Nexa Resources S.A.

INFORMATION RELATING TO MINERAL PROPERTIES

As of March 20, 2023

TABLE OF CONTENTS

NOTE TO READER REGARDING DISCLOSURE

This document contains certain disclosure relating to mineral properties of Nexa Resources S.A. ("Nexa Resources", "Nexa" or the "Company") that has been prepared in accordance with the requirements of Canadian securities laws. Unless otherwise indicated, all mineral reserve and mineral resource estimates included in this document have been prepared in accordance with the May 10, 2014 edition of the Canadian Institute of Mining, Metallurgy and Petroleum (or CIM) Definition Standards for Mineral Resources and Mineral Reserves ("2014 CIM Definition Standards") and disclosed in accordance with National Instrument 43-101 – Standards of Disclosure for Minerals Project ("NI 43-101").

Readers should understand that "Inferred Mineral Resources" are subject to uncertainty as to their existence and as to their economic and legal feasibility. An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.

Descriptions in this document of our mineral properties were prepared in accordance with NI 43-101, as well as similar information provided by other issuers in accordance with NI 43-101, and may not be comparable to similar information prepared in accordance with subpart 1300 of SEC Regulation S-K ("S-K 1300") that is present elsewhere outside of this report.

Our mineral properties are comprised of: (a) material mineral properties, including four mines (Cerro Lindo, El Porvenir, Aripuanã and Vazante) and one material project (Magistral); and (b) other mineral properties, including two mines (Atacocha and Morro Agudo) and several greenfield projects, including, among others, projects in Peru (Shalipayco, Hilarión, Pukaqaqa, and Florida Canyon Zinc) and Brazil (Caçapava do Sul).

The following three projects were placed under review by the Company: Shalipayco and Pukaqaqa (in 2022) and Caçapava do Sul (in 2021). As a result of our current capital allocation strategy and after a careful assessment and prioritization of our portfolio optimization, we have decided to not move forward with these potential greenfield projects. As a result, we will no longer be providing descriptions in this document of those three mineral properties in question.

For the meanings of certain technical terms used in this document, see "Glossary of Certain Technical Terms".

For a table summarizing the mineral reserve and mineral resource estimates prepared in accordance with NI 43-101 for our mines and projects, see "Summary of Information Concerning Mineral Reserves and Mineral Resources".

For additional information regarding our mines and projects prepared in accordance with NI 43-101, see "Summary of Material Mineral Properties" and "Summary of Other Mineral Properties" below.

FORWARD-LOOKING STATEMENTS

This 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;
- the impact of expanded regional or global conflict, and the resulting potential impacts on supply and demand for commodities, global security concerns, and market volatility;
- outbreaks of contagious diseases or health crises impacting overall economic activity regionally or globally, such as the coronavirus ("COVID-19") pandemic, and the potential impact thereof on commodity prices, our business and operating sites, and the global economy;
- increasing demand and evolving expectations from stakeholders with respect to our environmental, social and governance ("ESG") practices, performance and disclosures, including 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;

- the impact of climate change on our operations, workforce and value chain;
- environmental, safety and engineering challenges and risks inherent to mining;
- 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” in our annual report on Form 20-F.

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 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.

GLOSSARY OF CERTAIN TECHNICAL TERMS

C&F: cut and fill

concentration: The process by which crushed and ground ore is separated into metal concentrates and reject material through processes such as flotation.

D&F: drift-and-fill

development: The process of constructing a mining facility and the infrastructure to support the facility is known as mine development.

exploration: Activities associated with ascertaining the existence, location, extent or quality of a mineral deposit.

ha*: hectares*

km: kilometer

kt: thousand tonnes

LOM: Life of Mine

m: meter

MASL: meters above sea level

mineralization: The process or processes by which a mineral or minerals are introduced into a rock, resulting in a potentially valuable or valuable deposit.

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.

Mt: million tonnes.

Mtpa: million tonnes per annum.

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.

ounces or oz.: Unit of weight. A troy ounce equals 31.1035 grams. All references to ounces in this report are to troy ounces unless otherwise specified.

R&P: room and pilar

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.

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.

SLS: sublevel longhole stoping

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.

tpd: tonnes per day

VRM: vertical retreat mining

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.

NI 43-101 and 2014 CIM Definition Standards

Feasibility Study: A comprehensive technical and economic study of the selected development option for a mineral project that includes appropriately detailed assessments of applicable modifying factors, together with any other relevant operational factors and detailed financial analysis that are necessary to demonstrate, at the time of reporting, that extraction is reasonably justified (economically mineable). The results of the study may reasonably serve as the basis for a final decision by a proponent or financial institution to proceed with, or finance, the development of the project. The confidence level of the study will be higher than that of a pre-feasibility study.

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

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

level of confidence than that applying to a measured mineral resource and may only be converted to a Probable Mineral Reserve.

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

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

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

Modifying Factors: Considerations used to convert Mineral Resources to Mineral Reserves. These include, but are not restricted to, mining, processing, metallurgical, infrastructure, economic, marketing, legal, environmental, social, and governmental factors.

Preliminary Economic Assessment: A study, other than a pre-feasibility or feasibility study, that includes an economic analysis of the potential viability of mineral resources.

Pre-feasibility Study: A pre-feasibility study is a comprehensive study of a range of options for the technical and economic viability of a mineral project that has advanced to a stage where a preferred mining method, in the case of underground mining, or the pit configuration, in the case of an open pit, is established and an effective method of mineral processing is determined. It includes a financial analysis based on reasonable assumptions on the modifying factors and the evaluation of any other relevant factors which are sufficient for a qualified person, acting reasonably, to determine if all or part of the mineral resource may be converted to a mineral reserve at the time of reporting. A pre-feasibility study is at a lower confidence level than a feasibility study.

Probable Mineral Reserve: The economically mineable part of an Indicated, and in some circumstances, a Measured Mineral Resource. The confidence in the modifying factors applied to a Probable Mineral Reserve is lower than that applied to a Proven Mineral Reserve.

Proven Mineral Reserve: The economically minable part of a Measured Mineral Resource. A Proven Mineral Reserve implies a high degree of confidence in the modifying factors.

Qualified Person(s): An individual who: (a) is an engineer or geoscientist with a university degree, or equivalent accreditation, in an area of geoscience or engineering, relating to mineral exploration or mining; (b) has at least five years of experience in mineral exploration, mine development or operation, or mineral project assessment, or any combination of these, that is relevant to his or her professional degree or area of practice; (c) has experience relevant to the subject matter of the mineral project and technical report; (d) is in good standing with a professional association; and (e) in the case of a professional association in a foreign jurisdiction, has a membership designation that (i) requires attainment of a position of responsibility in his or her profession that requires the exercise of independent judgment; and (ii) requires (A) a favorable confidential peer evaluation of the individual's character, professional judgement, experience, and ethical fitness; or (B) a recommendation for membership by at least two peers, and demonstrated prominence or expertise in the field of mineral exploration or mining.

SUMMARY OF INFORMATION CONCERNING MINERAL RESERVES AND MINERAL RESOURCES

Mineral Reserves

The following table shows our estimates of Mineral Reserves prepared with an effective date of December 31, 2022 (unless otherwise indicated below) and in accordance with the 2014 CIM Definition Standards, whose definitions are incorporated by reference in NI 43-101, for the metals indicated per mine.

Interest [1]	Ownership	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)
Cerro Lindo Mine [2]	83.48%	Proven	26.40	1.75	0.64	21.0	0.21	-	462.2	169.9	17,843	56.0	-
		Probable	15.03	1.26	0.50	25.1	0.23	-	188.7	74.7	12,144	35.0	-
		Subtotal	**41.43**	**1.57**	**0.59**	**22.5**	**0.22**	**-**	**650.9**	**244.76**	**29,987**	**91.0**	**-**
El Porvenir Mine [3]	83.48%	**Proven**	2.54	3.70	0.21	67.7	1.12	-	94.9	5.4	5,532	28.3	-
		Probable	12.96	3.58	0.19	65.7	1.06	-	464.6	25.0	27,362	137.3	-
		Subtotal	**15.50**	**3.60**	**0.19**	**66.0**	**1.07**	**-**	**558.6**	**30.4**	**32,894**	**165.6**	**-**
Vazante Mine [4]	100%	Proven	6.82	9.98	-	18.0	0.30	-	680.6	-	3,949	20.5	-
		Probable	6.68	9.30	-	12.4	0.23	-	621.2	-	2,670	15.4	-
		Subtotal	**13.50**	**9.64**	**-**	**15.2**	**0.27**	**-**	**1,301.8**	**-**	**6,619**	**35.9**	**-**
Aripuanã Mine [5]	100%	Proven	8.41	3.25	0.29	29.1	1.18	0.24	273.4	24.0	7,863	99.1	64.0
		Probable	21.71	3.48	0.12	33.2	1.28	0.22	755.9	26.4	23,163	278.6	156.0
		Subtotal	**30.12**	**3.42**	**0.17**	**32.1**	**1.25**	**0.23**	**1,029.3**	**50.4**	**31,026**	**377.7**	**220.0**
		Proven	**44.17**	**3.42**	**0.45**	**24.8**	**0.46**	**0.05**	**1,510.2**	**199.3**	**35,187**	**203.9**	**64.0**
		Probable	**56.38**	**3.60**	**0.22**	**36.0**	**0.83**	**0.09**	**2,030.4**	**126.1**	**65,339**	**466.3**	**156.0**
		Total	**100.55**	**3.52**	**0.32**	**31.1**	**0.67**	**0.07**	**3,540.6**	**325.4**	**100,526**	**670.2**	**220.0**

Notes: The estimation of Mineral Reserves involves assumptions as to future commodity prices and as to technical mining matters.
Numbers and totals may not sum due to rounding.
The qualified person responsible for the Mineral Reserve estimates are not aware of any mining, metallurgical, infrastructure, permitting, or other relevant factors that could materially affect the Mineral Reserve estimate.

(1) The tonnage and content amounts presented in this table have not been adjusted to reflect our ownership interest. The information presented in this table includes 100% of the Mineral Reserves estimates of our consolidated subsidiaries and of our joint ventures, certain of which are not wholly owned, as set out in this ownership interests' column.

(2) Cerro Lindo Mine

The Qualified Person for the Mineral Reserves estimate is Cristovao Teofilo dos Santos, B.Eng., FAusIMM, a Nexa Resources employee. 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$42.65/t processed. Some incremental material with values between US$35.14/t and US$42.65/t was included. Mineral Reserves are estimated using average long-term metal prices of Zn: US$2,826.35/t (US$1.28/lb), Pb: US$2,043.95/t (US$0.93/lb); Cu: US$7,398.47/t (US$3.36/lb); and Ag: US$19.93/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 88.72% for Zn, 66.75% for Pb, are 85.92% for Cu, and 68.8% for Ag. A minimum mining width of 5.0 m was used. Dilution and extraction factors are applied based on stope type and location. Bulk density varies depending on mineralization domain.

(3) El Porvenir Mine

The Qualified Person for the Mineral Reserves estimate is Vitor Marcos Teixeira de Aguilar, B.Eng., FAusIMM, a Nexa Resources employee. Subpart 1300 of Regulation S-K definitions were followed for Mineral Reserves, which also are consistent with the CIM (2014) definitions. The Mineral Reserves were estimated at a NSR cut-off values ranging from US$57.99/t to US$60.71/t for SLS areas and US$59.65/t to US$62.37 for C&F areas depending on the zone Mineral Reserves are estimated using average long-term metal prices of Zn: US$2,826.35/t (US$1.28/lb); Pb: US$2,043.95/t (US$0.93/lb); Cu: US$7,398.47/t (US$3.36/lb); and Ag: US$19.93/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 88.85% for Zn, 79.73% for Pb, 11.81% for Cu, and 63.00% for Ag. A minimum mining width of 5.0 m was applied. Average Bulk density of 2.94 t/m^3.

(4) Vazante Mine

The Qualified Person for the Mineral Reserves estimate is Vitor Marcos Teixeira de Aguilar, B.Eng., FAusIMM, a Nexa Resources employee. 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 cut-off value of US$ 60.61/t processed. Mineral Reserves are estimated using average metal prices of Zn: US$2,826.35/t (US$1.28/lb); Pb: US$2,043.95/t (US$0.93/lb); and Ag: US$19.93/oz (using an average long term U.S. dollar to Brazilian real exchange rate of 4.96). 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 87.20% for Zn, 40.74% for Pb, and 42.0% for Ag. A minimum mining width of 4.0 m was applied. Average Bulk density of 2.8 t/m^3.

(5) Aripuanã Mine

The Qualified Person for the Mineral Reserves estimate is Jason J. Cox, P.Eng., a SLR Consulting (Canada) Ltd. employee. 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$48.11/t processed. Some incremental material with values between US$38.05/t and US$48.11/t was included. Mineral Reserves are estimated using average long-term metal prices of Zn: US$2,826.35/t (US$1.28/lb), Pb: US$2,043.95/t (US$0.90/lb); Cu: US$7,398.47/t (US$3.36/lb); Au: US$1,474.88/oz; and Ag: US$19.93/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 89.42% for Zn, 81.06% for Pb, 60.00% for Cu, 75.10% for Ag, and 67.8% for Au. Recoveries at the LOM average head grades for stringer material are 88.68% for Cu, 50.00% for Ag, and 63.00% for Au. A minimum mining width of 4.0 m was applied. Bulk density varies depending on mineralization domain.

Mineral Resources

The following table shows our estimates of Mineral Resources (exclusive of Mineral Reserves) prepared with an effective date of December 31, 2022 (unless otherwise indicated below) and in accordance with the 2014 CIM Definition Standards, whose definitions are incorporated by reference in NI 43-101, for mines in operation.

Interest[1]	Ownership	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)
Cerro Lindo Mine[2]	83.48%	Measured	5.38	1.84	0.62	22.2	0.23	-	99.0	33.4	3,840	12.4	-
		Indicated	3.22	1.15	0.49	25.6	0.24	-	37.0	15.8	2,650	7.7	-
		Subtotal	**8.60**	**1.58**	**0.57**	**23.5**	**0.23**	-	**136.0**	**49.2**	**6,490**	**20.1**	-
		Inferred	8.49	1.65	0.24	37.1	0.45	-	140.1	20.4	10,127	38.2	-
El Porvenir Mine [3]	83.48%	Measured	0.35	3.31	0.21	70.5	1.10	-	11.6	0.7	793	3.9	-
		Indicated	3.04	3.04	0.20	57.1	0.92	-	92.4	6.1	5,581	28.0	-
		Subtotal	**3.39**	**3.07**	**0.20**	**58.5**	**0.94**	-	**104.0**	**6.8**	**6,374**	**31.9**	-
		Inferred	10.68	3.83	0.19	72.9	1.05	-	409.0	20.3	25,032	112.1	-
Vazante Mine[4]	100%	Measured	0.63	8.32	-	14.8	0.24	-	52.4	-	300	1.5	-
		Indicated	3.90	5.97	-	6.8	0.19	-	233.0	-	858	7.6	-
		Subtotal	**4.53**	**6.30**	**-**	**8.0**	**0.20**	-	**285.4**	-	**1,158**	**9.1**	-
		Inferred	15.15	9.53	-	12.7	0.19	-	1443.1	-	6,184	29.2	-
Aripuanã Mine[5]	100.00%	Measured	0.40	1.87	0.41	23.4	0.70	0.40	7.5	1.6	301	2.8	5.1
		Indicated	2.55	2.26	0.19	21.2	0.82	0.31	57.6	4.8	1,738	20.9	25.4
		Subtotal	**2.95**	**2.21**	**0.22**	**21.5**	**0.80**	**0.32**	**65.1**	**6.4**	**2,039**	**23.7**	**30.5**
		Inferred	38.55	2.41	0.30	29.5	1.02	0.46	929.1	115.7	36,563	393.2	570.1
Atacocha Mine (Underground)[6]	75.96%	Measured	2.76	4.18	-	78.9	1.52	-	115.3	-	7,004	42.0	-
		Indicated	4.31	4.15	-	76.0	1.43	-	178.9	-	10,535	61.6	-
		Subtotal	**7.07**	**4.16**	**-**	**77.2**	**1.47**	-	**294.2**	**-**	**17,539**	**103.6**	-
		Inferred	8.11	4.45	-	82.0	1.26	-	360.9	-	21,389	102.2	-
Atacocha Mine (Open Pit)[7]	75.96%	Measured	3.19	1.04	-	36.8	1.02	0.25	33.2	-	3,774	32.5	25.6
		Indicated	6.87	1.09	-	30.0	0.94	0.19	74.9	-	6,626	64.6	42.0
		Subtotal	**10.06**	**1.07**	**-**	**32.2**	**0.97**	**0.21**	**108.1**	**-**	**10,400**	**97.1**	**67.6**
		Inferred	3.84	1.13	-	31.7	1.01	0.20	43.4	-	3,914	38.8	24.7
Morro Agudo Mine[8]	100%	Measured	-	--	-	-	-	-		-	-	-	-
		Indicated	12.80	3.52	-	-	0.58	-	450.6	-	-	74.5	-
		Subtotal	**12.80**	**3.52**	**-**	**-**	**0.58**	**-**	**450.6**	**-**	**-**	**74.5**	**-**
		Inferred	4.07	3.90	-	-	0.57	-	158.7	-	-	23.1	-
Total Mines		**Measured**	**12.71**	**2.51**	**0.28**	**39.2**	**0.75**	**0.08**	**319.0**	**35.7**	**16,019**	**95.1**	**30.7**
		Indicated	**36.66**	**3.08**	**0.07**	**23.7**	**0.73**	**0.06**	**1,128.9**	**26.7**	**27,984**	**267.0**	**67.4**
		Total	**49.37**	**2.93**	**0.13**	**27.7**	**0.73**	**0.06**	**1,447.9**	**62.4**	**44,003**	**362.1**	**98.1**
		Inferred	**88.82**	**3.92**	**0.18**	**36.1**	**0.83**	**0.21**	**3,482.7**	**156.4**	**103,201**	**736.6**	**594.8**

The following table shows our estimates of Mineral Resources (exclusive of Mineral Reserves) prepared with an effective date of December 31, 2022 (unless otherwise indicated below) and in accordance with the 2014 CIM Definition Standards, whose definitions are incorporated by reference in NI 43-101, for the zinc exploration projects.

Interest[(1)]	Ownership	Class	Tonnage (Mt)	Grade					Contained Metal				
				Zinc (%)	Copper (%)	Silver (g/t)	Lead (%)	Gold (g/t)	Zinc (kt)	Copper (kt)	Silver (koz)	Lead (kt)	Gold (koz)
Hilarión & El Padrino[(9)]	83.48%	Measured	14.54	3.39	-	30.9	0.69	-	492.9	-	14,445	100.3	-
		Indicated	34.03	3.62	-	27.0	0.54	-	1,231.9	-	29,540	183.8	-
		Subtotal	**48.57**	**3.55**	-	**28.2**	**0.58**	-	**1,724.8**	-	**43,985**	**284.1**	-
		Inferred	42.17	4.06	-	25.0	0.41	-	1,712.1	-	33,895	172.9	-
Florida Canyon Zinc[(10)]	50.93%	Measured	0.81	11.32	-	15.4	1.40	-	91.7	-	401	11.3	-
		Indicated	1.63	10.28	-	14.9	1.31	-	167.6	-	781	21.4	-
		Subtotal	**2.44**	**10.63**	-	**15.07**	**1.34**	-	**259.3**	-	**1,182**	**32.7**	-
		Inferred	14.86	9.63	-	11.3	1.26	-	1,431.0	-	5,399	187.2	-
Total Zinc Projects		**Measured**	**15.35**	**3.81**	**-**	**30.1**	**0.73**	**-**	**584.6**	**-**	**14,846**	**111.6**	**-**
		Indicated	**35.66**	**3.91**	**-**	**26.4**	**0.58**	**-**	**1,399.5**	**-**	**30,321**	**205.2**	**-**
		Total	**51.01**	**3.89**	**-**	**27.5**	**0.62**	**-**	**1,984.1**	**-**	**45,167**	**316.8**	**-**
		Inferred	**57.03**	**5.51**	**-**	**21.4**	**0.63**	**-**	**3,143.1**	**-**	**39,294**	**361.1**	**-**

The following table shows our estimates of Mineral Resources prepared with an effective date of December 31, 2022 (unless otherwise indicated below) and in accordance with the 2014 CIM Definition Standards, whose definitions are incorporated by reference in NI 43-101, for the copper exploration projects.

Interest[(1)]	Ownership	Class	Tonnage	Grade						Contained Metal					
				Zinc	Copper	Silver	Lead	Gold	Molybdenum	Zinc	Copper	Silver	Lead	Gold	Moly
			(Mt)	(%)	(%)	(g/t)	(%)	(g/t)	(%)	(kt)	(kt)	(koz)	(kt)	(koz)	(kt)
Magistral[(11)]	83.48%	Measured	98.69	-	0.52	2.8	-	-	0.050	-	513.2	8,884	-	-	49.3
		Indicated	90.68	-	0.43	2.8	-	-	0.040	-	389.9	8,163	-	-	36.3
		Subtotal	**189.37**	-	**0.48**	**2.8**	-	-	0.045	-	**903.1**	**17,047**	-	-	**85.6**
		Inferred	11.06	-	0.38	3.1	-	-	0.050	-	42.0	1,103	-	-	5.5

Notes: The estimation of Mineral Resources involves assumptions as to future commodity prices and as to technical mining matters. Numbers and totals may not sum due to rounding. 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 tonnage and content amounts presented in this table have not been adjusted to reflect our ownership interest. The information presented in this table includes 100% of the Mineral Resources estimates of our consolidated subsidiaries and of our joint ventures, certain of which are not wholly owned, as set out in this ownership interests' column.

(2) Cerro Lindo Mine

Mineral Resources are effective date as of December 31, 2022.
The Qualified Person for the Mineral Resources estimate is José Antonio Lopes, B.Geo., FAusIMM (Geo), a Nexa Resources employee.
Mineral Resources are reported on an 100% ownership basis. Nexa owns 83.48%.
Mineral Resources are estimated at an NSR cut-off value of US$ 42.65/t.
Mineral Resources are estimated using average long term metal prices of Zn: US$3,250.31/t (US$1.47/lb), Pb: US$2,350.54/t (US$1.07/lb); Cu: US$8,508.24/t (US$3.86/lb); and Ag: US$22.92/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 average head grades are 88.72% for Zn, 66.75% for Pb, 85.92% for Cu, and 68.8% for Ag.
Mineral Resources are reported within underground mining shapes.
Dilution and extraction factors are applied based on stope type and location.
A minimum mining width of 4.0m was used.
Bulk density varies depending on mineralization domain.

(3) El Porvenir Mine

Mineral Resources are effective date as of December 31, 2022.
The Qualified Person for the Mineral Resources estimate is José Antonio Lopes, B.Geo., FAusIMM, a Nexa Resources employee.
Mineral Resources are reported on an 100% ownership basis. Nexa owns 83.48%.
Mineral Resources are estimated at NSR cut-off grade values ranging from US$57.99/t to US$60.71/t for SLS areas and US$ 59.65/t to US$62.37 for C&F areas depending on the zone.
Mineral Resources are estimated using average long term metal prices of Zn: US$3,250.31/t (US$1.47/lb), Pb: US$2,350.54/t (US$1.07/lb); Cu: US$8,508.24/t (US$3.86/lb); and Ag: US$22.92/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 average head grades are 88.85% for Zn, 79.73% for Pb, 11.81% for Cu, and 63.0% for Ag.
Mineral Resources are reported within underground mining shapes.
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.

(4) Vazante Mine

Mineral Resources are effective date as of December 31, 2022.
The Qualified Person for the Mineral Resources estimate is José Antonio Lopes, B.Geo., FAusIMM , a Nexa Resources employee.
Mineral Resources are reported on a 100% Nexa ownership basis. Nexa owns 100%.
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$23.13/t for soil and US$28.38/t for fresh rock and transition material. For Aroeira Tailings the resources are estimated at a NSR cut-off value of US$29.40/t and for Hypogene Mineralization (Willeminte) a cut-off value of US$60.61/t for all resources shapes.
Forecast long term metal prices used for the NSR calculation are: Zn: US$3,250.31/t (US$1.47/lb), Pb: US$2,350.54/t (US$1.07/lb); and Ag: US$22.92/oz. An average long-term R$/US$ exchange rate of 4.96 was used.
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 average hypogene head grades are 87.20% for Zn, 40.74% for Pb, and 42.0% for Ag, supergene (calamine) is 55.00% for Zn, and tailings are 68.11% for Zn, 38.46% for Pb, and 42.00% for Ag.

Mineral Resources are reported within underground mining shapes with minimum mining width of 3.0m for the willemite mineralization, open pit shell for Calamine and above original topography for tailings.
Bulk density varies depending on mineralization domain
Density was assigned based on rock type.

(5) Aripuanã Mine

Mineral Resources are effective as of December 31, 2022.
The Qualified Person for the Mineral Resources estimate is Renan Lopes, M.Sc. MAusIMM CP (Geo), a SLR Consulting employee.
The Mineral Resources estimate is reported on a 100% ownership basis. Mineral Resources are reported using a cut-of value of US$48.11/t. Forecast long term metal prices used for the NSR calculation are: Zn: US$3,250.31/t (US$1.47/lb), Pb: US$2,350.54/t (US$1.07/lb); Cu: US$8,508.24/t (US$3.86/lb); Au: US$1,696.11/oz; and Ag: US$22.92/oz. Metallurgical recoveries are accounted for in the NSR calculations based on metallurgical test work and are variable as a function of head grade and ore type. Recoveries at the LOM average head grades for stratabound material are 89.42% for Zn, 81.06% for Pb, 60.0% for Cu, 75.10% for Ag, and 67.80% for Au. Recoveries at the LOM average head grades for stringer material are 88.68% for Cu, 50.0% for Ag, and 63.0% for Au. Bulk density varies depending on mineralization domain.

(6) Atacocha Mine (Underground)

Mineral Resources have effective date as of December 31, 2022.
The Qualified Person for the Mineral Resources estimate is José Antonio Lopes, B.Geo., FAusIMM, a Nexa Resources employee.
Mineral Resources are reported on an 100% ownership basis. Nexa owns 75.96%.
Mineral Resources are estimated at a NSR cut-off value of US$62.81/t for resources shapes.
The NSR cut-offs are calculated based on the LOM costs using average long-term metal prices of Zn: US$ 3,250.3/t (US$ 1.47/lb), Pb: US$ 2,350.5/t (US$ 1.07/lb), Ag: US$ 22.92/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 85.35% for Zn, 84.65% for Pb, and 76.19% for Ag.
Mineral Resources are reported within underground mining shapes.
A minimum mining width of 4.0 m was used.
Bulk density varies depending on mineralization domain.

(7) Atacocha Mine (Open Pit)

Mineral Resources have effective date as of December 31, 2022.
The Qualified Person for the Mineral Resources estimate is José Antonio Lopes, B.Geo., FAusIMM (Geo), a Nexa Resources employee.
The Mineral Resources is reported on an 100% ownership basis. Nexa owns 75.96%.
Mineral Resources are estimated at a NSR cut-off value of US$23.81/t. Some marginal material with cut-off value of US$21.69/t was included.
The NSR cut-offs are calculated based on an average long-term metal price of Zn: US$ 3,250.3/t (US$1.47/lb), Pb US$ 2,350.5/t (US$1.07/lb), Au US$ 1,696.11/oz and Ag US$ 22.92/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 70.44% for Zn, 83.64% for Pb, 75.76% for Ag, and 65.46% for Au.
Mineral Resources are reported within optimized pit shell.
Mineral Resources are stated considering dilution into the regularized block.
Bulk density varies depending on mineralization domain.

(8) Morro Agudo Mine

Mineral Resources are effective date as of December 31, 2022.
The Qualified Person for the Mineral Resources estimate is José Antonio Lopes, B.Geo., MAusIMM (Geo), a Nexa Resources employee.
The Mineral Resources estimate is reported on a 100% ownership basis. Nexa owns 100%.
Mineral Resources are reported using a NSR cut-of value of based on the LOM costs for Morro Agudo: US$ 52.43/t and Bonsucesso: US$ 55.85/t.
The NSR cut-offs are calculated based on an average long-term metal price of Zn: US$ 3,250.3/t (US$ 1.47/lb) and Pb: US$ 2,350.5/t (US$ 1.07/lb); and metallurgical recoveries are based on historical processing data: for Morro Agudo are 92.50% for Zn and 61.10% for Pb, and for Bonsucesso are 92.00% for Zn and 72.00% for Pb.
Mineral Resources are reported within underground mining shapes.
A minimum thickness of 3.0 m was applied for Bonsucesso and 4.5 m for Morro Agudo.
Bulk density varies depending on mineralization domain.

(9) Hilarión

Mineral Resources have effective date as of December 31, 2022.
The Qualified Person for the Mineral Resources estimate is José Antonio Lopes, B.Geo., FAusIMM (Geo), a Nexa Resources employee.
Mineral Resources are reported on a 100% ownership basis. Nexa owns 83.48%.
Mineral resources are estimated at a NSR cut-off value of US$45.00/t for SLS resource shapes for the Hilarión deposit, and US$50.00/t for Room & Pillar (R&P) resource shapes for the El Padrino deposit.
Mineral Resources are estimated at average long-term metal prices of Zn: US$ 3,245.91/t (US$1.47/lb); Pb: US$2,332.46/t (US$1.06/lb) and Ag: US$ 22.66/oz.
Mineral Resources are reported within underground mining shapes.
A minimum mining width of 3.0 m was used for Hilarión and El Padrino.
Bulk density varies depending on mineralization domain

(10) Florida Canyon Zinc

Mineral Resources have an effective date as of October 30, 2020.
The Qualified Person for the Mineral Resources estimate is José Antonio Lopes, B.Geo., FAusIMM (Geo), a Nexa Resources employee.
Mineral Resources are reported on a 100% ownership basis. Nexa owns 50.93%.
Mineral Resources are reported using a cut-off values of US$41.40/t NSR for SLS, US$42.93/t for C&F and US$40.61/t for Room & Pillar mine areas.
Forecast long term metal prices used for the NSR calculation are Zn: US$ 2,816.35t (US$ 1.28/lb); Pb: US$ 2,196.50/t (US$ 1.00/lb) and Ag: US$ 19.38/oz.
Average metallurgical recoveries for the resource are Zinc (80%), Lead (74%) and Silver (52%).
Mineral Resources are reported within underground mining shapes.
Minimum thickness is 3.0 m for SLS and C&F, and 4.0 m for Room & Pillar.
Bulk density varies depending on mineralization domain.

(11) Magistral

Mineral Resources have effective date as of April 15th, 2021
The Qualified Person for the Mineral Resources estimate is José Antonio Lopes, B.Geo., FAusIMM (Geo), a Nexa Resources employee.
Mineral Resources are reported on a 100% ownership basis. Nexa owns 83.48%.
Mineral Resources are estimated at NSR cut-off values of US$5.99/t for porphyry, US$5.51/t for mixed, and US$5.48/t for skarn rock types.
Metallurgical recoveries are accounted for in the NSR calculations based on metallurgical data and vary from 79.3% in skarn to 92.5% in San Ernesto porphyry for Cu, 51.3% in skarn and 79.2% in San Ernesto porphyry for Mo, and 70% for Ag.

Mineral Resources are estimated using an average long term metal prices of US$7,193.45/t Cu, US$21.34/oz Ag, and US$9.90/lb of Mo.
The Mineral Resources are reported constrained within a Whittle optimized pit shell.
Mineral Resources are stated considering dilution into the regularized block.
Bulk density varies depending on mineralization domain.

