been so received) notice to that effect has been given to the Holders.

None of the Issuer, a Guarantor, the Trustee, any Paying Agent or any other person shall be required to pay any Additional Amounts with respect to any withholding or deduction imposed on or in respect of any Note pursuant to FATCA, any treaty, law, regulation or other official guidance enacted by any jurisdiction implementing FATCA, or any agreement between the Issuer and the United States or any authority thereof implementing FATCA.

The Issuer or the relevant Guarantor, as applicable, shall pay any present or future stamp, court or documentary taxes, or any other excise or property taxes, charges or similar levies which arise in any jurisdiction from the execution, delivery or registration of the Notes or any other document or instrument referred to therein, excluding any such taxes, charges or similar levies imposed by any jurisdiction outside of Luxembourg, Brazil or Peru, as applicable, except those resulting from, or required to be paid in connection with, (i) the execution in or bringing to Luxembourg, Brazil or Peru, as applicable, of the Notes or any document or instrument; (ii) the production before a court of Luxembourg, Brazil or Peru of the Notes or any document or instrument or (iii) the enforcement of the Notes or any other such document or instrument following the occurrence of any Event of Default with respect to the Notes.

References to principal or interest shall be deemed to include any Additional Amounts in respect of principal, premium, if any, or interest (as the case may be) which may be payable under the Notes.

If the Issuer or a Guarantor becomes subject at any time to any taxing jurisdiction other than Luxembourg, Brazil or Peru, references herein to Luxembourg, Brazil or Peru, as applicable, shall be construed to include such other jurisdiction.

The Trustee shall have no obligation to determine whether any Additional Amounts are owed or for the calculation thereof.

Section 11.10. Limitation on Liens.

The Issuer shall not, and shall not permit any of its Designated Subsidiaries to, Incur or suffer to exist any Lien on any of its Restricted Property to secure any Indebtedness of the Issuer or such Designated Subsidiary without making, or causing such Designated Subsidiary to make, effective provision for securing the Notes (x) equally and ratably with (or prior to) such Indebtedness as to such Restricted Property for so long as such Indebtedness will be so secured or (y) in the event such Indebtedness is Indebtedness of the Issuer or such Designated Subsidiary which is subordinate in right of payment to the Notes, prior to such Indebtedness as to any such Restricted Property for so long as such Indebtedness will be so secured.

The foregoing restrictions shall not apply to:

(1) any Lien on the inventory or receivables and related assets (other than those described in clause (3) below) securing obligations:

(i) under any short term lines of credit, entered into in the normal course of business; or

(ii) under any working capital facility;

(2) Liens created solely for the purpose of securing the payment of all or a part of the purchase price (or the cost of construction or improvement, and any related transaction fee and expenses) of assets or property (including Capital Stock of any Person) acquired, constructed or improved after the Issue Date; provided that (a) the aggregate principal amount of Indebtedness secured by such Liens shall not exceed the purchase price of the assets or property so acquired, constructed or improved, (b) such Liens shall not encumber any assets or property other than the assets or property so acquired, constructed or improved and other than any unimproved real property on which the property so constructed, or the improvement, is located and (c) such Lien shall attach to such assets or property within 365 days of the construction, acquisition or improvement of such assets or property; provided, further, that to the extent that the property or asset acquired is Capital Stock, and subject to the limitations in clause (c) above, the Lien also may encumber other property or assets of the Person so acquired, provided, further, that any Lien is permitted to be incurred on the Capital Stock of any Person securing any Indebtedness of that Person that is (a) non-recourse to the Issuer or the Designated Subsidiary, and (b) incurred solely for purposes of financing the acquisition, construction or improvement of any property or assets of such Person;

(3) Liens on accounts receivable and related assets in connection with any credit facility, including export or import financings and other trade transactions, or in connection with any Securitization Transaction provided that the aggregate amount of any Receivables sold or transferred in such Securitization Transaction securing Indebtedness shall not exceed (a) with respect to transactions related to revenues from exports, 80% of such Person's consolidated net sales from exports; or (b) with respect to transactions related to revenues from domestic sales, 80% of such Person's consolidated net sales in the jurisdiction in which such Person is located;

(4) Liens granted to secure borrowings from (i) *Banco Nacional de Desenvolvimento Econômico e Social-BNDES*, or any other federal, regional or state governmental development bank or credit agency, or (ii) any international or multilateral development bank, government-sponsored agency, export-import bank or official export-import credit insurer;

(5) Liens existing on the Issue Date;

(6) Liens on property or shares of Capital Stock of another Person at the time such other Person becomes a Subsidiary; provided, however, that the Liens may not extend to any other property owned by such Person;

(7) Liens on properly at the time such Person or any of its Subsidiaries acquires the property, including any acquisition by means of a merger or consolidation with or into such Person or a Subsidiary of such Person; provided, however, that the Liens may not extend to any other property owned by such Person;

(8) Liens securing Indebtedness or other obligations of a Subsidiary of such Person owing to such Person or a Subsidiary of such Person;

(9) Liens in favor of surety bonds or letters of credit issued pursuant to the request of, and for the account of, such Person in the ordinary course of its business;

(10) any Lien securing obligations owed to the Peruvian Ministry of Energy and Mines or other governmental authorities incurred in the ordinary course of business, including but not limited to, mine closure plans;

(11) Liens securing obligations under hedging agreements not for speculative purposes;

(12) any Lien extending, renewing or replacing (or successive extensions, renewals or replacements of), in whole or in part, any Lien referred to in clauses (2), (4), (5), (6) or (7) above; provided that the principal amount of Indebtedness secured thereby shall not exceed the principal amount of Indebtedness so secured at the time of such extension, renewal or replacement except for any increase reflecting premiums, fees and expenses in connection with such extension, renewal or replacement, and that such extension, renewal or replacement shall be limited to all or a part of the property which secured the Lien so extended, renewed or replaced (plus improvements on such property); and

(13) Lien that do not fall within clauses (1) through (12) above and that secure Indebtedness which, exclusive of Indebtedness secured by other Liens permitted under this covenant, does not exceed an aggregate principal amount equal to 15% of Consolidated Total Assets.

For the avoidance of doubt, a Lien permitted by this Section 11.10 need not be permitted solely by reference to a single clause permitting such Lien, but may be permitted in part by such clause and in part by one or more other clauses of this covenant otherwise permitting such Lien.

Section 11.11. [Intentionally Omitted].

Section 11.12. Performance Obligations Under Other Documents.

The Issuer shall duly and punctually perform, comply with and observe all obligations and agreements to be performed by it set forth in the Transaction Documents.

Section 11.13. Compliance with Laws.

Each of the Issuer and the Guarantors shall comply, and shall cause their respective Subsidiaries to comply, at all times with all applicable laws, rules, regulations, orders and directives of any government or government agency or authority having jurisdiction over the Issuer or any Guarantors, any of their respective Subsidiaries or the business of any of them or any of the transactions contemplated herein, except where the failure to do so would not have a material adverse effect on the Issuer and its Subsidiaries taken as a whole or have a material adverse effect on the rights of the Holders.

Section 11.14. Maintenance of Government Approvals.

Each of the Issuer and the Guarantors shall, and shall cause their respective Subsidiaries to, duly obtain and maintain in full force and effect all governmental approvals, consents or licenses of any government or governmental agency or authority under the laws of Luxembourg, Brazil, Peru (including any Central Bank) or any other government or government agency having jurisdiction over the Issuer or necessary in all cases for the Guarantors and the Issuer to perform their respective obligations under the Transaction Documents or for the validity or enforceability thereof, except where the failure to do so would not have a material adverse effect on the Issuer and its Subsidiaries taken as a whole or have a material adverse effect on the rights of the Holders.

Section 11.15. [Intentionally Omitted].

Section 11.16. Maintenance of Books and Records.

Each of the Issuer and the Guarantors shall, and shall cause each of their respective Subsidiaries to, maintain books, accounts and records in all material respects in accordance with applicable GAAP, and in any case in the manner necessary to facilitate consolidation into the Guarantors' consolidated financial statements.

Section 11.17. Ranking.

The Issuer shall ensure that the Notes will constitute unsecured and unsubordinated obligations of the Issuer, and will rank at least equally to all other present and future unsecured and unsubordinated obligations of the Issuer (other than obligations preferred by statute or by operation of law). Each of the Guarantors shall ensure that its Guarantee will constitute unsecured and unsubordinated obligations of such Guarantor, and will rank at least equally to all other present and future unsecured and unsubordinated obligations of the Guarantors (other than obligations preferred by statute or by operation of law). No obligation will be considered to be senior to the Notes or the Guarantees by virtue of being secured on a first or junior priority basis.

ARTICLE XII

LEGAL DEFEASANCE AND COVENANT DEFEASANCE

Section 12.1. Option to Effect Defeasance or Covenant Defeasance.

The Issuer or a Guarantor may at its option, at any time elect to have either Section 12.2 or Section 12.3 applied to the Outstanding Notes upon compliance with the conditions set forth below in this Article XII.

Section 12.2. Defeasance and Discharge.

Upon the Issuer's or a Guarantor's exercise of the option provided in Section 12.1 applicable to this Section, the Issuer and a Guarantor shall be deemed to have been discharged from their obligations with respect to the Outstanding Notes on the date the conditions set forth below are satisfied (hereinafter, "defeasance"). For this purpose, such defeasance means that the Issuer and a Guarantor shall be deemed to have paid and discharged the entire indebtedness represented by the Outstanding Notes and to have satisfied all their other obligations under such Notes and this Indenture insofar as such Notes are concerned (and the Trustee, at the expense of the Issuer and a Guarantor, shall execute proper instruments acknowledging the same), except for the following which shall survive until otherwise terminated or discharged hereunder: (A) the rights of Holders of Outstanding Notes to receive, solely from the trust fund described in Section 12.4 and as more fully set forth in such Section, payments in respect of the principal of (and premium, if any) and interest (and Additional Amounts, if any) on such Notes when such payments are due, (B) the Issuer's and the Guarantors' obligations with respect to such Notes under Sections 3.3, 3.4, 3.5, 11.2 and 11.3, (C) the rights, powers, trusts, duties and immunities of the Trustee hereunder and (D) this Article XII. Subject to compliance with this Article XII, the Issuer and the Guarantors may exercise their option under this Section 12.2 notwithstanding the prior exercise of their option under Section 12.3.

Section 12.3. Covenant Defeasance.

Upon the Issuer or a Guarantor's exercise of the option provided in Section 12.1 applicable to this Section, (i) the Issuer and the Guarantors shall be released from their obligations under Sections Section 9.1 and 11.15 through 11.17, inclusive and the Guarantors shall be released from all of its obligations under the Guarantees and under Article XIII of this Indenture, and (ii) the occurrence of an event specified in Section 6.1(3) (with respect to Section 9.1 and Sections 11.15 through 11.17, inclusive) shall not be deemed to be or result in an Event of Default, on and after the date the conditions set forth below are satisfied (hereinafter, "covenant defeasance"). For this purpose, such covenant defeasance means that the Issuer and the Guarantors may omit to comply with and shall have no liability in respect of any term, condition or limitation set forth in any such Section or Article, whether directly or indirectly by reason of any reference elsewhere herein to any such Section or Article or by reason of any reference in any such Section or Article to any other provision herein or in any other document, but the remainder of this Indenture and such Notes shall be unaffected thereby.

Section 12.4. <u>Conditions to Defeasance or Covenant Defeasance</u>.

The following shall be the conditions to application of either Section 12.2 or Section 12.3 to the Outstanding Notes:

(1) the Issuer or a Guarantor shall irrevocably have deposited or caused to be deposited with the Trustee or its designee, in trust, for the benefit of the Holders (A) cash, (B) Cash Equivalents, (C) U.S. Government Obligations, or (D) a combination thereof, sufficient, in the written opinion of an internationally recognized firm of independent certified public accountants, investment bank or consulting firm to pay and discharge, the principal of, premium, if any, and each installment of interest (including Additional Amounts, if any) on the Notes on the Stated Maturity of such principal or installment of interest on the day on which such payments are due and payable in accordance with the terms of this Indenture and of such Notes. For this purpose, "<u>U.S. Government Obligations</u>" means securities that are (x) direct obligations of the United States for the payment of which its full faith and credit is pledged or (y) obligations of a Person controlled or supervised by and acting as an agency or instrumentality of the United States the payment of which is unconditionally guaranteed as a full faith and credit obligation by the United States, which, in either case, are not callable or redeemable at the option of the issuer thereof, and shall also include a depositary receipt issued by a bank (as defined in Section 3(a)(2) of the Securities Act) as custodian with respect to any such U.S. Government Obligation or a specific payment of principal of or interest on any such U.S. Government Obligation held by such custodian for the account of the Holder of such depositary receipt, <u>provided</u> that (except as required by law) such custodian is not authorized to make any deduction from the amount payable to the Holder of such depositary receipt from any amount received by the custodian in respect of the U.S. Government Obligation or the specific payment of principal of or interest on the U.S. Government Obligation evidenced by such depositary receipt;

(2) no Default or Event of Default shall have occurred and be continuing on the date of such deposit;

(3) the Issuer or a Guarantor shall have delivered to the Trustee an Officer's Certificate and an Opinion of Counsel, each stating that all conditions precedent provided for relating to either the defeasance under Section 12.2 or the covenant defeasance under Section 12.3 (as the case may be) have been complied with;

(4) in the case of an election under Section 12.2, the Issuer or a Guarantor shall have delivered to the Trustee an Opinion of Counsel in the United States stating that (x) the Issuer or a Guarantor has received from, or there has been published by, the Internal Revenue Service a ruling, or (y) since the date of this Indenture there has been a change in the applicable United States Federal income tax law, in either case to the effect that, and based thereon such Opinion of Counsel shall confirm that, the Holders of the Outstanding Notes will not recognize income, gain or loss for United States Federal income tax purposes as a result of such deposit, defeasance and discharge and will be subject to United States Federal income tax on the same amounts, in the same manner and at the same times as would have been the case if such deposit, defeasance and discharge had not occurred;

(5) in the case of an election under Section 12.3, the Issuer or a Guarantor shall have delivered to the Trustee an Opinion of Counsel in the United States to the effect that the Holders of the Outstanding Notes will not recognize income, gain or loss for United States Federal income tax purposes as a result of such deposit and covenant defeasance and will be subject to United States Federal income tax on the same amounts, in the same manner and at the same times as would have been the case if such covenant defeasance had not occurred.

Section 12.5. Deposited Money and U.S. Government Obligations to Be Held in Trust; Other Miscellaneous Provisions.

Subject to the provisions of the last paragraph of Section 11.3, all money and U.S. Government Obligations (including the proceeds thereof) deposited with the Trustee (or other qualifying trustee—collectively, for purposes of this Section 12.5, the "Defeasance Trustee") pursuant to Section 12.4 in respect of the Notes shall be held in trust and applied by the Defeasance Trustee, in accordance with the provisions of such Notes and this Indenture, to the payment, either directly or through any Paying Agent (including the Issuer or a Guarantor acting as their own Paying Agent) as the Defeasance Trustee may determine, to the Holders of such Notes, of all sums due and to become due thereon in respect of principal (and premium, if any) and interest, but such money need not be segregated from other funds except to the extent required by law.

The Issuer and the Guarantors shall, jointly and severally, pay and indemnify the Defeasance Trustee against any tax, fee or other charge imposed on or assessed against the U.S. Government Obligations deposited pursuant to Section 12.4 or the principal and interest received in respect thereof other than any such tax, fee or other charge which by law is for the account of the Holders of the Outstanding Notes.

Anything in this Article to the contrary notwithstanding, the Defeasance Trustee shall deliver or pay to the Issuer from time to time upon Issuer Request any money or U.S. Government Obligations held by it as provided in Section 12.4 which, in the opinion of an internationally recognized accounting firm expressed in a written certification thereof delivered to the Defeasance Trustee, are in excess of the amount thereof which would then be required to be deposited to effect an equivalent defeasance or covenant defeasance.

Section 12.6. <u>Reinstatement</u>.

If the Defeasance Trustee or the Paying Agent is unable to apply any money in accordance with Section 12.2 or 12.3 by reason of any order or judgment of any court or governmental authority enjoining, restraining or otherwise prohibiting such application, then the obligations of the Issuer and the Guarantors under this Indenture, the Guarantees and the Notes, if any, shall be revived and reinstated as though no deposit had occurred pursuant to this Article until such time as the Defeasance Trustee or Paying Agent is permitted to apply all such money in accordance with Section 12.2 or 12.3; <u>provided</u>, <u>however</u>, that if the Issuer or the Guarantors makes any payment of principal of (and premium, if any) any Note following the reinstatement of such obligations, the Issuer or the Guarantors shall be subrogated to the rights of the Holders of such Notes to receive such payment from the money held by the Defeasance Trustee or the Paying Agent.

Section 12.7. <u>Repayment to Issuer or the Guarantors</u>.

Any money deposited with the Defeasance Trustee or any Paying Agent, or then held by the Issuer or a Guarantor, in trust for the payment of the principal of, premium, if any, or interest on any Note and remaining unclaimed for two years after such principal, and premium, if any, or interest has become due and payable shall be paid to the Issuer or the Guarantors on its written request or (if then held by the Issuer or the Guarantors) shall be discharged from such trust; and the Holder of such security shall thereafter, as a creditor, look only to the Issuer or the Guarantors for payment thereof, and all liability of the Defeasance Trustee or such Paying Agent with respect to such trust money, and all liability of the Issuer or the Guarantor as trustee thereof, shall thereupon cease; <u>provided</u>, <u>however</u>, that the Defeasance Trustee or such Paying Agent, before being required to make any such repayment, shall at the expense of the Issuer and the Guarantors cause to be published once, in *The New York Times* and *The Wall Street Journal* (national edition), notice that such money remains unclaimed and that, after a date specified therein, which shall not be less than 30 days from the date of such notification or publication, any unclaimed balance of such money then remaining will be repaid to the Issuer or the Guarantors.

ARTICLE XIII

SUBSTITUTION OF THE ISSUER

Section 13.1. Substitution of the Issuer.

Notwithstanding any other provision contained in this Indenture,

(a) the Issuer may, without the consent of the Holders of the Notes (and by subscribing for any Notes, each Holder of the Notes expressly consents to it), be replaced and substituted by (i) any Wholly Owned Subsidiary of the Issuer or (ii) any Permitted Holding Company as principal debtor (in such capacity, the "Substituted Issuer") in respect of the Notes provided that:

(1) such documents (together, the "Issuer Substitution Documents") shall be executed by the Substituted Issuer, the Issuer and the Trustee as may be necessary to give full effect to the substitution, including a supplemental indenture whereby (i) the Substituted Issuer assumes all Issuer's obligations under this Indenture and the Notes and (ii) the Issuer (the "Additional Guarantor") guarantees on an unsecured and unsubordinated basis the due and punctual payment of all amounts under this Indenture and with respect to the Notes (without limiting the generality of the foregoing) pursuant to which the Substituted Issuer shall undertake in favor of each Holder of the Notes to be bound by the terms and conditions of the Notes and the provisions of this Indenture as fully as if the Substituted Issuer had been named in the Notes and this Indenture as the principal debtor in respect of the Notes in place of the Issuer (or any previous substitute) and pursuant to which the Additional Guarantor will guarantee on an unsecured and unsubordinated basis the due and punctual payment of all amounts under this Indenture and with respect to the Notes (together, the "Substitution");

(2) if the Substituted Issuer is incorporated, domiciled or resident in a territory other than Luxembourg, the Issuer Substitution Documents shall contain a covenant by the Substituted Issuer and/or such other provisions as may be necessary to ensure that each Holder of the Notes has the benefit of a covenant in terms corresponding to the obligations of the Issuer in respect of the payment of Additional Amounts set forth in Section 11.9 and tax repurchases in Section 4.1, with the substitution for the references to Luxembourg for references to the territory in which the Substituted Issuer is incorporated, domiciled and/or resident for taxation purposes;

(3) the Issuer Substitution Documents shall contain a covenant by the Additional Guarantor and/or such other provisions as may be necessary to ensure that each holder of the Notes has the benefit of a covenant in terms corresponding to the obligations of the Additional Guarantor as a guarantor of the Notes in respect of the payment of Additional Amounts set forth in Section 11.9 (but with references to Luxembourg as the jurisdiction of incorporation of the Additional Guarantor);

(4) if the Substituted Issuer is incorporated, domiciled or resident in a territory other than Luxembourg, the Issuer Substitution Documents shall also contain a covenant by the Substituted Issuer to indemnify and hold harmless each Holder and beneficial owner of the Notes, the Trustee, the Agents and each other against the actual amount of all taxes or duties required to be paid (including any taxes or duties imposed on the receipt of such indemnity payments) which arise by reason of a law or regulation in effect or contemplated on the effective date of the Substitution, which may be incurred or levied against such Holder or beneficial owner of the Notes as a result of the substitution and which would not have been so incurred or levied had the Substitution not been made, subject to similar exceptions set forth under Section 11.9(2) through (8), inclusive, *mutatis mutandis*; provided, that any holder making a claim with respect to such tax indemnity shall provide the Issuer with notice of such claim, along with supporting documentation, within four weeks of the announcement of the Substitution of the Substituted Issuer as issuer; provided further, that none of the Issuer (including the Substituted Issuer), the Guarantors (including the Additional Guarantor), any paying agent or any other person shall be required to indemnify any holder or beneficial owner of the notes for any taxes imposed pursuant to FATCA, any treaty, law, regulation or other official guidance enacted by any jurisdiction implementing FATCA, or any agreement between the Issuer and the United States or any authority thereof implementing FATCA;

(5) the Substituted Issuer shall have delivered, or procured the delivery to the Trustee of, an Opinion of Counsel addressed to the Substituted Issuer from a leading firm of lawyers in the country of incorporation of the Substituted Issuer, to the effect that the Issuer Substitution Documents constitute legal, valid and binding obligations of the Substituted Issuer and the Additional Guarantor;

(6) the Issuer shall have delivered, or procured the delivery to the Trustee of, an Opinion of Counsel addressed to the Issuer and the Substituted Issuer from a leading firm of New York lawyers to the effect that the Issuer Substitution Documents constitute legal, valid and binding obligations of the Substituted Issuer and the Additional Guarantor under New York law;

(7) the Issuer and the Substituted Issuer shall have appointed a process agent in the Borough of Manhattan, the City of New York to receive service of process on its behalf in relation to any legal action or proceedings arising out of or in connection with the Issuer Substitution Documents;

(8) there is no continuing Event of Default in respect of the Notes.

(b) Upon effectiveness of the substitution, the Substituted Issuer and the Issuer shall deliver to the Trustee an Officer's Certificate, executed by an authorized officer, certifying that the terms of this section have been complied with and attaching copies of all documents contemplated herein.

(c) Upon the execution of the Issuer Substitution Documents as referred to in paragraph (a)(1) above and compliance with the other conditions in paragraph (a), (1) the Substituted Issuer shall be deemed to be named in the Notes as the principal debtor in place of the Issuer (or of any previous substitute under these provisions), (2) the Additional Guarantor shall be deemed to be named as a guarantor of the Notes and (3) the Notes shall thereupon be deemed to be amended to give effect to the transactions referred to in (1) and (2). Except as set forth above, the execution of the Issuer Substitution Documents shall operate to release the Issuer (or such previous substitute as aforesaid) from all its obligations as issuer of the Notes.

(d) Not later than 10 Business Days after the execution of the Issuer Substitution Documents, the Substituted Issuer shall give notice thereof to the Holders of the Notes in accordance with the provisions described under Section 1.6.

ARTICLE XIV

GUARANTEES

Section 14.1. Guarantees.

Nexa CJM, Nexa Peru and Nexa Brazil hereby, jointly, severally, fully, absolutely and unconditionally guarantee on an unsecured basis to each Holder of a Note authenticated and delivered by the Trustee, and to the Trustee on behalf of such Holder, and for itself and the Paying Agents, the due and punctual payment of the principal of (and premium, if any) and interest (including any Additional Amounts) on such Note and all other obligations of the Issuer under this Indenture, when and as the same shall become due and payable, whether at the Stated Maturity or by acceleration, redemption, purchase or otherwise, in accordance with the terms of such Note and of this Indenture. In case of the failure of the Issuer punctually to make any such payment, each of the Guarantors hereby agrees to cause such payment to be made punctually when and as the same shall become due and payable, whether at the Stated Maturity or by acceleration, call for redemption, purchase or otherwise, and as if such payment were made by the Issuer.

The Guarantees constitute unconditional and unsubordinated obligations of each of the Guarantors that will at all times rank at least equally with all other present and future unsecured senior obligations of each such Guarantor, except for any obligations that may be preferred by provisions of law that are both mandatory and of general application.

Each of the Guarantors hereby agrees that its obligations hereunder shall be unconditional, irrespective of the validity, regularity or enforceability of any Note or this Indenture, the absence of any action to enforce the same, any release or amendment or waiver of any term of any other guarantee of, or any consent to depart from any requirement of any other guarantee, of all or any of the Notes, any waiver or consent by the Holder of any Note or by the Trustee with respect to any provisions thereof or of this Indenture, the obtaining of any judgment against the Issuer or any action to enforce the same or any other circumstances which might otherwise constitute a legal or equitable discharge or defense of a guarantor. Each of the Guarantors hereby waives notice of the acceptance of its Guarantee and of any of the obligations under this Indenture or the Notes (the "Obligations") or of the accrual thereof, and further waives presentment, protest, notice or demand. This is a continuing guarantee and is a guarantee of payment and not of collection, and each of the Guarantors waives any right to require the Holders to initiate collection proceeds or otherwise enforce payment of the Obligations or any security or other guarantee therefore before obtaining payment hereunder.

The Guarantees shall continue to be in effect or be reinstated, as the case may be, if at any time (i) any payment in respect of any of the Obligations is rescinded or must otherwise be returned by the Holders, whether by reason of the insolvency, bankruptcy, receivership, reorganization or liquidation of the Issuer or any Guarantor or any other obligor or otherwise, all as though such payment had not been made or (ii) a Substituted Issuer, as defined in Section 13.1, assumes the Issuer's obligations under the Notes pursuant to Article XIII hereof.

Each of the Guarantors hereby waives the benefits of diligence, presentment, demand of payment, any requirement that the Trustee or any of the Holders protect, secure, perfect or insure any security interest in or other Lien on any property subject thereto or exhaust any right or take any action against the Issuer or any other Person or any collateral, filing of claims with a court in the event of insolvency or bankruptcy of the Issuer, any right to require a proceeding first against the Issuer, protest or notice with respect to any Note or the indebtedness evidenced thereby and all demands whatsoever, and covenants, that these Guarantees will be discharged in respect of any Note except by complete performance of the obligations contained in such Note and in the Guarantees. Each of the Guarantors hereby agrees that, in the event of a default in payment of principal (or premium, if any) or interest on any Note, whether at its Stated Maturity or by acceleration, redemption, purchase or otherwise, legal proceedings may be instituted by the Trustee on behalf of, or by, the Holder of such Note, subject to the terms and conditions set forth in this indenture, directly against any or all of the Guarantors to enforce the Guarantees without first proceeding against the Issuer. Each of the Guarantors agrees that if, after the occurrence and during the continuance of an Event of Default, the Trustee or any of the Holders are prevented by applicable law from exercising their respective rights to accelerate the maturity of the Notes, to collect interest on the Notes or to enforce or exercise any other right or remedy with respect to the Notes, or the Trustee or the Holders are prevented from taking any action to realize on any collateral, each of the Guarantor agrees to pay to the Trustee for the account of the Holders, upon demand therefore, the amount that would otherwise have been due and payable had such rights and remedies been permitted to be exercised by the Trustee or any of the Holders.

No provision of the Guarantees, Notes or of this Indenture shall alter or impair the Guarantees of the Guarantors, of which the Guarantees are absolute and unconditional, of the due and punctual payment of the principal (and premium, if any) and interest (and Additional Amounts, if any) on the Note and the obligation under this Indenture upon which each Guarantee is endorsed.

Each of the Guarantors shall be subrogated to all rights of the Holders of the Notes upon which its Guarantee is endorsed against the Issuer in respect of any amounts paid by each of the Guarantors on account of such Note pursuant to the provisions of the Guarantees or this Indenture; provided, however, that none of the Guarantors shall be entitled to enforce or to receive any payments arising out of, or based upon, such right of subrogation until the principal of (and premium, if any) and interest (and Additional Amounts, if any) on all Notes issued hereunder shall have been paid in full.

The Guarantees shall remain in full force and effect and continue to be effective should any petition be filed by or against the Issuer for liquidation or reorganization, should the Issuer become insolvent or make an assignment for the benefit of creditors or should a receiver or trustee be appointed for all or any significant part of the Issuer's assets, and shall, to the fullest extent permitted by law, continue to be effective or be reinstated, as the case may be, if at any time payment and performance of the obligations under the Notes is, pursuant to applicable law, rescinded or reduced in amount, or must otherwise be restored or returned by any obligee on the Notes, whether as a "voidable preference," "fraudulent transfer" or otherwise, all as though such payment or performance had not been made. In the event that any payment, or any part thereof, is rescinded, reduced, restored or returned, the Notes shall, to the fullest extent permitted by law, be reinstated and deemed reduced only by such amount paid and not so rescinded, reduced, restored or returned.

Each of the Guarantors hereby irrevocably waives all benefits set forth in the following provisions of the Brazilian law: articles 333, sole paragraph, 366, 368, 827, 829, sole paragraph, 830, 834, 835, 837 and 838 of the Brazilian Civil Code and articles 130 and 794 of the Brazilian Civil Procedure Code.

No stockholder, officer, director, employer or incorporator, past, present or future, of any Guarantor, as such, shall have any personal liability under the Guarantee by reason of his, her or its status as such stockholder, officer, director, employer or incorporator.

Section 14.2. Delivery of the Guarantee.

The delivery of any Note by the Trustee, after the authentication thereof hereunder, shall constitute due delivery of the Guarantees set forth herein on behalf of the Guarantors.

Section 14.3. Release of Guarantor.

(a) Concurrently with any consolidation or merger of any of the Guarantors or any sale or conveyance of the property of any of the Guarantors as an entirety or substantially as an entirety, in each case as permitted by Section 9.1(a) hereof, and upon delivery by such Guarantor to the Trustee of an Officer's Certificate and an Opinion of Counsel to the effect that such consolidation, merger, sale or conveyance was made in accordance with Section 9.1(a) hereof, the Trustee shall execute any documents reasonably required in order to evidence the release of such Guarantor from its obligations under its Guarantee endorsed on the Notes and under this Article XIV.

(b) Concurrently with the defeasance of the Notes under Section 12.2 hereof or the covenant defeasance of the Notes under Section 12.3 hereof, each of the Guarantors shall be released from all of its obligations under its Guarantee endorsed on the Notes and under this Article XIV.

ARTICLE XV

MEETINGS OF HOLDERS OF SECURITIES

Section 15.1. Purposes for Which Meetings May Be Called.

A meeting of Holders of Notes may be called at any time and from time to time pursuant to this Article to consider any matter affecting their interests, including, if proposed by the Issuer, the modification of the terms and conditions of the Notes; provided that any modification postponing the date for payment of any interest, reducing or canceling any amount of principal or the rate of interest payable or altering the currency of payment in respect of the Notes will only be binding if passed at a meeting of Holders at which a special quorum (as set forth in Section 15.4) is present.

Section 15.2. Call, Notice and Place of Meetings.

(1) The Trustee may at any time call a meeting of Holders of Notes of any series for any purpose specified in Section 15.1, to be held at such time and at such place in the Borough of Manhattan, The City of New York as the Trustee shall determine. Notice of every meeting of Holders of Notes, setting forth the time and the place of such meeting and in general terms the action proposed to be taken at such meeting, shall be given, in the manner provided in Section 1.6, not less than 21 nor more than 180 days prior to the date fixed for the meeting.

(2) In case at any time the Issuer, pursuant to a Board Resolution, or the Holders of at least 10% in principal amount of the Outstanding Notes shall have requested the Trustee to call a meeting of the Holders of Notes for any purpose specified in Section 15.1, by written request setting forth in reasonable detail the action proposed to be taken at the meeting, and the Trustee shall not have made the first publication of the notice of such meeting within 21 days after receipt of such request or shall not thereafter proceed to cause the meeting to be held as provided herein, then the Issuer or the Holders of Notes in the amount specified above, as the case may be, may determine the time and the place in the Borough of Manhattan, The City of New York for such meeting and may call such meeting for such purposes by giving notice thereof as provided in subsection (1) of this Section.

Section 15.3. Persons Entitled to Vote at Meetings.

To be entitled to vote at any meeting of Holders of Notes, a Person shall be (i) a Holder on a record date established pursuant to Section 15.5 of one or more Outstanding Notes, or (ii) a Person appointed by an instrument in writing as proxy for a Holder or Holders of one or more Outstanding Notes by such Holder or Holders. The only Persons who shall be permitted to be present or to speak at any meeting of Holders of Notes of any series shall be the Persons entitled to vote at such meeting and their counsel, any representatives of the Trustee and its counsel and any representatives of the Issuer and its counsel.

Section 15.4. Quorum; Action.

The Persons entitled to vote a majority in principal amount of the Outstanding Notes shall constitute a "quorum" for a meeting of Holders of Notes, however, any modification postponing the date for payment of any interest, reducing or canceling any amount of principal or the rate of interest payable or altering the currency of payment in respect of the Notes will only be binding if passed at a meeting of Holders of at least 66 2/3% of the Notes (a "special quorum"). In the absence of a quorum or a special quorum, as the case may be, within 15 minutes (or such longer period not exceeding 30 minutes as the chairman may decide) of the time appointed for any such meeting, the meeting shall if convened upon the requisition of Holders be dissolved. In any other case it shall stand adjourned to the same day in the next week (or if such day is not a Business Day the next succeeding Business Day) at the same time and place. If within 15 minutes (or such longer period not exceeding 30 minutes as the chairman may decide) after the time appointed for any adjourned meeting a quorum or a special quorum, as the case may be, is not present for the transaction of any particular business, then, subject and without prejudice to the transaction of the business (if any) for which a quorum or a special quorum, as the case may be, is present, the chairman may either (with the approval of the Trustee) dissolve such meeting or adjourn the same for such period, being not less than ten calendar days (but without any maximum number of calendar days), and to such place as may be appointed by the chairman either at or subsequent to such adjourned meeting and approved by the Trustee, and the provisions of this sentence shall apply to all further adjourned such meetings.

Notice of the reconvening of any adjourned meeting shall be given as provided in Section 15.2(1), except that such notice need be given only once not less than five days prior to the date on which the meeting is scheduled to be reconvened. Notice of a reconvening of an adjourned meeting shall state expressly the percentage, as provided above, of the principal amount of the Outstanding Notes of such series which shall constitute a quorum.

Any resolution passed or decision taken at any meeting of Holders of Notes of any series duly held in accordance with this Section shall be binding on all the Holders of Notes of such series, whether or not presented or represented at the meeting. However, for the avoidance of doubt, no actions taken at such meeting shall be binding on all Holders of Notes unless such actions were approved by the minimum percentage in principal amount of the Outstanding Notes of the series as required elsewhere in this Indenture with respect to such actions.

Section 15.5. Determination of Voting Rights; Conduct and Adjournment of Meetings.

(a) Notwithstanding any other provisions of this Indenture, the Trustee may make such reasonable regulations as it may deem advisable for any meeting of Holders of Notes of a series in regard to proof of the holding of Notes of such series and the appointment of proxies and in regard to the appointment and duties of inspectors of votes, the submission and examination of proxies, certificates and other evidence of the right to vote, and such other matters concerning the conduct of the meeting as it shall deem appropriate. Except as otherwise permitted or required by any such regulations, the holding of Notes shall be proved in the manner specified in Section 1.4 and the appointment of any proxy shall be proved in the manner specified in Section 1.4. Such regulations may provide that written instruments appointing proxies, regular on their face, may be presumed valid and genuine without the proof specified in Section 1.4 or other proof.

(b) The Trustee shall, by an instrument in writing, appoint a temporary chairman of the meeting, unless the meeting shall have been called by the Issuer or by Holders of Notes as provided in Section 15.2(2), in which case the Issuer or the Holders of Notes of the series calling the meeting, as the case may be, shall in like manner appoint a temporary chairman. A permanent chairman and a permanent secretary of the meeting shall be elected by vote of the Persons entitled to vote a majority in principal amount of the Outstanding Notes of such series represented at the meeting.

(c) At any meeting each Holder of a Note of such series or proxy shall be entitled to one vote for each $1,000 principal amount of the Outstanding Notes of such series held or represented by him or her; provided, however, that no vote shall be cast or counted at any meeting in respect of any Note challenged as not Outstanding and ruled by the chairman of the meeting to be not Outstanding. The chairman of the meeting shall have no right to vote, except as a Holder of a Note of such series or proxy.

(d) Any meeting of Holders of Notes of any series duly called pursuant to Section 15.2 at which a quorum is present may be adjourned from time to time by Persons entitled to vote a majority in principal amount of the Outstanding Notes of such series represented at the meeting, and the meeting may be held as so adjourned without further notice.

Section 15.6. <u>Counting Votes and Recording Action of Meetings</u>.

The vote upon any resolution submitted to any meeting of Holders of Notes of any series shall be by written ballots on which shall be subscribed the signatures of the Holders of Notes of such series or of their representatives by proxy and the principal amounts and serial numbers of the Outstanding Notes of such series held or represented by them. The permanent chairman of the meeting shall appoint two inspectors of votes who shall count all votes cast at the meeting for or against any resolution and who shall make and file with the secretary of the meeting their verified written reports in duplicate of all votes cast at the meeting. A record, at least in duplicate, of the proceedings of each meeting of Holders of Notes of any series shall be prepared by the secretary of the meeting and there shall be attached to said record the original reports of the inspectors of votes on any vote by ballot taken thereat and affidavits by one or more persons having knowledge of the facts setting forth a copy of the notice of the meeting and showing that said notice was given as provided in Section 15.2 and, if applicable, Section 15.5. Each copy shall be signed and verified by the affidavits of the permanent chairman and secretary of the meeting and one such copy shall be delivered to the Issuer, and another to the Trustee to be preserved by the Trustee, the latter to have attached thereto the ballots voted at the meeting. Any record so signed and verified shall be conclusive evidence of the matters therein stated.

IN WITNESS WHEREOF, the parties hereto have caused this Indenture to be duly executed as of the day and year first above written.

NEXA RESOURCES S.A.

By: ______________________________
Name:
Title:

By: ______________________________
Name:
Title:

Signature Page to Indenture

IN WITNESS WHEREOF, the parties hereto have caused this Indenture to be duly executed as of the day and year first above written.

NEXA RESOURCES CAJAMARQUILLA S.A.

By: ____________________
Name:
Title:

By: ____________________
Name:
Title:

Signature Page to Indenture

IN WITNESS WHEREOF, the parties hereto have caused this Indenture to be duly executed as of the day and year first above written.

NEXA RESOURCES PERU S.A.A.

By: ______________________________
Name:
Title:

By: ______________________________
Name:
Title:

Signature Page to Indenture

IN WITNESS WHEREOF, the parties hereto have caused this Indenture to be duly executed as of the day and year first above written.

NEXA RECURSOS MINERAIS S.A.

By: ______________________________
Name:
Title:

By: ______________________________
Name:
Title:

Witnesses:

By: /s/ Felipe Da Silva Azevedo
Name: Felipe Da Silva Azevedo

By: /s/ Junia Fontes Vieira Cidade
Name: Junia Fontes Vieira Cidade

Signature Page to Indenture

THE BANK OF NEW YORK MELLON,
as Trustee, Principal Paying Agent, Transfer Agent and Registrar

By: ______________________________
Name:
Title:

Signature Page to Indenture

EXHIBIT A

FORM OF CERTIFICATION FOR TRANSFER OR EXCHANGE OF RESTRICTED GLOBAL NOTE TO REGULATION S GLOBAL NOTE

(Exchanges or transfers pursuant to Section 3.4(c)(2) of the Indenture)

The Bank of New York Mellon
240 Greenwich Street
New York, New York 10286
United States
Attention: Global Corporate Trust

Re: Nexa Resources S.A.
6.500% Notes due 2028 (the "Notes")

Reference is hereby made to the Indenture, dated as of June 18, 2020 (the "Indenture"), among Nexa Resources S.A., as Issuer, Nexa Resources Cajamarquilla S.A., Nexa Resources Perú S.A.A. and Nexa Recursos Minerais S.A., as Guarantors, and The Bank of New York Mellon, a New York banking corporation, as trustee (the "Trustee"), as principal paying agent (the "Principal Paying Agent"), as transfer agent (the "Transfer Agent") and registrar (the "Security Registrar"). Capitalized terms used but not defined herein shall have the meanings given to them in the Indenture.

This letter relates to U.S.$[   ] aggregate principal amount of Notes which are held in the form of the Restricted Global Note (CUSIP No. 65290D AA1 / ISIN No. US65290DAA19 / Common Code 219373309) with the Depositary in the name of [*insert name of transferor*] (the "Transferor"). The Transferor has requested a transfer of such beneficial interest in the Notes to a Person who will take delivery thereof in the form of an equal aggregate principal amount of Notes evidenced by the Regulation S Global Note (CUSIP No. L67359 AA4 / ISIN No. USL67359AA48 / Common Code 219373368).

In connection with such request, and in respect of such Notes, the Transferor does hereby certify that such transfer has been effected in accordance with the transfer restrictions set forth in the Notes and that:

(A) The offer of the Notes was not made to a person in the United States; and

(B) either:

(i) at the time the buy order was originated, the transferee was outside the United States or the Transferor and any person acting on its behalf reasonably believed that the transferee was outside the United States; or

(ii) the transaction was executed in, on or through the facilities of a designated offshore securities market and neither the Transferor nor any person acting on our behalf knows that the transaction was pre-arranged with a buyer in the United States;

(C) no directed selling efforts have been made in contravention of the requirements of Rule 903(a)(2) or 904(a)(2) of Regulation S, as applicable; and

(D) the transaction is not part of a plan or scheme to evade the registration requirements of the Securities Act.

We understand that this certificate is required in connection with certain securities laws of the United States. In connection therewith, if administrative or legal proceedings are commenced or threatened in connection with which this certificate is or would be relevant, we irrevocably authorize you to produce this certificate to any interested party in such proceeding. This certificate and the statements contained herein are made for your benefit and the benefit of the Issuer and the Guarantors.

[INSERT NAME OF TRANSFEROR]

By: ______________________________
Name:
Title:

Dated: ______________________________

cc: Nexa Resources S.A.

EXHIBIT B

FORM OF CERTIFICATION FOR TRANSFER OR EXCHANGE OF REGULATION S GLOBAL NOTE TO RESTRICTED GLOBAL NOTE

(Exchanges or transfers pursuant to Section 3,4(c)(3) of the Indenture)

The Bank of New York Mellon
240 Greenwich Street
New York, New York 10286
United States
Attention: Global Corporate Trust

Re: Nexa Resources S.A.
6.500% Notes due 2028 (the "Notes")

Reference is hereby made to the Indenture, dated as of June 18, 2020 (the "Indenture"), among Nexa Resources S.A., as Issuer, Nexa Resources Cajamarquilla S.A., Nexa Resources Perú S.A.A. and Nexa Recursos Minerais S.A., as Guarantors, and The Bank of New York Mellon, a New York banking corporation, as trustee (the "Trustee"), as principal paying agent (the "Principal Paying Agent"), as transfer agent (the "Transfer Agent") and registrar (the "Security Registrar"). Capitalized terms used but not defined herein shall have the meanings given to them in the Indenture.

This letter relates to U.S.$[ ] principal amount of Notes which are evidenced by an aggregate Regulation S Global Note (CUSIP No. L67359 AA4 / ISIN No. USL67359AA48 / Common Code 219373368) and held with the Depositary through [Euroclear] [Clearstream] in the name of [*insert name of transferor*] (the "Transferor"). The Transferor has requested a transfer of such beneficial interest in Notes to a person that will take delivery thereof in the form of an equal principal amount of Notes evidenced by a Restricted Global Note of the same series and of like tenor as the Notes (CUSIP No. 65290D AA1 / ISIN No. US65290DAA19 / Common Code 219373309).

In connection with such request and in respect of such Notes, the Transferor does hereby certify that such transfer is being effected pursuant to and in accordance with Rule 144A under the Securities Act and, accordingly, the Transferor does hereby further certify that the Notes are being transferred to a Person that the Transferor reasonably believes is purchasing the Notes for its own account, or for one or more accounts with respect to which such person exercises sole investment discretion, and such person and each such account is a "qualified institutional buyer" within the meaning of Rule 144A, in each case in a transaction meeting the requirements of Rule 144A and in accordance with any applicable securities laws of any state of the United States.

This certificate and the statements contained herein are made for your benefit and the benefit of the Issuer and the Guarantors.

[INSERT NAME OF TRANSFEROR]

By: ______________________________
Name:
Title:

Dated: ______________________________

cc: Nexa Resources S.A.

EXHIBIT C-1

FORM OF CERTIFICATION FOR TRANSFER OR EXCHANGE OF NON-GLOBAL RESTRICTED NOTE TO RESTRICTED GLOBAL NOTE

(Transfers and exchanges pursuant to Section 3.4(c)(4) of the Indenture)

The Bank of New York Mellon
240 Greenwich Street
New York, New York 10286
United States
Attention: Global Corporate Trust

Re: Nexa Resources S.A.
6.500% Notes due 2028 (the "Notes")

Reference is hereby made to the Indenture, dated as of June 18, 2020 (the "Indenture"), among Nexa Resources S.A., as Issuer, Nexa Resources Cajamarquilla S.A., Nexa Resources Perú S.A.A. and Nexa Recursos Minerais S.A., as Guarantors, and The Bank of New York Mellon, a New York banking corporation, as trustee (the "Trustee"), as principal paying agent (the "Principal Paying Agent"), as transfer agent (the "Transfer Agent") and registrar (the "Security Registrar"). Capitalized terms used but not defined herein shall have the meanings given to them in the Indenture.

This letter relates to U.S.$[   ] principal amount of Restricted Notes held in definitive form (CUSIP No. 65290D AA1 / ISIN No. US65290DAA19 / Common Code 219373309) by [*insert name of transferor*] (the "Transferor"). The Transferor has requested an exchange or transfer of such Notes.

In connection with such request and in respect of such Notes, the Transferor does hereby certify that (i) such Notes are owned by the Transferor and are being exchanged without transfer or (ii) such transfer has been effected pursuant to and in accordance with Rule 144A or Rule 144 under the United States Securities Act of 1933, as amended (the "Securities Act") and accordingly the Transferor does hereby further certify that:

(A) the Notes are being transferred to a person that the Transferor reasonably believes is purchasing the Notes for its own account, or for one or more accounts with respect to which such Person exercises sole investment discretion;

(B) such Person and each such account is a "qualified institutional buyer" within the meaning of Rule 144A; and

(C) the Notes have been transferred in a transaction meeting the requirements of Rule 144A and in accordance with any applicable securities laws of any state of the United States.

We understand that this certificate is required in connection with certain securities laws of the United States. In connection therewith, if administrative or legal proceedings are commenced or threatened in connection with which this certificate is or would be relevant, we irrevocably authorize you to produce this certificate to any interested party in such proceeding. This certificate and the statements contained herein are made for your benefit and the benefit of the Issuer and the Guarantors.

[INSERT NAME OF TRANSFEROR]

By: ______________________________
Name:
Title:

Dated: ______________________________

cc: Nexa Resources S.A.

EXHIBIT C-2

FORM OF CERTIFICATION FOR TRANSFER OR EXCHANGE OF NON-GLOBAL RESTRICTED NOTE TO REGULATION S GLOBAL NOTE

(Transfers and exchanges pursuant to Section 3.4(c)(4) of the Indenture)

The Bank of New York Mellon
240 Greenwich Street
New York, New York 10286
United States
Attention: Global Corporate Trust

Re: Nexa Resources S.A.
6.500% Notes due 2028 (the "Notes")

Reference is hereby made to the Indenture, dated as of June 18, 2020 (the "Indenture"), among Nexa Resources S.A., as Issuer, Nexa Resources Cajamarquilla S.A., Nexa Resources Perú S.A.A. and Nexa Recursos Minerais S.A., as Guarantors, and The Bank of New York Mellon, a New York banking corporation, as trustee (the "Trustee"), as principal paying agent (the "Principal Paying Agent"), as transfer agent (the "Transfer Agent") and registrar (the "Security Registrar"). Capitalized terms used but not defined herein shall have the meanings given to them in the Indenture.

This Letter relates to U.S.$[ ] principal amount of Restricted Notes held in definitive form (CUSIP No. 65290D AA1 / ISIN No. US65290DAA19 / Common Code 219373309) by [*insert name of transferor*] (the "Transferor"). The Transferor has requested an exchange or transfer of such Notes.

In connection with such request and in respect of such Notes, the Transferor does hereby certify that (i) such Notes are owned by the Transferor and are being exchanged without transfer or (ii) such transfer has been effected pursuant to and in accordance with (a) Rule 903 or Rule 904 under the Securities Act of 1933, as amended (the "Act"), or (b) Rule 144 under the Act, and accordingly the Transferor does hereby further certify that:

(A) the offer of the Notes was not made to a person in the United States; (B) either:

(i) at the time the buy order was originated, the transferee was outside the United States or the Transferor and any person acting on its behalf reasonably believed that the transferee was outside the United States, or

(ii) the transaction was executed in, on or through the facilities of a designated offshore securities market and neither the Transferor nor any person acting on its behalf knows that the transaction was pre-arranged with a buyer in the United States;

(C) no directed selling efforts have been made in contravention of the requirements of Rule 903(a)(2) or 904(b)(2)) of Regulation S, as applicable; and

(D) the transaction is not part of a plan or scheme to evade the registration requirements of the Act.

We understand that this certificate is required in connection with certain securities laws of the United States. In connection therewith, if administrative or legal proceedings are commenced or threatened in connection with which this certificate is or would be relevant, we irrevocably authorize you to produce this certificate to any interested party in such proceeding. This certificate and the statements contained herein are made for your benefit and the benefit of the Issuer and the Guarantors.

[INSERT NAME OF TRANSFEROR]

By: ______________________________
Name:
Title:

Dated: ______________________________

cc: Nexa Resources S.A.

EXHIBIT D-l

FORM OF CERTIFICATION FOR TRANSFER OR EXCHANGE OF NON-GLOBAL REGULATION S NOTE TO RESTRICTED GLOBAL NOTE

(Transfers and exchanges pursuant to Section 3.4(c)(5) of the Indenture)

The Bank of New York Mellon
240 Greenwich Street
New York, New York 10286
United States
Attention: Global Corporate Trust

Re: Nexa Resources S.A.
6.500% Notes due 2028 (the "Notes")

Reference is hereby made to the Indenture, dated as of June 18, 2020 (the "Indenture"), among Nexa Resources S.A., as Issuer, Nexa Resources Cajamarquilla S.A., Nexa Resources Perú S.A.A. and Nexa Recursos Minerais S.A., as Guarantors, and The Bank of New York Mellon, a New York banking corporation, as trustee (the "Trustee"), as principal paying agent (the "Principal Paying Agent"), as transfer agent (the "Transfer Agent") and registrar (the "Security Registrar"). Capitalized terms used but not defined herein shall have the meanings given to them in the Indenture.

This letter relates to U.S.$[   ] principal amount of Regulation S Global Notes held in definitive form (CUSIP No. L67359 AA4 / ISIN No. USL67359AA48 / Common Code 219373368) by [insert name of transferor] (the "Transferor"). The Transferor has requested an exchange or transfer of such Notes.

In connection with such request and in respect of such Notes, the Transferor does hereby certify that (i) such Notes are owned by the Transferor and are being exchanged without transfer or (ii) such transfer has been effected pursuant to and in accordance with Rule 144A under the United States Securities Act of 1933, as amended, and accordingly the Transferor does hereby further certify that the Notes are being transferred to a person that the Transferor reasonably believes is purchasing the Notes for its own account, or for one or more accounts with respect to which such Person exercises sole investment discretion, and such Person and each such account is a "qualified institutional buyer" within the meaning of Rule 144A, in each case in a transaction meeting the requirements of Rule 144A and in accordance with any applicable securities laws of any state of the United States.

We understand that this certificate is required in connection with certain securities laws of the United States. In connection therewith, if administrative or legal proceedings are commenced or threatened in connection with which this certificate is or would be relevant, we irrevocably authorize you to produce this certificate to any interested party in such proceeding. This certificate and the statements contained herein are made for your benefit and the benefit of the Issuer and the Guarantors.

[INSERT NAME OF TRANSFEROR]

By: ______________________________
Name:
Title:

Dated: ______________________________

cc: Nexa Resources S.A.

EXHIBIT D-2

FORM OF CERTIFICATION FOR TRANSFER OR EXCHANGE OF NON-GLOBAL REGULATION S NOTE TO REGULATION S GLOBAL NOTE

(Transfers and exchanges pursuant to Section 3.4(c)(5) of the Indenture)

The Bank of New York Mellon
240 Greenwich Street
New York, New York 10286
United States
Attention: Global Corporate Trust

Re: Nexa Resources S.A.
6.500% Notes due 2028 (the "Notes")

Reference is hereby made to the Indenture, dated as of June 18, 2020 (the "Indenture"), among Nexa Resources S.A., as Issuer, Nexa Resources Cajamarquilla S.A., Nexa Resources Perú S.A.A. and Nexa Recursos Minerais S.A., as Guarantors, and The Bank of New York Mellon, a New York banking corporation, as trustee (the "Trustee"), as principal paying agent (the "Principal Paying Agent"), as transfer agent (the "Transfer Agent") and registrar (the "Security Registrar"). Capitalized terms used but not defined herein shall have the meanings given to them in the Indenture.

This letter relates to U.S.$[   ] principal amount of Regulation S Global Notes held in definitive form (CUSIP No. L67359 AA4 / ISIN No. USL67359AA48 / Common Code 219373368) by [*insert name of transferor*] (the "Transferor"). The Transferor has requested an exchange or transfer of such Notes.

In connection with such request and in respect of such Notes, the Transferor does hereby certify that (i) such Notes are owned by the Transferor and are being exchanged without transfer or (ii) such transfer has been effected pursuant to and in accordance with (a) Rule 903 or Rule 904 under the Securities Act of 1933, as amended (the "Act"), or (b) Rule 144 under the Act, and accordingly the Transferor does hereby further certify that:

(A) the offer of the Notes was not made to a person in the United States; (B) either:

(i) at the time the buy order was originated, the transferee was outside the United States or the Transferor and any person acting on its behalf reasonably believed that the transferee was outside the United States, or

(ii) the transaction was executed in, on or through the facilities of a designated offshore securities market and neither the Transferor nor any person acting on its behalf knows that the transaction was pre-arranged with a buyer in the United States;

(C) no directed selling efforts have been made in contravention of the requirements of Rule 903(a)(2) or 904(b)(2) of Regulation S, as applicable; and

(D) the transaction is not pan of a plan or scheme to evade the registration requirements of the Act.

We understand that this certificate is required in connection with certain securities laws of the United States. In connection therewith, if administrative or legal proceedings are commenced or threatened in connection with which this certificate is or would be relevant, we irrevocably authorize you to produce this certificate to any interested party in such proceeding. This certificate and the statements contained herein are made for your benefit and the benefit of the Issuer and the Guarantors.

[INSERT NAME OF TRANSFEROR]

By: ______________________________
Name:
Title:

Dated: ____

cc: Nexa Resources S.A.

Exhibit 4.1

EXECUTION VERSION

VM HOLDING S.A.
as Issuer,

VOTORANTIM METAIS — CAJAMARQUILLA S.A.

COMPAÑIA MINERA MILPO S.A.A.

and

VOTORANTIM METAIS ZINCO S.A.
as Guarantors,

and

THE BANK OF NEW YORK MELLON
as Trustee, Principal Paying Agent, Transfer Agent and Registrar,

Indenture

Dated as of May 4, 2017

U.S.$700,000,000

5.375% Notes due 2027

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EXHIBITS

Exhibit A	—	FORM OF CERTIFICATION FOR TRANSFER OR EXCHANGE OF RESTRICTED GLOBAL SECURITY TO REGULATION S GLOBAL SECURITY
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Exhibit D-1	—	FORM OF CERTIFICATION FOR TRANSFER OR EXCHANGE OF NON-GLOBAL REGULATION S SECURITY TO RESTRICTED GLOBAL SECURITY
Exhibit D-2	—	FORM OF CERTIFICATION FOR TRANSFER OR EXCHANGE OF NON-GLOBAL REGULATION S SECURITY TO REGULATION S GLOBAL SECURITY

Note: This Table of Contents shall not, for any purpose, be deemed to be part of this Indenture.

THIS INDENTURE, dated as of May 4, 2017, among VM Holding S.A., a public limited liability company validly organized under the laws of the Grand Duchy of Luxembourg (the "Issuer"), Votorantim Metais — Cajamarquilla S.A., a corporation (*sociedad anónima*) validly organized under the laws of the Republic of Peru ("CJM"), Compañia Minera Milpo S.A.A., a publicly held corporation (*sociedad anónima abierta*) validly organized under the laws of the Republic of Peru ("Milpo"), Votorantim Metais Zinco S.A., a corporation (*sociedade anônima*) validly organized under the laws of the Federative Republic of Brazil ("VMZ", and, together with CJM and Milpo, the "Guarantors"), and The Bank of New York Mellon, a New York banking corporation, as trustee (the "Trustee"), a paying agent (the "Principal Paying Agent" and any other paying agents to be appointed hereunder, the "Paying Agents"), transfer agent (the "Transfer Agent"), and registrar (the "Registrar") and any other paying agents to be appointed hereunder, the "Paying Agents".

RECITALS

WHEREAS, the Issuer has duly authorized the creation of an issue of U.S.$700,000,000 of its 5.375% Notes due 2027 (the "Initial Notes" and, together with any Additional Notes (as defined herein) issued as provided for in Section 2.2 and 2.17 hereof, the "Notes") of substantially the tenor and amount hereinafter set forth, and to provide therefor the Issuer has duly authorized the execution and delivery of this Indenture.

WHEREAS, CJM, Milpo and VMZ have duly authorized the execution and delivery of this Indenture to provide for their Guarantees with respect to the Notes as set forth in this Indenture.

WHEREAS, all things necessary (i) to make the Initial Notes, when executed by the Issuer and authenticated and delivered hereunder and duly issued by the Issuer, the valid obligations of the Issuer, (ii) to make the Guarantees of CJM, Milpo and VMZ, when executed by CJM, Milpo and VMZ and endorsed on the Notes executed, authenticated and delivered hereunder, the valid obligations of

CJM, Milpo and VMZ and (iii) to make this Indenture a valid agreement of the Issuer, CJM, Milpo and VMZ, all, in accordance with their respective terms, have been done.

NOW, THEREFORE, THIS INDENTURE WITNESSETH:

For and in consideration of the premises and the purchase of the Notes by the Holders (as defined below) thereof, it is mutually covenanted and agreed, for the equal and proportionate benefit of all Holders of the Notes, as follows:

ARTICLE I

DEFINITIONS AND OTHER PROVISIONS OF GENERAL APPLICATION

Section 1.1. Definitions.

For all purposes of this Indenture, except as otherwise expressly provided or unless the context otherwise requires:

(1) the terms defined in this Article have the meanings assigned to them in this Article and include the plural as well as the singular;

(2) all accounting terms not otherwise defined herein have the meanings assigned to them in accordance with GAAP (whether or not such is indicated herein);

(3) the words "herein," "hereof" and "hereunder" and other words of similar import refer to this Indenture as a whole and not to any particular Article, Section or other subdivision;

(4) whenever there is mentioned in this Indenture, in any context, the payment of, or in respect of, a Redemption Price, the principal of or any premium or interest on any Note or the net proceeds received on the sale or exchange of any Notes, such mention shall be deemed to include mention of the payment of Additional Amounts to the extent that, in such context, Additional Amounts are, were or would be payable in respect thereof pursuant to this Indenture;

(5) All references in this Indenture to "$," "U.S.$," "dollars" or "United States dollars" shall refer to the lawful currency of the United States.

"Act" when used with respect to any Holder, has the meaning specified in Section 1.4. "Additional Amounts" has the meaning specified in Section 11.9.

"Additional Notes" means additional 5.375% Notes due 2027 issued from time to time after the Issue Date under the terms of this Indenture.

"Affiliate" of any Person means any other Person controlling or controlled by or under direct or indirect common control with such Person. For the purposes of this definition, "control," when used with respect to any Person, means the power to direct the management and policies of such Person, directly or indirectly, whether through the ownership of voting securities, by contract or otherwise; and the terms "controlling" and "controlled" have meanings correlative to the foregoing.

"Agent Member" means any member of, or participant in, the Depositary.

"Agents" means any Paying Agent, the Registrar, the Transfer Agent and any Principal Paying Agent appointed hereunder.

"Bankruptcy Law" means Title 11, United States Code, Brazilian Federal Law No. 11,101, dated February 9, 2005, as amended, or any similar federal or state law relating to bankruptcy, insolvency, receivership, winding-up, suspension of payments, liquidation, reorganization or relief of debtors or the law of any other jurisdiction relating to bankruptcy, insolvency, receivership, winding-up, suspension of payments, liquidation, dissolution, *procedimiento concursal ordinario, procedimiento concursal preventivo*,

"*recuperação judicial*," "*recuperação extrajudicial*," reorganization or relief of debtors, the judicial proceedings referred to in article 13, items 2 to 11 of the Luxembourg law dated 19 December 2002 relating to the register of commerce and companies as well as the accounting and the annual accounts of companies, as amended, including in particular, bankruptcy (*faillite*), controlled management (*gestion contrôlée*), suspension of payments (*sursis de paiement*), arrangement with creditors (*concordat préventif de la faillite*) and judicial liquidation (*liquidation judiciaire*) proceedings or any amendment to, succession to or change in any such law, procedure or process.

