



## **NEXA ANNOUNCES PEA FOR POTENTIAL ANNUAL PRODUCTION OF 150KT OF ZINC EQUIVALENT - HILARIÓN PROJECT**

**Luxembourg, March 05, 2020** - Nexa Resources S.A. ("Nexa Resources" or "Nexa" or the "Company") (NYSE and TSX Symbol: "NEXA") is pleased to announce the results of a Preliminary Economic Assessment ("PEA") for its Hilarión Project ("Hilarión" or "Hilarión Project" or "Project"), a potential underground mine located in Peru. A technical report summarizing the PEA entitled "Technical Report on the Hilarión Project, Department of Ancash, Peru" dated February 14, 2020, with an effective date of December 31, 2019 (the "Technical Report") was filed on SEDAR today.

The Hilarión Project, which is part of Nexa's strategy of reaching full integration of mining and smelting operations, is 100% owned by Nexa Perú, an 80% owned subsidiary of Nexa Resources.

Hilarión has one of the largest Mineral Resources estimate among the undeveloped zinc projects in Latin America, according to SNL Metals & Mining 2019 data, with Measured and Indicated Resources estimated to contain 2.1 million tonnes of contained zinc and inferred resources estimated to contain 0.9 million tonnes of contained zinc.

### **Highlights of Hilarión PEA**

- The Measured and Indicated Mineral Resources of the Hilarión deposit are estimated to total 58.0Mt at 3.52% Zn, 0.64% Pb, and 28.6 g/t Ag. In addition, Inferred Mineral Resources are estimated to total 21.5Mt at 3.28% Zn, 0.78% Pb, and 28.5 g/t Ag, using a minimum width of 3 meters for mineralized bodies and US\$35.00/t NSR cut-off for sub-level stoping resource reporting shapes (SLS resource shapes). The Mineral Resources estimate is based on drilling until December 5, 2014. An additional 17,126 meters have been drilled since then and 6,000 meters are being planned for 2020.
- A total of 44.7Mt grading 3.54% Zn, 0.72% Pb, 0.06% Cu, 30.43 g/t Ag was considered in the life of mine ("LOM") plan of the PEA.
- The Hilarión deposit contains other zones of zinc, lead, silver, and copper mineralization hosted in the Pariatambo limestone formation, located adjacent to the current Mineral Resources, that require additional exploration and demonstrate the excellent exploration potential in the area.
- The Project contemplates the exploitation of the Mineral Resources of the Hilarión deposit only and does not include El Padrino deposit. The planned production rate is 10,000tpd over a 16-year period.
- Mill recovery averages 90% for zinc, 86% for lead, 80% for silver over LOM with no copper recovery estimated in the PEA.
- The average annual metal production is estimated at 115kt of zinc, 2.6Moz of silver and 20kt of lead, which represents approximately 150kt of zinc equivalent.

- The Project has an estimated CAPEX of US\$585 million. An additional US\$165 million of sustaining capital is estimated during the LOM, which includes US\$44 million in mine closure cost.
- The Project generates an after-tax net present value (NPV) of US\$231 million (at a discount rate of 8%) and an after-tax internal rate of return (IRR) of 15.5% (both in real terms), based on consensus long-term metal prices and zinc concentrate production to be processed at Cajamarquilla smelter.

Commenting on the PEA, Tito Martins, CEO of Nexa Resources, said “The Hilarión Project is part of our organic growth strategy of achieving full integration in our smelting and mining operations. We are still in the early stages of the Project and we believe Hilarión has good potential to generate value in the medium to long term.”

“The initial results of the PEA are promising and we intend to continue progressing our 2020 exploration campaign, targeting the north and south extensions of the Hilarión deposit. In addition, we are working on a new geological model to incorporate the latest exploration results and the metals not included in the current valuation model, which should better reveal the potential of value creation at the Hilarión Project”, mentioned Mr. Martins.