SUMMARY OF MATERIAL MINERAL PROPERTIES

Mines

Cerro Lindo

*The most recent NI 43-101 technical report with respect to Cerro Lindo is the technical report titled "Technical Report on the Cerro Lindo Mine, Department of Ica, Peru" with an effective date of December 31, 2020 (the "**Cerro Lindo Technical Report**") prepared by RPA, now a part of SLR Consulting Ltd., in particular by: Rosmery J. Cardenas Barzola, P.Eng., Normand Lecuyer, P.Eng., Lance Engelbrecht, P.Eng., and Luis Vasquez, M.Sc., P.Eng. The Cerro Lindo Technical Report has been filed in accordance with NI 43-101, and is available, under Nexa's SEDAR profile at www.sedar.com.*

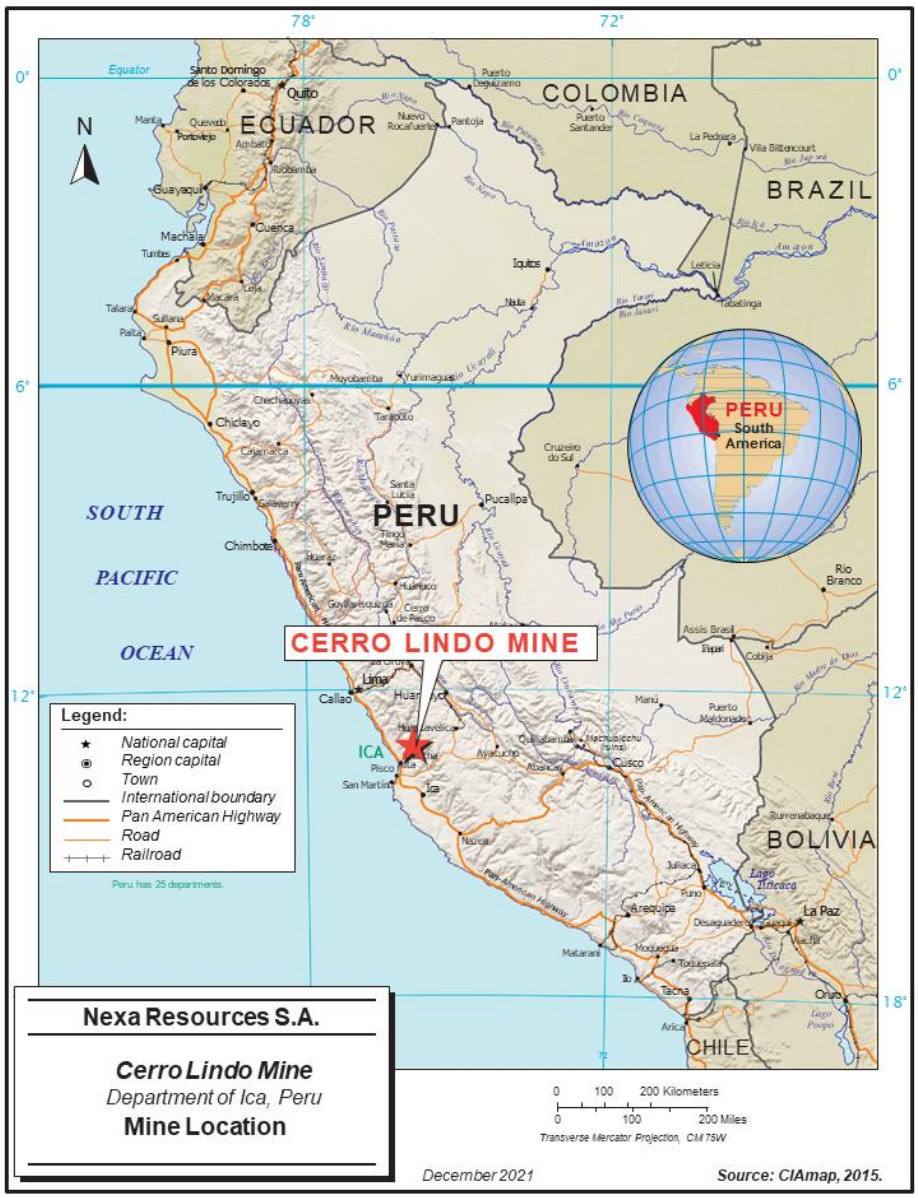
Certain of the scientific and technical information set out herein with respect to Cerro Lindo is based on information presented in the Cerro Lindo Technical Report. The Mineral Resources and Mineral Reserves for the Cerro Lindo Mine have been estimated by Nexa as of December 31, 2022 and reviewed by a Qualified Person. The Qualified Person for the Mineral Resources estimate is José Antonio Lopes, B.Geo., FAusIMM, a Nexa Resources employee. José Antonio Lopes has also reviewed and approved certain information set out herein that has been updated since the date of the Cerro Lindo Technical Report. The Qualified Person for the Mineral Reserves estimate is Cristovao Teofilo dos Santos, B.Eng., a Nexa Resources employee. Cristovao Teofilo dos Santos has also reviewed and approved certain information set out herein that has been updated since the date of the Cerro Lindo Technical Report.

Project Description, Location and Access

Project Setting

The Cerro Lindo Mine is located in the Chavín District, Chincha Province, Ica Department of Perú, approximately 268 km southeast of Lima and 60 km from the coast. The current access from Lima is via the paved Pan American Highway south to Chincha (208 km) and then via an unpaved road up the Topará River valley to the mine site (61 km). Internal roadways connect the various mine-site components. The approximate coordinates of the mine are 392,780m E and 8,554,165m N, using the UTM WGS84 datum and the project site is located at an average elevation of 2,000 MASL.

Site Location Plan



Mineral Tenure, Surface Rights, Water Rights, Royalties and Agreements

All concessions are held by Nexa Resources Peru S.A.A. ("Nexa Peru"), a wholly owned subsidiary of Nexa. As of December 31, 2022, Cerro Lindo consists of 68 mineral concessions covering an area of 43,750.2 ha, and one beneficiation concession covering an area of 518.8 ha. The concessions are located in the districts of Chavin, Lunahuana, San Juan de Yanac, Grocio Prado, Pueblo Nuevo and Pacaran, provinces of Chincha and Cañete, departments of Lima and Ica in Peru.

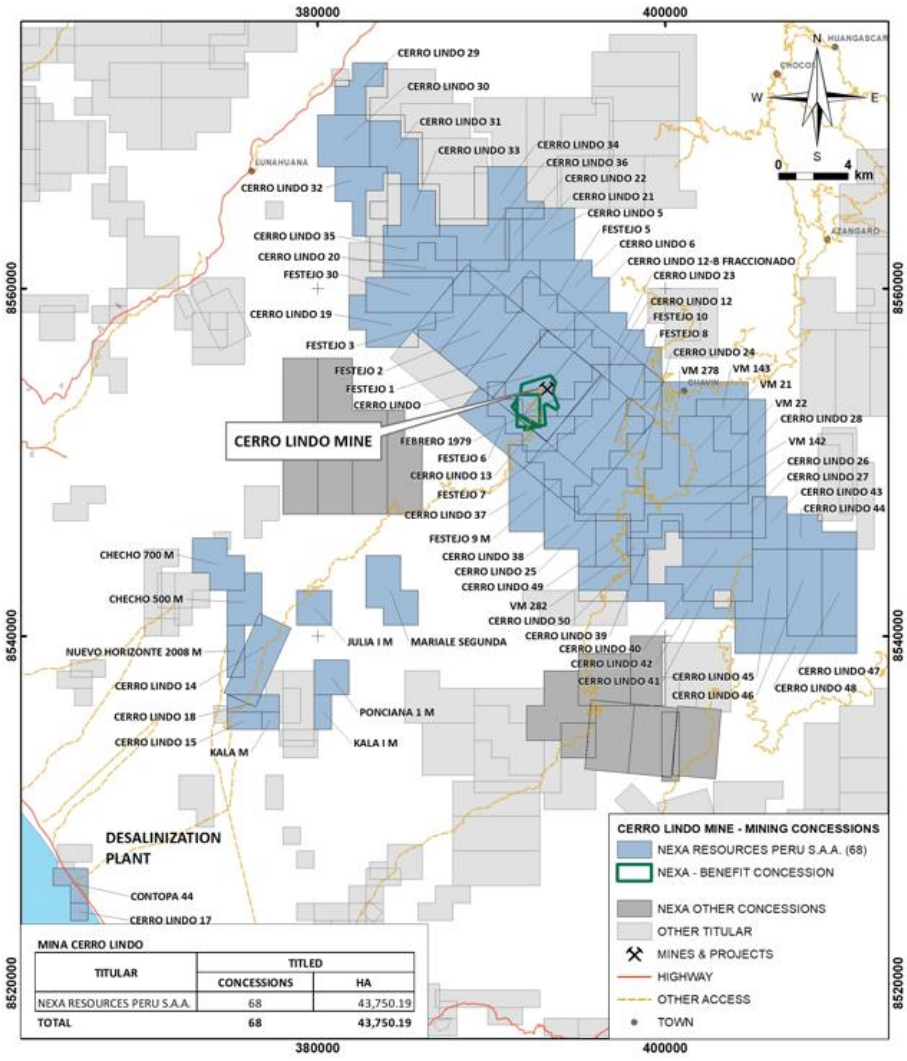
Nexa Peru currently holds surface rights or easements for the following infrastructure at Cerro Lindo: mine site, access roads, power transmission line and water pipeline for the mine, old and new power transmission lines to Cerro Lindo, desalination plant, water process plant, and the water pipeline 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.

As of December 31, 2022, Nexa Peru has a total of six water licenses, one for use of seawater, and the remaining five for ground water extraction. Cerro Lindo is subject to payment of royalties. The tax stability agreement expired

on December 31, 2021, and 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, 2022, 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 several 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.

Regional Mineral Tenure Plan



History

Artisanal-style mining of outcropping barite bodies for use by the oil industry began in the early 1960s. The Cerro Lindo deposit was discovered in 1967, during a color anomaly reconnaissance program. Compañía Minera – Milpo S.A.A. ("Milpo"), a predecessor company to Nexa Peru, acquired the property in 1984. From 1984 to 2011,

Milpo carried out geological mapping, geophysical surveys, geochemical sampling, drilling, and trenching over the property. In 2002, a feasibility study was completed and construction started in 2006. The Cerro Lindo Mine commenced production in 2007.

Since 2007, the Cerro Lindo Mine has produced a total of approximately 79 Mt of ore. The last three years mine production is shown in the table below:

Mine Production from Cerro Lindo (2020 - 2022)

	Unit	2020	2021	2022
Tonnage	Mt	5.48	6.37	6.24
Zn Grade	%	1.93	1.79	1.55
Cu Grade	%	0.59	0.54	0.61
Pb Grade	%	0.29	0.28	0.33
Ag Grade	oz/t	0.78	0.79	0.89
Ag Grade	g/t	24.14	24.52	27.68

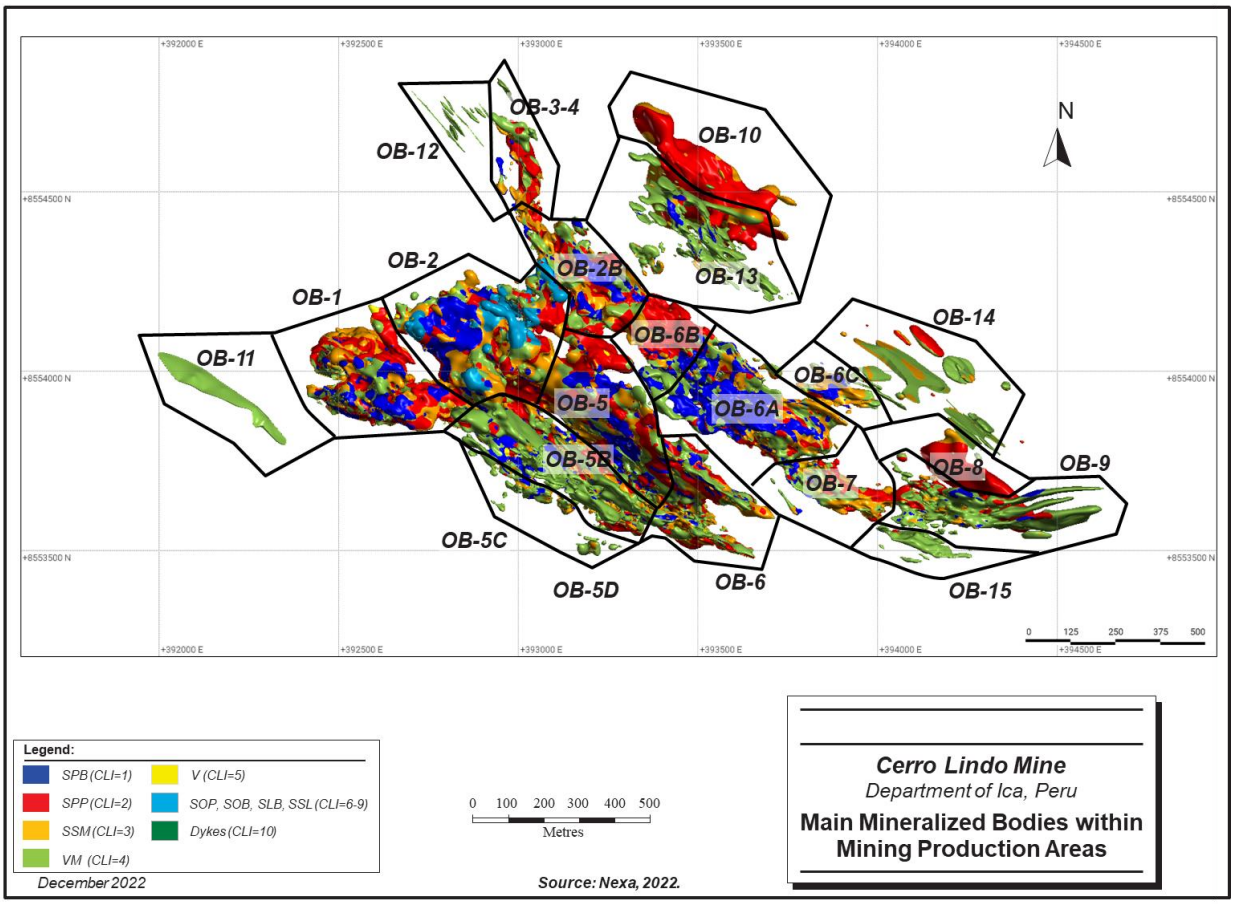
Geological Setting, Mineralization and Deposit Types

The Cerro Lindo deposit is located in a 30 km by 10 km northwest trending belt of marine volcano-sedimentary rocks of the Middle Albian to Senonian (mid-Cretaceous) Huaranguillo Formation, belonging to the Casma Group, which is located within Tertiary intrusions of the Coastal Batholith. The Huaranguillo Formation fills the Canete volcano-sedimentary basin, one of the several similar basins that form the Casma Metallotect at the western side of the Andean Cordillera Occidental. In addition to Cerro Lindo, the Casma Metallotect hosts a number of important volcanogenic massive sulphide ("VMS") deposits, including Tambogrande, Perubar, Potrobayo, Totoral, Maria Teresa, Aurora Augusta, and Palma.

The Cerro Lindo deposit is a Kuroko-type VMS deposit. Mineralization is hosted in a pyroclastic unit composed of ash and lapilli-type polymictic tuffs of the Huaranguillo Formation. 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 sulphides have oxidized. Silver-rich powdery barite remains at the surface as a relic of sulphide oxidation and leaching.

The mineralization has been divided into 21 mining production areas, which are termed OB-1, OB-2, OB-2B, OB-3-4, OB-5, OB-5B, OB-5C, OB-5D, OB-6, OB-6A, OB-6B, OB-6C, OB-7, OB-8, OB-9, OB-10, OB-11, OB-12, OB-13, OB-14 and OB15. The mineralized lenses exhibit an irregular elongated geometry, and their longest axis (nearly 1,800m - 500m) has a northwest-southeast horizontal trend (azimuth 135°). The mineralized bodies are approximately 100,300 m thick and 400,100 m wide (height difference) and generally dip to the southwest at 65° on average. The location of the known mineralized bodies with the mining production area is shown in the figure below.

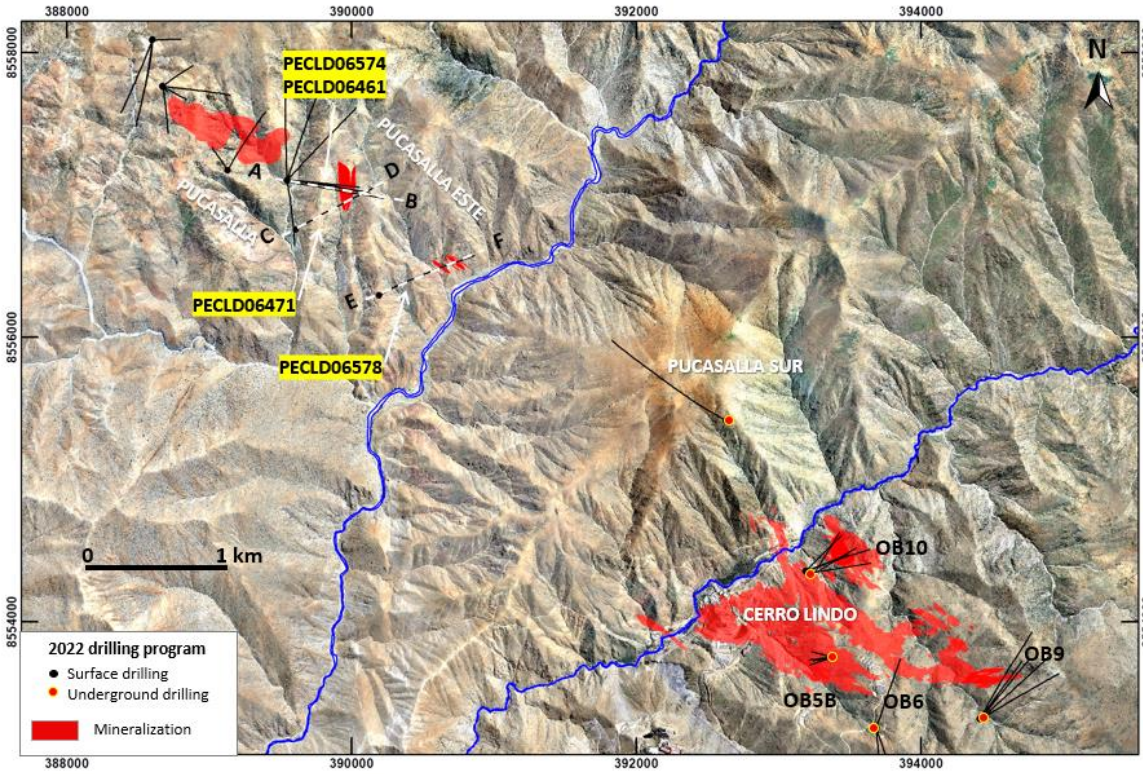
Mineralized Bodies



Exploration

In 2022, mineral exploration in Cerro Lindo was focused on interpreting geological information collected in drilling program, geophysical and geochemical studies. The 2022 drilling activities was divided between underground to extend the known mineralized bodies, such as OB-9, OB-10, and surface activities to investigate the geophysical anomaly zones in Pucasalla to find new mineralized zones in the region.

Regional Exploration Targets



Drilling

During 2022, we completed approximately 25.1 km of diamond drilling, divided between surface and underground drilling. By the end of 2022, were drilled in exploration program, 16.2 km in 19 drill holes from surface in Pucasalla target, 4.5 km northwest from Cerro Lindo, confirming sulphide lens of sphalerite, galena and chalcopyrite in a dacite host rock with gangue of barite. In underground, we drilled 8.9 km in 16 drill holes, confirming the continuity of the orebody OB-9 and OB-10. Pucasalla superficial bodies are located north of Topará River and near mine ore bodies are located to the south of the Topará River.

In 2022, we spent US$7.6 million in exploration expenses for Cerro Lindo, primarily associated with diamond drilling, geochemistry analysis, geophysical and geological research works. We have budgeted US$7.0 million for the project during 2023 to continue our exploration program, as data interpretations, geochemistry and exploratory drilling campaign.

In addition to the exploration program, the mining geology team drilled an additional 52.1 km of infill (23.5 km) and recategorization drilling (28.6 km) to upgrading potential and Inferred Mineral Resources to Indicated or Measured Resources (recategorization) and ultimately convert them into Probable Mineral Reserves or Proven Mineral Reserves, and for mine planning purposes geomechanics team drilled 11.5 km to analyze geomechanical parameters of the rocks and define contacts with collapses or empty zones.

During 2023, the exploration program is estimated to complete a total of 32 km of exploratory drilling. The goal from surface is to continue the drilling program to extend the Pucasalla mineralization, and construction of new access and platforms to verify Pucasalla, Puca Punta, Mesa Rumi and Festejo targets. In underground exploration, the focus will be to drill towards the OB-8B, Pucasalla Sur and Festejo targets.

Sampling, Analysis and Data Verification

Several sample types have been collected as part of the production cycle to form part of the database, including underground channel, longhole sampling, core sampling, density and geotechnical sampling. Drill-hole and channel sample spacing is considered adequate for the type of deposit. Sample collection and core handling are in accordance with industry standard practices.

Quality assurance ("QA") consists of evidence to demonstrate that the assay data has precision and accuracy within generally accepted limits for the sampling and analytical method(s) used in order to have confidence in the resource estimation. Quality control ("QC") consists of procedures used to ensure that an adequate level of quality is maintained in the process of sampling, preparing, and assaying the drill core samples. In general, QA/QC programs are designed to prevent or detect contamination and allow analytical precision and accuracy to be quantified. In addition, a QA/QC program can disclose the overall sampling – assaying variability of the sampling method itself.

At Cerro Lindo, QC samples have been inserted into the sample stream since 1996 and channel samples since 2012. The mine routinely sends in-house certified reference materials (CRMs), blanks, field (twin), coarse reject, and pulp duplicates, and external checks for analysis. Prior to Nexa's drilling campaigns, standard reference materials (SRM) were used, however, during 2017, Nexa replaced SRMs with CRMs. No SRMs or blanks were submitted during the 1999-2001 Phase 1 drilling campaign. Since 2018, Nexa incorporated systematic external checks into the QA/QC program, and pulps have since been sent to external laboratories for analysis. Currently, CERTIMIN analyzes samples from recategorization, and infill drilling and ALS Lima analyzes samples from brownfield exploration drilling.

Mineral Processing and Metallurgical Testing

The current LOM plan continues to 2030. Test work on ore type, production blend and variability samples supported the plant designs, and included a full suite of comminution tests, flotation test work, and penalty element analysis.

Metallurgical parameters for the concentrator are well understood, and optimization and plant control is supported by ongoing research and development geometallurgical testing on samples of ore mainly based on: hardness work index, mineral flotation kinetics, abrasion index, flotation reagent scheme evaluation, flotation kinetics, grind sensitivity, mineralogy and routine circuit evaluations.

The main objectives of geometallurgical studies are to reduce risk in:

- the variability tonnage of the plant and consumables;
- the recovery of valuable minerals;
- the quality of the final concentrate and contaminants;
- the identification of fatal falls in new bodies; and
- the identification and characterization of domains and geometallurgical parameters.

Cerro Lindo Polymetallic Circuit, Metallurgical Performance (2020 - 2022)

	Unit	Item	2020	2021	2022
Production	tonnes		5,482,211	6,369,044	6,236,058
Mill Head Grade	g/t	Ag	21.14	24.52	27.55
	%	Cu	0.59	0.54	0.61
	%	Pb	0.29	0.28	0.33
	%	Zn	1.93	1.79	1.55
Cu Concentrate	%	Cu Recovery	85.66	85.05	86.37
	%	Cu Grade	25.95	26.20	26.63
	oz/t	Ag Grade	15.17	17.97	17.42
	%	Ag Recovery (to Cu)	39.09	39.75	38.80
Pb Concentrate	%	Pb Recovery	74.07	72.98	74.98
	%	Pb Grade	64.99	63.39	63.86
	oz/t	Ag Grade	73.60	76.65	70.60

	%	Ag Recovery (to Pb)	32.11	30.95	31.31
Zn Concentrate	%	Zn Recovery	90.16	89.63	87.39
	%	Zn Grade	57.79	56.33	56.34

Mineral Resource Estimate

The Cerro Lindo Mineral Resource estimate dated December 31, 2022 is reported using 2014 CIM Definition Standards and was 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 Resource estimate was 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$42.65/t. NSR cut-off values for the Cerro Lindo Mineral Resource estimate are based on an average long-term zinc price of US$3,250.31/t (US$1.47/lb), a lead price of US$2,350.54/t (US$1.07lb), a copper price of US$8,508.24/t (US$3.86/lb) and a silver price of US$22.92/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 88.72% for Zn, 66.75% for Pb, 85.92% for Cu, and 68.8% for Ag.

Mineral Reserve Estimate

The Mineral Reserves estimate dated December 31, 2021 is reported using the 2014 CIM Definition Standards and was based on costs and modifying factors from the Cerro Lindo Mine. The Mineral Reserves are estimated at an NSR cut-off value of US$42.65/t processed. A number of incremental stopes (with values between US$35.14/t and US$42.65/t) were included in the estimate. A minimum mining width of 5.0 m was used, inclusive of extraction factors and dilution are applied based on stope type and location. The 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$2,826.35/t (US$1.28/lb); lead: US$2,043.95/t (US$0.93/lb); copper: Cu: US$7,398.47/t (US$3.36/lb) and silver: US$19.93/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 88.72% for Zn, 66.75% for Pb, 85.92% for Cu, and 68.8% for Ag. The current LOM plan continues to 2030.

Mining Operations

Mining Methods

Cerro Lindo has been operating since July 2007, recently at rates of approximately 7 Mtpa. The mining method utilized is sub-level longhole stoping with sub-level intervals of up to 30 m in height. The mine is mechanized, using rubber-tired equipment for all development and production operations. Mining is carried out in ten separate orebodies, using large longhole stoping methods, in a primary/secondary/tertiary sequence. Stopes are backfilled with a low-cement content paste fill made from flotation tailings.

The highest operating level is the 1,970 m level, the lowest operating level is the 1,520 m level, and the ultimate bottom level is planned to be the 1,490 m level. Mine access is through 14 portals, in which 8 are prepared for access and 6 exclusives for ventilation use. The majority of the ore is delivered to grizzlies on the 1,830 m level that feed the jaw crusher installed on the 1,820 m level. Crushed ore is delivered to the surface stockpile via inclined conveyor through a portal at the 1,940 m level. From the surface stockpile, ore is delivered to the concentrator via a system of inclined overland conveyors.

The Cerro Lindo Mine does not produce any significant quantities of water and exploration drilling to date has not intersected any water-bearing structures that could introduce major inflows into the mine.

Processing and Recovery Operations

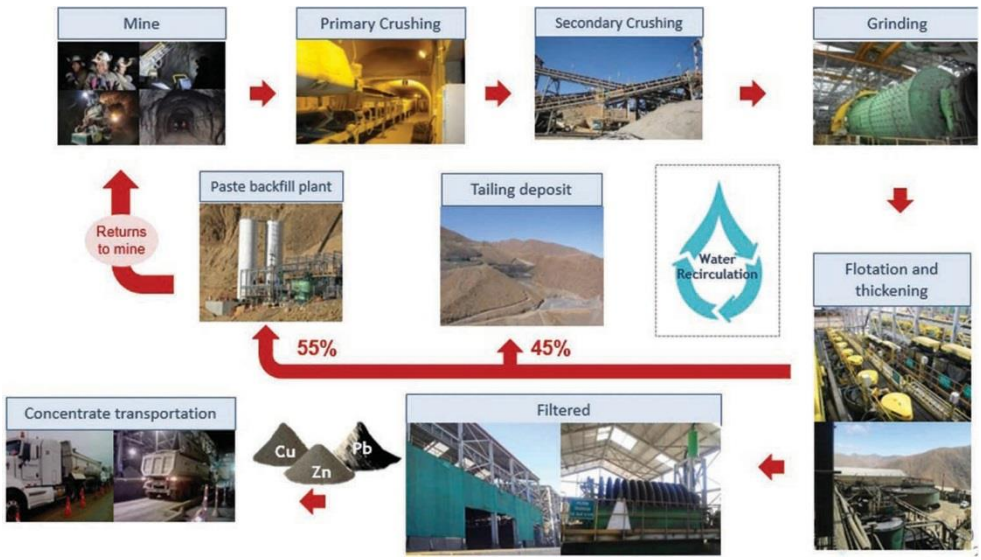
The Cerro Lindo processing plant is located on a ridge adjacent to the mine and is at an altitude of 2,100 to 2,200 MASL. The plant commenced operations in 2007 with a processing capacity of 5,000 tpd, however, has since been expanded to a name-plate capacity of 21,000 tpd. Processing consists of conventional crushing, grinding, and flotation to produce separate copper, lead, and zinc concentrates. The tailings are thickened and filtered for use as backfill or trucked to the dry stack tailings storage facility.

Filtered lead, copper and zinc concentrates are transported by road to the Port of Callao for sale in the case of lead and copper concentrates, and to Nexa Cajamarquilla's zinc refinery for the treatment of zinc concentrate.

Final tailings consist of zinc scavenger tails. The tails are directed to the tails' thickener. The thickened underflow is divided, with a portion going to the paste-backfill plant, and the remainder going to the dry-stack tailings filtration plant. The split ratio between tailings to paste backfill and dry stack tailings is 45:55.

Water is supplied from a desalination plant located at the coast, with a production capacity of 60 L/s and is pumped 60 km to the mine site. This is sufficient to supply the requirements for make-up water and potable water (treated at the mine site). Most of the processed water required is recovered from tailings thickening and filtration and is returned to the three 3,600 m^3 water storage tanks. Approximately 90% of total tailings water is recovered and recycled to the plant as process water.

Cerro Lindo Simplified Overall Process Material Flow Diagram



Infrastructure, Permitting and Compliance Activities

Project Infrastructure

All key infrastructure required for mining and processing operations is constructed. This includes the underground mine, access roads, powerlines, water pipelines, desalination plant, offices and warehouses, accommodations, process plant/concentrator, conveyor systems, waste rock facilities, temporary ore stockpiles, paste-fill plant, and the dry-stack tailings storage facilities.