"Bankruptcy Order" means any court order made in a proceeding pursuant to or within the meaning of any Bankruptcy Law, containing an adjudication of bankruptcy or insolvency, or providing for liquidation, receivership, winding-up, dissolution, *procedimiento concursal ordinario, procedimiento concursal preventivo*, "*recuperação judicial*," "*recuperação extrajudicial*," or reorganization, or appointing a custodian of a debtor or of all or any substantial part of a debtor's property, or providing for the staying, arrangement, adjustment or composition of Indebtedness or other relief of a debtor or in any court order made in connection with the judicial proceedings referred to in article 13, items 2 to 11 of the Luxembourg law dated 19 December 2002 relating to the register of commerce and companies as well as the accounting and the annual accounts of companies, as amended, including in particular, bankruptcy (*faillite*), controlled management (*gestion contrôlée*), suspension of payments (*sursis de paiement*), arrangement with creditors (*concordat préventif de la faillite*) and judicial liquidation (*liquidation judiciaire*) proceedings.

"Base Currency" has the meaning set forth in Section 1.14.

"Board of Directors" means the board of directors of the Issuer.

"Board Resolution" means a duly adopted resolution of the Board of Directors in full force and effect at the time of determination.

"Brazil" means the Federative Republic of Brazil and any ministry, department, authority (including the Central Bank of Brazil) or statutory corporation or other entity (including a trust), owned or controlled directly or indirectly by the Federative Republic of Brazil or any of the foregoing.

"Business Day" means each day that is not a Saturday, Sunday or other day on which banking institutions in New York, United States, Luxembourg, Luxembourg, São Paulo, Brazil or Lima, Peru are authorized or required by law to close.

"Capital Lease Obligation" of any Person means the obligation to pay rent or other payment amounts under a lease of (or other Indebtedness arrangements conveying the right to use) real or personal property of such Person which is required to be classified and accounted for

as a capital lease or a liability set forth on a balance sheet of such Person in accordance with applicable GAAP. The stated maturity of such obligation shall be the date of the last payment of rent or any other amount due under such lease prior to the first date upon which such lease may be terminated by the lessee without payment of a penalty. The principal amount of such obligation shall be the capitalized amount thereof that would appear on the face of a balance sheet of such Person in accordance with applicable GAAP.

"Capital Stock" of any Person means any and all shares, interests, participations or other equivalents (however designated and whether voting or non-voting) of corporate stock or other equity participations or ownership interests, including quotas in a Brazilian limited liability quota company (*limitada*) or partnership interests, whether general or limited, of such Person.

"Cash Equivalents" means:

(1) United States dollars, Brazilian *reais*, Peruvian *soles*, euros, or money in other currencies received in the ordinary course of business of the Issuer and its Subsidiaries that are readily convertible into United States dollars or euros,

(2) any evidence of Debt with a maturity of 180 days or less issued or directly and fully guaranteed or insured by Brazil, Peru or the United States or any agency or instrumentality thereof, provided that the full faith and credit of Brazil, Peru or the United States is pledged in support thereof,

(3) (i) demand deposits, (ii) time deposits and certificates of deposit with maturities of one year or less from the date of acquisition, (iii) bankers' acceptances with maturities not exceeding one year from the date of acquisition, and (iv) overnight bank deposits, in each case with any bank or trust company organized or licensed under the laws of

Luxembourg, Brazil, Peru or the United States or any political subdivision or state thereof having capital, surplus and undivided profits in excess of U.S.$500.0 million whose short-term debt is rated "A-2" or higher by S&P or "P-2" or higher by Moody's,

(4) repurchase obligations with a term of not more than seven days for underlying securities of the type described in clauses (2) and (3) above entered into with any financial institution meeting the qualifications specified in clause (3) above,

(5) commercial paper rated at least P-1 by Moody's or A-1 by S&P and maturing within six months after the date of acquisition, and

(6) money market funds at least 95% of the assets of which consist of investments of the type described in clauses (1) through (5) above.

"Change of Control" means that the Permitted Holders shall cease to own, directly or indirectly, at least a majority of the outstanding voting power of the Voting Stock of the Issuer and shall cease to have the power to direct or cause the direction of the management and policies of the Issuer.

"Change of Control Offer" has the meaning specified in Section 11.5.

"Change of Control Payment" has the meaning specified in Section 11.5.

"Change of Control Payment Date" has the meaning specified in Section 11.5.

"Central Bank" means (i) the Central Bank of Luxembourg, (ii) the Central Bank of Brazil and (iii) the Central Reserve Bank of Peru or, in each case, any successor entity thereto.

"Change of Law" has the meaning specified in Section 3.1.

"CJM" means the Person named as "CJM" in the first paragraph of this instrument until a successor Person shall have become such pursuant to the applicable provisions of this Indenture and thereafter "CJM" shall mean such successor Person.

"Clearstream" means Clearstream Banking, *société anonyme*.

"Code" means the United States Internal Revenue Code of 1986, as amended.

"Comparable Treasury Issue" means the United States Treasury security or securities selected by an Independent Investment Banker as having an actual or interpolated maturity comparable to the period from the Redemption Date to the Par Call Date that would be utilized, at the time of selection and in accordance with customary financial practice, in pricing new issues of corporate debt securities of a comparable maturity to the period from the Redemption Date to the Par Call Date.

"Comparable Treasury Price" means, with respect to any Redemption Date, (1) the average of the Reference Treasury Dealer Quotations for such redemption date, after excluding the highest and lowest such Reference Treasury Dealer Quotation, or (2) if the Issuer or a Guarantor obtains fewer than four such Reference Treasury Dealer Quotations, the average of all such quotations.

"Consolidated Total Assets" means, on a consolidated basis, the Issuer's total amount of assets, calculated based on the most recent balance sheet delivered by the Issuer to the Trustee pursuant to this Indenture, after giving pro forma effect to any acquisition or disposition of companies, divisions, lines of businesses, operations or assets by the Issuer and its Subsidiaries subsequent to such date.

"Corporate Trust Office" means the principal office of the Trustee in The City of New York, New York, at which at any particular time its corporate trust business shall be administered, which at the date hereof is located at 101 Barclay Street, Floor 7 East, New York, New York 10286, Attention: International Corporate Trust, Fax: (212) 815-5603, and such other offices as the Trustee may designate from time to time.

"corporation" means a corporation, association, company, limited liability company, joint stock company or business trust.

"covenant defeasance" has the meaning specified in Section 12.3.

"Default" means an event that with the passing of time or the giving of notice or both shall constitute an Event of Default.

"Defaulted Interest" has the meaning specified in Section 3.6.

"Depositary" means, with respect to the Notes issuable or issued in whole or in part in the form of one or more Global Notes, DTC for so long as it shall be a clearing agency registered under the Exchange Act, or such successor as the Issuer shall designate from time to time in an Officer's Certificate delivered to the Trustee.

"Designated Subsidiary" means (i) each Guarantor and (ii) any other Subsidiary of the Issuer which, as of the date of the Issuer's most recent quarterly or annual, as applicable, consolidated balance sheet, constituted 15% or more of the Consolidated Total Assets of the Issuer, after giving pro forma effect to any acquisition or disposition of companies, divisions, lines of businesses, operations or assets by the Issuer and its Subsidiaries subsequent to such date.

"Director" means a member of the Board of Directors.

"Disqualified Stock" of any Person means any Capital Stock of such Person which, by its terms (or by the terms of any security into which it is convertible or for which it is exchangeable), or upon the happening of any event, matures or is mandatorily redeemable, pursuant to a sinking fund obligation or otherwise, or is redeemable at the option of the holder thereof, in whole or in part, on or prior to the Stated Maturity of the Notes.

"DTC" means The Depository Trust Company.

"Euroclear" means Euroclear Bank S.A./N.V., as operator of the Euroclear system or its successors.

"Event of Default" has the meaning specified in Section 6.1.

"Exchange Act" means the United States Securities Exchange Act of 1934, as amended (or any successor act), and the rules and regulations thereunder.

"Expiration Date" has the meaning set forth in Section 1.4.

"FATCA" means Sections 1471 to 1474 of the U.S. Internal Revenue Code of 1986, as amended.

"Fitch" means Fitch Rating Service, Inc. and its successors.

"GAAP" means, as elected from time to time by the Issuer, (i) generally accepted accounting principles prescribed by the laws, rules and regulations applicable in the jurisdiction of incorporation of the Issuer, (ii) International Financial Reporting Standards, or (iii) accounting practices generally accepted in the United States, in each case, as in effect from time to time.

"Global Note" means, as the context may require, any or all of the Regulation S Global Note(s) and the Restricted Global Note(s), evidencing all or part of a series of Notes which is issued to the Depositary or its nominee and is registered in the name of the Depositary or its nominee.

"guarantee" by any Person means any obligation, contingent or otherwise, of such Person guaranteeing, or having the economic effect of guaranteeing, any Indebtedness of any other Person (the "primary obligor") in any manner, whether directly or indirectly, and including, without limitation, any obligation of such Person, (i) to purchase or pay (or advance or supply funds for the purchase or payment of) such Indebtedness or to purchase (or to advance or supply funds for the purchase of) any security for the payment of such Indebtedness, (ii) to purchase property, securities or services for the purpose of assuring the holder of such Indebtedness of the payment of such Indebtedness, or (iii) to maintain working capital, equity capital or other financial statement condition or liquidity of the primary obligor so as to enable the primary obligor to pay such Indebtedness (and "guaranteed,"

"guaranteeing" and "guarantor" shall have meanings correlative to the foregoing); provided that, the guarantee by any Person shall not include endorsements by such Person for collection or deposit, in either case, in the ordinary course of business; provided further that, the Incurrence by the Issuer or a Designated Subsidiary of a Lien permitted under clause (2) of Section 11.10 shall not be deemed to constitute a guarantee by the Issuer or a Designated Subsidiary of any purchase money debt of such Person secured thereby.

"Guarantee" means the guarantee by the Guarantors of the due and punctual payment of the principal (and premium, if any) and interest (including any Additional Amounts) on, the Notes and other amounts due under this Indenture.

"Guarantors" mean CJM, Milpo and VMZ.

"Holder" means a Person in whose name a Note is registered on the Registrar's books.

"Incur" means, with respect to any Indebtedness or other obligation of any Person, to create, issue, incur (by conversion, exchange or otherwise), assume, guarantee or otherwise become liable in respect of such Indebtedness or other obligation including by acquisition of Subsidiaries or the recording, as required pursuant to applicable GAAP or otherwise, of any such Indebtedness or other obligation on the balance sheet of such Person (and "Incurrence," "Incurred," "Incurrable" and "Incurring" shall have meanings correlative to the foregoing); provided that a change in applicable GAAP that results in an obligation of such Person that exists at such time becoming Indebtedness shall not be deemed an Incurrence of such Indebtedness and that neither the accrual of interest nor the accretion of original issue discount shall be deemed an Incurrence of Indebtedness; provided further that, the Issuer may elect to treat all or any portion of revolving credit debt commitments, whether or not then outstanding, of the Issuer or a Subsidiary as being incurred from and after any date beginning the date the relevant revolving credit commitment is extended to the Issuer or a Subsidiary, as the case may be, by furnishing written notice thereof to the Trustee, and any borrowings or reborrowings by the Issuer or a Subsidiary under such commitment up to the amount of such commitment designated by the Issuer or such Subsidiary as Incurred shall not be deemed to be new Incurrences of Indebtedness by the Issuer or such Subsidiary, as the case may be.

"Indebtedness" means (without duplication), with respect to any Person, whether recourse is to all or a portion of the assets of such Person and whether or not contingent, (i) every obligation of such Person for money borrowed, (ii) every obligation of such Person evidenced by bonds, debentures, notes or other similar instruments, including any such obligations Incurred in connection with the acquisition of property, assets or businesses, (iii) every reimbursement obligation of such Person with respect to letters of credit, bankers' acceptances or similar facilities issued for the account of such Person, (iv) every obligation of such Person issued or assumed as the deferred purchase price of property or services (including securities repurchase agreements but excluding trade accounts payable or accrued liabilities arising in the ordinary course of business which are payable on customary trade terms or which are being contested in good faith), (v) all obligations to redeem Disqualified Stock issued by such Person, (vi) every Net Obligation under Interest Rate or Currency Protection Agreements of such Person, (vii) every Capital Lease Obligation of such Person, and (viii) every obligation of the type referred to in clauses (i) through (vii) of another Person and all dividends of another Person the payment of which, in either case, such Person has guaranteed, other than with respect to clauses (iii) and (vi) above, in each case, if and to the extent any of the preceding items would appear as a liability upon the financial statements of the specified Person in accordance with applicable GAAP.

"Indenture" means this instrument as originally executed or as it may from time to time be supplemented or amended by one or more supplemental indentures hereto entered into pursuant to the applicable provisions hereof.

"Independent Investment Banker" means one of the Reference Treasury Dealers appointed by the Issuer or a Guarantor.

"Initial Notes" means the U.S.$700,000,000 of Notes designated in the first paragraph of the Recitals.

"Interest Payment Date" means each May 4 and November 4, commencing November 4, 2017.

"Interest Rate or Currency Protection Agreement" of any Person means any forward contract, futures contract, swap, option, hedge or other financial agreement or arrangement (including, without limitation, caps, floors, collars and similar agreements) relating to, or the value of which is dependent upon, interest rates or currency exchange rates or indices.

"Investment Grade Rating" means a rating equal to or higher than (i) BBB- (or the equivalent) by S&P, (ii) Baa3 (or the equivalent) by Moody's or (iii) BBB- (or the equivalent) by Fitch.

"Issuer" means the Person named as the "Issuer" in the first paragraph of this instrument until a successor Person shall have become such pursuant to the applicable provisions of this Indenture and thereafter "Issuer" shall mean such successor Person.

"Issue Date" means May 4, 2017.

"Issuer Request" or "Issuer Order" means a written request or order signed in the name of the Issuer by an authorized signatory of the Issuer and delivered to the Trustee.

"Lien" means any mortgage, pledge, security interest, encumbrance or charge of any kind (including, without limitation, any conditional sale or other title retention agreement or lease in the nature thereof or any agreement to give any security interest).

"Luxembourg" means the Grand Duchy of Luxembourg and any ministry, department, authority (including the Central Bank of Luxembourg) or statutory corporation or other entity (including a trust), owned or controlled directly or indirectly by the Grand Duchy of Luxembourg or any of the foregoing.

"Maturity" when used with respect to any Note, means the date on which the principal of such Note becomes due and payable as therein or herein provided, whether at the Stated Maturity or by declaration of acceleration, call for redemption or otherwise.

"Maturity Date" means May 4, 2027.

"Milpo" means the Person named as "Milpo" in the first paragraph of this instrument until a successor Person shall have become such pursuant to the applicable provisions of this Indenture and thereafter "Milpo" shall mean such successor Person.

"Moody's" means Moody's Investors Service, Inc. and its successors.

"Net Obligation" at any date of determination means the net amount, exclusive of any commissions or administrative fees that a Person would be obligated to pay upon the termination of an Interest Rate or Currency Protection Agreement as of such date.

"Note Register" has the meaning specified in Section 3.4(b).

"Notes" has the meaning specified in the first paragraph of the Recitals.

"Notice of Default" has the meaning set forth in Section 7.2.

"OECD" means the Organization for Economic Co-operation and Development.

"Officer's Certificate" means a certificate signed by any of the following: the Chief Executive Officer, President, Chief Financial Officer or a Vice President; and delivered to the Trustee and containing the statements provided for in Section 1.2 hereof (if applicable).

"Opinion of Counsel" means a written opinion of legal counsel, who may be counsel for the Issuer or a Guarantor, containing the statements provided for in Section 1.2 in form and substance reasonably acceptable to the Trustee.

"Outstanding" when used with respect to the Notes, means, as of the date of determination, all the Notes theretofore authenticated and delivered under this Indenture (including, as of such date, all the Notes represented by Global Notes authenticated and delivered under this Indenture), except the reduced portion or portions of any Global Note, as such reduction or reductions shall have been endorsed on such Global Note by the Trustee as provided herein and, except:

(i) the Notes theretofore cancelled by the Trustee or delivered to the Trustee for cancellation;

(ii) the Notes for whose payment or redemption money in the necessary amount has been theretofore deposited with the Trustee or any Paying Agent (other than the Issuer) in trust or set aside and segregated in trust by the Issuer (if the

Issuer shall act as its own Paying Agent) for the Holders of such Notes; provided that if such Notes are to be repurchased, notice of such repurchase has been duly given pursuant to this Indenture; and

(iii) Notes which have been issued pursuant to Section 3.5 or in exchange for or in lieu of which other Notes have been authenticated and delivered pursuant to this Indenture, other than any such Notes in respect of which there shall have been presented to the Trustee proof satisfactory to it that such Notes are held by a bona fide purchaser in whose hands such Notes are valid obligations of the Issuer;

provided, however, that in determining whether the Holders of the requisite principal amount of the Outstanding Notes have given any request, demand, authorization, direction, notice, consent or waiver hereunder, Notes owned by the Issuer or any other obligor upon the Notes or any Affiliate of the Issuer or of such other obligor shall be disregarded and deemed not to be Outstanding, except that, in determining whether the Trustee shall be protected in relying upon any such request, demand, authorization, direction, notice, consent or waiver, only Notes which a Responsible Officer of the Trustee actually knows to be so owned shall be so disregarded. Notes so owned which have been pledged in good faith may be regarded as Outstanding if the pledgee establishes to the satisfaction of the Trustee the pledgee's right so to act with respect to such Notes and that the pledgee is not the Issuer or any other obligor upon the Notes or any Affiliate of the Issuer or of such other obligor.

"Paying Agent" means any Person authorized by the Issuer to pay the principal of (and premium, if any) or interest on any Notes on behalf of the Issuer. The Issuer has initially appointed the Principal Paying Agent to act as Paying Agent.

"Payment Date" has the meaning set forth in Section 3.11(b).

"Permitted Holders" mean (i) the estate of Mr. Antonio Ermírio de Moraes and any of Mr. Ermírio Pereira de Moraes, Mrs. Maria Helena de Moraes Scripilliti and Mr. José Ermírio de Moraes Filho and any of their descendants, (ii) any Affiliate of any of the foregoing and (iii) any corporation, partnership, joint venture, association, trust, unincorporated organization, or any other entity or group formed pursuant to a shareholders, control or voting agreement or similar agreement, of which any one or more of the Permitted Holders referred to in clauses (i) or (ii) hereof is a shareholder, partner, beneficiary, member or party.

"Permitted Holding Company" means any entity which owns at least 95% of the outstanding Capital Stock or other ownership interests (other than directors' qualifying shares) of the Issuer.

"Person" means any individual, corporation, partnership, joint venture, association, trust, unincorporated organization, government or agency or political subdivision thereof or any other entity.

"Peru" means the Republic of Peru and any ministry, department, authority (including the Central Reserve Bank of Peru) or statutory corporation or other entity (including a trust), owned or controlled directly or indirectly by the Republic of Peru or any of the foregoing.

"Predecessor Note" of any particular Note means every previous Note evidencing all or a portion of the same debt as that evidenced by such particular Note; and, for the purposes of this definition, any Note authenticated and delivered under Section 3.5 in exchange for or in lieu of a mutilated, destroyed, lost or stolen Note shall be deemed to evidence the same debt as the mutilated, destroyed, lost or stolen Note.

"Principal Paying Agent" means The Bank of New York Mellon, a New York banking corporation, or any successor in its capacity as Principal Paying Agent.

"Rating Agency" means each of S&P, Moody's and Fitch; provided that if any of S&P, Moody's or Fitch ceases to rate the Notes or fails to make a rating on the Notes publicly available, the Issuer will appoint a replacement for such Rating Agency that is a "nationally recognized statistical rating organization" within the meaning of Rule 15c3-1(c)(2)(vi)(F) under the Exchange Act.

"Rating Date" means the date which is 90 days prior to the earlier of (i) a Change of Control and (ii) public notice of the occurrence of a Change of Control or of the intention of the Permitted Holders or the Issuer to effect a Change of Control.

"Rating Decline" means the occurrence of the following on, or within 90 days after, the date of public notice of the occurrence of a Change of Control or of the intention by a Permitted Holder or the Issuer to effect a Change of Control (which period shall be extended so long as the rating of the Notes is under publicly announced consideration for possible downgrade by any of the Rating Agencies): (i) in the event the Notes are assigned an Investment Grade Rating by at least two of the Rating Agencies on the Rating Date, the rating of the Notes by at least two of the Rating Agencies shall be below an Investment Grade Rating; or (ii) in the event the

Notes are rated below an Investment Grade Rating by at least two of the Rating Agencies on the Rating Date, the rating of the Notes by at least two of the Rating Agencies shall be decreased by one or more gradations (including gradations (but not outlooks) within rating categories as well as between rating categories); provided that any such Rating Decline is in whole or in part in connection with a Change of Control. The Issuer will provide the Trustee with prompt written notice of any Rating Decline, and the Trustee shall not be deemed to have knowledge of any Rating Decline until it receives such notice.

"rate(s) of exchange" has the meaning set forth in Section 1.14.

"Receivables" means receivables, chattel paper, instruments, documents or intangibles evidencing or relating to the right to payment of money in respect of the sale of goods or services.

"Redemption Date" when used with respect to any Note to be redeemed, means the date fixed for such redemption by or pursuant to this Indenture.

"Redemption Price" when used with respect to any Note to be redeemed, means the price at which it is to be redeemed pursuant to this Indenture.

"Reference Treasury Dealer" means at least four dealers which are primary United States government securities dealers in New York City reasonably designated by the Issuer or a Guarantor.

"Reference Treasury Dealer Quotation" means, with respect to each Reference Treasury Dealer and any Redemption Date, the average, as determined by the Issuer, of the bid and asked prices for the Comparable Treasury Issue (expressed in each case as a percentage of its principal amount) quoted in writing to the Issuer or a Guarantor by such Reference Treasury Dealer at 3:30p.m. New York time on the third business day preceding such Redemption Date.

"Registrar" has the meaning specified in Section 3.4(b).

"Regular Record Date" for the interest payable on any Interest Payment Date means the second day (whether or not a Business Day), as the case may be, next preceding such Interest Payment Date.

"Responsible Officer" means any officer within the corporate trust department of the Trustee, including any director, managing director, vice president, assistant vice president, trust officer, assistant trust officer or any other officer or assistant officer of the Trustee customarily performing functions similar to those performed by the persons who at that time shall be such officers having direct responsibility for the administration of this Indenture, and also means, with respect to a particular corporate trust matter, any other officer to whom such trust matter is referred because of his or her knowledge of and familiarity with the particular subject.

"Regulation S" means Regulation S (including any successor regulation thereto) under the Securities Act, as it may be amended from time to time.

"Regulation S Global Note" has the meaning set forth in Section 2.1

"Restricted Global Note" has the meaning set forth in Section 2.1.

"Restricted Notes" means the Restricted Global Note and any Successor Note, other than (i) any Note issued upon a transfer or exchange for which a certificate substantially in the form set forth in (a) Exhibit A is required to be provided and is provided pursuant to Section 3.4(c)(2) or (b) Exhibit C-2 is required to be provided and is provided pursuant to Section 3.4(c)(5), (ii) any Note issued in exchange for or in lieu of any Note specified in clause (i) of this definition or any Note issued in exchange therefor or in lieu thereof, or (iii) any Note as to which the Issuer has removed and has not replaced the legend described in Section 3.4(b).

"Restricted Property" means any mineral property (including any mineral concessions, authorizations or rights in respect of minerals granted by any governmental authority), concentrate plant, manufacturing or processing plant used in connection with the processing,

refining or manufacturing of metals or minerals, power plant or transmission lines of the Issuer or any Designated Subsidiary and any capital stock of any Subsidiary directly owning any such mineral property, concentrate, manufacturing or processing plant, power plant or transmission lines.

"Reuters" means Reuters Group plc, a U.K. corporation, and its successors and assigns.

"Rule 144A" means Rule 144A (including any successor regulation thereto) under the Securities Act, as it may be amended from time to time.

"S&P" means S&P Global Ratings, a business unit of Standard & Poor's Financial Services LLC and its successors.

"SEC" means the United States Securities and Exchange Commission.

"Securities Act" means the United States Securities Act of 1933, as amended, and the rules and regulations of the SEC promulgated thereunder.

"Securitization Transaction" means a transaction in which the Issuer or a Subsidiary thereof sells or transfers an interest in Receivables (and/or any rights arising under the documentation governing or relating to such Receivables covered by such transaction, any proceeds of Receivables and any lockboxes or accounts in which such proceeds are deposited and any related assets) to a special purpose entity that issues securities payable from collections of such Receivables or other assets.

"Special Record Date" for the payment of any Defaulted Interest means a date fixed by the Trustee pursuant to Section 3.6.

"Stated Maturity" when used with respect to any Note or any installment of interest thereon, means the date specified in such Note as the date on which the principal of such Note or such installment of interest, as the case may be, is due and payable.

"Subsidiary" of any Person means (i) a corporation more than 50% of the combined voting power of the outstanding Voting Stock of which is owned, directly or indirectly, by such Person or by one or more other Subsidiaries of such Person or by such Person and one or more Subsidiaries thereof or (ii) any other Person (other than a corporation) in which such Person, or one or more other Subsidiaries of such Person or such Person and one or more other Subsidiaries thereof, directly or indirectly, has at least a majority ownership and power to direct the policies, management and affairs thereof.

"Successor Note" of any particular Note means every Note issued after, and evidencing all or a portion of the same debt as that evidenced by, such particular Note; and, for the purposes of this definition, any Note authenticated and delivered under Section 3.5 in exchange for or in lieu of a mutilated, destroyed, lost or stolen Note shall be deemed to evidence the same debt as the mutilated, destroyed, lost or stolen Note.

"Taxes" has the meaning set forth in Section 11.9.

"Transaction Documents" has the meaning set forth in Section 11.1.

"Transfer Agent" means the agent designated by the Issuer (not including the Registrar) for the registration of transfer of securities as provided in Section 11.2.

"Treasury Rate" means, with respect to any Redemption Date, the rate per annum equal to the semi-annual equivalent yield to maturity or interpolated maturity (on a day count basis) of the Comparable Treasury Issue, assuming a price for the Comparable Treasury Issue (expressed as a percentage of its principal amount) equal to the Comparable Treasury Price for such Redemption Date.

"Trustee" means the Person named as the "Trustee" in the first paragraph of this instrument until a successor Trustee shall have been appointed pursuant to the applicable provisions of this Indenture, and thereafter "Trustee" shall mean such successor Trustee.

"United States" means the United States of America.

"U.S. Dollar Equivalent" means, with respect to any monetary amount in a currency other than the U.S. Dollar, at any time for the determination thereof, the amount of U.S. Dollars obtained by converting such foreign currency involved in such computation into U.S. Dollars at the spot rate for the purchase of U.S. Dollars with the applicable foreign currency as quoted by Reuters at approximately 11:00 a.m. (New York time) on the date not more than two Business Days prior to such determination.

"U.S. Global Notes" has the meaning specified in Section 2.1.

"Vice President" when used with respect to the Issuer or any Guarantor, means any vice president, whether or not designated by a number or a word or words added before or after the title "vice president."

"VMZ" means the Person named as "VMZ" in the first paragraph of this instrument until a successor Person shall have become such pursuant to the applicable provisions of this Indenture and thereafter "VMZ" shall mean such successor Person.

"Voting Stock" of a Person means all classes of Capital Stock of such Person then outstanding that are entitled (without regard to the occurrence of any contingency) to vote in the election of the directors of such Person, but excluding such classes of Capital Stock or other interests that are entitled, as a group in a separate cast, to appoint one director of such Person as representative of the minority shareholders.

"Wholly Owned Subsidiary" of any Person means any entity owned by such Person of which at least 95% of the outstanding Capital Stock or other ownership interests (other than directors' qualifying shares) of such entity shall at the time be owned by such Person or by one or more Wholly Owned Subsidiaries of such Person.

Section 1.2. Compliance Certificates and Opinions.

Upon any application or request by the Issuer or a Guarantor to the Trustee to take any action under any provision of this Indenture, the Issuer or such Guarantor shall furnish to the Trustee such certificates and opinions as may be required under this Indenture; provided, however, that such certificate and opinion shall not be required in the case of the initial issuance of Notes hereunder. Each such certificate or opinion, and any certificate evidencing a determination required to be made by the Issuer or a Guarantor under this Indenture, shall be given in the form of an Officer's Certificate, if to be given by an officer of the Issuer or such Guarantor, or an Opinion of Counsel, if to be given by counsel, and shall comply with the requirements set forth in this Indenture.

Every certificate or opinion with respect to compliance by or on behalf of the Issuer or a Guarantor with a condition or covenant provided for in this Indenture shall include:

(1) a statement that each individual signing such certificate or opinion has read such covenant or condition and the definitions herein relating thereto;

(2) a brief statement as to the nature and scope of the examination or investigation upon which the statements or opinions contained in such certificate or opinion are based;

(3) a statement that, in the opinion of each such individual, he has made such examination or investigation as is necessary to enable him or her to express an informed opinion as to whether or not such covenant or condition has been complied with; and

(4) a statement as to whether, in the opinion of each such individual, such condition or covenant has been complied with.

Section 1.3. Form of Documents Delivered to Trustee.

In any case where several matters are required to be certified by, or covered by an opinion of, any specified Person, it is not necessary that all such matters be certified by, or covered by the opinion of, only one such Person, or that they be so certified or covered by only one document, but one such Person may certify or give an opinion with respect to some matters and one or more other such Persons as to other matters, and any such Person may certify or give an opinion as to such matters in one or several documents.

Any certificate of an officer of the Issuer or a Guarantor may be based, insofar as it relates to legal matters, upon an Opinion of Counsel submitted therewith, unless such officer knows, or in the exercise of reasonable care should know, that the opinion with

respect to the matters upon which his certificate is based is erroneous. Any Opinion of Counsel may be based, insofar as it relates to factual matters, upon a certificate of an officer or officers of the Issuer or a Guarantor submitted therewith stating the information on which counsel is relying, unless such counsel knows, or in the exercise of reasonable care should know, that the certificate with respect to such matters is erroneous.

Where any Person is required to make, give or execute two or more applications, requests, consents, certificates, statements, opinions or other instruments under this Indenture, they may, but need not, be consolidated and form one instrument.

Section 1.4. Acts of Holders; Record Date.

Any request, demand, authorization, direction, notice, consent, waiver or other action provided by this Indenture to be given or taken by Holders may be embodied in and evidenced by one or more instruments of substantially similar tenor signed by such Holders in person or by an agent duly appointed in writing; and, except as herein otherwise expressly provided, such action shall become effective when such instrument or instruments are delivered to the Trustee and, where it is hereby expressly required, to the Issuer. Such instrument or instruments (and the action embodied therein and evidenced thereby) are herein sometimes referred to as the "Act" of the Holders signing such instrument or instruments. Proof of execution of any such instrument or of a writing appointing any such agent shall be sufficient for any purpose of this Indenture and (subject to Section 6.1) conclusive in favor of the Trustee and the Issuer, if made in the manner provided in this Section.

The fact and date of the execution by any Person of any such instrument or writing pursuant to this Section 1.4 may be proved by the affidavit of a witness of such execution or by a certificate of a notary public or other officer authorized by law to take acknowledgments of deeds, certifying that the individual signing such instrument or writing acknowledged to him or her the execution thereof. Where such execution is by a signer acting in a capacity other than his individual capacity, such certificate or affidavit shall also constitute sufficient proof of his authority. The fact and date of the execution of any such instrument or writing, or the authority of the Person executing the same, may also be proved in any other manner which the Trustee deems sufficient.

The ownership of Notes shall be proved by the Note Register.

Any request, demand, authorization, direction, notice, consent, waiver or other Act of the Holder of any Note shall bind every future Holder of the same Note and the Holder of every Note issued upon the registration of transfer thereof or in exchange therefor or in lieu thereof in respect of anything done, omitted or suffered to be done by the Trustee or the Issuer in reliance thereon, whether or not notation of such action is made upon such Note.

The Issuer may set any day as a record date for the purpose of determining the Holders of Outstanding Notes entitled to give, make or take any request, demand, authorization, direction, notice, consent, waiver or other action provided or permitted by this Indenture to be given, made or taken by Holders of Notes, provided that the Issuer may not set a record date for, and the provisions of this paragraph shall not apply with respect to, the giving or making of any notice, declaration, request or direction referred to in the next paragraph. If not set by the Issuer prior to the first solicitation of a Holder made by any Person in respect of any such matter referred to in the foregoing sentence, the record date for any such matter shall be the 30th day (or, if later, the date of the most recent list of Holders required to be provided pursuant to Section 7.1) prior to such first solicitation. If any record date is set pursuant to this paragraph, the Holders of Outstanding Notes on such record date, and no other Holders, shall be entitled to take the

relevant action, whether or not such Holders remain Holders after such record date; provided that no such action shall be effective hereunder unless taken on or prior to the applicable Expiration Date by Holders of the requisite principal amount of Outstanding Notes on such record date.

The Trustee may set any day as a record date for the purpose of determining the Holders of Outstanding Notes entitled to join in the giving or making of (i) any Notice of Default, (ii) any declaration of acceleration referred to in Section 5.1, (iii) any request to institute proceedings referred to in Section 5.6(2) or (iv) any direction referred to in Section 5.11. If any record date is set pursuant to this paragraph, the Holders of Outstanding Notes on such record date, and no other Holders, shall be entitled to join in such notice, declaration, request or direction, whether or not such Holders remain Holders after such record date; provided that no such action shall be effective hereunder unless taken on or prior to the applicable Expiration Date by Holders of the requisite principal amount of

Outstanding Notes on such record date. Nothing in this paragraph shall be construed to prevent the Trustee from (i) giving or making any notice required to be made pursuant to the Trustee's duties and obligations under this Indenture and (ii) setting a new record date for any action for which a record date has previously been set pursuant to this paragraph (whereupon the record date previously set shall automatically and with no action by any Person be cancelled and of no effect), and nothing in this paragraph shall be construed to render ineffective any action taken by Holders of the requisite principal amount of Outstanding Notes on the date such action is taken. Promptly after any record date is set pursuant to this paragraph, the Trustee, at the Issuer's expense, shall cause notice of such record date, the proposed action by Holders and the applicable Expiration Date to be given to the Issuer in writing and to each Holder of Notes in the manner set forth in Section 1.6.

Nothing in this paragraph shall be construed to prevent the Issuer from setting a new record date for any action for which a record date has previously been set pursuant to this paragraph (whereupon the record date previously set shall automatically and with no action by any Person be cancelled and of no effect), and nothing in this paragraph shall be construed to render ineffective any action taken by Holders of the requisite principal amount of Outstanding Notes on the date such action is taken. Promptly after any record date is set pursuant to this paragraph, the Issuer, at its own expense, shall cause notice of such record date, the proposed action by Holders and the applicable Expiration Date to be given to the Trustee in writing and to each Holder of Notes in the manner set forth in Section 1.6.

With respect to any record date set pursuant to this Section, the party hereto which sets such record dates may designate any day as the "Expiration Date," and from time to time may change the Expiration Date to any earlier or later day; provided that no such change shall be effective unless notice of the proposed new Expiration Date is given to the other party hereto in writing, and to each Holder of Notes in the manner set forth in Section 1.6, on or prior to the existing Expiration Date. If an Expiration Date is not designated with respect to any record date set pursuant to this Section, the party hereto which set such record date shall be deemed to have initially designated the 180th day after such record date as the Expiration Date with respect thereto, subject to its right to change the Expiration Date as provided in this paragraph. Notwithstanding the foregoing, no Expiration Date shall be later than the 180th day after the applicable record date.

Without limiting the foregoing, a Holder entitled hereunder to take any action hereunder with regard to any particular Note may do so with regard to all or any part of the principal amount of such Note or by one or more duly appointed agents each of which may do so pursuant to such appointment with regard to all or any part of such principal amount.

Section 1.5. Notices, Etc., to Trustee, the Paying Agents and the Issuer.

Any request, demand, authorization, direction, notice, consent, waiver or Act of Holders or other document provided or permitted by this Indenture to be made upon, given or furnished to, or filed with:

(1) the Trustee or any Agent by any Holder or by the Issuer or the Guarantor shall be sufficient for every purpose hereunder if made, given, furnished or filed, in writing in English or accompanied by a certified translation to English, to or with the Trustee at The Bank of New York Mellon, 101 Barclay Street, Floor 7 East, New York, New York 10286, Attention: International Corporate Trust, Fax: (212) 815-5630, and such other offices as the Trustee may designate from time to time or at any other address previously furnished in writing to the Holders, the Issuer by the Trustee;

(2) the Principal Paying Agent by the Trustee, the Issuer or any Holder shall be sufficient for every purpose hereunder (except as otherwise expressly provided herein) if in writing and mailed, first class postage prepaid, to the Principal Paying Agent addressed to it at 101 Barclay Street, Floor 7 East, New York, New York 10286, Attention: International Corporate Trust, or at any other address previously furnished in writing to the Trustee by the Principal Paying Agent;

(3) the Issuer by the Trustee or by any Holder shall be sufficient for every purpose hereunder (except as otherwise expressly provided herein) if in writing and mailed, first-class postage prepaid, to the Issuer addressed to it at 43 Avenue John Fitzgerald Kennedy, L-1855 Luxembourg, Luxembourg, Attention: Rodrigo Menck (Treasurer), or at any other address previously furnished in writing to the Trustee by the Issuer;

(4) CJM by the Trustee or by any Holder shall be sufficient for every purpose hereunder (except as otherwise expressly provided herein) if in writing and mailed, first-class postage prepaid, to CJM addressed to it at Carretera Central Km 9.5, desvío a Huachipa, Lurigancho-Chosica, Provincia y Departamento de Lima, Peru, Attention: Claudia Torres (Chief Financial Officer), or at any other address previously furnished in writing to the Trustee by CJM;

(5) Milpo by the Trustee or by any Holder shall be sufficient for every purpose hereunder (except as otherwise expressly provided herein) if in writing and mailed, first-class postage prepaid, to Milpo addressed to it at Avenida San Borja Norte 523, Lima, Peru, Attention: Claudia Torres (Chief Financial Officer), or at any other address previously furnished in writing to the Trustee by Milpo;

(6) VMZ by the Trustee or by any Holder shall be sufficient for every purpose hereunder (except as otherwise expressly provided herein) if in writing and mailed, first-

class postage prepaid, to VMZ addressed to it at Avenida Eusébio Matoso, 1375, 13th Floor, São Paulo, SP, Brazil, Attention: Rodrigo Menck (Treasurer), or at any other address previously furnished in writing to the Trustee by VMZ;

(7) Moody's by the Trustee, the Issuer or a Guarantor shall be sufficient for every purpose hereunder (except as otherwise expressly provided herein) if in writing and mailed, first class postage prepaid, to Moody's Investor Service, Inc. at 7 World Trade Center, 250 Greenwich Street, New York, NY 10007, telephone number: (212) 553-0300, or to any other address previously furnished in writing to the Trustee, the Issuer and the Guarantors; and

(8) S&P by the Trustee, the Issuer or a Guarantor shall be sufficient for every purpose hereunder (except as otherwise expressly provided herein) if in writing and mailed, first class postage prepaid, to Standard and Poor's at 55 Water St., 40th Floor, New York, New York 10041-0003, Attention: Latin America/Emerging Markets Structured Finance Group, telephone number: (212) 438-3080, telefax number (212) 4382652, or to any other address previously furnished in writing to the Trustee, the Issuer and the Guarantors.

Section 1.6. Notice to Holders; Waiver.

Where this Indenture provides for notice to Holders of any event, such notice shall be sufficiently given (unless otherwise herein expressly provided) if (i) in the case of a Global Note, in writing by electronic mail, facsimile and/or by first-class mail to the Depositary, and (ii) in the case of securities other than Global Notes, in writing and mailed, first-class postage prepaid, to each Holder affected by such event, at his address as it appears in the Note Register on the Business Day immediately preceding the date of mailing, which shall be not later than the latest date (if any), and not earlier than the earliest date (if any), prescribed for the giving of such notice. In any case where notice to Holders is given by mail, neither the failure to mail such notice, nor any defect in any notice so mailed, to any particular Holder shall affect the sufficiency of such notice with respect to other Holders. Where this Indenture provides for notice in any manner, such notice may be waived in writing by the Person entitled to receive such notice, either before or after the event, and such waiver shall be the equivalent of such notice. Waivers of notice by Holders shall be filed with the Trustee, but such filing shall not be a condition precedent to the validity of any action taken in reliance upon such waiver.

In case by reason of the suspension of regular mail service or by reason of any other cause it shall be impracticable to give such notice by mail, then such notification as shall be made with the approval of the Trustee shall constitute a sufficient notification for every purpose hereunder.

Any obligation the Issuer (and the Paying Agents on its behalf) may have to publish a notice to Holders shall have been met upon delivery of the notice to the Depositary.

Section 1.7. Effect of Headings and Table of Contents.

The Article and Section headings herein and the Table of Contents are for convenience only and shall not affect the construction hereof.

Section 1.8. Successors and Assigns.

All covenants and agreements in this Indenture by each of the Issuer and the Guarantors shall bind its successors and assigns, whether so expressed or not.

Section 1.9. Separability Clause.

In case any provision in this Indenture or in the Notes or in the Guarantees shall be invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions of each of this Indenture, the Notes or the Guarantees shall not in any way be affected or impaired thereby.

Section 1.10. Benefits of Indenture.

Nothing in this Indenture or in the Notes, express or implied, shall give to any Person, other than the parties hereto and their successors hereunder and the Holders of Notes, any benefit or any legal or equitable right, remedy or claim under this Indenture, the Notes or the Guarantees.

Section 1.11. Governing Law.

THIS INDENTURE, THE NOTES AND THE GUARANTEES SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE LAWS OF THE STATE OF NEW YORK, without regard to conflicts of laws principles thereof. For the purposes of paragraph 2 of article 9 of the Brazilian Decree-Law No. 4,567, dated September 4, 1942, as amended, the Trustee shall be deemed the "proponent" of the transactions contemplated by this Indenture. Articles 84 through 94-8 of the Luxembourg law dated August 10, 1915 on commercial companies, as amended, which set the provisions related to the representation of the Holders of the Notes, are not applicable to the Notes or the Guarantees.

EACH OF THE PARTIES HERETO HEREBY IRREVOCABLY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY AND ALL RIGHT TO TRIAL BY JURY IN ANY LEGAL PROCEEDING ARISING OUT OF OR RELATING TO THIS INDENTURE, THE NOTES OR THE TRANSACTION CONTEMPLATED HEREBY.

Section 1.12. Legal Holidays.

In any case where any Interest Payment Date, Redemption Date or Stated Maturity of any Note shall not be a Business Day, then (notwithstanding any other provision of this Indenture, the Notes or the Guarantees) payment of interest or principal (and premium, if any) need not be made on such date, but may be made on the next succeeding Business Day with the same force and effect as if made on the Interest Payment Date or Redemption Date, or at the Stated Maturity, provided that no interest shall accrue on account of such delay for the period from and after such Interest Payment Date or Redemption Date or Stated Maturity, as the case may be.

Section 1.13. Consent to Jurisdiction and Service of Process.

(a) Each of the Issuer and the Guarantors agrees that any suit, action or proceeding against it brought by any Holder or the Trustee arising out of or based upon this Indenture, the Notes or the Guarantees may be instituted in any state or Federal court in the Borough of Manhattan in The City of New York, New York, and waives any objection which it may now or hereafter have to the laying of venue of any such proceeding, and irrevocably submits to the non-exclusive jurisdiction of such courts in any suit, action or proceeding.

(b) By the execution and delivery of this Indenture or any amendment or supplement hereto, each of the Issuer and the Guarantors (i) acknowledges that it has, by separate written instrument, designated and appointed National Corporate Research, Ltd. currently located at 10 East 40th Street, 10th Floor, New York, NY 10016, as its authorized agent upon which process may be served in any suit, action or proceeding with respect to, arising out of, or relating to, the Notes, this Indenture or the Guarantees, that may be instituted in any Federal or state court in the State of New York, The City of New York, the Borough of Manhattan, or brought under Federal or state securities laws or brought by the Trustee or the Paying Agent (whether in its individual capacity or in its capacity as Trustee or the Paying Agent, as the case may be, hereunder), and acknowledges that National Corporate Research, Ltd. has accepted such designation, (ii) submits to the jurisdiction of any such court in any such suit, action or proceeding, and (iii) agrees that service of process upon National Corporate Research, Ltd. shall be deemed in every respect effective service of process upon the Issuer and the Guarantors, as the case may be, in any such suit, action or proceeding. Each of the Issuer and the Guarantors further agrees to take any and all action, including the execution and filing of any and all such documents and instruments as may be necessary to continue such designation and appointment of National Corporate Research, Ltd. in full force and effect so long as this Indenture shall be in full force and effect; provided that the Issuer and the Guarantors may and shall (to the extent National Corporate Research, Ltd. ceases to be able to be served on the basis contemplated herein), by written notice to the Trustee, designate such additional or alternative agents for service of process under this Section 1.13 that (i) maintains an office located in the Borough of Manhattan, The City of New York in

the State of New York, (ii) are either (x) counsel for the Issuer and the Guarantors or (y) a corporate service company which acts as agent for service of process for other persons in the ordinary course of its business and (iii) agrees to act as agent for service of process in accordance with this Section 1.13. Such notice shall identify the name of such agent for process and the address of such agent for process in the Borough of Manhattan, The City of New York, State of New York. Upon the request of any Holder, the Trustee shall deliver such information to such Holder. Notwithstanding the foregoing, there shall, at all times, be at least one agent for service of process for the Issuer and the Guarantors appointed and acting in accordance with this Section 1.13.

(c) To the extent that the Issuer or the Guarantors has or hereafter may acquire any immunity from jurisdiction of any court or from any legal process (whether through service of notice, attachment prior to judgment, attachment in aid of execution, execution or otherwise) with respect to itself or its property, each of the Issuer and the Guarantors hereby irrevocably waives such immunity in respect of its obligations under this Indenture, the Notes and the Guarantees, to the fullest extent permitted by law.

Section 1.14. Currency of Account; Conversion of Currency; Foreign Exchange Restrictions.

(a) U.S. Dollars are the sole currency of account and payment for all sums payable by the Issuer and the Guarantors under or in connection with the Notes, the Guarantees or this Indenture, including damages. Any amount received or recovered in a currency other than U.S. dollars (whether as a result of, or of the enforcement of, a judgment or order of a court of any jurisdiction, in the winding-up or dissolution of the Issuer or the Guarantors or otherwise) by any Holder of the Notes in respect of any sum expressed to be due to it from the Issuer or the Guarantors shall only constitute a discharge to the Issuer or the Guarantors, as the case may be, to the extent of the U.S. dollar amount which the recipient is able to purchase with the amount so received or recovered in that other currency on the date of that receipt or recovery (or, if it is not practicable to make that purchase on that date, on the first date on which it is practicable to do so). If that U.S. dollar amount is less than the U.S. dollar amount expressed to be due to the recipient under the Notes, the Issuer and the Guarantors shall, jointly and severally, indemnify it against any loss sustained by it as a result as set forth in Section 1.14(b). In any event, the Issuer and the Guarantors shall, jointly and severally, indemnify the recipient against the cost of making any such purchase. For the purposes of this Section 1.14, it will be sufficient for the Holder of a Note to certify in a satisfactory manner (indicating sources of information used) that it would have suffered a loss had an actual purchase of U.S. dollars been made with the amount so received in that other currency on the date of receipt or recovery (or, if a purchase of U.S. dollars on such date had not been practicable, on the first date on which it would have been practicable, it being required that the need for a change of date be certified in the manner mentioned above). The indemnities set forth in this Section 1.14 constitute separate and independent obligations from other obligations of the Issuer and the Guarantors, shall give rise to a separate and independent cause of action, shall apply irrespective of any indulgence granted by any Holder of the Notes and shall continue in full force and effect despite any other judgment, order, claim or proof for a liquidated amount in respect of any sum due under the Notes.

(b) The Issuer and the Guarantors covenant and agree that the following provisions shall apply to conversion of currency in the case of the Notes, the Guarantees and this Indenture:

(i) (A) if for the purpose of obtaining judgment in, or enforcing the judgment of, any court in any country, it becomes necessary to convert into a currency (the "judgment currency") an amount due in any other currency (the "Base Currency"), then the conversion shall be made at the rate of exchange prevailing on the Business Day before the day on which the judgment is given or the order of enforcement is made, as the case may be (unless a court shall otherwise determine), and

(B) if there is change in the rate of exchange prevailing between the Business Day before the day on which the judgment is given or an order of enforcement is made, as the case may be (or such other date as a court shall determine), and the date of receipt of the amount due, the Issuer or the Guarantors, as the case may be, will pay such additional (or, as the case may be, such lesser) amount, if any, as may be necessary so that the amount paid in the judgment currency when converted at the rate of exchange prevailing on the date of receipt will produce the amount in the Base Currency originally due;

(ii) in the event of the winding-up of the Issuer or the Guarantors at any time while any amount or damages owing under the Notes, the Guarantees and this Indenture, or any judgment or order rendered in respect thereof, shall remain outstanding, the Issuer and the Guarantors shall, jointly and severally, indemnify and hold the Holders and the Trustee

harmless against any deficiency arising or resulting from any variation in rates of exchange between (1) the date as of which the U.S. Dollar Equivalent of the amount due or contingently due under the Notes, the Guarantees and this Indenture (other than under this Subsection (b)(ii)) is calculated for the purposes of such winding-up and (2) the final date for the filing of proofs of claim in such winding-up. For the purpose of this subsection (b)(ii), the final date for the filing of proofs of claim in the winding-up of the Issuer or the Guarantors, as the case may be, shall be the date fixed by the liquidator or otherwise in accordance with the relevant provisions of applicable law as being the latest practicable date as at which liabilities of the Issuer or the Guarantors, as the case may be, may be ascertained for such winding-up prior to payment by the liquidator or otherwise in respect thereto;

(iii) the obligations contained in Subsections (a), (b)(i)(B) and (b)(ii) of this Section 1.14 shall constitute separate and independent obligations from the other obligations of the Issuer and the Guarantors under the terms of this Indenture, shall give rise to separate and independent causes of action against the Issuer and the Guarantors, shall apply irrespective of any waiver or extension granted by any Holder or the Trustee or either of them from time to time and shall continue in full force and effect notwithstanding any judgment or order or the filing of any proof of claim in the winding-up of the Issuer or the Guarantors for a liquidated sum in respect of amounts due hereunder (other than under Subsection (b)(ii) above) or under any such judgment or order. Any such deficiency as aforesaid shall be deemed to constitute a loss suffered by the Holders or the Trustee, as the case may be, and no proof or evidence of any actual loss shall be required by the Issuer or the Guarantors or the liquidator or otherwise or any of them. In the case of subsection (b)(ii) above, the amount of such deficiency shall not be deemed to be reduced by any variation in rates of exchange occurring between the said final date and the date of any liquidating distribution; and

(iv) the term "rate(s) of exchange" shall mean the rate of exchange quoted by Reuters at 10:00 a.m. (New York time) for spot purchases of the Base Currency with the judgment currency other than the Base Currency referred to in Subsections (b)(i) and (b)(ii) above and includes any premiums and costs of exchange payable.

(c) In the event that on any Interest Payment Date, the Maturity Date or Redemption Date, as the case may be, in respect of the Guarantee provided by a Guarantor, any restrictions or prohibition of access to the foreign exchange market of the jurisdiction of incorporation of a Guarantor exists, such Guarantor agrees to pay all amounts payable under the Notes and such Guarantee in the currency of the Notes by means of any legal procedure existing in such jurisdiction of incorporation (except commencing legal proceedings against the relevant Central Bank), on any due date for payment under the Notes, for the purchase of the currency of such Notes. All costs and taxes payable in connection with the procedures referred to in this Section 1.14 shall be borne by the relevant Guarantor.

(d) Notwithstanding anything to the contrary contained herein, neither the Trustee nor the Principal Paying Agent shall have any liability for converting into U.S. Dollars any amount received by any Holder in a currency other than U.S. Dollars.

Section 1.15. Counterparts.

This Indenture may be executed in any number of counterparts (including facsimile), each of which shall be an original; but such counterparts shall together constitute but one and the same instrument. Delivery of an executed counterpart of a signature page by telecopier shall be as effective as delivery of a manually executed counterpart thereof.

Section 1.16. Force Majeure.

In no event shall the Trustee or any Agent be responsible or liable for any failure or delay in the performance of its obligations hereunder arising out of or caused by, directly or indirectly, forces beyond its control, including, without limitation, strikes, work stoppages, accidents, acts of war or terrorism, civil or military disturbances, nuclear or natural catastrophes or acts of God, and interruptions, loss or malfunctions of utilities, communications or computer (software and hardware) services; it being understood that the Trustee or such Agent shall use reasonable efforts which are consistent with accepted practices in the banking industry to resume performance as soon as practicable under the circumstances.

Section 1.17. U.S.A. PATRIOT Act.

In order to comply with the laws, rules, regulations and executive orders in effect from time to time applicable to banking institutions, including, without limitation, those relating to the funding of terrorist activities and money laundering, including Section 326 of the USA PATRIOT Act of the United States ("Applicable Law"), the Trustee and Agents are required to obtain, verify,

record and update certain information relating to individuals and entities which maintain a business relationship with the Trustee and Agents. Accordingly, each of the parties agrees to provide to the Trustee and Agents, upon their request from time to time such identifying information and documentation as may be available for such party in order to enable the Trustee and Agents to comply with Applicable Law.

Section 1.18. Anti-Money Laundering, Terrorism and Economic Sanctions.

(a) The Trustee or any Agent may take and instruct any delegate to take any action which it in its sole discretion considers appropriate so as to comply with any applicable law, regulation, request of a public or regulatory authority or any internal group policy (including any "Know Your Client" and/or other compliance policy) which relates to the prevention of fraud, money laundering, terrorism or other criminal activities or the provision of financial and other services to sanctioned persons or entities. Such action may include but is not limited to the interception and investigation of transactions on the Issuer's or any Guarantor's accounts (particularly those involving the international transfer of funds) including the source of the intended recipient of funds paid into or out of the Issuer's or any Guarantor's accounts. None of the Trustee, any Agent or any delegate will be liable for any loss (whether direct or consequential and including, without limitation, loss of profit or interest) caused in whole or in

part by any actions which are taken by the Trustee, any Agent or any delegate pursuant to this Section 1.18.

(b) The Issuer and each Guarantor covenants and represents, jointly and severally, that neither it nor any of their respective subsidiaries or their respective directors or officers, and, to the knowledge of the Issuer or any Guarantor, any of their affiliates are the target or subject of any sanctions enforced by the US Government, (including, without limitation, the Office of Foreign Assets Control of the US Department of the Treasury ("OFAC") or the US Department of State), the United Nations Security Council, the European Union, Her Majesty's Treasury, or other relevant sanctions authority (collectively "Sanctions");

(c) The Issuer and each Guarantor covenants and represents, jointly and severally, that neither it nor any of their respective subsidiaries or their respective directors or officers will directly or indirectly use any repayments/reimbursements made pursuant to this Indenture, (i) to fund or facilitate any activities of or business with any person who, at the time of such funding or facilitation, is the subject or target of Sanctions, (ii) to fund or facilitate any activities of or business with any country or territory that is the target or subject of Sanctions, or (iii) in any other manner that will result in a violation of Sanctions by any Person.

Section 1.19. Effective Date.

This Indenture shall become effective on the date hereof and shall be binding upon the Issuer, the Guarantors, the Trustee, the Registrar, the Paying Agent and the Principal Paying Agent.

ARTICLE II

NOTE FORMS

Section 2.1. Forms Generally.

The Notes, the Trustee's certificates of authentication thereof and the Guarantees endorsed thereon shall be substantially in the forms set forth in this Article, with such appropriate legends, insertions, omissions, substitutions and other variations as are required or permitted by this Indenture, and may have such letters, numbers or other marks of identification and such legends or endorsements placed thereon as may be required to comply with the rules of any securities exchange or as may, consistently herewith, be determined by the officers executing such Notes or Guarantees, as the case may be, as evidenced by their execution of the Notes.

The definitive Notes and the Guarantees to be endorsed thereon shall be printed, lithographed or engraved or produced by any combination of these methods on steel engraved borders or may be produced in any other manner all as determined by the officers executing such Notes, as evidenced by their execution of such Notes or Guarantees, as the case may be.

In certain cases described elsewhere herein, the legends set forth in the first three paragraphs of Section 2.2 may be omitted from Notes issued hereunder.

Notes offered and sold in their initial distribution in reliance on Regulation S will be initially issued in the form of one or more Global Notes in fully registered form without interest coupons, substantially in the form of Note set forth in Section 2.2 and 2.3 (the "Regulation S Global Note"), which shall be registered in the name of the Depositary or its nominee and deposited with the Trustee, at its Corporate Trust Office, as custodian for the Depositary, duly executed by the Issuer and the Guarantors and authenticated by the Trustee as hereinafter provided, for credit by the Depositary to the respective accounts of the beneficial owners of the Notes represented thereby (or such other accounts as they may direct).

Notes offered and sold in their initial distribution in reliance on Rule 144A shall be issued in the form of one or more Global Notes (collectively, and, together with their Successor Notes, the "Restricted Global Note") in fully registered form without interest coupons, substantially in the form of Note set forth in Section 2.2 and 2.3, with such applicable legends as are provided for in Section 2.2, except as otherwise permitted herein. Such Restricted Global Note shall be registered in the name of the Depositary or its nominee and deposited with the Trustee, at its Corporate Trust Office, as custodian for the Depositary, duly executed by the Issuer and the Guarantors and authenticated by the Trustee as hereinafter provided, for credit by the Depositary to the respective accounts of beneficial owners of the Notes represented thereby (or such other accounts as they may direct). The aggregate principal amount of the Restricted Global Note may be increased or decreased from time to time by adjustments made on the records of the Trustee, as custodian for the Depositary, in connection with a corresponding decrease or increase in the aggregate principal amount of the Regulation S Global Note, as hereinafter provided.

Section 2.2. Form of Face of Note.

[Include if Note is a Restricted Global Note — THIS NOTE (OR ITS PREDECESSOR) WAS ORIGINALLY ISSUED IN A TRANSACTION EXEMPT FROM REGISTRATION UNDER THE UNITED STATES SECURITIES ACT OF 1933, AS AMENDED, OR THE SECURITIES ACT, AND THIS NOTE MAY NOT BE REOFFERED, SOLD OR

OTHERWISE TRANSFERRED IN THE ABSENCE OF SUCH REGISTRATION OR AN APPLICABLE EXEMPTION THEREFROM. EACH PURCHASER OF THIS NOTE IS HEREBY NOTIFIED THAT THE SELLER OF THIS NOTE MAY BE RELYING ON THE EXEMPTION FROM THE PROVISIONS OF SECTION 5 OF THE SECURITIES ACT PROVIDED BY RULE 144A THEREUNDER. THE HOLDER OF THIS NOTE AGREES FOR THE BENEFIT OF THE ISSUER OR ANY SUBSIDIARY THAT (A) THIS NOTE MAY BE REOFFERED, RESOLD, PLEDGED OR OTHERWISE TRANSFERRED, ONLY (I) TO A PERSON WHOM THE SELLER REASONABLY BELIEVES IS A QUALIFIED INSTITUTIONAL BUYER (AS DEFINED IN RULE 144A UNDER THE SECURITIES ACT) IN A TRANSACTION MEETING THE REQUIREMENTS OF RULE 144A, (II) OUTSIDE THE UNITED STATES TO A PERSON THAT IS NOT A U.S. PERSON IN AN OFFSHORE TRANSACTION IN ACCORDANCE WITH RULE 904 UNDER THE SECURITIES ACT, (III) PURSUANT TO ANOTHER AVAILABLE EXEMPTION UNDER THE SECURITIES ACT, (IV) TO THE ISSUER OR ANY SUBSIDIARY OF THE ISSUER OR (V) PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT UNDER THE SECURITIES ACT, IN EACH OF CASES (I) THROUGH (V) IN ACCORDANCE WITH ANY APPLICABLE

SECURITIES LAWS OF ANY STATE OF THE UNITED STATES; AND (B) THE HOLDER WILL, AND EACH SUBSEQUENT HOLDER IS REQUIRED TO, NOTIFY ANY PURCHASER OF THIS NOTE FROM IT OF THE RESALE RESTRICTIONS REFERRED TO IN (A) ABOVE. THIS LEGEND MAY ONLY BE REMOVED AT THE OPTION OF THE ISSUER.]

[Include if Note is a Regulation S Global Note — THIS NOTE (OR ITS PREDECESSOR) WAS ORIGINALLY ISSUED IN A TRANSACTION EXEMPT FROM REGISTRATION UNDER THE UNITED STATES SECURITIES ACT OF 1933, AS AMENDED, OR THE SECURITIES ACT, AND MAY NOT BE TRANSFERRED IN THE UNITED STATES OR TO, OR FOR THE ACCOUNT OR BENEFIT OF, ANY U.S. PERSON EXCEPT PURSUANT TO AN AVAILABLE EXEMPTION FROM THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT AND ALL APPLICABLE STATE SECURITIES LAWS. TERMS USED ABOVE HAVE THE MEANINGS GIVEN TO THEM IN REGULATION S UNDER THE SECURITIES ACT.]