The economic analysis contained in the Technical Report assumes that production at Hilarión will be fully integrated with our smelter and it represents a conceptual study of the potential viability of the Mineral Resources that have been defined until the drilling cut-off date on the Project. There is no certainty that economic forecasts on which the PEA is based will be realized.

Based on the results of the PEA and the 2018-2019 drilling results (not incorporated in the model), Nexa plans to continue to progress with its drilling campaign, update the resource block model and expects to proceed with a pre-feasibility study of the Project in the medium-term.

The PEA Technical Report on the Hilarión Project was prepared jointly by Nexa and Roscoe Postle Associates Inc. (“RPA”) in accordance with the Canadian Securities Administrator’s National Instrument 43-101 - Standards of Disclosure for Mineral Projects (“NI 43-101”), and it is available on the Company’s website ([ir.nexaresources.com](http://ir.nexaresources.com)) and on SEDAR ([www.sedar.com](http://www.sedar.com)).

## Overview

The Hilarión Project is located in the Department of Ancash, approximately 230 km north of the capital of Peru, Lima, and approximately 80 km south of the city of Huaraz. It consists of 70 mineral concessions covering an area of approximately 15,029.69 ha and one mineral claim totaling 334.51 ha.

The Project is accessible by paved road from Lima, via the cities of Pativilca, Conococha, and Pachapaqui, with an estimated travel time of seven hours to cross approximately 400km. Alternatively, the Project can be accessed by road from Huaraz south along paved Route 3N (Longitudinal de la Sierra), through Huallanca to the Pallca turn-off, then south along a secondary road for approximately 15 km.

From 2005 to 2014, in addition to mapping, remote sensing, topographical and geophysical surveys, Nexa completed four drilling campaigns totaling 243,960 meters on Hilarión and El Padrino deposits. During 2018-2019, two additional drilling campaigns totaling 17,126 meters were carried out. The recent 2018-2019 drilling predominantly focused on the Hilarión North zone is not incorporated in the current Mineral Resources estimate and was not used in the PEA.

In 2020, Nexa plans to execute 6,000 meters of drilling targeting the extension of the Hilarión mineralization trend to the northeast towards Mia and Eureka targets.

The proposed operation will consist of a 10,000 tonnes per day (tpd) mine and a conventional comminution and flotation plant producing saleable bulk lead-silver and zinc concentrates at an annual throughput of 3.65Mt of ore.

The Hilarión Project is part of Nexa’s strategy of reaching full integration of mining and smelting operations with self-sufficiency of concentrates for the three smelter operations. The zinc concentrate that will be produced on the LOM plan of Hilarión is proposed to be treated in the Cajamarquilla smelter. The assumed conversion cost is approximately US\$484.44/t of contained zinc in concentrate, at an overall zinc recovery of 97.5%, which includes transport cost of approximately US\$55/dmt.

Hilarión is classified as a skarn deposit containing zinc, lead, copper, silver and gold occurring in the rims of intrusive rocks that generates metasomatism in the carbonatic rocks of the Pariatambo Formation. 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 Project is located 50 km south of Antamina in a mining district with operating mines of Atalaya, Huanzala, Pucarrajo for several decades, and close to local communities. Environmental monitoring and social impacts programs have been ongoing. Nexa has already developed relationships with the local community and the social due diligence review



indicates that the current and proposed programs are a positive contribution to sustainability and community well-being.

## Mineral Resources

Measured and Indicated Mineral Resources for Hilarión and El Padrino are estimated to total 58.96 Mt at 3.53% Zn, 0.64% Pb, and 28.7 g/t Ag (as of December 31, 2019 with a drilling cutoff date of December 5, 2014). In addition, Inferred Mineral Resources are estimated to total 25.34 Mt at 3.52% Zn, 0.69% Pb, and 28.4 g/t Ag. Resources used a minimum width of 3 meters and US\$35/t NSR cut-off value for SLS resource shapes for Hilarión deposit, and a US\$45/t NSR cut-off value for SLS resource shapes and US\$50/t NSR cut-off value for Room and Pillar (R&P) resource shapes for El Padrino deposit. El Padrino deposit is not included in the PEA.