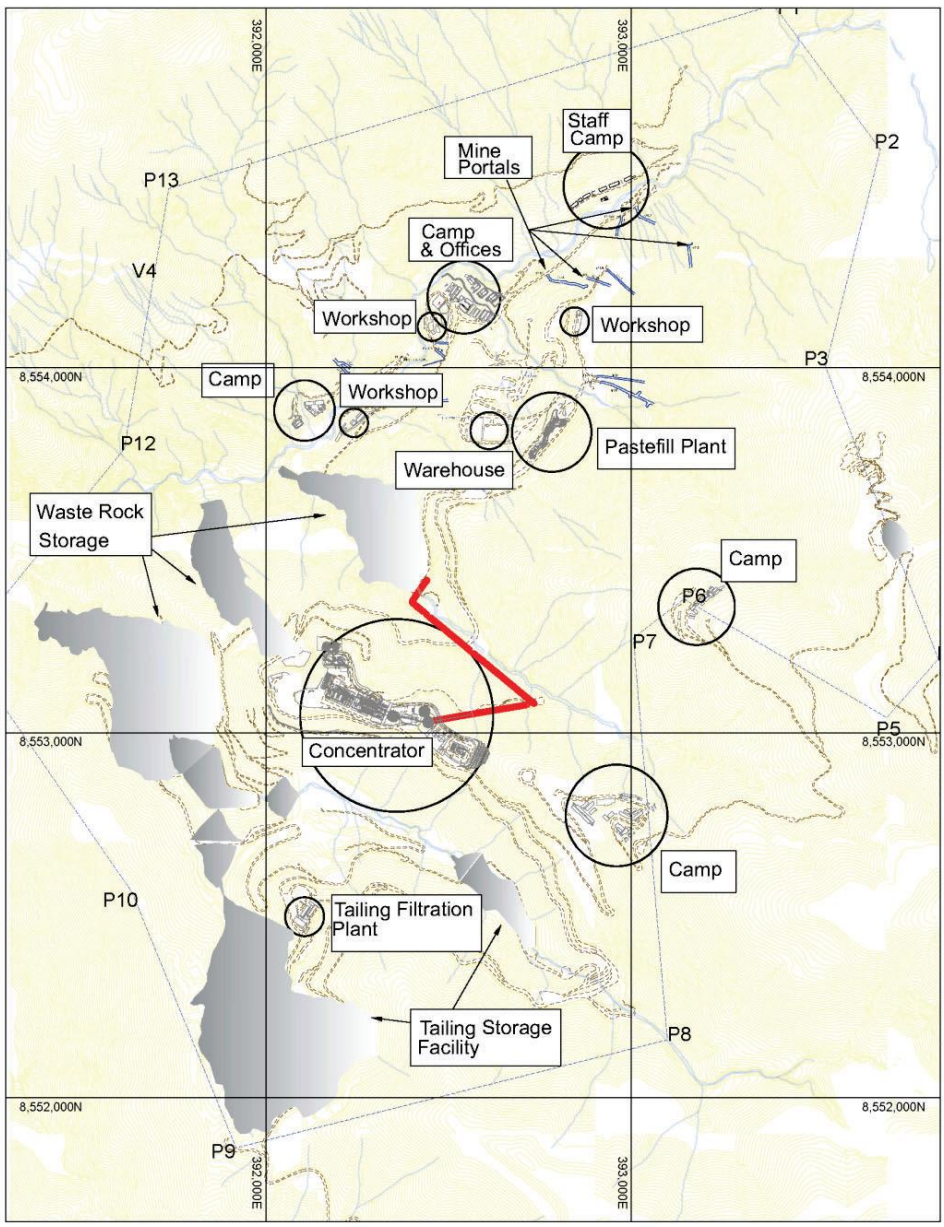
Access to the mine site is via paved highway to Chincha (180 km from Lima), followed by a 60 km unpaved road. The unpaved road covers a significant gain in elevation and has a number of narrow sections that restrict speeds for heavy haulage. Nexa maintains rest stops at wide areas and enforces safe speed limits on employees and contractors.

Electrical power is provided to the mine is supplied via the National Grid. The overall site demand to sustain a production rate of 20,800 tpd is approximately 36.5 MW. The mine has a backup generator to support the main ventilation system.

There is no fresh water withdrawal from natural water bodies at the Cerro Lindo Mine site, and the mine obtains very little water from the underground mine workings. Approximately 40% of total demand is extracted from five local groundwater wells/boreholes. The remaining 60% of industrial fresh water is supplied from a desalination plant located on the coast. The pumping system from the desalination plant is divided into three stages to transport the water approximately 45 km to an elevation of 2,200 m. Three pump stations are located along the six-inch pipeline route from the desalination plant to the mine site.

Service water is primarily used underground for drilling water, cooling, dust control, and concrete/shotcrete service. Service water is provided from a central plant-wide source and distributed underground via a system of pipelines to all working areas. Service water is collected and pumped to the surface where it is treated for re-use. The following figure is a site layout plan.

Site Layout Plan of Infrastructure



Environmental, Permitting and Social Considerations

The most recent modification of the Environmental Impact Assessment was approved by the Peruvian authorities in 2018 ("2018 EIA") to grant authorization for a maximum production rate of 22,500 tpd. Cerro Lindo has an EMP, which addresses mitigation measures and monitoring programs for industrial and domestic effluent discharges, surface water quality and sediment, groundwater quality, surface flow, air quality (particulate matter and gas emissions), non-ionizing radiation, noise, vibrations, soil quality, terrestrial and aquatic flora, and terrestrial and aquatic fauna. The most recent update of the environment plan was presented in the 2018 EIA.

Tailings from the process plant are thickened and then further dewatered in either the paste plant to be deposited underground, or to the filter plant to the south of the processing plant to be filtered and subsequently placed in two dry-stack storage facilities, Pahuaypite 1 and Pahuaypite 2. As much as 90% of the process water from dewatered tailings is recycled with industrial fresh water being supplied from a desalination plant at the coast to meet site and process water make-up requirements. The mine site operates with a zero-water discharge commitment.

A formal Mine Closure Plan was prepared in 2021 for the mine components within the context of the Peruvian legislation and has subsequently been amended or updated four times. The Mine Closure Plan addresses temporary, progressive and final closure actions, and post-closure inspection and monitoring.

Nexa adheres to international standards to provide best practices for public reporting on economic, environmental, and social impacts in order to help Nexa and its shareholders and stakeholders understand their corporate contribution to sustainable development. The Company has an integrated management system that establishes the guidelines that govern the conduct of the businesses, with a focus on quality management of environmental, health, and workplace safety and social responsibility issues. In addition, the Company follows applicable environmental laws and regulations pertaining to its business in each country where it operates.

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 management instruments filed by the mining companies. Nexa maintains an up-to-date record of the legal permits obtained to date. Nexa uses an ISO 14001 compliant environmental management system at Cerro Lindo to support environmental management, monitoring and compliance with applicable regulatory requirements during operation.

Vazante

*The most recent NI 43-101 technical report with respect to Vazante is the technical report titled "Vazante Polymetallic Operations, Minas Gerais State, Brazil, NI 43-101 Technical Report on Operations" with an effective date of December 31, 2020 (the "**Vazante Technical Report**") prepared by RPA (now a part of SLR Consulting Ltd), and in particular: Reno Pressaco, M.Sc. (A) P.Geo., Normand L. Lecuyer, P. Eng., ing., Lance Engelbrecht, P.Eng., and Luis Vasquez, M.Sc., P.Eng. The Vazante Technical Report has been filed in accordance with NI 43-101, and is available, under Nexa's SEDAR profile at www.sedar.com.*

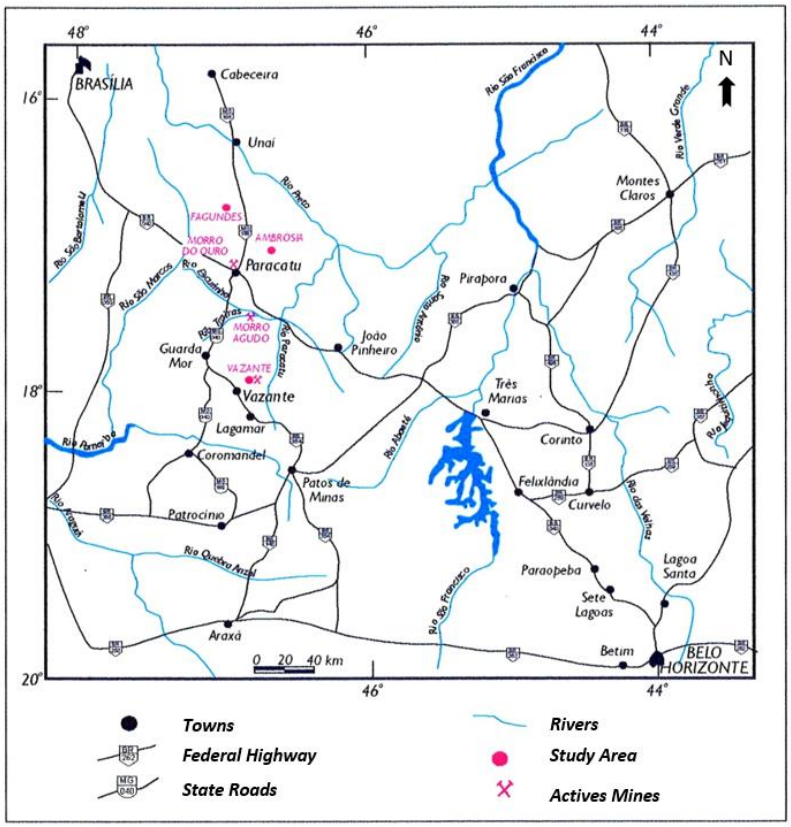
Certain of the scientific and technical information set out herein with respect to Vazante is based on information presented in the Vazante Technical Report. The Mineral Resources and Mineral Reserves for the Vazante Mine have been estimated by Nexa as of December 31, 2022 and reviewed by a Qualified Person. The Qualified Person for the Mineral Resources estimate is José Antonio Lopes, B.Geo., FAusIMM, a Nexa Resources employee. José Antonio Lopes has also reviewed and approved certain information set out herein that has been updated since the date of the Vazante Technical Report. The Qualified Person for the Mineral Reserves estimate is Vitor Marcos Teixeira de Aguilar, B.Eng., a Nexa Resources employee. Vitor Marcos Teixeira de Aguilar has also reviewed and approved certain information set out herein that has been updated since the date of the Vazante Technical Report.

Project Description, Location and Access

Project Setting

The Vazante Operation is located in the western portion of the state of Minas Gerais, Brazil at a latitude of approximately 17º 57' 33" S and a longitude of approximately 46° 49' 42" W, within Zone 23S of the UTM coordinate system (Córrego Alegre Datum) at approximately 306,000m E and 8,016,000m N. The Vazante Operation is located approximately 8.5 km east of the town of Vazante, 253 km southeast of Brasilia and 370 km northwest of Belo Horizonte.

Project Access Plan



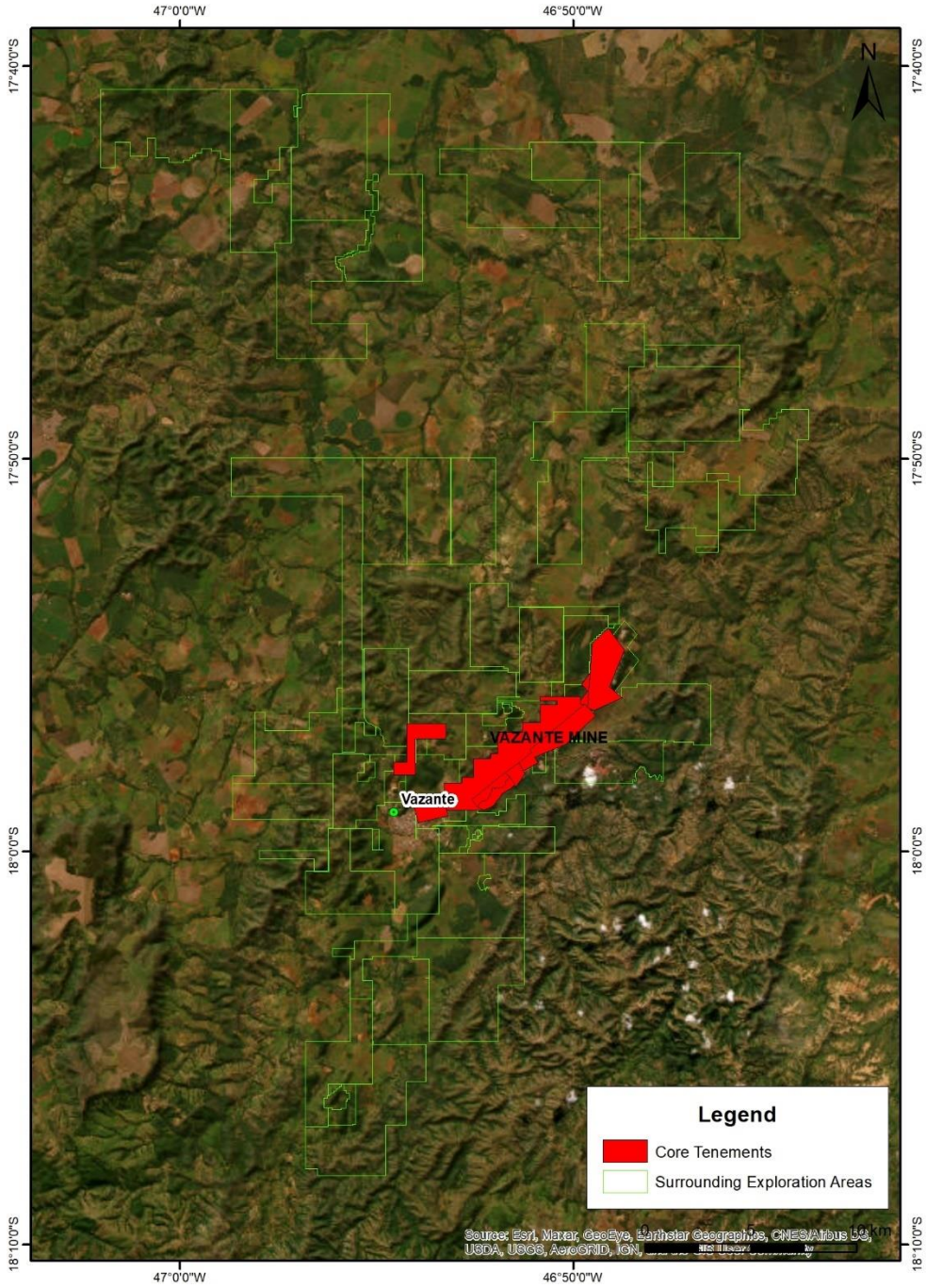
Mineral Tenure, Surface Rights, Water Rights, Royalties and Agreements

All concessions are held by Nexa Recursos Minerais S.A. ("Nexa Brazil"), a wholly owned subsidiary of Nexa. 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 2,120.80 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 Mineral Resources.

Nearby the main area, Nexa Brazil also holds one exploration application totaling 168.0 hectares, 54 exploration authorizations totaling 43,337.1 hectares, one right to apply for mining concession totaling 344.5 hectares, two mining concession applications totaling 243.7 hectares and one mining concession totaling 52.5 hectares, in addition to the core tenements.

The Company 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 mining activities. There is sufficient suitable land available within the mineral tenure held by the Nexa for tailings disposal, mine waste disposal, and installations such as the process plant and related mine infrastructure.

Vazante Mine Mineral Tenure



Brazilian companies that hold Mining Concessions are subject to a royalty payment known as Financial Compensation for the Exploitation of Mineral Resources (Compensação Financeira pela Exploração de Recursos Minerais – "CFEM"), imposed by the National Mining Agency - ANM. Revenues from mining activities are subject to CFEM which is paid to the ANM. CFEM is a monthly royalty based on the sales value of minerals, net of taxes levied on the respective sale. When the produced minerals are used in its internal industrial processes, CFEM is determined based on the costs incurred to produce them or 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 and lead). The Vazante Mine is not subject to any royalties other than the CFEM and royalty payments to surface rights holders if mining occurs in their property equal to 50% of the related CFEM.

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 (*Taxa Estadual de Recursos Minerais* – "TFRM").

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.

History

Mineralization in the Vazante Operation area was initially discovered by Angelo Solis in 1933 who acquired the first mineral titles to the area. The mineral rights to the Vazante Mine portion of the Vazante Operation land holdings were first acquired by Companhia Mineira de Metais ("CMM") in 1956. CMM later became Votorantim Resources in 2005 and more recently Nexa Resources S.A. in 2014. The original land titles for the Vazante Operation were added and expanded over the years by means of direct land acquisition (claim staking) and various option agreements and purchases. The Extremo Norte Mine portion of the current Vazante Operation land holdings was acquired by purchase in 2007.

Mechanized open pit mining at the Vazante Operation commenced in 1969. The initial mining operations exploited the supergene calamine mineralization which was formed by a mixture of hemimorphite ($Zn_4(Si_2O_7)(OH)2.H_2O$) and smithsonite ($ZnCO_3$) that were derived from weathering of the primary willemite mineralization. Open pit mining operations of willemite mineralization were suspended in 2000, followed by the suspension of open pit production of calamine mineralization in 2008.

Development of the Vazante Operation underground mines began in 1983, with initial minor production of willemite mineralization taking place in 1984. 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. The underground mines exploit the primary willemite mineralization (Zn_2SiO_4) along with minor to trace amounts of sphalerite.

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.

From January to mid-February 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 situation in Minas Gerais in order to ensure the safety of workers and the resumption of mine activities. Operations resumed at full capacity at the beginning of April 2022.

Historical ore production and zinc grade figures are shown in the table below.

Production of Vazante (2020 - 2022)

	Unit	2020	2021	2022
Tonnage	Mt	1.62	1.54	1.52
Zn Grade	%	10.4	9.98	9.97
Pb Grade	%	0.36	0.35	0.33
Ag Grade	oz/t	0.63	0.67	0.63
Ag Grade	g/t	19.50	20.95	19.50

Geological Setting, Mineralization and Deposit Types

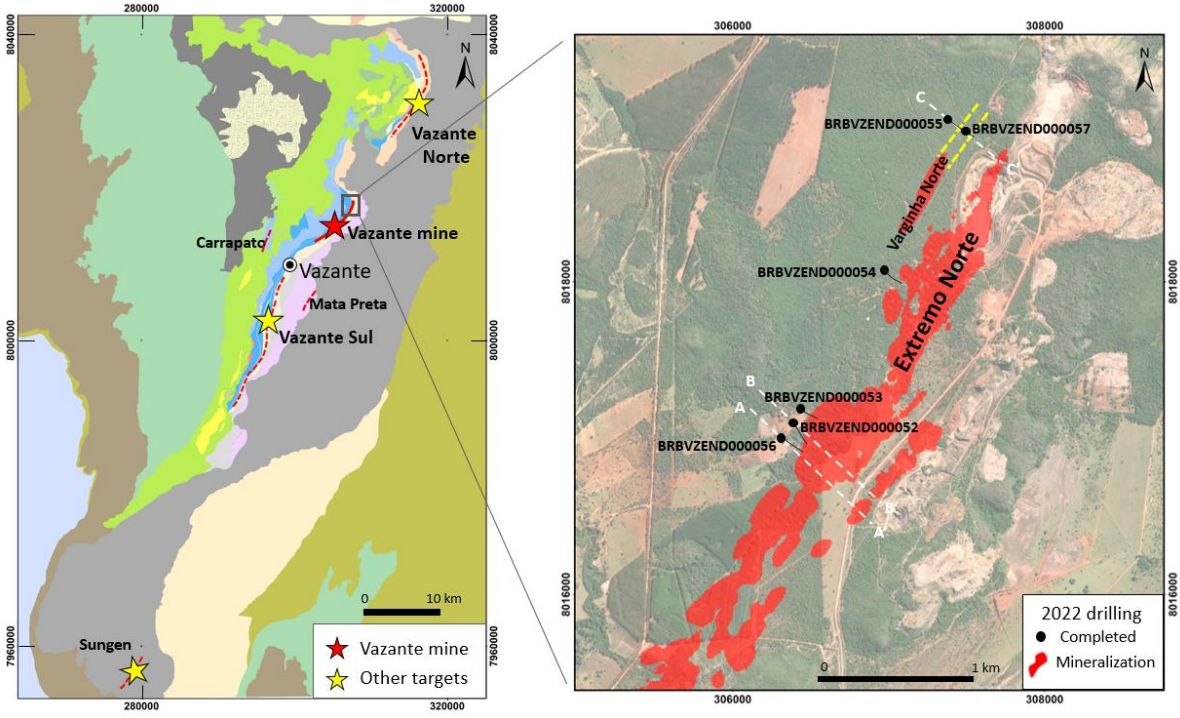
The geology of the Vazante Operation area consists of a sequence of pelitic carbonate rocks belonging to the Serra de Garrote and Serra do Poço Verde formations of the Vazante Group. The currently known mineralization has been traced along a strike length of approximately 10.5 km, extending from the southern end of the Vazante Mine to the northern limits of the Extremo Norte Mine.

The zinc-lead-silver mineralization at the Vazante Operation is hosted by the Vazante Shear Zone which has been traced by drilling and sampling along a strike length of approximately 12 km. The Vazante Shear Zone has a general strike of azimuth 50° and dips approximately 60° to the northwest at surface. The hanging wall lithologies of the Vazante Shear Zone are comprised of dolostone and sericitic phyllite, slates and marl units of the Serra do Poço Verde Formation while the footwall lithologies to the Vazante Shear Zone are dominated by dark grey dolostones of the Upper Morro do Pinheiro Member. Drilling information indicates that the dip of the zinc mineralized zone gradually decreases with depth in the southern portions of the structure.

The zinc mineralization at the Vazante and Extremo Norte mines is composed largely of hypogene zones that are composed mainly of willemite (Zn_2SiO_4) veins, veinlets, and stockworks that are hosted by sphalerite-rich carbonate. The mineralization typically contains willemite (50% to 70%), dolomite (10% to 30%), siderite (10% to 20%), quartz (10% to 15%), hematite (5% to 10%), zinc-rich chlorite (5% to 10%), barite (<5%), franklinite (<5%), and zincite (<5%), with subordinate concentrations of magnetite and apatite (Monteiro *et. al.*, 2006). Lead and silver are also recovered from the hypogene mineralization is produced from the Vazante Operation. While no detailed studies regarding the specific lead and silver bearing minerals have been carried out on samples of the hypogene mineralization, several detailed mineralogical studies have been conducted using concentrate samples. It is remarkable that the majority of the lead mineralization in the concentrates has been found to be related to galena (PbS), with lesser amounts of lead being contained in cerussite ($Pb(CO_3)$). Mineralogical studies have indicated that the silver values are contained in the minerals acanthite (Ag_2S) and jalpaite (Ag_2CuS_2).

Supergene zones of zinc-rich mineralization have been developed in the near-surface portions of the hypogene mineralized zones. These supergene zones are referred to as the calamine zones at the Vazante Operation. The calamine mineralization is composed principally of smithsonite ($ZnCO_3$) that includes subordinate amounts of hemimorphite ($Zn_4(Si_2O_7)(OH)_2.H_2O$) and quartz. The calamine mineralized zones were derived from weathering of the primary willemite mineralization. The figure below shows the geological setting of the Vazante area.

Geological Map and Local Mineralized Zones



Exploration

Zinc was first discovered at the Vazante Operation in 1951 when areas of gossan and calamine mineralization were discovered in surface outcrops. Since 1951, exploration has largely consisted of geological mapping and geophysical surveying, with minor amounts of geochemical sampling programs being carried out to locate outcropping mineralized zones. In the Vazante Operation area, exploration programs (including drilling) have strategically been carried out in support of extensions of mining operations, including the possibility of deepening of the mine infrastructure.

Mineral exploration activities in 2022 were focused on identifying the continuity of mineralized bodies along the Vazante hydrothermal breccia. We are conducting ongoing tests to explore extensions of known mineralization, infilling areas where no data is currently available, and identifying other areas where mineralization may be present.

The brownfield exploration in 2022 was focused on the expansion of existing mineralized zones at Vazante and exploring the Extremo Norte target. In addition, the exploration continues to seek to identify new prospective areas, such as Vazante Sul and Varginha Norte, which were drilled during 2022.

In 2022, we spent US$2.4 million on brownfield projects for life of mine extension, including drilling program and geological activities.

Drilling

Along 2022, the exploration team completed approximately 4.6 km of diamond drilling, divided between exploratory (1.8 km) and extension drilling (2.8 km). The focus of the exploratory drilling was on the extension of the Vazante mine ore bodies, exploring the target Extremo Norte, which confirmed the mineralized system and opened lateral and depth continuity. In addition, the mineral exploration team continues to seek to identify new prospective areas with exploratory drilling, such as Vazante Sul and Varginha Norte.

In additional to the exploration program, we drilled more than 37.55 km to confirm mineralization and upgrading of Inferred Mineral Resources into Indicated or Measured Mineral Resources (recategorization drilling) and, for mine planning purposes.

We have budgeted US$3.5 million for the exploration program during 2023 and we expect to drill 10.1 kilometers to continue extending the mineralization of Extremo Norte and Vazante Sul targets.

Sampling, Analysis and Data Verification

Sample collection and core handling are in accordance with industry standard practices. Procedures to limit potential sample losses and sampling biases are in place. Sample intervals are consistent with the type of mineralization. Underground channel samples range from 0.5-1.5 m long, and respect lithological, alteration, mineralization, and other natural boundaries.

Prior to 2014, mine samples were analyzed by the Vazante laboratory on the mine site. The exploration samples were analyzed by an external laboratory. Samples were prepared using the mine laboratory machinery. This laboratory was not accredited. ALS, an independent laboratory, has been the primary laboratory for preparation of exploration and production samples since 2014. Samples are prepared and analyzed at either of the ALS laboratories located in Vespasiano, Minas Gerais and Goiânia, Goiás. Both laboratories are ISO 9001:2008 certified, and independent of the Company. ALS Lima performs the sample analytical step. This laboratory is independent of the Company and holds ISO 9001:2008 and ISO 17025 accreditation.

Sample analysis at the mine laboratory and ALS Lima is performed using standard procedures that are widely used in the industry. In both cases, analytical procedures are adequate to support mineral resource and mineralized material estimation and mine planning.

Company-wide QA/QC protocols were implemented in 2009 and have improved over time. The current program includes submission of twin, coarse and pulp duplicates, or CRMs, external controls, and coarse blank samples. Nexa considers the data to be adequately accurate and precise to support mineral resource and mineralized material estimation and mine planning.

Nexa staff periodically prepare reviews on sampling procedures, geological logging procedures, core drilling and core handling procedures, and QA/QC procedures. Current procedures are considered acceptable to support Mineral Resource, mineralized material and Mineral Reserve estimates. Sample data collected adequately reflect the deposit dimensions, true widths of mineralization, and the style of the deposits.

Mineral Processing and Metallurgical Testing

Zinc is the primary metal of economic importance, with minor quantities of lead as galena and associated silver minerals allowing for the production of relatively small amounts of lead concentrate as well. Due to the ore mineralogy, zinc concentrate produced at the Vazante Operation is elevated in silica, as well as calcium, magnesium, and carbonates resulting from carbonate gangue presence (predominantly dolomite). Nexa's Três Marias zinc smelter includes a circuit specifically configured to process the zinc silicate concentrate produced at the Vazante Operation and as a result all of the concentrate produced at the Vazante Operation is exclusively processed at the Três Marias smelter where zinc metal is produced.

Metallurgical studies have been completed since plant operations began in 1969. Studies incorporated mineralogy, crushing, and grinding characteristics, flotation separation testing with current and new technologies, thickening and filtering tests for concentrates and tailings and X-ray ore sorting. Much of the testwork has been completed in the Votorantim laboratory at the Vazante Operations. Studies have been supported by universities including the Federal University of Minas Gerais ("UFMG") and the University of Sao Paulo and by external consultants and suppliers. Most studies have focused on factors affecting zinc recovery, concentrate quality and grades and costs reduction

Recent test work has focused on the reprocessing of historical tailings, ore sorting and improving recovery from calamine material (versus historical recovery) to support calamine resource evaluation. The Aroeira TSF contains both willemite and calamine tailings, with the willemite tailings generally deposited on top of the calamine tailings. The Vazante Operation currently processes tailings reclaimed by truck and front-end loader (FEL) from the Aroeira TSF. Aroeira tailings comprise a small portion of the feed to the processing plants. The most recent test work performed for Aroeira Tailing was conducted by Nexa's technology and process teams with SGS GEOSOL support and aimed at the production of a concentrate with 39% Zn and a minimum recovery of 55%. Preliminary test work was completed on calamine samples by Nexa at the Vazante Operation with the objective of improving on the historical recovery from calamine ore (approximately 50%), with bench scale tests completed in 2017, followed by pilot tests in 2018.

In 2019, Nexa's Vazante started its first x-ray ore sorting plant in crushing line C with very good results in zinc recovery, grade and cost reduction. Due to these results, Nexa is developing an expansion in this plant to increase crushing and sorter capacity from 40 ton/h to 140 ton/h.

In 2020, Nexa installed a new high frequency screen in crushing line C. This project generated an 8% increase in mill C throughput from 42 ton/hour to 47 ton/hour.

Vazante unit is also preparing to change its grinding circuit C mill in 2023 to increase its capacity from 45 ton/hour to 60 ton/hour.

Typical deleterious elements or compounds of zinc concentrates sourced from Vazante that could negatively affect the refining process include carbonates, magnesium oxide (MgO), and fluorine. Vazante Operation concentrate contains levels of carbonates, MgO, and fluorine close to but under the specifications. Several projects that consist in geometallurgy, carbonate separation and filtering are on course with the objective to keep the deleterious elements under its specification. The lead concentrate grade is approximately 20% Pb to 28% Pb and does not contain penalty levels of deleterious elements. Silver content ranges from approximately 2,000 g/t Ag to 3,000 g/t Ag.

The Vazante Operation's concentrate production for the past three years is summarized in following table.

Vazante Circuit Metallurgical Performance (2020 -2022)

	Unit	Item	2020	2021	2022
Production	tonnes		1,622,927	1,630,690	1,524,637
Mill Head Grade	%	Pb	0.36	0.35	0.33
	%	Zn	10.4	9.98	9.97
Pb Concentrate	%	Pb Recovery	22.5	28.59	22.83
	%	Pb Grade	26.3	26.89	23.60
	ppm	Ag Grade	2,329	2.589.50	3.137.89
	%	Ag Recovery (to Pb)	37.30	45.58	49.53
Zn Concentrate	%	Zn Recovery	87.5	86.37	86.49
	%	Zn Grade	39.8	39.10	39.08

Mineral Resources Estimate

The Vazante Mineral Resource estimate dated December 31, 2022 is reported using 2014 CIM Definition Standards and was 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 using the native functions and workflows available through the Deswik mine modelling software package considering spatial continuity, a minimum width of 3.0 m and a NSR cut-off value of US$60.61/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 with NSR cut-off value of US$23.13/t for soil and US$28.38/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$29.40/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$3,250.31/t (US$1.47/lb), lead: US$2,350.54/t (US$1.07/lb) and silver: US$22.92/oz using an average long term Brazilian Real (R$) to U.S. dollar exchange rate of 4.96). 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 87.20% for Zn, 40.74% for Pb, and 42.0% for Ag, supergene (calamine) is 55.00% for Zn, and tailings are 68.11% for Zn, 38.46% for Pb, and 42.00% for Ag.

Mineral Reserves Estimate

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 value of US$60.61/t processed. 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 2.8 t/m^3. Mineral Reserves are estimated using average long-term metal prices of zinc: Zn: US$2,826.35/t (US$1.28/lb); lead: Pb: US$2,043.95/t (US$0.93/lb); and silver: US$19.93/oz (using an average long term Brazilian Real (R$) to U.S. dollar exchange rate of 4.96). 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 average head grade are 87.20% for Zn, 40.74% for Pb, and 42.0% for Ag. The current LOM plan continues to 2031.

Mining Operations

Mining Methods

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 Mtpa. The mineralized zones dip between 45° and 70° and the mine extends over a strike length of five kilometers. With the addition of the North Extension, this will increase to approximately 10 km.

The Vazante Mine currently extends over a vertical depth of 500 m from surface to the 140 level. There are former open pits along portions of the strike of the Vazante deposit. There are two access ramps to the Vazante Mine and one to the Extremo Norte Mine. Mine headings range from 5 m high by 4.5 m wide ore drives to 6 m high by 5 m wide main ramps.

The Vazante Operation is designed based upon mechanized longitudinal longhole stoping for areas with a dip greater than 45°. Longhole stopes are developed with footwall access drives parallel to the orebody. Crosscuts are driven from the footwall drive and then the ore is developed along strike. Sublevels are typically 30 m apart though the distance varies depending on the orebody. Long holes are often a combination of downholes or VRM and uppers or sublevel longhole open stopes ("SLOS"). Both longhole methods employ a retreat sequence along strike. The SLOS stopes are not backfilled where the VRM stopes are backfilled.

The Vazante Operation has a fleet of mobile equipment to enable development and production activities to be completed in an efficient manner while meeting all mine regulatory requirements for underground mining operations.