VM HOLDING S.A.
(organized under the laws of the Grand Duchy of Luxembourg)

[REGULATION S GLOBAL NOTE/RESTRICTED GLOBAL NOTE] [Delete as appropriate for either Regulation S Global Security or Restricted Global Security]

representing
U.S.$[ ]

5.375% NOTES DUE 2027
guaranteed by
VOTORANTIM METAIS — CAJAMARQUILLA S.A.
COMPAÑIA MINERA MILPO S.A.A.
and
VOTORANTIM METAIS ZINCO S.A.

ISIN Number: [144A: US91832CAA45] [REG S: USP98118AA38]
CUSIP Number: [144A: 91832C AA4] [REG S: P98118 AA3]
Common Code: [144A: 159599248] [REG S: 159599370]
[Delete as appropriate for either Regulation S Global Security or Restricted Global Security]

VM Holding S.A., a validly organized public limited liability company validly organized under the laws of the Grand Duchy of Luxembourg (herein called the "Issuer," which term includes any successor Person under the Indenture hereinafter referred to), for value received, hereby promises to pay to Cede & Co. or its registered assigns, the principal sum of Dollars [*include if Note is a Global Note — (or such other Principal Sum as is noted in the records of the Custodian for the Depositary as being the Principal Amount of this Regulation S Global Note/Restricted Global Note for the time being*)] on May 4, 2027, and to pay interest thereon from May 4, 2017, or from the most recent Interest Payment Date to which interest has been paid or duly provided for, semi-annually on May 4 and November 4 in each year, commencing on

November 4, 2017, at the rate of 5.375% per annum, until the principal hereof is paid or made available for payment. The interest so payable, and punctually paid or duly provided for, on any Interest Payment Date will, as provided in such Indenture, be paid to the Person in whose name this Note (or one or more Predecessor Notes) is registered at the close of business on the Regular Record Date for such interest, which shall be two calendar days prior to payment (whether or not a Business Day), as the case may be, next preceding such Interest Payment Date. Any such interest not so punctually paid or duly provided for will forthwith cease to be payable to the Holder on such Regular Record Date and may either be paid to the Person in whose name this Note (or one or more Predecessor Notes) is registered at the close of business on a Special Record Date for the payment of such Defaulted Interest to be fixed by the Trustee, notice whereof shall be given to Holders of Notes not less than 10 days prior to such Special Record Date, or be paid at any time in any other lawful manner not inconsistent with the requirements of any securities exchange on which the Notes may be listed, and upon such notice as may be required by such exchange, all as more fully provided in said Indenture. In addition, the Issuer will pay to the Holder of this Note such Additional Amounts as may become payable under Section 11.9 of the Indenture.

In the case of a default in payment of principal and premium, if any, upon acceleration or repayment, interest shall be payable pursuant to the preceding paragraph on such overdue principal (and premium, if any), such interest shall be payable on demand and, if not so paid on demand, such interest shall itself bear interest at the rate per annum stated above plus 1% (to the extent that the payment of such interest shall be legally enforceable), and shall accrue from the date such principal and/or premium, as the case may be, was due and payable to the date payment of such interest has been made or duly provided for, and such interest on unpaid interest shall also be payable on demand.

Payment of the principal of (and premium, if any) and interest on this Note will be made at the Corporate Trust Office of the Trustee, at the offices of a Paying Agent, at the office or agency of the Issuer maintained for that purpose in The City of New York, New York, and at any other office or agency maintained by the Issuer for such purpose, in such coin or currency of the United States as at the time of payment is legal tender for payment of public and private debts; provided, however, that at the option of the Issuer payment of interest may be made by check mailed to the address of the Person entitled thereto as such address shall appear in the Note Register.

Reference is hereby made to the further provisions of this Note set forth on the reverse hereof, which further provisions shall for all purposes have the same effect as if set forth at this place.

Unless the certificate of authentication hereon has been executed by the Trustee referred to on the reverse hereof by manual signature, this Note shall not be entitled to any benefit under the Indenture or be valid or obligatory for any purpose.

IN WITNESS WHEREOF, the Issuer has caused this instrument to be duly executed.

VM HOLDING S.A.

By: ______________________________
Name:
Title:

By: ______________________________
Name:
Title:

Section 2.3. Form of Reverse of Note.

This Note is one of a duly authorized issue of Notes of the Issuer designated as its 5.375% Notes due 2027 (the "Notes") issued under an Indenture, dated as of May 4, 2017 (herein called the "Indenture"), among the Issuer, the Guarantors named therein, and The Bank of New York Mellon, a New York banking corporation, as trustee (the "Trustee"), as principal paying agent (the "Principal Paying Agent" and any other paying agents to be appointed hereunder, the "Paying Agents"), as transfer agent (the "Transfer Agent") and registrar (the "Registrar"). Reference is hereby made to the Indenture and all indentures supplemental thereto for a statement of the respective rights, limitations of rights, duties and immunities thereunder of the Issuer, the Guarantors, the Trustee, the Transfer Agent and the Notes are, and are to be, authenticated and delivered. Terms used but not defined in this Note are defined in the Indenture.

As provided in the Indenture and subject to certain limitations therein set forth, the obligations of the Issuer under the Indenture and this Note are guaranteed pursuant to the Guarantees set forth in the Indenture. Each Holder, by holding this Note, agrees to all of the terms and provisions of said Guarantees. Reference is hereby made to the Indenture for a statement of the respective rights, limitations of rights, duties and obligations thereunder of the Guarantors, the Trustee and the Holders.

The Issuer may from time to time, without the consent of the Holders of the Notes, create and issue Additional Notes having the same terms and conditions as the Notes in all respects, except that the issue date, the issue price and the first payment of interest thereon may differ; provided, however, that unless such Additional Notes are issued under separate CUSIP number, either such Additional Notes are part of the same "issue" for U.S. federal income tax purposes or are issued pursuant to a "qualified reopening" for U.S. federal income tax purposes. Additional Notes shall be consolidated with and shall form a single series with the previously issued Notes for all purposes hereof.

If as a result of any Change of Law (as defined in the Indenture): (i) the Issuer or a Guarantor is or would be required on the next succeeding Interest Payment Date to pay any Additional Amounts referred to in Section 11.9 of the Indenture; or (ii) the issuers/borrowers of

certain intercompany debt are or would be required on the next succeeding Interest Payment Date to pay Brazilian withholding taxes in excess of a general rate of 15% generally in case of any taxes imposed by Brazil or 25% in case of taxes imposed by Brazil on amounts paid to residents of countries which do not impose any income tax or which impose it at a maximum rate lower than 20% or where the laws of that country or location impose restrictions on the disclosure of (x) shareholding composition; (y) the ownership of the investment; or (z) the beneficial ownership of income paid to non-resident persons, pursuant to Law No. 9,779, dated January 19, 1999; provided that, such requirement to pay such taxes in excess of such rate was not caused by, or otherwise the result of, whether directly or indirectly, wholly or in part, any amendment to the intercompany debt, and in either case, the payment of such excess amounts cannot be avoided by the use of any reasonable measures available to the Issuer or a Guarantor, the Notes may be repurchased, by the Issuer at the option of the Issuer or a Guarantor, in whole, but not in part, upon not less than 30 nor more than 90 days' notice mailed to the Holders (which notice shall be deemed given upon delivery of such notice to the Trustee), at any time following such Change of Law at a repurchase price equal to the principal amount thereof, plus accrued and unpaid interest, if any, to the date fixed for repurchase.

The Issuer or a Guarantor will also pay to Holders of the Notes on the Redemption Date any Additional Amounts which are payable. Following such repurchase, the Notes will be cancelled, or remain Outstanding, at the Issuer's or a Guarantor's election. Prior to the delivery of any notice of repurchase in accordance with the foregoing, the Issuer or a Guarantor shall deliver to the Trustee and the Principal Paying Agent an Officer's Certificate stating that the Issuer or a Guarantor is entitled to effect such redemption based on an Opinion of Counsel addressed to the Trustee or written advice of a qualified tax expert, that the Issuer or a Guarantor has or will, or that there is a substantial probability that the Issuer or a Guarantor has or will, become obligated to pay such Additional Amounts as a result of such Change of Law.

At any time before February 4, 2027 (which is the date that is three months prior to maturity of the notes (the "Par Call Date")), the Issuer or a Guarantor has the right to redeem the Notes, in whole or in part and from time to time, at a redemption price equal to the greater of (1) 100% of the principal amount of the Notes being redeemed and (2) the sum of the present values of the remaining scheduled payments of principal and interest on the Notes being redeemed that would be due if the Notes matured on the Par Call Date (inclusive of interest accrued to the redemption date), discounted to the Redemption Date on a semi-annual basis (assuming a 360-day year consisting of twelve 30-day months) at the Treasury Rate plus 50 basis points, and in the case of clause (1) only, accrued and unpaid interest on the principal amount of the Notes being redeemed to, but excluding, such Redemption Date.

At any time on or after the Par Call Date, the Issuer or a Guarantor has the right to redeem the Notes, in whole or in part and from time to time, at a redemption price equal to 100% of the principal amount of the Notes being redeemed plus accrued and unpaid interest on the principal amount of the Notes being redeemed to, but excluding, such Redemption Date.

The Issuer, any Guarantor or any of their respective Affiliates may at any time repurchase the Notes at any price in the open market or otherwise. The Issuer, any Guarantor or any of their respective Affiliates may hold or resell the Notes it purchases or may surrender them to the Trustee or an Agent for cancellation.

[Include if Note is a Regulation S Global Note — If the holder of a beneficial interest in this Regulation S Global Note at any time wishes to transfer such interest to a Person who wishes to take delivery thereof in the form of a beneficial interest in the Restricted Global Note, such transfer may be effected, subject to the rules and procedures of the Depositary, Euroclear and Clearstream, in each case to the extent applicable and as in effect from time to time, only in accordance with the terms of this paragraph. Upon receipt by the Trustee, as Registrar, of (A) written instructions given by or on behalf of the Depositary in accordance with the rules and procedures of the Depositary, Euroclear and Clearstream, in each case to the extent applicable and as in effect from time to time directing the Trustee to credit or cause to be credited to a specified Agent Member's account a beneficial interest in the Restricted Global Note in a specified principal amount and to cause to be debited from another specified Agent Member's account a beneficial interest in this Regulation S Global Note in an equal principal amount; and (B) a certificate in substantially the form set forth in Exhibit B to the Indenture signed by or on behalf of the Agent Member holding such beneficial interest in this Regulation S Global Note, the Trustee, as Registrar, shall reduce the principal amount of this Regulation S Global Note and increase the principal amount of the Restricted Global Note by such specified principal amount.]

[Include if Note is a Restricted Global Note — If the holder of a beneficial interest in this Restricted Global Note wishes at any time to transfer such interest to a Person who wishes to take delivery thereof in the form of a beneficial interest in the Regulation S Global Note, such transfer may be effected, subject to the rules and procedures of the Depositary, Euroclear and Clearstream, in each case to the extent applicable and as in effect from time to time, only in accordance with the terms of this paragraph. Upon receipt by the Trustee, as Registrar of:

(A) written instructions given by or on behalf of the Depositary in accordance with the rules and procedures of the Depositary, Euroclear and Clearstream, in each case to the extent applicable and as in effect from time to time directing the Trustee to credit or cause to be credited to a specified Agent Member's account a beneficial interest in the Regulation S Global Note in a specified principal amount and to cause to be debited from another specified Agent Member's account a beneficial interest in the Restricted Global Note in an equal principal amount; and

(B) a certificate in substantially the form set forth in Exhibit A of the Indenture signed by or on behalf of the Agent Member holding such beneficial interest in this Restricted Global Note,

the Trustee, as Registrar, shall reduce the principal amount of this Restricted Global Note, and increase the principal amount of the Regulation S Global Note by such specified principal amount.]

The Notes do not have the benefit of any sinking fund obligations.

In the event of redemption or purchase of this Note in part only, a new Note or Notes of like tenor for the unredeemed or unpurchased portion hereof will be issued in the name of the Holder hereof upon the cancellation hereof.

If an Event of Default shall occur and be continuing, the principal of all the Notes may be declared due and payable in the manner and with the effect provided in the Indenture.

The Indenture contains provisions for defeasance at any time of (i) the entire indebtedness of this Note, or (ii) certain restrictive covenants and Events of Default with respect to this Note, in each case upon compliance with certain conditions set forth therein.

Unless the context otherwise requires, the Notes shall constitute one series for all purposes under the Indenture, including without limitation, amendments, waivers or redemption.

The Indenture permits, with certain exceptions as therein provided, the amendment thereof and the modification of the rights and obligations of the Issuer and the Guarantors and the rights of the Holders of the Notes under the Indenture at any time by the Issuer and the Trustee with the consent of the Holders of a majority in aggregate principal amount of the Notes at the time Outstanding. The Indenture also contains provisions permitting the Holders of specified percentages in aggregate principal amount of the Notes at the time Outstanding, on behalf of the Holders of all the Notes, to waive compliance by the Issuer or the Guarantors with certain provisions of the Indenture and certain past defaults under the Indenture and their consequences.

Any such consent or waiver by the Holder of this Note shall be conclusive and binding upon such Holder and upon all future Holders of this Note and of any Note issued upon the registration of transfer hereof or in exchange herefor or in lieu hereof, whether or not notation of such consent or waiver is made upon this Note.

No reference herein to the Indenture and no provision of this Note or of the Indenture shall alter or impair the obligation of the Issuer, which is absolute and unconditional, to pay the principal of (and premium, if any) and interest on this Note at the times, place and rate, and in the coin or currency, herein prescribed.

As provided in the Indenture and subject to certain limitations therein set forth, the transfer of this Note is registrable in the Note Register, upon surrender of this Note for registration of transfer at the office or agency of the Issuer in the Borough of Manhattan, The City of New York, New York, or of any of the Transfer Agents duly endorsed by, or accompanied by a written instrument of transfer in form satisfactory to the Issuer duly executed by, the Holder hereof or his attorney duly authorized in writing, and thereupon one or more new Notes, of authorized denominations and like tenor and for the same aggregate principal amount, will be issued to the designated transferee or transferees.

The Notes are issuable only in registered form without coupons in minimum denominations of U.S.$200,000 and integral multiples of U.S.$1,000 in excess thereof. As provided in the Indenture and subject to certain limitations therein set forth, Notes are exchangeable for a like tenor and aggregate principal amount of Notes of a different authorized denomination, as requested by the Holder surrendering the same.

No service charge shall be made for any such registration of transfer or exchange, but the Issuer or the Trustee may require payment of a sum sufficient to cover any tax or other governmental charge payable in connection therewith.

Prior to due presentment of this Note for registration of transfer, the Issuer, the Trustee, the Transfer Agents and any agent of the Issuer or the Trustee may treat the Person in whose name this Note is registered as the owner hereof for all purposes, whether or not this Note be overdue, and none of the Issuer, the Trustee or any such agent shall be affected by notice to the contrary.

Interest on this Note shall be computed on the basis of a 360-day year of twelve 30-day months each and, in the case of an incomplete month, on the number of days elapsed based on a 30-day month.

All terms used in this Note which are defined in the Indenture shall have the meanings assigned to them in the Indenture.

THE INDENTURE, THIS NOTE AND THE GUARANTEES SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE LAWS OF THE STATE OF NEW YORK, without regard to conflicts of laws principles thereof. For the purposes of paragraph 2 of article 9 of the Brazilian Decree-Law No. 4,567, dated September 4, 1942, as amended, the Trustee shall be deemed the "proponent" of the transactions contemplated by the Indenture. Articles 84 through 94-8 of the Luxembourg law dated August 10, 1915 on commercial companies, as amended, which set the provisions related to the representation of the Holders of the Notes, are not applicable to the Notes or the Guarantees.

The Issuer and the Guarantors agree that any suit, action or proceeding against any of them brought by any Holder or the Trustee arising out of or based upon this Indenture, the Notes or the Guarantees may be instituted in any state or Federal court in The City of New York, New York, and waive any objection which any of them may now or hereafter have to the laying of venue of any such proceeding, and irrevocably submits to the non-exclusive jurisdiction of such courts in any suit, action or proceeding.

The Issuer may change any Paying Agent, the Registrar or Transfer Agent; provided that the Issuer will maintain an office or agency where the Notes may be presented or surrendered for payment and for registration of transfer in the Borough of Manhattan, The City of New York. Upon any such change, the Issuer shall give written notice thereof to the Trustee, the Principal Paying Agent and the Holders.

U.S. dollars are the sole currency of account and payment for all sums payable by the Issuer and the Guarantors under or in connection with the Notes, the Guarantees or the Indenture, including damages. The Issuer and the Guarantors have agreed that the provisions of Section 1.14 of the Indenture shall apply to conversion of currency in the case of the Notes, the Guarantees and the Indenture. Among other things, Section 1.14 specifies that if there is a change in the rate of exchange prevailing between the Business Day before the day on which a judgment is given or an order of enforcement is made, as the case may be (or such other date as a court shall determine), and the date of receipt of the amount due, the Issuer or the relevant Guarantor, as the case may be, will pay such additional (or, as the case may be, such lesser) amount, if any, as may be necessary so that the amount paid in the judgment currency when converted at the rate of exchange prevailing on the date of receipt will produce the amount in the Base Currency originally due.

Each of the Issuer and the Guarantors has appointed National Corporate Research, Ltd., currently located at 10 East 40th Street, 10th Floor, New York, NY 10016, as its authorized agent upon which process may be served in any suit, or proceeding with respect to, arising out of, or relating to, this Note, the Indenture or the Guarantees, that may be instituted in any Federal or state court in the State of New York, The City of New York, the Borough of Manhattan, or brought under Federal or state securities laws and has agreed that there shall, at all times, be at least one agent for service of process for the Issuer and the Guarantors appointed and acting in accordance with the provisions of Section 1.13 of the Indenture relating to agent for service of process. To the extent that the Issuer or the Guarantors has or hereafter may acquire any immunity from jurisdiction of any court or from any legal process (whether through service of notice, attachment prior to judgment, attachment in aid of execution, execution or otherwise) with respect to itself or its property, each of the Issuer and the Guarantors has irrevocably waived such immunity in respect of its obligations under the Indenture, this Note and the Guarantees, to the fullest extent permitted by law.

Section 2.4. Form of Trustee's Certificate of Authentication.

This is one of the Notes with the Guarantees referred to in the within-mentioned Indenture.

THE BANK OF NEW YORK MELLON
as Trustee

By: ______________________________
Authorized Signatory

Dated: ____________________

Each of the Guarantors, jointly and severally, guarantees the due and punctual payment of all sums from time to time payable in respect of the Notes as set forth in the Indenture.

VOTORANTIM METAIS — CAJAMARQUILLA S.A.

By: ______________________________
Name:
Title:

By: ______________________________
Name:
Title:

COMPAÑIA MINERA MILPO S.A.A.

By: ______________________________
Name:
Title:

By: ______________________________
Name:
Title:

VOTORANTIM METAIS ZINCO S.A.

By: ______________________________
Name:
Title:

By: ______________________________
Name:
Title:

ARTICLE III

THE NOTES

Section 3.1. Title and Terms.

On the Issue Date, the Trustee shall authenticate and deliver U.S.$700,000,000 aggregate principal amount of 5.375% Notes due 2027. The Issuer may from time to time, without the consent of the Holders of the Notes, create and issue additional Notes having the same terms and conditions as the Notes in all respects, except for issue date, issue price and the first payment of interest thereon; provided, however, that unless such Additional Notes are issued under separate CUSIP number, either such Additional Notes are part of the same "issue" for U.S. federal income tax purposes or are issued pursuant to a "qualified reopening" for U.S. federal income tax purposes. Additional Notes issued shall be consolidated with and shall form a single series with the previously issued Notes for all purposes hereof.

The Notes shall be known and designated as the "5.375% Notes due 2027" of the Issuer. The Stated Maturity of the Notes shall be May 4, 2027. The Notes shall bear interest at the rate of 5.375% per annum, from May 4, 2017 or from the most recent Interest Payment Date thereafter to which interest has been paid or duly provided for, as the case may be, payable semiannually in arrears on May 4 and November 4, commencing November 4, 2017, until the principal thereof is paid or made available for payment.

In the case of a default in payment of principal and premium, if any, upon acceleration or redemption, interest (and Additional Amounts, if any) shall be payable pursuant to the second paragraph of this Section 3.1 on such overdue principal (and premium, if any), such interest shall be payable on demand and, if not so paid on demand, such interest shall itself bear interest at the rate per annum stated in the form of security contained herein plus 1% per annum (to the extent that the payment of such interest shall be legally enforceable), and shall accrue from the date such principal and/or premium, as the case may be, was due and payable to the date payment of such interest (and Additional Amounts, if any) has been made or duly provided for, and such interest on unpaid interest shall also be payable on demand.

The principal of and premium, if any, and interest on the Notes shall be payable at the Corporate Trust Office, the office of the Paying Agents and at any other office or agency maintained by the Issuer for such purpose; provided, however, that at the option of the Issuer upon five (5) Business Days' notice to the applicable Paying Agent, payment of interest may be made by check mailed to the address of the Person entitled thereto as such address shall appear in the Note Register.

The Notes shall be redeemable or repurchasable as provided in Article XI. The Notes shall not have the benefit of any sinking fund obligations.

The Notes shall be subject to defeasance at the option of the Issuer as provided in Article XII.

Unless the context otherwise requires, the Notes shall constitute one series for all purposes under this Indenture, including, without limitation, amendments, waivers or redemptions

Section 3.2. Denominations.

The Notes are issuable only in fully registered form, without coupons, in a minimum denomination of U.S.$200,000 and integral multiples of U.S.$1,000 in excess thereof.

Section 3.3. Execution, Authentication, Delivery and Dating.

The Notes shall be executed on behalf of the Issuer by an authorized signatory or authorized signatories of the Issuer. The signature of any signatory on the Notes may be manual or facsimile.

Notes bearing the manual or facsimile signatures of individuals who were at any time the proper officers of the Issuer shall bind the Issuer, notwithstanding that such individuals or any of them have ceased to hold such offices prior to the authentication and delivery of such Notes or did not hold such offices at the date of such Notes.

At any time and from time to time after the execution and delivery of this Indenture, the Issuer may deliver Notes executed by the Issuer and having endorsed (by attachment or imprint) thereon the Guarantees executed as provided in Section 14.2 by the Guarantors, to the Trustee for authentication, together with an Issuer Order for the authentication and delivery of such

Notes; and the Trustee in accordance with such Issuer Order shall authenticate and deliver such Notes as in this Indenture provided and not otherwise.

Each Note shall be dated the date of its authentication.

No Note or Guarantee shall be entitled to any benefit under this Indenture or be valid or obligatory for any purpose unless there appears on such Note a certificate of authentication substantially in the form provided for herein executed by the Trustee by manual signature, and such certificate upon any Note shall be conclusive evidence, and the only evidence, that such Note has been duly authenticated and delivered hereunder and that the Guarantees referred to therein have been duly executed and delivered hereunder.

Section 3.4. Global Notes; Registration, Registration of Transfer and Exchange.

(a) *Global Notes*. The provisions of clauses (1) through (7) below shall apply only to Global Notes:

(1) each Global Note authenticated under this Indenture shall be registered in the name of the Depositary or a nominee thereof and delivered to the Depositary or a nominee thereof or custodian therefore, and each such Global Note shall constitute a single Note for all purposes of this Indenture;

(2) notwithstanding any other provision in this Indenture, no Global Note may be exchanged in whole or in part for Notes registered, and no transfer of a Global Note in whole or in part may be registered, in the name of any Person other than the Depositary or a nominee thereof unless (A) the Depositary (i) has notified the Issuer that it is unwilling or unable to continue as Depositary for such Global Note and the Issuer thereupon fails to appoint a successor Depositary or (ii) has ceased to be a clearing agency registered under the Exchange Act, (B) the Issuer, at its option, notifies the Trustee in writing that it elects to cause the issuance of the Notes in definitive registered certificated form, or (C) an Event of Default has occurred and is continuing and the Registrar has received a written request from a beneficial owner of the Notes through an Agent Member to issue its proportionate interest in the Global Note in certificated form;

(3) if any Global Note is to be exchanged for other Notes or cancelled in whole, it shall be surrendered by or on behalf of the Depositary or its nominee to the Trustee, as Registrar, for exchange or cancellation as provided in this Article III. If any Global Note is to be exchanged for other Notes or cancelled in part, or if another Note is to be exchanged in whole or in part for a beneficial interest in any Global Note, such Global Note shall be so surrendered for exchange or cancellation as provided in this Article III or, if the Trustee is acting as custodian for the Depositary or its nominee (or is party to a similar arrangement) with respect to such Global Note, the principal amount thereof shall be reduced or increased by an amount equal to the portion thereof to be so exchanged or cancelled, or the principal amount of such other Note to be so exchanged for a beneficial interest therein, as the case may be, in each case by means of an appropriate adjustment made on the records of the Trustee, whereupon the Trustee, in accordance with the Applicable Procedures, shall instruct the Depositary or its authorized

representatives to make a corresponding adjustment to its records (including by crediting or debiting any Agent Member's account as necessary to reflect any transfer or exchange of a beneficial interest pursuant to Section 3.4(c)). Upon any such surrender or adjustment of a Global Note, the Trustee shall, subject to Section 3.4(a)(2) and as otherwise provided in this Article III, authenticate and deliver any Notes issuable in exchange for such Global Note (or any portion thereof) to or upon the order of, and registered in such names as may be directed by, the Depositary or its authorized representative. Upon the request of the Trustee in connection with the occurrence of any of the events specified in the preceding paragraph, the Issuer shall promptly make available to the Trustee a reasonable supply of Notes that are not in the form of Global Notes. The Trustee shall be entitled to conclusively rely upon any order, direction or request of the Depositary or its authorized representative which is given or made pursuant to this Article III if such order, direction or request is given or made in accordance with the Applicable Procedures;

(4) every Note authenticated and delivered upon registration of transfer of, or in exchange for or in lieu of, a Global Note or any portion thereof, whether pursuant to this Article III or Section 10.5 or otherwise, shall be authenticated and delivered in the form of, and shall be, a Global Note, unless such Note is registered in the name of a Person other than the Depositary or a nominee thereof;

(5) none of the Issuer, the Guarantors, the Trustee, any agent of the Trustee, any Paying Agent or the Registrar will have any responsibility or liability for any aspect of the Depositary's records (or the records of the participant of such Depositary) relating to or payments made on account of beneficial ownership interests of a Global Note or for maintaining, supervising or reviewing any records of the Depositary relating to such beneficial ownership interests;

(6) subject to the provisions in the legends required by Section 2.2 above, the registered Holder may grant proxies and otherwise authorize any Person, including Agent Members and Persons who may hold interests in Agent Members, to take any action that such Holder is entitled to take under this Indenture;

(7) except as provided in Section 3.4(a)(2) herein, neither Agent Members nor any other Person on whose behalf Agent Members may act shall have any rights under this Indenture with respect to any Global Note held on their behalf by the Depositary or under the Global Note, and the Depositary may be treated by the Issuer, the Trustee and any agent of the Issuer or the Trustee as the absolute owner of such Global Note for all purposes whatsoever. Notwithstanding the foregoing, nothing herein shall prevent the Issuer, the Guarantors, the Trustee or any agent of the Issuer or the Trustee from giving effect to any written certification, proxy or other authorization furnished by the Depositary or impair, as between the Depositary and its Agent Members, the operation of customary practices governing the exercise of the rights of a Holder of any Note.

(b) *Registration, Registration of Transfer and Exchange and Legends*. The Issuer shall cause to be kept at the Corporate Trust Office of the Trustee a register (the register maintained in such office and in any other office or agency designated pursuant to Section 11.2

being herein sometimes collectively referred to as the "Note Register") in which, subject to such reasonable regulations as they may prescribe, the Issuer shall provide for the registration of Notes and of transfers and exchanges of Notes. The Trustee is hereby appointed "Registrar" for the purpose of registering Notes and transfers and exchanges of Notes as herein provided.

Upon surrender for registration of transfer of any Note at an office or agency of the Issuer designated pursuant to Section 11.2 for such purpose in accordance with the terms hereof, the Issuer shall, subject to the other provisions of this Section 3.4, execute, and the Trustee shall, upon receipt of an Issuer Order, authenticate and deliver, in the name of the designated transferee or transferees, one or more new Notes of any authorized denominations and of a like tenor and aggregate principal amount and bearing the applicable legends set forth in Section 2.2.

Subject to Section 3.4(c), at the option of the Holder, Notes may be exchanged for other Notes of any authorized denominations and of a like tenor and aggregate principal amount and bearing the applicable legend set forth in Section 2.2, if any, each such new Note having the benefit of the Guarantees executed by the Guarantors, upon surrender of the Note to be exchanged at such office or agency. Whenever any Note is so surrendered for exchange, the Issuer shall execute, and the Trustee shall, upon receipt of an Issuer Order, authenticate and deliver, the Note which the Holder making the exchange is entitled to receive.

The Trustee shall have no obligation or duty to monitor, determine or inquire as to compliance with U.S. securities laws, including but not limited to any restrictions on transfer imposed under this Indenture or under applicable law with respect to any transfer of any interest in any Note (including any transfers between or among Agent Members or beneficial owners of interests in any Global Note) other than to require delivery of such certificates and other documentation or evidence as are expressly required by, and to do so if and when expressly required by the terms of, this Indenture, and to examine the same to determine substantial compliance solely as to form with the express requirements hereof. Neither the Trustee nor any Agent shall have any responsibility or liability for any actions taken or not taken by the Depositary.

All Notes and the Guarantees issued upon any registration of transfer or exchange of Notes shall be the valid obligations of the Issuer and the Guarantors, evidencing the same debt, and entitled to the same benefits under this Indenture, as the Notes and the Guarantees endorsed thereon, respectively, surrendered upon such registration of transfer or exchange.

Every Note presented or surrendered for registration of transfer or for exchange shall (if so required by the Issuer or the Trustee) be duly endorsed, or be accompanied by a written instrument of transfer in form satisfactory to the Issuer and the Registrar duly executed, by the Holder thereof or his attorney duly authorized in writing.

No service charge shall be made to the Holder for any registration of transfer or exchange of Notes, but the Issuer or the Trustee may require payment of a sum sufficient to cover any tax or other governmental charge that may be imposed in connection with any registration of transfer or exchange of Notes, other than exchanges pursuant to Section 3.4, 3.5 or 10.5.

The Issuer and the Registrar shall not be required (i) to issue, register the transfer of or exchange any Note during a period beginning at the opening of business 15 days before the due date for any payment of principal in respect of the Notes selected for redemption under Section 4.6 and ending at the close of business on the day of such mailing, or (ii) to register the transfer of or exchange any Note so selected for redemption in whole or in part, except the unredeemed portion of any Note being redeemed in part.

All Notes, initially issued hereunder shall, upon issuance, bear the relevant legends specified in Section 2.2, if any, to be applied to such a Note and, in the case of the legend specifically required for the Restricted Global Note, such required legend shall not be removed unless the Issuer shall have delivered to the Trustee (and the Notes Registrar, if other than the Trustee) an Issuer Order which states that such Note may be issued without such legend thereon. If such legend has been removed from a Note as provided above, no other Note issued in exchange for all or any part of such Note shall bear such legend, unless the Issuer has reasonable cause to believe that such other Note is a "restricted security" within the meaning of Rule 144 of the Notes Act and instructs the Trustee to cause a legend to appear thereon:

(c) *Certain Transfers and Exchanges*. Upon presentation for transfer or exchange of any Note at the office of the Trustee, as Registrar, located in The City of New York, accompanied by a written instrument of transfer or exchange in the form approved by the Issuer (it being understood that, until notice to the contrary is given to Holders of Notes, the Issuer shall be deemed to have approved the form of instrument of transfer or exchange, if any, printed on any Note), executed by the registered Holder, in person or by such Holder's attorney thereunto duly authorized in writing, and upon compliance with this Section 3.4, such Note shall be transferred upon the Note Register, and a new Note shall be authenticated and issued in the name of the transferee. Notwithstanding any provision to the contrary herein or in the Notes, transfers of a Global Note, in whole or in part, and transfers of interests therein of the kind described in this Section 3.4 (c), shall only be made in accordance with this Section 3.4(c). Transfers and exchanges subject to this Section 3.4(c) shall also be subject to the other provisions of this Indenture that are not inconsistent with this Section 3.4(c).

(1) *General*. A Global Note may not be transferred, in whole or in part, to any Person other than the Depositary or a nominee thereof, and no such transfer to any such other Person may be registered; provided, however, that this clause (1) shall not prohibit any transfer of a Note that is issued in exchange for a Global Note but is not itself a Global Note. No transfer of a Note to any Person shall be effective under this Indenture or the Notes unless and until such Note has been registered in the name of such Person. Nothing in this clause (1) shall prohibit or render ineffective any transfer of a beneficial interest in a Global Note effected in accordance with the other provisions of this Section 3.4(c).

(2) *Restricted Global Note to Regulation S Global Note*. If the holder of a beneficial interest in the Restricted Global Note wishes at any time to transfer such interest to a Person who wishes to take delivery thereof in the form of a beneficial interest in the Regulation S Global Note, such transfer may be effected, subject to the rules and procedures of the Depositary, Euroclear and Clearstream, in each case to the extent applicable and as in effect from time to time (the "Applicable Procedures"), only in

accordance with this clause (2). Upon receipt by the Trustee, as Registrar, of (A) written instructions given by or on behalf of the Depositary in accordance with the Applicable Procedures directing the Trustee to credit or cause to be credited to a specified Agent Member's account a beneficial interest in the Regulation S Global Note in a specified principal amount and to cause to be debited from another specified Agent Member's account a beneficial interest in the Restricted Global Note in an equal principal amount and (B) a certificate in substantially the form set forth in Exhibit A signed by or on behalf of the Agent Member holding such beneficial interest in the Restricted Global Note, the Trustee, as Registrar, shall reduce the principal amount of a Restricted Global Note, and increase the principal amount of the Regulation S Global Note by such specified principal amount as provided in Section 3.4(a)(3).

(3) *Regulation S Global Note to Restricted Global Note*. If the holder of a beneficial interest in the Regulation S Global Note at any time wishes to transfer such interest to a Person who wishes to take delivery thereof in the form of a beneficial interest in the Restricted Global Note, such transfer may be effected, subject to the Applicable Procedures, only in accordance with this clause (3). Upon receipt by the Trustee, as Registrar, of (A) written instructions given by or on behalf of the Depositary in accordance with the Applicable Procedures directing the Trustee to credit or cause to be credited to a specified Agent Member's account a beneficial interest in the Restricted Global Note in a specified principal amount and to cause to be debited from another specified Agent Member's account a beneficial interest in the Regulation S Global Note and (B) a certificate in substantially the form set forth in Exhibit B signed by or on behalf of the Agent Member holding such beneficial interest in the Regulation S Global Note, the Trustee, as Registrar, shall reduce the principal amount of such Regulation S Global Note and increase the principal amount of the Restricted Global Note by such specified principal amount as provided in Section 3.4(a)(3).

(4) *Non-Global Restricted Note to Global Note*. If the holder of a Restricted Note (other than a Global Note) wishes at any time to transfer all or any portion of such Note to a Person who wishes to take delivery thereof in the form of a beneficial interest in the Restricted Global Note or the Regulation S Global Note, such transfer may be effected, subject to the Applicable Procedures, only in accordance with this clause (4). Upon receipt by the Trustee, as Registrar, of (A) such Note and written instructions given by or on behalf of such Holder as provided in Section 3.4(b) directing the Trustee to credit or cause to be credited to a specified Agent Member's account a beneficial interest in the Restricted Global Note or the Regulation S Global Note, as the case may be, in a specified principal amount equal to the principal amount of the Restricted Note (or portion thereof) to be so transferred, and (B) an appropriately completed certificate substantially in the form set forth in Exhibit C-1 hereto, if the specified account is to be credited with a beneficial interest in the Restricted Global Note, or Exhibit C-2 hereto, if the specified account is to be credited with a beneficial interest in the Regulation S Global Note, signed by or on behalf of such Holder, then the Trustee, as Registrar, shall cancel such Restricted Note (and issue a new Note in

respect of any untransferred portion thereof) as provided in Section 3.4(b) and increase the principal amount of the Restricted Global Note or Regulation S Global Note, as the case may be, by the specified principal amount as provided in Section 3.4(a)(3).

(5) *Non-Global Regulation S Note to Restricted Global Note or Regulation S Global Note*. If the Holder of a Regulation S Note (other than a Global Note) wishes at any time to transfer all or any portion of such Note to a Person who wishes to take delivery thereof in the form of a beneficial interest in the Restricted Global Note or the Regulation S Global Note, as the case may be, such transfer may be effected only in accordance with this clause (5) and subject to the Applicable Procedures. Upon receipt by the Trustee, as Registrar, of (A) such Note and written instructions given by or on behalf of such Holder as provided in Section 3.4(b) directing the Trustee to credit or cause to be credited to a specified Agent Member's account a beneficial interest in the Restricted Global Note or the Regulation S Global Note, as the case may be, in a principal amount equal to the principal amount of the Note (or portion thereof) to be so transferred, and (B)(i) with respect to a transfer which is to be delivered in the form of a beneficial interest in the Restricted Global Note, a certificate in substantially the form set forth in Exhibit D-l, signed by or on behalf of such Holder, and (ii) with respect to a transfer which is to be delivered in the form of a beneficial interest in the Regulation S Global Note, a certificate in substantially the form set forth in Exhibit D-2, signed by or on behalf of such Holder, then the Trustee, as Registrar, shall cancel such Note (and issue a new Note in respect of any untransferred portion thereof) as provided in Section 3.4(b) and increase the principal amount of the Restricted Global Note or the Regulation S Global Note, as the case may be, by the specified principal as provided in Section 3.4(a)(3).

Section 3.5. Mutilated, Destroyed, Lost and Stolen Notes.

If any mutilated or defaced Note is surrendered to the Trustee, the Issuer shall execute and the Trustee shall, upon receipt of an Issuer Order, authenticate or cause to be authenticated and deliver in exchange therefore a new Note of like tenor and principal amount, having endorsed thereon the Guarantees executed by the Guarantors and bearing a number not contemporaneously outstanding.

If there shall be delivered to the Issuer and the Trustee (i) evidence to their satisfaction of the destruction, loss or theft of any Note and (ii) such security or indemnity as may be required by them to save each of them, the Guarantors and any agent of either of them harmless, then, in the absence of notice to the Issuer or the Trustee that such Note has been acquired by a bona fide purchaser, the Issuer shall execute and the Trustee shall, upon receipt of an Issuer Order, authenticate and deliver, in lieu of any such destroyed, lost or stolen Note, a new Note of like tenor and principal amount, having endorsed thereon the Guarantees executed by the Guarantors and bearing a number not contemporaneously outstanding.

In case any such mutilated, defaced, destroyed, lost or stolen Note has become or is about to become due and payable, the Issuer may in its discretion, instead of issuing a new Note, pay such Note.

Upon the issuance of any new Note under this Section, the Issuer may require the payment of a sum sufficient to cover any tax or other governmental charge that may be imposed in relation thereto and any other expenses (including the fees and expenses of the Trustee, its counsel, the Registrar and the Paying Agents) connected therewith.

Every new Note issued pursuant to this Section in lieu of any destroyed, defaced, lost or stolen Note, and the Guarantees endorsed thereon, shall constitute an original additional contractual obligation of the Issuer and the Guarantors, respectively, whether or not the destroyed, lost or stolen Note shall be at any time enforceable by anyone, and shall be entitled to all the benefits of this Indenture equally and proportionately with any and all other Notes and Guarantees, respectively duly issued hereunder.

The provisions of this Section are exclusive and shall preclude (to the extent lawful) all other rights and remedies with respect to the replacement or payment of mutilated, destroyed, lost or stolen Notes.

Section 3.6. Payment of Interest; Interest Rights Preserved.

Interest on any Note which is payable, and is punctually paid or duly provided for, on any Interest Payment Date shall be paid to the Person in whose name that Note (or one or more Predecessor Notes) is registered at the close of business on the Regular Record Date for such interest.

Any interest on any Note which is payable, but is not punctually paid or duly provided for, on any Interest Payment Date (herein called "Defaulted Interest") shall (a) bear interest at the rate per annum stated in the form of Note included herein, (to the extent that the payment of such interest shall be legally enforceable), and (b) forthwith cease to be payable to the Holder on the relevant Regular Record Date by virtue of having been such Holder, and such Defaulted Interest may be paid by the Issuer, at its election in each case, as provided in clause (1) or (2) below:

(1) the Issuer may elect to make payment of any Defaulted Interest to the Persons in whose names the Notes (or their respective Predecessor Notes) are registered at the close of business on a Special Record Date for the payment of such Defaulted Interest, which shall be fixed in the following manner. The Issuer shall notify the Trustee in writing of the amount of Defaulted Interest proposed to be paid on each Note and the date of the proposed payment, and at the same time the Issuer shall deposit with the Trustee an amount of money equal to the aggregate amount proposed to be paid in respect of such Defaulted Interest or shall make arrangements satisfactory to the Trustee for such deposit prior to the date of the proposed payment, such money when deposited to be held in trust for the benefit of the Persons entitled to such Defaulted Interest as in this clause provided.

Thereupon the Trustee shall fix a Special Record Date for the payment of such Defaulted Interest which shall be not more than 15 days and not less than 10 days prior to the date of the proposed payment and not less than 10 days after the receipt by the Trustee of the notice of the proposed payment. The Trustee shall promptly notify the Issuer of such Special Record Date and, in the name and at the expense of the Issuer, shall cause notice of the proposed payment of such Defaulted Interest and the Special Record Date therefore to be mailed, first- class postage prepaid, to each Holder at his address as it appears in the Note Register, not less than 10 days prior to such Special Record Date. Notice of the proposed payment of such Defaulted Interest and the Special Record Date therefore having been so mailed, such Defaulted Interest shall be paid to the Persons in

whose names the Notes (or their respective Predecessor Notes) are registered at the close of business on such Special Record Date and shall no longer be payable pursuant to the following clause (2); and

(b) the Issuer may make payment of any Defaulted Interest in any other lawful manner not inconsistent with the requirements of any securities exchange on which the Notes may be listed, and upon such notice as may be required by such exchange, if, after notice given by the Issuer to the Trustee of the proposed payment pursuant to this clause, such manner of payment shall be deemed practicable by the Trustee.

Subject to the foregoing provisions of this Section, each Note delivered under this Indenture upon registration of transfer of or in exchange for or in lieu of any other Note shall carry the rights to interest accrued and unpaid, and to accrue, which were carried by such other Note.

Section 3.7. Persons Deemed Owners.

Prior to due presentment of a Note for registration of transfer and the effective registration of such transfer by the Registrar, the Issuer, the Guarantors, the Trustee and any agent of the Issuer, the Guarantors or the Trustee may treat the Person in whose name such Note is registered as the owner of such Note for the purpose of receiving payment of principal of and premium, if any, and (subject to Section 3.6) interest on such Note and for all other purposes whatsoever, whether or not such Note be overdue, and none of the Issuer, the Guarantors, the Trustee or any agent of the Issuer, the Guarantors or the Trustee shall be liable for so treating such Holder.

Section 3.8. Cancellation.

Except as provided for in Section 4.2 and 4.3, Notes surrendered for payment, redemption, registration of transfer or exchange shall, if surrendered to any Person other than the Trustee, be delivered to the Trustee and shall be promptly cancelled by it. The Issuer may at any time deliver to the Trustee for cancellation, accompanied by an Issuer Order, any Notes previously authenticated and delivered hereunder which the Issuer may have acquired in any manner whatsoever, and all Notes so delivered shall be promptly cancelled by the Trustee. No Notes shall be authenticated in lieu of or in exchange for any Notes cancelled as provided in this Section, except as expressly permitted by this Indenture. All cancelled Notes held by the Trustee shall be disposed of in accordance with its standard procedures or as directed by an Issuer Order; provided, however, that the Trustee shall not be required to destroy such Notes.

Section 3.9. Computation of Interest.

The amount of interest payable on the Notes for any interest period will be calculated by applying the rate of interest to the principal amount of such Note, on the basis of a year of 360 days consisting of 12 months of 30 days each and, in the case of an incomplete month, on the number of days elapsed based on a 30 day month provided, however, that Defaulted Interest shall be computed on the basis of a 365 or 366-day year, as the case may be, and the number of days actually elapsed.

Section 3.10. CUSIP Numbers.

The Issuer shall in issuing the Notes use CUSIP numbers, and the Trustee shall use the applicable CUSIP number in notices of redemption or exchange as a convenience to the Holders; provided, that any such notice may state that no representation is made as to the accuracy or correctness of the CUSIP number or numbers printed in the notice or on the certificates representing the Notes and that reliance may be placed only on the other identification numbers printed on the certificates representing the Notes. The Issuer shall promptly notify the Trustee in writing of any change in CUSIP numbers.

Section 3.11. Paying Agents; Discharge of Payment Obligations; Indemnity of Holders.

(a) The Issuer may from time to time appoint one or more paying agents under this Indenture and the Notes. By its execution and delivery of this Indenture, the Issuer hereby initially designates and appoints The Bank of New York Mellon, as Principal Paying Agent. Subject to Section 11.3, the Issuer or a Guarantor may act as paying agent.

(b) Unless the Issuer or a Guarantor shall be acting as paying agent as provided in Section 11.3, the Issuer shall, by 11:00 a.m. New York City time, no later than one Business Day prior to each Interest Payment Date, Redemption Date or Maturity Date on any Notes (whether on maturity, redemption or otherwise) (each, a "Payment Date"), deposit with the Principal Paying Agent in immediately available funds a sum sufficient to pay such principal, any premium, and interest when so becoming due (including any Additional Amounts). The Issuer shall request that the bank through which such payment is to be made agree to supply to the Principal Paying Agent in New York City by 11:00 a.m. (New York City time) two Business Days prior to the due date for any such payment an irrevocable confirmation (by authenticated SWIFT MT 100 Message) of its intention to make such payment. The Principal Paying Agent shall arrange with all other Paying Agents for the payment, from funds furnished by the Issuer or the Guarantors to the Principal Paying Agent pursuant to this Indenture, of the principal, and premium, if any, and interest (including Additional Amounts, if any) on the Notes and of the compensation of such Paying Agents for their services as such.

All Paying Agents will hold in trust, for the benefit of Holders or the Trustee, all money held by such Paying Agent for the payment of principal, or premium if any, of or interest on the Notes and shall notify the Trustee in writing of any default by the Issuer in making any such payment. The Issuer at any time may require a Paying Agent to pay all money held by it to the Trustee and to account for any funds disbursed by it. Upon complying with this Section 3.11 and the applicable provisions of Section 11.3, the Paying Agents shall have no further liability for the money delivered to the Trustee.

(c) Any payment to be made in respect of the Notes or the Guarantees by the Issuer or the Guarantors, as the case may be, to or to the order of any Paying Agent shall be in satisfaction *pro tanto* of the obligations of the Issuer under the Notes.

(d) Each payment in full of principal, redemption amount, Additional Amounts and/or interest payable under this Indenture in respect of any Note made by or on behalf of the Issuer to or to the order of any Paying Agent in the manner specified in this Indenture on the date

due shall be valid and effective to satisfy and discharge the obligation of the Issuer to make payment of principal, redemption amount, Additional Amounts and/or interest payable under this Indenture on such date, provided, however, that the liability of any Paying Agent hereunder shall not exceed any amounts paid to it by the Issuer, or held by it, on behalf of the Holders under this Indenture; and provided further that, in the event that there is a default by the Paying Agent or the Principal Paying Agent in any payment of principal, redemption amount, Additional Amounts and/or interest in respect of any Note in accordance with this Indenture, the Issuer and the Guarantors shall pay on demand such further amounts as will result in receipt by the Holder of such amounts as would have been received by it had no such default. This obligation constitutes a separate and independent obligation from the other obligations of the Issuer under the Notes and the Guarantors under the Guarantees, shall give rise to a separate and independent cause of action, will

apply irrespective of any waiver granted by the Trustee and/or any Holder of Notes and shall continue in full force and effect despite any judgment, order, claim, or proof for a liquidated amount in respect of any sum due under this Indenture, the Notes or any judgment or order.

ARTICLE IV

REDEMPTION OF NOTES

Section 4.1. Redemption for Tax Reasons.

If as a result of any Change of Law (as defined below):

(1) the Issuer or a Guarantor is or would be required on the next succeeding interest payment date to pay any Additional Amounts;

(2) the issuers/borrowers of certain intercompany debt are or would be required on the next succeeding Interest Payment Date to pay Brazilian withholding taxes in excess of a general rate of 15% generally in case of any taxes imposed by Brazil or 25% in case of taxes imposed by Brazil on amounts paid to residents of countries which do not impose any income tax or which impose it at a maximum rate lower than 20% or where the laws of that country or location impose restrictions on the disclosure of (x) shareholding composition; (y) the ownership of the investment; or (z) the beneficial ownership of income paid to non-resident persons, pursuant to Law No. 9,779, dated January 19, 1999; provided that, such requirement to pay such taxes in excess of such rate was not caused by, or otherwise the result of, whether directly or indirectly, wholly or in part, any amendment to the intercompany debt; or

(3) a Guarantor is or would be required on the next succeeding Interest Payment Date to pay Brazilian withholding taxes in excess of a general rate of 15% generally in case of any taxes imposed by Brazil or 25% in case of taxes imposed by Brazil on amounts paid to residents of countries which do not impose any income tax or which impose it at a maximum rate lower than 20% or where the laws of that country or location impose restrictions on the disclosure of (x) shareholding composition; (y) the ownership of the investment; or (z) the beneficial ownership of income paid to nonresident persons, pursuant to Law No. 9,779, dated January 19, 1999,

and in any such case the payment of such excess amounts cannot be avoided by the use of any reasonable measures available to the Issuer or a Guarantor, the Notes may be repurchased, by the Issuer at the option of the Issuer or a Guarantor, in whole but not in part, upon not less than 30 nor more than 90 days' notice mailed to the Holders (which notice shall be deemed given upon delivery of such notice to the Paying Agent), at any time following such Change of Law at a repurchase price equal to the principal amount thereof, plus accrued and unpaid interest, if any, to the date fixed for repurchase. The Issuer or its Affiliates will also pay to the Holders on the repurchase date any Additional Amounts which are payable. Following such repurchase, the Notes will be cancelled.

"Change of Law" means any change in or amendment to the laws or regulations of Luxembourg, Brazil or Peru (or of any political subdivision thereof or therein) or the adoption, amendment or modification of any resolution of any Central Bank which becomes effective on or after the date of this Indenture (or with respect to a successor, on or after the date such successor assumes the obligations under the Notes), resulting in the Issuer or a Guarantor on a consolidated basis being required to pay amounts with respect to Taxes above in a total aggregate amount in excess of that payable immediately prior to such change or amendment.

Prior to the delivery of any notice of repurchase in accordance with the foregoing, the Issuer or a Guarantor shall deliver to the Trustee, Registrar and Paying Agent an Officer's Certificate stating that the Issuer or a Guarantor, as the case may be, is entitled to effect such repurchase based on an Opinion of Counsel addressed to the Trustee or written advice of a qualified tax expert, that the Issuer or a Guarantor has or will, or there is a substantial probability that the Issuer or a Guarantor has or will, become obligated to pay such excess amounts with respect to Taxes as a result of such Change of Law. Such notice, once delivered by the Issuer or a Guarantor to the Trustee, will be irrevocable.

Section 4.2. Optional Redemption.

At any time before February 4, 2027 (which is the date that is three months prior to maturity of the notes (the "Par Call Date")), the Issuer or a Guarantor has the right to redeem the Notes, in whole or in part and from time to time, at a redemption price equal to the greater of (1) 100% of the principal amount of the Notes being redeemed and (2) the sum of the present values of the

remaining scheduled payments of principal and interest on the Notes being redeemed that would be due if the Notes matured on the Par Call Date (inclusive of interest accrued to the redemption date), discounted to the Redemption Date on a semi-annual basis (assuming a 360-day year consisting of twelve 30-day months) at the Treasury Rate plus 50 basis points, the case of clause (1) only, accrued and unpaid interest on the principal amount of the Notes being redeemed to, but excluding, such Redemption Date.

At any time on or after the Par Call Date, the Issuer or a Guarantor has the right to redeem the Notes, in whole or in part and from time to time, at a redemption price equal to 100% of the principal amount of the Notes being redeemed plus accrued and unpaid interest on the principal amount of the Notes being redeemed to, but excluding, such Redemption Date.

The Issuer, any Guarantor or any of their respective Affiliates may at any time repurchase the Notes at any price in the open market or otherwise. The Issuer, any Guarantor or any of their

respective Affiliates may hold or resell the Notes it purchases or may surrender them to the Trustee or an Agent for cancellation.

Section 4.3. Applicability of Article.

Redemption of Notes at the election of the Issuer, as permitted or required by any provision of this Indenture, shall be made in accordance with such provision and this Article.

Section 4.4. Election to Redeem; Notice to Trustee, Registrar and Paying Agent.

In the case of any redemption of Notes prior to the expiration of any restriction on such redemption provided in the terms of such Notes or elsewhere in this Indenture, the Issuer shall furnish the Trustee with an Officer's Certificate evidencing compliance with such restriction.

The Issuer shall provide notice of redemption to the Trustee, Registrar and Paying Agents at least 15 days (or such shorter period as agreed to by the Trustee) prior to when such notice of redemption shall be provided to the Holders.

Section 4.5. Notice of Redemption.

Notice of redemption pursuant to Section 4.1 and 4.2 hereof shall be given in the manner provided for in Section 1.6 hereof. The Trustee, Registrar and Paying Agent will notify the Holders at such Holder's address appearing in the Note register at least 30 but not more than 60 days prior to the Redemption Date. A notice of any redemption may, at the Issuer's or a Guarantor's discretion, be subject to one or more conditions precedent.

All notices of redemption shall state:

(1) the Redemption Date;

(2) the Redemption Price;

(3) that on the Redemption Date, the Redemption Price will become due and payable upon each such Note to be redeemed and that interest thereon will cease to accrue on and after said date;

(4) the place or places where such Notes are to be surrendered for payment of the Redemption Price;

(5) the aggregate principal amount of Notes being redeemed;

(6) the CUSIP number or numbers of the Notes being redeemed;

(7) if fewer than all the outstanding Notes are to be redeemed, or if a Note is to be redeemed in part only, the identification and principal amounts at maturity of the particular Notes (or portion thereof) to be redeemed; and

(8) that no representation is made as to the correctness or accuracy of the CUSIP numbers, if any, listed in such notice or printed on the Notes.

Section 4.6. Deposit of Redemption Price.

By 11:00 a.m. (New York City time) on the Business Day prior to any Redemption Date, the Issuer or a Guarantor shall deposit with the Principal Paying Agent (or, if the Issuer is acting as its own Paying Agent, segregate and hold in trust as provided in Section 11.3) an amount of money sufficient to pay the Redemption Price on all of the Notes which are to be repurchased on that date. In the case of a partial redemption of Notes that are represented by a Global Note, the relevant Notes will be redeemed in accordance with the rules of DTC.

Section 4.7. Notes Payable on Redemption Date.

Notice of redemption having been given as aforesaid, the Notes so to be redeemed shall, on the Redemption Date, become due and payable at the Redemption Price therein specified, and from and after such date (unless the Issuer shall default in the payment of the Redemption Price and accrued and unpaid interest) such Notes shall cease to bear interest. Upon surrender of any such Note for redemption in accordance with said notice, such Note shall be paid by the Issuer at the Redemption Price, together with accrued and unpaid interest to the Redemption Date; provided, however, that installments of interest whose Maturity Date is on or prior to the Redemption Date shall be payable to the Holders of such Notes, or one or more Predecessor Notes, registered as such at the close of business on the relevant Record Dates according to their terms and the provisions of Section 3.7.

If any Note called for redemption shall not be so paid upon surrender thereof for redemption, the principal (and premium, if any) shall, until paid, bear interest from the Redemption Date at the rate provided by the Note.

ARTICLE V

SATISFACTION AND DISCHARGE

Section 5.1. Satisfaction and Discharge of Indenture.

This Indenture shall cease to be of further effect as to all Outstanding Notes, and the Trustee, on demand of and at the expense of the Issuer, shall execute proper instruments acknowledging satisfaction and discharge of this Indenture, when

(1) (A) all Outstanding Notes (except lost, stolen or destroyed Notes which have been replaced or paid) have been delivered to the Trustee for cancellation; or

(B) all Outstanding Notes that have not been delivered to the Trustee for cancellation (i) have become due and payable, (ii) will become due and payable at their Stated Maturity within one year, or (iii) are to be called for redemption within one year under arrangements satisfactory to the Trustee for the giving of notice of a redemption by the Issuer or a Guarantor; and, in each case, the Issuer or a Guarantor irrevocably deposits or causes to be deposited with the Trustee or its designee as funds in trust solely for the benefit of the Holders, cash, Cash Equivalents or U.S. Government Obligations in an amount as will be sufficient without consideration of any reinvestment of interest, to pay and discharge all principal, premium and Additional Amounts, if any,

and accrued and unpaid interest to the date of maturity or redemption on the Notes not delivered to the Trustee for cancellation and delivers irrevocable instructions to the Trustee to apply the deposited money toward the payment of the Notes at maturity or the redemption date, as the case may be;

(2) the Issuer or a Guarantor has paid or caused to be paid all other sums payable hereunder;

(3) the Issuer or a Guarantor has delivered to the Trustee an Officer's Certificate and an Opinion of Counsel, each stating that all conditions precedent herein provided for relating to the satisfaction and discharge of this Indenture have been complied with; and

(4) the Trustee shall have received such other documents and assurances as the Trustee shall have reasonably requested.

Notwithstanding the satisfaction and discharge of this Indenture, (i) the obligations of the Issuer to the Trustee under Section 7.7 hereof, (ii) substitution of apparently mutilated, defaced, destroyed, lost or stolen Notes, (iii) rights of Holders of Notes to receive payment of principal of and premium, if any, and interest (including Additional Amounts, if any) on the Notes, (iv) rights, obligations and immunities of the Trustee under this Indenture (including, if money shall have been deposited with the Trustee pursuant to subclause (B) of clause (1) of this Section, the obligations of the Trustee under Section 5.2 hereof and the last paragraph of Section 11.3 hereof), and (v) rights of Holders of the Notes as beneficiaries of this Indenture with respect to any property deposited with the Trustee payable to all or any of them, shall survive.

Section 5.2. Application of Trust Money.

Subject to the provisions of the last paragraph of Section 11.3, all money deposited with the Trustee pursuant to Section 5.1 hereof shall be held in trust and applied by it, in accordance with the provisions of the Notes and this Indenture, to the payment, either directly or through any Paying Agent (including the Issuer or a Guarantor acting as its own Paying Agent) as the Trustee may determine, to the Persons entitled thereto, of the principal (and premium, if any) and interest for whose payment such money has been deposited with the Trustee.

ARTICLE VI

REMEDIES

Section 6.1. Events of Default.

"Event of Default," wherever used herein, means any one of the following events (whatever the reason for such Event of Default and whether it shall be voluntary or involuntary or be effected by operation of law or pursuant to any judgment, decree or order of any court or any order, rule or regulation of any administrative or governmental body):

(1) failure to pay any amount of principal of (or premium, if any) any Note when due;

(2) failure to pay any interest, including Additional Amounts, if any, on any Note when due and such failure shall continue for a period of 30 days;

(3) failure to perform any covenant or agreement of the Issuer or any Guarantor under this Indenture or the Notes and such failure remains unremedied for 60 days after the Trustee has given written notice thereof to the Issuer or any Guarantor;

(4) failure to pay when due or, as the case may be, within any originally applicable grace period, any amount of principal and premium, if any, or interest (including Additional Amounts, if any), due under the terms of any instrument evidencing Indebtedness of the Issuer or any of its Designated Subsidiaries, or any such Indebtedness of the Issuer or any of its Designated Subsidiaries that becomes due and payable prior to its stated maturity otherwise than at the option of the issuer thereof by reason of the occurrence of an event of default howsoever described; provided that the aggregate amount of any such Indebtedness equals with respect to such Person, on a consolidated basis U.S.$100.0 million or more (or its equivalent in other currency or currencies);

(5) the rendering of a final judgment or judgments (not subject to appeal) for the payment of money against the Issuer or any of its Designated Subsidiaries which remains undischarged, unbonded or unstayed (and otherwise not covered by enforceable insurance policies issued by reputable and creditworthy insurance companies) for a period of 60 consecutive days after the date on which the right to appeal all such judgments has expired or, if later, the date therein specified for payment; provided that the aggregate amount of any such final judgment equals or exceeds with respect to such Person, on a consolidated basis U.S.$100.0 million (or its equivalent in other currency or currencies);

(6) all or substantially all of the assets of the Issuer (on a consolidated basis) shall be condemned, seized or otherwise appropriated, or custody of such property shall be assumed by any governmental authority or court or other person purporting to act under the authority of the federal government of any jurisdiction, or the Issuer shall be prevented from exercising normal control over all or substantially all of its property or revenues (on a consolidated basis), if the whole or part of such property or revenues is material to the Issuer (on a consolidated basis);

(7) (a) a secured party takes possession of all or substantially all the assets or revenues of the Issuer (on a consolidated basis) or (b) a receiver or similar officer is appointed, of all or substantially all the assets or revenues of the Issuer (on a consolidated basis);

(8) the Issuer or any Guarantor pursuant to or under or within the meaning of any Bankruptcy Law (a) commences a voluntary case or proceeding; (b) consents to the making of a Bankruptcy Order in an involuntary case or proceeding or the commencement of any case against it; (c) consents to the appointment of a custodian of it or for substantially all its property; (d) makes a general assignment for the benefit of its creditors; (e) files an answer or consent seeking reorganization or relief; (f) shall admit in

writing its inability to pay its debts generally; or (g) consents to the filing of a petition in bankruptcy;

(9) a court of competent jurisdiction in any involuntary case or proceeding enters a Bankruptcy Order against the Issuer or any Guarantor, and such Bankruptcy Order remains unstayed and in effect for 60 consecutive days; and

(10) any of the Guarantees is not (or is claimed by any Guarantor not to be) in full force and effect.