In this update, Nexa has maintained its resource block modelling from 2017 but updated resource reporting using a 3 meters minimum thickness criteria based on resource shapes, NSR cut-off values and long-term metal prices.

### Mineral Resources Estimate as at December 31, 2019

Deposit	Classification	Tonnes (Mt)	Grade				Contained Metal			
			Zinc (%)	Lead (%)	Silver (g/t)	Copper (%)	Zinc (000 t)	Lead (000 t)	Silver (Moz)	Copper (000 t)
Hilarión	Measured	24.73	3.43	0.72	32.8	-	847.2	177.3	26.1	-
	Indicated	33.27	3.59	0.59	25.5	-	1,195.8	195.2	27.3	-
	<b>M + I</b>	<b>58.00</b>	<b>3.52</b>	<b>0.64</b>	<b>28.6</b>	-	<b>2,043.0</b>	<b>372.5</b>	<b>53.4</b>	-
	Inferred	21.54	3.28	0.78	28.5	-	706.1	167.6	19.8	-
El Padrino (not included in PEA)	Measured	-	-	-	-	-	-	-	-	-
	Indicated	0.95	4.31	0.26	33.9	0.16	41.1	2.4	1.0	1.6
	<b>M + I</b>	<b>0.95</b>	<b>4.31</b>	<b>0.26</b>	<b>33.9</b>	<b>0.16</b>	<b>41.1</b>	<b>2.4</b>	<b>1.0</b>	<b>1.6</b>
	Inferred	3.80	4.87	0.18	27.7	0.48	185.1	6.7	3.4	18.3
<b>Total</b>	<b>Measured</b>	<b>24.73</b>	<b>3.43</b>	<b>0.72</b>	<b>32.8</b>	-	<b>847.2</b>	<b>177.3</b>	<b>26.1</b>	-
	<b>Indicated</b>	<b>34.23</b>	<b>3.61</b>	<b>0.58</b>	<b>25.7</b>	-	<b>1,237.0</b>	<b>197.7</b>	<b>28.3</b>	-
	<b>M + I</b>	<b>58.96</b>	<b>3.53</b>	<b>0.64</b>	<b>28.7</b>	-	<b>2,084.1</b>	<b>374.9</b>	<b>54.4</b>	-
	<b>Inferred</b>	<b>25.34</b>	<b>3.52</b>	<b>0.69</b>	<b>28.4</b>	-	<b>891.2</b>	<b>174.3</b>	<b>23.1</b>	-

Notes to Mineral Resources Table:

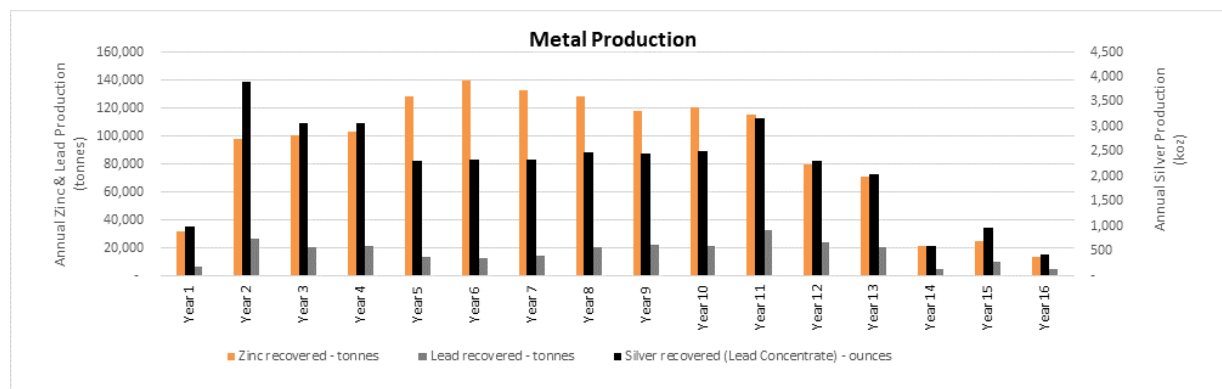
1. CIM (2014) definitions were followed for Mineral Resources.
2. Mineral Resources are estimated at an NSR cut-off value of US\$35.00/t for the Hilarión deposit and an NSR cut-off value of US\$45.00/t for SLS resource shapes and US\$50.00/t for R&P resource shapes for the El Padrino deposit.
3. Mineral Resources are estimated using an average long-term metal prices of Zn: US\$2,956.65/t (US\$1.34/lb); Pb: US\$2,303.14/t (US\$1.04/lb); Cu: US\$7,523.30/t (US\$3.41/lb); and Ag: US\$19.61/oz.
4. A minimum mining width of three meters was used for Hilarión and El Padrino.
5. Bulk density varies depending on mineralization domain.
6. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.
7. Numbers may not add due to rounding.