Dewatering at the Vazante Operation is a critical aspect of the mine operation as a high rate of dewatering is required to enable mining to be carried out in a safe and efficient manner on a continual basis. A significant amount of water is pumped to surface for discharge. The total pumping system has a capacity of 16,000 m^3/h plus a secondary 2-stage pumping station (PS300-PS500) with total capacity of 3,500 m^3/h. The two pumping stations combined have a total capacity of about 19,500m^3/h.

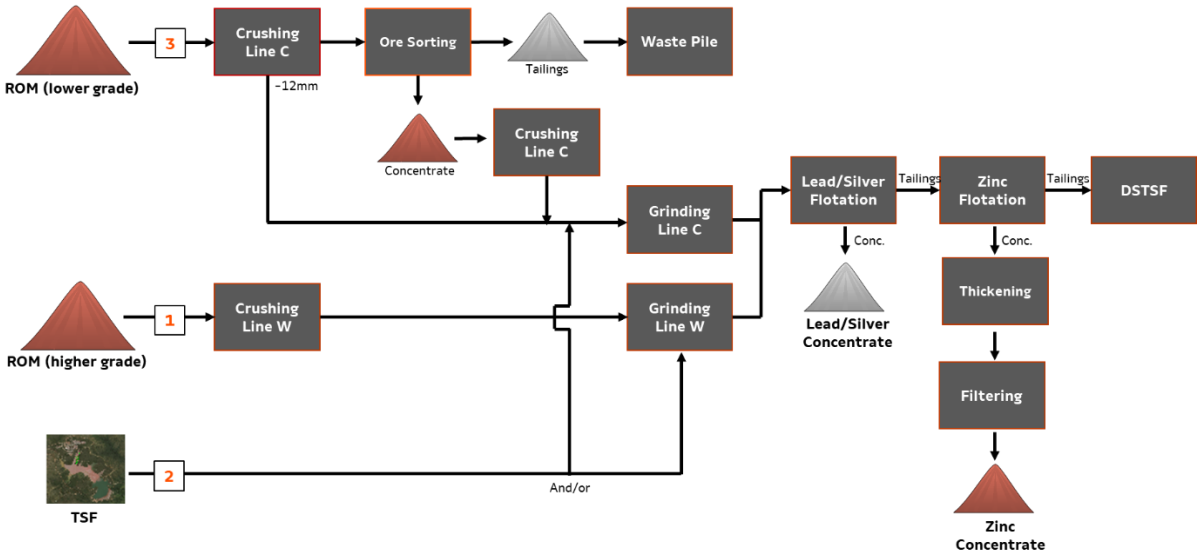
Processing and Recovery Operations

The Vazante Operation processing facilities have a nominal design processing capacity of approximately 4,400 tpd or 1.6 Mtpa at 96% utilization and produce approximately 350,000 tonnes per annum (tpa) to 370,000 tpa of zinc concentrate and approximately 4,000 tpa to 5,000 tpa of lead concentrate that contains small amounts of silver. They consist of two adjacent plants, Plant C and Plant W, that are interconnected at various points.

Processing at the Vazante Operation comprises unitary processes such as crushing, ore sorting, grinding, flotation, concentrate dewatering, TSF recovery, water treating and tailings disposal. The main difference between the two plants is that Plant C incorporates an ore sorting plant to increase lead and zinc grade and reduce costs. Both plants include crushing, grinding, and zinc flotation. Combined Plant W and Plant C tailings are thickened and filtered prior to disposal in the Pilha Garrote dry stack TSF ("DSTSF").

Zinc concentrates are trucked in bulk approximately 250 km to Nexa's Tres Marias smelter while lead—silver concentrates are exported.

Simplified Flowsheet of the Current Vazante Processing Facilities



Infrastructure, Permitting and Compliance Activities

Project Infrastructure

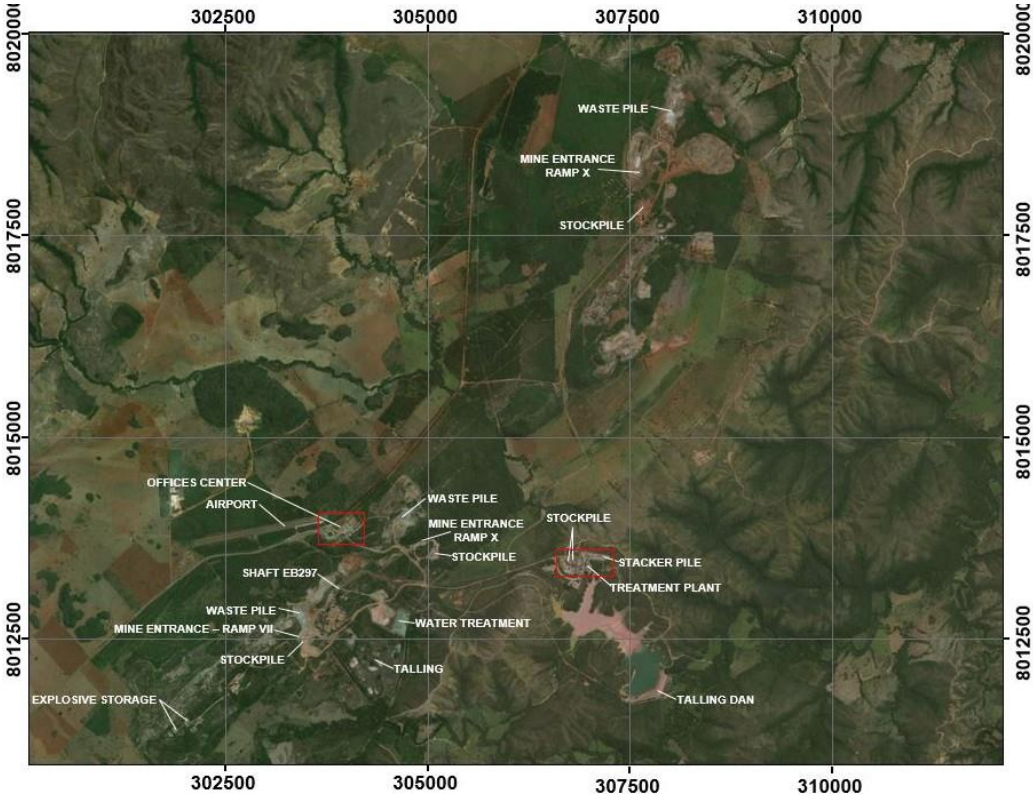
The Vazante Operation is immediately adjacent to a public highway and situated approximately 8.5 km from the town of Vazante. Site access is via paved roads to the mine office. All infrastructure required for the current mining and processing operations has been constructed and is operational. This includes the underground mines, access roads, powerlines, water pipelines, offices and warehouses, process plant/concentrator, conveyor systems, waste rock facilities, temporary ore stockpiles, paste-fill plants, and tailings storage facilities.

The surface and underground infrastructure of the Vazante Operation include:

- Seven open pit mines that have exploited the near-surface calamine mineralization.
- Two underground mines (Vazante and Extremo Norte) that together extend for a strike length of approximately nine kilometers and to a depth of approximately 500 m from surface.
- An ore blending and reclaim facility.
- Two processing plants, Plant W and Plant C. Plant W has a nominal throughput capacity of 1.2 Mtpa and Plant C has a nominal throughput capacity of 0.4 Mtpa.
- Several TSFs (two active).
- A core logging and sampling facility.
- Warehousing.
- An assay laboratory.
- A millwright and electrical shop.
- An administrative building.
- A first aid station.

The power supply to the Vazante Operation is provided by two independent 138 kV transmission lines that feed the site and that can provide up to 55 MW.

Site Layout Plan



Environmental, Permitting and Social Considerations

The Vazante operation has a dewatering system whose mostly of the groundwater has a non-consumptive use and it is discharged back to the environment. Industrial effluents from the Vazante Operation are directed to the Aroeira TSF, together with surface runoff from the crushing area, chemical laboratory area, and channel network for surface water collection. Underground mine dewatering is pumped to surface and conveyed via gravity to the Aroeira TSF tailings pond through a concrete channel. Water is pumped from the Aroeira TSF to offset make up water requirements for ore processing. Excess water collected in the Aroeira TSF is released to the Santa Catarina River. Dewatering from the Extremo Norte Mine is pumped to a sediment sump prior to release to the Ouro Podre stream.

Tailings are currently disposed in the Pilha Garrote DSTSF as filtered tailings, and at the Aroeira TSF as a slurry. The Pilha Garrote DSTSF is the primary TSF. Waste rock is used for backfilling or disposed of at surface in mined-out open pits.

Six Environmental Impact Assessments ("EIAs") complemented with other studies have been developed since 2000 to identify potential environmental effects resulting from project activities for the construction, operation, and closure stages. The mitigation measures are mostly addressed through a number of environmental control programs (including environmental monitoring) presented in the EIAs.

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 licences issued by the COPAM from the state of Minas Gerais. These licenses are currently active, some of them under renewal process.

Periodically, the operation unit sends several reports to the local authorities in compliance with environmental control and monitoring programs necessary for maintenance of operating licenses.

The closest community is the municipality of Vazante, located 8.5 km from the Vazante Operation with a population of approximately 20,692 residents. The closest major urban center is Brasilia, approximately five hours away via roadways, with a population of approximately 4.7 million residents.

The most recent Mine Closure Plan was prepared in 2018. The Mine Closure Plan has been designed to address remediation of the operational areas, and to meet Brazilian engineering requirements for such plans at a conceptual level. The plan identifies three key phases: preclosure, closure, and post-closure. Most facilities will be dismantled, and equipment removed from the site. Underground openings will be sealed, and groundwater levels allowed to stabilize.

Vazante Operation is a positive contribution to sustainability and community wellbeing. Nexa has established and continues to implement its various corporate policies, procedures, and practices in a manner consistent with relevant IFC PSs. Nexa has, and continues to make, a positive contribution to the communities most affected by the site operations and has done a thorough job in documenting potential effects on stakeholders and protecting the rights, health, and safety of its employees.

El Porvenir

*The most recent NI 43-101 technical report with respect to El Porvenir is the technical report titled " Technical Report on the El Porvenir Mine, Department of Pasco, Peru" with an effective date of December 31, 2020 (the "**El Porvenir Technical Report**") prepared by RPA (now a part of SLR Consulting Ltd), in particular by: Rosmery J. Cardenas Barzola, P.Eng., Stephan R. Blaho, P.Eng., Lance Engelbrecht, P.Eng., and Luis Vasquez, M.Sc., P.Eng. The El Porvenir Technical Report has been filed in accordance with NI 43-101, and is available, under Nexa's SEDAR profile at www.sedar.com.*

Certain of the scientific and technical information set out herein with respect to El Porvenir is based on information presented in the El Porvenir Technical Report. The Mineral Resources and Mineral Reserves for the El Porvenir mine have been estimated by Nexa as of December 31, 2022 and reviewed by a Qualified Person. The Qualified Person for the Mineral Resources estimate is José Antonio Lopes, B.Geo., FAusIMM(Geo), a Nexa Resources employee. José Antonio Lopes has also reviewed and approved certain information set out herein that has been updated since the date of the El Porvenir Technical Report. The Qualified Person for the Mineral Reserves estimate Vitor Marcos Teixeira de Aguilar, B.Eng., a Nexa Resources employee. Vitor Marcos Teixeira de Aguilar has also reviewed and approved certain information set out herein that has been updated since the date of the El Porvenir Technical Report.

Project Description, Location and Access

Project Setting

The El Porvenir Mine is located in the district of San Francisco de Asís de Yarusyacán, in the province of Pasco, Peru. The property is located in the central Andes mountains region of Peru. The approximate coordinates of the mine are 367600m E, 8826850m N, using the Universal Transverse Mercator UTM WGS84 datum, Z18S and the project site is located at an average elevation of 4,200 MASL. The mine is situated at kilometer 340 of the Carretera Central Highway (Lima—Huánuco route), 13 km from the city of Cerro de Pasco.

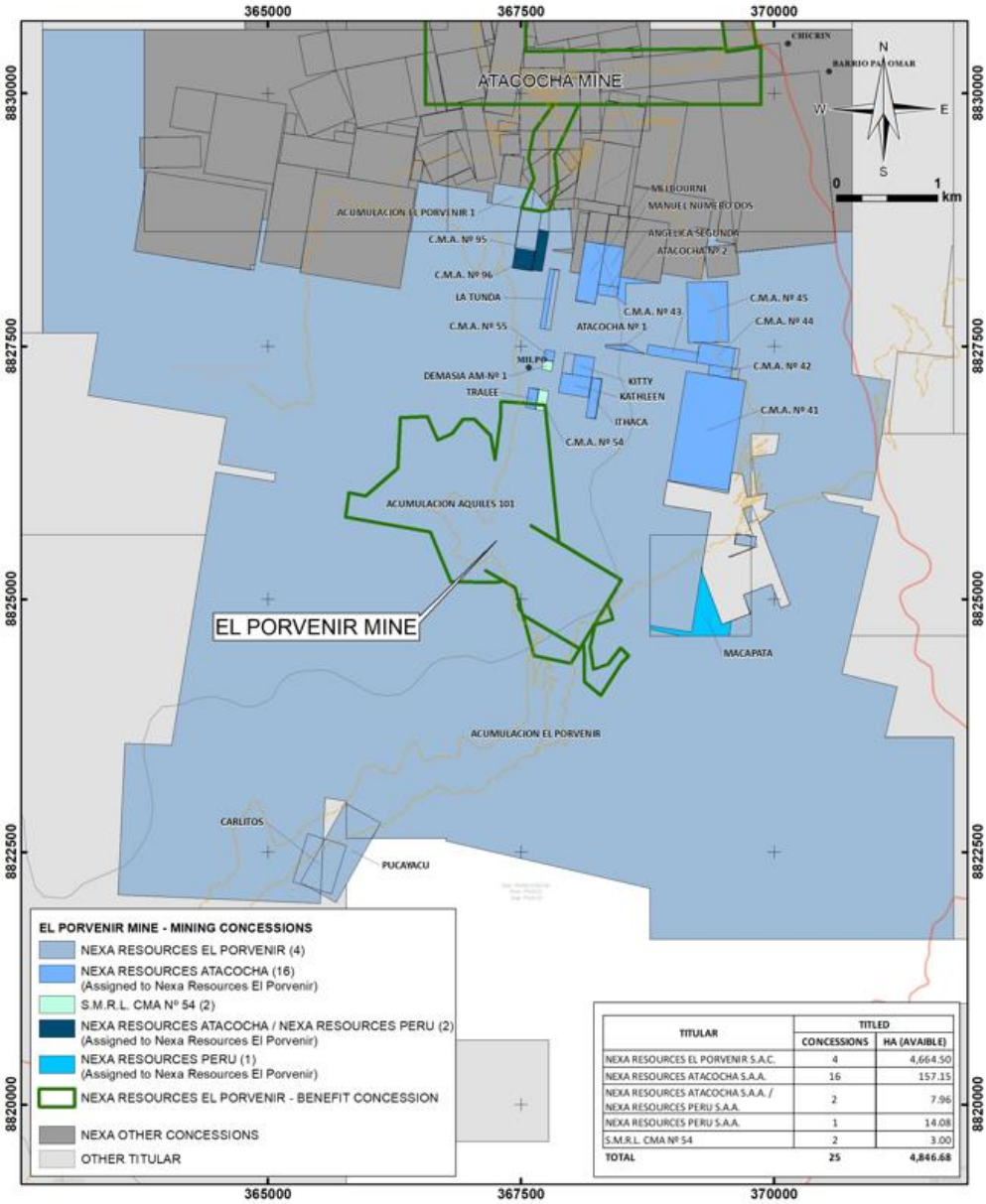
Site Location Plan

Mineral Tenure, Surface Rights, Water Rights, Royalties and Agreements

The El Porvenir mine is owned by Nexa Resources El Porvenir S.A.C., a subsidiary of Nexa Peru in which Nexa Peru has a 100% equity interest. The El Porvenir mine has a total of 25 concessions covering approximately 4,846.7 hectares, as well as a beneficiation plant, “Acumulacion Aquiles 101”. With respect to the surface property at the 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 currently subject to payment of royalties (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.

El Porvenir Mineral Rights



History

The El Porvenir Mine has a long history in the Peruvian mining sector, extending back over 70 years. It began operating as a small-scale artisanal mine in 1949, and Compañía Minera Milpo S.A. ("Milpo") was incorporated the same year to operate the mine. A gravity separation plant was built at the site in 1953, and a flotation plant was completed in 1979. The mine's output increased steadily over the decades, attaining its current production rate of approximately 5,600 tpd in 2014. Milpo acquired the adjacent Atacocha Mina in 2008. In 2010, Nexa (then Grupo Votorantim) gained control of Milpo and its assets, including El Porvenir. In 2014, the Company began integrating the El Porvenir and Atacocha operations, including administration, the TSFs and the electrical power supply.

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.

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 document, the Atacocha underground mine is suspended, and we intend to review and update the integration plan throughout 2023.

Production in 2022 was higher than in 2021 due to higher ore treated, since in 2020, operations were temporarily suspended due to the impact of the Peruvian government mandatory measures to combat COVID-19, and higher operational stability of the plant.

Mine Production from El Porvenir (2020 - 2022)

	Unit	2020	2021	2022
Tonnage	Mt	1.50	2.08	2.11
Zn Grade	%	2.65	2.83	2.80
Cu Grade	%	0.17	0.19	0.16
Pb Grade	%	0.93	1.08	1.34
Ag Grade	oz/t	2.00	2.10	2.46
Ag Grade	g/t	62.28	65.34	76.59

Geological Setting, Mineralization and Deposit Types

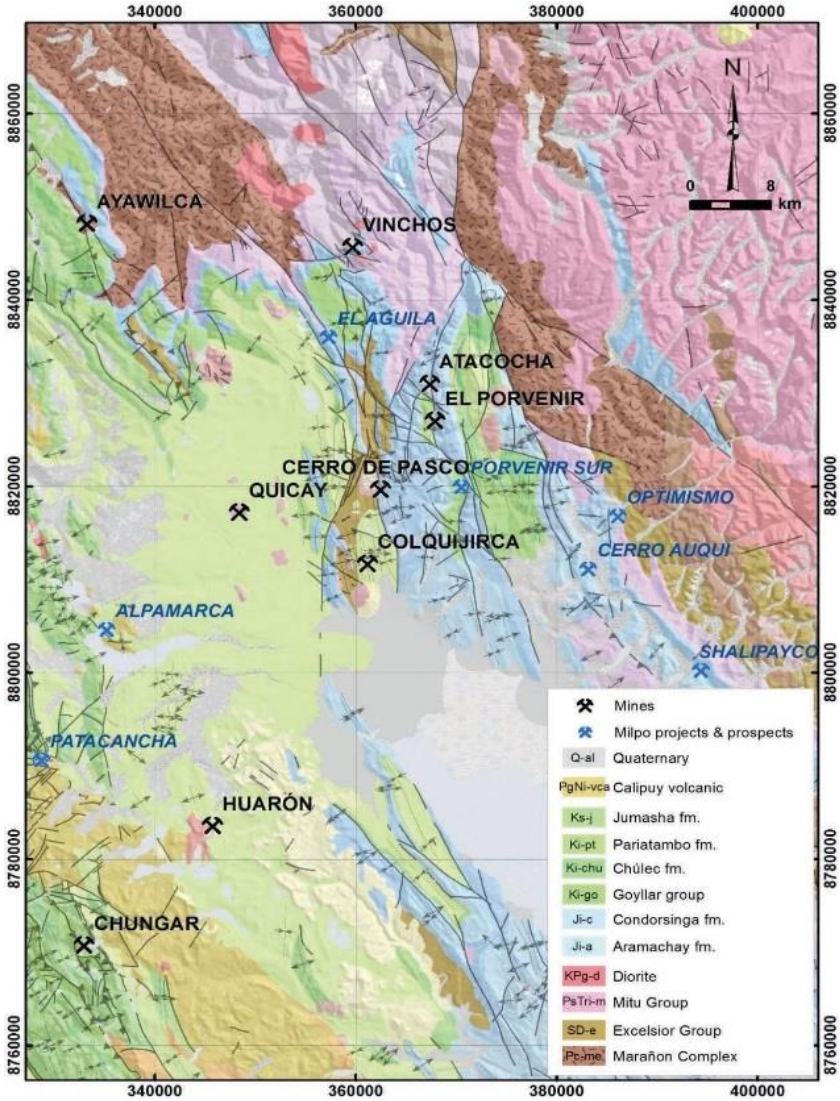
El Porvenir is situated in the Pasco region of the Western Cordillera of the Andes, within the Eocene-Miocene Polymetallic and Miocene Au-Ag Epithermal Belts. Within the property area, the stratigraphic units of primary interest are the Pucará and the Goyllarisquizga groups. The Goyllarisquizga Group outcrops in the area of the deposit comprising quartz rich sandstone, corresponding to the Goyllarisquizga Formation. Sandstones may vary from quartz arenite to arkose. The matrix is argillaceous to siliceous. Above the 4,000 level, the lithology and stratification are well defined and easy to recognize. Below the 4,000 level, strong alteration has obliterated the original rock intensity forming siliceous breccias and massive silica where it is still possible to recognize quartz grains and in few places the stratification.

Intrusive rocks within the property are variably porphyritic dacite to quartz diorite with hornblende and biotite phenocrysts. The Milpo-Atacocha fault is a major structural feature in the region, which can be traced for nearly 15 km from Yarusyacán in the north to Carmen Chico in the south.

Mineralization is characterized as a skarn, intermediate sulphidation epithermal vein/breccia-style, or stratabound mineralization in the Goyllarisquizga Formation:

- Skarn-related mineralization is commonly associated with the garnet and silica-skarn-chlorite assemblages, comprising pyrite, chalcopyrite, sphalerite, galena and minor pyrrhotite, pyrite, bornite, covellite, orpiment, and realgar within the Pucará Group sediments around the Milpo stock.
- The silica breccia consists of sub-rounded to sub-angular white to milky grey opaline silica clasts, millimeters to centimeters in size, and to a lesser extent, sandstone and limestone clasts. The silica breccia clasts are cemented by white granular silica, with occasional cross-cutting veins of white silica. Breccias include massive (siliceous) breccias, granular (siliceous) breccias, and Ag-Pb-Zn breccias sub-divided into calcareous, polymictic-monomictic, and karst (collapse). Breccia clasts include limestone, marble, silica (massive), and skarn; the composition of the clasts indicates that brecciation occurred later than skarn development.
- The stratabound Pb-Ag-Zn mineralization occurs in the sandstone strata (mantos) at the base of the Goyllarizquisga Formation (near the contact with the Pucará Group). Several disseminated sulphide mantos have recently been identified at Sara and Porvenir 2W within the quartz sandstone, generally in contact with layers of silt and microconglomerates. The minerals include galena with silver content, sphalerite, and pyrite. Gold is also present.

Regional Geology of the El Porvenir Area



Exploration

The exploration program is based on an integrated strategy of geological and structural interpretation, combined with remote sensing for alteration and magnetic patterns and anomalies.

Throughout 2022, the exploration program at El Porvenir was focused on drilling in mineralized zones in the Integration, Porvenir Sur, and Carmen Norte targets with the goal of extending LOM.

We will focus our efforts on expanding mineralized zones in the integration area, with the potential to extend existing Mineral Resources.

At El Porvenir, drilling work was directed towards the extension of existing mineralized bodies along the strike and at depth in the Integration zone, as well as the Carmen Norte and Porvenir Sur targets, seeking to evaluate the lateral continuity of the mineralization of these exploratory targets. The drilling program confirmed extensions in both targets, with emphasis on the Integration zone, as mentioned above.

Drilling

Throughout 2022, the exploration drilling program at El Porvenir aimed to identify the extension of mineralized zones in the Integration, Porvenir Sur, and Carmen Norte targets with the goal of extending the life of mine. In 2022, we completed approximately 16.7 km of diamond drilling.

We spent approximately US$3.3 million on the El Porvenir brownfield project in 2022, including drilling program, exploration project maintenance and geological activities. We have budgeted US$1.5 million for 2023 activities, and we expect to drill 6.0 km.

Sampling, Analysis and Data Verification

Sampling was completed by Nexa geologists following standard operating procedures. The samples are collected from drillholes, and channels are sent to several independent laboratories including Inspectorate (at the mine, referred to subsequently as Inspectorate EP), SGS (at the mine), ALS (Lima), and Certimin (Lima). Testing protocols among these laboratories differ in their detection limits and methods applied. El Porvenir has a contract with Inspectorate, which began its operations in 2011, and with ALS in 2018. SGS served as the mine laboratory from 2006 to 2009. Exploration samples were sent to Certimin in 2017 and 2018.

Inspectorate is an independent and commercial laboratory, and is part of the Bureau Veritas, which is a global leader in testing, inspection, and certification. Certimin Lima holds ISO 9001 and NTP-ISO/IEC 17025 and 17021 certifications and is accredited by the Organismo Peruano de Acreditación (INACAL). ALS geochemical laboratories are accredited to ISO/IEC 17025:2005 for specific analytical procedures. Both Certimin and ALS laboratories are independent of Nexa.

Exploration drilling samples are sent to ALS Lima, and mine drilling samples are sent to the El Porvenir Inspectorate EP for preparation and analysis. Prepared samples are assayed principally for a suite of seven elements: Zn, Pb, Cu, Ag, Au, Bi, and Mn. The pulverized samples are subsequently analyzed using an aqua regia digestion and atomic absorption spectroscopy ("AAS").

El Porvenir has historical data and recent data and has implemented a quality assurance/quality control ("QA/QC") program that support Mineral Resources and Mineral Reserves evaluation. These processes comply with current industry best practices which involve appropriate procedures and routine insertion of certified reference materials ("CRM"), standards, blanks, and duplicates to monitor the sampling, sample preparation, and analytical processes. Analysis of QA/QC data is performed to assess the reliability of all sample assay data and the confidence in the data used for resource estimation.

Quality control samples have been inserted into the sample stream since 2014 and channel samples since 2012. El Porvenir routinely sends in-house CRMs, blanks, field, reject (preparation), and pulp (laboratory) duplicates. During 2018, Nexa incorporated systematic external checks into the QA/QC program. Check assay programs were also carried out prior to 2018. Pulps were sent to external laboratories for analysis. Currently, the Inspectorate mine laboratory and ALS analyze samples from infill drilling and brownfield exploration drilling, respectively. During the 2006 to 2009 drilling campaign, samples were sent to SGS for analysis. From 2010 to present, underground infill drilling samples are sent to Inspectorate. If Inspectorate is running out of capacity, samples are delivered to Certimin and/or ALS laboratories.

Mineral Processing and Metallurgical Testing

Nexa began developing a geometallurgical model for El Porvenir in 2017. The objectives of the work were to develop a geometallurgical model able to predict the recovery of lead, zinc, copper, arsenic, and manganese, concentrate grades, as well as abrasiveness (abrasion index (Ai)) and hardness (Bond ball mill work index (Bwi)), and therefore throughput based on ore source within the deposit. The aim of the development work included:

- Maximization of operational value of the El Porvenir mining unit.
- Reduction of risks to production related to plant throughput, grinding media consumption, recovery of valuable minerals and concentrate quality.
- Identification of flaws in the quality and interpretation of the available information.
- Identification of opportunities for improvement and to reduce risk.

- Definition and validation of geometallurgical domains from metallurgical test results.
- Evaluation of contaminants in the deposit.

Since the beginning of the program, three phases of test works were performed (2018, 2019 and 2020 respectively) with the assistance of Transmin Metallurgical Consultants ("Transmin").

The El Porvenir Mine is in the production stage and has a treatment plant capacity of 6,500 tpd. 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 2022 was higher than in 2021 due to higher treated ore volume, and higher lead and silver and gold content.

El Porvenir Polymetallic Circuit, Metallurgical Performance (2020- 2021)

	Unit	Item	2020	2021	2022
Production	tonnes		1,502,618	2,077,591	2,111,961
Mill Head Grade	g/t	Ag	62.28	65.34	76.59
	%	Cu	0.17	0.19	0.16
	%	Pb	0.93	1.08	1.34
	%	Zn	2.65	2.83	2.80
Cu Concentrate	%	Cu Recovery	12.72	12.90	7.85
	%	Cu Grade	19.49	19.37	16.81
	oz/t	Ag Grade	89.94	81.02	91.08
	%	Ag Recovery (to Cu)	5.11	4.83	2.77
Pb Concentrate	%	Pb recovery	77.79	78.72	81.75
	%	Pb Grade	51.18	51.01	50.53
	oz/t	Ag Grade	80.70	75.37	74.55
	%	Ag Recovery (to Pb)	56.90	59.91	65.80
Zn Concentrate	%	Zn Recovery	87.70	87.27	87.27
	%	Zn Grade	49.89	49.41	49.34

Mineral Resource Estimate

The El Porvenir Mineral Resource estimate dated December 31, 2022 is reported using 2014 CIM Definition Standards and was completed using Datamine Studio RM and Leapfrog Geo 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 2.0 m 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 4.0 m in areas with C&F stopes shapes and 3.0 m for SLS stopes. The Mineral Resources are estimated at a NSR cut-off grade values ranging from of US$57.99/t to US$60.71/t for SLS areas and US$59.65/t to US$62.37 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$3,250.31/t (US$1.47/lb), a lead price of US$2,350.54/t (US$1.07/lb), a copper price of US$8,508.24/t (US$3.86/lb) and a silver price of US$22.92/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 88.85% for Zn, 79.73% for Pb, 11.81% for Cu, and 63.0% for Ag.

Mineral Reserve Estimate

The El Porvenir Mineral Reserve estimate dated December 31, 2021 is reported using the 2014 CIM Definition Standards and was prepared using Deswik Stope Optimizer, 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 5.0 m 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$57.99/t to US$60.71/t for SLS areas and US$59.65/t to US$62.37 for C&F areas depending on the zone. Mineral Reserves are estimated using average long-term metal prices of zinc: US$2,826.35/t (US$1.28/lb); lead: US$2,043.95/t (US$0.93/lb); copper: Cu: US$7,398.47/t (US$3.36/lb) and silver: US$19.93/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 88.85% for Zn, 79.73% for Pb, 11.81% for Cu, and 63.00% for Ag. The current LOM plan continues to 2028.

Mining Operations

Mining Methods

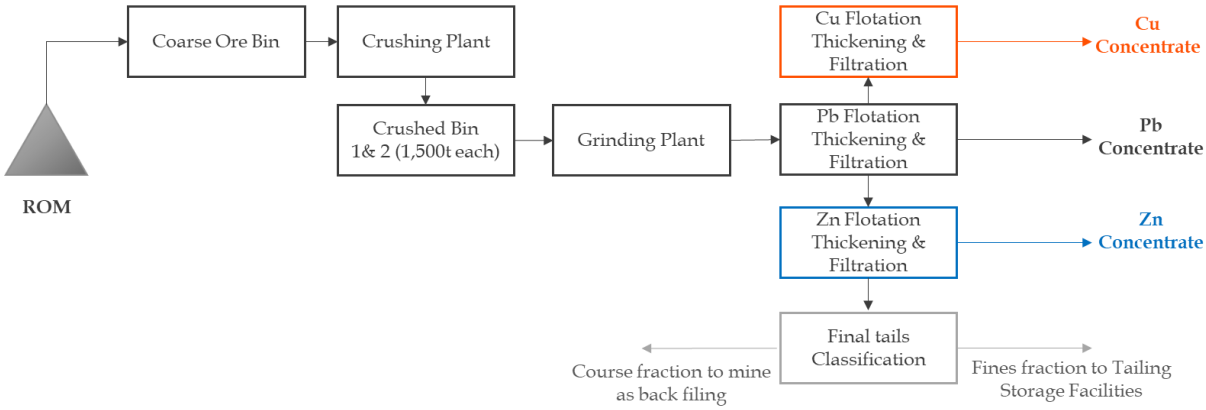
El Porvenir uses two mining methods: mechanized overhand C&F and SLS. C&F is the predominant method, accounting for over 80% of the mine's production. El Porvenir uses a version of SLS called Avoca, also referred to as longitudinal longhole retreat mining. C&F and SLS have similar development requirements as they both involve dividing a mining zone into horizons between sublevels and excavating the ore in an ascending fashion. The sublevels are typically spaced at a vertical interval of 20 m and accessed via a spiral ramp. The development on each sublevel includes an access drift, a footwall drive, and crosscuts or attack ramps, which provide access to the orebody. For SLS, the footwall drives can be as close as 15 m from a footwall contact, whereas, for C&F, they have to be offset from it by 60 m to provide sufficient distance for fanning the attack ramps. The geotechnical conditions at El Porvenir result from the rock mass's characteristics and the mine's depth. The host rock and the mineralized zones are generally classified as fair to good, with rock mass ratings ("RMR") ranging from 40 to 60. El Porvenir is one of South America's deepest mines, extending more than 1,800 m below the main access level. Its depth contributes to the occurrence of seismic events, including rock bursts.