If any Event of Default (other than an Event of Default described in clause (8) with respect to the Issuer or Milpo) shall occur and be continuing, either (i) the Trustee or (ii) the Holders, with written notice to the Trustee, of at least 25% in aggregate principal amount of the Outstanding Notes may accelerate the maturity of all Notes; provided that, after such acceleration, but before a judgment or decree based on acceleration, the Holders of a majority in aggregate principal amount of Outstanding Notes may, as provided in Section 6.12, rescind and annul such acceleration if all Events of Default, other than the nonpayment of accelerated principal, have been cured or waived as provided in this Indenture. The Trustee shall not be deemed to have notice of any Default or Event of Default (other than a payment default) unless a Responsible Officer of the Trustee has actual knowledge thereof or unless written notice of any event which is in fact such a default is received by a Responsible Officer of the Trustee at the Corporate Trust Office of the Trustee, and such notice references the Notes and this Indenture. If an Event of Default specified in clause (8) above occurs with respect to the Issuer or Milpo, the Outstanding Notes will *ipso facto* become immediately due and payable without any declaration or other act on the part of the Trustee or any Holder.

Section 6.2. Collection of Indebtedness and Suits for Enforcement by Trustee. The Issuer and the Guarantors covenant that if

(1) default is made in the payment of any interest on any Note, (including Additional Amounts, if any), when such amounts become due and payable and such default continues for a period of 30 days; or

(2) default is made in the payment of the principal of (or premium, if any, on) any Note at the Maturity thereof or, with respect to any Note to be redeemed, at the Redemption Date thereof,

the Issuer and the Guarantors (subject to the limitations provided in this Indenture) will, jointly and severally, upon demand of the Trustee, pay to it, for the benefit of the Holders of such Notes, the whole amount then due and payable on such Notes for principal (and premium, if any) and interest (including Additional Amounts, if any), and, to the extent that payment of interest on overdue amounts shall be legally enforceable, interest on any overdue principal (and premium, if any) and on any overdue interest, at the rate provided by the Notes, and, in addition thereto, such further amount as shall be sufficient to cover the costs and expenses incurred by the Trustee under this Indenture, including the reasonable compensation, expenses, disbursements and advances of the Trustee, its agents and counsel.

If the Issuer and the Guarantors fail to pay such amounts forthwith upon such demand, the Trustee, in its own name and as trustee of an express trust, may institute a judicial proceeding for the collection of the sums so due and unpaid, may prosecute such proceeding to judgment or final decree, and may enforce the same against the Issuer, the Guarantors or any other obligor upon the Notes and collect the moneys adjudged or decreed to be payable in the manner provided by law out of the property of the Issuer, the Guarantors or any other obligor upon the Notes, wherever situated.

If an Event of Default occurs and is continuing, the Trustee may in its discretion proceed to protect and enforce its rights and the rights under this Indenture of the Holders by such appropriate judicial proceedings as the Trustee shall deem most effective to protect and enforce any such rights, whether for the specific enforcement of any covenant or agreement in this Indenture or in aid of the exercise of any power granted herein including, without limitation, seeking recourse against the Issuer or the Guarantors or proceeding to enforce any other proper remedy.

Section 6.3. Trustee May File Proofs of Claim.

The Trustee may file such proofs of claim and other papers or documents as may be necessary or advisable in order to have the claims of the Trustee and the Holders allowed in any judicial proceedings relative to the Issuer, the Guarantors, their respective creditors or its property and, unless prohibited by law or applicable regulations, may vote on behalf of the Holders at their direction in any election of a trustee in bankruptcy or other Person performing similar functions, and any custodian in any such judicial proceeding is hereby authorized by each Holder to make payments to the Trustee and, in the event that the Trustee shall consent to the making of such payments directly to the Holders, to pay to the Trustee any amount due it for the reasonable compensation, expenses, disbursements and advances of the Trustee, its agents and its counsel, and any other amounts due the Trustee under Section 7.7.

Section 6.4. Trustee May Enforce Claims Without Possession of Notes.

All rights of action and claims under this Indenture or the Notes may be prosecuted and enforced by the Trustee without the possession of any of the Notes or the production thereof in any proceeding relating thereto, and any such proceeding instituted by the Trustee shall be brought in its own name as trustee of an express trust, and any recovery of judgment shall, after provision for the payment of the reasonable compensation, expenses, disbursements and advances of the Trustee, its agents and counsel, be for the ratable benefit of the Holders of the Notes in respect of which such judgment has been recovered.

Section 6.5. Application of Money Collected.

Any money collected by the Trustee pursuant to this Article shall be applied in the following order, at the date or dates fixed by the Trustee and, in case of the distribution of such money on account of principal (or premium, if any) or interest, upon presentation of the Notes and the notation thereon of the payment if only partially paid and upon surrender thereof if fully paid;

FIRST: To the payment of all amounts due to the Trustee and the Agents under this Indenture; and

SECOND: To the payment of the amounts then due and unpaid for principal of (and premium, if any) and interest on the Notes in respect of which or for the benefit of which such money has been collected, ratably, without preference or priority of any kind, according to the amounts due and payable on such Notes for principal (and premium, if any) and interest, respectively.

The Trustee, upon prior written notice to the Issuer, may fix a record date and payment date for any payment to the Holders pursuant to this Section 6.5.

Section 6.6. Limitation on Suits.

No Holder of any Note shall have any right to institute any proceeding, judicial or otherwise, with respect to this Indenture, or for the appointment of a receiver or trustee, or for any other remedy hereunder, unless:

(1) such Holder shall have previously given written notice to the Trustee of a continuing Event of Default;

(2) the Holders of at least 25% in aggregate principal amount of the Outstanding Notes shall have made written request to the Trustee to institute proceedings in respect of such Event of Default in its own name as Trustee hereunder and shall have offered to the Trustee indemnity and/or security reasonably satisfactory to the Trustee against the costs, expenses and liabilities to be incurred in compliance with such request;

(3) the Trustee for 60 days after its receipt of such notice, request and offer shall have failed to institute any such proceeding; and

(4) no direction inconsistent with such written request shall have been given to the Trustee during such 60-day period by the Holders of a majority in principal amount of the Outstanding Notes;

it being understood and intended that no one or more Holders shall have any right in any manner whatever by virtue of, or by availing of, any provision of this Indenture or any Note or the Guarantees to affect, disturb or prejudice the rights of any other Holders, or to obtain or to seek to obtain priority or preference over any other Holders or to enforce any right under this Indenture (it being understood that the Trustee does not have an affirmative duty to ascertain whether or not such actions or forbearances are unduly prejudicial to such Holders), any Note or the Guarantees, except in the manner herein provided and for the equal and ratable benefit of all the Holders.

Section 6.7. Unconditional Right of Holders to Receive Principal, Premium and Interest.

Notwithstanding any other provision in this Indenture, the Notes or the Guarantees, the Holder of any Note shall have the right, which is absolute and unconditional, to receive payment of the principal of (and premium, if any) and (subject to Section 3.6) interest on such Note on the respective Stated Maturities expressed in such Note (or earlier Redemption Date) and to institute suit for the enforcement of any such payment, and such rights shall not be impaired without the consent of such Holder.

Section 6.8. Restoration of Rights and Remedies.

If the Trustee or any Holder has instituted any proceeding to enforce any right or remedy under this Indenture, any Note or the Guarantees, and such proceeding has been discontinued or abandoned for any reason, or has been determined adversely to the Trustee or to such Holder, then and in every such case, subject to any determination in such proceeding, the Issuer, the Guarantor, the Trustee and the Holders shall be restored severally and respectively to their former positions hereunder and thereafter all rights and remedies of the Trustee and the Holders shall continue as though no such proceeding had been instituted.

Section 6.9. Rights and Remedies Cumulative.

Except as otherwise provided with respect to the replacement or payment of mutilated, destroyed, lost or stolen Notes in the last paragraph of Section 3.5 hereof, no right or remedy herein conferred upon or reserved to the Trustee or to the Holders is intended to be exclusive of any other right or remedy, and every right and remedy shall, to the extent permitted by law, be cumulative and in addition to every other right and remedy given hereunder or now or hereafter existing at law or in equity or otherwise. The assertion or employment of any right or remedy hereunder, or otherwise, shall not prevent the concurrent assertion or employment of any other appropriate right or remedy.

Section 6.10. Delay or Omission Not Waiver.

No delay or omission of the Trustee or of any Holder of any Note to exercise any right or remedy accruing upon any Event of Default shall impair any such right or remedy or constitute a waiver of any such Event of Default or an acquiescence therein. Every right and remedy given by this Article or by law to the Trustee or to the Holders may be exercised from time to time, and as often as may be deemed expedient, by the Trustee or by the Holders, as the case may be.

Section 6.11. Control by Holders.

The Holders of a majority of the aggregate principal amount of the Outstanding Notes shall have the right to direct the time, method and place of conducting any proceeding for any remedy available to the Trustee or exercising any trust or power conferred on the Trustee, provided that:

(1) such direction shall not be in conflict with any rule of law or with this Indenture or expose the Trustee to personal liability (as determined in the sole discretion of the Trustee); and

(2) the Trustee may take any other action deemed proper by the Trustee which is not inconsistent with such direction.

The Trustee may refuse, however, to follow any direction that the Trustee, in its sole discretion, determines may be unduly prejudicial to the rights of the Holders or that may subject the Trustee to any liability, loss or expense if the Trustee determines, in its sole discretion, that it lacks satisfactory indemnification and/or security against such liability, loss or expense.

Section 6.12. Waiver of Past Defaults.

The Holders of not less than a majority in aggregate principal amount of the Outstanding Notes may by written notice to the Issuer and the Trustee waive any past default hereunder and rescind and annul any declaration of acceleration and its consequences, except a default:

(1) in the payment of the principal of (or premium, if any) or interest on any Note; or

(2) in respect of a covenant or provision hereof which under Article X cannot be modified or amended without the consent of the Holder of each Outstanding Note affected.

Upon any such waiver, such default shall cease to exist, and any Event of Default arising therefrom shall be deemed to have been cured, for every purpose of this Indenture; but no such waiver shall extend to any subsequent or other default or impair any right consequent thereon.

Section 6.13. Undertaking for Costs.

In any suit for the enforcement of any right or remedy under this Indenture or in any suit against the Trustee for any action taken or omitted by it as a Trustee, a court in its discretion may require the filing by any party litigant in the suit of an undertaking to pay the costs of the suit, and the court in its discretion may assess reasonable costs, including reasonable attorney's fees and expenses, against any party litigant in the suit, having due regard to the merits and good faith of the claims or defenses made by the party litigant. This Section 6.13 does not apply to a suit by the Trustee, a suit by a Holder pursuant to Section 6.7 hereof, or a suit by Holders of more than 10% in principal amount of the then Outstanding Notes.

ARTICLE VII

THE TRUSTEE

Section 7.1. Certain Duties and Responsibilities.

(a) Except during the continuance of an Event of Default,

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(1) the Trustee undertakes to perform solely such duties and only such duties as are specifically set forth in this Indenture, and Trustee shall not be liable except for the performance of such duties; and no implied covenants or obligations shall be read into this Indenture against the Trustee; and

(2) in the absence of gross negligence on its part, the Trustee may conclusively rely, as to the truth of the statements and the correctness of the opinions expressed therein, upon certificates or opinions furnished to the Trustee and conforming to the requirements of this Indenture; but in the case of any such certificates or opinions which by any provision hereof are specifically required to be furnished to the Trustee, the Trustee shall be under a duty to examine the same to determine whether or not they conform to the form requirements of this Indenture (but need not confirm or investigate the accuracy of mathematical calculations or other facts stated therein).

(b) In case an Event of Default has occurred and is continuing, the Trustee shall exercise such of the rights and powers vested in it by this Indenture, and use the same degree of care and skill in their exercise, as a prudent person would exercise or use under the circumstances in the conduct of such person's own affairs.

(c) No provision of this Indenture shall be construed to relieve the Trustee from liability for its own grossly negligent action or its own willful misconduct, *except* that:

(1) this Subsection shall not be construed to limit the effect of Subsection (a) of this Section;

(2) the Trustee shall not be liable for any error of judgment made in good faith by a Responsible Officer or Officers of the Trustee, unless it shall be proved that the Trustee was grossly negligent in ascertaining the pertinent facts;

(3) the Trustee shall not be liable with respect to any action taken or omitted to be taken by it in good faith in accordance with the direction of the Holders of a majority in principal amount of the Outstanding Note of any series, determined as provided in Section 6.2, relating to the time, method and place of conducting any proceeding for any remedy available to the Trustee, or exercising any trust or power conferred upon the Trustee, under this Indenture with respect to the Note;

(4) no provision of this Indenture shall require the Trustee to expend or risk its own funds or otherwise incur any financial liability in the performance of any of its duties hereunder, or in the exercise of any of its rights or powers, if it shall have reasonable grounds for believing that repayment of such funds or adequate indemnity and/or security against such risk or liability is not reasonably assured to it;

(5) the Trustee shall not be liable in respect of any payment (as to the correctness of amount, entitlement to receive or any other matters relating to payment) or notice effected by the Issuer or any Paying Agent or any records maintained by any co-Note Registrar with respect to the Notes;

(6) if any party fails to deliver a notice relating to an event the fact of which, pursuant to this Indenture, requires notice to be sent to the Trustee, the Trustee may conclusively rely on its failure to receive such notice as reason to act as if no such event occurred, unless a Responsible Officer of the Trustee had actual knowledge of such event;

(7) the delivery of any information to the Trustee under this Indenture, including but not limited to any Rule 144A information, or reports to the Trustee is for informational purposes only and the receipt of such information or reports by the Trustee shall not constitute constructive notice of any information contained therein;

(8) in the absence of written investment direction from the Issuer, all cash received by the Trustee shall be placed in a non-interest bearing trust account, and in no event shall the Trustee be liable for the selection of investments or for investment losses incurred thereon or for losses incurred as a result of the liquidation of any such investment prior to its maturity date or the failure of the party directing such investments prior to its maturity date or the failure of the party directing such investment to provide timely written investment direction, and the Trustee shall have no obligation to invest or reinvest any amounts held hereunder in the absence of such written investment direction from the Issuer;

(9) in the event that the Trustee is also acting as custodian, Registrar, Paying Agent, exchange agent, bid solicitation agent or transfer agent hereunder, the rights and protections afforded to the Trustee pursuant to this Article VII shall also be afforded to such custodian, Registrar, Paying Agent, exchange agent, bid solicitation agent or transfer agent;

(10) any application by the Trustee for written instructions from the Issuer (other than with regard to any action proposed to be taken or omitted to be taken by the Trustee that affects the rights of the Holders of the Notes under this Indenture) may, at the option of the Trustee, set forth in writing any action proposed to be taken or omitted by the Trustee under this Indenture and the date on and/or after which such action shall be taken or such omission shall be effective. The Trustee shall not be liable to the Issuer for any action taken by, or omission of, the Trustee in accordance with a proposal included in such application on or after the date specified in such application (which date shall not be less than three Business Days after the date any officer that the Issuer has indicated to the Trustee should receive such application actually receives such application, unless any such officer shall have consented in writing to any earlier date), unless, prior to taking any such action (or the effective date in the case of any omission), the Trustee shall have received written instructions in accordance with this Indenture in response to such application specifying the action to be taken or omitted.

(d) Whether or not therein expressly so provided, every provision of this Indenture relating to the conduct or affecting the liability of or affording protection to the Trustee shall be subject to the provisions of this Section.

Section 7.2. <u>Notice of Defaults</u>.

The Trustee shall give the Holders notice of any Default ("Notice of Default") that has occurred and is continuing and of which a Responsible Officer of the Trustee has actual knowledge, within 90 days after the occurrence of such Default (but not less than 15 days after knowledge thereof). The Trustee may withhold from Holders notice of any continuing Default or Event of Default (except a Default or Event of Default relating to the payment of principal, premium, if any, or interest on, the Notes) if it determines that withholding such notice is in their interest; provided that, in the case of a default of a character specified in Section 6.1(4), no such notice to Holders shall be given until at least 30 days after the occurrence thereof.

Section 7.3. Certain Rights of Trustee and the Agents.

Subject to the provisions of Section 7.1:

(a) the Trustee and the Agents may rely conclusively and shall be protected in acting or refraining from acting upon any resolution, certificate, statement, instrument, opinion, report, notice, request, direction, consent, order, bond, debenture, note, other evidence of indebtedness or other paper or document believed by it to be genuine and to have been signed or presented by the proper party or parties;

(b) any request or direction of the Issuer mentioned herein shall be sufficiently evidenced by an Issuer Request or an Issuer Order and any resolution of the Board of Directors of the Issuer may be sufficiently evidenced by a Board Resolution;

(c) whenever in the administration of this Indenture the Trustee or an Agent shall deem it desirable that a matter be proved or established prior to taking, suffering or omitting any action hereunder, the Trustee or such Agent, as the case may be, (unless other evidence be herein specifically prescribed) may, in the absence of gross negligence on its part, rely upon an Officer's Certificate or an Opinion of Counsel;

(d) the Trustee or the Agents may consult with counsel of its selection, at the expense of the Issuer, and the advice of such counsel or any Opinion of Counsel shall be full and complete authorization and protection in respect of any action taken, suffered or omitted by it hereunder in good faith and in reliance thereon;

(e) the Trustee and each Agent shall be under no obligation to exercise any of the rights or powers vested in it by this Indenture at the request or direction of any of the Holders pursuant to this Indenture, unless such Holders shall have offered to the Trustee or such Agent, as applicable, security and/or indemnity satisfactory to it against the costs, expenses and liabilities which might be incurred by it in compliance with such request or direction satisfactory to the Trustee or such Agent, as applicable;

(f) neither the Trustee nor any Agent shall be bound to make any investigation into the facts or matters stated in any resolution, certificate, statement, instrument, report, opinion, notice, request, direction, consent, order, bond, debenture, note, other evidence of indebtedness or other paper or document, but the Trustee and each Agent, in its discretion, may make such further inquiry or investigation into such facts or matters as it may see fit, and, if the Trustee or

an Agent shall determine to make such further inquiry or investigation, it shall be entitled to examine the books, records and premises of the Issuer and the Guarantor, personally or by agent or attorney at the sole cost of the Issuer and shall incur no liability or additional liability of any kind by reason of such inquiry or investigation;

(g) the Trustee and each Agent may execute any of the trusts or powers hereunder or perform any duties hereunder either directly or by or through agents or attorneys and the Trustee and each Agent shall not be responsible for any misconduct or negligence on the part, or for the supervision of, any agent or attorney appointed with due care by it hereunder;

(h) neither the Trustee nor any Agent shall be liable for any action taken, suffered or omitted by it in good faith which the Trustee or such Agent, as applicable, believed to have been authorized or within its rights or powers;

(i) neither the Trustee nor any Agent shall be charged with knowledge of any default or Event of Default with respect to the Notes, unless either (1) a Responsible Officer shall have actual knowledge of such default or Event of Default, or (2) written notice of such default or Event of Default shall have been received by a Responsible Officer of the Trustee by the Issuer, the Guarantor or by any Holder of the Notes;

(j) in no event shall the Trustee or any Agent be responsible or liable for special, indirect, punitive or consequential loss or damage of any kind whatsoever (including, but not limited to, loss of profit) irrespective of whether the Trustee or such Agent has been advised of the likelihood of such loss or damage and regardless of the form of action;

(k) the rights, privileges, protections, immunities and benefits given to the Trustee and the Agents, including, without limitation, its right to be indemnified, are extended to, and shall be enforceable by, the Trustee and the Agents in each of their capacities hereunder, and each agent, custodian and other Person employed to act hereunder;

(l) neither the Trustee nor the Agents shall be required to give any bond or surety in respect of the performance of its powers and duties hereunder;

(m) the Trustee and the Agents may request that the Issuer deliver a certificate setting forth the names of individuals and/or titles of officers authorized at such time to take specified actions pursuant to this Indenture; and

(n) the permissive rights of the Trustee enumerated herein shall not be construed as duties.

Section 7.4. Not Responsible for Recitals or Issuance of Notes.

The recitals contained herein, in the Notes and in the Guarantees endorsed thereon, except the Trustee's certificates of authentication, shall be taken as the statements of the Issuer or the Guarantors, as the case may be, and the Trustee assumes no responsibility for their correctness. The Trustee makes no representations as to the validity or sufficiency of this Indenture or the Notes. The Trustee shall not be accountable for the use or application by the Issuer of Notes or the proceeds thereof.

Section 7.5. May Hold Notes.

The Trustee, any Paying Agent or Transfer Agent, any Registrar (if other than the Trustee) or any other agent of the Issuer or the Guarantors, in its individual or any other capacity, may become the owner or pledgee of Notes and, subject to Section 7.8 and 7.12, may otherwise deal with the Issuer and the Guarantors with the same rights it would have if it were not Trustee, Paying Agent, Transfer Agent, Registrar or such other agent.

Section 7.6. Money Held in Trust.

All moneys received by the Trustee or any Paying Agent shall, until used or applied as herein provided, be held in trust for the purposes for which they were received, and need not be segregated from other funds of the Trustee or Paying Agent, except as otherwise required by law. Neither the Trustee nor any Paying Agent shall be under any liability for interest on any moneys received by it hereunder except such as it may agree in writing with the Issuer to pay thereon.

Section 7.7. Compensation and Reimbursement.

The Issuer and the Guarantors agree:

(1) to, jointly and severally, pay to the Trustee and the Agents from time to time upon demand such compensation for all services rendered by it hereunder as shall be agreed upon in writing (which compensation shall not be limited by any provision of law in regard to the compensation of a trustee of an express trust), as such fees may be adjusted from time to time;

(2) except as otherwise expressly provided herein, to, jointly and severally, reimburse each of the Trustee and the Agents upon its request for all reasonable expenses and disbursements incurred or made by it in accordance with any provision of this Indenture (including the reasonable compensation and the expenses and disbursements of their agents and counsel), except any such expense, disbursement or advance as may be attributable to its gross negligence or willful misconduct; and

(3) to, jointly and severally, indemnify each the Trustee and the Agents for, and to hold each harmless against, any loss, liability, cost, damage, claim or expense (including taxes and the reasonable compensation, expenses and disbursements of its agents, accountants, experts and counsel) incurred without gross negligence or willful misconduct on its part as determined in a final judgment of a court with competent jurisdiction, arising out of or in connection with the

acceptance or administration of this trust or the performance by it of its duties and obligations or the exercise of its rights hereunder, including the costs and expenses of enforcing this Indenture against the Issuer or the Guarantors, as the case may be (including, without limitation, this Section 7.7), and of defending against any claim (whether asserted by any Holder or the Issuer or the Guarantors or any other Person, as the case may be) or liability in connection with the exercise or performance of any of its powers or duties hereunder. The provisions of this Section 7.7 shall survive any termination of this Indenture and the resignation or removal of the Trustee, the Principal Paying Agent or other Paying Agent.

As security for the performance of the obligations of the Issuer or the Guarantors, as the case may be, under this Section 7.7, the Trustee shall have a lien prior to the Notes upon all property and funds held or collected by the Trustee, except funds held in trust for the payment of principal of (and premium, if any) or interest on particular Notes. The Trustee's right to receive payment of any amounts due under this Section 7.7 shall not be subordinate to any other liability or indebtedness of the Issuer or the Guarantors, as the case may be (even though the Notes may be so subordinated).

The obligation of the Issuer under this Section 7.7 shall survive the satisfaction and discharge of this Indenture and the earlier resignation or removal or the Trustee. The indemnification provided in this Section 7.7 shall extend to the officers, directors, agents and employees of the Trustee.

When the Trustee incurs expenses or renders services after an Event of Default specified in Section 6.1 occurs, the expenses and the compensation for such services are intended to constitute expenses of administration under Title 11, U.S. Code, or any similar Federal, State or analogous foreign law for the relief of debtors.

Section 7.8. Corporate Trustee Required; Eligibility.

There shall at all times be a Trustee hereunder which shall be a Person that is eligible pursuant to the Trust Indenture Act to act as such and has a combined capital and surplus of at least U.S.$50,000,000 and its Corporate Trust Office in The City of New York, New York. If such Person publishes reports of condition at least annually, pursuant to law or to the requirements of a Federal, State, Territorial or District of Columbia supervising or examining authority, then for the purposes of this Section, the combined capital and surplus of such Person shall be deemed to be its combined capital and surplus as set forth in its most recent report of condition so published. If at any time the Trustee shall cease to be eligible in accordance with the provisions of this Section, it shall resign immediately in the manner and with the effect hereinafter specified in this Article.

Section 7.9. Resignation and Removal; Appointment of Successor.

(a) No resignation or removal of the Trustee and no appointment of a successor Trustee pursuant to this Article shall become effective until the acceptance of appointment by the successor Trustee under Section 7.10, at which time the retiring Trustee shall be fully discharged from its obligations hereunder.

(b) The Trustee and the Principal Paying Agent may resign at any time by giving written notice thereof to the Issuer. If an instrument of acceptance by a successor Trustee or Principal Paying Agent shall not have been delivered to the Trustee or Principal Paying Agent, as the case may be, within 30 days after the giving of such notice of resignation, the resigning Trustee or Principal Paying Agent may petition, at the expense of the Issuer, any court of competent jurisdiction for the appointment of a successor Trustee or Principal Paying Agent, as the case may be.

(c) The Trustee may be removed at any time by Act of the Holders of a majority in principal amount of the Outstanding Notes, delivered to the Trustee and to the Issuer. If an

instrument of acceptance by a successor Trustee shall not have been delivered to the Trustee within 30 days after the giving of such notice of removal, the Issuer may petition, at its expense, any court of competent jurisdiction for the appointment of a successor Trustee.

(d) The Agents (other than the Principal Paying Agent) may resign at any time by giving written notice thereof to the Issuer. The Agents may appoint a successor Agent if the Issuer does not.

(e) So long as no Event of Default has occurred and is continuing, the Issuer may remove the Trustee or any Agent and appoint a new Trustee or Agent, as applicable, provided that such Trustee meets the eligibility requirements of Section 7.8.

(f) If at any time:

(1) the Trustee shall fail to comply with Section 7.8 after written request therefore by the Issuer or by any Holder who has been a bona fide Holder of a Note for at least six months; or

(2) the Trustee shall cease to be eligible under Section 7.8 and shall fail to resign after written request therefore by the Issuer or by any such Holder; or

(3) the Trustee shall become incapable of acting or shall be adjudged a bankrupt or insolvent or a receiver of the Trustee or of its property shall be appointed or any public officer shall take charge or control of the Trustee or of its property or affairs for the purpose of rehabilitation, conservation or liquidation, then, in any such case, (i) the Issuer by a Board Resolution may remove the Trustee, or (ii) any Holder who has been a bona fide Holder of a Note for at least six months may, on behalf of himself or herself and all others similarly situated, petition any court of competent jurisdiction for the removal of the Trustee and the appointment of a successor Trustee.

(g) If the Trustee shall resign, be removed or become incapable of acting, or if a vacancy shall occur in the office of Trustee for any cause, the Issuer, by a Board Resolution, shall promptly appoint a successor Trustee. If, within one year after such resignation, removal or incapability, or the occurrence of such vacancy, a successor Trustee shall be appointed by Act of the Holders of a majority in principal amount of the Outstanding Notes delivered to the Issuer and the retiring Trustee, the successor Trustee so appointed shall, forthwith upon its acceptance of such appointment, become the successor Trustee and supersede the successor Trustee appointed by the Issuer. If no successor Trustee shall have been so appointed by the Issuer or the Holders and accepted appointment in the manner hereinafter provided, any Holder who has been a bona fide Holder of a Note for at least six months may, on behalf of himself or herself and all others similarly situated, petition any court of competent jurisdiction at the expense of the Issuer for the appointment of a successor Trustee.

(h) The Issuer shall give notice of each resignation and each removal of the Trustee and each appointment of a successor Trustee to all Holders in the manner provided in Section 1.6. Each notice shall include the name of the successor Trustee and the address of its Corporate Trust Office at the expense of the Issuer.

Section 7.10. Acceptance of Appointment by Successor.

Every successor Trustee appointed hereunder shall execute, acknowledge and deliver to the Issuer, the Guarantors and to the retiring Trustee an instrument accepting such appointment, and thereupon the resignation or removal of the retiring Trustee shall become effective and such successor Trustee, without any further act, deed or conveyance, shall become vested with all the rights, powers, trusts and duties of the retiring Trustee; but, on request of the Issuer or the successor Trustee, such retiring Trustee shall, upon payment of its charges, execute and deliver an instrument transferring to such successor Trustee all the rights, powers and trusts of the retiring Trustee and shall duly assign, transfer and deliver to such successor Trustee all property and money held by such retiring Trustee hereunder, subject nevertheless to its Lien, if any, provided for in Section 7.7. Upon request of any such successor Trustee, the Issuer and the Guarantors shall execute any and all instruments for more fully and certainty vesting in and confirming to such successor Trustee all such rights, powers and trusts. No successor Trustee shall accept its appointment unless at the time of such acceptance such successor Trustee shall be qualified and eligible under this Article.

Section 7.11. Merger, Conversion, Consolidation or Succession to Business.

Any corporation or other entity into which the Trustee may be merged or convened or with which it may be consolidated, or any corporation or other entity resulting from any merger, conversion or consolidation to which the Trustee shall be a party, or any corporation or other entity succeeding to all or substantially all the corporate trust business of the Trustee, shall be the successor of the Trustee hereunder, provided that such corporation or other entity shall be otherwise qualified and eligible under this Article, without the execution or filing of any paper or any further act on the part of any of the parties hereto. In case any Notes shall have been authenticated, but not delivered, by the Trustee then in office, any successor by merger, conversion or consolidation to such authenticating Trustee may adopt such authentication and deliver the Notes so authenticated with the same effect as if such successor Trustee had itself authenticated such Notes.

Section 7.12. Appointment of Authenticating Agent.

The Trustee may appoint an Authenticating Agent or Agents with respect to the Notes which shall be authorized to act on behalf of the Trustee to authenticate Notes issued upon original issue and upon exchange, registration of transfer or partial redemption thereof or pursuant to Section 3.5, and Notes so authenticated shall be entitled to the benefits of this Indenture and shall be valid and obligatory for all purposes as if authenticated by the Trustee hereunder. Wherever reference is made in this Indenture to the authentication and delivery of Notes by the Trustee or the Trustee's certificate of authentication, such reference shall be deemed to include authentication and delivery on behalf of the Trustee by an Authenticating Agent and a certificate of authentication executed on behalf of the Trustee by an Authenticating Agent. Each Authenticating Agent shall be acceptable to the Issuer and shall at all times be a corporation organized and doing business under the laws of the United States, any State thereof or the District of Columbia, authorized under such laws to act as Authenticating Agent, having a combined capital and surplus of not less than U.S.$50,000,000 and subject to supervision or examination by Federal or State authority. If such Authenticating Agent publishes reports of

condition at least annually, pursuant to law or to the requirements of said supervising or examining authority, then for the purposes of this Section, the combined capital and surplus of such Authenticating Agent shall be deemed to be its combined capital and surplus as set forth in its most recent report of condition so published. If at any time an Authenticating Agent shall cease to be eligible in accordance with the provisions of this Section, such Authenticating Agent shall resign immediately in the manner and with the effect specified in this Section.

Any corporation or other entity into which an Authenticating Agent may be merged or converted or with which it may be consolidated, or any corporation or other entity resulting from any merger, conversion or consolidation to which such Authenticating Agent shall be a party, or any corporation or other entity succeeding to all or substantially all the corporate agency or corporate trust business of an Authenticating Agent, shall continue to be an Authenticating Agent, provided such corporation or other entity shall be otherwise eligible under this Section, without the execution or filing of any paper or any further act on the part of the Trustee or the Authenticating Agent.

An Authenticating Agent may resign at any time by giving written notice thereof to the Trustee and to the Issuer. The Trustee may at any time terminate the agency of an

Authenticating Agent by giving written notice thereof to such Authenticating Agent and to the Issuer. Upon receiving such a notice of resignation or upon such a termination, or in case at any time such Authenticating Agent shall cease to be eligible in accordance with the provisions of this Section, the Trustee may appoint a successor Authenticating Agent which shall be acceptable to the Issuer and shall give notice of such appointment in the manner provided in Section 1.6 to all Holders of Notes. Any successor Authenticating Agent upon acceptance of its appointment hereunder shall become vested with all the rights, powers and duties of its predecessor hereunder, with like effect as if originally named as an Authenticating Agent. No successor Authenticating Agent shall be appointed unless eligible under the provisions of this Section.

The Issuer agrees to pay to each Authenticating Agent from time to time reasonable compensation for its services under this Section.

If an appointment is made pursuant to this Section, the Notes may have endorsed thereon, in lieu of the Trustee's certificate of authentication, an alternative certificate of authentication in the following form:

"This is one of the Notes referred to in the within-mentioned Indenture.

THE BANK OF NEW YORK MELLON
as Trustee

By: ______________________________
as Authenticating Agent"

ARTICLE VIII

HOLDERS LISTS AND COMMUNICATIONS BY TRUSTEE AND ISSUER

Section 8.1. Issuer to Furnish Trustee; Names and Addresses of Holders.

The Issuer will furnish or cause to be furnished to the Trustee

(a) semi-annually, not more than 15 days after each Regular Record Date, a list, in such form as the Trustee may reasonably require, of the names and addresses of the Holders as of such Regular Record Date; and

(b) at such other times as the Trustee may request in writing, within 30 days after the receipt by the Issuer of any such request, a list of similar form and content as of a date not more than 15 days prior to the time such list is furnished;

excluding from any such list names and addresses received by the Trustee in its capacity as Registrar.

Section 8.2. Preservation of Information; Communications to Holders.

(a) The Trustee shall preserve, in as current a form as is reasonably practicable, the names and addresses of Holders contained in the most recent list furnished to the Trustee as provided in Section 8.1 and the names and addresses of Holders received by the Trustee in its capacity as Registrar. The Trustee may destroy any list furnished to it as provided in Section 8.1 upon receipt of a new list so furnished.

(b) If a Holder (herein referred to as an "applicant") applies in writing to the Trustee, and furnishes to the Trustee reasonable proof that each such applicant has owned a Note for a period of at least six months preceding the date of such application, and such application states that such applicant desires to communicate with other Holders with respect to their rights under this Indenture or under the Notes and is accompanied by a copy of the form of proxy or other communication which such applicant proposes to transmit, then the Trustee shall, within five Business Days after the receipt of such application, at its election, either

(1) afford such applicant access to the information preserved at the time by the Trustee in accordance with Section 8.2(a); or

(2) inform such applications as to the approximate number of Holders whose names and addresses appear in the information preserved at the time by the Trustee in accordance with Section 8.2(a), as to the approximate cost of mailing to such Holders the form of proxy or other communication, if any, specified in such application.

(c) Every Holder of Notes, by receiving and holding the same, agrees with the Issuer and the Trustee that neither the Issuer nor the Trustee nor any agent of either of them shall be held accountable by reason of the disclosure of any such information as to the names and addresses of the Holders in accordance with Section 8.2(b), regardless of the source from which

such information was derived, and that the Trustee shall not be held accountable by reason of mailing any material pursuant to a request made under Section 8.2(b).

ARTICLE IX

CONSOLIDATION, MERGER, CONVEYANCE, TRANSFER OR LEASE

Section 9.1. Mergers, Consolidations and Certain Sales of Assets.

So long as any of the Notes are Outstanding, neither the Issuer nor any Guarantor may, in a single transaction or a series of related transactions:

(1) unless the Issuer or such Guarantor, as applicable, is the surviving Person, consolidate with or merge into any other Person or permit any other Person to consolidate with or merge into the Issuer or such Guarantor, as applicable,

(other than a consolidation or merger of a Wholly Owned Subsidiary organized under the laws of Luxembourg, Brazil, Peru, the United States or any OECD country, in each case, with or into the Issuer or such Guarantor, as applicable); or

(2) directly or indirectly, transfer, sell, lease or otherwise dispose of all or substantially all of its assets (determined on a consolidated basis of the Issuer and its Subsidiaries or the relevant Guarantor and its Subsidiaries, as applicable) to any Person (other than the Issuer or a Guarantor) (provided that the creation of a Lien on or in any of its assets shall not in and of itself constitute the transfer, sale, lease or disposition of the assets subject to the Lien),

unless the following conditions, to the extent applicable, are met:

(i) in the case of a transaction in which the Issuer or a Guarantor does not survive or in which the Issuer or a Guarantor sells, leases or otherwise disposes of all or substantially at of its assets to any other Person, the successor entity to the Issuer or such Guarantor (1) shall expressly assume, by a supplemental indenture executed and delivered to the Trustee, all of the Issuer's or such Guarantor's obligations under this Indenture and (2) shall be organized under the laws of (x) Luxembourg, Brazil, Peru or any state or political subdivision thereof, (y) the United States or any state thereof or the District of Columbia or (z) any other country if such successor entity undertakes, in such supplemental indenture, to pay such additional amounts in respect of principal (and premium, if any) and interest as may be necessary in order that the net amounts paid pursuant to the Notes after deduction or withholding of any present or future withholding taxes, levies, imposts or charges whatsoever imposed by or for the account of such country or any political subdivision or taxing authority thereof or therein shall equal the respective amounts of principal (and premium, if any) and interest specified in the Notes, subject to the same exceptions set forth under clauses (1) through (8) of Section 11.9, but replacing existing references in such clauses to the jurisdiction of incorporation of the Issuer or such Guarantor, as applicable, with references to such other country and references to the jurisdiction of incorporation of the Issuer or such Guarantor, as

applicable, under Section 4.1 shall automatically be deemed to be references to such other country;

(ii) if, as a result of any such transaction, property or assets of the Issuer or such Guarantor would become subject to a Lien prohibited by Section 12.10, the Issuer or such Guarantor, as applicable, or the successor entity to the Issuer or such Guarantor, as applicable, shall have secured the Notes as described thereunder; and

(iii) the Issuer or such Guarantor, as applicable, has delivered to the Trustee an Officer's Certificate and an Opinion of Counsel, each stating that such consolidation, merger, conveyance, transfer, lease or acquisition and, if a supplemental indenture is required in connection with such transaction, such supplemental indenture complies with this covenant and that all conditions precedent provided for in this Indenture relating to such transaction have been complied with.

In the event of any transaction (other than a lease) described in and complying with the provisions of this Section 9.1 in which the Issuer or a Guarantor, as applicable, is not the surviving Person and the surviving Person assumes all the obligations of the Issuer or such Guarantor, as applicable, under this Indenture and the Notes or the Guarantee, as applicable, pursuant to a supplemental Indenture, such surviving Person shall succeed to, and be substituted for, and may exercise every right and power of, the Issuer or such Guarantor, as applicable, and the Issuer or such Guarantor, as applicable, will be discharged from its obligations under this Indenture and the Notes or the Guarantee, as applicable.

ARTICLE X

SUPPLEMENTAL INDENTURES

Section 10.1. Supplemental Indentures Without Consent of Holders.

Without the consent of any Holders, the Issuer and the Trustee, at any time and from time to time, may enter into one or more supplemental indentures hereto in form satisfactory to the Trustee, for any of the following purposes:

(1) to evidence the succession of another Person to the Issuer or any Guarantor and the assumption by any such successor of the covenants of the Issuer or any Guarantor, as applicable, herein and in the Notes or the Guarantees, as applicable;

(2) to add to the covenants of the Issuer for the benefit of the Holders, or to surrender any right or power herein conferred upon the Issuer;

(3) to cure any ambiguity, defect or inconsistency or to correct a manifest error;

(4) to provide for uncertificated Notes in addition to or in place of certificated Notes;

(5) to comply with Section 9.1 of this Indenture;

(6) to evidence and provide for the acceptance of an appointment by a successor trustee;

(7) to provide for any additional guarantee of the Notes;

(8) to secure the Notes or to confirm and evidence the release, termination or discharge of any guarantee of or Lien securing the Notes when such release, termination or discharge is permitted by this Indenture;

(9) to provide for or confirm the issuance of Additional Notes;

(10) to conform the provisions of this Indenture to the caption entitled "Description of the Notes" in the offering memorandum relating to the Notes; or

(11) to make any other modification and any waiver or authorization of any breach or proposed breach of any provision of this Indenture or the Notes which is not materially prejudicial to the Holders.

Section 10.2. Supplemental Indentures with Consent of Holders.

With the consent of the Holders of not less than a majority in aggregate principal amount of the Outstanding Notes, by Act of said Holders delivered to the Issuer and the Trustee, and consistent with Section 6.13, the Issuer and the Trustee may enter into an indenture or supplemental indentures hereto for the purpose of adding any provisions to or changing in any manner or eliminating any of the provisions of this Indenture or of modifying in any manner the rights of the Holders under this Indenture; provided, however, that no such supplemental indenture shall, without the consent of the Holder of each outstanding Note affected thereby:

(1) change the Stated Maturity of the principal of, or any installment of interest on, any Note, or reduce the principal amount thereof or the rate of interest thereon or any premium payable thereon, or change the place of payment where, or the coin or currency in which, any Note or any premium or interest thereon is payable, or impair the right to institute suit for the enforcement of any such payment on or with respect to any Note on or after the Stated Maturity thereof (or, in the case of redemption, on or after the Redemption Date),

(2) reduce the percentage in principal amount of the Outstanding Notes, the consent of whose Holders is required for any such supplemental indenture, or the consent of whose Holders is required for any waiver (of compliance with certain provisions of this Indenture or certain defaults hereunder and their consequences) provided for in this Indenture;

(3) modify any of the provisions of this Section 10.2 or Section 6.12 or Section 11.9, except to increase any such percentage described in clause (2) above or to provide that certain other provisions of this Indenture cannot be modified or waived without the consent of the Holder of each Outstanding Note affected thereby;

(4) release any Guarantors from its obligations under its Guarantee or this Indenture, except in compliance with the terms of this Indenture.

It shall not be necessary for any Act of Holders under this Section to approve the particular form of any proposed supplemental indenture, but it shall be sufficient if such Act shall approve the substance thereof.

Section 10.3. Execution of Supplemental Indentures.

In executing, or accepting the additional trusts created by, any supplemental indenture permitted by this Article or the modifications thereby of the trusts created by this Indenture, the Trustee shall receive, and (subject to Section 7.1) shall be fully protected in conclusively relying upon, in addition to the documents required by Section 1.2, an Officer's Certificate and Opinion of Counsel stating that the execution of such supplemental indenture is authorized or permitted by this Indenture. The Trustee may, but shall not be obligated to, enter into any such supplemental indenture which affects the trustee's own rights, duties or immunities under this Indenture.

Section 10.4. Effect of Supplemental Indentures.

Upon the execution of any supplemental indenture under this Article, this Indenture shall be modified in accordance therewith, and such supplemental indenture shall form a part of this Indenture for all purposes; and every Holder of Notes theretofore or thereafter authenticated and delivered hereunder shall be bound thereby.

Section 10.5. Reference in Notes to Supplemental Indentures.

Notes authenticated and delivered after the execution of any supplemental indenture pursuant to this Article may, and shall if required by the Trustee, bear a notation in form approved by the Trustee as to any matter provided for in such supplemental indenture. If the Issuer shall so determine, new Notes so modified as to conform, in the opinion of the Issuer, to any such supplemental indenture may be prepared and executed by the Issuer and authenticated and delivered by the Trustee in exchange for Outstanding Notes.

Section 10.6. Notice to Holders.

After a supplemental indenture under this Article becomes effective, the Issuer will send to the Holders affected thereby a notice briefly describing the terms of the supplement. The Issuer will send supplemental indentures to Holders upon request. Any failure of the Issuer to send such notice, or any defect therein, will not, however, in any way impair or affect the validity of any such supplemental indenture.

ARTICLE XI

COVENANTS

Section 11.1. Payment Under the Notes.

Each of the Issuer and the Guarantors shall duly and punctually pay all amounts owed by it, and comply with all its other obligations, under the terms of the Notes, the Guarantees and this Indenture (collectively, the "Transaction Documents").

Section 11.2. Maintenance of Office or Agency.

The Issuer and the Guarantors will maintain in the Borough of Manhattan, The City of New York, New York, an office or agency where Notes may be presented or surrendered for payment, where Notes may be surrendered for registration of transfer or exchange and where notices and demands to or upon the Issuer or the Guarantors in respect of the Notes, the Guarantees and this Indenture may be served. Initially, this office will be at the Corporate Trust Office of the Trustee, unless the Issuer shall designate and maintain any other office or agency for one or more such purposes, and the Issuer and the Guarantors shall agree not to change the designation of such office without prior written notice to the Trustee and designation of a replacement office in the same general location. The Issuer will give prompt written notice to the Trustee of the location, and any change in the location, of such offices or agencies. If at any time the Issuer or the Guarantors shall fail to maintain any such required offices or agencies or shall fail to furnish the Trustee with the address thereof, such presentations, surrenders, notices and demands may be made or served at the Corporate Trust Office of the Trustee. The Issuer and the Guarantors hereby appoint the Trustee as their agent to receive all such presentations, surrenders, notices and demands.

The Issuer may also from time to time designate one or more other offices or agencies (in or outside the Borough of Manhattan, The City of New York, New York) where the Notes may be presented or surrendered for any or all such purposes and may from time to time rescind such designations (each, a "Transfer Agent"); provided, however, that no such designation or rescission shall in any manner relieve the Issuer of its obligation to maintain an office or agency in the Borough of Manhattan, The City of New York, New York. The Issuer has initially designated the offices of The Bank of New York Mellon to act as Transfer Agent. The Issuer will

give prompt written notice to the Trustee of any such designation or rescission and of any change in the location of any such other office or agency.

Section 11.3. Money for Note Payments to Be Held in Trust.

If the Issuer shall at any time act as its own Paying Agent, it will, on or before each due date of the principal of (and premium, if any) or interest on any of the Notes, segregate and hold in trust for the benefit of the Persons entitled thereto a sum sufficient to pay the principal (and premium, if any) or interest so becoming due until such sums shall be paid to such Persons or otherwise disposed of as herein provided and will promptly notify the Trustee in writing of its action or failure so to act.

Whenever the Issuer shall have one or more Paying Agents, it will, prior to each due date of the principal of (and premium, if any) or interest on any Notes, deposit with the Principal Paying Agent a sum sufficient to pay the principal (and premium, if any) or interest (including Additional Amounts, if any) so becoming due, such sum to be held in trust for the benefit of the Persons entitled to such principal, premium or interest, and (unless such Paying Agent is the Trustee) the Issuer will promptly notify the Trustee in writing of its action or failure so to act.

The Issuer will cause each Paying Agent other than the Trustee and the Principal Paying Agent to execute and deliver to the Trustee an instrument in which such Paying Agent shall agree with the Trustee, subject to the provisions of this Section 11.3, that such Paying Agent will:

(1) hold all sums held by it for the payment of the principal of (and premium, if any) or interest on Notes in trust for the benefit of the Persons entitled thereto until such sums shall be paid to such Persons or otherwise disclosed of as herein provided;

(2) give the Trustee written notice of any default by the Issuer (or any other obligor upon the Notes) in the making of any payment of principal (and premium, if any) or interest;

(3) at any time during the continuance of any such default, upon the written request of the Trustee, forthwith pay to the Trustee all sums so held in trust by such Paying Agent; and

(4) acknowledge, accept and agree to comply in all respects with the provisions of this Indenture relating to the duties, rights and obligations of such Paying Agent.

The Issuer may at any time, for the purpose of obtaining the satisfaction and discharge of this Indenture or for any other purpose, pay, or by Issuer Order direct any Paying Agent to pay, to the Trustee all sums held in trust by the Issuer or such Paying Agent, such sums to be held by the Trustee upon the same trusts as those upon which such sums were held by the Issuer or such Paying Agent; and, upon such payment by any Paying Agent to the Trustee, such Paying Agent shall be released from all further liability with respect to such money.

Any money deposited with the Trustee or any Paying Agent, or then held by the Issuer, in trust for the payment of the principal of (and premium, if any) or interest on any Note and remaining unclaimed for two years after such principal (and premium, if any) or interest has become due and payable shall be paid to the Issuer on the Issuer's Request, or (if then held by the Issuer) shall be discharged from such trust; and the Holder of such Note shall thereafter, as an unsecured general creditor, look only to the Issuer for payment thereof, and all liability of the Trustee or such Paying Agent with respect to such trust money, and all liability of the Issuer as trustee thereof, shall thereupon cease.

Section 11.4. Maintenance of Corporate Existence.

The Issuer and the Guarantors shall, and shall cause each of their respective Subsidiaries to, maintain in effect its corporate existence and all registrations necessary therefore and take all

actions to maintain all rights, privileges, titles to property, franchises and the like necessary or desirable in the normal conduct of its business, activities or operations provided that this covenant shall not require (i) the Issuer, the Guarantors or any of their respective Subsidiaries to maintain any such registration, right, privilege, title to property, franchise or the like or require the Issuer or the Guarantors to preserve the corporate existence of any of their respective Subsidiaries (other than a Subsidiary that is a Guarantor), if the failure to do so would not have a material adverse effect on the Issuer and its Subsidiaries taken as a whole or have a material adverse effect on the rights of the Holders or (ii) the Guarantors or the Issuer to preserve its corporate existence if it complies with the provisions of Section 9.1.

Section 11.5. Repurchases at the Option of the Holders upon Change of Control.

If a Change of Control occurs that results in a Rating Decline, each Holder will have the right to require the repurchase of all or any part (equal to U.S.$200,000 and integral multiples of U.S.$1,000 in excess thereof) of the Notes of that Holder pursuant to a Change of Control Offer by the Issuer or the Guarantors. No such purchase in part shall reduce the principal amount of the Notes held by any Holder to below U.S.$200,000. In the Change of Control Offer, the Issuer or a Guarantor will offer a "Change of Control Payment" in U.S. dollars equal to 101% of the aggregate principal amount of Notes repurchased plus accrued and unpaid interest and Additional Amounts, if any, on the Notes repurchased, to the date of purchase (subject to the right of the Holders of record on the relevant Record Date to receive interest and Additional Amounts, if any, on the relevant Interest Payment Date).

Within 30 days following any Change of Control that results in a Rating Decline the Issuer or the Guarantor will make a "Change of Control Offer" by notice to each Holder of Notes in accordance with the provision set out under Section 1.6, describing the transaction or transactions that constitute the Change of Control and offering to repurchase Notes on the date specified in the notice (the "Change of Control Payment Date"), which date will be no earlier than 30 days and no later than 60 days from the date such notice is mailed, pursuant to the procedures required by this Indenture and described in such notice.

The Issuer or the applicable Guarantor will comply, to the extent applicable, with the requirements of Section 14(e)-1 of the Exchange Act and any other applicable securities laws or regulations in connection with the repurchase of Notes pursuant to this covenant. To the extent that the provisions of any applicable securities laws or regulations conflict with provisions of this covenant, the Issuer or the applicable Guarantor will comply with the applicable securities laws and regulations and will not be deemed to have breached its obligations under this covenant by virtue of its compliance with such securities laws or regulations.

On the Change of Control Payment Date, the Issuer or the applicable Guarantor will, to the extent lawful:

(1) accept for payment all Notes or portions of Notes properly tendered pursuant to the Change of Control Offer; and

(2) procure that the Change of Control Payment is made in respect of all Notes or portions of Notes properly tendered.

The Paying Agents will promptly mail to each Holder who properly tendered Notes the Change of Control Payment for such Notes, and the Trustee will promptly authenticate and mail (or cause to be transferred by book entry) to each Holder a new Note equal in principal amount to any unpurchased portion of the Notes surrendered, if any; provided that each new Note will be in minimum denominations of U.S.$200,000 and integral multiples of U.S.$1,000 in excess thereof.

The provisions described above that require the Issuer or a Guarantor to make a Change of Control Offer following a Change of Control will be applicable whether or not any other provisions of this Indenture are applicable. However, a Change of Control Offer is only required to be made in the event that a Change of Control results in a Rating Decline. Consequently, if a Change of Control were to occur which does not result in a Rating Decline, none of the Issuer and the Guarantors would be required to launch a Change of Control Offer. Except as described above with respect to a Change of Control, this Indenture does not contain provisions that permit the Holders to require that the Issuer or a Guarantor repurchase or redeem the Notes in the event of a takeover, recapitalization or similar transaction.

None of the Issuer or the Guarantors will be required to make a Change of Control Offer upon a Change of Control if (1) a third party makes the Change of Control Offer in the manner, at the times and otherwise in compliance with the requirements, set forth in this Indenture, that are applicable to a Change of Control Offer made by the Issuer or a Guarantor and such third party purchases all Notes properly tendered and not withdrawn under the Change of Control Offer or (2) a notice of redemption has been given for all

outstanding Notes pursuant to this Indenture as described under Section 4.2 unless and until there is a default in payment of the applicable redemption price.

Notwithstanding anything to the contrary contained herein and subject to applicable law, a Change of Control Offer may be made in advance of a Change of Control and conditioned upon the occurrence of such Change of Control and Rating Decline if a definitive agreement is in place for the Change of Control at the time of making of the Change of Control Offer.

In the event that the Holders of not less than 90% of the aggregate principal amount of Outstanding Notes accept a Change of Control Offer and the Issuer or a Guarantor or a third party purchases all the Notes held by such holders, the Issuer or a Guarantor will have the right, on not less than 30 nor more than 60 days' prior notice to the Holders, given not more than 30 days following the purchase date pursuant to the Change of Control Offer, to redeem all of the Notes that remain outstanding following such purchase at the purchase price equal to that in the Change of Control Offer plus, to the extent not included in the purchase price, accrued and unpaid interest and additional amounts, if any, on the Notes that remain Outstanding, to, but excluding, the date of redemption.

Section 11.6. Payment of Taxes and Other Claims.

The Issuer and the Guarantors shall, and shall cause each of their respective Subsidiaries to, pay or discharge or cause to be paid or discharged before the same shall become delinquent, (i) all taxes, assessments and governmental charges levied or imposed upon the Issuer and the Guarantors or any of their respective Subsidiaries, as the case may be, and (ii) all lawful claims

for labor, materials and supplies which, if unpaid, might by law become a lien upon the property of the Issuer or a Guarantor or any of their respective Subsidiaries, as the case may be; provided, however, that neither the Issuer nor any Guarantor nor any of their respective Subsidiaries shall be required to pay or discharge or cause to be paid or discharged any such tax, assessment, charge or claim whose amount, applicability or validity is being contested in good faith and, if appropriate, by appropriate legal proceedings, or where the failure to do so would not have a material adverse effect on the Issuer and its Subsidiaries taken as a whole or have a material adverse effect on the rights of the Holders.

Section 11.7. Provision of Financial Information.

The Issuer has agreed that it will furnish to the Trustee and the Holders and to any prospective purchasers of such Notes, to the extent permitted by applicable law or contractual restrictions, upon their request, the information required to be delivered pursuant to Rule 144A(d)(4) under the Securities Act. The foregoing obligation will not apply to the Issuer if it is subsequently subject to and in compliance with the reporting requirements of Section 13 or 15(d) of the Exchange Act or exempt from reporting pursuant to Rule 12g3-2(b) under the Exchange Act.

Additionally, the Issuer shall provide the Trustee and the Holders, within 120 days of the end of each fiscal year and within 60 days of the end of each of the first three fiscal quarters, annual or quarterly financial statements, as applicable, in accordance with applicable GAAP and audited in the case of annual financial statements.

Notwithstanding the foregoing, if the Issuer makes available the information described above on the Issuer's or an Affiliate's website, it will be deemed to have satisfied the reporting requirement set forth in such applicable clause. It is understood that the Trustee shall have no responsibility to determine whether any information has been posted on such website.

Delivery of such reports, information and documents to the Trustee is for informational purposes only and the Trustee's receipt of such reports shall not constitute constructive notice of any information contained therein or determinable from information contained therein, including the Issuer's compliance with any of its covenants hereunder (as to which the Trustee is entitled to rely exclusively on an Officer's Certificate or notice). The Trustee shall have no obligation to determine if and when the Issuer's statements or reports are publicly available and accessible electronically.

Section 11.8. Statement by Officers as to Default.

(a) The Issuer will be required to furnish to the Trustee together with the delivery (or the posting on the Issuer's or an Affiliate's website) of its annual financial statements and in any event within 120 days after the end of each such fiscal period, an Officer's Certificate stating whether or not to the best knowledge of the signer thereof none of the Issuer or any Guarantor is in default in the performance and observance of any of the terms, provisions and conditions of this Indenture and if the Issuer or any Guarantor is in default, specifying all such defaults and the nature and status thereof of which they may have knowledge.

(b) The Issuer shall deliver to the Trustee, as soon as is practicable and in any event within ten calendar days after the Issuer becomes aware of the occurrence of a Default or an Event of Default, an Officer's Certificate of the Issuer, setting forth the details of such Default or Event of Default and stating what action the Issuer, proposes to take with respect thereto. None of the Agents shall have notice of any Default or Event of Default unless a Responsible Officer of such Agent has actual knowledge thereof.

Section 11.9. Payment of Additional Amounts.

Any and all payments to a Holder of principal (and premium, if any) and interest in respect of the Notes, and any and all payments to indemnify a Holder for taxes or duties as a result of a substitution of the issuer, as provided in Section 14.1(a)(2), will be made free and clear of, and without withholding or deduction for, any and all present and future withholding taxes, duties, assessments, levies, imposts or charges ("Taxes") whatsoever imposed by or on behalf of, Luxembourg, Brazil, Peru or any political subdivision or taxing authority thereof or therein, unless such withholding or deduction is required by law. In that event, the Issuer or a Guarantor, as the case may be, shall pay such additional amounts (the "Additional Amounts") as will result in the receipt by the Holders of such amounts as would have been received by them if no such withholding or deduction had been required, except that no such Additional Amounts shall be payable in respect of any Note:

(1) held by, or by a third party on behalf of, a Holder or beneficial owner which is liable for such taxes, duties, assessments, levies, imposts or governmental charges in respect of such Note by reason of its (or a fiduciary, settlor, member or shareholder, beneficiary of, or possessor of a power over, such Holder, if such Holder is an estate, trust, partnership or corporation) having some present or former connection with Luxembourg, Brazil or Peru (including being or having been a citizen or resident of Luxembourg, Brazil or Peru or being or having been engaged in trade or business therein) other than the mere holding of such Note; or

(2) where (in the case of a payment of principal, premium, if any, or interest on the Maturity Date or date of earlier redemption) the relevant Note is surrendered for payment more than 30 days after the Relevant Date except to the extent that the relevant Holder would have been entitled to such Additional Amounts if it had surrendered the relevant Note on the last day of such period of 30 days; or

(3) if such Tax is an estate, inheritance, gift, sales, transfer or personal property tax or any similar Tax, assessment, levy, impost or governmental charge; or

(4) if such amount is (a) payable other than by withholding or deduction from a payment on such Note, or (b) required to be withheld or deducted by a Paying Agent and such Holder of a Note would have been able to avoid such withholding or deduction by presenting the relevant Note to another Paying Agent; or

(5) if such Tax, duty, assessment, levy, impost or governmental charge would not have been imposed but for the failure of such Holder to comply with applicable certification, information, documentation or other reporting requirements concerning the

nationality, residence, identity or connection with Luxembourg, Brazil or Peru of the Holder or beneficial owner of such Note if (i) such compliance is required as a precondition to relief or exemption from withholding or deduction of all or part of such tax, duty, assessment, levy, impost or governmental charge and (ii) at least 30 days prior to the date on which the Issuer or a Guarantor, as the case may be, applies this clause (5), it will have notified such Holder or beneficial owner of a Note that it will be required to comply with such requirement; or

(6) in the case of any combination of items (1) through (5).

"Relevant Date" means whichever is the later of (a) the date on which the payment in question first becomes due and (b) if the full amount payable has not been received by the Principal Paying Agent on or prior to such due date, the date on which (the full amount having been so received) notice to that effect has been given to the Holders.

None of the Issuer, a Guarantor, the Trustee, any Paying Agent or any other person shall be required to pay any Additional Amounts with respect to any withholding or deduction imposed on or in respect of any Note pursuant to FATCA, any treaty, law, regulation or other official guidance enacted by any jurisdiction implementing FATCA, or any agreement between the Issuer and the United States or any authority thereof implementing FATCA.

The Issuer or the relevant Guarantor, as applicable, shall pay any present or future stamp, court or documentary taxes, or any other excise or property taxes, charges or similar levies which arise in any jurisdiction from the execution, delivery or registration of the Notes or any other document or instrument referred to therein, excluding any such taxes, charges or similar levies imposed by any jurisdiction outside of Luxembourg, Brazil or Peru, as applicable, except those resulting from, or required to be paid in connection with, (i) the execution in or bringing to Luxembourg, Brazil or Peru, as applicable, of the Notes or any document or instrument; (ii) the production before a court of Luxembourg, Brazil or Peru of the Notes or any document or instrument or (iii) the enforcement of the Notes or any other such document or instrument following the occurrence of any Event of Default with respect to the Notes.

References to principal or interest shall be deemed to include any Additional Amounts in respect of principal, premium, if any, or interest (as the case may be) which may be payable under the Notes.

If the Issuer or the Guarantor becomes subject at any time to any taxing jurisdiction other than Luxembourg, Brazil or Peru, references herein to Luxembourg, Brazil or Peru, as applicable, shall be construed to include such other jurisdiction.

The Trustee shall have no obligation to determine whether any Additional Amounts are owed or for the calculation thereof.