## Production plan and PEA summary

The PEA considers only the proposed production from the Hilarión deposit. El Padrino deposit will be evaluated in future test work and could provide additional potential. The two deposits are approximately three kilometres apart and Nexa considers that these would likely be developed and exploited initially as two separate mines with joint infrastructure, joining up underground later in the mine life.

The Hilarión deposit will use two bulk mining methods - Sublevel Longhole Stopping, with loose backfill and Transverse Longhole Stopping, using paste backfill. The deposit has a favourable sub-vertical geometry, thereby allowing for good operating parameters and use of gravity to enable good muck flow. The main zone of the deposit indicates an average width of approximately 16 m while there are numerous veins that on average are approximately 6.5 m wide. The mine will be accessed using multiple ramp entry points and a 3 km conveyor tunnel or ramp.

The proposed LOM indicates an average overall production rate of 7,800tpd over the full 16 years of the LOM with a production rate in excess of 10,000tpd for a ten-year period from year two to year eleven of the LOM. In terms of metal production Hilarión would have an average annual production of 115kt of zinc, 20kt of lead and 2.6Moz of silver, which represents approximately 150kt of zinc equivalent<sup>1</sup>.



The processing plant conceptual design is based on locked cycle tests and pilot plant test work conducted at Certimin in 2015, in addition to earlier bench scale test work, typical processing methods for polymetallic deposits of this sort, and design criteria provided by RPA and Nexa. The plant would process approximately 3.65Mtpa through conventional comminution and flotation circuits to produce saleable bulk (lead-silver) and zinc concentrates. The potential to produce a copper concentrate if processing ore from El Padrino will be evaluated in future test work.

Estimates for metals recovery to concentrate, as well as concentrate grades were based on LCTs and pilot tests conducted at Certimin in 2015. Lead and silver recovery to the bulk lead-silver concentrate were estimated at approximately 86% and 80%, respectively, with a lead concentrate grade of approximately 55%. Zinc recovery to the zinc concentrate was

<sup>1</sup> Zinc equivalent (Zn Eq) was calculated based on the following metal prices: Zn: US\$2,921.95/t (US\$1.33/lb); Pb: US\$2,242.43/t (US\$1.02/lb); Cu: US\$6,523.04/t (US\$2.96/lb); Mo: US\$20,988.00/t (US\$9.52/lb); Ag: US\$15.71/oz and Au: US\$1,268.49/oz, and the following metallurgical recovery assumptions: Zn=90%, Pb=95%, Cu=95%, Mo=65%, Au=80%, Ag=60%.

estimated to be 90%, with a zinc concentrate grade of 50%. There is potential for recoveries to improve as test work continues in efforts to optimize process efficiency and economics.