Processing and Recovery Operations

The concentrator has an ore processing capacity of approximately 2.2 Mtpa. The copper and lead concentrates are sold to traders and delivered by road and rail to Callao for shipping overseas, while the zinc concentrate is transported by road and rail to Nexa's Cajamarquilla zinc refinery east of Lima. Processing consists of conventional crushing, grinding, and flotation to produce separate copper, lead, and zinc concentrates. Tailings and the coarse fraction is used for mine backfill, which constitutes approximately 50% of tailings produced. Water from tailings dewatering is returned to the process. Overflow from the cyclones containing the fine tailings is deposited in the conventional TSF adjacent to the mine and processing plant. Tailings can be discharged at various points in the TSF by means of valved discharge points on the tailings line. Clarified water discharged from the TSF joins natural water flows. Make-up water is supplied from various streams around the TSF, as well as the Carmen Chico River, approximately 3.2 km south of the process facility.

El Porvenir lead and zinc concentrates are generally clean and do not attract penalty charges for deleterious elements. The copper concentrate attracts penalties due to elevated lead and zinc content (approximately 15% to 20% combined). The penalty charges are approximately US$35/t.

Process Flowchart



Infrastructure, Permitting and Compliance Activities

Project Infrastructure

The El Porvenir infrastructure consists of the following facilities:

- Approximately 6,500 tpd underground mine
- A 2.28 Mtpa processing plant with associated laboratory and maintenance facilities
- Power plant
- Access roads
- Offices and warehouses
- Accommodations
- Waste rock facilities
- Temporary ore stockpiles
- Hydraulic backfill plant
- Tailings storage facility ("TSF")

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.

Raw water is sourced from Tingovado Creek, as well as from other creeks around the TSF. Fresh water supply is obtained from the Carmen Chico River, approximately 3.2 km south of the process facility.

El Porvenir's tailings dam is currently supported by an authorization for operation up to an altitude of 4,062 meters above sea level ("masl"), which was granted by the Ministry of Energy and Mines on April 26, 2022. The previous authorization was for 4,060 masl. A new expansion authorization of the El Porvenir dam is underway, allowing an elevation up to 4,064 masl.

Waste rock from the underground operations is either used as backfill underground or stockpiled on surface. If waste rock is brought to surface in the future, it will be deposited in a designated area near the secondary TSF embankment southwest of the concentrator plant area.

Environmental, Permitting and Social Considerations

The El Porvenir Mine has a net positive water balance that results in surplus water collected on site being discharged from the TSF to the receiving environment through a decant structure. Clean (non-contact) surface runoff water is managed through upstream diversion ditches that prevent their entrance to the TSF, and convey it downstream to the Lloclla River, a tributary of the Huallaga River. Contact water collected in the tailings pond is recycled via a decant pumping system to the concentrator plant for use in the process. A lined seepage collection monitoring pond is located at the downstream toe of the main embankment of the TSF.

The El Porvenir TSF (originally constructed in the 1970s) receives tailings generated by both Atacocha and El Porvenir concentrator plants. A portion of tailings is used for hydraulic backfill at the El Porvenir Mine. The tailings disposal is performed in subaerial conditions which allows a beach with a gentle slope towards the water or supernatant pond (settling pond). The tailings discharge locations allow for the settling pond to be centrally located within the TSF and a tailings beach to form in front of the main embankment.

Various Environmental Impact Assessments ("EIA") and supporting Technical Reports have been submitted and approved between 2001 and 2021 to identify potential environmental effects resulting from project activities for the construction, operation, and closure stages. The most recent modification of the EIA was approved by the Peruvian authorities in 2012 to grant authorization for a maximum production rate of 7,500 tpd. The most recent update of the environment management plan was presented in the sixth supporting Technical Report issued in 2021. The monitoring program implemented at the mine includes meteorology, air quality, non-ionizing radiation, noise, surface water quality, springs water quality, effluent discharges, fauna and flora, and physical stability of the tailings dam. The results of the monitoring program for air quality, ambient noise, non-ionizing radiations, and water quality are reported to the Peruvian authorities quarterly.

The El Porvenir 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 maintains an up-to-date record of the legal permits obtained to date.

The communities located within the area of influence of the mine are:

- Comunidad de San Francisco de Asís de Yarusyacán (20 Anexos)
- Comunidad de Titaclayán
- Comunidad de Cajamarquilla
- Comunidad de Malauchaca
- Comunidad Santa Rosa de Pitic
- Comunidad San Miguel
- Comunidad La Candelaria
- Centro Poblado La Quinua
- Comunidad 30 de Agosto
- Comunidad San Juan de Yanacachi
- Comunidad San Juan de Jarapampa
- Cooperativa Pucayacu

Nexa adheres to international standards to provide best practices for public reporting on economic, environmental, and social impacts in order to help Nexa and its shareholders and stakeholders understand their corporate contribution to sustainable development. Corporately, Nexa has made several commitments to improve community health and safety as well as the overall well-being of community members.

A conceptual Mine Closure Plan was prepared in 2007 for the mine components within the context of the Peruvian legislation and has subsequently been amended or updated five times. The Mine Closure Plan addresses temporary, progressive, and final closure actions, and post-closure inspection and monitoring. A closure cost estimate was developed and included in the Mine Closure Plan. The total financial assurance for progressive closure, final

closure and post-closure is calculated by Nexa according to the Peruvian regulations (Supreme Decree D.S. N° 262-2012-MEM/DM).

Aripuanã

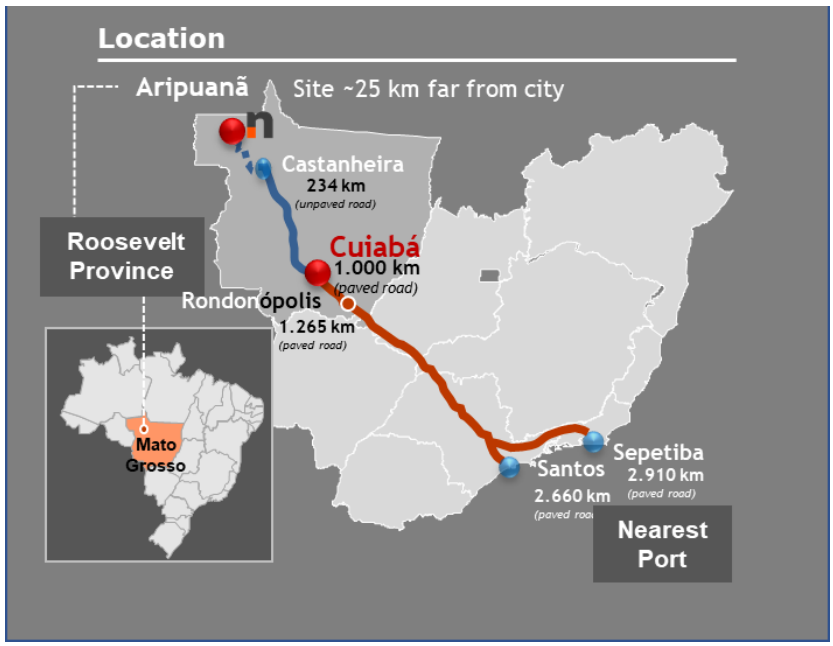
*The most recent NI 43-101 technical report with respect to Aripuanã is the technical report titled "Technical Report on Aripuanã Zinc Project, State of Mato Grosso, Brazil", with an effective date of November 17, 2020 as amended February 9, 2021 (the "**Aripuanã Technical Report**") prepared by SLR Consulting Ltd, and in particular: Jason J. Cox, P.Eng., Sean D. Horan, P.Geo., Brenna J. Y. Scholey, P.Eng., and Luis Vasquez, P.Eng. The Aripuanã Technical Report has been filed in accordance with NI 43-101, and is available, under Nexa's SEDAR profile at www.sedar.com.*

Project Description, Location and Access

The Aripuanã mine 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.

Site Location Plan



The Aripuanã mine is comprised of 596 km² (59,695.50 hectares) of concessions with characteristics of Volcanogenic Massive Sulphide ("VMS") deposits. 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.

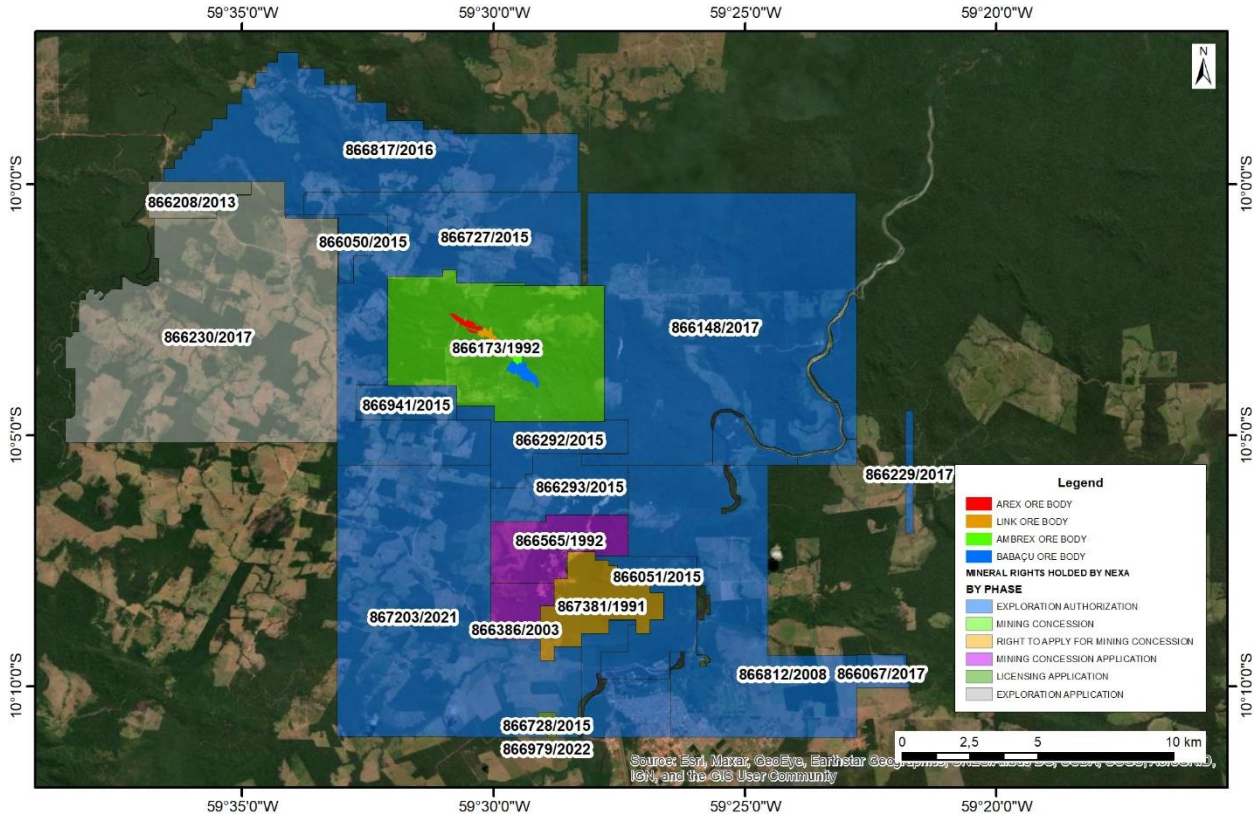
Mineral Tenure, Surface Rights, Water Rights, Royalties and Agreements

The Aripuanã Project is owned 100% by Mineração Dardanelos Ltda. ("Mineração Dardanelos"), a wholly owned subsidiary of Nexa Recursos Minerais S.A. ("Nexa Brazil"). The mineral rights are divided into core tenements, where the known mineral deposits are located, and the surrounding exploration areas.

The Company holds one mining concession in the core area that has a total area of 3,639.88 hectares, two mining concession applications (1,387.2 hectares), one right to apply for mining concession (1,000.0 hectares), thirteen exploration authorizations (33,810.9 hectares), and two exploration applications (7,833.7 hectares), totaling 47,671.7 hectares.

The Company 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.

Aripuanã Project Mineral Rights



Brazilian companies that hold mining concessions are subject to a royalty payment known as Financial Compensation for the Exploitation of Mineral Resources (*Compensação Financeira pela Exploração de Recursos Minerais* – "CFEM"), imposed by the National Mining Agency - ANM. Revenues from mining activities are subject to CFEM which is paid to the ANM. CFEM is a monthly royalty based on the sales value of minerals, net of taxes levied on the respective sale. When the produced minerals are used in its internal industrial processes, CFEM is determined based on the costs incurred to produce them or 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, copper and lead).

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.

Besides CFEM and royalty payments to surface rights holders if mining occurs in their property equal to 50% of the related CFEM, the Aripuanã project is also subject to royalties according to the table below.

Royalty Data

Receiver of Royalty	Tenements 866.569/1992 and 866.570/1992	Tenements 866.173/1992 and 866.174/1992	Other Deposits
Garimpeiros: Expedito 42.50%, Divino 21.25%, Joaquim 21.25%, Neder 5%, Zadir (Espólio) 5%, Max 5%		2% NSR from the start of the first sale of concentrate	
Luiz de Almeida	1.5% of net sales from the first sale of the mineral product		

History

Aripuanã is an 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 mine and concluded the process of documenting a third acquired in the past (100.0 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.

In 2022, Nexa we acquired six estates (1,330.5 hectares), located at the vicinity of the mine. The Rural Environmental Registry (CAR) is in the process of being regularized by the environmental agency and we still do not have a scheduled date for completion.

On January 25, 2022, we signed an offtake agreement with a third-party international player (the "offtaker"), in which Nexa agreed to sell 100% of the copper concentrate produced by Aripuanã for a 5-year period starting in October 2022 and limited to 30,810 tons, at the lower of current market prices or a price cap. The offtake agreement was structured to completely extinguish a previous existing future royalty obligation that Nexa had with the offtaker. Additionally, the Company opted to voluntarily and irrevocably designate the entire offtake agreement at fair value

through profit and loss within the scope of IFRS 9 rather than separate the value of the embedded derivative associated with the price cap, recognizing a non-cash accumulated income of US$24.3 million in the income statement for the period ended on December 31, 2022.

In July 2022, we started ramp-up activities at the Aripuanã mine and started to sell concentrates within market specifications in the fourth quarter of 2022, [with an increase in sales planned for 1Q23] . In 2022, Aripuanã's mineral exploration strategy aimed to increase mineral resources and expand mineralization. Development is also supporting the continued potential to increase mineral reserves with drilling in new areas. We plan to ramp-up the ore run of mine in 2023 following the plant ramp-up. In 4Q22, the commissioning of the paste fill circuit was completed. The first tests of mine filling started in January 2023 and were concluded in February 2023.

Geological Setting, Mineralization and Deposit Types

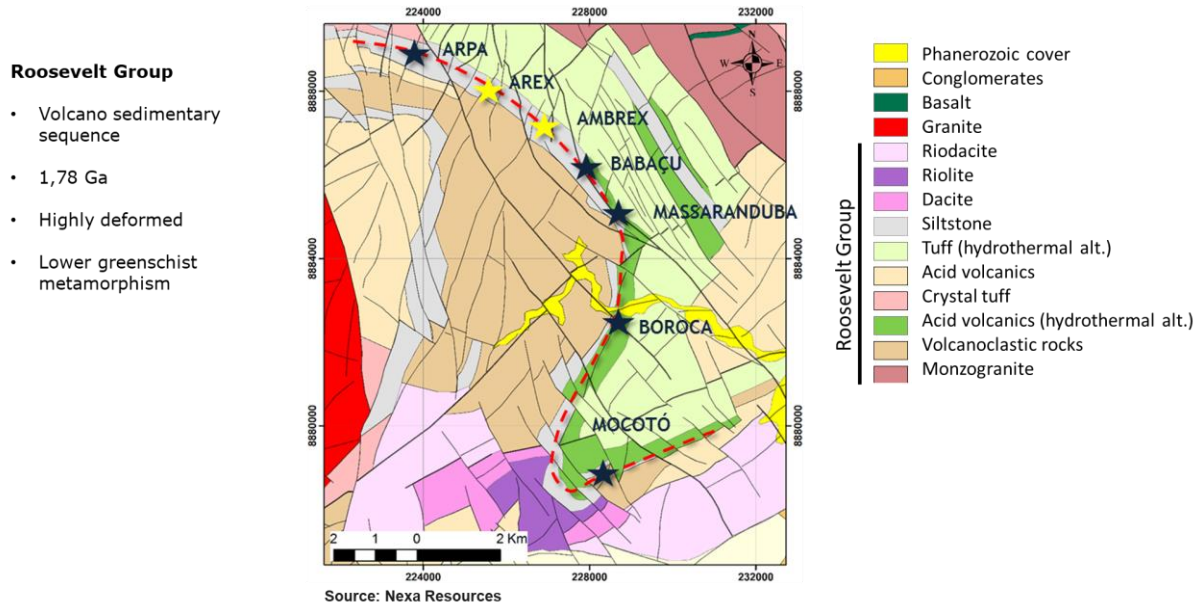
The Aripuanã region contains polymetallic VMS deposits with zinc, lead and copper, as well as small amounts of gold and silver, present in the form of massive mantles and veins, located in volcano sedimentary sequences belonging to the Roosevelt Group of Proterozoic age.

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.

Property Geology of Aripuanã Project



Source: Nexa Resources

Exploration

The 2022 Aripuanã exploration strategy focuses on increasing Mineral Resources at the Ambrex mine and expanding mineralization on Babaçu target, which is located southeast of Ambrex. In terms of the Babaçu target, the focus is to confirm the continuity of mineralization to the northwest and the transition zone between both mineralized bodies, which the aim of updating the Mineral Resources classification.

The 2022 Ambrex infill drilling campaign was completed during 3Q22, and the drill rigs were moved to the Babaçu exploratory campaign and infill program during 4Q22.

Drilling

Drilling on the Aripuanã property has been conducted in phases by several companies since 1993. Total drilling at the main deposits (Ambrex, Link, Arex, and Babaçu) consists of 866 diamond drill holes totaling approximately 241.2 km.

In 2022, we drilled 46.0 km of diamond drilling, including the Aripuanã brownfield program and infill drilling at the Ambrex orebody, totaling 80 drill holes (Mineral Exploration efforts). In addition, a total of 34.8 km was drilled by geology team in Aripuanã mine with the purpose of operational grade control and resource conversion in infill areas at Aripuanã.

For 2023, we expect to invest US$1.5 million in the brownfield exploration program to carry out 4.4 km of diamond drilling. An additional US$2.2 million for mineral resources expansion and reclassification with infill drilling is planned in the brownfield exploration program for the Babaçu deposit.

Sampling, Analysis and Data Verification

Core is sampled 10 m above and below visible mineralization. Samples respect geological contacts and vary from 0.5 m to 1.5 m in length depending on core recovery, length of the lithological unit, and mineralization. Geologists mark the samples using a felt pen on the core boxes and staple a sample tag wrapped in plastic to the box at the start of the sample. Core is marked with red and blue lines to indicate where it is to be sampled and which half is to be assayed. Lines are drawn respecting the geological features such as layering to help minimize sampling bias. Prior to sampling, sample numbers are recorded in the Fusion data management system and cross-referenced with the interval depth downhole and the depth recorded in the database. Sample core is cut into two halves by technicians with a diamond saw, returning half of the split core to the core box and submitting the other half for sample preparation and analysis.

Database management is performed by a dedicated onsite geologist supervising the project. Digital logging sheets prepared by the geologist are uploaded to the Fusion database management system. Original drill logs, structural logs, geotechnical logs, details of chain of custody, site reclamation, and drilling analysis results are stored on site in a folder, specific to a single drill hole. Folders are clearly labelled and stored in a cabinet in the office, which is locked during off hours. Assay certificates of exploration and mine drill holes are mailed to the site by ALS Global and emailed to Nexa employees. Certificates are reviewed by Nexa personnel prior to being uploaded to Fusion.

Sample preparation was performed by the ACME preparation facility in Goiania, Brazil, from 2004 to 2007, and from 2007 on, by ALS Global. Both laboratories followed the same preparation procedure, described below. The sample was logged in the tracking system, weighed, dried, and finally crushed to better than 70.0% passing a 2 mm screen. A split of up to 250 g was taken and pulverized to better than 85.0% passing a 75-micron screen. This sample preparation package was coded PUL -31 by ALS Global. Following preparation, samples were shipped to the sample analysis facility in Lima, Peru. ALS Global's preparation facility in Goiania is accredited to the International Organization for Standardization/International Electrotechnical Commission (ISO/IEC) 9001:2008 standards and ALS Global is accredited to ISO 9001:2008 (expires 2018) and ISO/IEC 17025:2005 (expires 2018), for all relevant procedures. Both laboratories are independent of Nexa.

Nexa has implemented an analytical QC and assurance program to ensure the reliability of exploration data. The program comprises of the insertion of certified reference material ("CRMs" or standards), blanks samples, and different types of duplicate samples into the sample stream. Standards were inserted in the overall sample stream of drill core at a rate of approximately one standard for every 30 drill core samples. Prior to 2012, blank material was river sand and sandstone sourced from the Aripuanã property. Subsequent to 2012, only coarsely crushed sandstone was used.

Mineral Processing and Metallurgical Testing

Numerous studies were carried out from 2005 to 2013 for the Aripuanã Project to identify the best processing option. The evolution of the key studies and the process technologies under consideration were documented (VMH, 2015) and previously reported (RPA, 2017). The optimum processing route was defined through metallurgical test work and it was determined that sequential flotation (Cu-Pb-Zn) presented better economics due to higher recoveries and concentrate grades than bulk flotation into a single concentrate.

Additional test work on drill core from the Aripuanã Project was conducted by SGS GEOSOL from May 2016 to January 2017 to provide experimental data to support engineering studies. Information on sample validation and additional metallurgical testing has largely been provided by "*Validação das Amostras Selecionadas para Teste Metalurgico*" (LCASSIS Consultoria em Recursos Minerais (LCASSIS), 2017), the SGS GEOSOL 2017 Report (SGS GEOSOL, 2017), and the Metallurgical Testwork Report (Worley Parsons, 2017a).

Locked cycle test work was also conducted in November 2017 by SGS GEOSOL to provide experimental data on the treatment of various types of mineralization and the final results of the test work were used to define the process route selection. Pilot studies were undertaken by SGS GEOSOL on Aripuanã mineralization and the results were reported in the 2018 Pilot Study (SGS GEOSOL, 2018). Metallurgical data obtained from testing were integrated into the feasibility study (FEL3) process design by SNC Lavalin.

During 2021, a new pilot flotation test was carried out at Vazante pilot plant in order to study the behavior of ROM samples collected at the Arex mine for copper, lead and zinc flotation using the circuit and reagents defined to project. Talc flotation removed 8.0% of mass and was essential to avoid the contamination of copper, lead and zinc final concentrates with light hydrophobic gang minerals. The losses of copper, lead and zinc in talc flotation were as expected in the project and previously metallurgical tests, lower than 1.5% for all metals. Copper final concentrate with 30.0% copper grade and metallurgical recovery of 78.8% were achieved in the pilot flotation test. Lead final concentrate with 60.0% lead grade and metallurgical recovery of 79.1% were achieved in the pilot flotation test. Zinc final concentrate with 55.0% zinc grade and metallurgical recovery of 87.4% were achieved in the pilot flotation test. The metallurgical tests confirm again the susceptibility of Aripuanã ores to sequential flotation processes in order to produces high grade copper, lead and zinc concentrates.

Based on the metallurgical test work program completed to date, the Aripuanã process flowsheet has been developed using conventional technologies for treatment and the recovery of copper, lead, and zinc as separate concentrates. Plant throughput is forecast to average 2.214 Mtpa of ROM ore over the LOM supplied from the Arex, Link, and Ambrex underground mines. Two main ore types are present at Aripuanã: stratabound and stringer, which have different hardnesses and therefore different throughput rates. Stratabound material, however, will make up the majority of the ore to be processed (approximately 89%) and the feed blend to the plant is expected to peak at 21% stringer material. Estimated processing rates for the two ore types individually based on hardness are approximately 5,000 tpd (dry basis) for stringer material and 6,300 tpd (dry basis) for stratabound material. Throughput for the blended ore is estimated as a weighted average of the throughputs of the two ore types.

A comminution pilot test was also performed in 2021 using a pilot scale SAG mill installed at CETEM laboratories (see figure bellow of mill with 2'x 6'), with samples of stratabound, stringer and blended ore to determine the energy consumption at SAG circuit and validate the project assumptions. A total of 80 tonnes of stratabound and 40 tonnes of stringer were collected from Aripuanã stockpile and sent to a laboratory to be crushed and classified at different granulometric ranges, from 12,5mm (fine fraction) until 150-200mm (coarse fraction). Two blended ore samples were composed, one with 85% stratabound and 15% stringer and another with 70% stratabound and 30% stringer. The comminution pilot scale tests confirmed the energy consumption of stratabound (6,0 kWh/t SAG gross power) and stringer (9,45 kWh/t SAG gross power) materials and, therefore the process rates of 6,300tpd and 5,000tpd to stratabound and stringer respectively. The blended ore sample with 15% of stringer reduces the throughput rate of the stratabound base case by 0.8% and the sample with 30% of stringer has a negative impact of 3.0% also on the stratabound base case.

The experimental data was also used to calibrate a JKSimmet Aripuanã SAG circuit model and create several scenarios of process simulation that will support the start-up and stabilization of SAG mill circuit throughput rates.

SAG pilot plant used at Aripuanã comminution tests (CETEM-RJ)

Mineral Resources Estimate

The Mineral Resource estimate update for the Aripuanã Project is reported using 2014 CIM Definition Standards and was completed by Nexa in December 2022, using Datamine Studio RM (Datamine Studio) and Seequent's Leapfrog Geo (Leapfrog) and it was split into two different blocks: Arex-Link-Ambrex model and Babaçu model.

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 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$48.11/t. Mineral Resources are estimated using average long-term metal prices of zinc: US$3,250.31/t (US$1.47/lb); lead: US$2,350.54/t (US$1.07/lb); copper: US$8,508.24/t (US$3.86/lb); gold: US$1,696.11/oz and silver: US$22.92/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 89.42% for Zn, 81.06% for Pb, 60% for Cu, 75.10% for Ag, and 67.80% for Au. Recoveries at the LOM average head grades for stringer material are 88.68% for Cu, 50% for Ag, and 63.00% for Au.

Mineral Reserves Estimate

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 NSR factors were determined using long term metal price forecasts, metallurgical recoveries, transport, treatment, and refining costs. A break-even NSR cut-off value is US$48.11/t processed was estimated from forecasted operating costs and some incremental material between US$38.05/t and US$48.11/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 US$2,826.35/t (US$1.28/lb), lead price of US$2,043.95/t (US$0.93/lb), copper price of US$7,398.47/t (US$3.36/lb), silver price of US$19.93/oz and gold price of US$1,474.88/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 89.42% for Zn, 81.06% for Pb, 60.00% for Cu, 75.10% for Ag, and 67.8% for Au. Recoveries at the LOM average head grades for stringer material are 88.68% for Cu, 50.00% for Ag, and 63.00% for Au. The current LOM plan continues to 2036.

Mining Operations

Mining Methods

As mentioned above, the Aripuanã Project targets the mining of three elongate mineralized zones: Arex, Link, and Ambrex. All the targets are separate VMS deposits with differing mineral compositions in stratabound and stringer forms and complex geometric shapes. The deposit geometry is amenable to a number of underground mechanized mining techniques including C&F and bulk stoping methods. A nominal production target of 6,300 tpd has been used as the basis for the mine production schedule.

Mining will be undertaken using mechanized underground mobile mining equipment via a network of declines, access drifts, and ore drives. Access to the Arex, Link, and Ambrex deposits will be via separate portals from the most favorable topographic locations.

Processing and Recovery Operations

Based on the metallurgical test program completed to date, the Aripuanã process flowsheet has been developed by considering conventional technologies for treatment and the recovery of copper, lead, and zinc as separate concentrates. Plant throughput is forecast to average 2.214 Mtpa of ROM ore over the LOM supplied from the Arex, Link, and Ambrex underground mines. The plant will treat blended mineralization at up to 6,300 tpd (dry basis), with the maximum achievable throughput being for ore consisting mainly of stratabound material. Key elements of the process flowsheet include primary crushing, SAG and ball milling with pebble crushing (SABC), talc pre-flotation, followed by sequential flotation of copper, lead, and zinc.

Infrastructure, Permitting and Compliance Activities

Project Infrastructure

The planned infrastructure at the Aripuanã Project includes dry stack tailings storage facility ("TSF"), power supply, water storage dam, access and site road, maintenance shops and fuel storage.

The current waste management strategy includes the following aspects: production of tailings generated by the processing of zinc, lead, and copper from underground mining at the project; adoption of dry stack (filtered) tailings disposal on surface and tailings disposal as cemented paste backfill underground; tailings production for surface disposal over 13 years is estimated at a total of 6.34 cubic meters (Mm^3) with 4.49 Mm^3 in the dry season and 1.87 Mm^3 in the wet season; waste rock production for surface disposal of 1.33 Mm^3 over 13 years; a double lined tailings management facility (TMF) with associated surface runoff collection ponds and access roads; A double lined waste rock storage facility and associated surface runoff collection ponds and access roads.

Due to the high flow rates and expected low concentrations of dissolved metals, water collection and treatment will be carried out using engineered wetlands. Separate facilities will be developed for process water recovered from the plant and for runoff from stockpiles (ore, waste, and dry stacked tailings) and access roads.

Electrical power will be provided to the Aripuanã Project by SE Juina (National Energy System) through private installations of UHE Dardanelos, where the connection to the Nexa bay will be at 230kV. A 20 km long transmission line will connect the Dardanelos substation to the Project's main substation at the mine site. Nexa obtained authorization for the connection from the Ministry of Mines and Energy, and in 2019 obtained the access permit provided by Operador Nacional do Sistema Elétrico ("ONS"), and subsequently obtained authorization to connect to the national grid from the Agência Nacional de Energia Elétrica ("ANEEL").

The Aripuanã Project water balance requires a top-up fresh water supply of approximately 150m³/h. Nexa has undertaken a water supply engineering study based on the construction of a water dam and creation of a freshwater lake in a valley adjacent to the Aripuanã Project site. Nexa has obtained authorization from the regional authority to construct the dam and to draw up to 378 m³/h of fresh water from the dam to supply the Aripuanã Project.

By year-end 2022, approximately 600kt 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 dump (Pile 2) (drainage and waterproofing).