Section 11.10. Limitation on Liens.

The Issuer shall not, and shall not permit any of its Designated Subsidiaries to, Incur or suffer to exist any Lien on any of its Restricted Property to secure any Indebtedness of the Issuer or such Designated Subsidiary without making, or causing such Designated Subsidiary to make,

effective provision for securing the Notes (x) equally and ratably with (or prior to) such Indebtedness as to such Restricted Property for so long as such Indebtedness will be so secured or (y) in the event such Indebtedness is Indebtedness of the Issuer or such Designated Subsidiary which is subordinate in right of payment to the Notes, prior to such Indebtedness as to any such Restricted Property for so long as such Indebtedness will be so secured.

The foregoing restrictions shall not apply to:

(1) any Lien on the inventory or receivables and related assets (other than those described in clause (3) below) securing obligations:

(i) under any short term lines of credit, entered into in the normal course of business; or

(ii) under any working capital facility;

(2) Liens created solely for the purpose of securing the payment of all or a part of the purchase price (or the cost of construction or improvement, and any related transaction fee and expenses) of assets or property (including Capital Stock of any Person) acquired, constructed or improved after the Issue Date; provided that (a) the aggregate principal amount of Indebtedness secured by such Liens shall not exceed the purchase price of the assets or property so acquired, constructed or improved, (b) such Liens shall not encumber any assets or property other than the assets or property so acquired, constructed or improved and other than any unimproved real property on which the property so constructed, or the improvement, is located and (c) such Lien shall attach to such assets or property within 365 days of the construction, acquisition or improvement of such assets or property; provided, further, that to the extent that the property or asset acquired is Capital Stock, and subject to the limitations in clause (c) above, the Lien also may encumber other property or assets of the Person so acquired, provided, further, that any Lien is permitted to be incurred on the Capital Stock of any Person securing any Indebtedness of that Person that is (a) non-recourse to the Issuer or the Designated Subsidiary, and (b) incurred solely for purposes of financing the acquisition, construction or improvement of any property or assets of such Person;

(3) Liens on accounts receivable and related assets in connection with any credit facility, including export or import financings and other trade transactions, or in connection with any Securitization Transaction provided that the

aggregate amount of any Receivables sold or transferred in such Securitization Transaction securing Indebtedness shall not exceed (a) with respect to transactions related to revenues from exports, 80% of such Person's consolidated net sales from exports; or (b) with respect to transactions related to revenues from domestic sales, 80% of such Person's consolidated net sales in the jurisdiction in which such Person is located;

(4) Liens granted to secure borrowings from (i) *Banco Nacional de Desenvolvimento Econômico e Social-BNDES*, or any other federal, regional or state governmental development bank or credit agency, or (ii) any international or multilateral

development bank, government-sponsored agency, export-import bank or official export-import credit insurer;

(5) Liens existing on the Issue Date;

(6) Liens on property or shares of Capital Stock of another Person at the time such other Person becomes a Subsidiary; <u>provided</u>, <u>however</u>, that the Liens may not extend to any other property owned by such Person;

(7) Liens on properly at the time such Person or any of its Subsidiaries acquires the property, including any acquisition by means of a merger or consolidation with or into such Person or a Subsidiary of such Person; <u>provided</u>, <u>however</u>, that the Liens may not extend to any other property owned by such Person;

(8) Liens securing Indebtedness or other obligations of a Subsidiary of such Person owing to such Person or a Subsidiary of such Person;

(9) Liens in favor of surety bonds or letters of credit issued pursuant to the request of, and for the account of, such Person in the ordinary course of its business;

(10) any Lien securing obligations owed to the Peruvian Ministry of Energy and Mines or other governmental authorities incurred in the ordinary course of business, including but not limited to, mine closure plans;

(11) Liens securing obligations under hedging agreements not for speculative purposes;

(12) any Lien extending, renewing or replacing (or successive extensions, renewals or replacements of), in whole or in part, any Lien referred to in clauses (2), (4), (5), (6) or (7) above; <u>provided</u> that the principal amount of Indebtedness secured thereby shall not exceed the principal amount of Indebtedness so secured at the time of such extension, renewal or replacement except for any increase reflecting premiums, fees and expenses in connection with such extension, renewal or replacement, and that such extension, renewal or replacement shall be limited to all or a part of the property which secured the Lien so extended, renewed or replaced (plus improvements on such property); and

(13) Lien that do not fall within clauses (1) through (12) above and that secure Indebtedness which, exclusive of Indebtedness secured by other Liens permitted under this covenant, does not exceed an aggregate principal amount equal to 15% of Consolidated Total Assets.

For the avoidance of doubt, a Lien permitted by this Section 11.10 need not be permitted solely by reference to a single clause permitting such Lien, but may be permitted in part by such clause and in part by one or more other clauses of this covenant otherwise permitting such Lien.

Section 11.11. <u>[Intentionally Omitted]</u>.

Section 11.12. <u>Performance Obligations Under Other Documents</u>.

The Issuer shall duly and punctually perform, comply with and observe all obligations and agreements to be performed by it set forth in the Transaction Documents.

Section 11.13. Compliance with Laws.

Each of the Issuer and the Guarantors shall comply, and shall cause their respective Subsidiaries to comply, at all times with all applicable laws, rules, regulations, orders and directives of any government or government agency or authority having jurisdiction over the Issuer or any Guarantors, any of their respective Subsidiaries or the business of any of them or any of the transactions contemplated herein, except where the failure to do so would not have a material adverse effect on the Issuer and its Subsidiaries taken as a whole or have a material adverse effect on the rights of the Holders.

Section 11.14. Maintenance of Government Approvals.

Each of the Issuer and the Guarantors shall, and shall cause their respective Subsidiaries to, duly obtain and maintain in full force and effect all governmental approvals, consents or licenses of any government or governmental agency or authority under the laws of Luxembourg, Brazil, Peru (including any Central Bank) or any other government or government agency having jurisdiction over the Issuer or necessary in all cases for the Guarantors and the Issuer to perform their respective obligations under the Transaction Documents or for the validity or enforceability thereof, except where the failure to do so would not have a material adverse effect on the Issuer and its Subsidiaries taken as a whole or have a material adverse effect on the rights of the Holders.

Section 11.15. [Intentionally Omitted].

Section 11.16. Maintenance of Books and Records.

Each of the Issuer and the Guarantors shall, and shall cause each of their respective Subsidiaries to, maintain books, accounts and records in all material respects in accordance with applicable GAAP, and in any case in the manner necessary to facilitate consolidation into the Guarantors' consolidated financial statements.

Section 11.17. Ranking.

The Issuer shall ensure that the Notes will constitute unsecured and unsubordinated obligations of the Issuer, and will rank at least equally to all other present and future unsecured and unsubordinated obligations of the Issuer (other than obligations preferred by statute or by operation of law). Each of the Guarantors shall ensure that its Guarantee will constitute unsecured and unsubordinated obligations of such Guarantor, and will rank at least equally to all other present and future unsecured and unsubordinated obligations of the Guarantors (other than obligations preferred by statute or by operation of law). No obligation will be considered to be senior to the Notes or the Guarantees by virtue of being secured on a first or junior priority basis.

ARTICLE XII

LEGAL DEFEASANCE AND COVENANT DEFEASANCE

Section 12.1. Option to Effect Defeasance or Covenant Defeasance.

The Issuer or a Guarantor may at its option, at any time elect to have either Section 12.2 or Section 12.3 applied to the Outstanding Notes upon compliance with the conditions set forth below in this Article XII.

Section 12.2. Defeasance and Discharge.

Upon the Issuer's or a Guarantor's exercise of the option provided in Section 12.1 applicable to this Section, the Issuer and a Guarantor shall be deemed to have been discharged from their obligations with respect to the Outstanding Notes on the date the conditions set forth below are satisfied (hereinafter, "defeasance"). For this purpose, such defeasance means that the Issuer and a Guarantor shall be deemed to have paid and discharged the entire indebtedness represented by the Outstanding Notes and to have satisfied all their other obligations under such Notes and this Indenture insofar as such Notes are concerned (and the Trustee, at the expense of the Issuer and a Guarantor, shall execute proper instruments acknowledging the same), except for the following which shall survive until otherwise terminated or discharged hereunder: (A) the rights of Holders of Outstanding Notes to receive, solely from the trust fund described in Section 12.4 and as more fully set forth in such Section, payments in respect of the principal of (and premium, if any) and interest (and Additional Amounts, if any) on such Notes when such payments are due, (B) the Issuer's and the Guarantors' obligations with respect to such Notes under Sections 3.3, 3.4, 3.5, 11.2 and 11.3, (C) the rights, powers, trusts, duties and immunities

of the Trustee hereunder and (D) this Article XII. Subject to compliance with this Article XII, the Issuer and the Guarantors may exercise their option under this Section 12.2 notwithstanding the prior exercise of their option under Section 12.3.

Section 12.3. Covenant Defeasance.

Upon the Issuer or a Guarantor's exercise of the option provided in Section 12.1 applicable to this Section, (i) the Issuer and the Guarantors shall be released from their obligations under Sections Section 9.1 and 11.15 through 11.17, inclusive and the Guarantors shall be released from all of its obligations under the Guarantees and under Article XIII of this Indenture, and (ii) the occurrence of an event specified in Section 6.1(3) (with respect to Section 9.1 and Sections 11.15 through 11.17, inclusive) shall not be deemed to be or result in an Event of Default, on and after the date the conditions set forth below are satisfied (hereinafter, "covenant defeasance"). For this purpose, such covenant defeasance means that the Issuer and the Guarantors may omit to comply with and shall have no liability in respect of any term, condition or limitation set forth in any such Section or Article, whether directly or indirectly by reason of any reference elsewhere herein to any such Section or Article or by reason of any reference in any such Section or Article to any other provision herein or in any other document, but the remainder of this Indenture and such Notes shall be unaffected thereby.

Section 12.4. Conditions to Defeasance or Covenant Defeasance.

The following shall be the conditions to application of either Section 12.2 or Section 12.3 to the Outstanding Notes:

(1) the Issuer or a Guarantor shall irrevocably have deposited or caused to be deposited with the Trustee or its designee, in trust, for the benefit of the Holders (A) cash, (B) Cash Equivalents, (C) U.S. Government Obligations, or (D) a combination thereof, sufficient, in the written opinion of an internationally recognized firm of independent certified public accountants, investment bank or consulting firm to pay and discharge, the principal of, premium, if any, and each installment of interest (including Additional Amounts, if any) on the Notes on the Stated Maturity of such principal or installment of interest on the day on which such payments are due and payable in accordance with the terms of this Indenture and of such Notes. For this purpose, "U.S. Government Obligations" means securities that are (x) direct obligations of the United States for the payment of which its full faith and credit is pledged or (y) obligations of a Person controlled or supervised by and acting as an agency or instrumentality of the United States the payment of which is unconditionally guaranteed as a full faith and credit obligation by the United States, which, in either case, are not callable or redeemable at the option of the issuer thereof, and shall also include a depositary receipt issued by a bank (as defined in Section 3(a)(2) of the Securities Act) as custodian with respect to any such U.S. Government Obligation or a specific payment of principal of or interest on any such U.S. Government Obligation held by such custodian for the account of the Holder of such depositary receipt, provided that (except as required by law) such custodian is not authorized to make any deduction from the amount payable to the Holder of such depositary receipt from any amount received by the custodian in respect of the U.S. Government Obligation or the specific payment of principal of or interest on the U.S. Government Obligation evidenced by such depositary receipt;

(2) no Default or Event of Default shall have occurred and be continuing on the date of such deposit;

(3) the Issuer or a Guarantor shall have delivered to the Trustee an Officer's Certificate and an Opinion of Counsel, each stating that all conditions precedent provided for relating to either the defeasance under Section 12.2 or the covenant defeasance under Section 12.3 (as the case may be) have been complied with;

(4) in the case of an election under Section 12.2, the Issuer or a Guarantor shall have delivered to the Trustee an Opinion of Counsel in the United States stating that (x) the Issuer or a Guarantor has received from, or there has been published by, the Internal Revenue Service a ruling, or (y) since the date of this Indenture there has been a change in the applicable United States Federal income tax law, in either case to the effect that, and based thereon such Opinion of Counsel shall confirm that, the Holders of the Outstanding Notes will not recognize income, gain or loss for United States Federal income tax purposes as a result of such deposit, defeasance and discharge and will be subject to United States Federal income tax on the same amounts, in the same manner

and at the same times as would have been the case if such deposit, defeasance and discharge had not occurred;

(5) in the case of an election under Section 12.3, the Issuer or a Guarantor shall have delivered to the Trustee an Opinion of Counsel in the United States to the effect that the Holders of the Outstanding Notes will not recognize income, gain or loss for United States Federal income tax purposes as a result of such deposit and covenant defeasance and will be subject to United States Federal income tax on the same amounts, in the same manner and at the same times as would have been the case if such covenant defeasance had not occurred.

Section 12.5. Deposited Money and U.S. Government Obligations to Be Held in Trust; Other Miscellaneous Provisions.

Subject to the provisions of the last paragraph of Section 11.3, all money and U.S. Government Obligations (including the proceeds thereof) deposited with the Trustee (or other qualifying trustee—collectively, for purposes of this Section 12.5, the "Defeasance Trustee") pursuant to Section 12.4 in respect of the Notes shall be held in trust and applied by the Defeasance Trustee, in accordance with the provisions of such Notes and this Indenture, to the payment, either directly or through any Paying Agent (including the Issuer or a Guarantor acting as their own Paying Agent) as the Defeasance Trustee may determine, to the Holders of such Notes, of all sums due and to become due thereon in respect of principal (and premium, if any) and interest, but such money need not be segregated from other funds except to the extent required by law.

The Issuer and the Guarantors shall, jointly and severally, pay and indemnify the Defeasance Trustee against any tax, fee or other charge imposed on or assessed against the U.S. Government Obligations deposited pursuant to Section 12.4 or the principal and interest received in respect thereof other than any such tax, fee or other charge which by law is for the account of the Holders of the Outstanding Notes.

Anything in this Article to the contrary notwithstanding, the Defeasance Trustee shall deliver or pay to the Issuer from time to time upon Issuer Request any money or U.S. Government Obligations held by it as provided in Section 12.4 which, in the opinion of an internationally recognized accounting firm expressed in a written certification thereof delivered to the Defeasance Trustee, are in excess of the amount thereof which would then be required to be deposited to effect an equivalent defeasance or covenant defeasance.

Section 12.6. Reinstatement.

If the Defeasance Trustee or the Paying Agent is unable to apply any money in accordance with Section 12.2 or 12.3 by reason of any order or judgment of any court or governmental authority enjoining, restraining or otherwise prohibiting such application, then the obligations of the Issuer and the Guarantors under this Indenture, the Guarantees and the Notes, if any, shall be revived and reinstated as though no deposit had occurred pursuant to this Article until such time as the Defeasance Trustee or Paying Agent is permitted to apply all such money in accordance with Section 12.2 or 12.3; provided, however, that if the Issuer or the Guarantors

makes any payment of principal of (and premium, if any) any Note following the reinstatement of such obligations, the Issuer or the Guarantors shall be subrogated to the rights of the Holders of such Notes to receive such payment from the money held by the Defeasance Trustee or the Paying Agent.

Section 12.7. Repayment to Issuer or the Guarantors.

Any money deposited with the Defeasance Trustee or any Paying Agent, or then held by the Issuer or a Guarantor, in trust for the payment of the principal of, premium, if any, or interest on any Note and remaining unclaimed for two years after such principal, and premium, if any, or interest has become due and payable shall be paid to the Issuer or the Guarantors on its written request or (if then held by the Issuer or the Guarantors) shall be discharged from such trust; and the Holder of such security shall thereafter, as a creditor, look only to the Issuer or the Guarantors for payment thereof, and all liability of the Defeasance Trustee or such Paying Agent with respect to such trust money, and all liability of the Issuer or the Guarantor as trustee thereof, shall thereupon cease; provided, however, that the Defeasance Trustee or such Paying Agent, before being required to make any such repayment, shall at the expense of the Issuer and the Guarantors cause to be published once, in *The New York Times* and *The Wall Street Journal* (national edition), notice that such money remains unclaimed and that, after a date specified therein, which shall not be less than 30 days from the date of such notification or publication, any unclaimed balance of such money then remaining will be repaid to the Issuer or the Guarantors.

ARTICLE XIII

SUBSTITUTION OF THE ISSUER

Section 13.1. Substitution of the Issuer.

Notwithstanding any other provision contained in this Indenture,

(a) the Issuer may, without the consent of the Holders of the Notes (and by subscribing for any Notes, each Holder of the Notes expressly consents to it), be replaced and substituted by (i) any Wholly Owned Subsidiary of the Issuer or (ii) any Permitted Holding Company as principal debtor (in such capacity, the "Substituted Issuer") in respect of the Notes provided that:

(1) such documents (together, the "Issuer Substitution Documents") shall be executed by the Substituted Issuer, the Issuer and the Trustee as may be necessary to give full effect to the substitution, including a supplemental indenture whereby (i) the Substituted Issuer assumes all Issuer's obligations under this Indenture and the Notes and (ii) the Issuer (the "Additional Guarantor") guarantees on an unsecured and unsubordinated basis the due and punctual payment of all amounts under this Indenture and with respect to the Notes (without limiting the generality of the foregoing) pursuant to which the Substituted Issuer shall undertake in favor of each Holder of the Notes to be bound by the terms and conditions of the Notes and the provisions of this Indenture as fully as if the Substituted Issuer had been named in the Notes and this Indenture as the

principal debtor in respect of the Notes in place of the Issuer (or any previous substitute) and pursuant to which the Additional Guarantor will guarantee on an unsecured and unsubordinated basis the due and punctual payment of all amounts under this Indenture and with respect to the Notes (together, the "Substitution");

(2) if the Substituted Issuer is incorporated, domiciled or resident in a territory other than Luxembourg, the Issuer Substitution Documents shall contain a covenant by the Substituted Issuer and/or such other provisions as may be necessary to ensure that each Holder of the Notes has the benefit of a covenant in terms corresponding to the obligations of the Issuer in respect of the payment of Additional Amounts set forth in Section 11.9 and tax repurchases in Section 4.1, with the substitution for the references to Luxembourg for references to the territory in which the Substituted Issuer is incorporated, domiciled and/or resident for taxation purposes;

(3) the Issuer Substitution Documents shall contain a covenant by the Additional Guarantor and/or such other provisions as may be necessary to ensure that each holder of the Notes has the benefit of a covenant in terms corresponding to the obligations of the Additional Guarantor as a guarantor of the Notes in respect of the payment of Additional Amounts set forth in Section 11.9 (but with references to Luxembourg as the jurisdiction of incorporation of the Additional Guarantor);

(4) if the Substituted Issuer is incorporated, domiciled or resident in a territory other than Luxembourg, the Issuer Substitution Documents shall also contain a covenant by the Substituted Issuer to indemnify and hold harmless each Holder and beneficial owner of the Notes, the Trustee, the Agents and each other against the actual amount of all taxes or duties required to be paid (including any taxes or duties imposed on the receipt of such indemnity payments) which arise by reason of a law or regulation in effect or contemplated on the effective date of the Substitution, which may be incurred or levied against such Holder or beneficial owner of the Notes as a result of the substitution and which would not have been so incurred or levied had the Substitution not been made, subject to similar exceptions set forth under Section 11.9(2) through (8), inclusive, *mutatis mutandis*; provided, that any holder making a claim with respect to such tax indemnity shall provide the Issuer with notice of such claim, along with supporting documentation, within four weeks of the announcement of the Substitution of the Substituted Issuer as issuer; provided further, that none of the Issuer (including the Substituted Issuer), the Guarantors (including the Additional Guarantor), any paying agent or any other person shall be required to indemnify any holder or beneficial owner of the notes for any taxes imposed pursuant to FATCA, any treaty, law, regulation or other official guidance enacted by any jurisdiction implementing FATCA, or any agreement between the Issuer and the United States or any authority thereof implementing FATCA;

(5) the Substituted Issuer shall have delivered, or procured the delivery to the Trustee of, an Opinion of Counsel addressed to the Substituted Issuer from a leading firm of lawyers in the country of incorporation of the Substituted Issuer, to the effect that the Issuer Substitution Documents constitute legal, valid and binding obligations of the Substituted Issuer and the Additional Guarantor;

(6) the Issuer shall have delivered, or procured the delivery to the Trustee of, an Opinion of Counsel addressed to the Issuer and the Substituted Issuer from a leading firm of New York lawyers to the effect that the Issuer Substitution Documents constitute legal, valid and binding obligations of the Substituted Issuer and the Additional Guarantor under New York law;

(7) the Issuer and the Substituted Issuer shall have appointed a process agent in the Borough of Manhattan, the City of New York to receive service of process on its behalf in relation to any legal action or proceedings arising out of or in connection with the Issuer Substitution Documents;

(8) there is no continuing Event of Default in respect of the Notes.

(b) Upon effectiveness of the substitution, the Substituted Issuer and the Issuer shall deliver to the Trustee an Officer's Certificate, executed by an authorized officer, certifying that the terms of this section have been complied with and attaching copies of all documents contemplated herein.

(c) Upon the execution of the Issuer Substitution Documents as referred to in paragraph (a)(1) above and compliance with the other conditions in paragraph (a), (1) the Substituted Issuer shall be deemed to be named in the Notes as the principal debtor in place of the Issuer (or of any previous substitute under these provisions), (2) the Additional Guarantor shall be deemed to be named as a guarantor of the Notes and (3) the Notes shall thereupon be deemed to be amended to give effect to the transactions referred to in (1) and (2). Except as set forth above, the execution of the Issuer Substitution Documents shall operate to release the Issuer (or such previous substitute as aforesaid) from all its obligations as issuer of the Notes.

(d) Not later than 10 Business Days after the execution of the Issuer Substitution Documents, the Substituted Issuer shall give notice thereof to the Holders of the Notes in accordance with the provisions described under Section 1.6.

ARTICLE XIV

GUARANTEES

Section 14.1. Guarantees.

CJM, Milpo and VMZ hereby, jointly, severally, fully, absolutely and unconditionally guarantee on an unsecured basis to each Holder of a Note authenticated and delivered by the Trustee, and to the Trustee on behalf of such Holder, and for itself and the Paying Agents, the due and punctual payment of the principal of (and premium, if any) and interest (including any Additional Amounts) on such Note and all other obligations of the Issuer under this Indenture, when and as the same shall become due and payable, whether at the Stated Maturity or by acceleration, redemption, purchase or otherwise, in accordance with the terms of such Note and of this Indenture. In case of the failure of the Issuer punctually to make any such payment, each of the Guarantors hereby agrees to cause such payment to be made punctually when and as the same shall become due and payable, whether at the Stated Maturity or by acceleration, call for redemption, purchase or otherwise, and as if such payment were made by the Issuer.

The Guarantees constitute unconditional and unsubordinated obligations of each of the Guarantors that will at all times rank at least equally with all other present and future unsecured senior obligations of each such Guarantor, except for any obligations that may be preferred by provisions of law that are both mandatory and of general application.

Each of the Guarantors hereby agrees that its obligations hereunder shall be unconditional, irrespective of the validity, regularity or enforceability of any Note or this Indenture, the absence of any action to enforce the same, any release or amendment or waiver of any term of any other guarantee of, or any consent to depart from any requirement of any other guarantee, of all or any of the Notes, any waiver or consent by the Holder of any Note or by the Trustee with respect to any provisions thereof or of this Indenture, the obtaining of any judgment against the Issuer or any action to enforce the same or any other circumstances which might otherwise constitute a legal or equitable discharge or defense of a guarantor. Each of the Guarantors hereby waives notice of the acceptance of its Guarantee and of any of the obligations under this Indenture or the Notes (the "Obligations") or of the accrual thereof, and further waives presentment, protest, notice or demand. This is a continuing guarantee and is a guarantee of payment and not of collection, and each of the Guarantors waives any right to require the Holders to initiate collection proceeds or otherwise enforce payment of the Obligations or any security or other guarantee therefore before obtaining payment hereunder.

The Guarantees shall continue to be in effect or be reinstated, as the case may be, if at any time (i) any payment in respect of any of the Obligations is rescinded or must otherwise be returned by the Holders, whether by reason of the insolvency, bankruptcy, receivership, reorganization or liquidation of the Issuer or any Guarantor or any other obligor or otherwise, all as though such payment had not been made or (ii) a Substituted Issuer, as defined in Section 13.1, assumes the Issuer's obligations under the Notes pursuant to Article XIII hereof.

Each of the Guarantors hereby waives the benefits of diligence, presentment, demand of payment, any requirement that the Trustee or any of the Holders protect, secure, perfect or insure any security interest in or other Lien on any property subject thereto or exhaust any right or take any action against the Issuer or any other Person or any collateral, filing of claims with a court in the event of insolvency or bankruptcy of the Issuer, any right to require a proceeding first against the Issuer, protest or notice with respect to any Note or the indebtedness evidenced thereby and all demands whatsoever, and covenants, that these Guarantees will be discharged in respect of any Note except by complete performance of the obligations contained in such Note and in the Guarantees. Each of the Guarantors hereby agrees that, in the event of a default in payment of principal (or premium, if any) or interest on any Note, whether at its Stated Maturity or by acceleration, redemption, purchase or otherwise, legal proceedings may be instituted by the Trustee on behalf of, or by, the Holder of such Note, subject to the terms and conditions set forth in this indenture, directly against any or all of the Guarantors to enforce the Guarantees without first proceeding against the Issuer. Each of the Guarantors agrees that if, after the occurrence and during the continuance of an Event of Default, the Trustee or any of the Holders are prevented by applicable law from exercising their respective rights to accelerate the maturity of the Notes, to collect interest on the Notes or to enforce or exercise any other right or remedy with respect to the Notes, or the Trustee or the Holders are prevented from taking any action to realize on any collateral, each of the Guarantor agrees to pay to the Trustee for the account of the Holders, upon demand therefore, the amount that would otherwise have been due and payable

had such rights and remedies been permitted to be exercised by the Trustee or any of the Holders.

No provision of the Guarantees, Notes or of this Indenture shall alter or impair the Guarantees of the Guarantors, of which the Guarantees are absolute and unconditional, of the due and punctual payment of the principal (and premium, if any) and interest (and Additional Amounts, if any) on the Note and the obligation under this Indenture upon which each Guarantee is endorsed.

Each of the Guarantors shall be subrogated to all rights of the Holders of the Notes upon which its Guarantee is endorsed against the Issuer in respect of any amounts paid by each of the Guarantors on account of such Note pursuant to the provisions of the Guarantees or this Indenture; provided, however, that none of the Guarantors shall be entitled to enforce or to receive any payments arising out of, or based upon, such right of subrogation until the principal of (and premium, if any) and interest (and Additional Amounts, if any) on all Notes issued hereunder shall have been paid in full.

The Guarantees shall remain in full force and effect and continue to be effective should any petition be filed by or against the Issuer for liquidation or reorganization, should the Issuer become insolvent or make an assignment for the benefit of creditors or should a receiver or trustee be appointed for all or any significant part of the Issuer's assets, and shall, to the fullest extent permitted by law, continue to be effective or be reinstated, as the case may be, if at any time payment and performance of the obligations under the Notes is, pursuant to applicable law, rescinded or reduced in amount, or must otherwise be restored or returned by any obligee on the Notes, whether as a "voidable preference," "fraudulent transfer" or otherwise, all as though such payment or performance had not been made. In the event that any payment, or any part thereof, is rescinded, reduced, restored or returned, the Notes shall, to the fullest extent permitted by law, be reinstated and deemed reduced only by such amount paid and not so rescinded, reduced, restored or returned.

Each of the Guarantors hereby irrevocably waives all benefits set forth in the following provisions of the Brazilian law: articles 333, sole paragraph, 366, 368, 827, 829, sole paragraph, 830, 834, 835, 837 and 838 of the Brazilian Civil Code and articles 130 and 794 of the Brazilian Civil Procedure Code.

No stockholder, officer, director, employer or incorporator, past, present or future, of any Guarantor, as such, shall have any personal liability under the Guarantee by reason of his, her or its status as such stockholder, officer, director, employer or incorporator.

Section 14.2. Delivery of the Guarantee.

The delivery of any Note by the Trustee, after the authentication thereof hereunder, shall constitute due delivery of the Guarantees set forth herein on behalf of the Guarantors.

Section 14.3. Release of Guarantor.

(a) Concurrently with any consolidation or merger of any of the Guarantors or any sale or conveyance of the property of any of the Guarantors as an entirety or substantially as an

entirety, in each case as permitted by Section 9.1(a) hereof, and upon delivery by such Guarantor to the Trustee of an Officer's Certificate and an Opinion of Counsel to the effect that such consolidation, merger, sale or conveyance was made in accordance with Section 9.1(a) hereof, the Trustee shall execute any documents reasonably required in order to evidence the release of such Guarantor from its obligations under its Guarantee endorsed on the Notes and under this Article XIV.

(b) Concurrently with the defeasance of the Notes under Section 12.2 hereof or the covenant defeasance of the Notes under Section 12.3 hereof, each of the Guarantors shall be released from all of its obligations under its Guarantee endorsed on the Notes and under this Article XIV.

ARTICLE XV

MEETINGS OF HOLDERS OF SECURITIES

Section 15.1. Purposes for Which Meetings May Be Called.

A meeting of Holders of Notes may be called at any time and from time to time pursuant to this Article to consider any matter affecting their interests, including, if proposed by the Issuer, the modification of the terms and conditions of the Notes; provided that any modification postponing the date for payment of any interest, reducing or canceling any amount of principal or the rate of interest payable or altering the currency of payment in respect of the Notes will only be binding if passed at a meeting of Holders at which a special quorum (as set forth in Section 15.4) is present.

Section 15.2. Call, Notice and Place of Meetings.

(1) The Trustee may at any time call a meeting of Holders of Notes of any series for any purpose specified in Section 15.1, to be held at such time and at such place in the Borough of Manhattan, The City of New York as the Trustee shall determine. Notice of every meeting of Holders of Notes, setting forth the time and the place of such meeting and in general terms the action proposed to be taken at such meeting, shall be given, in the manner provided in Section 1.6, not less than 21 nor more than 180 days prior to the date fixed for the meeting.

(2) In case at any time the Issuer, pursuant to a Board Resolution, or the Holders of at least 10% in principal amount of the Outstanding Notes shall have requested the Trustee to call a meeting of the Holders of Notes for any purpose specified in Section 15.1, by written request setting forth in reasonable detail the action proposed to be taken at the meeting, and the Trustee shall not have made the first publication of the notice of such meeting within 21 days after receipt of such request or shall not thereafter proceed to cause the meeting to be held as provided herein, then the Issuer or the Holders of Notes in the amount specified above, as the case may be, may determine the time and the place in the Borough of Manhattan, The City of New York for such meeting and may call such meeting for such purposes by giving notice thereof as provided in subsection (1) of this Section.

Section 15.3. Persons Entitled to Vote at Meetings.

To be entitled to vote at any meeting of Holders of Notes, a Person shall be (i) a Holder on a record date established pursuant to Section 15.5 of one or more Outstanding Notes, or (ii) a Person appointed by an instrument in writing as proxy for a Holder or Holders of one or more Outstanding Notes by such Holder or Holders. The only Persons who shall be permitted to be present or to speak at any meeting of Holders of Notes of any series shall be the Persons entitled to vote at such meeting and their counsel, any representatives of the Trustee and its counsel and any representatives of the Issuer and its counsel.

Section 15.4. Quorum; Action.

The Persons entitled to vote a majority in principal amount of the Outstanding Notes shall constitute a "quorum" for a meeting of Holders of Notes, however, any modification postponing the date for payment of any interest, reducing or canceling any amount of principal or the rate of interest payable or altering the currency of payment in respect of the Notes will only be binding if passed at a meeting of Holders of at least 66 2/3% of the Notes (a "special quorum"). In the absence of a quorum or a special quorum, as the case may be, within 15 minutes (or such longer period not exceeding 30 minutes as the chairman may decide) of the time appointed for any such meeting, the meeting shall if convened upon the requisition of Holders be dissolved. In any other case it shall stand adjourned to the same day in the next week (or if such day is not a Business Day the next succeeding Business Day) at the same time and place. If within 15 minutes (or such longer period not exceeding 30 minutes as the chairman may decide) after the time appointed for any adjourned meeting a quorum or a special quorum, as the case may be, is not present for the transaction of any particular business, then, subject and without prejudice to the transaction of the business (if any) for which a quorum or a special quorum, as the case may be, is present, the chairman may either (with the approval of the Trustee) dissolve such meeting or adjourn the same for such period, being not less than ten calendar days (but without any maximum number of calendar days), and to such place as may be appointed by the chairman either at or subsequent to such adjourned meeting and approved by the Trustee, and the provisions of this sentence shall apply to all further adjourned such meetings.

Notice of the reconvening of any adjourned meeting shall be given as provided in Section 15.2(1), except that such notice need be given only once not less than five days prior to the date on which the meeting is scheduled to be reconvened. Notice of a reconvening of an adjourned meeting shall state expressly the percentage, as provided above, of the principal amount of the Outstanding Notes of such series which shall constitute a quorum.

Any resolution passed or decision taken at any meeting of Holders of Notes of any series duly held in accordance with this Section shall be binding on all the Holders of Notes of such series, whether or not presented or represented at the meeting. However, for the avoidance of doubt, no actions taken at such meeting shall be binding on all Holders of Notes unless such actions were approved by the minimum percentage in principal amount of the Outstanding Notes of the series as required elsewhere in this Indenture with respect to such actions.

Section 15.5. Determination of Voting Rights; Conduct and Adjournment of Meetings.

(a) Notwithstanding any other provisions of this Indenture, the Trustee may make such reasonable regulations as it may deem advisable for any meeting of Holders of Notes of a series in regard to proof of the holding of Notes of such series and the appointment of proxies and in regard to the appointment and duties of inspectors of votes, the submission and examination of proxies, certificates and other evidence of the right to vote, and such other matters concerning the conduct of the meeting as it shall deem appropriate. Except as otherwise permitted or required by any such regulations, the holding of Notes shall be proved in the manner specified in Section 1.4 and the appointment of any proxy shall be proved in the manner specified in Section 1.4. Such regulations may provide that written instruments appointing proxies, regular on their face, may be presumed valid and genuine without the proof specified in Section 1.4 or other proof.

(b) The Trustee shall, by an instrument in writing, appoint a temporary chairman of the meeting, unless the meeting shall have been called by the Issuer or by Holders of Notes as provided in Section 15.2(2), in which case the Issuer or the Holders of Notes of the series calling the meeting, as the case may be, shall in like manner appoint a temporary chairman. A permanent chairman and a permanent secretary of the meeting shall be elected by vote of the Persons entitled to vote a majority in principal amount of the Outstanding Notes of such series represented at the meeting.

(c) At any meeting each Holder of a Note of such series or proxy shall be entitled to one vote for each $1,000 principal amount of the Outstanding Notes of such series held or represented by him or her; provided, however, that no vote shall be cast or counted at any meeting in respect of any Note challenged as not Outstanding and ruled by the chairman of the meeting to be not Outstanding. The chairman of the meeting shall have no right to vote, except as a Holder of a Note of such series or proxy.

(d) Any meeting of Holders of Notes of any series duly called pursuant to Section 15.2 at which a quorum is present may be adjourned from time to time by Persons entitled to vote a majority in principal amount of the Outstanding Notes of such series represented at the meeting, and the meeting may be held as so adjourned without further notice.

Section 15.6. Counting Votes and Recording Action of Meetings.

The vote upon any resolution submitted to any meeting of Holders of Notes of any series shall be by written ballots on which shall be subscribed the signatures of the Holders of Notes of such series or of their representatives by proxy and the principal amounts

and serial numbers of the Outstanding Notes of such series held or represented by them. The permanent chairman of the meeting shall appoint two inspectors of votes who shall count all votes cast at the meeting for or against any resolution and who shall make and file with the secretary of the meeting their verified written reports in duplicate of all votes cast at the meeting. A record, at least in duplicate, of the proceedings of each meeting of Holders of Notes of any series shall be prepared by the secretary of the meeting and there shall be attached to said record the original reports of the inspectors of votes on any vote by ballot taken thereat and affidavits by one or more persons having knowledge of the facts setting forth a copy of the notice of the meeting and showing that

said notice was given as provided in Section 15.2 and, if applicable, Section 15.5. Each copy shall be signed and verified by the affidavits of the permanent chairman and secretary of the meeting and one such copy shall be delivered to the Issuer, and another to the Trustee to be preserved by the Trustee, the latter to have attached thereto the ballots voted at the meeting. Any record so signed and verified shall be conclusive evidence of the matters therein stated.

IN WITNESS WHEREOF, the parties hereto have caused this Indenture to be duly executed as of the day and year first above written.

VM HOLDING S.A.

By: ______________________________
Name:
Title:

By: ______________________________
Name:
Title:

Signature Page to Indenture

IN WITNESS WHEREOF, the parties hereto have caused this Indenture to be duly executed as of the day and year first above written.

VOTORANTIM METAIS – CAJAMARQUILLA S.A.

By: ______________________________
Name:
Title:

By: ______________________________
Name:
Title:

Signature Page to Indenture

IN WITNESS WHEREOF, the parties hereto have caused this Indenture to be duly executed as of the day and year first above written.

COMPAÑIA MINERA MILPO S.A.A.

By: ______________________________
Name:
Title:

By: ______________________________
Name:
Title:

Signature Page to Indenture

IN WITNESS WHEREOF, the parties hereto have caused this Indenture to be duly executed as of the day and year first above written.

VOTORANTIM METAIS ZINCO S.A.

By: ______________________________
Name:
Title:

By: ______________________________
Name:
Title:

Witnesses:

By: ______________________________
Name:

By: ______________________________
Name:

Signature Page to Indenture

THE BANK OF NEW YORK MELLON,
as Trustee, Principal Paying Agent, Transfer Agent and Registrar

By: ______________________________
Name: James W. Briggs
Title: Authorized Signatory

Signature Page to Indenture

EXHIBIT A

FORM OF CERTIFICATION FOR TRANSFER OR EXCHANGE OF RESTRICTED GLOBAL NOTE TO REGULATION S GLOBAL NOTE

(Exchanges or transfers pursuant to Section 3.4(c)(2) of the Indenture)

The Bank of New York Mellon
101 Barclay Street
Floor 7 East
New York, New York 10286
Attention: International Corporate Trust

Re: VM Holding S.A.
5.375% Notes due 2027 (the "Notes")

Reference is hereby made to the Indenture, dated as of May 4, 2017 (the "Indenture"), among VM Holding S.A., as Issuer, Votorantim — Cajamarquilla S.A., Compañia Minera Milpo S.A.A. and Votorantim Metais Zinco S.A., as Guarantors, and The Bank of New York Mellon, a New York banking corporation, as trustee (the "Trustee"), as principal paying agent (the "Principal Paying Agent"), as transfer agent (the "Transfer Agent") and registrar (the "Security Registrar"). Capitalized terms used but not defined herein shall have the meanings given to them in the Indenture.

This letter relates to U.S.$[ ] aggregate principal amount of Notes which are held in the form of the Restricted Global Note (CUSIP No. 91832C AA4 / ISIN No. US91832CAA45 / Common Code 159599248) with the Depositary in the name of [*insert name of transferor*] (the "Transferor"). The Transferor has requested a transfer of such beneficial interest in the Notes to a Person who will take delivery thereof in the form of an equal aggregate principal amount of Notes evidenced by the Regulation S Global Note (CUSIP No. P98118 AA3 / ISIN No. USP98118AA38 / Common Code 159599370).

In connection with such request, and in respect of such Notes, the Transferor does hereby certify that such transfer has been effected in accordance with the transfer restrictions set forth in the Notes and that:

(A) The offer of the Notes was not made to a person in the United States; and

(B) either:

(i) at the time the buy order was originated, the transferee was outside the United States or the Transferor and any person acting on its behalf reasonably believed that the transferee was outside the United States; or

(ii) the transaction was executed in, on or through the facilities of a designated offshore securities market and neither the Transferor nor any person acting

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on our behalf knows that the transaction was pre-arranged with a buyer in the United States;

(C) no directed selling efforts have been made in contravention of the requirements of Rule 903(a)(2) or 904(a)(2) of Regulation S, as applicable; and

(D) the transaction is not part of a plan or scheme to evade the registration requirements of the Securities Act.

We understand that this certificate is required in connection with certain securities laws of the United States. In connection therewith, if administrative or legal proceedings are commenced or threatened in connection with which this certificate is or would be relevant, we irrevocably authorize you to produce this certificate to any interested party in such proceeding. This certificate and the statements contained herein are made for your benefit and the benefit of the Issuer and the Guarantors.

[INSERT NAME OF TRANSFEROR]

By: ______________________________
Name:
Title:

Dated: ______________________________

cc: VM Holding S.A.

EXHIBIT B

FORM OF CERTIFICATION FOR TRANSFER OR EXCHANGE OF REGULATION S GLOBAL NOTE TO RESTRICTED GLOBAL NOTE

(Exchanges or transfers pursuant to Section 3,4(c)(3) of the Indenture)

The Bank of New York Mellon
101 Barclay Street
Floor 7 East
New York, New York 10286
Attention: International Corporate Trust

Re: VM Holding S.A.
5.375% Notes due 2027 (the "Notes")

Reference is hereby made to the Indenture, dated as of May 4, 2017 (the "Indenture"), among VM Holding S.A., as Issuer, Votorantim Metais — Cajamarquilla S.A., Compañia Minera Milpo S.A.A. and Votorantim Metais Zinco S.A., as Guarantors, and The Bank of New York Mellon, a New York banking corporation, as trustee (the "Trustee"), as principal paying agent (the "Principal Paying Agent"), as transfer agent (the "Transfer Agent") and registrar (the "Security Registrar"). Capitalized terms used but not defined herein shall have the meanings given to them in the Indenture.

This letter relates to U.S.$[ ] principal amount of Notes which are evidenced by an aggregate Regulation S Global Note (CUSIP No. P98118 AA3 / ISIN No. USP98118AA38 / Common Code 159599370) and held with the Depositary through [Euroclear] [Clearstream] in the name of [*insert name of transferor*] (the "Transferor"). The Transferor has requested a transfer of such beneficial interest in Notes to a person that will take delivery thereof in the form of an equal principal amount of Notes evidenced by a Restricted Global Note of the same series and of like tenor as the Notes (CUSIP No. 91832C AA4 / ISIN No. US91832CAA45 / Common Code 159599248).

In connection with such request and in respect of such Notes, the Transferor does hereby certify that such transfer is being effected pursuant to and in accordance with Rule 144A under the Securities Act and, accordingly, the Transferor does hereby further certify that the Notes are being transferred to a Person that the Transferor reasonably believes is purchasing the Notes for its own account, or for one or more accounts with respect to which such person exercises sole investment discretion, and such person and each such account is

a "qualified institutional buyer" within the meaning of Rule 144A, in each case in a transaction meeting the requirements of Rule 144A and in accordance with any applicable securities laws of any state of the United States.

This certificate and the statements contained herein are made for your benefit and the benefit of the Issuer and the Guarantors.

[INSERT NAME OF TRANSFEROR]

By: ______________________________
Name:
Title:

Dated: ______________________________

cc: VM Holding S.A.

EXHIBIT C-1

FORM OF CERTIFICATION FOR TRANSFER
OR EXCHANGE OF NON-GLOBAL RESTRICTED NOTE TO
RESTRICTED GLOBAL NOTE
(Transfers and exchanges pursuant to
Section 3.4(c)(4) of the Indenture)

The Bank of New York Mellon
101 Barclay Street
Floor 7 East
New York, New York 10286
Attention: International Corporate Trust

Re: VM Holding S.A.
5.375% Notes due 2027 (the "Notes")

Reference is hereby made to the Indenture, dated as of May 4, 2017 (the "Indenture"), among VM Holding S.A., as Issuer, Votorantim Metais — Cajamarquilla S.A., Compañia Minera Milpo S.A.A. and Votorantim Metais Zinco S.A., as Guarantors, and The Bank of New York Mellon, a New York banking corporation, as trustee (the "Trustee"), as principal paying agent (the "Principal Paying Agent"), as transfer agent (the "Transfer Agent") and registrar (the "Security Registrar"). Capitalized terms used but not defined herein shall have the meanings given to them in the Indenture.

This letter relates to U.S.$[ ] principal amount of Restricted Notes held in definitive form (CUSIP No. 91832C AA4 / ISIN No. US91832CAA45 / Common Code 159599248) by [*insert name of transferor*] (the "Transferor"). The Transferor has requested an exchange or transfer of such Notes.

In connection with such request and in respect of such Notes, the Transferor does hereby certify that (i) such Notes are owned by the Transferor and are being exchanged without transfer or (ii) such transfer has been effected pursuant to and in accordance with Rule 144A or Rule 144 under the United States Securities Act of 1933, as amended (the "Securities Act") and accordingly the Transferor does hereby further certify that:

(A) the Notes are being transferred to a person that the Transferor reasonably believes is purchasing the Notes for its own account, or for one or more accounts with respect to which such Person exercises sole investment discretion;

(B) such Person and each such account is a "qualified institutional buyer" within the meaning of Rule 144A; and

(C) the Notes have been transferred in a transaction meeting the requirements of Rule 144A and in accordance with any applicable securities laws of any state of the United States.

We understand that this certificate is required in connection with certain securities laws of the United States. In connection therewith, if administrative or legal proceedings are commenced or threatened in connection with which this certificate is or would be relevant, we irrevocably authorize you to produce this certificate to any interested party in such proceeding. This certificate and the statements contained herein are made for your benefit and the benefit of the Issuer and the Guarantors.

[INSERT NAME OF TRANSFEROR]

By: ______________________________
Name:
Title:

Dated: ______________________________

cc: VM Holding S.A.

EXHIBIT C-2

FORM OF CERTIFICATION FOR TRANSFER OR EXCHANGE OF NON-GLOBAL RESTRICTED NOTE TO REGULATION S GLOBAL NOTE

(Transfers and exchanges pursuant to Section 3.4(c)(4) of the Indenture)

The Bank of New York Mellon
101 Barclay Street
Floor 7 East
New York, New York 10286
Attention: International Corporate Trust

Re: VM Holding S.A.
5.375% Notes due 2027 (the "Notes")

Reference is hereby made to the Indenture, dated as of May 4, 2017 (the "Indenture"), among VM Holding S.A., as Issuer, Votorantim Metais — Cajamarquilla S.A., Compañia Minera Milpo S.A.A. and Votorantim Metais Zinco S.A., as Guarantors, and The Bank of New York Mellon, a New York banking corporation, as trustee (the "Trustee"), as principal paying agent (the "Principal Paying Agent"), as transfer agent (the "Transfer Agent") and registrar (the "Security Registrar"). Capitalized terms used but not defined herein shall have the meanings given to them in the Indenture.

This Letter relates to U.S.$[   ] principal amount of Restricted Notes held in definitive form (CUSIP No. 91832C AA4 / ISIN No. US91832CAA45 / Common Code 159599248) by [*insert name of transferor*] (the "Transferor"). The Transferor has requested an exchange or transfer of such Notes.

In connection with such request and in respect of such Notes, the Transferor does hereby certify that (i) such Notes are owned by the Transferor and are being exchanged without transfer or (ii) such transfer has been effected pursuant to and in accordance with (a) Rule 903 or Rule 904 under the Securities Act of 1933, as amended (the "Act"), or (b) Rule 144 under the Act, and accordingly the Transferor does hereby further certify that:

(A) the offer of the Notes was not made to a person in the United States; (B) either:

(i) at the time the buy order was originated, the transferee was outside the United States or the Transferor and any person acting on its behalf reasonably believed that the transferee was outside the United States, or

(ii) the transaction was executed in, on or through the facilities of a designated offshore securities market and neither the Transferor nor any person acting on its behalf knows that the transaction was pre-arranged with a buyer in the United States;

(C) no directed selling efforts have been made in contravention of the requirements of Rule 903(a)(2) or 904(b)(2)) of Regulation S, as applicable; and

(D) the transaction is not part of a plan or scheme to evade the registration requirements of the Act.

We understand that this certificate is required in connection with certain securities laws of the United States. In connection therewith, if administrative or legal proceedings are commenced or threatened in connection with which this certificate is or would be relevant, we irrevocably authorize you to produce this certificate to any interested party in such proceeding. This certificate and the statements contained herein are made for your benefit and the benefit of the Issuer and the Guarantors.

[INSERT NAME OF TRANSFEROR]

By: ______________________________
Name:
Title:

Dated: ______________________________

cc: VM Holding S.A.

EXHIBIT D-l

FORM OF CERTIFICATION FOR TRANSFER
OR EXCHANGE OF NON-GLOBAL REGULATION S
NOTE TO RESTRICTED GLOBAL NOTE
(Transfers and exchanges pursuant to
Section 3.4(c)(5) of the Indenture)

The Bank of New York Mellon
101 Barclay Street
Floor 7 East
New York, New York 10286
Attention: International Corporate Trust

Re: VM Holding S.A.
5.375% Notes due 2027 (the "Notes")

Reference is hereby made to the Indenture, dated as of May 4, 2017 (the "Indenture"), among VM Holding S.A., as Issuer, Votorantim Metais — Cajamarquilla S.A., Compañia Minera Milpo S.A.A. and Votorantim Metais Zinco S.A., as Guarantors, and The Bank of New York Mellon, a New York banking corporation, as trustee (the "Trustee"), as principal paying agent (the "Principal Paying Agent"), as transfer agent (the "Transfer Agent") and registrar (the "Security Registrar"). Capitalized terms used but not defined herein shall have the meanings given to them in the Indenture.

This letter relates to U.S.$[   ] principal amount of Regulation S Global Notes held in definitive form (CUSIP No. P98118 AA3 / ISIN No. USP98118AA38 / Common Code 159599248) by [insert name of transferor] (the "Transferor"). The Transferor has requested an exchange or transfer of such Notes.

In connection with such request and in respect of such Notes, the Transferor does hereby certify that (i) such Notes are owned by the Transferor and are being exchanged without transfer or (ii) such transfer has been effected pursuant to and in accordance with Rule 144A under the United States Securities Act of 1933, as amended, and accordingly the Transferor does hereby further certify that the Notes are being transferred to a person that the Transferor reasonably believes is purchasing the Notes for its own account, or for one or more accounts with respect to which such Person exercises sole investment discretion, and such Person and each such account is a "qualified institutional buyer" within the meaning of Rule 144A, in each case in a transaction meeting the requirements of Rule 144A and in accordance with any applicable securities laws of any state of the United States.

We understand that this certificate is required in connection with certain securities laws of the United States. In connection therewith, if administrative or legal proceedings are commenced or threatened in connection with which this certificate is or would be relevant, we irrevocably authorize you to produce this certificate to any interested party in such proceeding. This certificate and the statements contained herein are made for your benefit and the benefit of the Issuer and the Guarantors.

[INSERT NAME OF TRANSFEROR]

By: ______________________________
Name:
Title:

Dated: ______________________________

cc: VM Holding S.A.

EXHIBIT D-2

FORM OF CERTIFICATION FOR TRANSFER
OR EXCHANGE OF NON-GLOBAL REGULATION S
NOTE TO REGULATION S GLOBAL NOTE
(Transfers and exchanges pursuant to
Section 3.4(c)(5) of the Indenture)

The Bank of New York Mellon
101 Barclay Street
Floor 7 East
New York, New York 10286
Attention: International Corporate Trust

Re: VM Holding S.A.
5.375% Notes due 2027 (the "Notes")

Reference is hereby made to the Indenture, dated as of May 4, 2017 (the "Indenture"), among VM Holding S.A., as Issuer, Votorantim Metais — Cajamarquilla S.A., Compañia Minera Milpo S.A.A. and Votorantim Metais Zinco S.A., as Guarantors, and The Bank of New York Mellon, a New York banking corporation, as trustee (the "Trustee"), as principal paying agent (the "Principal Paying Agent"), as transfer agent (the "Transfer Agent") and registrar (the "Security Registrar"). Capitalized terms used but not defined herein shall have the meanings given to them in the Indenture.

This letter relates to U.S.$[   ] principal amount of Regulation S Global Notes held in definitive form (CUSIP No. P98118 AA3 / ISIN No. USP98118AA38 / Common Code 159599370) by [*insert name of transferor*] (the "Transferor"). The Transferor has requested an exchange or transfer of such Notes.

In connection with such request and in respect of such Notes, the Transferor does hereby certify that (i) such Notes are owned by the Transferor and are being exchanged without transfer or (ii) such transfer has been effected pursuant to and in accordance with (a) Rule 903 or Rule 904 under the Securities Act of 1933, as amended (the "Act"), or (b) Rule 144 under the Act, and accordingly the Transferor does hereby further certify that:

(A) the offer of the Notes was not made to a person in the United States; (B) either:

(i) at the time the buy order was originated, the transferee was outside the United States or the Transferor and any person acting on its behalf reasonably believed that the transferee was outside the United States, or

(ii) the transaction was executed in, on or through the facilities of a designated offshore securities market and neither the Transferor nor any person acting on its behalf knows that the transaction was pre-arranged with a buyer in the United States;

(C) no directed selling efforts have been made in contravention of the requirements of Rule 903(a)(2) or 904(b)(2) of Regulation S, as applicable; and

(D) the transaction is not pan of a plan or scheme to evade the registration requirements of the Act.

We understand that this certificate is required in connection with certain securities laws of the United States. In connection therewith, if administrative or legal proceedings are commenced or threatened in connection with which this certificate is or would be relevant, we irrevocably authorize you to produce this certificate to any interested party in such proceeding. This certificate and the statements contained herein are made for your benefit and the benefit of the Issuer and the Guarantors.

[INSERT NAME OF TRANSFEROR]

By: ______________________________
Name:
Title:

Dated: ______________________________

cc: VM Holding S.A.

EX-4.2 4 a2233300zex-4_2.htm EX-4.2

Exhibit 4.2

EXECUTION COPY

COMPAÑÍA MINERA MILPO S.A.A.
as Issuer

DEUTSCHE BANK TRUST COMPANY AMERICAS
as Trustee, Registrar, Paying Agent and Transfer Agent

and

DEUTSCHE BANK LUXEMBOURG S.A.
as Luxembourg Paying Agent

INDENTURE

Dated as of March 28, 2013

4.625% SENIOR NOTES DUE 2023

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EXHIBIT A Form of Note

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INDENTURE, dated as of March 28, 2013, between Compañía Minera Milpo S.A.A., a *sociedad anónima abierta* incorporated and existing under the laws of the Republic of Peru (the "Company"), Deutsche Bank Trust Company Americas, a corporation organized under the laws of the State of New York and authorized to conduct a banking business, as trustee (the "Trustee"), registrar, paying agent and transfer agent, and Deutsche Bank Luxembourg S.A., as Luxembourg paying agent (the "Luxembourg Paying Agent").

Each party agrees as follows for the benefit of the other parties and of the Holders of the Initial Notes and any Additional Notes (in each case as defined herein):

ARTICLE I

DEFINITIONS AND INCORPORATION BY REFERENCE

Section 1.1 Definitions.

"Additional Amounts" has the meaning set forth under Section 3.12(a).

"Additional Note Board Resolutions" means resolutions duly adopted by the Board of Directors of the Company and delivered to the Trustee in an Officers' Certificate providing for the issuance of Additional Notes.

"Additional Note Supplemental Indenture" means a supplement to this Indenture duly executed and delivered by the Company and the Trustee pursuant to Article IX providing for the issuance of Additional Notes.

"Additional Notes" means any additional Notes as specified in the relevant Additional Note Board Resolutions or Additional Note Supplemental Indenture issued therefor in accordance with this Indenture.

"Affiliate" means, with respect to any specified Person, (a) any other Person which, directly or indirectly, is in control of, is controlled by or is under common control with such specified Person or (b) any other Person who is a director or officer (i) of such specified Person, (ii) of any subsidiary of such specified Person or (iii) of any Person described in clause (a) above. For purposes of this definition, control of a Person means the power, direct or indirect, to direct or cause the direction of the management and policies of such Person whether by contract or otherwise and the terms "controlling" and "controlled" have meanings correlative to the foregoing.

"Agent Members" has the meaning assigned to it in Section 2.7(b).

"Authenticating Agent" has the meaning assigned to it in Section 2.2(d).

"Authorized Agent" has the meaning assigned to it in Section 11.6(d).

"Bankruptcy Law" means Title 11, U.S. Code or any similar U.S. federal or state law or non-U.S. law for the relief of debtors, including the Peruvian Law No. 27809 (L*ey General del Sistema Concursal*).

"Board of Directors" means, with respect to any Person, the board of directors or similar governing body of such Person or any duly authorized committee thereof.

"Board Resolution" means, with respect to any Person, a copy of a resolution certified by the Secretary or an Assistant Secretary of such Person to have been duly adopted by the Board of Directors of such Person and to be in full force and effect on the date of such certification, and delivered to the Trustee.

"Business Day" means a day other than a Saturday, Sunday or any day on which banking institutions are authorized or required by law to close in New York City, United States or in Lima, Peru.

"Capital Lease Obligations" means, with respect to any Person, any obligation which is required to be classified and accounted for as a capital lease on the face of a balance sheet of such Person prepared in accordance with IFRS; the amount of such obligation will be the capitalized amount thereof, determined in accordance with IFRS; and the Stated Maturity thereof will be the date of the last payment of rent or any other amount due under such lease prior to the first date upon which such lease may be terminated by the lessee without payment of a penalty.

"Capital Stock" means, with respect to any person, any and all shares of stock, interests, rights to purchase, warrants, options, participations or other equivalents of or interests in (however designated, whether voting or non-voting), such person's equity including any preferred stock, but excluding any debt securities convertible into or exchangeable for such equity.

"Certificated Note" means any Note issued in fully-registered certificated form (other than a Global Note), which shall be substantially in the form of Exhibit A, with appropriate legends as specified in Section 2.8 and Exhibit A.

"Change of Control" means if any "p*erson*" or "*group*" (as such terms are used for purposes of Sections 13(d) and 14(d) of the Exchange Act), other than one or more Permitted Holders, is or becomes the "*beneficial owner*" (as such term is used in Rule 13d-3 under the Exchange Act) of more than 50% of the total voting power of the Voting Stock of the Company.

"Change of Control Notice" means notice of a Change of Control Offer made by the Company pursuant to Section 3.9, which shall be sent in accordance with Section 11.1, which notice shall govern the terms of the Change of Control Offer and shall state:

(1) that a Change of Control that results in a Ratings Decline has occurred, the circumstances or events causing such Change of Control that results in a Ratings Decline, that a Change of Control Offer is being made pursuant to Section 3.9, and that all Notes or portions thereof that are properly tendered and not withdrawn shall be accepted for payment;

(2) the Change of Control Payment;

(3) an expiration date not less than 30 days or more than 60 days after the date of the offer (the "Expiration Date");

(4) the settlement date for purchase (the "Purchase Date") not more than five Business Days after the Expiration Date;

(5) that on the Purchase Date, the purchase price will become due and payable on each Note accepted for payment;

(6) that any Notes or portions thereof not tendered or accepted for payment shall continue to accrue interest;

(7) that, unless the Company defaults in the payment of the Change of Control Payment with respect thereto, all Notes or portions thereof accepted for payment pursuant to the Change of Control Offer shall cease to accrue interest from and after the Purchase Date;

(8) that any Holder electing to have any Notes or portions thereof purchased pursuant to a Change of Control Offer shall be required to surrender such Notes, with the form entitled "Option of Holder to Elect Purchase" on the reverse of such Notes completed, to the Paying Agent at the address specified in the notice prior to the close of business on the third Business Day preceding the Purchase Date;

(9) that any Holder shall be entitled to withdraw such election if the Paying Agent receives, not later than the close of business on the third Business Day preceding the Purchase Date, a facsimile transmission or letter, setting forth the name of the Holder, the principal amount of Notes delivered for purchase, and a statement that such Holder is withdrawing such Holder's election to have such Notes or portions thereof purchased pursuant to the Change of Control Offer;

(10) that any Holder electing to have Notes purchased pursuant to the Change of Control Offer must specify the principal amount that is being tendered for purchase, which principal amount must be U.S.$200,000 or an integral multiple of U.S.$1,000 in excess thereof;

(11) that any Holder of Certificated Notes whose Certificated Notes are being purchased only in part shall be issued new Certificated Notes equal in principal amount to the unpurchased portion of the Certificated Note or Notes surrendered, which unpurchased portion shall be equal in principal amount to U.S.$200,000 or an integral multiple of U.S.$1,000 in excess thereof;

(12) that the Trustee shall return to the Holder of a Global Note that is being purchased in part, such Global Note with a notation on the schedule of increases and decreases thereof adjusting the principal amount thereof to be equal to the unpurchased portion of such Global Note; and

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(13) any other information necessary to enable any Holder to tender Notes and to have such Notes purchased pursuant to Section 3.9.

If such Change of Control Notice is given prior to the date of consummation of the Change of Control, it shall state that the Change of Control Offer is conditioned on the Change of Control occurring on or prior to the Purchase Date.

"Change of Control Offer" has the meaning assigned to it in Section 3.9(b).

"Change of Control Payment" has the meaning assigned to it in Section 3.9(a).

"Closing Date" means the date that the Initial Notes under this Indenture are issued.

"Company" means the party named as such in the introductory paragraph to this Indenture and its successors and assigns, including any Surviving Entity.

"Company Order" has the meaning assigned to it in Section 2.2(c).

"Consolidated Total Assets" means the total assets of the Company and its Subsidiaries, based (i) on the balance sheet for the fiscal quarter most recently ended for which internal financial statements are available, (ii) in accordance with IFRS and (iii) on a pro forma basis to give effect to any acquisition or disposition of companies, divisions, lines of businesses or operations by the Company and its Subsidiaries subsequent to such date and on or prior to the date of determination.