Environmental, Permitting and Social Considerations

The Aripuanã Project's EIA was finalized in 2017 and the said project holds installation and operating approvals. The 2017 EIA concludes that the most significant project-related impacts are those that will directly and indirectly affect, synergistically and cumulatively, vegetation cover and soils in the Permanent Preservation Areas and water resources, as well as changes in fauna communities, both terrestrial and aquatic, highlighting the relevance of local biodiversity, with species of flora and fauna of the Amazon biome, including endangered species. The EIA developed management and monitoring plans to address and monitor key indicators for the identified impacts. A key mitigation measure with regard to encroachment on the Permanent Preservation Areas will be the implementation of a compensation plan and programs aimed at connectivity of habitat.

The 2017 EIA described two Indigenous villages located approximately 10 km to 12 km from the Project: Arara do Rio Branco with an area of approximately 114,842 ha and Aripuanã with an area of approximately 750,649 ha. Consultation with Indigenous Peoples regarding Project impacts and mitigation were undertaken under the tutelage and consent of National Historical and Artistic Heritage Institute ("IPHAN") with National Indian Foundation (FUNAI) during the preparation of the 2017 EIA. In 2018, Nexa commissioned a study on the Indigenous Component of the Indigenous Lands Aripuanã and Arara do Rio Branco ("ICS"). The study methods were developed based on a Terms of Reference issued by FUNAI and through consultation with the Indigenous Communities. The report identified and assessed potential impacts on the Indigenous Communities and their lands, considered the perspectives of the Indigenous Communities on the potential impacts, and developed management plans to mitigate these impacts.

The ICS was approved by the authorities at the end of 2019, and work began on the Basic Environmental Plan for the Indigenous Component ("PBACI"), whose final report should take into account the social realities of the indigenous people and their specificities, as well as the protection of their territories.

In March 2020, FUNAI, through Ordinance nº 419, established temporary measures to prevent the infection and spread of the COVID-19, temporarily suspending field activities, which were resumed in September of this year, considering the necessary safety measures and conditions for activities involving indigenous people in the context of the pandemic.

In 2021, with the resurgence of the pandemic, activities were carried out in a restricted way and following the health and safety protocols related to the pandemic, making it possible to carry out only part of the Plan's programming with indigenous people.

A conceptual Mine Closure Plan has been developed for the Aripuanã Project. The main objective of the plan is to present proposals and solutions to be implemented before, during, and after mine closure in order to avoid, eliminate, or minimize long-term environmental liabilities and possible future obligations. The plan currently considers four alternatives for final land use. The first option is for the whole area to become a Conservation Unit. The other options would allow some of the area to become a Conservation Unit while the remaining areas will be used for (a) a technical school for biodiversity conservation and the development of local communities (b) industrial use and a technical school, and (c) agro-industrial use and an agricultural technical school. The Mine Closure plan was updated in 2022.

Nexa adheres to international standards to provide best practices for public reporting on economic, environmental, and social impacts in order to help Nexa's shareholders and stakeholders understand Nexa's corporate contribution to sustainable development. Corporately, Nexa has made several commitments to improve community health and safety as well as the overall well-being of community members.

Projects

Magistral

*The most recent NI 43-101 technical report with respect to Magistral is the technical report titled "Technical Report on the Preliminary Economic Assessment of the Magistral Project, Ancash Region, Peru" with an effective date of August 2, 2017 (the "**Magistral Technical Report**") prepared by RPA and in particular: Ian Weir, P.Eng., Rosmery J. Cardenas Barzola, P.Eng., Philip Geusebroek, P.Geo., Kathleen A. Altman, Ph.D., P.E., and Stephan Theben, Dipl.-Ing. The Magistral Technical Report has been filed in accordance with NI 43-101, and is available, under Nexa's SEDAR profile at www.sedar.com.*

Certain of the scientific and technical information set out herein with respect to Magistral is based on information presented in the Magistral Technical Report. The Mineral Resources for the Magistral Project have been estimated by Nexa as of December 31, 2022 and reviewed by a Qualified Person. The Qualified Person for the Mineral Resource estimate is José Antonio Lopes, B.Geo., FAusIMM (CP) Geo, a Nexa Resources employee. José Antonio Lopes has also reviewed and approved certain information set out herein that has been updated since the date of the Magistral Technical Report.

Project Description, Location and Access

Project Setting

The Magistral Project is located in the Ancash Region, approximately 450 km north northwest of the capital of Lima and approximately 140 km east of the port city of Trujillo. The center of the Magistral Project is approximately at Universal Transverse Mercator ("UTM") co-ordinates 9,090,500 mN and 194,300 mE (WGS 84, Zone 18S). The Magistral property can be reached by vehicle by driving a total of 272 km from Trujillo, much of which consists of secondary, poorly maintained roads that traverse steep topography.

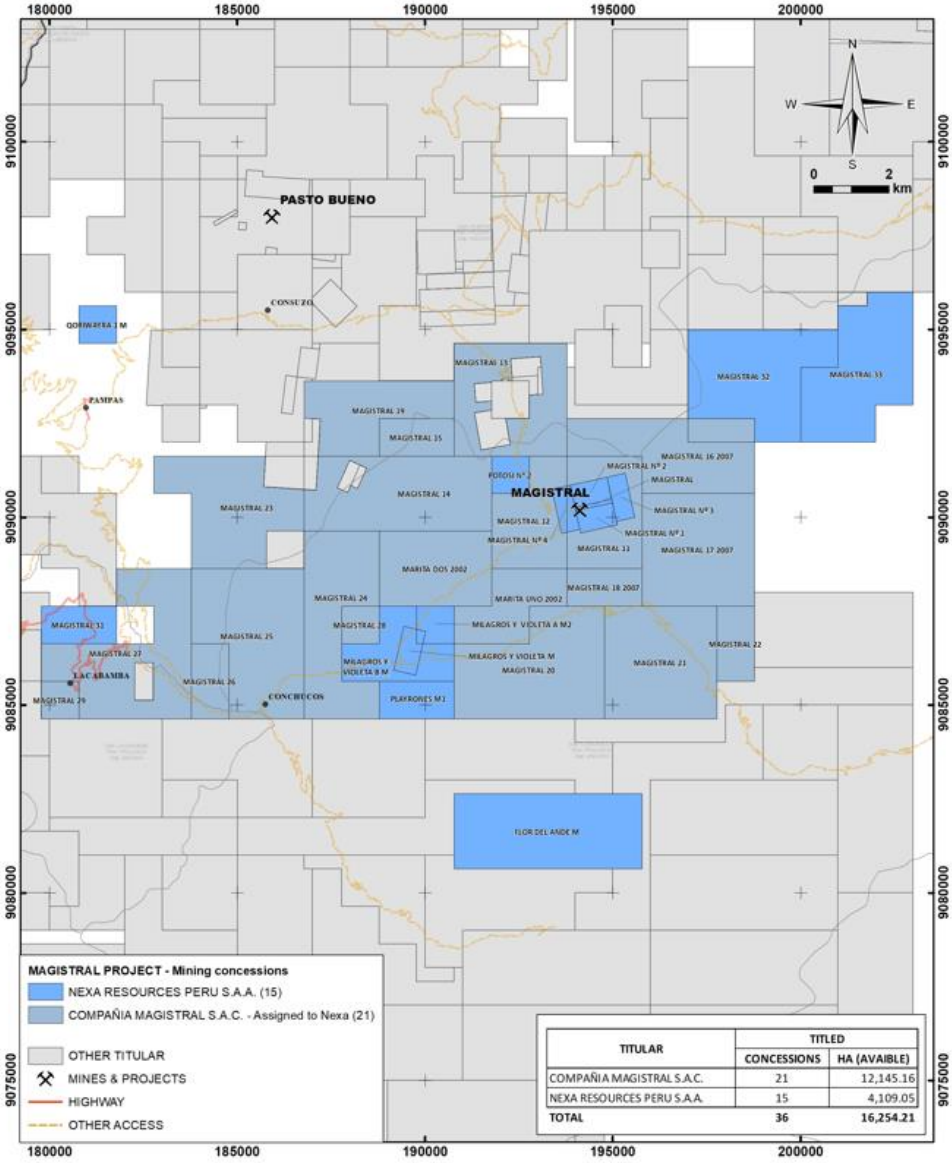
Mineral Tenure, Surface Rights, Water Rights, Royalties and Agreements

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 mineral concessions, totaling 16,282.48 hectares.

Nexa Resources S.A. owns a total of 83.48% in the Property that corresponds to the sum of Nexa's direct interest in Nexa Perú (0.18%) and Nexa's indirect interest in Nexa Perú (83.37%) through its controlled company Nexa Resources Cajamarquilla S.A. (99.92%). Nexa Perú holds 15 of the 36 mineral concessions and Compañia Magistral S.A.C, a company which according to Nexa is 100% controlled directly or indirectly by Nexa Perú, holds 21 of the 36 mineral concessions.

In 2015, Nexa Perú obtained this usufruct right from Comunidad Campesina de Conchucos, in order to perform excavation, drilling, and complementary activities in connection with the Magistral Project (Public Registry Record Partida 11086565). According to the Public Registry, the agreement states that the usufruct right shall be in force until the Mineral Reserves of the Project are exhausted, however, based on Article 1001 of the Civil Code this term would be limited to 30 years (i.e., until 2045).

Magistral Project Mineral Rights



History

The Pasto Bueno—Conchucos district, of which Magistral is a part, was known early in the colonial era as a gold-silver producing district. Early records report the production of 22,000 ounces of gold and 44,000 ounces of silver between 1644 and 1647. The first modern records of exploitation date to 1915 when the Garagorri Mining Company built a small smelting furnace to exploit high-grade surface ores from shallow workings in the Arizona and El Indio outcrops. This operation continued until 1919. In 1920, Cerro de Pasco Corporation ("Cerro de Pasco") conducted a thorough study of the deposit area, which included topographic and geologic mapping. A total of 854m of underground workings were accessible in 1920.

Cerro de Pasco purchased the Magistral concessions in 1950, but no significant work was done until 1969. From 1969 to 1973, Minera Magistral conducted a surface and underground exploration program. Buenaventura Ingenieros S.A. conducted a thorough evaluation of the Magistral deposit in 1980-1981. In 1997, Minero Peru S.A. (Minero Peru) began the process to privatize Magistral by inviting open bidding. An option to purchase the titles to the five Magistral mining concessions was awarded to Inca Pacific Resources Inc. (Inca Pacific) on February 18, 1999. In November 2000, Inca Pacific and Minera Anaconda Peru S.A. (Anaconda Peru) formed Ancash Cobre, as a holding company to carry out exploration and development at Magistral. From 1999 to 2001, Anaconda Peru

completed 76 drill holes totaling 24,639.58 m. In March 2004, Inca Pacific acquired Anaconda Peru's 51.0% interest in Ancash Cobre for US$2.1 million, thus restoring its 100.0% interest in Magistral.

In 2004, Ancash Cobre completed a 7,984.85 m, 34-hole, diamond drill hole program, a geotechnical review, and initiated environmental baseline studies. In 2005, Inca Peru entered into a joint venture with Quadra Mining (Quadra). In 2005 Ancash Cobre (funded by Quadra) drilled 14,349.35 m in 60 holes. In October 2005, Quadra withdrew from the joint venture and retained no interest. In 2006 Ancash Cobre completed a 7,073.5 m, 49-hole, diamond drilling program, and a positive preliminary feasibility study was issued by SRK in October 2006. In 2007, Ancash Cobre drilled 18,222.35 m in 116 drill holes, prepared a new mineral resource estimate, and completed a final feasibility study. In December 2009, the Peruvian government agency responsible for administering the Magistral contract with Ancash Cobre announced that it was terminating the contract.

In December 2009, the Peruvian government agency responsible for administering the contract to develop the Magistral property with Ancash Cobre announced that it was terminating the contract. In April 2011, Compañia Minera Milpo S.A.A. ("Milpo") was awarded the contract to develop Magistral by making an initial US$8.02 million payment. In September 2011, Milpo announced that it had entered into an agreement to acquire all the issued and outstanding common shares of Inca Pacific.

In 2016, Votorantim Metais ("VMH") increased its share holdings in Milpo, acquiring 80.24% of its shares and focusing its operations on zinc and copper transactions in Brazil and Perú.

In 2017, VMH became Nexa Resources and continued with the development of the Magistral Project through exploration drilling and metallurgical testing.

In 2022, the feasibility study of the Magistral project was concluded. We spent approximately US$2.4 million on the Magistral project in 2022. As of the date of this report, we are in negotiations with the landowners to obtain permission to further advance engineering studies. We continue to assess alternatives to the project, taking into consideration our capital allocation strategy. In 2023, we expect to approve the EIA amendment, which was submitted to the Ministry of the Environment (SENACE) in the fourth quarter of 2021 for its assessment.

Geological Setting, Mineralization and Deposit Types

The western continental margin of the South American Plate developed at least since Neoproterozoic to Early Paleozoic times and constitutes a convergent margin, along which eastward subduction of Pacific oceanic plates beneath the South American Plate takes place. Through this process, the Andean Chain, the highest non-collisional mountain range in the world, developed.

The Central Andes developed as a typical Andean-type orogen through subduction of oceanic crust and volcanic arc activity. The Central Andes includes an ensialic crust and can be subdivided into three main sections which reveal different subduction-geometry as well as different uplift mechanisms. The Northern Sector of the Central Andes, which hosts the Magistral Project, developed through extensional tectonics and subduction during early Mesozoic times. The sector was uplifted due to compression and deformation towards the foreland. In the last 5Ma a flat-slab subduction developed (Peruvian Flat Slab Segment).

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 faults changes from northwest to north near Magistral.

Exploration

Since acquiring the Magistral Project in 2011, the Company 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.

Porphyry systems are generally formed by multi-pulse intrusive porphyry centers distributed in clusters. Seven exploration targets have been identified within a two-kilometer radius of the San Ernesto, H, and Sara porphyries. The targets are identified by country rock alteration (e.g., marble, skarn), porphyry intrusions, and anomalous rocks identified from rock chip sampling. Of the seven targets, only three were drilled.

No exploration work was carried out on the project during 2022, and no exploratory drilling program is scheduled for 2023.

Drilling

Until the end of 2021, the database for Magistral Project consists of 687 DDH totaling 126,937.83 m. The total drilling consists with 412 exploration drill holes for a total of 90,358.78 m, 144 geotechnical drills for a total of 14,593.3 m, 84 hydrogeological drill holes for a total of 10,464.8 m and 47 metallurgical drill holes for a total of 11,520.95 m.

A total of 157 drill holes (91 geotechnical drill holes for a total of 4,813.4 m and 66 hydrogeological drill holes for a total of 6,536.8 m) was developed with the purpose of collect engineering-related information and they did not have assay results.

No drilling program was carried out since 2020 and there is no exploration drilling scheduled for 2023.

Sampling, Analysis and Data Verification

Surface drill hole collars were spotted using a handheld GPS instrument. The azimuth and dip of the holes were established using a compass and inclinometer. The attitude of the holes with depth was determined using a variety of tools over time with readings taken by the drillers. During the 2012 and 2013 drilling programs, the attitude of the holes was surveyed with a Reflex Maxibor instrument; in 2014, a Devico Deviflex instrument was used; and in 2015, a Reflex Gyro instrument was used. The interval between readings varied from 2 m to 5 m, depending on the year in which the holes were drilled. Upon completion of the surface holes, casings were pulled, PVC pipe was inserted, and the collar filled with concrete. Hole locations were surveyed. Drill core is placed sequentially in plastic core boxes at the drill by the drillers. The core is delivered to the Company's secure logging facility by the drilling contractor on a daily basis where depth markers and core box numbers are checked, and the core is cleaned and reconstructed. The core is logged geotechnically, including the calculation of the core recovery, core loss, and rock quality designation ("RQD"). The fracture type and density are recorded. Core recovery is generally very good in fresh rock, typically in the 90.0% to 100.0% range. RQD is generally good to very good, typically 75.0% or better. The core is descriptively logged and marked for sampling by company geologists with particular attention to lithologies, structure, alteration, and mineralization. Logging is initially on paper and entered into a spreadsheet-based template for integration into the Magistral Project digital database later. The core is photographed wet with a digital camera after logging but before sampling.

Samples for bulk density determination are taken regularly. Core samples are taken by sawing the core in half lengthwise where indicated by the logging geologist. Samples are typically two meters long in mineralized intervals. A two-meter-long sample is commonly taken at 10 m intervals in barren intervals. Samples typically do not cross geological boundaries. Half the sampled core was returned to the box and the other half was placed in plastic bags. Split core samples are tracked using three-part ticket books. One tag is stapled into the core box at the beginning of the sample interval, one tag is placed in the sample bag with the sample, and the last tag is kept with the geologist's records. Core boxes are stored on racks at the core logging facility for later retrieval if required. Company personnel deliver the split core samples to Trujillo on a regular basis where they are transported by a bonded carrier to Lima for analysis.

For samples analyzed at Certimin/CIMM, batches of samples are dried in stainless steel trays in an oven at either 60°C or 100°C until humidity reaches a desired level. They are then crushed in a jaw crusher using quartz flushes and compressed air to clean the equipment between samples. Secondary crushing is then performed with a roller crusher which is cleaned in the same manner. Secondary crushed samples are then run three times through a Jones riffle splitter to homogenize and the split positions switched before selection of the subsample for pulverisation. Pulverizers use a ring and bowl design. Compressed air and occasionally quartz flushes are used to prevent sample contamination and industrial alcohol is added to prevent samples from adhering to the bowl walls. Pulps are run through a secondary splitter and reject pulp duplicates are packed and stored for future usage. For samples analyzed at ALS Global, the sample was logged in the tracking system, weighed, dried, and finally crushed to greater than 70.0% passing a 2 mm screen. A split of up to 250 g was taken and pulverized to more than 85% passing a 75-micron screen. This sample preparation package was coded PUL -31 by ALS Global. Following preparation, samples were ready for analysis at the same facility in Lima, Peru. ALS Global is accredited to ISO/IEC 17025 for all relevant procedures. These laboratories are independent of the Company.

The QA/QC program as developed at Magistral is divided into three main phases:

- Phase 1: Anaconda Perú (1999 to 2001) and Ancash Cobre (2004 to 2008);
- Phase 2: Milpo (2012 to 2015); and
- Phase 3: Nexa (2018 to 2019).

For purposes of Mineral Resources, each of the different phases are considered suitable for use.

In 2017, Nexa transferred the drill database from Geoexplo System to Fusion. Nexa performed an exhaustive number of checks to confirm the accuracy of the data migration. Nexa performs regular backups to a remote server in Lima and central server in Brazil. Access to the database is strictly controlled.

Mineral Processing and Metallurgical Testing

Metallurgical test work was completed using samples from the Magistral Project starting in 2000. The most recent test work completed in connection with the Magistral Project was developed by Certimin and is referenced as Phases 8 and 9.

The test work completed during these phases had the objective of increasing the understanding of the Magistral Project and validating the historical test work in support of the process design. This test work included mineralogy, comminution, and flotation.

Tests of comminution were conducted on composites representing the three main ore types in addition to variability samples. The test results are consistent with the expectations based on the historical test work and demonstrated that the samples are soft to medium hard in terms of grinding power requirements. The results also indicated that ore abrasiveness can be categorized as medium to hard.

LCTs were conducted on composites representing the three main ore types and provided design parameters, metallurgical recovery, concentrate specifications, and reagent consumptions. The LCT results clearly indicated that the copper and molybdenum recoveries, as well as grades, are lower than the historical work, with few exceptions. The LCT results also demonstrated that the arsenic and antimony grades of the concentrate products are relatively high, and the products could incur smelter penalties.

Variability rougher flotation tests were conducted on 52 ore samples. The variability test results also indicated lower recoveries of copper and molybdenum, as well as lower mass pull compared to some of the historical test work (Phase 7). QEMSCAN analysis conducted during these phases of the test work has confirmed the mineralogical findings of historical test work. The theoretical grade recovery curves generated during the mineralogical work supports the metallurgical recovery forecasts.

The results also confirm the metallurgical assumptions (such as metallurgical recoveries, 91% Cu recovery and 68% Mo recovery, and concentrate product specifications) used for the process plant design.

Mineral Resources Estimate

The Mineral Resource is reported using 2014 CIM Definition Standards and the update for the Magistral Project was completed by Nexa in December 2021 using Datamine Studio RM ("Datamine Studio"), Seequent's Leapfrog Geo ("Leapfrog") and Supervisor software.

Wireframes for geology and mineralization were constructed in Leapfrog Geo based on geology sections, assay results, lithological information, and structural data. Raw assays were capping to copper, molybdenum, and silver assays in order to limit the influence of a small amount of outlier values located in the upper tail of the metal distributions and them the assays were composited to five meters lengths. Grades were interpolated into a sub-block model of parent blocks of 10m by 10m by 10m. The blocks were interpolated using OK for all domains for copper, molybdenum, and silver. Arsenic, bismuth, magnesium, iron, antinomy, and sulphur were interpolant with ID^3. All directions were based on search ellipsoid orientations according to the trend of the mineralization domain and the results were validated using industry standard validation techniques.

Classification of blocks was based on distance-based criteria. Mineral Resources are constrained within a Whittle optimized pit shell and the Mineral Resources are estimated at NSR cut-off values of US$5.99/t for porphyry, US$5.51/t for mixed, and US$5.48/t for skarn rock types and a minimum mining width of 10 m was used. Metallurgical recoveries are accounted for in the NSR calculations based on metallurgical data and vary from 79.3% in skarn to 92.5% in San Ernesto porphyry for Cu, 51.3% in skarn and 79.2% in San Ernesto porphyry for Mo, and 70% for Ag. Mineral Resources are estimated using an average long-term metal prices of US$7,193.45/t for Cu, US$21.34/oz for Ag and US$9.90/lb of Mo. Bulk densities for range between 2.59 t/m^3 and 3.30 t/m^3 depending on the rock type.

Mineral Reserves Estimate

There are no Mineral Reserves at the Magistral Project.

Mining Operations

Open pit mining is proposed to be carried out by a contractor as a conventional truck and shovel operation. The Company is currently studying the option to mine using owner-owned equipment, but the trade-off analysis was not available at the time of the Magistral Technical Report. The mining contractor would undertake the following activities: drilling performed by conventional hydraulic production drills; blasting using ANFO (ammonium-nitrate fuel oil) and a down-hole delay initiation system; and loading and hauling operations performed with hydraulic excavators, and 40t 8x4 haulage trucks.

The production equipment would be supported by bulldozers, graders, and water trucks. The Company would supervise the overall mining operation with its own employees including mining engineers, geologists, surveyors, and support staff. Mineralized material will be fed directly into a primary crusher located adjacent to the open pit. Material from the crusher will be transported to the processing facility using a system of conveyors. Topsoil stripping will be required to gain access to mineral and waste rock below. The volume is estimated to be approximately 2.2 Mm^3, which will be stored to the northeast of the pit. Waste rock will be sent to either the Valley Waste Dump (located west of the pit) or the North Waste Dump (located to the northeast of the pit). Studies at the Preliminary Economic Assessment level typically include Inferred Mineral Resources; however, the Company has used only Measured and Indicated Mineral Resources in the Whittle optimization and no Inferred Mineral Resources are included in either the mine plan or cash flow analysis.

Processing and Recovery Operations

The conceptual plant designed for Magistral will process 30,000 tpd using:

- Primary crusher
- Semi-autogenous grinding ("SAG") mill
- Ball mill
- Bulk sulphide flotation circuit to recover copper and molybdenum
- Bulk concentrate regrind mill
- Copper—molybdenum separation flotation circuit
- Molybdenum concentrate regrind mill
- Molybdenum flotation circuit
- Dewatering
- Support systems

ROM mineralization will be delivered to a primary gyratory crusher that is located adjacent to the mine. Crushed mineralization will be transported by a series of overland conveyor belts to a crushed ore stockpile that is located near the processing plant. Vibrating feeders will draw mineralization from the stockpile and transfer it to a conveyor belt that feeds the SAG mill. In the SAG mill the mineralization is mixed with water to form a slurry. Slurry from the SAG mill will discharge onto a vibrating screen. Oversize from the screen is returned to the SAG mill for further size reduction. The design includes sufficient space that a pebble crusher may be added to the circuit at a future date if it is determined that the pebbles reach a critical size that cannot be reduced by the SAG mill alone. Undersize from the screen will be pumped to a series of high frequency vibrating screens that are designed to classify the mineralization to a particle size of 80% passing (P80) 150 µm. Undersize from the screens flows to one of two ball mills while oversize from the screens is the final product from the comminution circuit. Undersize from the high frequency screens will be pumped to a conditioning tank where reagents are added to the slurry. The bulk flotation circuit includes rougher and scavenger flotation circuits to recover bulk sulphide flotation concentrate that contains the copper and the molybdenum. The bulk rougher and scavenger tailings are the final tailings from the plant. The bulk concentrate is reground in a ball mill that is operated in closed circuit with cyclones to produce a product size of P80 45 µm. The ground concentrate is processed in three stages of bulk cleaner flotation. The final bulk cleaner flotation concentrate will flow by gravity to a bulk concentrate thickener where it is dewatered to a slurry density of approximately 55% solids by weight.

The thickener underflow will be processed in a rougher—scavenger flotation circuit to separate the molybdenum from the copper. Tailings from the rougher—scavenger circuits are the final copper concentrate. The concentrate from the rougher—scavenger circuit flows by gravity to the molybdenum flotation circuit and regrind circuit. The molybdenum concentrate is reground in a ball mill that is operated in closed circuit with cyclones. Overflow from the cyclones is processed in three stages of molybdenum cleaner flotation. Concentrate from the third molybdenum cleaner flotation circuit is the final molybdenum concentrate. High-rate thickeners are used for both the bulk flotation concentrate and for the copper concentrate. The copper concentrate is dewatered to a slurry density of approximately 70% solids by weight. The thickener underflow slurry is sent to a horizontal plate and frame filter press for further dewatering of the copper concentrate. The dewatered copper concentrate discharges into a storage area where it is loaded onto trucks for transport. Molybdenum concentrate is dewatered in a similar, smaller circuit. It is dewatered in a thickener and horizontal plate and frame filter press. The discharge from the molybdenum filter press discharges to a dryer. The dried concentrate is processed in a bagging system where it is loaded into bags for shipment.

Tailings will also be dewatered in a high-density thickener to produce a slurry density of 70% solids by weight prior to pumping to the Tailings Storage Facility. The water from all of the thickener overflows is recycled to the various processing circuits. The conceptual design includes reagent mixing and storage facilities, automation and instrumentation, water supply and distribution, and air supply and distribution.

Infrastructure, Permitting and Compliance Activities

Project Infrastructure

Local resources are minimal. The closest electric power substation connected to the national grid is at Pallasca (69 kV/22.9 kV), a distance of approximately 60 km from the Magistral property. The Magistral Project infrastructure was evaluated by Golder Associates Inc. ("Golder") in its 2016 feasibility study (or Golder 2016 FS). The facilities and infrastructure for the Magistral Project were grouped into two large areas: the first area is the internal infrastructure (or On-Site Infrastructure) and the second area is the external infrastructure (or Off-Site Infrastructure).

The On-Site Infrastructure comprises the following key components:

- auxiliary concentrator plant infrastructure which includes: reagent plant, located at 4,440 meters above sea level and occupies an area of 600 m2; reagent storehouse located at 4,458 MASL and the compressor house located on a platform adjacent to the concentrator plant and occupies an area of 550 m^2;
- internal mine operation roads, which will connect the different facilities of the Magistral Project.
- the road design has been developed taking into account the regulations established by the Ministry of Transport and Communications ("MTC") in 2013 and the Occupational Safety and Health Regulations ("OSHR");
- the electrical distribution system of the Magistral Project, which will supply power to all facilities of the concentrator plant, services and infrastructure plant and mine;
- the supply of fresh water for the Magistral Project will be abstracted from the La Esperanza Lake, which is located in the upper part of the Toldobamba micro basin;
- two camps are envisaged for the Magistral Project: a concentrator plant camp and a mine camp;
- the fuel storage and dispatch station are located at 4,057 MASL on a 7,100 m2 platform;
- five warehouses and two workshops are planned within the mine infrastructure; and
- fire suppression system covering the following areas: concentrator and mine camps, central warehouse, processing and concentrate storage areas, mine and concentrator offices, concentrator plant workshops, and the mine maintenance areas.

The Off-Site Infrastructure comprises the following key components:

- the supply of electrical energy for the Magistral Project will be provided by third parties and requires a new 69 kV transmission line between the existing Ramada electrical substation and the projected Magistral electrical substation. The transmission line to the site will be approximately 60 km;
- the main access road to the Magistral Project will be used for external access and transport of concentrates to the port of Salaverry. This route will consist mainly of National Route PE-3N from Trujillo-Huamachuco with a diversion near the La Arena mine, passing through the populated centers of Alto de Tamboras and Pampa El Cóndor, and finally passing Pelagatos Lake, before reaching the Magistral Project; and
- the transport of concentrates is envisaged to be outsourced through a specialized company hired by Nexa. The service includes the transport of copper and molybdenum concentrate, from the Magistral Project, via Huamachuco, to the port of Salaverry for the copper concentrate and to;
- the port of Callao for the molybdenum concentrate. The port logistics of concentrate handling and shipment would be carried out by a logistics operator hired by Nexa.

Environmental, Permitting and Social Considerations

The most recent environmental impact study relating to the Magistral Project was an amendment submitted to the Peruvian authorities in December 2021. The amendment was a modification of the previous EIA approved by the Peruvian authorities in 2016, which reflects changes to the Magistral Project, mainly the relocation of the TSF. An EMP and an Environmental Surveillance Plan ("ESP") (monitoring programs) were prepared as part of the 2016 EIA and the 2021 EIA amendment. The monitoring programs include industrial and domestic effluent discharges,

gas emissions, air quality, ambient noise, vibrations, surface water quality, sediments, groundwater quality, soil quality, terrestrial biology (vegetation and wildlife), aquatic biology and geotechnical surveillance.

An environmental compensation plan for bofedales has been developed for the Magistral Project in accordance with Peruvian regulations. Bofedales are high altitude areas of wetland vegetation commonly found in the central Andes mountains of Perú.

The tailings to be produced by the Magistral Project are known to be PAG but also have a high acid neutralization potential. As such, the tailings deposition plan is designed to ensure that deposited tailings are continually overprinted with fresh tailings to reduce exposure to the atmosphere and the depletion of neutralization potential. At closure, the TSF will be regraded to eliminate the tailings pond and capped with a revegetated isolation cover.

Nexa holds a number of environmental permits in support of its engineering design, preliminary construction activities, and future operation. The permits are Directorial Resolutions issued by the Peruvian authorities upon approval of mining environmental management instruments filed by mining companies. Nexa maintains an up to date record of approved and planned legal permits.

Nexa adheres to international standards to provide best practices for public reporting on economic, environmental, and social impacts in order to help its shareholders and stakeholders understand Nexa's corporate contribution to sustainable development. Nexa has also made several corporate commitments to improve community health and safety as well as the overall well-being of community members.

A conceptual Mine Closured Plan (MCP) has been prepared for all components of the Magistral Project in compliance with applicable Peruvian legislation. The MCP addresses temporary, progressive, and final closure actions, in addition to post closure inspection and monitoring. A closure cost estimate was developed and included in the MCP. The total financial assurance for progressive closure, final closure, and post-closure is calculated by the Peruvian government according to the Peruvian regulations (Supreme Decree D.S. N° 262-2012-MEM/DM).

SUMMARY OF OTHER MINERAL PROPERTIES

Mines

Nexa has two mining operations, Atacocha and Morro Agudo, that do not currently have any Mineral Reserves estimates and neither is considered by the Company to be a material property for purposes of NI 43-101. For more information see "—Mining operations" included in the Company's Form 20-F.