"Corporate Trust Office" means the principal office of the Trustee at which at any time its corporate trust business shall be administered, which office at the date hereof is located at 60 Wall Street, Mailstop NYC 60-2710, New York, NY 10005, for all other purposes, or such other address as the Trustee may designate from time to time by notice to the Holders and the Company, or the principal Corporate Trust Office of any successor Trustee (or such other address as such successor Trustee may designate from time to time by notice to the Holders and the Company).

"Covenant Defeasance" has the meaning assigned to it in Section 8.1(c).

"Debt" means, with respect to any Person (a "Debtor"), without duplication:

(1) the principal in respect of (i) indebtedness of such Person for money borrowed and (ii) indebtedness evidenced by Notes, debentures, bonds or other similar instruments for the payment of which such Person is responsible or liable (but excluding trade accounts payable or other short-term obligations to suppliers or customers payable within 360 days, in each case arising in the ordinary course of business);

(2) all Capital Lease Obligations of such Person;

(3) all obligations of such Person issued or assumed as the deferred purchase price of property, all conditional sale obligations of such Person and all obligations of such Person under any title retention agreement (but excluding trade accounts payable or accrued liabilities arising in the ordinary course of business which are payable on customary trade terms or which are being contested in good faith);

(4) all obligations of such Person for the reimbursement of any obligor on any letter of credit, banker's acceptance or similar credit transaction (other than obligations with respect to letters of credit securing obligations (other than obligations described in clauses (1) through (3) above) entered into in the ordinary course of business of such Person to the extent such letters of credit are not drawn upon or, if and to the extent drawn upon, such drawing is reimbursed no later than the tenth Business Day following receipt by such Person of a demand for reimbursement following payment on the letter of credit);

(5) all Hedging Obligations;

(6) all obligations of the type referred to in clauses (1) through (4) above of other Persons for the payment of which such Person is responsible or liable as obligor or guarantor (other than obligations of other Persons that are customers or suppliers of such Person for which such Person is or becomes so responsible or liable in the ordinary course of business to (but only to) the extent that such Person does not, or is not required to, make payment in respect thereof); and

(7) all obligations of the type referred to in clauses (1) through (5) above of other Persons secured by any Lien on any property or asset of such Debtor other than the Capital Stock of such other Person (whether or not such obligation is assumed by such Debtor), the amount of such obligation being deemed to be the lesser of the value of such property or assets and the amount of the obligation so secured;

if and to the extent any of the preceding items (other than letters of credit and Hedging Obligations) would appear as a liability upon a balance sheet of the specified Person prepared in accordance with IFRS.

"Default" means any event which is, or after notice or passage of time or both would be, an Event of Default.

"Defaulted Interest" has the meaning assigned to it in paragraph 1 of the Form of Reverse Side of Note contained in Exhibit A.

"Distribution Compliance Period" means, with respect to any Regulation S Global Note, the 40 consecutive days beginning on and including the later of (a) the day on which any Notes represented thereby are offered to Persons other than distributors (as defined in

Regulation S under the Securities Act) pursuant to Regulation S and (b) the issue date for such Notes.

"DTC" means The Depository Trust Company, its nominees and their respective successors and assigns, or such other depositary institution hereinafter appointed by the Company that is a clearing agency registered under the Exchange Act.

"Event of Default" has the meaning assigned to it in Section 6.1(a).

"Exchange Act" means the U.S. Securities Exchange Act of 1934, as amended, or any successor statute or statutes thereto.

"Expiration Date" has the meaning assigned to it in the definition of "Change of Control Notice" in this Section 1.1.

"Fitch" means Fitch, Inc., or any successor thereto.

"Global Note" means any Note issued in fully-registered, global form to DTC (or its nominee), as depositary for the beneficial owners thereof, which shall be substantially in the form of Exhibit A, with appropriate legends as specified in Section 2.8 and Exhibit A.

"Governmental Authority" means any government, court, tribunal, arbitrator, authority, agency, commission, official or other instrumentality of any country, state, county, city or other political subdivision, having jurisdiction over the matter or matters in question.

"Guarantee" means any obligation, contingent or otherwise, of any Person directly or indirectly guaranteeing any Debt or other obligation of any Person and any obligation, direct or indirect, contingent or otherwise, of such Person (a) to purchase or pay (or advance or supply funds for the purchase or payment of) such Debt or other obligation of such Person (whether arising by virtue of partnership arrangements, or by agreement to keep-well, to purchase assets, goods, securities or services, to take-or-pay, or to maintain financial statement conditions or otherwise) or (b) entered into for purposes of assuring in any other manner the obligee of such Debt or other obligation of the payment thereof or to protect such obligee against loss in respect thereof (in whole or in part); *provided, however*, that the term "Guarantee" will not include endorsements for collection or deposit in the ordinary course of business. The term "Guarantee" used as a verb has a corresponding meaning.

"Hedging Obligations" means, with respect to any Person, the net amount, exclusive of any commissions or administrative fees, that such Person would be obligated to pay upon termination of any swap agreement, exchange agreement, option, forward or futures contract or other similar agreement or arrangement designed to protect such Person against changes in commodities prices, interest rates or foreign exchange rates.

"Holder" means the Person in whose name a Note is registered in the Note Register.

"IFRS" means International Financial Reporting Standards, as issued and interpreted by the International Accounting Standards Board (IASB), as in effect from time to time.

"Indenture" means this Indenture, as amended or supplemented from time to time, including the Exhibits hereto, and any supplemental indenture hereto.

"Initial Notes" means any of the Company's 4.625% Senior Notes due 2023 issued on the Issue Date, and any replacement Notes issued therefor in accordance with this Indenture.

"Interest Payment Date" means the stated due date of an installment of interest on the Notes as specified in the Form of Face of Note contained in Exhibit A.

"Investment Grade" means any of (i) BBB- or higher by Standard & Poor's, or (ii) Baa3 or higher by Moody's or (iii) BBB- or higher by Fitch, or the equivalent of such global ratings by any of Standard & Poor's, Moody's, Fitch or any other Rating

Agency.

"Issue Date" means the date of this Indenture (being the original issue date of Notes hereunder).

"Issuer Substitution Documents" has the meaning set forth under Section 10.1(a).

"Legal Defeasance" has the meaning assigned to it in Section 8.1(b).

"Legal Holiday" has the meaning assigned to it in Section 11.5.

"Lien" means any mortgage, pledge, security interest, conditional sale or other title retention agreement or other similar Lien; *provided* that the lessee in respect of a Capital Lease Obligation or Sale and Leaseback Transaction will be deemed to have incurred a Lien on the property leased thereunder; *provided* that in no event shall an operating lease be deemed to constitute a Lien.

"Luxembourg" means the Grand Duchy of Luxembourg.

"Luxembourg Paying Agent" means the party named as such in the introductory paragraph of this Indenture until such party resigns or is removed by the Company from such role; *provided* that, if such party is replaced by a successor in accordance with the terms of this Indenture, "Luxembourg Paying Agent" shall thereafter mean such successor.

"Moody's" means Moody's Investors Service, Inc., or any successor thereto.

"Maturity Date" means, when used with respect to any Note, the date on which the principal of such Note becomes due and payable as therein or herein provided, whether at Stated Maturity or by declaration of acceleration, call for redemption, exercise of the repurchase right or otherwise.

"Non-U.S. Person" means a person who is not a U.S. person, as defined in Regulation S.

"Note Custodian" means the custodian with respect to any Global Note appointed by DTC, or any successor Person thereto, and shall initially be the Trustee.

"Note Register" has the meaning assigned to it in Section 2.3(a).

"Notes" means, collectively, the Initial Notes and any Additional Notes issued under this Indenture.

"Offering Memorandum" means the Company's offering memorandum dated March 21, 2013, used in connection with the Original Offering of Notes.

"Officer" means, when used in connection with any action to be taken by the Company or Subsidiary, the Chairman of the Board, the Chief Executive Officer, the Chief Operating Officer, the Chief Financial Officer, the Director of Corporate Finance, the Chief Legal Officer, the Treasurer or any Assistant Treasurer and the Secretary or any Assistant Secretary (or, in each case, the officers of the Company with equivalent positions).

"Officers' Certificate" means, when used in connection with any action to be taken by the Company or Subsidiary, a certificate signed by two Officers of the Company or such Subsidiary, and delivered to the Trustee.

"Opinion of Counsel" means an opinion in writing signed by internationally recognized legal counsel.

"Original Offering of Notes" means the original private offering of the Initial Notes, which were issued on the Issue Date.

"Outstanding" means, as of the date of determination, all Notes theretofore authenticated and delivered under this Indenture, *except*:

(1) Notes theretofore canceled by the Trustee or delivered to the Trustee for cancellation;

(2) Notes, or portions thereof, for payment, redemption or, in the case of a Change of Control Offer, purchase of, which money in the necessary amount has been theretofor deposited with the Trustee or any Paying Agent (other than the Company or an Affiliate of the Company) in trust or set aside and segregated in trust by the Company or an Affiliate of the Company (if the Company or such Affiliate of the Company is acting as Paying Agent) for the Holders of such Notes; *provided* that, if Notes are to be redeemed or purchased, notice of such redemption or purchase has been duly given pursuant to this Indenture or provision therefor reasonably satisfactory to the Trustee has been made;

(3) Notes which have been surrendered pursuant to Section 2.10 or in exchange for or in lieu of which other Notes have been authenticated and delivered

pursuant to this Indenture, other than any such Notes in respect of which there shall have been presented to the Trustee proof satisfactory to it that such Notes are held by a protected purchaser in whose hands such Notes are valid obligations of the Company; and

(4) solely to the extent provided in Article VIII, Notes which are subject to Legal Defeasance or Covenant Defeasance as provided in Article VIII;

provided, *however*, that in determining whether the Holders of the requisite aggregate principal amount of the Outstanding Notes have given any request, demand, authorization, direction, notice, consent or waiver hereunder, Notes owned by the Company or any other obligor under the Notes or any Affiliate of the Company or of such other obligor shall be disregarded and deemed not to be Outstanding, except that, in determining whether the Trustee shall be protected in relying upon any such request, demand, authorization, direction, notice, consent or waiver, only Notes which a Trust Officer of the Trustee actually knows to be so owned shall be so disregarded. Notes so owned which have been pledged in good faith may be regarded as Outstanding if the pledgee establishes to the satisfaction of the Trustee the pledgee's right so to act with respect to such Notes and that the pledgee is not the Company or any other obligor upon the Notes or any Affiliate of the Company or of such other obligor.

"Paying Agent" has the meaning assigned to it in Section 2.3(a).

"Payment Default" has the meaning set forth under Section 6.1(a)(iv).

"Permitted Holder" means each of (i) Hejoassu Administração S.A. and its Subsidiaries, (ii) any of Mr. Antonio Ermírio de Moraes, Mr. Ermírio Pereira de Moraes, Mrs. Maria Helena de Moraes Scripilliti and Mr. José Ermírio de Moraes Filho and any of their descendants, (iii) any Affiliate of any of the foregoing referred to in clauses (i) and (ii), and (iv) any corporation, partnership, joint venture, association, trust, unincorporated organization, or any other entity or group formed pursuant to a shareholders, control or voting agreement or similar agreement, of which any one or more of the Permitted Holders referred to in clauses (i), (ii) or (iii) hereof is a shareholder, partner, beneficiary, member or party.

"Person" means any corporation, partnership, joint venture, trust, limited liability company or unincorporated organization.

"Peru" means the Republic of Perú.

"Post-Petition Interest" means all interest accrued or accruing after the commencement of any insolvency or liquidation proceeding (and interest that would accrue but for the commencement of any insolvency or liquidation proceeding) in accordance with and at the contract rate (including, without limitation, any rate applicable upon default) specified in the agreement or instrument creating, evidencing or governing any Debt, whether or not, pursuant to applicable law or otherwise, the claim for such interest is allowed as a claim in such insolvency or liquidation proceeding.

"Private Placement Legend" has the meaning assigned to it in Section 2.8(b).

"Purchase Date" has the meaning assigned to it in the definition of "Change of Control Notice" in this Section 1.1.

"QIB" means any "qualified institutional buyer" (as defined in Rule 144A).

"Rating Agency" means each of (i) Standard & Poor's, (ii) Moody's and (iii) Fitch, or their respective successors. In the event that any of S&P, Moody's or Fitch is no longer in existence or issuing ratings, such organization may be replaced by a nationally recognized United States securities rating agency or agencies, as the case may be, designated by the Company with notice to the Trustee.

"Ratings Decline" means that at any time within 90 days after the earlier of the date of public notice of a Change of Control and the date on which the Company or any other Person publicly declares its intention to effect a Change of Control, (i) in the event the Notes are assigned an Investment Grade rating by at least two of the Rating Agencies prior to such public notice or declaration, the rating assigned to the Notes by at least two of the Rating Agencies is below an Investment Grade rating and none of the Rating Agencies assign an Investment Grade rating to the Notes; or (ii) in the event the ratings assigned to the Notes by at least two of the Rating Agencies prior to such public notice or declaration are below an Investment Grade rating and none of the Rating Agencies assign an Investment Grade rating to the Notes, the rating assigned to the Notes by at least two of the Rating Agencies is decreased by one or more categories (*i.e.*, notches); *provided* that, in each case, any such Ratings Decline is expressly stated by the applicable Rating Agencies to have been the result of the Change of Control.

"Record Date" has the meaning assigned to it in the Form of Face of Note contained in Exhibit A.

"Redemption Date" means, with respect to any redemption of Notes, the date fixed for such redemption pursuant to this Indenture and the Notes.

"Registrar" has the meaning assigned to it in Section 2.3(a).

"Regulation S" means Regulation S under the Securities Act or any successor regulation.

"Regulation S Global Note" has the meaning assigned to it in Section 2.1(e).

"Relevant Taxes" has the meaning assigned to it in Section 3.12(a).

"Resale Restriction Termination Date" means, for any Restricted Note (or beneficial interest therein), one year (or such other period specified in Rule 144(k)) from the Issue Date or, if any Additional Notes that are Restricted Notes have been issued before the Resale Restriction Termination Date for any Restricted Notes, from the latest such original issue date of such Additional Notes.

"Restricted Note" means any Initial Note (or beneficial interest therein) or any Additional Note (or beneficial interest therein), until such time as:

(1) the Resale Restriction Termination Date therefor has passed;

(2) such Note is a Regulation S Global Note and the Distribution Compliance Period therefor has terminated; or

(3) the Private Placement Legend therefor has otherwise been removed pursuant to Section 2.9(e) or, in the case of a beneficial interest in a Global Note, such beneficial interest has been exchanged for an interest in a Global Note not bearing a Private Placement Legend.

"Restricted Property" means any mineral property, concentrate plant, power plant or transmission lines of the Company or any Significant Subsidiary and any capital stock of any subsidiary directly owning any such mineral property, power plant or transmission lines. This term excludes any mineral property, concentrate plant, power plant or transmission lines of the Company or any Significant Subsidiary that in the good faith opinion of the Company's board of directors is not materially important to the total business conducted by the Company and its Subsidiaries, taken as a whole.

"Rule 144" means Rule 144 under the Securities Act (or any successor rule).

"Rule 144A" means Rule 144A under the Securities Act (or any successor rule).

"Rule 144A Global Note" has the meaning assigned to it in Section 2.1(d).

"Sale and Leaseback Transaction" means any direct or indirect arrangement with any Person or to which any such Person is a party providing for the leasing to the Company or a Subsidiary of any property, whether owned by the Company or any Subsidiary at the Closing Date or later acquired, which has been or is to be sold or transferred by the Company or such Subsidiary to such Person or to any other Person by whom funds have been or are to be advanced on the security of such property.

"SEC" means the U.S. Securities and Exchange Commission.

"Securities Act" means the U.S. Securities Act of 1933, as amended.

"Significant Subsidiary" means any Subsidiary of the Company which at the time of determination either (i) had assets which, based on the consolidated balance sheet of the Company for the fiscal quarter most recently ended for which internal financial statements are available, constituted at least 10% of the Company's total assets on a consolidated basis as of such date or (ii) had revenues for the twelve-month period which, based on the consolidated income statements of the Company for the fiscal quarter most recently ended for which internal financial statements are available, constituted at least 10% of the Company's total revenues on a consolidated basis for such period, in each case, (i) measured in accordance with IFRS and (ii) on a pro forma basis to give effect to any acquisition or disposition of companies, divisions, lines of businesses or operations by the Company and its Subsidiaries subsequent to such date and on or prior to the date of determination.

"SMV" means the *Superintendencia del Mercado de Valores* (Peruvian Securities Markets Superintendency), or any successor entity.

"Special Record Date" has the meaning assigned to it in Section 2.13(a).

"Standard & Poor's" means Standard & Poor's Ratings Services, or any successor thereto.

"Stated Maturity" means, with respect to any security, the date specified in such security as the fixed date on which the principal of such security is due and payable, including pursuant to any mandatory redemption provision (but excluding any provision providing for the repurchase of such security at the option of the Holder thereof upon the happening of any contingency unless such contingency has occurred).

"Subsidiary" means, with respect to any Person (the "parent") at any date, any corporation, limited liability company, partnership, association or other entity the accounts of which more than 50% of the outstanding Voting Stock is owned, directly or indirectly, by such Person or one or more Subsidiaries of such Person (or a combination thereof).

"Surviving Entity" has the meaning set forth under Section 4.1(a).

"Transfer Agent" has the meaning assigned to it in Section 2.3(a).

"Transparency Directive" has the meaning assigned to it in Section 3.11(a).

"Trust Officer" means, when used with respect to the Trustee, any officer within the corporate trust department (or any successor group of the Trustee) of the Trustee, having direct responsibility for the administration of this Indenture and also means, with respect to a particular corporate trust matter, any other officer to whom such matter is referred because of his or her knowledge of and familiarity with the particular subject and who shall have direct responsibility for the administration of this Indenture.

"Trustee" means the party named as such in the introductory paragraph of this Indenture until a successor replaces it in accordance with the terms of this Indenture and, thereafter, means the successor.

"U.S. Dollars" or "U.S.$" means such coin or currency of the United States of America as at the time of payment shall be legal tender for the payment of public and private debts.

"U.S. Government Obligations" means direct obligations (or certificates representing an ownership interest in such obligations) of the United States of America (including any agency or instrumentality thereof) for the payment of which the full faith and credit of the United States of America is pledged and which are not callable or redeemable at the issuer's option.

"Voting Stock" means, with respect to the Company as of any date, the Capital Stock of the Company that is at the time entitled to vote generally in the election of the board of

directors of the Company and in respect of other matters presented at shareholders' meetings of the Company.

"Wholly Owned Subsidiary" means any entity of which at least 95% of the outstanding Capital Stock or other ownership interests (other than directors' qualifying shares) of such entity shall at the time be owned, directly or indirectly, by another Person.

Section 1.2 Rules of Construction. Unless the context otherwise requires:

(1) a term has the meaning assigned to it;

(2) an accounting term not otherwise defined has the meaning assigned to it in accordance with IFRS;

(3) "or" is not exclusive;

(4) "including" means including without limitation;

(5) words in the singular include the plural and words in the plural include the singular;

(6) references to the payment of principal of the Notes shall include applicable premium, if any;

(7) references to payments on the Notes shall include Additional Amounts payable on the Notes, if any;

(8) all references to Sections or Articles refer to Sections or Articles of this Indenture;

(9) references to any law are to be construed as including all statutory and regulatory provisions or rules consolidating, amending, replacing, supplementing or implementing such law; and

(10) the term "obligor," when used with respect to the Notes, means the Company and any other obligor as of the date of this Indenture.

ARTICLE II

THE NOTES

Section 2.1 Form and Dating.

(a) The Initial Notes are being originally issued by the Company on the Issue Date. The Notes shall be issued in fully registered certificated global form without coupon, and in minimum denominations of U.S.$200,000 and integral multiples of U.S.$1,000 in excess thereof. The Notes and the certificate of authentication shall be substantially in the form of Exhibit A.

(b) The terms and provisions of the Notes, the form of which is in Exhibit A, shall constitute, and are hereby expressly made, a part of this Indenture, and, to the extent applicable, the Company and the Trustee, by their execution and delivery of this Indenture expressly agree to such terms and provisions and to be bound thereby. Except as otherwise expressly permitted in this Indenture, all Notes shall be identical in all respects. Notwithstanding any differences among them, all Notes issued under this Indenture shall vote and consent together on all matters as one class.

(c) The Notes may have notations, legends or endorsements as specified in Section 2.8 or as otherwise required by law, stock exchange rule or DTC rule or usage. The Company and the Trustee shall approve the form of the Notes and any notation, legend or endorsement on them. Each Note shall be dated the date of its authentication.

(d) Notes originally offered and sold to QIBs in reliance on Rule 144A shall be represented by one or more permanent Global Notes (which may be subdivided) in fully registered form without interest coupons (each, a "Rule 144A Global Note").

(e) Notes originally offered and sold outside the United States of America in reliance on Regulation S shall be represented by one or more permanent Global Notes (which may be subdivided) in fully registered form without interest coupons (each, a "Regulation S Global Note").

Section 2.2 Execution and Authentication.

(a) An Officer shall sign the Notes for the Company by manual or facsimile signature. If an Officer whose signature is on a Note no longer holds that office at the time the Trustee authenticates the Note, the Note shall be valid nevertheless.

(b) A Note shall not be valid until an authorized signatory of the Trustee manually authenticates the Note. The signature of the Trustee on the certificate of authentication on a Note shall be conclusive evidence that such Note has been duly and validly authenticated and issued under this Indenture.

(c) At any time and from time to time after the execution and delivery of this Indenture, the Trustee shall authenticate and make available for delivery Notes upon a written order of the Company signed by an Officer of the Company (the "Company Order"). A Company Order shall specify the amount of the Notes to be authenticated and the date on which such original issue of Notes is to be authenticated.

(d) The Trustee may appoint an agent (the "Authenticating Agent") reasonably acceptable to the Company to authenticate the Notes. Unless limited by the terms of such appointment, any such Authenticating Agent may authenticate Notes whenever the Trustee may do so. Each reference in this Indenture to authentication by the Trustee includes authentication by the Authenticating Agent.

(e) In case a Surviving Entity has executed an indenture supplemental hereto with the Trustee pursuant to Article IV, any of the Notes authenticated or delivered prior to such transaction may, from time to time, at the request of the Surviving Entity, be exchanged for other

Notes executed in the name of the Surviving Entity with such changes in phraseology and form as may be appropriate, but otherwise identical to the Notes surrendered for such exchange and of like principal amount; and the Trustee, upon Company Order of the Surviving Entity, shall authenticate and deliver Notes as specified in such order for the purpose of such exchange. If Notes shall at any time be authenticated and delivered in any new name of a Surviving Entity pursuant to this Section 2.2 in exchange or substitution for or upon registration of transfer of any Notes, such Surviving Entity, at the option of the Holders but without expense to them, shall provide for the exchange of all Notes at the time Outstanding for Notes authenticated and delivered in such new name.

(f) The Trustee and the Authenticating Agent shall have the right to decline to authenticate and deliver any Notes under this Section 2.2 if the Trustee in good faith determines that such action may not lawfully be taken or if the Trustee in good faith determines that such action would expose the Trustee or the Authenticating Agent to personal liability, unless indemnity and/or security satisfactory to the Trustee or the Authenticating Agent, as applicable, against such liability is provided to the Trustee or the Authenticating Agent, as applicable.

Section 2.3 Registrar, Transfer Agent and Paying Agent.

(a) Upon any issuance of individual definitive Notes, the Company shall maintain an office or agency in the Borough of Manhattan, City of New York, and, as long as the Notes are listed on the Luxembourg Stock Exchange for trading on the Euro MTF Market, in Luxembourg (which office or agency may be, in the case of presentment or surrender of the Notes for registration of transfer or for exchange and presentment for payment, the Corporate Trust Office of the Trustee or an Affiliate of the Trustee), where Notes may be presented or surrendered for registration of transfer or for exchange (the "Registrar" and "Transfer Agent," respectively) and where Notes may be presented for payment (the "Paying Agent"). The Registrar shall keep a register of the Notes and of their transfer and exchange (the "Note Register"). The Company may have one or more co-Registrars and one or more additional paying agents or transfer agents. The terms "Paying Agent" and "Transfer Agent" include any additional paying agent and any additional transfer agent, as the case may be.

(b) The Company shall enter into an appropriate agency agreement with any Registrar, Paying Agent, Transfer Agent or co-Registrar not a party to this Indenture. The agreement shall implement the provisions of this Indenture that relate to such agent. The Company shall notify the Trustee of the name and address of each such agent. If the Company fails to maintain a Registrar or Paying Agent, the Trustee shall act as such and shall be entitled to appropriate compensation therefor pursuant to <u>Section 7.7</u>. The Company or any of its Subsidiaries may act as Paying Agent, Registrar, co-Registrar or Transfer Agent.

(c) The Company initially appoints the Corporate Trust Office as Registrar, Paying Agent and Transfer Agent (and the Corporate Trust Office hereby accepts such appointment), until such time as another Person is appointed as such, and Deutsche Bank Luxembourg S.A., as Luxembourg Paying Agent (and Deutsche Bank Luxembourg S.A., hereby accepts such appointment), until such time as another Person is appointed as such.

(d) The Company shall, to the extent permitted by law, ensure that it maintains a Paying Agent in a Member State of the European Union that is not obliged to withhold or deduct tax pursuant to European Council Directive 2003/48/EC or any other directive implementing the conclusions of the European Union Council of Economic and Finance ("<u>ECOFIN</u>") council meeting of November 26-27, 2000 on the taxation of savings income or any law implementing or complying with, or introduced in order to conform to, such directive.

(e) In accordance with <u>Section 11.1</u>, the Company shall notify Holders of any change in respect to the Registrar, Paying Agent and Transfer Agent.

Section 2.4 <u>Paying Agent to Hold Money in Trust</u>. The Company shall require each Paying Agent (other than the Trustee) to agree that such Paying Agent shall hold in trust separate and apart from, and not commingle with any other properties, for the benefit of Holders or the Trustee all money held by such Paying Agent for the payment of principal of or interest on the Notes (whether such money has been distributed to it by the Company or any other obligor of the Notes) in accordance with the terms of this Indenture and shall notify the Trustee in writing of any Default by the Company (or any other obligor on the Notes) in making any such payment. If the Company or an Affiliate of the Company acts as Paying Agent, it shall segregate the money held by it as Paying Agent and hold it as a separate trust fund. The Company at any time may require a Paying Agent (other than the Trustee) to pay all money held by it to the Trustee and to account for any funds disbursed by such Paying Agent. Upon complying with this <u>Section 2.4</u>, the Paying Agent (if other than the Company) shall have no further liability for the money delivered to the Trustee. Upon any proceeding under any Bankruptcy Law with respect to the Company or any Affiliate of the Company, if the Company or such Affiliate is then acting as Paying Agent, the Trustee shall replace the Company or such Affiliate as Paying Agent.

The receipt by the Paying Agent or the Trustee from the Company of each payment of principal, interest and/or other amounts due in respect of the Notes in the manner specified herein and on the date on which such amount of principal, interest and/or other amounts are then due, shall satisfy the obligations of the Company herein and under the Notes to make such payment to the Holders on the due date thereof; *provided, however*, that the liability of any Paying Agent hereunder shall not exceed any amounts paid to it by the Company, or held by it, on behalf of the Holders under this Indenture.

Section 2.5 <u>CUSIP and ISIN Numbers</u>. In issuing the Notes, the Company may use CUSIP and ISIN numbers (if then generally in use) and, if so, the Trustee shall use CUSIP and ISIN numbers in notices of redemption as a convenience to Holders; *provided* that any such notice may state that no representation is made as to the correctness of such numbers either as printed on the Notes or as contained in any notice of a redemption and that reliance may be placed only on the other identification numbers printed on the Notes, and any such redemption shall not be affected by any defect in or omission of such numbers. The Company shall promptly notify the Trustee in writing of any initial CUSIP and/or ISIN numbers and any change in the CUSIP or ISIN numbers.

Section 2.6 <u>Holder Lists</u>. The Registrar shall preserve in as current a form as is reasonably practicable the most recent list available to it of the names and addresses of Holders.

If the Trustee is not the Registrar, the Company shall furnish to the Trustee, in writing at least seven Business Days before each Interest Payment Date and at such other times as the Trustee may reasonably request in writing, a list in such form and as of such date as the Trustee may reasonably require of the names and addresses of Holders.

Section 2.7 Global Note Provisions.

(a) Each Global Note initially shall: (i) be registered in the name of DTC or the nominee of DTC; (ii) be delivered to the Note Custodian; and (iii) bear the appropriate legend, as set forth in Section 2.8 and Exhibit A. Any Global Note may be represented by more than one certificate. The aggregate principal amount of each Global Note may from time to time be increased or decreased by adjustments made on the records of the Note Custodian, as provided in this Indenture.

(b) Members of, or participants in, DTC ("Agent Members") shall have no rights under this Indenture with respect to any Global Note held on their behalf by DTC or by the Note Custodian under such Global Note, and DTC may be treated by the Company, the Trustee, the Paying Agent and the Registrar and any of their agents as the absolute owner of such Global Note for all purposes whatsoever. Notwithstanding the foregoing, nothing herein shall prevent the Company, the Trustee, the Paying Agent or the Registrar or any of their agents from giving effect to any written certification, proxy or other authorization furnished by DTC. The registered Holder of a Global Note may grant proxies and otherwise authorize any Person, including Agent Members and Persons that may hold interests through Agent Members, to take any action that a Holder is entitled to take under this Indenture or the Notes.

(c) Except as provided below, owners of beneficial interests in Global Notes shall not be entitled to receive Certificated Notes. Global Notes shall be exchangeable for Certificated Notes only in the following limited circumstances:

(i) DTC notifies the Company that it is unwilling or unable to continue as depositary for such Global Note or DTC ceases to be a clearing agency registered under the Exchange Act, at a time when DTC is required to be so registered in order to act as depositary, and in each case a successor depositary is not appointed by the Company within 90 days of such notice;

(ii) the Company executes and delivers to the Trustee and Registrar an Officers' Certificate stating that such Global Note shall be so exchangeable; or

(iii) an Event of Default has occurred and is continuing with respect to the Notes.

In connection with the exchange of an entire Global Note for Certificated Notes pursuant to this Section 2.7(c), such Global Note shall be deemed to be surrendered to the Trustee for cancellation, and the Company shall execute, and upon Company Order the Trustee shall authenticate and deliver, to each beneficial owner identified by DTC in exchange for its beneficial interest in such Global Note, an equal aggregate principal amount of Certificated Notes of authorized denominations.

Section 2.8 Legends.

(a) Each Global Note shall bear the legend specified therefor in Exhibit A on the face thereof.

(b) Each Restricted Note shall bear the private placement legend specified therefor in Exhibit A on the face thereof (the "Private Placement Legend").

Section 2.9 Transfer and Exchange.

(a) Notes may be transferred in whole or in part in an authorized denomination upon the surrender of the Note to be transferred, together with the form of transfer endorsed on it duly completed and executed, at the specified office of the Registrar or the specified office of any Transfer Agent. Each new Note to be issued upon exchange of Notes or transfer of Notes will, within three Business Days of the receipt of a request for exchange or form of transfer, be mailed at the risk of the Holder entitled to the Note to such address as may be specified in such request or form of transfer.

Transfer will be effected without charge by or on behalf of the Company, the Registrar or the Transfer Agents, but upon payment, or the giving of such indemnity as the Registrar or the relevant Transfer Agent may require, in respect of any tax or other governmental charges which may be imposed in relation to it. The Company is not required to transfer or exchange any Note selected for redemption

(b) The following provisions shall apply with respect to any proposed transfer of an interest in a Rule 144A Global Note that is a Restricted Note: if (1) the owner of a beneficial interest in a Rule 144A Global Note wishes to transfer such

interest (or portion thereof) to a Non-U.S. Person pursuant to Regulation S and (2) such Non-U.S. Person wishes to hold its interest in the Notes through a beneficial interest in the Regulation S Global Note, subject to the rules and procedures of DTC, upon receipt by the Note Custodian and Registrar of:

(i) instructions from the Holder of the Rule 144A Global Note directing the Note Custodian and Registrar to credit or cause to be credited a beneficial interest in the Regulation S Global Note equal to the principal amount of the beneficial interest in the Rule 144A Global Note to be transferred; and

(ii) a certificate in the form of Exhibit C from the transferor,

the Note Custodian and Registrar shall increase the Regulation S Global Note and decrease the Rule 144A Global Note by such amount in accordance with the foregoing.

(c) If the owner of a beneficial interest in a Regulation S Global Note wishes to transfer such interest (or any portion thereof) to a QIB pursuant to Rule 144A prior to the expiration of the Distribution Compliance Period therefor, subject to the rules and procedures of DTC, upon receipt by the Note Custodian and Registrar of:

(i) instructions from the Holder of the Regulation S Global Note directing the Note Custodian and Registrar to credit or cause to be credited a beneficial

interest in the Rule 144A Global Note equal to the principal amount of the beneficial interest in the Regulation S Global Note to be transferred; and

(ii) a certificate in the form of Exhibit B duly executed by the transferor,

the Note Custodian and Registrar shall increase the Rule 144A Global Note and decrease the Regulation S Global Note by such amount in accordance with the foregoing.

(d) Other Transfers. Any transfer of Restricted Notes not described in this Section 2.9 (other than a transfer of a beneficial interest in a Global Note that does not involve an exchange of such interest for a Certificated Note or a beneficial interest in another Global Note, which must be effected in accordance with applicable law and the rules and procedures of DTC, but is not subject to any procedure required by this Indenture) shall be made only upon receipt by the Company of such Opinions of Counsel, certificates and/or other information reasonably required by and satisfactory to it in order to ensure compliance with the Securities Act or in accordance with Section 2.9(e).

(e) Use and Removal of Private Placement Legends. Upon the registration of transfer, exchange or replacement of Notes (or beneficial interests in a Global Note) not bearing (or not required to bear upon such registration of transfer, exchange or replacement) a Private Placement Legend, the Company shall direct the Note Custodian and Registrar to exchange such Notes (or beneficial interests) for beneficial interests in a Global Note (or Certificated Notes if they have been issued pursuant to Section 2.7(c)) that does not bear a Private Placement Legend. Upon the transfer, exchange or replacement of Notes (or beneficial interests in a Global Note) bearing a Private Placement Legend, the Note Custodian and Registrar shall deliver only Notes (or beneficial interests in a Global Note) that bear a Private Placement Legend unless:

(i) such Notes (or beneficial interests) are transferred pursuant to Rule 144 upon delivery to the Registrar of a certificate of the transferor in the form of Exhibit D and an Opinion of Counsel reasonably satisfactory to the Company;

(ii) such Notes (or beneficial interests) are transferred, replaced or exchanged after the Resale Restriction Termination Date therefor;

(iii) a transfer of such Notes is made pursuant to an effective shelf registration statement, in which case the Private Placement Legend shall be removed from such Note so transferred at the request of the Holder; or

(iv) in connection with such registration of transfer, exchange or replacement the Registrar shall have received an Opinion of Counsel addressed to the Company, the Trustee and the Company and other evidence reasonably

satisfactory to it to the effect that neither such Private Placement Legend nor the related restrictions on transfer are required in order to maintain compliance with the provisions of the Securities Act.

The Private Placement Legend on any Note shall be removed at the request of the Holder on or after the Resale Restriction Termination Date therefor. The Holder of a Global Note may

exchange an interest therein for an equivalent interest in a Global Note not bearing a Private Placement Legend (other than a Regulation S Global Note) upon transfer of such interest pursuant to any of clauses (i) through (iv) of this Section 2.9(e).

(f) Consolidation of Global Notes. Nothing in this Indenture shall provide for the consolidation of any Notes with any other Notes unless they constitute, as determined pursuant to an Opinion of Counsel, the same classes of securities for U.S. federal income tax purposes.

(g) Retention of Documents. The Registrar shall retain copies of all letters, notices and other written communications received pursuant to this Article II. The Company shall have the right to inspect and make copies of all such letters, notices or other written communications at any reasonable time upon the giving of reasonable written notice to the Registrar.

(h) Execution, Authentication of Notes, etc.

(i) Subject to the other provisions of this Section 2.9, when Notes are presented to the Registrar or a co-Registrar with a request to register the transfer of such Notes or to exchange such Notes for an equal principal amount of Notes of other authorized denominations, the Registrar or co-Registrar shall register the transfer or make the exchange as requested if its requirements for such transaction are met; *provided* that any Notes presented or surrendered for registration of transfer or exchange shall be duly endorsed or accompanied by a written instrument of transfer in form satisfactory to the Company and to the Registrar or co-Registrar, duly executed by the Holder thereof or his attorney duly authorized in writing. To permit registrations of transfers and exchanges and subject to the other terms and conditions of this Article II, the Company shall execute and upon Company Order the Trustee shall authenticate Certificated Notes and Global Notes at the Registrar's or co-Registrar's request.

(ii) No service charge shall be made to a Holder for any registration of transfer or exchange, but the Company, the Registrar, or the Trustee may require payment of a sum sufficient to cover any transfer tax, assessment, or similar governmental charge payable in connection therewith.

(iii) The Registrar or co-Registrar shall not be required to register the transfer of or exchange of any Note for a period beginning: (1) 15 days before the mailing of a notice of an offer to repurchase or redeem Notes and ending at the close of business on the day of such mailing; or (2) 15 days before an Interest Payment Date and ending on such Interest Payment Date.

(iv) Prior to the due presentation for registration of transfer of any Note, the Company, the Trustee, the Paying Agent, the Registrar or any co-Registrar may deem and treat the Person in whose name a Note is registered as the absolute owner of such Note for the purpose of receiving payment of principal of and interest on such Note and for all other purposes whatsoever (whether or not such Note is overdue and regardless of any notice of ownership, trust or any interest in it, writing on, or theft or

loss of, the definitive Note issued in respect of it), and none of the Company, the Trustee, the Paying Agent, the Registrar or any co-Registrar shall be affected by notice to the contrary.

(v) All Notes issued upon any registration of transfer or exchange pursuant to the terms of this Indenture shall evidence the same debt and shall be entitled to the same benefits under this Indenture as the Notes surrendered upon such registration of transfer or exchange.

(vi) The Registrar shall be entitled to request such evidence reasonably satisfactory to it documenting the identity and/or signatures of the transferor and the transferee.

(i) No Obligation of the Trustee.

(i) The Trustee shall have no responsibility or obligation to any beneficial owner of an interest in a Global Note, a member of, or a participant in, DTC or other Person with respect to the accuracy of the records of DTC or its nominee or of any participant or member thereof, with respect to any ownership interest in the Notes or with respect to the delivery to any participant, member, beneficial owner or other Person (other than DTC) of any notice (including any notice of redemption) or the payment of any amount or delivery of any Notes (or other security or property) under or with respect to such Notes. All notices and communications to be given to the Holders and all payments to be made to Holders in respect of the Notes shall be given or made only to or upon the order of the registered Holders (which shall be DTC or its nominee in the case of a Global Note). The rights of beneficial owners in any Global Note shall be exercised only through DTC subject to the applicable rules and procedures of DTC. The Trustee may conclusively rely and shall be fully protected in conclusively relying upon information furnished by DTC with respect to its members, participants and any beneficial owners.

(ii) None of the Trustee, the Registrar or any co-Registrar shall have any obligation or duty to monitor, determine or inquire as to compliance with any restrictions on transfer or exchange imposed under this Indenture or under applicable law with respect to any transfer or exchange of any interest in any Note (including any transfers between or among DTC participants, members or beneficial owners in any Global Note) other than to require delivery of such certificates and other documentation or evidence as are expressly required by, and to do so if and when expressly required by, the express terms of this Indenture, to examine the same to determine if it substantially complies on its face as to form with the express requirements hereof, and to notify the party delivering the same if the certificate does not so comply.

Section 2.10 Mutilated, Destroyed, Lost or Stolen Notes.

(a) If a mutilated or defaced Note is surrendered to the Registrar or if the Holder of a Note claims that the Note has been lost, destroyed or stolen and if the requirements of Section 8-405 of the Uniform Commercial Code of the State of New York are met, the

Company shall execute and upon Company Order the Trustee shall authenticate a replacement Note if the Holder satisfies any other reasonable requirements of the Trustee. If required by the Trustee or the Company, such Holder shall furnish satisfactory evidence of the destruction, loss or theft and security or indemnity sufficient in the judgment of the Company and the Trustee to protect the Company, the Trustee, the Paying Agent, the Registrar and any co-Registrar from any loss that any of them may suffer if a Note is replaced, and, in the absence of notice to the Company or a Trust Officer of the Trustee that such Note has been acquired by a protected purchaser (as defined in Section 8-303 of the Uniform Commercial Code of the State of New York), the Company shall execute and upon Company Order the Trustee shall authenticate and make available for delivery, in exchange for any such mutilated or defaced Note or in lieu of any such destroyed, lost or stolen Note, a new Note of like tenor (including the same date of issuance) and equal principal amount, registered in the same manner, and bearing interest from the date to which interest has been paid on such Note, in exchange and substitution for such Note (upon surrender and cancellation thereof in the case of a mutilated or defaced Note) or in lieu of and substitution for such Note bearing a number not contemporaneously Outstanding.

(b) Upon the issuance of any new Note under this Section 2.10, the Company, the Trustee and the Registrar may require the payment of a sum sufficient to cover any tax or other governmental charge that may be imposed in relation thereto and any other expenses (including the fees and expenses of the Company's counsel, the Trustee and its counsel) in connection therewith.

(c) In case any mutilated, destroyed, lost or stolen Note has become or is about to become due and payable, the Company may, in its discretion, pay such Notes instead of issuing a new Note in replacement thereof.

(d) Every new Note issued pursuant to this Section 2.10 in exchange for any mutilated Note, or in lieu of any destroyed, lost or stolen Note, shall constitute an original additional contractual obligation of the Company and any other obligor upon the Notes, and shall be entitled to all benefits of this Indenture equally and proportionately with any and all other Notes duly issued hereunder.

(e) The provisions of this Section 2.10 shall be exclusive and shall be in lieu of, to the fullest extent permitted by applicable law, all other rights and remedies with respect to the replacement or payment of mutilated, destroyed, lost or stolen

Notes.

Section 2.11 Temporary Notes. Until definitive Notes are ready for delivery, the Company may execute and upon Company Order the Trustee shall authenticate temporary Notes. Temporary Notes shall be substantially in the form of definitive Notes but may have variations that the Company considers appropriate for temporary Notes. Without unreasonable delay, the Company shall prepare and execute and upon Company Order the Trustee shall authenticate definitive Notes. After the preparation of definitive Notes, the temporary Notes shall be exchangeable for definitive Notes upon surrender of the temporary Notes at any office or agency maintained by the Company for that purpose and such exchange shall be without charge to the Holder. Upon surrender for cancellation of any one or more temporary Notes, the Company shall execute and upon Company Order the Trustee shall authenticate and make available for delivery in exchange therefor one or more definitive Notes representing an equal principal

amount of Notes. Until so exchanged, the Holder of temporary Notes shall in all respects be entitled to the same benefits under this Indenture as a Holder of definitive Notes.

Section 2.12 Cancellation. The Company at any time may deliver Notes to the Trustee for cancellation. The Registrar, co-Registrar, if any, and the Paying Agent shall forward to the Trustee any Notes surrendered to them for registration of transfer, exchange or payment. The Trustee and no one else shall cancel and dispose of cancelled Notes in accordance with its customary procedures or return to the Company all Notes surrendered for registration of transfer, exchange, payment or cancellation. Subject to Section 2.10, the Company may not issue new Notes to replace Notes it has paid or delivered to the Trustee for cancellation for any reason other than in connection with a transfer or exchange upon Company Order.

Section 2.13 Defaulted Interest. When any installment of interest becomes Defaulted Interest, such installment shall forthwith cease to be payable to the Holders in whose names the Notes were registered on the Record Date applicable to such installment of interest. Defaulted Interest (including any interest on such Defaulted Interest) may be paid by the Company, at its election, as provided in Section 2.13(a) or Section 2.13(b).

(a) The Company may elect to make payment of any Defaulted Interest (including any interest on such Defaulted Interest) to the Holders in whose names the Notes are registered at the close of business on a special record date for the payment of such Defaulted Interest (a "Special Record Date"), which shall be fixed in the following manner. The Company shall notify the Trustee in writing of the amount of Defaulted Interest proposed to be paid and the date of the proposed payment, and at the same time the Company shall deposit with the Trustee an amount of money equal to the aggregate amount proposed to be paid in respect of such Defaulted Interest or shall make arrangements satisfactory to the Trustee for such deposit prior to the date of the proposed payment, such money when deposited to be held in trust for the benefit of the Holders entitled to such Defaulted Interest as provided in this Section 2.13(a). Thereupon the Trustee shall fix a Special Record Date for the payment of such Defaulted Interest, which shall be not more than 15 calendar days and not less than ten calendar days prior to the date of the proposed payment and not less than ten calendar days after the receipt by the Trustee of the notice of the proposed payment. The Trustee shall promptly notify the Company of such Special Record Date and, in the name and at the expense of the Company, shall cause notice of the proposed payment of such Defaulted Interest and the Special Record Date therefor to be sent, first-class mail, postage prepaid, to each Holder at such Holder's address as it appears in the registration books of the Registrar, not less than ten calendar days prior to such Special Record Date. Notice of the proposed payment of such Defaulted Interest and the Special Record Date therefor having been mailed as aforesaid, such Defaulted Interest shall be paid to the Holders in whose names the Notes are registered at the close of business on such Special Record Date and shall no longer be payable pursuant to Section 2.13(b).

(b) Alternatively, the Company may make payment of any Defaulted Interest (including any interest on such Defaulted Interest) in any other lawful manner not inconsistent with the requirements of any securities exchange on which the Notes may be listed, and upon such notice as may be required by such exchange, if, after notice given by the Company to the Trustee of the proposed payment pursuant to this Section 2.13(b) such manner of payment shall be deemed practicable by the Trustee.

Section 2.14 Additional Notes. The Company may, from time to time, subject to compliance with any other applicable provisions of this Indenture, without notice to or consent of the Holders, create and issue an unlimited principal amount of Additional Notes pursuant to this Indenture having terms and conditions set forth in Exhibit A identical in all respects to those of the Initial Notes, except that Additional Notes:

(a) may have a different issue price, issue date and, if applicable, date from which the interest shall accrue from the Initial Notes; and

(b) may have a different amount of interest payable on the first Interest Payment Date after issuance than is payable on the Initial Notes;

provided, *however*, that unless such Additional Notes are issued under a separate CUSIP, such Additional Notes will be fungible with the Initial Notes for U.S. federal income tax purposes or, if such Additional Notes are not fungible with the Initial Notes for U.S. federal income tax purposes, neither the Initial Notes nor the Additional Notes are issued with more than a *de minimis* amount of original issue discount for U.S. federal income tax purposes.

Section 2.15 Open Market Purchases.

(a) The Company or any of its Affiliates may at any time purchase Notes in the open market or otherwise at any price. Any such purchased Notes (i) will not be resold, except in compliance with applicable requirements or exemptions under any relevant securities laws, and (ii) at the option of the Company, may be canceled or remain outstanding.

ARTICLE III

COVENANTS

Section 3.1 Payment of Notes.

(a) The Company shall pay the principal of and premium, if any, and interest (including Defaulted Interest) on the Notes in U.S. Dollars on the dates and in the manner provided in the Notes and in this Indenture.

(b) The Company shall pay interest (including Post-Petition Interest in any proceeding under any Bankruptcy Law) on the Notes to the Persons in whose name the Notes are registered on the relevant Record Date and shall pay principal and premium, if any, on the Notes to the Persons in whose name the Notes are registered at the close of business on the fifth day before the due date for such payment. Payments of principal, premium, if any, and interest in respect of each Note shall be made by a Paying Agent by wire transfer to a U.S. Dollar account maintained by the payee with a bank in New York City. The Company will make payments of principal and premium, if any, upon surrender of the relevant Notes at the specified office of the Trustee or any of the Paying Agents.

(c) Prior to 12:00 noon (New York City time) at least one Business Day prior to each Interest Payment Date and the Maturity Date, the Company shall deposit with the Paying Agent in immediately available funds U.S. Dollars sufficient to make cash payments due on such

Interest Payment Date or Maturity Date, as the case may be. The Paying and Transfer Agent shall not be bound to make any payment until it has received the full amount due to be paid to it pursuant to this Section 3.1. If the Company or an Affiliate of the Company is acting as Paying Agent, the Company or such Affiliate shall, prior to 12:00 noon (New York City time) on each Interest Payment Date and the Maturity Date, segregate and hold in trust U.S. Dollars sufficient to make cash payments due on such Interest Payment Date or Maturity Date, as the case may be. Principal and interest shall be considered paid on the date due if on such date the Trustee or the Paying Agent (other than the Company or an Affiliate of the Company) holds in accordance with this Indenture U.S. Dollars designated for and sufficient to pay all principal and interest then due and the Trustee or the Paying Agent, as the case may be, is not prohibited from paying such money to the Holders on that date pursuant to the terms of this Indenture. Notwithstanding the foregoing, the Company may elect to make the payments of interest by check mailed to the registered Holders at their registered addresses.

(d) Notwithstanding anything to the contrary contained in this Indenture, all payments in respect of the Notes will be subject in all cases to any applicable tax or other laws and regulations, but without prejudice to the provisions described under Section 3.12. No fees or expenses will be charged to the Holders in respect of such payments.

Section 3.2 Maintenance of Office or Agency.

(a) The Company shall maintain each office or agency required under Section 2.3 where Notes may be presented or surrendered for registration of transfer or for exchange and where notices and demands to or upon the Company in respect

of the Notes and this Indenture may be served. The Company shall give prompt written notice to the Trustee of the location, and any change in the location, of any such office or agency.

(b) The Company may also from time to time designate one or more other offices or agencies (in or outside of The City of New York) where the Notes may be presented or surrendered for any or all such purposes and may from time to time rescind any such designation; *provided*, *however*, that no such designation or rescission shall in any manner relieve the Company of its obligation to maintain an office or agency in The City of New York or, so long as the Notes are listed on the Luxembourg Stock Exchange for trading on the Euro MTF Market, in Luxembourg, for such purposes. The Company shall give prompt written notice to the Trustee of any such designation or rescission and any change in the location of any such other office or agency.

Section 3.3 Corporate Existence. Subject to Article IV, the Company shall do or cause to be done all things necessary to preserve and keep in full force and effect its corporate existence.

Section 3.4 Payment of Taxes. The Company shall pay or discharge or cause to be paid or discharged, before the same shall become delinquent, all taxes, assessments and governmental charges (including present or future stamp or other issuance or transfer taxes) or duties levied or imposed upon the Company or for which it is otherwise liable, or upon the income, profits or property of the Company; *provided, however*, that, the Company shall not be required to pay or discharge or cause to be paid or discharged any such tax, assessment or charge

being contested in good faith by appropriate proceedings and for which appropriate reserves, if necessary (in the good faith judgment of management of the Company), are being maintained in accordance with IFRS or where the failure to effect such payment shall not have a material adverse effect upon the financial condition of the Company and its Subsidiaries, taken as a whole, or on the performance of the Company's obligations hereunder.

Section 3.5 Further Instruments and Acts. The Company shall execute and deliver such further instruments and do such further acts as may be reasonably necessary or proper or as may be required by applicable law to carry out more effectively the purpose of this Indenture.

Section 3.6 Waiver of Stay, Extension or Usury Laws. The Company covenants (to the fullest extent permitted by applicable law) that it shall not at any time insist upon, plead, or in any manner whatsoever claim or take the benefit or advantage of, any stay or extension law or any usury law or other law that would prohibit or forgive the Company from paying all or any portion of the principal of or interest on the Notes as contemplated herein, wherever enacted, now or at any time hereafter in force, or which may affect the covenants or the performance of this Indenture. The Company hereby expressly waives (to the fullest extent permitted by applicable law) all benefit or advantage of any such law, and covenants that it shall not hinder, delay or impede the execution of any power herein granted to the Trustee, but shall suffer and permit the execution of every such power as though no such law had been enacted.

Section 3.7 Limitation on Liens.

(a) The Company shall not, and will not permit any Significant Subsidiary to, permit to exist any Debt of the Company or any Significant Subsidiary that is secured by a Lien upon any of its Restricted Property unless contemporaneously therewith effective provision is made to secure the Notes equally and ratably with such obligation for so long as such obligation is so secured; *provided*, *however*, that the foregoing restriction shall not apply to:

(i) any Lien existing on the Closing Date;

(ii) any Lien on any property or assets (including Capital Stock of any Person) securing Debt incurred for purposes of financing the acquisition, construction or improvement of such property or assets including related transaction fees and expenses (or securing Debt incurred to refinance a bridge or other interim financing that is initially incurred for the purpose of financing such acquisition, construction or improvement of such property or assets including related transaction fees and expenses) after the Closing Date; *provided* that (a) the aggregate principal amount of Debt secured by the Liens will not exceed (but may be less than) the cost (*i.e.*, purchase price) of the property or assets so acquired, constructed or improved and (b) the Lien is incurred before, or within 365 days after the completion of, such acquisition, construction or improvement and does not encumber any other property or assets of the Company or any Significant Subsidiary; *provided further* that a Lien is also permitted to be incurred on the Capital Stock of any Person securing any Debt of such Person if such Debt is incurred for purposes of financing the acquisition, construction or improvement of any property or assets of such Person;

(iii) any Lien existing on any property or assets of any Person before that Person's acquisition by, merger into or consolidation with the Company or any Subsidiary after the Closing Date; *provided* that (a) the Lien is not created in contemplation of or in connection with such acquisition, merger or consolidation, (b) the Debt secured by the Liens may not exceed the Debt secured on the date of such acquisition, merger or consolidation, in each case, taking into account any accrued interest or monetary variation, and (c) the Lien will not apply to any other property or assets of the Company or any of its Subsidiaries;

(iv) any Lien imposed by law that was incurred in the ordinary course of business, including, without limitation, carriers', warehousemen's and mechanics' Liens and other similar encumbrances arising in the ordinary course of business, in each case for sums not yet due or being contested in good faith by appropriate proceedings;

(v) any pledge or deposit made in connection with workers' compensation, unemployment insurance or other similar social security legislation, any deposit to secure appeal bonds in proceedings being contested in good faith to which the Company or any Subsidiary is a party, good faith deposits in connection with bids, tenders, contracts (other than for the payment of Debt) or leases to which the Company or any Subsidiary is a party or deposits for the payment of rent, in each case made in the ordinary course of business;

(vi) any Lien in favor of issuers of surety bonds or letters of credit issued pursuant to the request of and for the account of the Company or any Subsidiary in the ordinary course of business;

(vii) any Lien securing taxes, assessments and other governmental charges, the payment of which are not yet due or are being contested in good faith by appropriate proceedings and for which such reserves or other appropriate provisions, if any, have been established as required by IFRS;

(viii) any rights of set-off of any Person with respect to any deposit account of the Company or any Subsidiary arising in the ordinary course of business and not constituting a financing transaction;

(ix) any Lien securing obligations to the Peruvian Ministry of Energy and Mines or other Governmental Authorities incurred in the ordinary course of business, including but not limited to mining closure plans;

(x) Liens securing obligations under hedging agreements not for speculative purposes;

(xi) Liens securing obligations owed by any Subsidiary of the Company to the Company or one or more Subsidiaries of the Company and/or by the Company to one or more such Subsidiaries;

(xii) any Lien on the inventory or receivables and related assets of the Company or any Significant Subsidiary securing obligations (a) under any short or long

term lines of credit, entered into in the normal course of business, including export or import financings and other trade transactions; (b) under any working capital facility or securitization transaction; or (c) any other kind of contractual arrangement involving the advanced sale of inventory, receivables and/or related assets;

(xiii) Liens granted to secure borrowings from (a) federal, national, regional or state government development bank or credit agency, or (b) any international or multilateral development bank, government-sponsored agency, export-import bank or official export-import credit insurer;

(xiv) any Lien extending, renewing or replacing (or successive extensions, renewals or replacements of), in whole or in part, any Lien referred to in clauses (1) to (13) above; *provided* that the principal amount of Debt secured thereby shall not exceed the principal amount of Debt so secured at the time of such extension, renewal or replacement except for any increase reflecting premiums, fees and expenses in connection with such extension, renewal or replacement; and

(xv) in addition to the foregoing Liens set forth in clauses (1) through (12) above or otherwise permitted by this covenant, Liens securing Debt of the Company or any Significant Subsidiary (including, without limitation, Guarantees of the Company or any Significant Subsidiary) which do not in aggregate principal amount exceed 15.0% of the Company's Consolidated Total Assets.

(b) For the avoidance of doubt, a Lien permitted by this Section 3.7 need not be permitted solely by reference to a single clause permitting such Lien, but may be permitted in part by such clause and in part by one or more other clauses of this covenant otherwise permitting such Lien

Section 3.8 Intentionally Omitted.

Section 3.9 Change of Control.

(a) Upon the occurrence of a Change of Control that results in a Ratings Decline, unless the Company has previously exercised its right to redeem all of the Outstanding Notes pursuant to Article V, each Holder shall have the right to require that the Company purchase all or a portion (in integral multiples of U.S.$1,000; *provided* that the principal amount of such Holder's Note shall not be less than U.S.$200,000) of such Holder's Notes at a purchase price equal to 101% of the principal amount thereof, plus any accrued and unpaid interest thereon to, but excluding, the Purchase Date (the "Change of Control Payment").

(b) No later than 30 days following the date upon which the Change of Control that results in a Ratings Decline occurs, the Company shall send a Change of Control Notice to each Holder, with a copy to the Trustee as provided under Section 11.1, offering to purchase the Notes as provided in Section 3.9(a) (a "Change of Control Offer").

(c) On the Business Day immediately preceding the Purchase Date, the Company shall, to the extent lawful, deposit with a Paying Agent funds in an amount equal to the Change of Control Payment in respect of all Notes or portions thereof so tendered.

(d) On the Purchase Date, the Company shall, to the extent lawful:

(i) accept for payment all Notes or portions thereof properly tendered and not withdrawn pursuant to the Change of Control Offer; and

(ii) deliver or cause to be delivered to the Trustee the Notes so accepted together with an Officers' Certificate stating the aggregate principal amount of Notes or portions thereof being purchased by the Company.

(e) If only a portion of a Note is purchased pursuant to a Change of Control Offer, a new Note in a principal amount equal to the portion thereof not purchased shall be issued in the name of the Holder thereof upon cancellation of the original Note (or appropriate adjustments to the amount and beneficial interests in a Global Note shall be made, as appropriate). Notes (or portions thereof) purchased pursuant to a Change of Control Offer shall be cancelled and cannot be reissued.

(f) The Company shall not be required to make a Change of Control Offer upon a Change of Control that results in a Ratings Decline if (1) a third party makes the Change of Control Offer in the manner, at the times and otherwise in compliance with the requirements set forth in this Section 3.9 and purchases all Notes properly tendered and not withdrawn under the Change of Control Offer, or (2) a notice of redemption for all Outstanding Notes has been given pursuant to this Indenture unless and until there is a default in payment of the applicable redemption price. Notwithstanding anything to the contrary contained herein, a Change of Control Offer may be made in advance of a Change of Control, conditioned upon the consummation of such Change of Control and/or Ratings Decline, if a definitive agreement is in place for the Change of Control at the time the Change of Control Offer is made.

(g) In the event that the Holders of not less than 90% of the aggregate principal amount of the Outstanding Notes accept a Change of Control Offer and the Company or a third party purchases all the Notes held by such Holders, the Company will have the right, on not less than 30 nor more than 60 days' prior notice (with a copy to the Trustee), given not more than 30 days following the Purchase Date, to redeem all of the Notes that remain outstanding following such purchase at the purchase price equal to that in the Change of Control Offer plus, to the extent not included in the Change of Control Offer payment, accrued and unpaid interest and Additional Amounts, if any, on the Notes that remain outstanding, to, but excluding, the date of redemption.

(h) The Company shall comply with the requirements of Rule 14e-l under the Exchange Act and any other applicable securities laws and regulations in connection with the purchase of Notes in connection with a Change of Control Offer. To the extent that the provisions of any applicable securities laws or regulations conflict with this Section 3.9, the Company shall comply with such securities laws and regulations and shall not be deemed to have breached its obligations under this Indenture by doing so.

(i) The obligation of the Company to make a Change of Control Offer as a result of the occurrence of a Change of Control that results in a Ratings Decline may be waived or modified at any time prior to the occurrence of such Change of Control that results in a

Ratings Decline with the consent of Holders of a majority in principal amount of the Outstanding Notes.

Section 3.10 Reports to Holders.

(a) The Company shall provide the Trustee with the following reports for delivery to Holders of Notes upon their written request thereof:

(i) an English language version of its annual audited consolidated financial statements prepared in accordance with IFRS, within thirty (30) Business Days of the earlier of (x) the date on which such audited consolidated financial statements are required to be delivered to the SMV and (y) the date on which such audited consolidated financial statements are delivered to the SMV and, in any event, within 120 days after the close of its fiscal year;

(ii) an English language version of its unaudited quarterly financial statements prepared in accordance with IFRS, within thirty (30) Business Days of the earlier of (x) the date on which such quarterly consolidated financial statements are required to be delivered to the SMV and (y) the date on which such quarterly consolidated financial statements are delivered to the SMV and, in any event, within 90 days after the close of each fiscal quarter (other than the last fiscal quarter of its fiscal year);

(iii) simultaneously with the delivery of each set of financial statements referred to in clause (i) above, an officer's certificate stating whether, to the knowledge of the officer executing such officer's certificate, a Default or Event of Default exists on the date of such certificate and, if a Default or Event of Default exists, setting forth the details thereof and the action which the Company is taking or proposes to take with respect thereto; and

(iv) within ten Business Days after any executive officer of the Company becomes aware of the existence of a Default or Event of Default, an officer's certificate setting forth the details thereof and the action which the Company is taking or proposes to take with respect thereto.

(b) The above reports may be delivered by the Company to the Trustee in physical or electronic form, as determined by the Company. If the Company files the reports described in clauses (i) or (ii) with the SEC or makes such reports available on its website, it will be deemed to have satisfied the reporting requirement set forth in such applicable clause.

(c) Delivery of the above reports to the Trustee is for informational purposes only and the Trustee's receipt of such reports will not constitute constructive notice of any information contained therein or determinable from information contained therein, including the compliance of the Company with any of its covenants in this Indenture (as to which the Trustee is entitled to rely exclusively on officer's certificates).

Section 3.11 Listing.

(a) In the event that the Notes are listed on the Luxembourg Stock Exchange for trading on the Euro MTF Market, the Company shall use its reasonable best efforts to maintain such listing; *provided* that if, as a result of the European Union regulated market amended Directive 2001/34/EC (the "Transparency Directive") or any legislation implementing the Transparency Directive or other directives or legislation, the Company could be required to publish financial information either more regularly than it otherwise would be required to or according to accounting principles which are materially different from the accounting principles

which the Company would otherwise use to prepare its published financial information, the Company may delist the Notes from the Luxembourg Stock Exchange in accordance with the rules of such Exchange and seek an alternative admission to listing, trading and/or quotation for the Notes on a different section of the Luxembourg Stock Exchange or by such other listing authority, stock exchange and/or quotation system inside or outside the European Union as the Board of Directors of the Company may decide.

(b) From and after the date the Notes are listed on the Luxembourg Stock Exchange for trading on the Euro MTF Market, and so long as it is required by the rules of such Exchange, all notices to the Holders shall be published in English in accordance with Section 11.1(b).

Section 3.12 Payment of Additional Amounts.

(a) All payments by the Company in respect of the Notes will be made without withholding or deduction for or on account of, any present or future taxes, duties, assessments, fees or other governmental charges of whatever nature (and any fines, penalties or interest related thereto) imposed or levied by or on behalf of Peru or any political subdivision or authority of or in Peru having power to tax, or any other jurisdiction in which the Company (or its successor) is then organized or resident for tax purposes or any political subdivision thereof or therein ("Relevant Taxes"), unless such withholding or deduction is required by law. In that event, the Company shall pay to each Holder such additional amounts (the "Additional Amounts") as may be necessary in order that every net payment made by the Company on each Note after deduction or withholding for or on account of any Relevant Taxes will not be less than the amount then due and payable on such Note. The foregoing obligation to pay Additional Amounts will not apply to or in respect of:

(i) any tax, duty, assessment or other governmental charge which would not have been imposed but for the existence of any present or former connection between a Holder (or between a fiduciary, settlor, beneficiary, member or shareholder of such Holder, if such Holder is an estate, a trust, a partnership or a corporation), on the one hand, and Peru, on the other hand (including, without limitation, such Holder (or such fiduciary, settlor, beneficiary, member or shareholder) being or having been a citizen or resident thereof or having been engaged in a trade or business or present therein or having, or having had, a permanent establishment therein), other than the mere receipt of such payment or the ownership or holding of a Note;

(ii) any tax, duty, assessment or other governmental charge which would not have been imposed but for the presentation by a Holder for payment on a date

more than 30 days after the date on which such payment became due and payable or the date on which payment thereof is duly provided for, whichever occurs later;

(iii) any tax, duty, assessment or other governmental charge to the extent that such tax, duty, assessment or other governmental charge would not have been imposed but for the failure of a Holder or beneficial owner to comply with any certification, identification or other reporting requirements concerning the nationality, residence, identity or connection with Peru of such Holder if (a) such compliance is required or imposed by law as a precondition to exemption from all or a part of such tax, duty, assessment or other governmental charge and (b) at least 30 days prior to the date on which the Company will apply this clause (iii), the Company will have notified all Holders of Notes that some or all Holders of Notes will be required to comply with such requirement;

(iv) any estate, inheritance, gift, sales, transfer, excise or personal property or similar tax, assessment or governmental charge;

(v) any withholding or deduction imposed on a payment to an individual and that is required to be made pursuant to any law implementing or complying with, or introduced in order to conform to, any European Union Directive on the taxation of savings;

(vi) any tax, duty, assessment or other governmental charge which would have been avoided by such Holder presenting the relevant Note (if presentation is required) or requesting that such payment be made to another paying agent in a member state of the European Union;

(vii) any tax, duty, assessment or other governmental charge which is payable other than by deduction or withholding from payments of principal of, premium, if any, or interest on a Note; or

(viii) any combination of the above.

(b) No Additional Amounts will be paid with respect to a payment on any Note to a Holder that is a fiduciary or partnership or other than the sole beneficial owner of such payment to the extent a beneficiary or settlor with respect to such fiduciary or a member of such partnership or beneficial owner would not have been entitled to receive payment of the Additional Amounts had the beneficiary, settlor, member or beneficial owner been the Holder of the Note.

(c) The Company shall provide the Trustee with the official acknowledgment of the relevant taxing authority (or, if such acknowledgment is not available, other reasonable documentation) evidencing any payment of Relevant Taxes in respect of which the Company has paid any Additional Amounts. Copies of such documentation will be made available to the Holders of the Notes or the paying agents, as applicable, upon request therefor.

(d) All references in this Indenture to principal of, premium, if any, and interest on the Notes will include any Additional Amounts payable by the Company in respect of such principal, such premium, if any, and such interest.

The Company shall also pay any present or future stamp, court or documentary taxes or any other excise or property taxes, charges or similar levies which arise in any jurisdiction from the execution, delivery, registration or the making of payments in respect of the Notes, excluding any such taxes, charges or similar levies imposed by any jurisdiction outside of Peru other than those resulting from, or required to be paid in connection with, the enforcement of the Notes following the occurrence of any Default or Event of Default.

Section 3.13 Use of Proceeds.

The Company shall use the proceeds of the sale of the Notes as set forth under "Use of Proceeds" in the Offering Memorandum.

Section 3.14 Compliance Certificates.

(a) The Company shall deliver to the Trustee within 120 days after the end of each fiscal year of the Company an Officers' Certificate signed by any two of its principal executive officer, its principal financial officer and its principal accounting officer stating that in the course of the performance by the signers of their duties as Officers of the Company they would normally have knowledge of any Default or Event of Default and whether or not the signers know of any Default or Event of Default that occurred during such period. If they do, the certificate shall describe the Default or Event of Default, its status and what action the Company is taking or proposes to take with respect thereto.

(b) The Trustee shall not be obligated to monitor or confirm, on a continuing basis or otherwise, the Company's or any other Person's compliance with the covenants described above or with respect to any reports or other documents filed under this Indenture; *provided*, *however*, that nothing herein shall relieve the Trustee of any obligations to monitor the Company's timely delivery of the reports and certificates described in Section 3.10.

ARTICLE IV

LIMITATION ON CONSOLIDATION, MERGER, SALE OR CONVEYANCE

Section 4.1 Consolidation, Merger, Sale or Conveyance.

(a) For so long as any Notes are Outstanding, the Company shall not consolidate with or merge with or into, or convey, transfer or lease all or substantially all of its assets to, any Person, unless:

(i) the resulting, surviving or transferee Person (the "Surviving Entity") (if not the Company) will be a Person organized and existing under the laws of Peru, the United States of America, any State thereof or the District of Columbia, any other country that is a member country of the European Union or of the Organization for Economic Co-operation and Development on the Closing Date, or any other country

whose long-term foreign currency-denominated debt has an Investment Grade rating from any of Standard & Poor's, Moody's or Fitch as of the effective date of such transaction, and such Person expressly assumes, by a supplemental indenture to this Indenture, all the obligations of the Company under this Indenture and the Notes;

(ii) (x) immediately after giving effect to such transaction, no Event of Default shall have occurred and be outstanding or (y) if at the time of such transaction none of the ratings assigned to the Notes by the Rating Agencies is an Investment Grade rating, no event that would be an Event of Default with respect to the Notes would have occurred immediately after giving effect to such transaction but for applicable grace period and notice requirements; and

(iii) the Company will have delivered to the Trustee an officer's certificate and an Opinion of Counsel, each stating that such consolidation, merger or transfer and such supplemental indenture, if any, comply with this Indenture.

(b) Notwithstanding the restrictions described above, the Company may merge into a Subsidiary for the purpose of reincorporating the Company in another jurisdiction permitted under paragraph (i) above, any Subsidiary may consolidate with, merge into or transfer all or part of its properties and assets to the Company, and any Subsidiary may consolidate with, merge into or transfer all or part of its properties and assets to another Subsidiary.

(c) In case of any consolidation, merger conveyance or transfer (other than a lease) that complies with Section 4.1(a), the Surviving Entity will succeed to and be substituted for the Company as obligor on the Notes, with the same effect as if it had been named in this Indenture as such obligor.

ARTICLE V

REDEMPTION OF NOTES

Section 5.1 Redemption. The Company may redeem the Notes, in whole but not in part, subject to the conditions and at the redemption prices specified in the form of Notes in Exhibit A.

Section 5.2 Election to Redeem. In the case of redemption, the Company shall evidence its election to redeem any Notes pursuant to Section 5.1 by a Board Resolution.

Section 5.3 Notice of Redemption.

(a) The Company shall mail, or cause to be mailed, a notice of redemption to each Holder of the Notes and the Trustee, in the manner provided for in Section 11.1, at least 30 days and not more than 60 days prior to the Redemption Date by first-class mail, postage prepaid, to the address of each Holder as it appears on the register maintained by the Registrar. A notice of redemption may be conditional.

(b) If the Company elects to have the Trustee give notice of redemption, then the Company shall deliver to the Trustee, at least 45 days prior to the Redemption Date (unless

the Trustee is satisfied with a shorter period), an Officers' Certificate requesting that the Trustee give notice of redemption and setting forth the information required by Section 5.3(c). If the Company elects to have the Trustee give notice of redemption, the Trustee shall give the notice in the name of the Company and at the Company's expense.

(c) All notices of redemption shall state:

(i) the Redemption Date;

(ii) the redemption price and the amount of any accrued interest payable as provided in Section 5.6;

(iii) that on the Redemption Date the redemption price and any accrued interest payable to the Redemption Date as provided in Section 5.6 shall become due and payable in respect of each Note and, unless the Company

defaults in making the redemption payment, on and after the Redemption Date, that interest on each Note to be redeemed shall cease to accrue;

(iv) the place or places where a Holder must surrender the Holder's Notes for payment of the redemption price; and

(v) the CUSIP or ISIN number, if any, listed in the notice or printed on the Notes, and that no representation is made as to the accuracy or correctness of such CUSIP or ISIN number.

Section 5.4 Intentionally Omitted.

Section 5.5 Deposit of Redemption Price. Prior to 12:00 noon (New York City time) on the Business Day prior to the relevant Redemption Date, the Company shall deposit with the Trustee or with a Paying Agent (or, if the Company is acting as Paying Agent, segregate and hold in trust as provided in Section 2.4) an amount of money in immediately available funds sufficient to pay the redemption price of, and accrued interest on, all the Notes that the Company is redeeming on that date.

Section 5.6 Notes Payable on Redemption Date. If the Company, or the Trustee on behalf of the Company, gives notice of redemption in accordance with this Article V, the Notes, called for redemption, shall, on the Redemption Date, become due and payable at the redemption price specified in the notice (together with accrued interest, if any, to the Redemption Date), and from and after the Redemption Date (unless the Company shall default in the payment of the redemption price and accrued interest) the Notes shall cease to bear interest. Upon surrender of any Note for redemption in accordance with the notice, the Company shall pay the Notes at the redemption price, together with accrued interest, if any, to the Redemption Date. If the Company shall fail to pay any Note called for redemption upon its surrender for redemption, the principal shall, until paid, bear interest from the Redemption Date at the rate borne by the Notes.

ARTICLE VI

DEFAULTS AND REMEDIES

Section 6.1 Events of Default.

(a) Each of the following is an "Event of Default" with respect to the Notes, whatever the reason for any such Event of Default and whether it is voluntary or involuntary or is effected by operation of law or pursuant to any judgment, decree or order of any court or any order, rule or regulation of any administrative or governmental body:

(i) the Company defaults in any payment of interest (including any related Additional Amounts) on any Note when the same becomes due and payable, and such default continues for a period of 30 days;

(ii) the Company defaults in the payment of the principal (including premium, if any, and any related Additional Amounts) of any Note when the same becomes due and payable upon its Stated Maturity, upon redemption, acceleration or otherwise;

(iii) the Company fails to comply with any of its material covenants or agreements in the Notes or this Indenture (other than those referred to in clauses (1) and (2) above), and such failure continues for 60 days after the notice specified below;

(iv) the Company defaults under any mortgage, indenture or instrument under which there may be issued or by which there may be secured or evidenced any Debt for money borrowed by the Company (or the payment of which is Guaranteed by the Company) whether such Debt or Guarantee now exists, or is created after the Closing Date, which default (a) is caused by failure to pay principal of or interest on such Debt after giving effect to any grace period provided in such Debt on the date of such default ("Payment Default") or (b) results in the acceleration of such Debt prior to its express maturity and, in each case, the principal amount of any such Debt or Guarantee, as applicable, individually or together with the principal amount of any other such Debt or Guarantee under which there has been a Payment Default or the maturity of which has been so accelerated, totals U.S.$60.0 million (or the equivalent thereof at the time of determination) or more in the aggregate;

(v) one or more final judgments or decrees for the payment of money of U.S.$60.0 million (or the equivalent thereof at the time of determination) or more in the aggregate are rendered against the Company and are not paid (whether in full or in installments in accordance with the terms of the judgment) or otherwise discharged (and otherwise not covered by an insurance policy or policies issued by reputable and credit-worthy insurance companies) and, in the case of each such judgment or decree, either (a) an enforcement proceeding has been commenced by any creditor upon such judgment or decree and is not dismissed within 60 days following commencement of such enforcement proceedings or (b) there is a period of 60 days following such judgment

during which such judgment or decree is not discharged, waived or the execution thereof stayed; or

(vi) the Company or any of its Significant Subsidiaries institutes any proceeding to be adjudicated as voluntary bankrupt, or shall consent to the filing of a bankruptcy proceeding against it, or shall file a petition or answer or consent seeking reorganization, or shall consent to the filing of any such petition, or shall consent to the appointment of a receiver or liquidator or trustee or assignee in bankruptcy or insolvency of it or its property.

(b) A Default under Section 6.1(a)(iii) above will not constitute an Event of Default until the Trustee or the Holders of at least a majority in principal amount of the Outstanding Notes notify the Company of the Default and the Company does not cure such Default within the time specified after receipt of such notice

(c) In the case of any Event of Default referred to in Section 6.1(a)(iv) above, such Event of Default will be automatically rescinded or annulled if the Payment Default and/or the acceleration of the Debt referred to therein is remedied or cured by the Company or waived by the Holders of such Debt within 60 days after the Payment Default and/or acceleration in respect of such Debt.

(d) Upon becoming aware of any Default or Event of Default, the Company shall deliver to the Trustee written notice of events which would constitute such Default or Event of Default, the status thereof and what action the Company is taking or proposes to take in respect thereof.

Section 6.2 Acceleration.

(a) If an Event of Default (other than an Event of Default specified in Section 6.1(a)(vi) with respect to the Company) occurs and is continuing, the Trustee or the Holders of not less than 25% in principal amount of the Outstanding Notes may declare all unpaid principal of, any accrued interest on and any Additional Amounts on all Notes to be due and payable immediately, by a notice in writing to the Company, and upon any such declaration such amounts will become due and payable immediately. If an Event of Default specified in Section 6.1(a)(vi) above occurs and is continuing, then the principal of, any accrued interest on and any Additional Amounts on all Notes will become and be immediately due and payable without any declaration or other act on the part of the Trustee or any Holder.

(b) The right of the Holders to give such acceleration notice described in Section 6.2(a) shall terminate if the event giving rise to such right shall have been cured before such right is exercised.

(c) At any time after a declaration of acceleration with respect to the Notes as described in Section 6.2(a), the Holders of a majority in aggregate principal amount of the then Outstanding Notes may by written notice rescind and annul such declaration and its consequences:

(i) if all existing Events of Default have been cured or waived, except nonpayment of principal or interest that has become due solely because of the acceleration;

(ii) to the extent the payment of such interest is lawful, interest on overdue installments of interest and overdue principal, which has become due otherwise than by such declaration of acceleration, has been paid; and

(iii) if the Company has paid the Trustee its compensation and reimbursed the Trustee for its expenses, indemnities (but only to the extent there is no dispute regarding indemnities), disbursements and advances outstanding at that time;

provided that no judgment for payment has yet been obtained.

No rescission shall affect any subsequent Default or impair any rights relating thereto.

Section 6.3 Other Remedies.

(a) If an Event of Default occurs and is continuing, the Trustee may pursue any available remedy to collect the payment of principal of and interest on the Notes or to enforce the performance of any provision of the Notes or this Indenture.

(b) The Trustee may maintain a proceeding even if it does not possess any of the Notes or does not produce any of them in the proceeding. A delay or omission by the Trustee or any Holder in exercising any right or remedy accruing upon an Event of Default shall not impair the right or remedy or constitute a waiver of or acquiescence in the Event of Default. No remedy is exclusive of any other remedy. All available remedies are cumulative to the extent permitted by law.

Section 6.4 Waiver of Past Defaults. Subject to Section 6.2, the Holders of a majority in aggregate principal amount of the then Outstanding Notes may waive any existing Default or Event of Default hereunder, and its consequences, except (i) a Default in the payment of the principal of, or interest on any Notes or (ii) a Default in respect of a provision that under Section 9.2 cannot be amended without the consent of each Note Holder affected. When a Default is waived, it is deemed cured, but no such waiver shall extend to any subsequent or other Default or impair any consequent right.

Section 6.5 Control by Majority. Subject to the provisions of this Indenture and applicable law, the Holders of a majority in aggregate principal amount of the then Outstanding Notes may direct the time, method and place of conducting any proceeding for any remedy available to the Trustee or of exercising any trust or power conferred on the Trustee. However, the Trustee may refuse to follow any direction (i) that in its reasonable opinion conflict with law or this Indenture, (ii) that may involve the Trustee in personal liability, (iii) in case the Trustee does not receive indemnity and/or security reasonably satisfactory to it against any costs, liability or expense to be incurred in compliance with such direction, or (iv) or that the Trustee determines in good faith may be unduly prejudicial to the rights of Holders not joining in the giving of such direction and may take any other action it deems proper that is not inconsistent with any such direction received from Holders.

Section 6.6 Limitation on Suits.

(a) No Holder of any Notes shall have any right to institute any proceeding with respect hereto or for any remedy hereunder, unless:

(i) such Holder of Notes shall have previously given to the Trustee written notice of a continuing Event of Default;

(ii) Holders of at least 25% in aggregate principal amount of the Outstanding Notes shall have made a written request to the Trustee to institute such proceeding as Trustee; and

(iii) the Trustee shall not have received from the Holders of a majority in aggregate principal amount of the Outstanding Notes a direction inconsistent with such request and shall have failed to institute such proceeding within 60 days;

provided that a Holder of a Note may institute suit for enforcement of payment of the principal of, and premium, if any, or interest on, such Note on or after the respective due dates expressed in such Note. Notwithstanding any provision of this Indenture to the contrary, no one or more of such Holders shall have any right in any manner whatever by virtue of, or by availing of, any provision of this Indenture to affect, disturb, or prejudice the rights of any other of such Holders (it being understood that the Trustee does not have an affirmative duty to ascertain whether or not such actions or forbearances are unduly prejudicial to such Holders).

Section 6.7 Rights of Holders to Receive Payment. Notwithstanding any other provision hereof (including, without limitation, Section 6.6), the right of any Holder to receive payment of principal of, premium, if any, or interest on the Notes held by

such Holder, on or after the respective due dates, Redemption Dates or repurchase date expressed herein or the Notes, or to bring suit for the enforcement of any such payment on or after such respective dates, shall not be impaired or affected without the consent of such Holder.

Section 6.8 Collection Suit by Trustee. If an Event of Default specified in Section 6.1(a)(i) and Section 6.1(a)(ii) occurs and is continuing, the Trustee may recover judgment in its own name and as trustee of an express trust against the Company for the whole amount then due and owing (together with applicable interest on any overdue principal and, to the extent lawful, interest on overdue interest) and the amounts provided for in Section 7.7. Subject to all conditions and provisions hereof and applicable law, the Holders of a majority in aggregate principal amount of the then Outstanding Notes have the right to direct the time, method and place of conducting any proceeding for any remedy available to the Trustee or exercising any trust or power conferred on the Trustee.

Section 6.9 Trustee May File Proofs of Claim, etc.

(a) In case of any judicial proceeding relative to the Company (or any other obligor upon the Notes), its property or its creditors, the Trustee shall be entitled and empowered, by intervention in such proceeding or otherwise, to take any and all actions authorized under applicable law in order to have claims of the Holders and the Trustee allowed

in any such proceeding. In particular, the Trustee may (irrespective of whether the principal of the Notes is then due):

(i) file such proofs of claim and other papers or documents as may be necessary or advisable in order to have the claims of the Trustee and the Holders under this Indenture and the Notes allowed in any bankruptcy, insolvency, liquidation or other judicial proceedings relative to the Company or any Subsidiary of the Company or their respective creditors or properties; and

(ii) collect and receive any moneys or other property payable or deliverable in respect of any such claims and distribute them in accordance with this Indenture.

Any receiver, trustee, liquidator, sequestrator (or other similar official) in any such proceeding is hereby authorized by each Holder to make such payments to the Trustee and, in the event that the Trustee shall consent to the making of such payments directly to the Holders, to pay to the Trustee any amount due to it for the reasonable compensation, expenses, taxes, disbursements and advances of the Trustee, its agent and counsel, and any other amounts due to the Trustee pursuant to Section 7.7.

(b) Nothing in this Indenture shall be deemed to authorize the Trustee to authorize or consent to or accept or adopt on behalf of any Holder any plan of reorganization, arrangement, adjustment or composition affecting the Notes or the rights of any Holder thereof, or to authorize the Trustee to vote in respect of the claim of any Holder in any such proceeding.

Section 6.10 Priorities. If the Trustee collects any money or property pursuant to this Article VI, it shall pay out the money or property in the following order:

FIRST: to the Trustee for amounts due under Section 7.7;

SECOND: to Holders for amounts due and unpaid on the Notes for principal and interest, ratably, without preference or priority of any kind, according to the amounts due and payable on the Notes for principal and interest, respectively; and

THIRD: to the Company.

The Trustee may, upon notice to the Company, fix a record date and payment date for any payment to Holders pursuant to this Section 6.10.

Section 6.11 Undertaking for Costs. All parties agree, and each Holder by its acceptance of its Notes shall be deemed to have agreed, that in any suit for the enforcement of any right or remedy under this Indenture or in any suit against the Trustee for any action taken or omitted by it as Trustee, a court in its discretion may require the filing by any party litigant in the suit of an undertaking to pay the costs of the suit, and the court in its discretion may assess reasonable costs, including reasonable attorneys' fees, against any party litigant in the suit, having due regard to the merits and good faith of the claims or defenses made by the party litigant. This Section 6.11 does not apply to a suit by the Trustee, a suit by the Company, a suit

by a Holder pursuant to Section 6.7 or a suit by Holders of more than 10% in principal amount of Outstanding Notes.

ARTICLE VII

TRUSTEE

Section 7.1 Duties of Trustee.

(a) If a Default or an Event of Default has occurred and is continuing, the Trustee shall exercise the rights and powers vested in it by this Indenture and use the same degree of care and skill in its exercise thereof as a prudent Person would exercise or use under the circumstances in the conduct of such Person's own affairs.

(b) Except during the continuance of a Default or an Event of Default:

(i) the Trustee undertakes to perform such duties and only such duties as are specifically set forth in this Indenture and no implied covenants or obligations shall be read into this Indenture against the Trustee; and

(ii) in the absence of bad faith on its part, the Trustee may conclusively rely, as to the truth of the statements and the correctness of the opinions expressed therein, upon certificates or opinions furnished to the Trustee and conforming to the requirements of this Indenture. However, in the case of any such certificates or opinions, which by any provisions hereof are specifically required to be furnished to the Trustee, the Trustee shall examine such certificates and opinions to determine whether or not they conform to the requirements of this Indenture (it being understood that the Trustee need not confirm or investigate the accuracy of mathematical calculations or other facts stated therein).

(c) The Trustee may not be relieved from liability for its own gross negligent action, its own gross negligent failure to act or its own willful misconduct, except that:

(i) this Section 7.1(c) does not limit the effect of Section 7.1(b);

(ii) the Trustee shall not be liable for any error of judgment made in good faith by a Trust Officer unless it is proved that the Trustee was grossly negligent in ascertaining the pertinent facts; and

(iii) the Trustee shall not be liable with respect to any action it takes or omits to take in good faith in accordance with a direction received by it pursuant to Section 6.2, Section 6.5 or Section 6.8 or any other provision of this Indenture.

(d) The Trustee shall hold all funds uninvested and shall not be liable for interest on any money received by it except as the Trustee may agree in writing with the Company.

(e) Money held in trust by the Trustee need not be segregated from other funds except to the extent required by law.

(f) No provision hereof shall require the Trustee to expend or risk its own funds or otherwise incur any financial liability in the performance of any of its duties hereunder or in the exercise of any of its rights or powers, if it shall have reasonable grounds to believe that repayment of such funds or adequate indemnity or security against such risk or liability is not reasonably assured to it.

(g) Every provision of this Indenture relating to the conduct or affecting the liability of or affording protection to the Trustee shall be subject to the provisions of this Article VII.

(h) Unless otherwise specifically provided in this Indenture, any demand, request, direction or notice from the Company shall be sufficient if signed by an Officer of the Company.

(i) Notwithstanding any provision herein to the contrary, the Trustee shall be under no obligation to exercise any of the rights or powers vested in it by this Indenture at the request, order or direction of any of the Holders (i) that in its reasonable opinion conflicts with law or this Indenture, (ii) that may involve the Trustee in personal liability, (iii) in case the Trustee does not receive indemnity and/or security reasonably satisfactory to it against any costs, liability or expense to be incurred in compliance with such direction, or (iv) or that the Trustee determines in good faith may be unduly prejudicial to the rights of the Holders not joining in the giving of such direction and may take any other action it deems proper that is not inconsistent with any such direction received from the Holders.

Section 7.2 Rights of Trustee.

Subject to Section 7.1:

(a) The Trustee may conclusively rely and shall be fully protected in acting or refraining from acting upon any document, instrument, opinion, direction, order, notice, certificate or request reasonably believed by it to be genuine and to have been signed or presented by the proper Person. The Trustee need not investigate any fact or matter stated in such document, instrument, opinion, direction, order, notice, certificate or request.

(b) Before the Trustee acts or refrains from acting at the direction of the Company, it may require an Officers' Certificate, advice of counsel and/or an Opinion of Counsel, and such Officers' Certificate, advice and/or Opinion of Counsel shall be full and complete authorization and protection in respect of any action taken or omitted to be taken by it hereunder. The Trustee shall not be liable for any action it takes or omits to take in good faith in reliance on an Officers' Certificate, advice of counsel and/or Opinion of Counsel.

(c) The Trustee may act through its attorneys and agents and shall not be responsible for the misconduct or negligence of any agent appointed with due care.

(d) The Trustee shall not be liable for any action it takes or omits to take in good faith which it believes to be authorized or within its rights or powers.

(e) The Trustee may consult with counsel of its selection, and the advice or opinion of counsel with respect to legal matters relating to this Indenture and the Notes shall be full and complete authorization and protection from liability in respect to any action taken, omitted or suffered by it hereunder in good faith and in accordance with the advice or opinion of such counsel.

(f) The Trustee shall not be bound to make any investigation into the facts or matters stated in any resolution, certificate, statement, instrument, opinion, report, notice, request, direction, consent, order, bond, debenture, note, other evidence of indebtedness or other paper or document, but the Trustee, in its discretion, may make such further inquiry or investigation into such facts or matters as it may see fit, and, if the Trustee shall determine to make such further inquiry or investigation, it shall be entitled, upon notice to the Company, to examine the books, records and premises of the Company, personally or by agent or attorney at the sole cost of the Company and shall incur no liability or additional liability of any kind by reason of such inquiry or investigation.

(g) The Trustee shall not be deemed to have notice of any Default or Event of Default (other than Default under Section 6.1(a)(i) or Section 6.1(a)(ii)) or knowledge of any cure of any Default or Event of Default unless a Trust Officer of the Trustee has actual knowledge thereof or unless written notice of any event which is in fact such a Default or Event of Default is received by the Trustee at the Corporate Trust Office of the Trustee, and such notice references the Notes and this Indenture. For purposes of determining the Trustee's responsibility and liability hereunder, whenever reference is made in this Indenture to a Default or Event of Default, such reference shall be construed to refer only to such Default or Event of Default for which the Trustee is deemed to have notice pursuant to this Section 7.2(g).

(h) The rights, privileges, protections, immunities and benefits given to the Trustee, including, without limitation, its right to be indemnified, are extended to, and shall be enforceable by, the Trustee in each of its capacities hereunder, and to each agent, custodian and other Person employed to act hereunder.

(i) In no event shall the Trustee be responsible or liable for special, indirect, punitive or consequential loss or damage of any kind whatsoever (including, without limitation, loss of profit) irrespective of whether the Trustee has been advised of the likelihood of such loss or damage and regardless of the form of action.

(j) The Trustee may request that the Company deliver an Officers' Certificate setting forth the names of individuals and/or titles of officers authorized at such time to take specified actions pursuant to this Indenture, which Officers' Certificate may be signed by any Person authorized to sign an Officers' Certificate, including any Person specified as so authorized in any such certificate previously delivered and not superseded.

(k) The permissive rights of the Trustee enumerated herein shall not be construed as duties.

(l) The Trustee shall not be responsible or liable for any failure or delay in the performance of its obligations under this Indenture arising out of or caused, directly or indirectly, by circumstances beyond its reasonable control, including without limitation, acts of God; earthquakes; fires; floods; wars; civil or military disturbances; sabotage; epidemics; riots; interruptions, loss or malfunctions of utilities, computer (hardware or software) or communications service, accidents; labor disputes; acts of civil or military authority or governmental actions (it being understood that the Trustee shall use its best efforts to resume performance as soon as practicable under the circumstances).

(m) The Trustee may execute any of the trusts or powers hereunder or perform any duties hereunder either directly or by or through agents or attorneys.

(n) To the extent permitted by applicable law, the Trustee shall not be required to give any bond or surety in respect of the execution of this Indenture or otherwise.

(o) In order to help the United States government fight the funding of terrorism and money laundering activities, pursuant to Federal regulations that became effective on October 1, 2003 (Section 326 of the USA PATRIOT Act), the Trustee may obtain, verify, record and update information that identifies each person establishing a relationship or opening an account with the Trustee. The Trustee will ask for such information as it may request, from time to time, in order for the Trustee to satisfy the requirements of the USA PATRIOT Act, including but not limited to the name, address, tax identification number and other information that will allow the Trustee to identify the individual or entity who is establishing the relationship or opening the account. The Trustee may also ask for formation documents such as articles of incorporation, an offering memorandum, or other identifying documents to be provided.

(p) In respect of this Indenture, the Trustee shall not have any duty or obligation to verify or confirm that the Person sending instructions, directions, reports, notices or other communications or information by electronic transmission is, in fact, a Person authorized to give such instructions, directions, reports, notices or other communications or information on behalf of the party purporting to send such electronic transmission; and the Trustee shall not have any liability for any losses, liabilities, costs or expenses incurred or sustained by any party as a result of such reliance upon or compliance with such instructions, directions, reports, notices or other communications or information. Each other party agrees to assume all risks arising out of the use of electronic methods to submit instructions, directions, reports, notices or other communications or information to the Trustee, including without limitation the risk of the Trustee acting on unauthorized instructions, notices, reports or other communications or information, and the risk of interception and misuse by third parties.

(q) To secure the obligations owed to the Trustee hereunder, the Trustee shall have a Lien prior on all money or property held or collected by it in its capacity as Trustee, and may withhold or set-off any amounts due and owing to it under this Indenture from any money or property held or collected by it in its capacity as Trustee.

(r) The Trustee shall have no obligation or duty to ensure compliance with the securities laws of any country or state except to request such certificates or other documents

required to be obtained by the Trustee or any Registrar hereunder in connection with any exchange or transfer pursuant to the terms hereof.

Section 7.3 Individual Rights of Trustee. The Trustee in its individual or any other capacity may become the owner or pledgee of Notes and may otherwise deal with the Company or any of its Affiliates with the same rights it would have if it were not

Trustee. Any Paying Agent, Registrar or co-Registrar may do the same with like rights. However, the Trustee must comply with Section 7.10.

Section 7.4 Trustee's Disclaimer. The Trustee shall not be responsible for and makes no representation as to the validity or adequacy of this Indenture or the Notes, it shall not be accountable for the Company's use of the proceeds from the Notes, and it shall not be responsible for any statement of the Company in this Indenture or in any document issued in connection with the sale of the Notes or in the Notes other than the Trustee's certificate of authentication, except that the Trustee represents that it is duly authorized to execute and deliver this Indenture, authenticate the Notes and perform its obligations hereunder.

Section 7.5 Notice of Defaults. If a Default occurs hereunder with respect to the Notes and is continuing and it is actually known to the Trust Officer of the Trustee, Trustee will send notice of the Default to each Holder within 45 days after it occurs, or, if later, within 15 days after it is known to the Trustee unless the Default has been cured. Except in the case of a Default or Event of Default in the payment of principal of, premium, if any, or interest on any Note, the Trustee may withhold the notice if and so long as a committee of its Trust Officers in good faith determines that withholding the notice is in the interests of the Holders.

Section 7.6 Reports by Trustee to Holders. The Trustee shall notify Holders of any Defaults under this Indenture pursuant to Section 7.5. The Company agrees to promptly notify the Trustee whenever the Notes become listed on any stock exchange and of any delisting thereof.

Section 7.7 Compensation and Indemnity.

(a) The Company shall pay to the Trustee from time to time such compensation for its acceptance of this Indenture and services hereunder as the Company and the Trustee shall from time to time agree in writing. The Trustee's compensation shall not be limited by any law on compensation of a trustee of an express trust. The Company shall reimburse the Trustee upon request for all reasonable out-of-pocket expenses, disbursements and advances (including costs of collection) incurred or made by it in connection with the performance of its duties under this Indenture, except for any such expense as may arise from the Trustee's gross negligence, willful misconduct or bad faith. Such expenses shall include the reasonable fees and expenses of the Trustee's agents and counsel.

(b) The Company shall indemnify the Trustee and its officers, directors, employees and agents against any and all loss, damage, claim, liability or expense (including reasonable attorneys' fees and expenses) incurred by it without gross negligence or willful misconduct or bad faith on its part in connection with the acceptance or administration of this trust and the performance of its duties hereunder, including the costs and expenses of defending

themselves (including reasonable attorney's fees and costs) against any claim or liability related to the exercise or performance of any of their powers, rights or duties hereunder and under any other agreement or instrument related thereto. The Trustee shall notify the Company promptly of any claim for which it may seek indemnity. Failure by the Trustee to so notify the Company shall not relieve the Company of its obligations hereunder. The Company need not pay for any settlement made without its written consent.

(c) To secure the Company's payment obligations in this Section 7.7, the Trustee shall have a Lien prior to the Notes on all money or property held or collected by the Trustee other than money or property held in trust to pay principal of and interest on particular Notes. The Trustee's right to receive payment of any amounts due under this Section 7.7 shall not be subordinate to any other liability or Debt of the Company.

(d) The Company's payment obligations pursuant to this Section 7.7 shall survive the discharge of this Indenture, payment of the Notes and the resignation or removal of the Trustee. When the Trustee incurs expenses after the occurrence of an Event of Default under Section 6.1(a)(vi) or Section 6.1(a)(vii), the expenses are intended to constitute expenses of administration under any Bankruptcy Law; *provided*, *however*, that this shall not affect the Trustee's rights as set forth in this Section 7.7 or Section 6.10.

(e) All payments made to the Trustee under this Indenture shall be made free and clear of, and without withholding or deduction for any taxes, duties, assessments or governmental charges of whatsoever nature (other than taxes, duties, assessments or governmental charges based upon, measured by or determined by the income of the Trustee) imposed, levied, collected, withheld or assessed by the taxing authorities of Peru or any other jurisdictions or any political sub-division or any authority thereof or therein having power to tax, unless such withholding or deduction is required by law. In the event where such withholding and/or

deduction is required by law, the Company shall pay such additional amounts as will result in the receipt by the Trustee of such amounts as would have been received by the Trustee if no such withholding or deduction had been required.

Section 7.8 Replacement of Trustee.

(a) The Trustee may resign at any time by so notifying the Company. In addition, the Holders of a majority in aggregate principal amount of the then Outstanding Notes may remove the Trustee by so notifying the Trustee and may appoint a successor Trustee. Moreover, if the Trustee is no longer eligible pursuant to Section 7.10 to act as such, or does not have a combined capital and surplus of at least U.S.$50,000,000 as set forth in its most recent published annual report or does not have its Corporate Trust Office in the City of New York, New York, any Holder may petition any court of competent jurisdiction for the removal of the Trustee and the appointment of a successor Trustee. The Company may remove the Trustee and appoint a successor Trustee at any time for any reason so long as no Default or Event of Default has occurred and is continuing. The Company shall remove the Trustee if:

(i) the Trustee fails to comply with Section 7.10;

(ii) the Trustee is adjudged bankrupt or insolvent;

(iii) a receiver or other public officer takes charge of the Trustee or its property; or

(iv) the Trustee otherwise becomes incapable of acting.

(b) If the Trustee resigns or is removed by the Company or by the Holders of a majority in principal amount of the then Outstanding Notes and such Holders do not reasonably promptly appoint a successor Trustee, or if a vacancy exists in the office of the Trustee for any reason (the Trustee in such event being referred to herein as the retiring Trustee), the Company shall promptly appoint a successor Trustee.

(c) A successor Trustee shall deliver a written acceptance of its appointment to the retiring Trustee and to the Company. Thereupon the resignation or removal of the retiring Trustee shall become effective, and the successor Trustee shall have all the rights, powers and duties of the Trustee under this Indenture. The successor Trustee shall mail a notice of its succession to Holders and, so long as the Notes are listed on the Luxembourg Stock Exchange for trading on the Euro MTF Market and the rules of such Exchange so require, the successor Trustee shall also publish notice as described in Section 11.1. The retiring Trustee shall promptly transfer all property held by it as Trustee to the successor Trustee, subject to the Lien provided for in Section 7.7.

(d) If a successor Trustee does not take office within 30 days after the retiring Trustee resigns or is removed, the retiring Trustee or the Holders of 10% in principal amount of the Outstanding Notes may itself or themselves appoint a successor Trustee or may petition, at the Company's expense, any court of competent jurisdiction for the appointment of a successor Trustee.

(e) If the Trustee fails to comply with Section 7.10, any Holder may petition any court of competent jurisdiction for the removal of the Trustee and the appointment of a successor Trustee.

(f) Notwithstanding the replacement of the Trustee pursuant to this Section 7.8, the Company's obligations under Section 7.7 shall continue for the benefit of the retiring Trustee.

Section 7.9 Successor Trustee by Merger. If the Trustee consolidates with, merges or converts into, or transfers all or substantially all its corporate trust business or assets to, another corporation or national banking association, the resulting, surviving or transferee corporation without any further act shall be the successor Trustee; *provided* that such Persons shall be otherwise qualified and eligible under this Article VII.

Section 7.10 Eligibility. The Trustee shall have a combined capital and surplus of at least U.S.$50,000,000 as set forth in its most recent published annual report.

Section 7.11 Paying Agent, Registrar and Luxembourg Paying Agent. The rights, protections and immunities granted to the Trustee under this Article VII shall apply *mutatis mutandis* to the Paying Agent, Registrar, any Authenticating Agent, any Transfer Agent and the Luxembourg Paying Agent.

ARTICLE VIII

DEFEASANCE; DISCHARGE OF INDENTURE

Section 8.1 Legal Defeasance and Covenant Defeasance.

(a) The Company may, at its option, at any time, upon compliance with the conditions set forth in Section 8.2, elect to have either Section 8.1(b) or Section 8.1(c) be applied to its obligations with respect to all Outstanding Notes.

(b) Upon the Company's exercise under Section 8.1(a) of the option applicable to this Section 8.1(b), the Company shall, subject to the satisfaction of the conditions set forth in Section 8.2, be deemed to have paid and discharged the entire indebtedness represented by the Outstanding Notes after the deposit specified in Section 8.2(a) (hereinafter, "Legal Defeasance"). For this purpose, Legal Defeasance means that the Company shall be deemed to have paid and discharged the entire Debt represented by the Outstanding Notes, which shall thereafter be deemed to be Outstanding only for the purposes of the sections of this Indenture referred to in clause (i) or (ii) of this Section 8.1(b), and the Company shall have been deemed to have satisfied all their other obligations under such Notes, and hereunder (and the Trustee, on demand of and at the expense of the Company, shall execute proper instruments acknowledging the same), except for the following provisions, which shall survive until otherwise terminated or discharged hereunder:

(i) the rights of Holders to receive payments in respect of the principal of, premium, if any, and interest on the Notes when such payments are due;

(ii) the Company's obligations with respect to such Notes concerning issuing temporary Notes, registration of Notes, mutilated, destroyed, lost or stolen Notes and the maintenance of an office or agency for payments;

(iii) the rights, powers, trusts, duties, indemnities and immunities of the Trustee as described in Article VII and hereunder and the Company's obligations in connection therewith; and

(iv) this Article VIII.

Subject to compliance with this Article VIII, the Company may exercise its option under this Section 8.1(b) notwithstanding the prior exercise of its option under Section 8.1(c).

(c) Upon the Company's exercise under Section 8.1(a) of the option applicable to this Section 8.1(c), the Company shall be, subject to the satisfaction of the applicable conditions set forth in Section 8.2, released and discharged from each of its obligations under the covenants contained in Section 3.4, Section 3.7, Section 3.9, Section 3.10, Section 3.11, and Section 3.14 with respect to the Outstanding Notes, on and after the date the conditions set forth below are satisfied (hereinafter, "Covenant Defeasance"), and the Notes shall thereafter be deemed not Outstanding for the purposes of any direction, waiver, consent or declaration or act of Holders (and the consequences of any thereof) in connection with such covenants, but shall continue to be Outstanding for all

other purposes hereunder (it being understood that such Notes shall not be deemed Outstanding for accounting purposes). For this purpose, such Covenant Defeasance means that, with respect to the Outstanding Notes, the Company may omit to comply with and shall have no liability in respect of any term, condition or limitation set forth in any such covenant, whether directly or indirectly, by reason of any reference elsewhere herein to any such covenant or by reason of any reference in any such covenant to any other provision herein or in any other document and such omission to comply shall not constitute a Default or an Event of Default with respect to the Notes under Section 6.1 hereof, but, except as specified above, the remainder of this Indenture and such Notes shall be unaffected thereby. In addition, upon the Company's exercise under Section 8.1 hereof of the option applicable to this Section 8.1(c), subject to the satisfaction of the conditions set forth in Section 8.2 hereof, Section 6.1(a)(iii), Section 6.1(a)(iv) and Section 6.1(a)(v) hereof will not constitute Events of Default.

Section 8.2 Conditions to Defeasance. The Company may exercise its Legal Defeasance option or its Covenant Defeasance option only if:

(a) the Company has irrevocably deposited with the Trustee, in trust, for the benefit of the Holders cash in U.S. Dollars, U.S. Government Obligations, or a combination thereof, in such amounts as shall be sufficient without reinvestment, in the opinion of a nationally recognized investment bank, appraisal firm or firm of independent public accountants, to pay the principal of, and premium, if any, and interest on the Notes (including Additional Amounts) on the stated date for payment thereof, as the case may be;

(b) in the case of Legal Defeasance, the Company has delivered to the Trustee an Opinion of Counsel from counsel in the U.S. reasonably acceptable to the Trustee (subject to customary exceptions and exclusions) and independent of the Company to the effect that:

(i) the Company has received from, or there has been published by, the Internal Revenue Service a ruling; or

(ii) since the Issue Date, there has been a change in the applicable U.S. federal income tax law;

and in either case to the effect that, the Holders shall not recognize income, gain or loss for U.S. federal income tax purposes as a result of such Legal Defeasance and shall be subject to U.S. federal income tax on the same amounts, in the same manner and at the same times as would have been the case if such Legal Defeasance had not occurred;

(c) in the case of Covenant Defeasance, the Company has delivered to the Trustee an Opinion of Counsel from counsel in the U.S. reasonably acceptable to the Trustee and independent of the Company (subject to customary exceptions and exclusions) to the effect that the Holders shall not recognize income, gain or loss for U.S. federal income tax purposes as a result of such Covenant Defeasance and shall be subject to U.S. federal income tax on the same amounts, in the same manner and at the same times as would have been the case if such Covenant Defeasance had not occurred;

(d) in the case of Legal Defeasance or Covenant Defeasance, the Company has delivered to the Trustee an Opinion of Counsel from counsel in Peru reasonably acceptable

to the Trustee and independent of the Company (subject to customary exceptions and exclusions) to the effect that, based upon Peruvian law then in effect, Holders will not recognize income, gain or loss for Peruvian tax purposes, including withholding tax except for withholding tax then payable on interest payments due, as a result of Legal Defeasance or Covenant Defeasance, as the case may be, and will be subject to Peruvian taxes on the same amounts and in the same manner and at the same time as would have been the case if such Legal Defeasance or Covenant Defeasance, as the case may be, had not occurred;

(e) no Default or Event of Default has occurred and is continuing on the date of the deposit pursuant to Section 8.2(a) (except any Default or Event of Default resulting from any failure to comply with Section 3.7 as a result of the borrowing of the funds required to effect such deposit);

(f) the Company has delivered to the Trustee an Officers' Certificate stating that the deposit was not made by the Company with the intent of preferring the Holders over any other creditors of the Company or any Subsidiary of the Company or with the intent of defeating, hindering, delaying or defrauding any other creditors of the Company or others;

(g) the Company has delivered to the Trustee an Officers' Certificate and Opinion of Counsel from U.S. counsel reasonably acceptable to the Trustee and independent of the Company (subject to customary exceptions and exclusions), each stating that all conditions precedent provided for or relating to the Legal Defeasance or the Covenant Defeasance have been complied with; and

(h) the Company has delivered to the Trustee Opinions of Counsel from U.S. and Peruvian counsel reasonably acceptable to the Trustee and independent of the Company (subject to customary exceptions and exclusions and to assumptions as to factual matters, including the absence of an intervening bankruptcy, insolvency or reorganization during the applicable preference period following the date of such deposit and that no Holder or the Trustee is deemed to be an "insider" of the Company under the United States Bankruptcy Code and any equivalent law of Peru), to the effect that the transfer of trust funds pursuant to such deposit

will not be subject to avoidance as a preferential transfer pursuant to the applicable provisions of the United States Bankruptcy Code or any successor statute and any equivalent law of Peru; and

(i) the Company has delivered to the Trustee an Opinion of Counsel to the effect that the creation of the defeasance trust does not violate the U.S. Investment Company Act of 1940, as amended, and after the passage of 123 days following the deposit, the trust fund will not be subject to the effect of Section 547 of the United States Bankruptcy Court or Section 15 of the New York Debtor and Creditor Law.

Section 8.3 Application of Trust Money. The Trustee shall hold in trust U.S. Dollars or U.S. Government Obligations deposited with it pursuant to this Article VIII. It shall apply the deposited money and the U.S. Dollars from U.S. Government Obligations, together with earnings thereon, through the Paying Agent and in accordance with this Indenture to the payment of principal of and interest on the Notes. Anything in this Article VIII to the contrary notwithstanding, the Trustee shall deliver or pay to the Company from time to time upon the Company's request any U.S. Dollars or U.S. Government Obligations held by it as provided in

this Section 8.3 which, in the opinion of a nationally recognized firm of independent public accountants expressed in a written certification thereof delivered to the Trustee, are in excess of the amount thereof that would then be required to be deposited to effect an equivalent Legal Defeasance or Covenant Defeasance.

Section 8.4 Repayment to Company.

(a) The Trustee and the Paying Agent shall promptly turn over to the Company upon request any excess money or securities held by them upon payment of all the obligations under this Indenture.

(b) Subject to any applicable abandoned property law, the Trustee and the Paying Agent shall pay to the Company upon written request any money held by them for the payment of principal of or interest on the Notes that remains unclaimed for two years, and, thereafter, Holders entitled to the money must look to the Company for payment as general creditors. After the return of such monies by the Trustee or the Paying Agent to the Company, neither the Trustee nor the Paying Agent will be liable to the Holders in respect of such monies.

Section 8.5 Indemnity for U.S. Government Obligations. The Company shall pay and shall indemnify the Trustee against any tax, fee or other charge imposed on or assessed against U.S. Government Obligations or the principal and interest received on such U.S. Government Obligations deposited with the Trustee pursuant to this Article VIII.

Section 8.6 Reinstatement. If the Trustee or Paying Agent is unable to apply any U.S. Dollars or U.S. Government Obligations in accordance with this Article VIII by reason of any legal proceeding or by reason of any order or judgment of any court or Governmental Authority enjoining, restraining or otherwise prohibiting such application, the obligations of the Company under this Indenture and the Notes shall be revived and reinstated as though no deposit had occurred pursuant to this Article VIII until such time as the Trustee or Paying Agent is permitted to apply all such U.S. Dollars or U.S. Government Obligations in accordance with this Article VIII; *provided*, *however*, that, if the Company has made any payment of principal of or interest on any Notes because of the reinstatement of its obligations, the Company shall be subrogated to the rights of the Holders of such Notes to receive such payment from the U.S. Dollars or U.S. Government Obligations held by the Trustee or Paying Agent.

Section 8.7 Satisfaction and Discharge. This Indenture shall be discharged and shall cease to be of further effect (except as to surviving rights or registration of transfer or exchange of the Notes, as expressly provided for herein) as to all Outstanding Notes, and the Trustee, on written demand of and at the expense of the Company, shall execute proper instruments acknowledging satisfaction and discharge of this Indenture, when:

(a) either:

(i) all the Notes theretofor, authenticated and delivered (except lost, stolen or destroyed Notes which have been replaced or paid and Notes for whose payment money has theretofore been deposited in trust or segregated and held in trust by the Company and thereafter repaid to the Company or discharged from such trust) have been delivered to the Trustee for cancellation; or

(ii) all Notes not theretofor delivered to the Trustee for cancellation have become due and payable and the Company has irrevocably deposited or caused to be deposited with the Trustee funds or U.S. Government Obligations sufficient without reinvestment to pay and discharge the entire Debt on the Notes not theretofor delivered to the Trustee for cancellation, for principal of, premium, if any, and accrued and unpaid interest on the Notes to the date of deposit (in the case of Notes that have become due and payable) or to the maturity or Redemption Date, as the case may be, together with irrevocable instructions from the Company directing the Trustee to apply such funds to the payment;

(b) the Company has paid all other sums payable under this Indenture and the Notes by the Company; and

(c) the Company has delivered to the Trustee an Officers' Certificate stating that all conditions precedent under this Indenture relating to the satisfaction and discharge of this Indenture have been complied with.

ARTICLE IX

AMENDMENTS

Section 9.1 Without Consent of Holders.

(a) The Company and the Trustee may amend, modify or supplement this Indenture and the Notes without notice to or consent of any Holder:

(i) to cure any ambiguity, omission, manifest error, defect or inconsistency that would not materially and adversely affect the Holders;

(ii) to comply with the covenant described Article IV;

(iii) to add Guarantees or collateral with respect to the Notes;

(iv) to add to the covenants of the Company for the benefit of Holders of the Notes;

(v) to surrender any right conferred by this Indenture upon the Company;

(vi) to evidence and provide for the acceptance of an appointment by a successor Trustee;

(vii) to comply with any requirements of the SEC in connection with any qualification of this Indenture under the U.S. Trust Indenture Act of 1939, as amended;

(viii) to provide for the issuance of Additional Notes;

(ix) to conform the text of this Indenture to any provision of in the "Description of the Notes" section of the Offering Memorandum;

(x) to confirm and evidence the release, termination or discharge of any Guarantee of or Lien securing the Notes when such release, termination or discharge is permitted by this Indenture; or

(xi) to make any other change that does not materially and adversely affect the rights of any Holder of the Notes.

(b) In connection with the foregoing, the Trustee shall be entitled to rely on such evidence as it deems appropriate, including, without limitation, solely on an Opinion of Counsel and an Officers' Certificate.

(c) The consent of the Holders of the Notes is not necessary to approve the particular form of any proposed amendment. It shall be sufficient if such consent approves the substance of the proposed amendment.

(d) After an amendment under this Section 9.1 becomes effective, the Company shall mail to Holders a notice briefly describing such amendment. The failure to give such notice to all Holders, or any defect therein, shall not impair or affect the validity of an amendment under this Section 9.1.

Section 9.2 With Consent of Holders.

(a) Modifications to, amendments of, and supplements to, this Indenture or the Notes not set forth under Section 9.1 may also be made, and future compliance therewith or past default by the Company (other than a default in the payment of any amount, including in connection with a redemption, due on the Notes or in respect of a covenant or provision which cannot be modified and amended without the consent of the Holders of all Notes so affected) may be waived, either with the written consent (including consents obtained in connection with a tender offer or exchange offer for the Notes) of the Holders of at least a majority in aggregate principal amount of Outstanding Notes or by adoption of resolutions at a meeting of Holders of the Notes by Holders of at least a majority of the Outstanding Notes; *provided* that, no such modification or amendment to this Indenture or the Notes may, without the consent or the affirmative vote of each Holder so affected:

(i) reduce the rate of or extend the time for payment of interest on any Note;

(ii) reduce the principal of or extend the Stated Maturity of any Note;

(iii) reduce the amount payable upon redemption of any Note or change the time at which any Note may be redeemed;

(iv) change the currency or place of payment of principal of, premium, if any, or interest on, any Note;

(v) impair the right to institute suit for the enforcement of any payment on or with respect to any Note;

(vi) waive a Default or Event of Default in the payment of principal of, premium, if any, and interest on the Notes; or

(vii) reduce the principal amount of Notes whose Holders must consent to any amendment, supplement or waiver;

provided, *further*, that in connection with any modification, amendment or supplement pursuant to this Section 9.2, or Section 9.1 above, the Company has delivered to the Trustee an Opinion of Counsel and an Officers' Certificate, each stating that such modification, amendment or supplement complies with the provisions of this Indenture, that such amendment or supplement constitutes the legal, valid and binding obligations of the party or parties executing such amendment or supplement, and that all conditions precedent have been complied with.

Section 9.3 Revocation and Effect of Consents and Waivers.

(a) A consent to an amendment, supplement or waiver by a Holder of a Note shall bind the Holder and every subsequent Holder of that Note or portion of the Note that evidences the same debt as the consenting Holder's Note, even if notation of the consent or waiver is not made on the Note. However, any such Holder or subsequent Holder may revoke the consent or waiver as to such Holder's Note or portion of the Note if the Trustee receives the notice of revocation before the date the amendment, supplement or waiver becomes effective. After an amendment, supplement or waiver becomes effective, it shall bind every Holder, except as otherwise provided in this Article IX. An amendment, supplement or waiver under Section 9.2 shall become effective upon receipt by the Trustee of the requisite number of written consents under Section 9.2.

(b) The Company may, but shall not be obligated to, fix a record date for the purpose of determining the Holders entitled to give their consent or take any other action described above or required or permitted to be taken pursuant to this Indenture. If a record date is fixed, then notwithstanding the immediately preceding paragraph, those Persons who were Holders at such record date (or their duly designated proxies), and only those Persons, shall be entitled to give such consent or to revoke any consent previously given or to take any such action, whether or not such Persons continue to be Holders after such record date. No such consent shall be valid or effective for more than 90 days after such record date.

Section 9.4 Notation on or Exchange of Notes. If an amendment or supplement changes the terms of a Note, the Company may place an appropriate notation on each Outstanding Note surrendered to it for such purpose regarding the changed terms

and return it to the Holder. Alternatively, if the Company so determines, the Company in exchange for the Note shall execute and upon Company Order the Trustee shall authenticate a new Note that reflects the changed terms. Failure to make the appropriate notation or to issue a new Note shall not affect the validity of such amendment or supplement.

Section 9.5 Trustee to Sign Amendments and Supplements. The Trustee shall sign any amendment or supplement authorized pursuant to this Article IX if the amendment or

supplement does not adversely affect the rights, duties, liabilities, protections, benefits, indemnities or immunities of the Trustee. If it does, the Trustee may but need not sign it. In signing such amendment or supplement the Trustee shall be entitled to receive indemnity and/or security reasonably satisfactory to it and to receive, and be fully protected in conclusively relying upon, such evidence as it deems appropriate, including, without limitation, the documents required by Section 11.2 and solely on an Opinion of Counsel and Officers' Certificate, each stating that such amendment or supplement is authorized or permitted hereby.

ARTICLE X

SUBSTITUTION OF THE ISSUER

Section 10.1 Substitution of the Issuer. Notwithstanding any other provision contained in this Indenture:

(a) the Company may, without the consent of the Holders of the Notes (and by subscribing for any Notes, each Holder of the Notes expressly consents to it), be replaced and substituted by (x) any direct or indirect controlling shareholder of the Company or (y) any Wholly Owned Subsidiary of a direct or indirect controlling shareholder of the Company as principal debtor (in such capacity, the "Substituted Debtor") in respect of the Notes, *provided* that:

(i) such documents shall be executed by the Substituted Debtor and the Trustee as may be necessary to give full effect to the substitution, including a supplemental indenture whereby the Substituted Debtor assumes all of the Company's obligations under this Indenture and Notes and pursuant to which the Company shall Guarantee in favor of each Holder of Notes the payment of all sums payable by the Substituted Debtor as such principal debtor on the same terms *mutatis mutandis* as the Notes (together, the "Issuer Substitution Documents") and shall continue to be subject to the covenants under this Indenture;

(ii) in addition, pursuant to the terms of the Issuer Substitution Documents, the Substituted Debtor shall indemnify and hold harmless each Holder of the Notes against all taxes or duties which arise by reason of a law or regulation having legal effect or being in reasonable contemplation thereof on the date such substitution becomes effective, which may be incurred or levied against such Holder as a result of any substitution pursuant to the conditions set forth in this section and which would not have been so incurred or levied had such substitution not been made;

(iii) the Company shall have delivered, or procured the delivery to the Trustee of, an Opinion of Counsel to the effect that the Issuer Substitution Documents constitute valid and binding obligations of the Substituted Debtor;

(iv) the Substituted Debtor shall have appointed a process agent in the Borough of Manhattan, the City of New York to receive service of process on its behalf

in relation to any legal action or proceedings arising out of or in connection with the Issuer Substitution Documents; and

(v) there is no outstanding Event of Default in respect of the Notes.

(b) Upon the execution of the Issuer Substitution Documents as referred to in paragraph (a)(i) above, the Substituted Debtor shall be deemed to be named in the Notes as the principal debtor in place of the Company (or of any subsequent substitute under these provisions) and the Notes shall thereupon be deemed to be amended to give effect to the substitution. Except as set forth above, the execution of the Issuer Substitution Documents shall operate to release the Company (or such subsequent substitute

as aforesaid) from all its obligations in respect of the Notes (except for the covenants under this Indenture and its obligations as guarantor) and its obligation to indemnify the Trustee under this Indenture.

(c) Any Substituted Debtor shall be considered the issuer for the purpose of this Indenture.

ARTICLE XI

MISCELLANEOUS

Section 11.1 Notices.

(a) Any notice or communication shall be in writing, in English, and delivered in person, by telecopy, electronic transmission or mailed by first-class mail, postage prepaid, addressed as follows:

if to the Company:

Compañía Minera Milpo S.A.A.
Av. San Borja Norte N° 523 – San Borja Lima 41 – Perú
Attention: Gerencia Corporativa de Finanzas
With a copy to: Gerencia de Finanzas and Gerencia Legal
Fax No.: (511) 710-5544

if to the Trustee:

Deutsche Bank Trust Company Americas
Trust and Agency Services
60 Wall Street, 27th Floor
Mail Stop: NYC60-2710
New York, New York 10005
USA
Attn: Corporates Team, Compania Minera Milpo S.A.A.
Facsimile: (732) 578-4635
With a copy to:

Deutsche Bank National Trust Company
for Deutsche Bank Trust Company Americas
Trust and Agency Services
100 Plaza One – 6th Floor
MSJCY03-0699
Jersey City, NJ 07311-3901
USA
Attn: Corporates Team, Compania Minera Milpo S.A.A.
Facsimile: (732) 578-4635

if to the Luxembourg Paying Agent:

Deutsche Bank Luxembourg S.A.
Private and Institutional Client Services (PICS)
2, Boulevard Konrad Adenauer, 1115 Luxembourg, Luxembourg
Tel. +00(352) 42122-643
Fax: +00(352) 473136
Email serge.l.pereira@db.com

The Company or the Trustee by notice to the other may designate additional or different addresses for subsequent notices or communications.

(b) From and after the date the Notes are listed on the Luxembourg Stock Exchange for trading on the Euro MTF Market, and so long as required by the rules of such Exchange, all notices to Holders of Notes shall be published in English:

(i) in a leading newspaper having a general circulation in Luxembourg (which currently is expected to be the *Luxemburger Wort*); or

(ii) if such Luxembourg publication is not practicable, in accordance with the rules of the Luxembourg Stock Exchange.