Atacocha

*The most recent NI 43-101 technical report with respect to Atacocha is the technical report titled "Technical Report on The Atacocha Mine, Pasco Province, Central Peru" dated March 22, 2019 (the "**Atacocha Technical Report**") prepared by RPA (now a part of SLR Consulting Ltd), and in particular: Scott Ladd, P.Eng., Rosmery J. Cardenas Barzola, P.Eng., Avakash Patel, P.Eng. and Luis Vasquez, M.Sc., P.Eng. The Atacocha Technical Report has been filed in accordance with NI 43-101, and is available, under Nexa's SEDAR profile at www.sedar.com.*

Certain of the scientific and technical information set out herein with respect to Atacocha is based on information presented in the Atacocha Technical Report. The Mineral Resources for the Atacocha Mine have been estimated by Nexa as of December 31, 2022. The Qualified Person for the Mineral Resources estimate is José Antonio Lopes, B.Geo., FAusIMM, a Nexa Resources employee. José Antonio Lopes has also reviewed and approved certain information set out herein that has been updated since the date of the Atacocha Technical Report.

Project Description, Location and Access

Project Setting

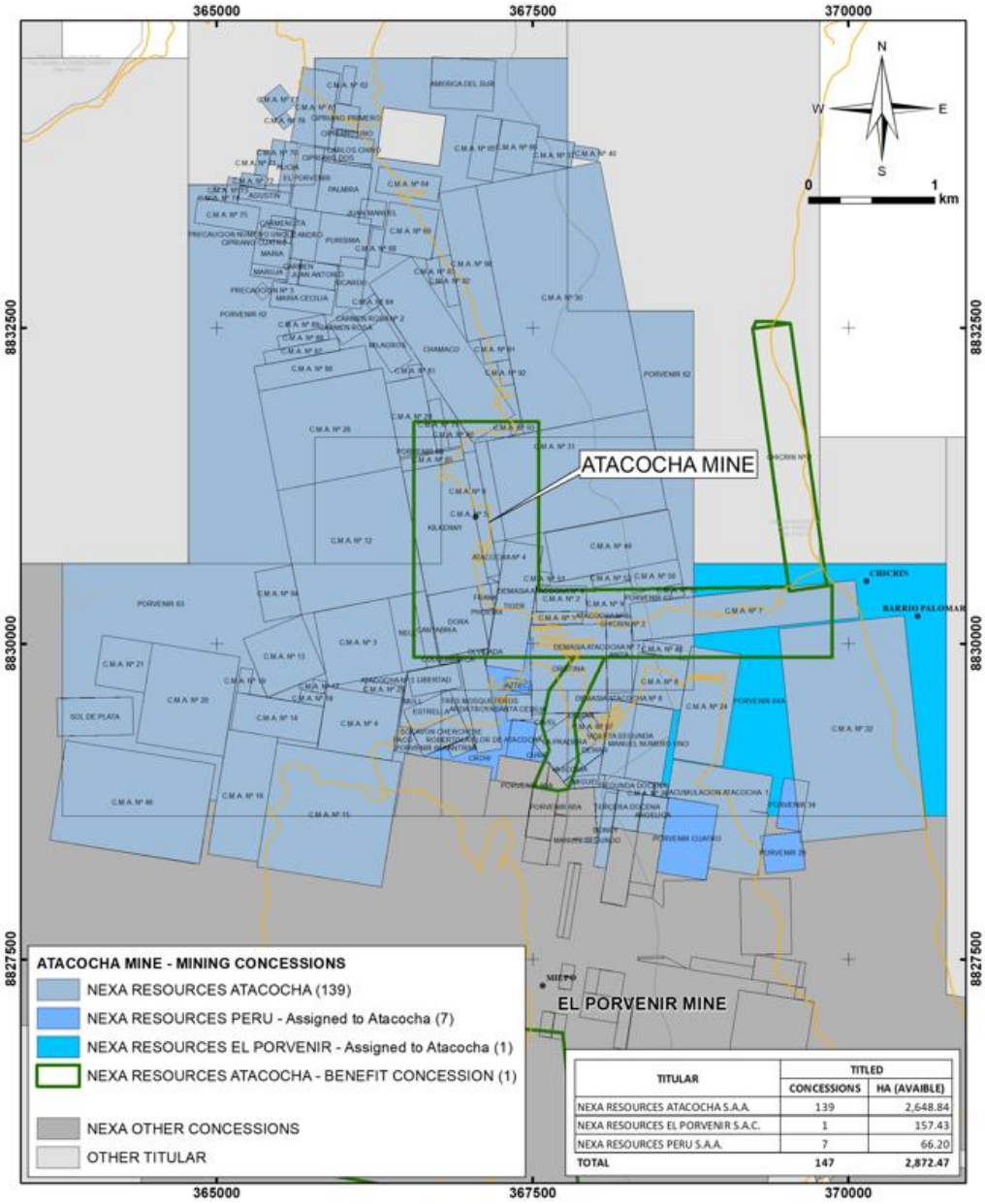
The Atacocha property is located in the district of San Francisco de Asís de Yarusyacán, in the province of Pasco, Peru. The property is located in the central Andes mountains region of Peru (with approximate coordinates of 367160m E, 88304000m N, using the UTM_WGS84 datum, Z18S), approximately 4,050 meters above sea level. The Atacocha Mine is situated at kilometer 324 of the Carretera Central Highway (Lima—Huánuco route), 16 km from the city of Cerro de Pasco. The processing plant is located near the Huallaga River valley. Cerro de Pasco and Huánuco cities are connected to the mine area by a paved road with heavy traffic. The Atacocha Mine has camps near the plant. The light equipment fuel, maintenance and storage facilities are located on site. Basic supplies are available in the city of Chicrin, and most major items and equipment are provided from Lima.

Site Location Plan

Mineral Tenure, Surface Rights, Water Rights, Royalties and Agreements

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.

Land Tenure Map of Atacocha



History

The Atacocha mining unit began operating in the first decade of the 20th century with a production of lead, silver, zinc and copper ores. In 1925 J.H. Fleming, H Rally, J.D. Torbert, T.N. Brown and Carlos Gomez Sanchez established the Pucayacu Mining Company that exploited Atacocha until the company was liquidated after Mr. Fleming's death. The property was declared abandoned. Subsequently, the "Casa Gallo Hermanos" enterprise claimed the Atacocha mines and began working the property in 1928. In 1935, Francisco Jose Gallo Diez, with the collaboration of Eulogio E. Fernandini, German Aguirre and Gino Salocchi, established Atacocha S.A. In 1936, Compañia Minera Atacocha S.A.A. was established to develop exploration and exploitation of mining sites, to produce lead, zinc and copper concentrates. Atacocha reserves were approximately 85,000 mt in 1937.

In the first year of operations, the activities focused on levelling and widening of the San Ramon tunnel at the 4,000 level to prepare it to be used as a mine extraction level. The exploitation work carried out in veins at the 4,000 level verified that these veins represented the limits of a unique mineralized body. In the next two years (1938), the "Marcopampa" hydroelectric central and the Concentrate Plant No 1 in Chicrin were completed. In 1952, the construction of the 3,600 level, with a length of 2,700 m was completed, which allowed a new main level of access and transportation for underground work, while facilitating the extraction and transportation of the minerals to the new concentrate plant No. 2 located also in Chicrin. In 1953, the Chaprin Hydroelectric Plant began operating.

In 2020, in response to COVID-19 and based on our cost management strategy, the integration process was temporarily suspended and in June 2020, once the Peruvian government allowed medium-sized mines to restart operations following COVID-19 restrictions, 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 report, the underground mine remains suspended.

In March, May and August 2022, protest activities of various local communities blocked road access to the Atacocha San Gerardo open pit mine, temporarily suspending production at the mine for periods of up to two weeks. In each instance, mining activities were limited to critical operations with a minimum workforce to ensure appropriate maintenance, safety and security. In each of these instances, the Company pursues active dialogue with the local community and authorities for peaceful resolution. Despite these blockages, the Atacocha mine operated at high levels of capacity utilization rates throughout the year. In January 2023, protest activities temporarily suspended operations at Atacocha for approximately one week. Nexa remains committed to complying with all existing agreements, pursuing an active dialogue with the communities and authorities, and the social development of all its host communities.

Production in 2022 was higher than in 2021 due to higher treated tonnage and grades across all metals.

Mine Production from Atacocha (2020- 2022)

	Unit	2020	2021	2022
Tonnage	Mt	1.07	1.27	1.35
Zn Grade	%	1.20	0.88	0.89
Cu Grade	%	0.05	0.03	0.00
Pb Grade	%	1.15	0.82	0.97
Ag Grade	oz/t	1.39	1.01	1.05
Ag Grade	g/t	43.21	31.43	32.81
Au Grade	oz/t	0.01	0.01	0.01
Au Grade	g/t	0.20	0.42	0.46

Geological Setting, Mineralization and Deposit Types

The Atacocha property is situated in the Pasco region of the Western Cordillera of the Andes mountain range in central Perú, within the Eocene-Miocene Polymetallic, and Miocene Au-Ag Epithermal Belts. The Pasco region is a prolific mineral district. The oldest known mine in the region is the Polymetallic Cerro de Pasco Mine that has been in production for more than 100 years, which is located 15 km SW of our El Porvenir Mine, and was operated by Cerro de Pasco Copper Corporation, Centromin Peru and the last 15 years, by Volcan Mining Company. This deposit is an overprint of High Sulfidation System (Cu-Ag-Au) and Intermediate Sulfidation System (Polymetallic rich). The Colquijirca Mine is located 12 km south of Cerro de Pasco. It has been mined for 90 years by Compañia Minera El Brocal SA. The geology varies from a Dome center that hosts precious metals of high sulfidation system (Marcapunta) and intermediate sulfidation limestone replacement polymetallic mineralization at the edges to the north (Tinyahuarco) and south (San Gregorio).There are many other polymetallic mines in the region such as Atacocha and Vinchos to the north; Chungar, and Huaron to the south; and a high sulfidation mine such as Quicay that is associated to a hidden Cu-Mo porphyry deposit located 15 km west from Cerro de Pasco. Also, there are many exploration

projects at different stages of development such as Shalipayco (Zn-Pb-Ag), Ayahuilca (Zn-Pb-Ag), Alpamarca (Zn-Pb-Ag-Cu-Au), Cero Auqui (Zn-Pb-Ag), Optimismo (Zn-Pb-Ag) and Patacancha (Zn-Pb-Ag-Cu-Au).

Within the property area, the stratigraphic units of primary interest are the Chambará Aramachay and Condorsinga formations, as well as other undifferentiated limestone units of the Pucará Group, the Goyllarisquizga formation, and stratigraphically overlying basalt layers. Intrusive rocks within the property are variably porphyritic dacite to quartz diorite with hornblende and biotite phenocrysts. Dacitic dikes are sub-divided into 2 units: porphyritic with feldspar phenocrysts and little quartz restricted to the groundmass; and porphyritic with abundant quartz phenocrysts, with minor biotite and hornblende. These dacitic dikes generally trend north-south, and are observed in 3 areas: Santa Bárbara/central, south along/parallel to the Atacocha Fault, and south of Section 3. The intrusive suite is part of the Milpo-Atacocha-Vinchos, age dated to 29-26 Ma. The Santa Bárbara and San Gerardo stocks are two principal intrusive units within the property.

At Atacocha, mineralization is characterized as either a skarn-, replacement- or hydrothermal vein/breccia-style mineralization. Skarn-related mineralization generally spatially associated with either the Santa Barbara stock or San Gerardo stock is paragenetically earlier, followed by the hydrothermal mineralization. Garnet-skarn related mineralization is associated with Zn, Pb, Ag, and Bi occurring within the Pucara Group sediments around the Santa Bárbara stock. Replacement-style mineralization as well as low-temperature hydrothermal veins and polymitic breccias comprising a Ag, Pb, Zn mineral assemblage, occurs between the San Gerardo stock and Fault (or Falla) 1, which are also characterized by Mn-skarn, and silica-sericite-halloysite alteration.

Skarn-related mineralization is characterized by pyrite, chalcopyrite, sphalerite, galena, with lesser bismuthinite and a variety of sulfosalts (Bi-bearing) and pyrrhotite, bornite, and covellite at lower elevation. Molybdenite may occur proximal to the skarn-related mineralization. Elevated Bi and Au are reported to be associated with skarn-related mineralization. Veins and veinlets with pyrite, chalcopyrite, sphalerite, galena, with quartz and carbonate occur within marble units, and are spatially associated with skarn bodies. Replacement bodies comprising of pyrite, sphalerite, galena, chalcopyrite, and possibly other fine undistinguished sulphides occur within garnet-skarn, marble, and silicified zones. Breccias have been grouped in to either Ag-Pb-Zn hydrothermal breccias or siliceous breccias based on their mineralogical assemblages, and textural characteristics.

Three types of mineral deposits are recognized at Atacocha, described as either: skarn (Exo and Endo Skarn); replacement (lithological and structurally controlled); or hydrothermal veins (and collapse breccias).

Exploration

Nexa Peru has been conducting exploration and development work at Atacocha since 1949. Most exploration is generally conducted simultaneously with underground development, which involves diamond core drilling, and channel sampling following underground drifting. Prior to 1997, minor and sporadic drilling was completed; and no channel sampling is documented before 2001. Systematic underground geological mapping is completed at scale of either 1:500 or 1:250, following underground development on all levels and sub-levels. Several underground levels have been developed at Atacocha being 2,890 m, the last one, with additional development on sub-levels. Geological mapping is completed by the mine/ production geologists drawn on paper in the field, and subsequently digitized with the help of a modelling assistant. The geological level plan maps are updated and incorporated in a 3D geological model daily to aid future exploration and mine development planning.

The exploration activities at Atacocha during the last years were focused mainly on extending existing mineralized bodies along strike at the San Gerardo pit and testing the potential extension at the surface of know orebodies at the Atacocha underground mine including the Ayarragram orebody and extension NW. However, in 2022, we had no drilling activities at Atacocha.

Drilling

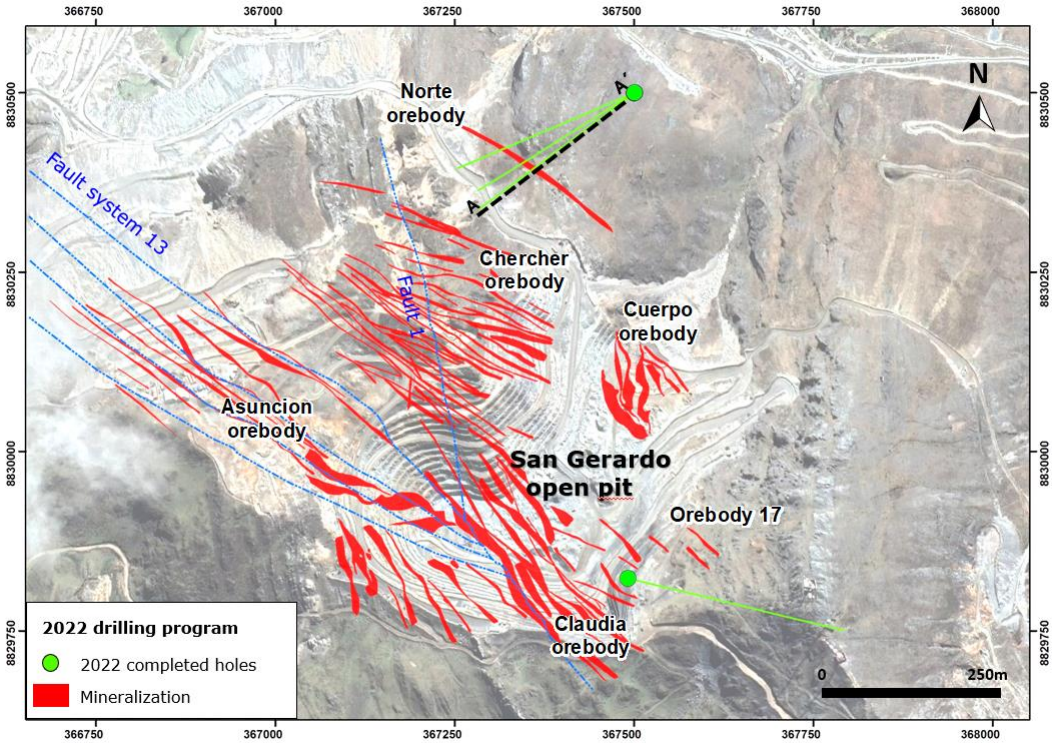
Drilling activities at Atacocha were carried out at Tajo San Gerardo and continued to test the lateral extensions of existing mineralized bodies in the open pit mine. The drilling program was focused on Orebody 17, Orebody Norte and extensions such as Chercher and Asunción, totaling 10,154 meters in 2022.

The continuity in depth of the North Orebody mineralization in San Gerardo was confirmed, as well as new structures in its vein system. The continuity of the skarn vein system in the northern extension of the deposit has also been confirmed. In 2022, we had no exploration drilling activities at Atacocha. We spent approximately

US$0.3 million on the brownfield project for exploration project maintenance. We have budgeted US$0.3 million for the project during 2023 for project maintenance and data interpretations, not including any drilling campaigns.

The progress in the exploration campaign on the Integration target occurred on the side of the El Porvenir mine confirming multiple mineralized intersections and potential opportunity to extend the life of mine. The exploration drilling strategy in Pasco Complex continues to extend the existing satellite mineralized bodies. Focus on integration zone towards the upper levels of the El Porvenir mine.

Atacocha Exploration and Drilled targets



Sampling, Analysis and Data Verification

Sample collection and core handling are in accordance with industry standard practices. Procedures to limit potential sample losses and sampling biases are in place.

The samples from core and channels are sent to several independent laboratories including Inspectorate (at the mine site and Lima), SGS (Lima), ALS (Lima) and Certimin (Lima). Testing protocols among these laboratories differ in their detection limit and methods applied. The Atacocha Mine has a contract with Inspectorate, which began its operations in mid-2011 and with ALS in mid-2017. The samples were collected from drill holes and channels. Samples were bagged and sent to Atacocha Inspectorate Laboratory for preparation and assay.

Since 2013, Nexa has used various laboratories such as ALS, Atacocha Mine, Shalipayco Project and Certimin, for the testing of density samples. Sampling was carried out by Milpo mine geologist staff at Atacocha. A total of 1,157 samples were collected from mineralized zones and a total of 2,002 samples were collected from waste rocks.

The Atacocha project has implemented a QA/QC program, which complies with current industry best practices and involves establishing appropriate procedures and the routine insertion of CRMs, blanks, and duplicates to monitor the sampling, sample preparation and analytical process. Analysis of QC data is performed to assess the reliability of sample assay data and the confidence in the data used for the estimation. QC samples have been inserted into the drill core samples since 2014 and channel samples since 2012. The Atacocha Mine routinely sends certified standards, blanks, field, preparation (coarse reject) and laboratory (pulp) duplicates to the Atacocha Inspectorate

laboratory. The Atacocha Inspectorate laboratory has been the primary laboratory for assaying drill core and channel samples since the middle of 2011 with the results of the inserted QC samples detailed below. The samples were sent to SGS from 2006 to 2008. Currently, when Atacocha laboratory is too busy, the samples are delivered to ALS, Certimin, Inspectorate Lima and Inspectorate El Porvenir laboratories.

Mineral Processing and Metallurgical Testing

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 2022 was higher than in 2021 due to higher treated ore volume and grades across all metals. In June 2020, once the Peruvian government allowed medium-sized mines to restart operations following COVID-19 restrictions, 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 report, the underground mine remains suspended. As mentioned above, we are evaluating the integration with El Porvenir mine.

Historically, copper concentrate represents a very small percentage of the production and consequently, revenue due to low copper head grade. Based on the representativeness of it and on studies carried on by Nexa staff, the Company made a decision to temporally suspend the copper concentrate production in the metallurgical plant, maintaining the production of zinc and lead concentrate.

The following table shows a summary of the last three years of production from 2020 to 2022.

Atacocha Polymetallic Circuit Metallurgical Performance (2020 - 2022)

	Unit	Item	2020	2021	2022
Production	Tonnes		1,065,363	1,271,107	1,353,681
Mill Head Grade	g/t	Ag	43.21	31.43	32.81
	g/t	Au	0.20	0.42	0.46
	%	Cu	0.05	0.03	0.00
	%	Pb	1.15	0.82	0.97
	%	Zn	1.20	0.88	0.89
Cu Concentrate	%	Cu Recovery	-	-	-
	%	Cu Grade	-	-	-
	oz/t	Ag Grade	-	-	-
	%	Ag Recovery (to Cu)	-	-	-
	oz/t	Au Grade	-	-	-
	%	Au Recovery (to Cu)	-	-	-
Pb Concentrate	%	Pb Recovery	83.03	83.27	85.51
	%	Pb Grade	53.52	51.70	53.87
	oz/t	Ag Grade	59.29	57.94	53.32
	%	Ag Recovery (to Pb)	76.42	76.00	77.65
	oz/t	Au Grade	0.33	0.71	0.65
	%	Au Recovery (to Cu)	54.03	69.58	67.86
Zn Concentrate	%	Zn Recovery	75.30	76.25	79.07
	%	Zn Grade	50.55	50.40	50.79

Mineral Resource Estimate

The Mineral Resource estimate dated December 31, 2022 is reported following 2014 CIM Definition Standards and was completed by Nexa personnel using Leapfrog Geo, Datamine Studio RM, Supervisor and Deswik softwares.

The Mineral Resource estimates at the Atacocha underground mine were performed for all mineralization wireframes. High zinc, lead, copper, and silver were capped and the assays were composite into two meter length. A sub-blocked model with a minimum sub-cell size of 0.5 m by 0.5 m by 0.5 m with parent blocks measuring 4 m by 4 m by 4 m for the mineralization wireframes was generated. Blocks were interpolated for zinc, lead, copper, and silver using ordinary kriging (OK) and inverse distance cubed (ID^3), and a three-pass search strategy. Block estimates were validated using industry standard validation techniques. Blocks were classified as measured, indicated, and inferred based on number of holes and distances determined by variogram ranges. Mineral Resources at the Atacocha underground mine are reported within resource stopes generated in Deswik Stope Optimizer software, satisfying a NSR cut-off value of US$ 62.81/t for C&F resources shapes and a minimum mining width of 4.0m. Mineral Resources are estimated using average long-term metal prices of Zn: US$3,250.31/t (US$1.47/lb), Pb: US$2,350.54/t (US$1.07/lb); and Ag: US$22.92/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 85.36% for Zn, 84.65% for Pb, and 76.19% for Ag.

The Mineral Resource estimates at San Gerardo open pit were reported within an optimized pitshell. Unsampled intervals within wireframes were assigned with detection limit values in the database prior to grade composite creation. High zinc, lead, copper, silver and gold two-meter composite grades were capped. A sub-blocked model with a minimum sub-cell size of 0.5 m by 0.5 m by 0.5 m with parent blocks measuring 4m by 4m by 6m for the mineralization wireframes was generated. Blocks were interpolated for zinc, lead, copper, silver, and gold using ordinary kriging (OK) and inverse distance cubed (ID3). Bulk density was assigned based on rock type. The 0.5 m by 0.5 m by 0.5 m were re-blocked into the final resource model, which has 4 m by 4 m by 6 m blocks. Block estimates were validated using industry standard validation techniques. Blocks were classified as measured, indicated, and inferred based on number of holes and distances determined by variogram ranges. Mineral Resources are estimated at a NSR cut-off value of US$23.81/t. Some marginal material with cut-off value of US$21.69/t was included. The average long-term metal prices of Zn: US$3,250.3/t (US$1.47/lb), Pb: US$2,350.5/t (US$1.07/lb); Au: US$1,696.11/oz; and Ag: US$22.92/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 70.44% for Zn, 83.64% for Pb, 75.76% for Ag, and 65.46% for Au. Mineral Resources are reported within an open pit shell. Density was assigned based on rock type.

Mineral Reserve Estimate

There are no Mineral Reserves at the Atacocha underground mine and San Gerardo open pit.

Mining Methods

The Atacocha underground mine is mined by the overhand C&F and SLS mining methods. C&F stopes are 20.0m high consisting of 4.0m high cuts and a minimum mining width of 4.0m. C&F stopes are located 55 m from the main ramps and accessed by stope access ramps with grades varying from -15% to +15%. Production is achieved by horizontal drill and blast, and backfilled using unconsolidated waste fill or hydraulic backfill. The SLS mining method has demonstrated increased productivities and reduced unit costs as compared to the C&F mining method. SLS stopes are located a minimum of 40m from infrastructure, are 20.0m high, 30.0m long and have a minimum mining width of 4.0m. Production is achieved by vertical blastholes and backfilled using unconsolidated waste fill.

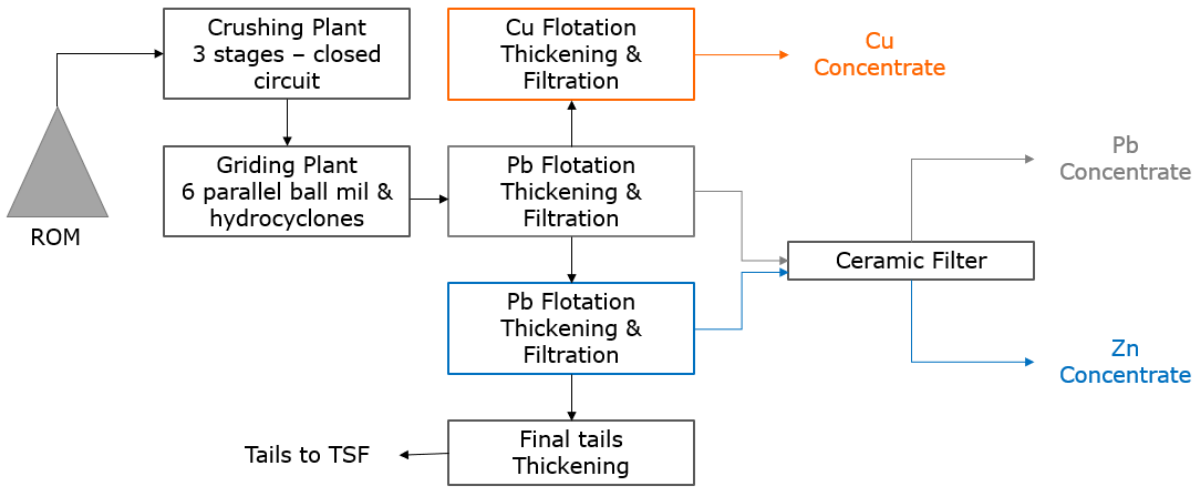
San Gerardo is an open pit operation located at the top of mineralized zone and is mined by 6.0m high benches. Since the temporally suspension of Atacocha underground mine, the open pit production is responsible by the metallurgical plant feed. Operations are carried out by contractor with a mining fleet that allows selectivity in the loading process.

Processing and Recovery Operations

The Atacocha concentrator utilizes a conventional crushing, grinding, and sequential flotation scheme to produce lead and zinc concentrates with an average daily processing rate of approximately 4,300 tonnes. A flash-flotation step is included in the grinding circuit that recovers lead at a grade sufficiently high to report directly to the final lead concentrate. The majority of gold and silver report are into the lead concentrate. Despite the plant having capacity to produce copper concentrate, the circuit of the plant has been disabled and the Atacocha metallurgical plant produces only zinc and lead concentrates.

The zinc concentrate is transported to Nexa Cajamarquilla's zinc refinery in Peru, while the lead concentrate is sold to concentrate traders.

Atacocha Block Flow Diagram



Infrastructure, Permitting and Compliance Activities

Project Infrastructure

The Atacocha site includes the underground mine, the San Gerardo open pit mine, historical tailings storage facilities, waste rock stockpiles, a beneficiation plant with associated laboratory and maintenance facilities, and maintenance buildings for underground and surface equipment. Facilities and structures supporting operations include warehouses and laydown areas, offices, dry facilities, hydroelectric generating station, power lines and substation, fuel storage tanks, and accommodations camp. The site has well developed systems in place for water supply and distribution, including fresh water and fire suppression water, sewage collection and disposal, and communications. A network of site roads that are approximately six meters wide and total 15 km in length are used by authorized mine personnel and equipment, including ore and waste haul trucks, concentrate haul trucks, support and light duty vehicles to provide access to onsite infrastructure.

Waste rock from the San Gerardo open pit mine is disposed of in the Atacocha Waste Dump, which is adjacent to and downstream of the Atacocha TSF. The Atacocha processing plant currently pumps tailings to the El Porvenir TSF, and both the Atacocha and El Porvenir TSFs have capacity for expansion to accommodate tailings production over the LOM.

The electrical power supply for the project comes from two sources: connection to the SEIN national power grid by a main substation 50/13.8kV, located near the site, and the Candelaria Hydro, which consists of 3 turbines (500KVA, 1,200KVA y and 3.5MVA) that is connected to the project through the main substation by a 4.6 km 50kV transmission line of 4.6 km. The installed initial generating capacity of Candelaria is 4,660kV. All other loads of the project are fed at 13.8kV 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.

Environmental, Permitting and Social Considerations

Atacocha has met all applicable permitting requirements under Peruvian law. These permits include tailings dam and waste rock dump, mine, process plant as well as water usage and effluents.

At Atacocha, the Company promotes the implementation of high environmental standards, highlighting the principles of prevention, mitigation, and control of possible environmental impacts caused by its operations. There is a comprehensive Environmental Management Plan in place, which includes a complete monitoring program for physical and biological components. The Company's practices are based on an Environmental Management System ("EMS"), which makes it possible to identify critical environmental risks ("CERs") at the operations. The CER audit matrix includes the evaluation of legal requirement audit results, monitoring activities and environmental incidents.

A closure plan has been developed for Atacocha at feasibility level for all its components within the context of Peruvian legislation. This closure plan is periodically updated over the life of the mine. The closure plan addresses temporary, progressive and final closure actions, and post-closure inspection and monitoring. Two years before final closure, a detailed version of the mine closure plan will have to be prepared and submitted to the Peruvian Ministry of Energy and Mines for review and approval.

Nexa has developed a robust set of policies, protocols and operational procedures and practices that aim to address various aspects of its Social Responsibility with regards to its mining operations. Atacocha's management system is based on an overarching corporate policy defining the environmental and social objectives and principles that will guide the operation to achieve sound environmental and social performance. At Atacocha, Nexa aims to work in an environment of mutual respect, transparency and collaboration with the local population, which contributes to the company's objectives and short and medium term local development.