In lieu of the foregoing, the Company may publish notices to Holders of Notes via the website of the Luxembourg Stock Exchange at *www.bourse.lu*; *provided* that such method of publication satisfies the rules of such Exchange.

(c) Notices to the Company shall be deemed to have been given on the day of mailing, if by delivered by telecopy or electronic transmission; when delivered by hand, if personally delivered; five Business Days after being deposited in first-class mail, postage prepaid, if mailed; two Business Days after being timely delivered to a next-day air courier of international repute; and on the day of publication as aforesaid in Section 11.1(b) or, if published on different dates, on the date of the first such publication. Notices to the Trustee shall be deemed to have been given upon receipt thereof by the Trustee. In addition, notices shall be delivered to Holders of Notes at their registered addresses.

(d) Any notice or communication mailed to a registered Holder shall be mailed to the Holder at the Holder's address as it appears on the registration books of the Registrar and shall be sufficiently given if so mailed within the time prescribed.

(e) Failure to mail a notice or communication to a Holder or any defect in it shall not affect its sufficiency with respect to other Holders. If a notice or communication is mailed in the manner provided above, it is duly given, whether or not the addressee receives it.

Section 11.2 Certificate and Opinion as to Conditions Precedent. Upon any request or application by the Company to the Trustee to take or refrain from taking any action under this Indenture, the Company shall furnish to the Trustee:

(a) an Officers' Certificate in form and substance reasonably satisfactory to the Trustee stating that, in the opinion of the signers, all conditions precedent, if any, provided for in this Indenture relating to the proposed action have been complied with; and

(b) an Opinion of Counsel in form and substance reasonably satisfactory to the Trustee stating that, in the opinion of such counsel, all such conditions precedent have been complied with.

Section 11.3 Statements Required in Officers' Certificate or Opinion of Counsel. Each certificate or opinion, including each Officers' Certificate or Opinion of Counsel with respect to compliance with a covenant or condition provided for in this Indenture shall include:

(a) a statement substantially to the effect that the individual making such certificate or opinion has read such covenant or condition;

(b) a brief statement as to the nature and scope of the examination or investigation upon which the statements or opinions contained in such certificate or opinion are based;

(c) a statement substantially to the effect that, in the opinion of such individual, he has made such examination or investigation as is necessary to enable him to express an informed opinion as to whether or not such covenant or condition has been complied with; and

(d) a statement as to whether or not, in the opinion of such individual, such covenant or condition has been complied with.

In giving an Opinion of Counsel, counsel may rely as to factual matters on an Officers' Certificate or on certificates of public officials.

Section 11.4 Rules by Trustee, Paying Agent and Registrar. The Trustee may make reasonable rules for action by, or a meeting of, Holders. The Registrar and the Paying Agent may make reasonable rules for their functions.

Section 11.5 Legal Holidays. A "Legal Holiday" is a Saturday, a Sunday or other day on which commercial banking institutions are authorized or required to be closed in New York

City, United States or in Lima, Peru. If a payment date is a Legal Holiday, payment shall be made on the next succeeding day that is not a Legal Holiday, and no interest shall accrue for the intervening period. If a regular record date is a Legal Holiday, the record date shall not be affected.

Section 11.6 Governing Law, etc.

(a) THIS INDENTURE AND THE NOTES SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE LAW OF THE STATE OF NEW YORK.

(b) EACH OF THE PARTIES HERETO HEREBY IRREVOCABLY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY AND ALL RIGHT TO TRIAL BY JURY IN ANY LEGAL PROCEEDING AS BETWEEN THE COMPANY AND THE TRUSTEE (BUT NOT THE HOLDERS OF THE NOTES) ARISING OUT OF OR RELATING TO THIS INDENTURE OR THE NOTES OR THE TRANSACTIONS CONTEMPLATED HEREBY.

(c) Each of the parties hereto:

(i) agrees that any suit, action or proceeding against it arising out of or relating to this Indenture or the Notes, as the case may be, may be instituted in any U.S. federal or New York state court sitting in the Borough of Manhattan, The City of New York, New York;

(ii) irrevocably submits to the non-exclusive jurisdiction of such courts in any suit, action or proceeding;

(iii) waives, to the fullest extent permitted by applicable law, any objection which it may now or hereafter have to the laying of venue of any such suit, action or proceeding, any claim that any suit, action or proceeding in such a court has been brought in an inconvenient forum and any right to the jurisdiction of any other courts to which it may be entitled on account of place of residence or domicile; and

(iv) agrees that final judgment in any such suit, action or proceeding brought in such a court shall be conclusive and binding and may be enforced in the courts of the jurisdiction of which it is subject by a suit upon judgment.

(d) The Company has appointed National Corporate Research, Ltd. with offices currently at 10 East 40th Street, 10th Floor, New York, New York 10016, as its authorized agent (the "Authorized Agent") upon whom all writs, process and summonses may be served in any suit, action or proceeding arising out of or based upon this Indenture or the Notes which may be instituted in any New York state or U.S. federal court in The City of New York, New York. The Company represents and warrants that the Authorized Agent has accepted such appointment and has agreed to act as said agent for service of process, and the Company agrees to take any and all action, including the filing of any and all documents, that may be necessary to continue each such appointment in full force and effect as aforesaid so long as the Notes remain outstanding. The Company agrees that the appointment of the Authorized Agent shall be

irrevocable so long as any of the Notes remain outstanding or until the irrevocable appointment by the Company of a successor agent in The City of New York, New York as their authorized agent for such purpose and the acceptance of such appointment by such successor. Service of process upon the Authorized Agent shall be deemed, in every respect, effective service of process upon the Company.

(e) To the extent that the Company or any of its properties, assets or revenues may have or hereafter become entitled to, or have attributed to the Company, any right of immunity, on the grounds of sovereignty or otherwise, from any legal action, suit or proceeding, from the giving of any relief in any such legal action, suit or proceeding, from setoff or from counterclaim from the jurisdiction of any Peruvian, New York State or U.S. federal court, from service of process, from attachment upon or prior to judgment, from attachment in aid of execution of judgment, or from execution of judgment, or other legal process or proceeding for the giving of any relief or for the enforcement of any judgment, in any such court in which proceedings may at any time be commenced, with respect to the obligations and liabilities of the Company, or any other matter under or arising out of or in connection with, the Notes or this Indenture, the Company irrevocably and unconditionally waives or shall waive such right, and agrees not to plead or claim any such immunity and consents to such relief and enforcement.

(f) Nothing in this Section 11.6 shall affect the right of the Trustee or any Holder of the Notes to serve process in any other manner permitted by law.

Section 11.7 No Recourse Against Others. No past, present or future incorporator, director, officer, employee, shareholder or controlling Person, as such, of the Company shall have any liability for any obligations of the Company under the Notes or this Indenture or for any claims based on, in respect of or by reason of such obligations or their creation. By accepting a Note, each Holder shall waive and release all such liability. The waiver and release shall be part of the consideration for issuance of the Notes.

Section 11.8 Successors. All agreements of the Company in this Indenture and the Notes shall bind its respective successors. All agreements of the Trustee in this Indenture shall bind its successors.

Section 11.9 Duplicate and Counterpart Originals. The parties may sign any number of copies of this Indenture. One signed copy is enough to prove this Indenture. This Indenture may be executed in any number of counterparts, each of which so executed shall be an original, but all of them together represent the same agreement.

Section 11.10 Severability. In case any provision in this Indenture or in the Notes shall be invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired thereby.

Section 11.11 Currency Indemnity.

(a) U.S. Dollars is the sole currency of account and payment for all sums payable by the Company, under or in connection with the Notes or this Indenture, including damages. If for the purpose of obtaining judgment in any court it is necessary to convert a sum due hereunder to the holder of a Note from U.S. Dollars into another currency, the Company

agrees, and each Holder agrees, to the fullest extent that the Company and they may effectively do so, that the rate of exchange used will be that at which in accordance with normal banking procedures such Holder could purchase U.S. Dollars with such other currency in New York City, New York on the day two Business Days preceding the day on which final judgment is given.

(b) Any amount received or recovered in a currency other than U.S. Dollars (whether as a result of, or of the enforcement of, a judgment or order of a court of any jurisdiction, in the winding-up or dissolution of the Company or otherwise) by any Holder of a Note in respect of any sum expressed to be due to it from the Company will only constitute a discharge of the Company to the extent of the U.S. Dollar amount which the recipient is able to purchase with the amount so received or recovered in that other currency on the date of that receipt or recovery (or, if it is not practicable to make that purchase on that date, on the first date on which it is practicable to do so). If that U.S. Dollar amount is less than the U.S. Dollar amount expressed to be due to the recipient under any Notes, the Company shall indemnify such Holder against any loss sustained by it as a result; and if the amount of U.S. Dollars so purchased is greater than the sum originally due to such Holder, such Holder will, by accepting Notes, be deemed to have agreed to repay such excess. In any event, the Company shall indemnify the recipient against the cost of making any such purchase.

(c) The indemnities of the Company contained in this Section 11.11, to the extent permitted by law: (i) constitute a separate and independent obligation from the other obligations of the Company under this Indenture and the Notes; (ii) shall give rise to a separate and independent cause of action against the Company; (iii) shall apply irrespective of any indulgence granted by any Holder of the Notes from time to time; (iv) shall continue in full force and effect notwithstanding any other judgment, order, claim or proof for a liquidated amount in respect of any sum due under the Notes; and (v) shall survive the termination of this Indenture.

Section 11.12 Table of Contents; Headings. The table of contents and headings of the Articles and Sections of this Indenture have been inserted for convenience of reference only, are not intended to be considered a part hereof and shall not modify or restrict any of the terms or provisions hereof.

IN WITNESS WHEREOF, the parties have caused this Indenture to be duly executed as of the date first written above.

COMPAÑÍA MINERA MILPO S.A.A.

By: ______________________________
Name:
Title:

By: ______________________________
Name:
Title:

DEUTSCHE BANK TRUST COMPANY AMERICAS,
as Trustee, Registrar, Paying Agent and Transfer Agent

By: Deutsche Bank National Trust Company

By: ______________________________
Name:
Title:

By: ______________________________
Name:
Title:

Solely for the purposes of accepting the appointment of Luxembourg Paying Agent together with the rights, protections and immunities granted to the Trustee under Article VII, which shall apply *mutatis mutandis* to the Luxembourg Paying Agent:

DEUTSCHE BANK LUXEMBOURG S.A.,
as Luxembourg Paying Agent

By: ______________________________
Name:

Title:

By: ____
Name:
Title:

[Signature Page to Indenture]

EXHIBIT A

FORM OF NOTE

Include the following Global Note Legend on all Global Notes:

"THIS IS A GLOBAL NOTE WITHIN THE MEANING OF THE INDENTURE REFERRED TO HEREINAFTER.

UNLESS THIS CERTIFICATE IS PRESENTED BY AN AUTHORIZED REPRESENTATIVE OF THE DEPOSITORY TRUST COMPANY ("DTC") TO THE COMPANY OR ITS AGENT FOR REGISTRATION OF TRANSFER, EXCHANGE OR PAYMENT, AND ANY CERTIFICATE ISSUED IS REGISTERED IN THE NAME OF CEDE & CO. OR IN SUCH OTHER NAME AS MAY BE REQUESTED BY AN AUTHORIZED REPRESENTATIVE OF DTC (AND ANY PAYMENT IS MADE TO CEDE & CO. OR SUCH OTHER ENTITY AS MAY BE REQUESTED BY AN AUTHORIZED REPRESENTATIVE OF DTC), ANY TRANSFER, PLEDGE OR OTHER USE HEREOF FOR VALUE OR OTHERWISE BY OR TO ANY PERSON IS WRONGFUL INASMUCH AS THE REGISTERED OWNER HEREOF, CEDE & CO., HAS AN INTEREST HEREIN.

TRANSFERS OF THIS GLOBAL NOTE SHALL BE LIMITED TO TRANSFERS IN WHOLE, BUT NOT IN PART, TO NOMINEES OF DTC OR TO A SUCCESSOR THEREOF OR SUCH SUCCESSOR'S NOMINEE AND TRANSFERS OF PORTIONS OF THIS GLOBAL NOTE SHALL BE LIMITED TO TRANSFERS MADE IN ACCORDANCE WITH THE RESTRICTIONS SET FORTH IN THE INDENTURE REFERRED TO ON THE REVERSE HEREOF."

Include the following Private Placement Legend on all Rule 144A Global Notes that are Restricted Notes:

"THIS NOTE HAS NOT BEEN REGISTERED UNDER THE U.S. SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), OR ANY OTHER SECURITIES LAWS. THE HOLDER HEREOF, BY PURCHASING THIS NOTE, AGREES THAT THIS NOTE OR ANY INTEREST OR PARTICIPATION HEREIN MAY BE OFFERED, RESOLD, PLEDGED OR OTHERWISE TRANSFERRED ONLY (1) TO US, (2) SO LONG AS THIS NOTE IS ELIGIBLE FOR RESALE PURSUANT TO RULE 144A UNDER THE SECURITIES ACT ("RULE 144A"), TO A PERSON WHO THE SELLER REASONABLY BELIEVES IS A QUALIFIED INSTITUTIONAL BUYER (AS DEFINED IN RULE 144A) IN ACCORDANCE WITH RULE 144A, (3) IN AN OFFSHORE TRANSACTION IN ACCORDANCE WITH RULE 903 OR 904 OF REGULATION S UNDER THE SECURITIES ACT, (4) PURSUANT TO AN EXEMPTION FROM REGISTRATION UNDER THE SECURITIES ACT (IF AVAILABLE) OR (5) PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT UNDER THE SECURITIES ACT, AND IN EACH OF SUCH CASES IN ACCORDANCE WITH ANY APPLICABLE SECURITIES LAWS OF ANY STATE OF THE UNITED STATES OR OTHER APPLICABLE JURISDICTION. THE HOLDER HEREOF, BY PURCHASING THIS NOTE, REPRESENTS AND AGREES THAT IT WILL NOTIFY ANY

PURCHASER OF THIS NOTE FROM IT OF THE RESALE RESTRICTIONS REFERRED TO ABOVE.

THE FOREGOING LEGEND MAY BE REMOVED FROM THIS NOTE ONLY WITH THE CONSENT OF THE ISSUER."

Include the following Private Placement Legend on all Regulation S Global Notes that are Restricted Notes:

"THIS NOTE HAS NOT BEEN REGISTERED UNDER THE U.S. SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), OR ANY OTHER SECURITIES LAWS. THE HOLDER HEREOF, BY PURCHASING THIS NOTE, AGREES THAT NEITHER THIS NOTE NOR ANY INTEREST OR PARTICIPATION HEREIN MAY BE OFFERED, RESOLD,

PLEDGED OR OTHERWISE TRANSFERRED IN THE ABSENCE OF SUCH REGISTRATION UNLESS SUCH TRANSACTION IS EXEMPT FROM, OR NOT SUBJECT TO, SUCH REGISTRATION.

THE FOREGOING LEGEND MAY BE REMOVED FROM THIS NOTE AFTER 40 DAYS BEGINNING ON AND INCLUDING THE LATER OF (A) THE DATE ON WHICH THE NOTES ARE OFFERED TO PERSONS OTHER THAN DISTRIBUTORS (AS DEFINED IN REGULATION S UNDER THE SECURITIES ACT) AND (B) THE ORIGINAL ISSUE DATE OF THIS NOTE."

FORM OF FACE OF NOTE

COMPAÑÍA MINERA MILPO S.A.A.

4.625% SENIOR NOTES DUE 2023

No. [ ] Principal Amount U.S.$[ ]

[If the Note is a Global Note include the following two lines:
as revised by the Schedule of Increases and
Decreases in Global Note attached hereto]

[*If the Note is a Global*
Rule 144A Note, insert:
CUSIP NO. 204483 AA9
ISIN NO. US204483AA93
COMMON CODE 091095360]

[*If the Note is a Global*
Regulation S Note, insert:
CUSIP NO. P67848 AA2
ISIN NO. USP67848AA22
COMMON CODE 091053683]

Compañía Minera Milpo S.A.A., a corporation (*sociedad anónima abierta)* incorporated and existing under the laws of the Republic of Peru, promises to pay to Cede & Co., the nominee for The Depository Trust Company, or registered assigns, the principal sum of [ ] U.S. Dollars (U.S.$[ ]) [*If the Note is a Global Note, add the following*, as revised by the Schedule of Increases and Decreases in Global Note attached hereto], on March 28, 2023.

Interest Rate: 4.625%

Interest Payment Dates: March 28 and September 28 of each year, commencing on March 28, 2013

Record Dates: March 13 and September 13

Additional provisions of this Note are set forth on the other side of this Note.

COMPAÑÍA MINERA MILPO S.A.A.

By: ______________________________
Name:
Title:

By: ______________________________
Name:
Title:

TRUSTEE'S CERTIFICATE OF AUTHENTICATION

Deutsche Bank Trust Company Americas,
as Trustee, certifies that this is one of the Notes referred to in the Indenture.

By: Deutsche Bank National Trust Company

By: ______________________________ Date: ______________________________
Authorized Signatory

By: ______________________________ Date: ______________________________
Authorized Signatory

FORM OF REVERSE SIDE OF NOTE

1. Interest

Compañía Minera Milpo S.A.A., a corporation (*sociedad anónima abierta)* incorporated and existing under the laws of the Republic of Peru (and its successors and assigns under the Indenture hereinafter referred to, the "Company"), promises to pay interest on the principal amount of this Note at the rate per annum shown above.

The Company shall pay interest semi-annually in arrears on each Interest Payment Date of each year, commencing on March 28, 2013. Interest on the Notes shall accrue from the most recent date to which interest has been paid on the Notes or, if no interest has been paid, from March 28, 2013. The Company shall pay interest on overdue principal (plus interest on such interest to the extent lawful), at the rate borne by the Notes to the extent lawful. Interest shall be computed on the basis of a 360-day year of twelve 30-day months.

The Company shall pay interest (including Post-Petition Interest in any proceeding under any Bankruptcy Law) on overdue principal and, to the extent such payments are lawful, interest on overdue installments of interest ("Defaulted Interest") without regard to any applicable grace periods at the interest rate shown on this Note, as provided in the Indenture.

All payments made by the Company in respect of the Notes shall be made free and clear of and without deduction or withholding for or on account of any present or future taxes, duties, assessments or other governmental charges imposed or levied by or on behalf of Peru or any jurisdiction where the Company is incorporated or resident for tax purposes or from or through which any payment in respect of the Notes is made by the paying agent or the Company, or any political subdivision thereof (a "Relevant Jurisdiction"), or any taxing authority of a Relevant Jurisdiction, unless such withholding or deduction is required by law or by the interpretation or administration thereof. In that event, the Company shall pay to each Holder of the Notes Additional Amounts as provided in the Indenture subject to the limitations set forth in the Indenture.

2. Method of Payment

Prior to 12:00 noon (New York City time) at least one Business Day prior to the date on which any principal of or interest on any Note is due and payable, the Company shall irrevocably deposit with the Trustee or the Paying Agent money sufficient to pay such principal and/or interest. The Company shall pay interest (except Defaulted Interest) to the Persons who are registered Holders of Notes at the close of business on the Record Date preceding the Interest Payment Date even if Notes are canceled, repurchased or redeemed after the Record Date and on or before the relevant Interest Payment Date. If an Interest Payment Date is a Legal Holiday, payment shall be made on the next succeeding day that is not a Legal Holiday, and no interest shall accrue for the intervening period. If a regular record date is a Legal Holiday, the record date shall not be affected. Holders must surrender Notes to a Paying Agent to collect principal payments. The Company shall pay principal and interest in U.S. Dollars.

Payments in respect of Notes represented by a Global Note (including principal and interest) shall be made by the transfer of immediately available funds to the accounts

specified by DTC. The Company shall make all payments in respect of a Certificated Note (including principal and interest) by mailing a check to the registered address of each Holder thereof.

3. Paying Agent and Registrar

Initially, Deutsche Bank Trust Company Americas (the "Trustee"), shall act as Trustee, Paying Agent and Registrar. The Company may appoint and change any Paying Agent, Registrar or co-Registrar without notice to any Holder. The Company or any of its Subsidiaries may act as Paying Agent, Registrar or co-Registrar.

4. Indenture

The Company originally issued the Notes under an Indenture, dated as of March 28, 2013 (as it may be amended or supplemented from time to time in accordance with the terms thereof, the "Indenture"), between the Company and the Trustee. The terms of the Notes include those stated in the Indenture. Capitalized terms used herein and not defined herein have the meanings ascribed thereto in the Indenture. The Notes are subject to all such terms, and Holders are referred to the Indenture for a statement of those terms. Each Holder by accepting a Note, agrees to be bound by all of the terms and provisions of the Indenture, as amended or supplemented from time to time.

The Notes are senior unsecured obligations of the Company. Subject to the conditions set forth in the Indenture and without the consent of the Holders, the Company may issue Additional Notes. All Notes shall be treated as a single class of securities under the Indenture.

The Indenture imposes certain limitations, subject to certain exceptions, on, among other things, the ability of the Company and its Significant Subsidiaries to incur Liens, enter into Sale and Leaseback Transactions, or consolidate or merge or transfer or convey all or substantially all of the Company's assets.

5. Optional Redemption

(a) *Optional Redemption with a Make-Whole Premium*. The Company may redeem the Notes, in whole but not in part, at any time, at its option, at a redemption price equal to the greater of (1) 100% of the outstanding principal amount of the Notes, and (2) the sum of the present values of the remaining scheduled payments of principal and interest on the Notes to be redeemed discounted to the date of redemption on a semiannual basis (assuming a 360-day year consisting of twelve 30-day months) at the applicable Treasury Rate plus 45 basis points, in each case plus accrued and unpaid interest and Additional Amounts, if any, to but excluding the date of redemption.

"*Comparable Treasury Issue*" means the United States Treasury security selected by an Independent Investment Banker as having an actual or interpolated maturity comparable to the remaining term of the Notes to be redeemed that would be utilized, at the time of selection and in accordance with customary financial practice, in pricing new issues of corporate debt securities of comparable maturity to the remaining term of such Notes.

"*Comparable Treasury Price*" means (1) the arithmetic average of the Reference Treasury Dealer Quotations for such redemption date after excluding the highest and lowest Reference Treasury Dealer Quotations, or (2) if the Company obtains fewer than four Reference Treasury Dealer Quotations, the arithmetic average of all Reference Treasury Dealer Quotations for such redemption date.

"*Independent Investment Banker*" means one of the Reference Treasury Dealers.

"*Reference Treasury Dealer*" means J.P. Morgan Securities LLC and Morgan Stanley & Co. LLC, or their respective Affiliates which are primary United States government securities dealers and two other leading primary United States government

securities dealers in New York City selected from time to time by Compañía Minera Milpo; *provided*, *however*, that if any of the foregoing shall cease to be a primary United States government securities dealer in New York City (a "*Primary Treasury Dealer*"), the Company shall substitute therefor another Primary Treasury Dealer.

"*Reference Treasury Dealer Quotations*" means, with respect to each Reference Treasury Dealer and any redemption date, the arithmetic average, as determined by the Company, of the bid and asked prices for the Comparable Treasury Issue (expressed in each case as a percentage of its principal amount) quoted in writing to the Company by such Reference Treasury Dealer by 3:30 p.m. (New York City time) on the third Business Day preceding such redemption date.

"*Treasury Rate*" means, with respect to any redemption date, the rate per annum equal to the semi-annual equivalent yield to maturity or interpolated yield to maturity of the Comparable Treasury Issue. In determining the treasury rate, the price for the Comparable Treasury Issue (expressed as a percentage of its principal amount) will be assumed to be equal to the Comparable Treasury Price for such redemption date.

(b) *Optional Redemption Upon Tax Event.* The Notes may be redeemed, in whole but not in part, at the Company's option, at a redemption price equal to 100% of the outstanding principal amount of the Notes, plus accrued and unpaid interest thereon and Additional Amounts, if any, to, but excluding, the redemption date, if, as a result of any change in, or amendment to, the laws (or any regulations or rulings promulgated thereunder) of Peru or any political subdivision or taxing authority thereof or therein, or any change in the official application, administration or official interpretation of such laws, regulations or rulings (including a holding by a court of competent jurisdiction) in Peru, or any political subdivision or taxing authority thereof or therein, or any change in the application, administration or official interpretation of such laws, regulations or rulings in Peru, the Company has or will become obligated (1) to pay Additional Amounts in excess of the Additional Amounts that the Company would pay if payments in respect of the Notes were subject to deduction or withholding at a rate equal to the withholding tax rate imposed by Peru as of the Closing Date, or (2) if Additional Amounts are payable in respect of value-added tax or if payment of principal, premium, if any, or interest on the Notes is subject to value-added tax and, in each case, such value-added tax no longer results in a tax credit of equal or greater magnitude than the tax credit available as of the Closing Date, and such obligation or reduction in tax credit cannot be avoided by the Company taking reasonable measures available to it; *provided*, *however*, that for the avoidance of doubt,

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reasonable measures shall not include changing the jurisdiction of the Company or the incurrence of material out-of-pocket costs by the Company or its Affiliate.

At least five Business Days prior to the publication or mailing of any notice of redemption of the Notes pursuant to the foregoing, the Company shall deliver to the Trustee:

(i) an Officers' Certificate stating that the Company is entitled to effect such redemption and setting forth a statement of facts showing that the conditions precedent to its right to so redeem have been satisfied and that it cannot avoid the obligations to pay Additional Amounts by taking reasonable measures available to it; and

(ii) an Opinion of Counsel or an opinion of a tax consultant of recognized standing with respect to tax matters of Peru that the requirement to pay such Additional Amounts results from such change or amendment referred to in this paragraph.

This notice, once delivered by the Company to the Trustee, will be irrevocable.

The Company shall give notice of any redemption at least 30 days, but no more than 60 days prior to the earliest date on which it would be obligated to pay such Additional Amounts to the Trustee, which shall, in turn, provide notice to Holders of Notes as set forth below.

(c) *Optional Redemption Procedures.* The Company shall mail, or cause to be mailed, a notice of redemption to each holder and the Trustee (which, in the case of Global Notes, will be DTC) by first-class mail, postage prepaid, at least 30 days and not more than 60 days prior to the redemption date, to the address of each holder as it appears on the register maintained by the Registrar. A notice of redemption may be conditional.

In the event that less than all of the Notes are to be redeemed at any time, selection of Notes for redemption will be made by the Trustee in compliance with the requirements governing redemptions of the principal securities exchange, if any, on which Notes are listed or if such securities exchange has no requirement governing redemption or the Notes are not then listed on a securities exchange,

on a *pro rata* basis or by lot (or, in the case of Notes issued in global form, the Notes will be redeemed by lot or by such other method as the Trustee in its sole discretion shall deem to be appropriate and in accordance with the applicable procedures of DTC).

Unless the Company defaults in the payment of the redemption price, on and after the redemption date, interest will cease to accrue on the Notes called for redemption.

The Company may enter into an arrangement under which the Company or a subsidiary of the Company may, in lieu of redemption by the Company, purchase for a purchase price equal to the full redemption price any Note to be redeemed pursuant to provisions described under Article V of the Indenture.

6. Change of Control Offer

Not later than 30 days following a Change of Control that results in a Ratings Decline, the Company shall make an offer to purchase all Outstanding Notes at a purchase price

equal to 101% of the principal amount thereof, plus accrued and unpaid interest thereon and Additional Amounts, if any, to, but excluding, the Purchase Date (a "Change of Control Offer").

A Change of Control Offer must be made by written offer (a copy of which shall be delivered to the Trustee), which will specify the principal amount of Notes subject to the offer and the purchase price. The offer must specify an expiration date (the "Expiration Date") not less than 30 days or more than 60 days after the date of the offer and a settlement date for purchase (the "Purchase Date") not more than five Business Days after the Expiration Date. The offer must contain instructions and materials necessary to enable Holders to tender Notes pursuant to the offer. The Company shall comply with Rule 14e-1 under the Exchange Act (to the extent applicable) and all other applicable laws in making any Change of Control Offer, and the above procedures will be deemed modified as necessary to permit such compliance.

7. Form, Denomination and Title

The Notes will be issued in fully registered form without coupons attached in minimum denominations of U.S.$200,000 and integral multiples of U.S.$1,000 in excess thereof.

Notes sold in offshore transactions in reliance on Regulation S will be represented by one or more permanent global Notes in fully registered form without coupons deposited with a custodian for and registered in the name of a nominee of DTC for the accounts of Euroclear and Clearstream. Notes sold in reliance on Rule 144A will be represented by one or more permanent global Notes in fully registered form without coupons deposited with a custodian for and registered in the name of a nominee of DTC. Beneficial interests in the global Notes will be shown on, and transfers thereof will be effected only through, records maintained by DTC and its direct and indirect participants, including Euroclear and Clearstream. Except in certain limited circumstances, definitive registered Notes will not be issued in exchange for beneficial interests in the global Notes.

Title to the Notes will pass by registration in the register. The Holder of any Note will (except as otherwise required by law) be treated as its absolute owner for all purposes (whether or not it is overdue and regardless of any notice of ownership, trust or any interest in it, writing on, or theft or loss of, the definitive Note issued in respect of it) and no Person will be liable for so treating the Holder.

8. Transfer of Notes

Notes may be transferred in whole or in part in an authorized denomination upon the surrender of the Note to be transferred, together with the form of transfer endorsed on it duly completed and executed, at the specified office of the Registrar or the specified office of any Transfer Agent. Each new Note to be issued upon exchange of Notes or transfer of Notes will, within three Business Days of the receipt of a request for exchange or form of transfer, be mailed at the risk of the Holder entitled to the Note to such address as may be specified in such request or form of transfer. Notes will be subject to certain restrictions on transfer as more fully set out in the Indenture. Transfer of beneficial interests in the global Notes will be effected only through records maintained by DTC and its participants.

Transfer will be effected without charge by or on behalf of the Company, the Registrar or the Transfer Agents, but upon payment, or the giving of such indemnity as the Registrar or the relevant Transfer Agent may require, in respect of any tax or other governmental charges which may be imposed in relation to it. The Company is not required to transfer or exchange any Note selected for redemption.

No Holder may require the transfer of a Note to be registered during the period of 15 days ending on the due date for any payment of principal, premium, if any, or interest on that Note.

9. Persons Deemed Owners

The registered holder of this Note shall be treated as the owner of it for all purposes.

10. Unclaimed Money

Subject to applicable law, the Trustee and the paying agents will pay to the Company upon written request and subject to any relevant unclaimed property laws and regulations any monies held by them for the payment of principal, premium, if any, or interest that remains unclaimed for two years, and, thereafter, Holders entitled to such monies must look to the Company for payment as general creditors. After the return of such monies by the Trustee or the paying agents to the Company, neither the Trustee nor the paying agents will be liable to the Holders in respect of such monies.

11. Discharge Prior to Redemption or Maturity

Subject to certain conditions set forth in the Indenture, the Company at any time may terminate some or all of its obligations under the Notes and the Indenture if the Company deposits with the Trustee U.S. Dollars or U.S. Government Obligations for the payment of principal of and interest on the Notes to redemption or maturity, as the case may be.

12. Amendment, Waiver

(a) Subject to certain exceptions set forth in the Indenture, without the consent of any Holder, the Company and the Trustee may, among other things, amend or supplement the Indenture or the Notes to cure any ambiguity, omission, defect or inconsistency therein or to make any other changes which do not adversely affect the rights of any of the Holders in any material respect.

(b) Subject to certain exceptions set forth in the Indenture, (i) the Indenture or the Notes may be amended or supplemented with the written consent of the Holders of at least a majority in principal amount of the then Outstanding Notes or by adoption of resolutions at a meeting of Holders of at least a majority of the Outstanding Notes and (ii) any Default or Event of Default under the Indenture (except a Default in the payment of the principal of, premium, if any, or interest on any Notes) may be waived with the written consent of the Holders of a majority in aggregate principal amount of the then Outstanding Notes or by adoption of resolutions at a meeting of Holders of at least a majority of the Outstanding Notes. *However*,

without the consent or affirmative vote of each Holder affected thereby, no amendment may, among other things, reduce the rate of or extend the time for payment of interest on any Note; reduce the principal of or extend the Stated Maturity of any Note; reduce the amount payable upon redemption of any Note or change the time at which any Note may be redeemed; change the currency or place of payment of principal of, premium, if any, or interest on, any Note; impair the right to institute suit for the enforcement of any payment on or with respect to any Note; waive a Default or Event of Default in the payment of principal of, premium, if any, and interest on the Notes; or reduce the principal amount of Notes whose Holders must consent to any amendment, supplement or waiver.

13. Defaults and Remedies

Subject to certain exceptions set forth in the Indenture, if an Event of Default occurs and is continuing, the Trustee or the Holders of at least 25% in aggregate principal amount of the then Outstanding Notes may declare all the Notes to be due and payable immediately. Certain events of bankruptcy or insolvency are Events of Default, which shall result in the Notes being due and payable immediately upon the occurrence of such Events of Default.

Holders may not enforce the Indenture or the Notes except as provided in the Indenture. The Trustee may refuse to enforce the Indenture or the Notes unless it receives indemnity or security reasonably satisfactory to it. Subject to certain limitations, Holders of a majority in aggregate principal amount of the Outstanding Notes may direct the Trustee in its exercise of any trust or power. The Trustee may withhold from Holders notice of any continuing Default or Event of Default (except a Default or Event of Default in payment of principal or interest) if it determines that withholding notice is in their interest.

14. Trustee Dealings with the Company

Subject to certain limitations set forth in the Indenture, the Trustee under the Indenture, in its individual or any other capacity, may become the owner or pledgee of Notes and may otherwise deal with and collect obligations owed to it by the Company or its Affiliates and may otherwise deal with the Company or its Affiliates with the same rights it would have if it were not Trustee.

15. No Recourse Against Others

No past, present or future incorporator, director, officer, employee, shareholder or controlling Person, as such, of the Company shall have any liability for any obligations of the Company under the Notes or the Indenture or for any claims based on, in respect of or by reason of such obligations or their creation. By accepting a Note, each Holder waives and releases all such liability. The waiver and release are part of the consideration for issuance of the Notes.

16. Authentication

This Note shall not be valid until an authorized signatory of the Trustee (or an authenticating agent acting on its behalf) manually signs the certificate of authentication on the other side of this Note.

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17. Abbreviations

Customary abbreviations may be used in the name of a Holder or an assignee, such as TEN COM (=tenants in common), TEN ENT (=tenants by the entirety), JT TEN (=joint tenants with rights of survivorship and not as tenants in common), CUST (=custodian) and U/G/M/A (=Uniform Gift to Minors Act).

18. CUSIP or ISIN Numbers

Pursuant to a recommendation promulgated by the Committee on Uniform Security Identification Procedures the Company has caused CUSIP or ISIN numbers to be printed on the Notes and has directed the Trustee to use CUSIP or ISIN numbers in notices of redemption as a convenience to Holders. No representation is made as to the accuracy of such numbers either as printed on the Notes or as contained in any notice of redemption and reliance may be placed only on the other identification numbers placed thereon.

19. Governing Law

This Note shall be governed by, and construed in accordance with, the laws of the State of New York.

20. Currency of Account; Conversion of Currency

U.S. Dollars is the sole currency of account and payment for all sums payable by the Company under or in connection with the Notes or the Indenture. The Company shall indemnify the Holders as provided in respect of the conversion of currency relating to the Notes and the Indenture.

21. Agent for Service; Submission to Jurisdiction; Waiver of Immunities

The parties hereto have agreed that any suit, action or proceeding arising out of or based upon the Indenture or the Notes may be instituted in any New York state or U.S. federal court in The City of New York, New York. The parties hereto have irrevocably submitted to the non-exclusive jurisdiction of such courts for such purpose and waived, to the fullest extent permitted by law, trial by jury, any objection they may now or hereafter have to the laying of venue of any such proceeding, and any claim they may now or hereafter have that any proceeding in any such court is brought in an inconvenient forum and any right to the jurisdiction of any other courts to which any of them may be entitled, on account of place of residence or domicile. The Company has appointed National

Corporate Research, Ltd. with offices currently at 10 East 40th Street, 10th Floor, New York, New York 10016, as its authorized agent upon whom all writs, process and summonses may be served in any suit, action or proceeding arising out of or based upon the Indenture or the Notes which may be instituted in any New York state or U.S. federal court in The City of New York, New York. To the extent that the Company has or hereafter may acquire any immunity (sovereign or otherwise) from any legal action, suit or proceeding, from jurisdiction of any court or from set-off or any legal process (whether service or notice, attachment in aid or otherwise) with respect to it or any of their property, the Company has irrevocably waived and agreed not to plead or claim such immunity in respect of its obligations under the Indenture or the Notes.

Nothing in the preceding paragraph shall affect the right of the Trustee or any Holder of the Notes to serve process in any other manner permitted by law.

The Company shall furnish to any Holder upon written request and without charge to the Holder a copy of the Indenture which has in it the text of this Note in larger type. Requests may be made to:

Compañía Minera Milpo S.A.A.
Av. San Borja Norte N° 523 – San Borja Lima 41 – Perú
Attention: Gerencia Corporativa de Finanzas
With a copy to: Gerencia de Finanzas and Gerencia Legal
Fax No.: (511) 710-5544

ASSIGNMENT FORM

To assign this Note, fill in the form below:

(I) or (we) assign and transfer this Note to:

(Print or type assignee's name, address and zip code)

(Insert assignee's Social Security or Tax I.D. Number)

and irrevocably appoint   to transfer this Note on the books of the Company. The agent may substitute another to act for him.

Date: ______________________   Your Signature: ______________________
(Sign exactly as your name appears on the other side of this Note.)

Signature Guarantee: ____
(Signature must be guaranteed)

The signature(s) should be guaranteed by an eligible guarantor institution (banks, stockbrokers, savings and loan associations and credit unions with membership in an approved signature guarantee medallion program), pursuant to Exchange Act Rule 17Ad-15.

[To be attached to Global Notes only]

SCHEDULE OF INCREASES OR DECREASES IN GLOBAL NOTE

The following increases or decreases in this Global Note have been made:

Date of Increase or Decrease	Amount of decrease in Principal Amount of this Global Note	Amount of increase in Principal Amount of this Global Note	Principal Amount of this Global Note following such decrease or increase	Signature of authorized signatory of Trustee or Note Custodian

OPTION OF HOLDER TO ELECT PURCHASE

If you want to elect to have this Note purchased by the Company pursuant to Section 3.9 of the Indenture, check the box:

Section 3.9 ☐

If you want to elect to have only part of this Note purchased by the Company pursuant to Section 3.9 of the Indenture, state the principal amount (which principal amount must be U.S.$200,000 or an integral multiple of U.S.$1,000 in excess thereof) that you want to have purchased by the Company: U.S.$

Date: ______________________ Your Signature ______________________
(Sign exactly as your name appears on the other side of this Note)

Tax Identification No.: ______________________

Signature Guarantee: ______________________
(Signature must be guaranteed)

The signature(s) should be guaranteed by an eligible guarantor institution (banks, stockbrokers, savings and loan associations and credit unions with membership in an approved signature guarantee medallion program), pursuant to Exchange Act Rule 17Ad-15.

EXHIBIT B

FORM OF CERTIFICATE FOR TRANSFER TO QIB

[Date]

Deutsche Bank Trust Company Americas
Trust and Agency Services
60 Wall Street, 27th Floor
Mail Stop: NYC60-2710
New York, New York 10005
USA
Attn: Corporates Team, Compania Minera Milpo S.A.A.
Facsimile: (732) 578-4635

With a copy to:

Deutsche Bank National Trust Company
for Deutsche Bank Trust Company Americas
Trust and Agency Services
100 Plaza One – 6th Floor
MSJCY03-0699
Jersey City, NJ 07311-3901
USA
Attn: Corporates Team, Compania Minera Milpo S.A.A.

Facsimile: (732) 578-4635

Re: 4.625% Senior Notes due 2023 (the "Notes")
of Compañía Minera Milpo S.A.A. (the "Company")

Ladies and Gentlemen:

Reference is hereby made to the Indenture, dated as of March 28, 2013 (as amended and supplemented from time to time, the "Indenture"), between the Company and Deutsche Bank Trust Company Americas, as Trustee. Capitalized terms used but not defined herein shall have the meanings given them in the Indenture.

This letter relates to U.S.$ aggregate principal amount of Notes [*in the case of a transfer of an interest in a Regulation S Global Note*: , which represents an interest in a Regulation S Global Note] beneficially owned by the undersigned (the "Transferor") to effect the transfer of such Notes in exchange for an equivalent beneficial interest in the Rule 144A Global Note.

In connection with such request, and with respect to such Notes, the Transferor does hereby certify that such Notes are being transferred in accordance with Rule 144A under the U.S. Securities Act of 1933, as amended ("Rule 144A"), to a transferee that the Transferor reasonably believes is purchasing the Notes for its own account or an account with respect to

which the transferee exercises sole investment discretion, and the transferee, as well as any such account, is a "qualified institutional buyer" within the meaning of Rule 144A, in a transaction meeting the requirements of Rule 144A and in accordance with applicable securities laws of any state of the United States or any other jurisdiction.

You and the Company are entitled to rely upon this letter and are irrevocably authorized to produce this letter or a copy hereof to any interested party in any administrative or legal proceedings or official inquiry with respect to the matters covered hereby.

Very truly yours,

[Name of Transferor]

By: ______________________________

____
Authorized Signature

EXHIBIT C

FORM OF CERTIFICATE FOR TRANSFER
PURSUANT TO REGULATION S

[Date]

Deutsche Bank Trust Company Americas
Trust and Agency Services
60 Wall Street, 27th Floor
Mail Stop: NYC60-2710
New York, New York 10005
USA
Attn: Corporates Team, Compania Minera Milpo S.A.A.
Facsimile: (732) 578-4635

With a copy to:

Deutsche Bank National Trust Company
for Deutsche Bank Trust Company Americas
Trust and Agency Services
100 Plaza One – 6th Floor
MSJCY03-0699
Jersey City, NJ 07311-3901
USA
Attn: Corporates Team, Compania Minera Milpo S.A.A.
Facsimile: (732) 578-4635

Re: 4.625% Senior Notes due 2023 (the "Notes")
of Compañía Minera Milpo S.A.A. (the "Company")

Ladies and Gentlemen:

Reference is hereby made to the Indenture, dated as of March 28, 2013 (as amended and supplemented from time to time, the "Indenture"), between the Company and Deutsche Bank Trust Company Americas, as Trustee. Capitalized terms used but not defined herein shall have the meanings given them in the Indenture.

In connection with our proposed sale of U.S.$ aggregate principal amount of the Notes [*in the case of a transfer of an interest in a Rule 144A Global Note*: , which represent an interest in a 144A Global Note] beneficially owned by the undersigned ("Transferor"), we confirm that such sale has been effected pursuant to and in accordance with Regulation S under the U.S. Securities Act of 1933, as amended (the "Securities Act"), and, accordingly, we represent that:

(a) the offer of the Notes was not made to a Person in the United States;

(b) either (i) at the time the buy order was originated, the transferee was outside the United States or we and any Person acting on our behalf reasonably believed that the transferee was outside the United States or (ii) the transaction was executed in, on or through the facilities of a designated off-shore securities market and neither we nor any Person acting on our behalf knows that the transaction has been pre-arranged with a buyer in the United States;

(c) no directed selling efforts have been made in the United States in contravention of the requirements of Rule 903(b) or Rule 904(b) of Regulation S, as applicable;

(d) the transaction is not part of a plan or scheme to evade the registration requirements of the Securities Act; and

(e) we are the beneficial owner of the principal amount of Notes being transferred.

In addition, if the sale is made during a Distribution Compliance Period and the provisions of Rule 904(b)(1) or Rule 904(b)(2) of Regulation S are applicable thereto, we confirm that such sale has been made in accordance with the applicable provisions of Rule 904(b)(1) or Rule 904(b)(2), as the case may be.

You and the Company are entitled to rely upon this letter and are irrevocably authorized to produce this letter or a copy hereof to any interested party in any administrative or legal proceedings or official inquiry with respect to the matters covered hereby. Terms used in this letter have the meanings set forth in Regulation S.

Very truly yours,

[Name of Transferor]

By: ________________________________

____

Authorized Signature

EXHIBIT D

FORM OF CERTIFICATE FOR TRANSFER
PURSUANT TO RULE 144

[Date]

Deutsche Bank Trust Company Americas
Trust and Agency Services
60 Wall Street, 27th Floor
Mail Stop: NYC60-2710
New York, New York 10005
USA
Attn: Corporates Team, Compania Minera Milpo S.A.A.
Facsimile: (732) 578-4635

With a copy to:

Deutsche Bank National Trust Company
for Deutsche Bank Trust Company Americas
Trust and Agency Services
100 Plaza One – 6th Floor
MSJCY03-0699
Jersey City, NJ 07311-3901
USA
Attn: Corporates Team, Compania Minera Milpo S.A.A.
Facsimile: (732) 578-4635

Re: 4.625% Senior Notes due 2023 (the "Notes")
of Compañía Minera Milpo S.A.A. (the "Company")

Ladies and Gentlemen:

Reference is hereby made to the Indenture, dated as of March 28, 2013 (as amended and supplemented from time to time, the "Indenture"), between the Company and Deutsche Bank Trust Company Americas, as Trustee. Capitalized terms used but not defined herein shall have the meanings given them in the Indenture.

In connection with our proposed sale of U.S.$ aggregate principal amount of the Notes [*in the case of a transfer of an interest in a Rule 144A Global Note:* , which represent an interest in a 144A Global Note] beneficially owned by the undersigned ("Transferor"), we confirm that such sale has been effected pursuant to and in accordance with Rule 144 under the U.S. Securities Act of 1933, as amended.

You and the Company are entitled to rely upon this letter and are irrevocably authorized to produce this letter or a copy hereof to any interested party in any administrative or legal proceedings or official inquiry with respect to the matters covered hereby.

Very truly yours,

[Name of Transferor]

By: ______________________________

____

Authorized Signature

DESCRIPTION OF THE REGISTRANT'S SECURITIES REGISTERED PURSUANT TO SECTION 12 OF THE SECURITIES EXCHANGE ACT OF 1934

As of December 31, 2021, Nexa Resources S.A. ("Nexa Resources," "we," "us," and "our") had one class of securities registered under Section 12 of the Securities Exchange Act of 1934, as amended: our common shares.

Description of Common Shares

The following description of our common shares is a summary and does not purport to be complete. It is subject to and qualified in its entirety by reference to our amended and restated articles of association, which is incorporated as an exhibit to our most recent Annual Report on Form 20-F, the Luxembourg law of August 10, 1915, on commercial companies, as amended (the "1915 Law"), and by any other applicable Luxembourg corporate law. We encourage you to read our articles of association, the 1915 Law, and applicable provisions of Luxembourg law for additional information.

Share capital

As of December 31, 2021, our issued share capital was US$132,438,611 represented by 132,438,611 common shares fully paid, with par value of US$1.00 per share. In addition to our issued share capital, we have an authorized share capital of US$231,924,819, represented by 231,924,819 common shares. Our common shares are publicly traded in the United States on the New York Stock Exchange (or NYSE), under the ticker symbol NEXA.

Changes to our share capital are decided by our shareholders or, pursuant to our articles of association, by our board of directors within the limits of the authorized share capital. Our shareholders may at any time at a shareholders' meeting decide to increase or decrease our share capital. Such resolution must satisfy the quorum and majority requirements that apply to an amendment of the articles of association, as described below. No shareholder is liable to make any further contribution to our share capital other than with respect to shares held by such shareholder that are not fully paid-up.

Distributions

Pursuant to our articles of association, the general meeting of shareholders may approve dividends and the board of directors may declare interim dividends, in each case to the extent permitted by Luxembourg law. Under Luxembourg law, dividends are determined by a simple majority vote at a general shareholders' meeting based on the recommendation of our board of directors. Pursuant to our articles of association, the board of directors may also declare distributions to our shareholders in the form of reimbursement of share premium to the extent permitted by Luxembourg law.

Each common share entitles the holder to participate equally in any distributions, if and when declared by the general meeting of shareholders or, in the case of interim dividends or reimbursements of share premium, the board of directors, out of funds legally available for such purposes. Dividends and other distributions on our common shares will be declared and paid in U.S. dollars. Declared and unpaid distributions held by us for the account of the shareholders shall not bear interest. Under Luxembourg law, claims for unpaid distributions will lapse in our favor five years after the date such distribution has been declared.

We and our subsidiaries are subject to certain legal requirements that may affect our ability to pay dividends or other distributions. Distributions to shareholders (including in the form of dividends or reimbursement of share premium) may only be made from amounts available for distribution in accordance with Luxembourg law, determined based on our standalone statutory accounts prepared under Luxembourg GAAP. Under Luxembourg law, the amount of a distribution paid to shareholders (including in the form of dividends or reimbursement of share premium) may not exceed the amount of the profits at the end of the last financial year plus any profits carried forward and any amounts drawn from reserves that are available for that purpose, less any losses carried forward and sums to be placed in reserve in accordance with Luxembourg law or our articles of association. Furthermore, no distributions (including in the form of dividends or reimbursement of share premium) may be made if at the end of the last financial year the net assets as set out in the standalone statutory accounts prepared under Luxembourg GAAP are, or following such a distribution would become, less than the amount of the subscribed share capital plus the non-distributable reserves. Distributions in the form of dividends may only be made from net profits and profits carried forward, whereas distributions in the form of share premium reimbursements may only be made from available share premium.

Luxembourg law also requires at least 5.0% of our net profits per year to be allocated to the creation of a legal reserve until such reserve has reached an amount equal to 10.0% of our issued share capital. If the legal reserve subsequently falls below the 10.0% threshold, at least 5.0% of net profits again must be allocated toward the reserve. The legal reserve is not available for distribution.

Voting rights

There are no restrictions on the rights of Luxembourg or non-Luxembourg residents to vote our shares. All of our shareholders, including our public shareholders, hold common shares with identical voting rights, preferences and privileges. Each common share entitles the shareholder to attend a general meeting of shareholders in person or by proxy, to address the general meeting of shareholders and to vote. Each common share entitles the holder to one vote at the general meeting of shareholders.

General meeting of shareholders

In accordance with Luxembourg law and our articles of association, any regularly constituted general meeting of our shareholders has the power to order, carry out or ratify acts relating to our operations to the extent that such decisions are the domain of the shareholders and not the board of directors.

Our annual general meeting of shareholders shall be held at our registered office, or at such other place in Luxembourg as may be specified in the notice of the meeting, within six months after the end of the relevant financial year. Except as otherwise specified in our articles of association, resolutions at a general meeting of shareholders are adopted by a simple majority of shares present or represented and voting at such meeting.

A shareholder entitled to vote may act at any general meeting of shareholders by appointing another person (who need not be a shareholder) as his proxy, which proxy shall be in writing and comply with such requirements as determined by our board with respect to the attendance to the general meeting, and proxy forms in order to enable shareholders to exercise their right to vote. All proxies must be received by us (or our agents) no later than the day determined by our board of directors.

The board of directors may also decide to allow shareholders to vote by correspondence by means of a proxy form providing for a positive or negative vote or an abstention on each agenda item. The conditions for voting by correspondence are set out in the articles of association and in the convening notice.

The board of directors may decide to arrange for shareholders to be able to participate in the general meeting by conference call, video conference or similar means of communication, whereby (i) the shareholders attending the meeting can be identified, (ii) all persons participating in the meeting can hear and speak to each other, (iii) the transmission of the meeting is performed on an ongoing basis and (iv) the shareholders can properly deliberate without the need for them to appoint a proxyholder who would be physically present at the meeting.

Appointment and term limits of members of our board of directors

In accordance with our articles of association and the 1915 Law, the members of our board of directors are elected by a resolution of a general meeting of shareholders adopted with a simple majority of the votes validly cast, regardless of the portion of capital represented at such general meeting. Votes are cast for or against each nominee proposed for election to the board and cast votes shall not include votes attaching to shares for which the shareholder has not participated in the vote, has abstained or has returned a blank or invalid vote.

Our directors are appointed for a mandate of a two-years term and may be reelected. Members of our board of directors may be removed at any time, with or without cause, by a resolution adopted at a general meeting of our shareholders. Under Luxembourg law, in the case of a vacancy of the office of a director appointed by the general meeting of shareholders, the remaining directors may fill the vacancy on a provisional basis. In these circumstances, the following general meeting of shareholders shall make the final appointment of the director.

Issuance of shares and preferential subscription rights

Our shares may be issued pursuant to a resolution of the general meeting of shareholders. The general meeting of shareholders may also delegate the authority to issue shares to the board of directors for a renewable period of five years. The board of directors has been authorized to issue up to 231,924,819 common shares. Such authorization will expire five years after the date of publication in the Luxembourg legal gazette *(Recueil Electronique des Sociétés et Associations)* of the minutes of the general meeting of shareholders held on June 4, 2020 (unless amended or extended by the general meeting of shareholders).

Each holder of shares has preferential subscription rights to subscribe for any issue of shares pro rata to the aggregate amount of such holder's existing holding of the shares. Each shareholder shall, however, have no preferential subscription right on shares issued for a contribution in kind.

Preferential subscription rights may be restricted or excluded by a resolution of the general meeting of shareholders, or by the board of directors if the shareholders so delegate. The general meeting of shareholders has delegated to the board of directors the power to cancel or limit the preferential subscription rights of the shareholders when issuing new shares, so long as the issuance of new shares is carried out through a public offering.

If we decide to issue new shares in the future and do not exclude the preferential subscription rights of existing shareholders, we will publish the decision by placing an announcement in the Luxembourg official journal *Recueil Electronique des Sociétés et Associations* and in a newspaper published in Luxembourg. The announcement will specify the period in which the preferential subscription rights may be exercised. Such period may not be shorter than 14 days from the publication of the offer. The announcement will also specify details regarding the procedure for exercise of the preferential subscription rights. Under Luxembourg law preferential subscription rights are transferable and tradable property rights.

Repurchase of shares

Nexa Resources is prohibited by the 1915 Law from subscribing for its own shares. Nexa Resources may, however, repurchase its own shares or have another person repurchase shares on its behalf, subject to certain conditions, including:

- prior authorization of the general meeting of shareholders setting out the terms and conditions of the proposed repurchase, including the maximum number of shares to be repurchased, the duration of the period for which the authorization is given (which may not exceed five years) and the minimum and maximum consideration per share;

- the repurchase may not reduce the net assets of Nexa Resources on a non-consolidated basis to a level below the aggregate of the issued share capital and the reserves that Nexa Resources must maintain pursuant to the 1915 Law or our articles of association;

- only fully paid-up shares may be repurchased; and

- the acquisition offer is made on the same terms and conditions to all the shareholders who are in the same position; however, listed companies may repurchase their own shares on the stock exchange without making an acquisition offer to the shareholders.

On September 13, 2018, our shareholders authorized us to purchase, acquire, receive or hold and sell shares of Nexa Resources in accordance with the 1915 Law and any other applicable laws and regulations. The authorization was effective immediately after the general meeting and valid for a period of three years. As of December 31, 2021, there were no authorized share buyback programs.

Form and transfer of shares

Our shares are issued in registered form only and are freely transferable. Luxembourg law does not impose any limitations on the rights of Luxembourg or non-Luxembourg residents to hold or vote our shares.

Under Luxembourg law, the ownership of registered shares is generally evidenced by the inscription of the name of the shareholder, the number of shares held by him or her in the shareholders' register, which is maintained at our registered office. Each transfer of shares is made by a written declaration of transfer recorded in our shareholders' register, dated and signed by the transferor and the transferee or by their duly appointed agent. We may accept and enter into its shareholders' register any transfer based on an agreement between the transferor and the transferee provided a true and complete copy of the agreement is provided to us.

Our articles of association provide that, in case our shares are recorded in the register of shareholders on behalf of one or more persons in the name of a securities settlement system or the operator of such a system, or in the name of a professional depositary of securities or any other depositary or of a sub-depositary designated by one or more depositaries, NEXA—subject to a confirmation in proper form received from the depositary—will permit those persons to exercise the rights attaching to those shares, including admission to and voting at general meetings of shareholders. The board of directors may determine the requirements with which such confirmations must comply. Shares held in such manner generally have the same rights and obligations as any other shares recorded in our shareholder register(s).

Liquidation rights

The liquidation of Nexa Resources shall be decided by a general meeting of shareholders fulfilling the conditions as to attendance and majority required for the amendments of the articles of association. The method of liquidation shall be determined, and the liquidators shall be appointed by the general meeting of shareholders. In accordance with the 1915 Law, the assets that remain after payment of all debts and liabilities are distributed to the shareholders, on a pro rata basis.

Other Provisions

Holders of our common shares have no sinking fund, redemption or conversion rights.

Limitations on the right to own securities

Neither Luxembourg law nor our articles of association impose any general limitation on the right of nonresidents or foreign persons to hold our common shares or exercise voting rights on our common shares other than those limitations that would generally apply to all shareholders.

There is no law, governmental decree or regulation in Luxembourg that would affect the remittance of dividends or other distributions by Nexa Resources to nonresident holders of its common shares, other than withholding tax requirements. In certain limited circumstances, the implementation and administration of international financial sanctions may affect the remittance of dividends or other distributions. There are no specified procedures for nonresident holders to claim dividends or other distributions.

Transfer Agent

Computershare Trust Company, N.A. is the paying agent for shareholders who hold common shares listed on the NYSE.

Exhibit 8

List of Subsidiaries of Nexa Resources S.A.

Name of Subsidiary	Jurisdiction of Incorporation or Organization
Campos Novos Energia S.A.	Brazil
Compañía Minera Shalipayco S.A.C.	Peru
Compañía Magistral S.A.C.	Peru
Compañía Minera Doña Isabel Ltda.	Chile
Compañía Minera Gaico S.A.	Peru
Consórcio Capim Branco Energia	Brazil
Consórcio UHE Igarapava	Brazil
Exploraciones Chimborazo Metals & Mining S.A.	Ecuador
IncPac Holding Limited	British Virgin Islands
Inversiones Garza Azul S.A.C.	Peru
Karmin Holdings Ltda.	Brazil
L.D.O.S.P.E. Empreendimentos e Participações Ltda.	Brazil
L.D.Q.S.P.E. Empreendimentos e Participações Ltda.	Brazil
L.D.R.S.P.E. Empreendimentos e Participações Ltda.	Brazil
Minera Bongará S.A.	Peru
Minera Cerro Colorado S.A.C.	Peru
Minera Pampa de Cobre S.A.C.	Peru
Mineração Colina Ltda.	Brazil
Mineração Dardanelos Ltda.	Brazil
Mineração Parnamirim Ltda.	Brazil
Mineração Rio Aripuanã Ltda.	Brazil
Mineração Santa Maria Ltda.	Brazil
Mineração Soledade Ltda.	Brazil
Nexa Resources Atacocha S.A.A.	Peru
Nexa Resources Cajamarquilla S.A.	Peru
Nexa Resources El Porvenir S.A.C.	Peru
Nexa Recursos Minerais S.A.	Brazil

Nexa Resources Peru S.A.A.	Peru
Nexa Resources UK Limited	United Kingdom
Nexa Resources US Inc.	United States
Otavi Mining Investments (Proprietary) Ltd.	Namibia
Otjitombo Mining (Proprietary) Ltd.	Namibia
Pollarix S.A.	Brazil
Rayrock Antofagasta S.A.C.	Peru
SMRL Ltda. Pepita 1	Peru
SMRL CMA nº 54	Peru
Votorantim Andina S.A.	Chile
Votorantim Metals Canada Inc.	Canada
Votorantim Metals Namibia (Proprietary) Ltd.	Namibia

Exhibit 12.1

I, Ignacio Rosado, certify that:

1. I have reviewed this annual report on Form 20-F of Nexa Resources S.A.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the company as of, and for, the periods presented in this report;

4. The company's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15-d-15(f)) for the company and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the company's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the company's internal control over financial reporting; and

5. The company's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the company's auditors and the audit committee of the company's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the company's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the company's internal control over financial reporting.

/s/ Ignacio Rosado

Name: Ignacio Rosado
Title: President and Chief Executive Officer
Date: March 17, 2022

Exhibit 12.2

I, Rodrigo Menck, certify that:

1. I have reviewed this annual report on Form 20-F of Nexa Resources S.A.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the company as of, and for, the periods presented in this report;

4. The company's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15-d-15(f)) for the company and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the company's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the company's internal control over financial reporting; and

5. The company's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the company's auditors and the audit committee of the company's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the company's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the company's internal control over financial reporting.

/s/ Rodrigo Menck

Name: Rodrigo Menck
Title: Senior Vice President Finance and Group Chief Financial Officer
Date: March 17, 2022

Exhibit 13.1

Certification

Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (Subsections (a) and (b) of Section 1350, Chapter 63 of Title 18, United States Code)

Pursuant to section 906 of the Sarbanes-Oxley Act of 2002 (subsections (a) and (b) of section 1350, chapter 63 of Title 18, United States Code), each of the undersigned officers of Nexa Resources S.A. (the "Company"), does hereby certify, to such officer's knowledge, that:

The Annual Report on Form 20-F for the year ended December 31, 2021 (the "Form 20-F") of the Company fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934 and information contained in the Form 20-F fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Ignacio Rosado

Name: Ignacio Rosado
Title: President and Chief Executive Officer
Date: March 17, 2022

/s/ Rodrigo Menck

Name: Rodrigo Menck
Title: Senior Vice President Finance and Group Chief Financial Officer
Date: March 17, 2022

A signed original of this written statement required by Section 906 of the Sarbanes-Oxley Act of 2002 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.