Morro Agudo

*The most recent NI 43-101 technical report with respect to Morro Agudo is the technical report titled "Morro Agudo Project, Minas Gerais State, Brazil, NI 43-101 Technical Report on Preliminary Economic Assessment" with an effective date of July 25, 2017 (the "**Morro Agudo Technical Report**") prepared by Amec Foster Wheeler and in particular: Bill Bagnell, P.Eng., Dr. Ted Eggleston, RM SME, Douglas Reid, P.Eng., Laurie Reemeyer, P.Eng., Dr. Peter Cepuritis, MAusIMM (CP), Juleen Brown, MAusIMM (CP), and Dr. Bing Wang, P.Eng. The Morro Agudo Technical Report has been filed in accordance with NI 43-101, and is available, under Nexa's SEDAR profile at www.sedar.com.*

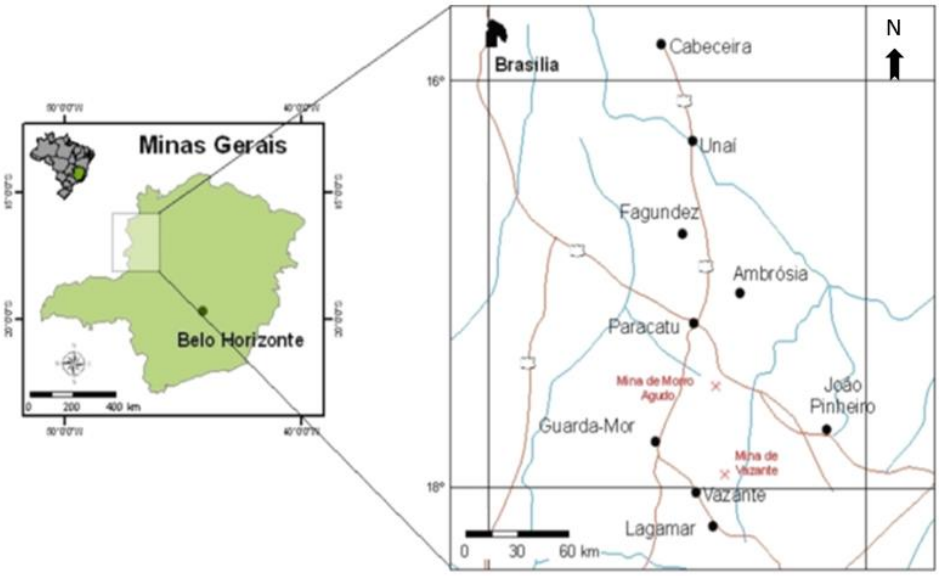
Certain of the scientific and technical information set out herein with respect to Morro Agudo is based on information presented in the Morro Agudo Technical Report. The Mineral Resources of the Morro Agudo Mine and, Bonsucesso deposit have been estimated by Nexa as of December 31, 2022. The Qualified Person for the Mineral Resources estimate is José Antonio Lopes, B.Geo., FAusIMM (CP) Geo, a Nexa Resources employee. José Antonio Lopes has also reviewed and approved certain information set out herein that has been updated since the date of the Morro Agudo Technical Report.

Project Description, Location and Access

Project Setting

The Morro Agudo project comprises the Morro Agudo Mine, and 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 mine access from Paracatu is via the sealed BR-040 highway, to highway marker km 68, a distance of about 29 km, then 16 km via unsealed roads to the mine itself. The Ambrosia Trend deposits are situated about 15 to 20 km northeast of Paracatu. Access is via MG-188 to the village of Santo Antonio, and thence via unsealed road to Rancho Alegre or Ambrosia Farm. The figure below shows the location of the Morro Agudo project.

Project Location



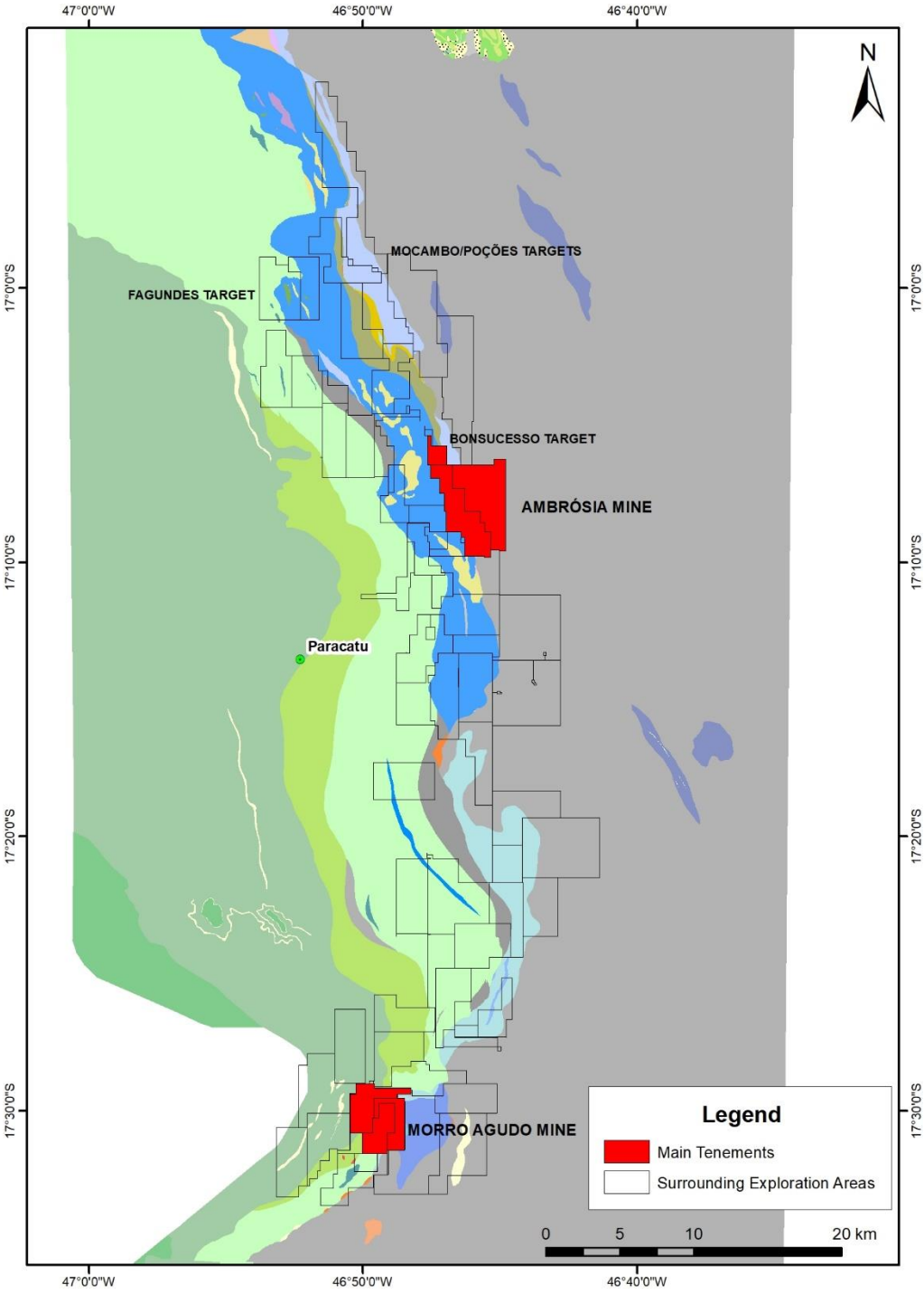
Mineral Tenures, Surface Rights, Water Rights, Royalties and Agreements

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 36 exploration authorizations totaling 28,966.4 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.

Morro Agudo Project Mineral Rights



Brazilian companies that hold mining concessions are subject to a royalty payment known as Financial Compensation for the Exploitation of Mineral Resources (Compensação Financeira pela Exploração de Recursos Minerais - "CFEM"), imposed by the National Mining Agency ("ANM"). Revenues from mining activities are subject to CFEM which is paid to the ANM. CFEM is a monthly royalty based on the sales value of minerals, net of taxes levied on the respective sale. When the produced minerals are used in its internal industrial processes, CFEM is determined based on the costs incurred to produce them or 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 and lead). The Morro Agudo Mine is not subject to any royalties other than the CFEM and royalty payments to surface rights holders if mining occurs in their property equal to 50% of the related CFEM.

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 (*Taxa Estadual de Recursos Minerais* – "TFRM").

Nexa Brazil holds two water licenses for water usage for which renewal applications have been lodged. 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.

History

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.

Modern underground mining commenced in 1988 from the Morro Agudo Mine. The Ambrosia Norte deposit was discovered in 1973, Ambrosia Sul in 2011, and Bonsucesso in 2014. Mining of the Ambrosia Sul deposit commenced in 2017. The Ambrosia mine in Morro Agudo reached the end of its LOM 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. Due to the mine closure, Nexa reviewed Ambrosia's portfolio of assets and analyzed the possibility of using these assets in other operations, such as the Bonsucesso project, which is currently in the feasibility study stage.

Production from Ambrosia Sul for the Period 2019-2021 and Morro Agudo for the Period 2020-2022 are shown below.

Ambrosia Sul Mine Production (2019 - 2022)

	Unit	2019	2020	2021
Ore Tonnage	kt	225.74	278.38	-
Waste Tonnage	kt	1,477.00	1,077.04	-
Zn Grade	%	2.83	3.62	-
Pb Grade	%	0.18	0.16	-

Morro Agudo Mine Production History (2020 - 2022)

	Unit	2020	2021	2022
Ore Tonnage	Mt	0.80	0.87	0.86
Zn Grade	%	2.15	2.18	2.30
Pb Grade	%	0.61	0.77	0.93

Geological Setting, Mineralization and Deposit Types

The Morro Agudo and Ambrosia Trend deposits are classified as examples of Irish-style sedimentary hosted deposits. Mineralization is hosted within a sequence of pelitic carbonate rocks belonging to the Morro do Calcário Formation that is part of the regional Vazante group. The deposits occur on the Brasília Fold Belt.

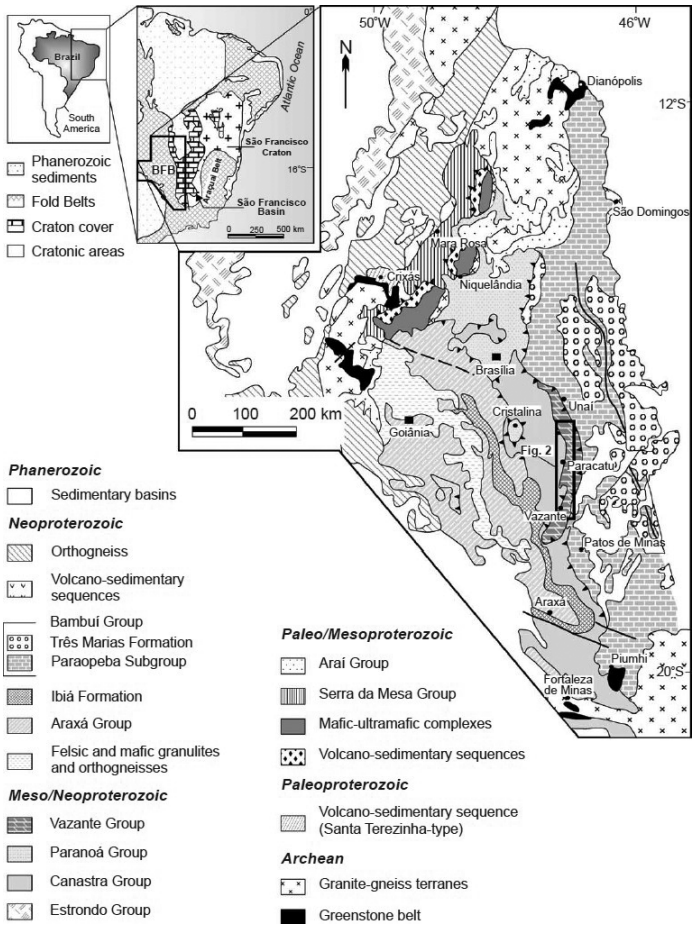
The Morro Agudo zinc and lead deposit comprises a number of concordant stratabound sulphide bodies, non-concordant remobilized sulphide (sphalerite and galena) bodies, and intra-formational dolarenites and breccias of Morro do Calcário Formation. The combined length of the known mineralized bodies at the Morro Agudo Mine is approximately 1,700 m, the width is about 1,200 m, and the bodies have a variable thickness with a maximum of about 10 m. Mineralization is bounded to the northwest by the main fault. The western limit has not yet been defined, but drilling has shown continuity of mineralization at depth. Sulphide lenses are at most,

4 m thick, separated by intervals that range from a few centimeters to several meters, depending on the lithology where they are deposited. Mine geologists have identified eight mineralized strata, denominated from G to N, from the base to the top, respectively. Sulphide mineralization can be present in the form of irregular veins of coarse sphalerite and galena, discontinuous and/or sparsely disseminated pockets of galena and coarse sphalerite, and as fine-grained sphalerite, galena, and pyrite forming clast cement and void fill.

The Ambrosia Trend deposits (Ambrosia Sul, Ambrosia Norte and Bonsucesso) occur in the pelite — carbonate rocks of the Vazante Group in a similar stratigraphic position to the Morro Agudo Mine. Mineralization is predominantly veinlike and is associated with brecciated dolomites that were tectonically interleaved in metasedimentary rocks along the Ambrosia Fault zone. In most cases, there is a single mineralized structure, but occasionally, two or more mineralized structures are present. At Ambrosia Sul, mineralization is controlled by hydrothermal breccias in a flower morphology.

Both oxide and sulphide mineralization have developed in the Morro Agudo and Ambrosia Trend deposits. Oxide mineralization is primarily in the form of smithsonite and cerussite. Sulphide mineralization is primarily sphalerite and galena. The geological setting and understanding of the mineralization setting are adequately known to support mineral resource and mineralized material estimation and mine planning. The following figure shows the regional geological setting.

Regional Geological Map of the Brasília Fold Belt



Exploration

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 2022, the brownfield exploration program was conducted to expand the mineralized zone of the Bonsucesso project to the north and in depth, confirming zinc and lead mineralization along the strike and opening the potential to further extend the mineralized bodies.

For 2023, we have budgeted a total of US$0.4 million in mineral exploration expenditures for project maintenance, as no drilling activities are scheduled for 2023.

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Drilling

In 2022, mineral exploration activities in Morro Agudo focused on the search for new mineral deposits in regions close to the unit that enable the extraction of ore and its processing at the Morro Agudo plant to extend the life of mine.

The brownfield exploration program was conducted to expand the mineralized zone of the Bonsucesso project to the north and in depth, confirming zinc and lead mineralization along the strike and opening the potential to further extend the mineralized bodies.

Our expenditures for the Morro Agudo brownfield project in 2022 were US$2.0 million directed towards drilling progress on the Bonsucesso project, and its extensions,. For 2023, we have budgeted a total of US$0.4 million in mineral exploration expenditures for project maintenance, as no drilling activities are scheduled for 2023.

Sampling, Analysis and Data Verification

Sample collection and core handling are in accordance with industry standard practices. Procedures to limit potential sample losses and sampling biases are in place. Sample intervals are consistent with the type of mineralization.

Sample preparation and analysis for exploration samples from Morro Agudo were performed at the Morro Agudo Mine laboratory from as early as 1987. That laboratory is not independent and has not been accredited. Beginning in late 2015, ALS Global was chosen as the primary laboratory. The ALS Global laboratory is independent and is ISO 9001 and ISO 17025 accredited. Sample analysis at the mine laboratory and ALS Global is performed using standard procedures that are widely used in the industry. In both cases, analytical procedures are adequate to support mineral resource and mineralized material estimation and mine planning.

The QA/QC methodology uses standards, field duplicates, pulp duplicates, coarse rejects, blanks, and external check assays. QA/QC procedures were implemented in 2011 at the Morro Agudo Mine and have improved over time. Evaluation of QA/QC data at the Morro Agudo Mine and Ambrosia Trend indicate that the analytical data are sufficiently precise and accurate to support mineral resource estimation and mine planning. Density determinations were completed using water displacement and immersion procedures and the data are considered reasonable and adequate to support mineral resource and mineralized material estimation and mine planning.

Sample security consists largely of storing core and samples in locked facilities and use of chain of custody forms to track core and sample movement. This is acceptable for high-grade zinc deposits. Management of the Morro Agudo Mine and Bonsucesso databases follows a standard procedure used for all Company databases. Prior to extracting data for mineral resource and mineralized material estimation, internal checks are made to assure that the right information is used in the mineral resource estimate. These data are also checked when data are entered into the database. When inconsistencies are discovered, corrective action is required and includes participation by the mine team and the database manager.

Data from the Morro Agudo Mine has undergone significant scrutiny since 2012. The type and amount of data validation is consistent with modern programs, the data accurately reflect the original geological logging, data locations, and assay values, and the data will support mineral resource estimation and mine planning.

Mineral Processing and Metallurgical Testing

All mineralized material is processed in the existing Morro Agudo concentrator, which has a conventional flowsheet incorporating crushing, grinding and sequential lead and zinc flotation. Metallurgical parameters are derived from a combination of plant operating history, mineralogy, laboratory and pilot scale flotation test work and assumptions.

Metallurgical test work completed to date has included mineralogy, grinding calibration tests; laboratory flotation tests; and pilot plant test work. The Morro Agudo Mine and Ambrosia Sul mineralization contain a simple mineralogical assemblage and responded well to a simple and conventional flowsheet and reagent suite.

A robust test program was conducted in respect of the Bonsucesso ore, including mineralogy, hardness tests and flotation tests. Bonsucesso presented a mineralogical assemblage very similar to Morro Agudo and hardness lower than Morro Agudo did, and those are very positive results. Bonsucesso also can be treated using a conventional flowsheet like the Morro Agudo concentrator and has presented excellent metallurgical results.

Separate zinc and lead recoveries were assigned to Morro Agudo, Ambrosia Sul and Ambrosia Norte/Bonsucesso mineralization. These are based on a combination of historical plant recoveries, metallurgical test work and assumed zinc recoveries of approximately 86.7% are achievable from Morro Agudo Mine and Ambrosia Sul mineralized material containing approximately 3% zinc. Lead recoveries are more sensitive to head grade and are more variable.

The Morro Agudo plant produces clean, low-iron, zinc concentrates. The main impurity in zinc concentrate is dolomite, which contains CaO and MgO. There are no other known deleterious elements in zinc concentrate. There are no known deleterious elements in the lead concentrate, and no penalties are applied by customers.

Mineral Resources Estimate

The Mineral Resource estimate dated December 31, 2022, for Morro Agudo and Bonsucesso project were reported using 2014 CIM Definition Standards and were completed by Nexa using Datamine Studio RM, Leapfrog Geo, and Isatis softwares. Wireframes for geology and mineralization were constructed in Leapfrog Geo 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 considering different size for each mine (Morro Agudo underground with 6m x 6m x 1m; and Bonsucesso with 2m x 12m x 5m) with sub-celling at wireframe boundaries. Blocks were interpolated with grade using Ordinary Kriging (OK) and Inverse Distance Squared (ID^2). Blocks estimates were validated using industry standard validation techniques. Classification of blocks used distance-based criteria. Mineral Resources are reported within underground mining shapes and considering the NSR cut-offs for each mine – Morro Agudo: US$ 52.243/t and Bonsucesso: US$ 55.85/t. Mineral Resources are estimated using an average long-term metal prices of Zn: US$3,250.3/t (US$1.47/lb) and Pb: US$2,350.5/t (US$1.07/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 (Morro Agudo and Bonsucesso) are 92.50% for Zn and 61.10% for Pb. A minimum thickness of 3 m was applied for Bonsucesso and 4.5 m for Morro Agudo underground. Density was assigned based on rock type.

Mineral Reserves

There are no Mineral Reserves at the Morro Agudo Mine.

Mining Operations

Mining Methods

The LOM is based on mill feed material including Inferred Mineral Resources to be sourced from the operating underground Morro Agudo Mine and Bonsucesso deposits that are assumed to be mined using underground mining methods.

The primary extraction method at the Morro Agudo Mine is inclined room-and-pillar. The mineralized zones are accessed via a ramp system. Backfill is in limited use at the Morro Agudo Mine and is specified on an operational basis depending upon the deposit geometry.

The Morro Agudo Mine is a mature operation, and staff has a well-developed understanding of the hydrogeology, geology, and mining methods required to safely extract the mineralization. Development and access profiles take advantage of the known hanging wall structural characteristics to minimize ground support requirements. Water inflows into the Morro Agudo Mine are not a major source of water volume to the mine. The Morro Agudo Mine ventilation infrastructure is essentially at the full extent of development and is not currently planned to have significant expansion going forward. The primary mine access for material and personnel is a ramp via the portal. A shaft is used primarily for hoisting mill feed and waste material and can be used as an emergency egress if necessary. Electrical power supply is in place underground. The forecast production rate is 1,100 t/d on average.

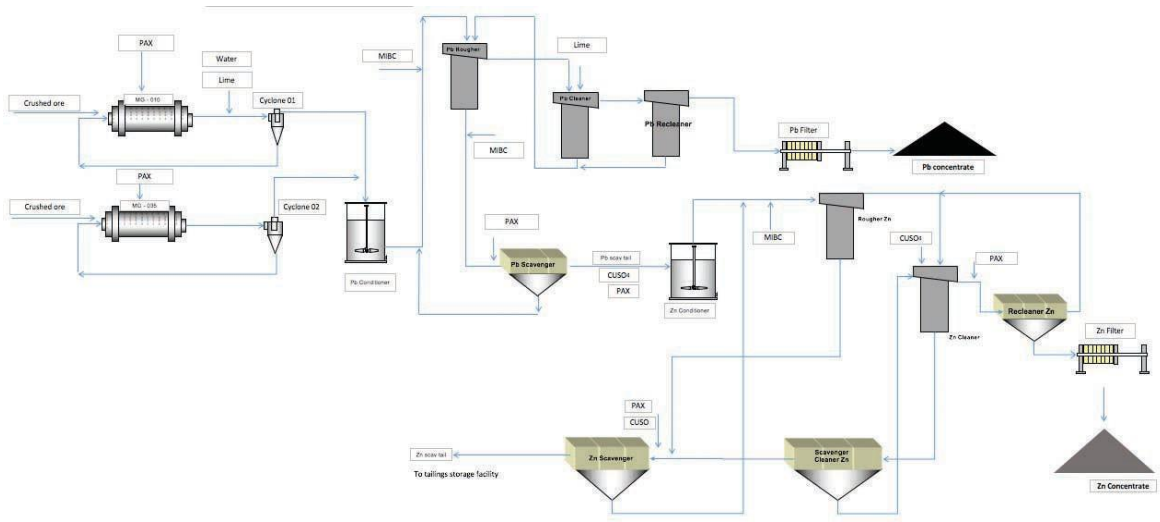
The proposed mine plan for Bonsucesso is based on a bulk mining operation using AVOCA as mining method. Uncemented waste rock backfill will be employed to fill the stopes to provide hanging wall support to reduce mining dilution. The proposed Bonsucesso underground mine will be accessed through a portal and ramp developed from surface. The current 13.8 kV power supply to the Ambrosia Sul operations will be improved to support development at Bonsucesso that will require an extension of the distribution network and an electrical substation. The forecast production rate from Bonsucesso varies from 2,000 to 3,300 t/d during LOM.

Processing and Recovery Operations

The Morro Agudo mill uses a conventional crushing, grinding and flotation circuit to produce separate lead and zinc sulphide concentrates. The Morro Agudo plant design has developed since 2003 with a number of debottlenecking and improvement projects. In 2003, Mill 2 was installed, increasing the capacity of the plant from approximately 750,000t/a capacity to 1,150,000t/a. Flotation columns were installed in the lead and zinc circuit that year. Additional flotation cells were installed to increase lead recovery. In 2016, the Eriez Stack Cell was installed as the lead second cleaner. The plant capacity is significantly in excess of the tonnages to be treated in the LOM plan.

Zinc concentrate is transported to the Company's Três Marias zinc smelter. The smelter process concentrates from silicate concentrates from the Company's Vazante operations, sulphide concentrates from the Morro Agudo Mine and sulphide concentrates from external parties in a ratio of approximately 70%:13%:17%. The concentrates from the Morro Agudo, and the proposed Morro Agudo project concentrates, are important for the viability of Tres Marias, as they provide a local and accessible source of sulphide concentrates with low iron, which can be fed in ratio with the Vazante silicate concentrates. This helps produce sufficient sulphuric acid and leach solutions in appropriate ratios to optimize smelter production and economics. The following figure illustrates the process flowsheet.

Milling and Flotation Flowsheet



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.

Morro Agudo Circuit Metallurgical Performance (2020 – 2022)

	Unit	Item	2020	2021	2022
Production	tonnes		1,180,621	982,036	1,016,568
Mill Head Grade	%	Pb	0.49	0.73	0.85
	%	Zn	2.41	2.05	2.06
Pb Concentrate	%	Pb Recovery	69.20	65.40	72.64
	%	Pb Grade	50.06	44.24	44.97
Zn Concentrate	%	Zn Recovery	88.40	85.89	89.24
	%	Zn Grade	40.80	37.97	37.69

Infrastructure, Permitting and Compliance Activities

Project Infrastructure

All infrastructure required for the current Morro Agudo Mine mining and processing operations has been constructed and is operational. This includes the underground mine, access roads, powerlines, water pipelines, offices and warehouses, process plant/concentrator, conveyor systems, waste rock facilities, temporary mill feed stockpiles and tailings storage facilities.

The Bonsucesso project is a brownfield underground mine project that belongs to the Morro Agudo complex (Ambrosia Trend) and is expected to extend the LOM 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 it was concluded in 2022. The total investments related to this project, as of December 31, 2022, totaled US$10.3 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 2022, the exploration program was focused on the northern, central and southern part of the Bonsucesso deposit, confirming mineral resources and extending the mineralization. In addition, an initial drilling program was carried out at the Poções target (extension of the Bonsucesso and Ambrosia trend) which confirmed the presence of zinc and lead mineralization 4 km from the last mineralized drill hole at Bonsucesso, opening the potential for expansion.

Our expenditures for this project in 2022 were US$2.1 million, which was primarily related to exploration and geological activities. In 2022, we drilled 20 exploration drill holes in Bonsucesso, including Bonsucesso mineralized bodies extension and Poções target definition, totaling approximately 8.1 km. In 2023, we have budgeted US$0.4 million for mineral exploration, but we do not expect to drill in the Bonsucesso deposit.

We are revisiting the project and the potential impact on the LOM of the Morro Agudo Mine, taking into consideration our capital allocation strategy and our focus on free cash flow generation.

Environmental, Permitting and Social Considerations

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 and, some of them are under renewal process.

Tailings management at the Morro Agudo Mine consists of three tailings storage facilities, denoted as Deposit 1, 2, and 3. Water is recovered in the deposits and returned to the process plant. Embankment raises are not planned for the deposits as increases in the total volume of the reservoirs are limited by the extraction and sale of the contained tailings. Dam safety inspections are carried out by Company professionals on a monthly basis and by third-party consultant, Geoconsultoria, annually.

The approved water monitoring plan requires monitoring of groundwater quality, surface water for physical, chemical and hydrobiological parameters, as established in the three operating licenses. In addition, Nexa's licenses have an annex, called annex 2, which establishes a self-monitoring program that provides the type of monitoring, points, frequency and parameters. Tailings dams have a diversion channel to secure the areas upstream and downstream of the dams. The main sources of water for operations are from recycled water from the mine, and from the TSFs. In 2020, the Bonsucesso project obtained the environmental approval for the installation phase.

In partnership with the appropriate internal and external resources, Company staff developed and implemented a Community Engagement Relations Plans by determining the potentially impacted communities and probable partner stakeholders that could be potentially impacted; defining issues that are important to stakeholders; and establishing objectives consistent with what the Company and the affected communities wish to accomplish.

Other Projects

Nexa has interests in several exploration projects, including two projects in Peru (Hilarión, and Florida Canyon Zinc). Such projects are undergoing preliminary studies.

Hilaríon

*The most recent NI 43-101 technical report with respect to Hilarión is the technical report titled "Technical Report on the Hilarión Project, Ancash Region, Peru" with an effective date of February 14, 2020 (the "**Hilarión Technical Report**") prepared by RPA and in particular: Jason J. Cox, P.Eng., Normand Lecuyer, P.Eng., Rosmery J. Cardenas Barzola, P.Eng., Brenna J. Y. Scholey, P. Eng., and Luis Vasquez, M.Sc., P. Eng. The Hilarión Technical Report has been filed in accordance with NI 43-101, and is available, under Nexa's SEDAR profile at www.sedar.com. The scientific and technical information set out herein with respect to Hilarión is based upon information prepared by or under the supervision of a Qualified Person involved with the preparation of the Hilarión Technical Report or approved by such person.*

Certain of the scientific and technical information set out herein with respect to Hilarion is based on information presented in the Hilarion Technical Report. The Mineral Resources for the Hilarion Project have been estimated by Nexa as of December 31, 2019 and reviewed by a Qualified Person. The Qualified Person for the Mineral Resources estimate is José Antonio Lopes, B.Geo., FAusIMM (CP) Geo, a Nexa Resources employee. José Antonio Lopes has also reviewed and approved certain information set out herein that has been updated since the date of the Hilarion Technical Report.

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 72 mineral concessions covering an area of approximately 15,841.3 hectares. Hilarión is a skarn mineral deposit made of vertical tabular ore bodies containing sulphide 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 244.0 km on the Hilarión and El Padrino deposits. During 2018-2019, two additional drilling campaigns totaling 17.1 km were carried out. The recent 2018-2019 drilling predominantly focused on the Hilarión North zone.

In 2020, we drilled 5 drill holes totaling 4.6 km 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.

In 2022, mineral exploration activities started with a geological review of recent project data and with an aero magnetometry survey to structure the drilling program that began in the second quarter, focused on the target Hilarión West, with the objective of finding new mineralized zones and expand the known mineralization. Drilling at the Hilarión West target confirmed the presence of mineralization to the west of known bodies and their continuities with a total of 7.2 km of drilling, indicating solid potential for resource expansion. In 2022, we spent approximately US$6.2 million on the Hilarión project, including project maintenance and exploration activities such as geological mapping, rock chipping, diamond drilling and social permitting to continue the exploration work for the coming years.

In 2023, we have budgeted US$3.5 million for the Hilarion project and planned 3.0 km of diamond drilling to drill at two targets: El Padrino and Chaupijanca.

Florida Canyon Zinc

The most recent NI 43-101 technical report with respect to Florida Canyon Zinc is the technical report titled "NI 43-101 Technical Report, Preliminary Economic Assessment, Florida Canyon Zinc Project, Amazonas Department, Peru" with an effective date of July 13, 2017 (the "Florida Canyon Zinc Technical Report") prepared by SRK Consulting (U.S.) Inc. ("SRK") and in particular: Walter Hunt, CPG, J.B. Pennington, MSc, CPG, AIPG, Daniel H. Sepulveda, Joanna Poeck, BEng Mining, SME-RM, MMSAQP, Jeff Osborn, BEng Mining, MMSAQP, James Gilbertson, MCSM, CGeol, FGS, and John Tinucci, Ph.D., P.E. The Florida Canyon Zinc Technical Report has been filed in accordance with NI 43-101, and is available, under Nexa's SEDAR profile at www.sedar.com.

Certain of the scientific and technical information set out herein with respect to Florida Canyon Zinc is based on information presented in the Florida Canyon Zinc Technical Report. The Mineral Resources for the Florida Canyon Zinc Project have been estimated by Nexa as of October 30, 2020 and reviewed by a Qualified Person. The Qualified Person for the Mineral Resources estimate is José Antonio Lopes, B.Geo., MAusIMM (CP) Geo, a Nexa Resources employee. José Antonio Lopes has also reviewed and approved certain information set out herein that has been updated since the date of the Florida Canyon Zinc Technical Report.

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. in existence since 2006. As of December 31, 2022, Nexa Peru owns a 61.00% interest in this joint venture, which may increase up to 70.00% 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.

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-sulphide) by using qualitative and quantitative analytic data, that helped in ore classification for the 2020 mineral resource estimation.

In 2021, field work focused on mapping an access road from 0 km up to 19.5 km, and mapping, sampling and conducting a topographic survey of the Teodolfo, Matias, Berny, and Pizarro targets, in addition to a new mineral occurrence named Aron, as well as metallurgical testing using historic drill core material.

In 2022, our objective at the Florida Canyon project was focused on advancing the opening of the road that connects the project structures to the main camp, which we expect to optimize logistical costs for future drilling campaigns. In addition, geometallurgical tests were carried out to establish better mineralogical and metallurgical

knowledge of the deposit, which showed high recovery of zinc and lead concentrates, as well as the presentation of the fifth environmental modification to the competent body to release drilling from 2023.

We spent approximately US$3.7 million on this project in 2022 and we have budgeted US$4.0 million for the Florida Canyon project in 2023, including 4,000 meters of drilling to expand the known mineralization in Florida Sur, road maintenance and construction of the final stretch that connects the road to the main exploration camp in the drilling area, maintenance of the project structure, and social programs.