<b>Production Summary</b>		
<b>Physicals</b>		
Pre-production period	month	Approximately 24
Mine life – Hilarión deposit only	years	16
Total processing		44.7 Mt@3.54% Zn, 0.72% Pb, 0.06% Cu, 30.43 g/t Ag
Mill recovery	%	90% for zinc, 86% for lead and 80% for silver
Processing plant throughput	t/d	10,000
Average zinc concentrate	dmt/year	220,000
Average lead-silver concentrate	dmt/year	37,000

### Financial numbers and costs

The proposed Hilarión operating costs were developed based on current wage rates in Peru in addition to the cost for consumables and equipment maintenance. Estimated performance rates of the various activities such as development, production drilling, loading, blasting and mucking also formed the basis of the costs identified. Mine development and haulage costs were based on current contractor rates for such activities. The operating costs include direct labour, consumables, equipment operating and maintenance costs, and supervision costs.

The project generates an undiscounted pre-tax cash flow of US\$1,450 million over the LOM, and simple payback occurs five years from the start of production. The undiscounted after-tax cash flow totals US\$847 million.

<b>Financial Summary</b>			
<b>Costs</b>			
Pre-production capital expenditure		585	
Mine		103	
Plant		221	
Surface Infrastructure	US\$ million	37	
Indirect Costs		107	
Contingency (25%)		117	
Total LOM capital expenditures		750	
Average operating cost over the LOM		34.45	
Mining cost	US\$/t processed	18.20	
Processing cost		13.25	
G&A		3.00	
<b>Taxes</b>			
Income taxes based on a rate	%	29.5	
<b>Results</b>		<b>Pre-tax</b>	<b>After-tax</b>
Net cash flow	US\$ million	1,450	847
Payback	Years	5.0	
NPV (8% discount rate)	US\$ million	511	231
IRR	%	22.4	15.5

Hilarión Project cash flow was calculated based on the following metal prices: Zn: US\$2,921.95/t (US\$1.17/lb); Pb: US\$2,242.43/t (US\$0.91/lb); Ag: US\$17.05/oz. In addition, based on integration with Cajamarquilla, the assumed conversion cost was approximately US\$484.44/t.

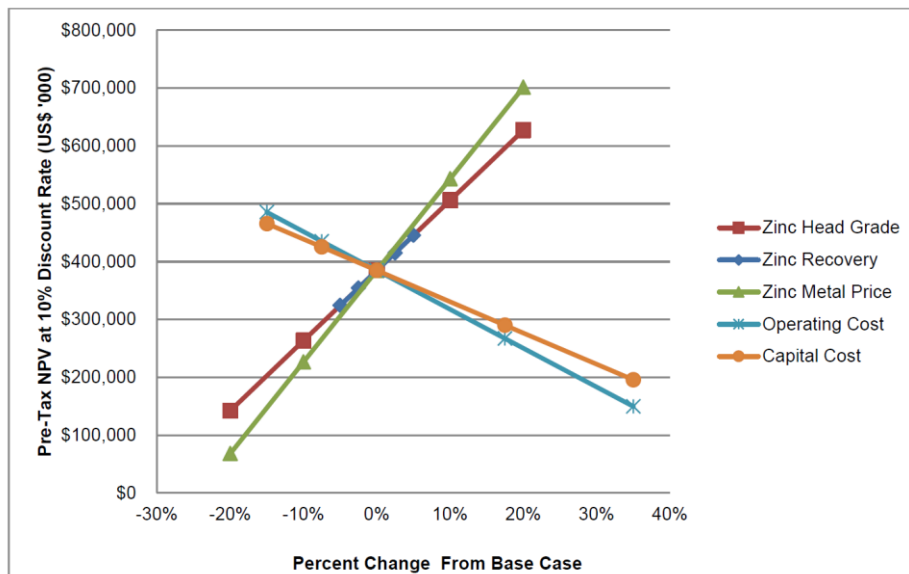
The economic analysis contained in the Technical Report is based, in part, on Inferred Resources, and is preliminary in nature. Inferred Resources are considered to be geologically speculative to have the economic considerations applied to them that would enable them to be categorized as Mineral Reserves. There is no certainty that economic forecasts on which this PEA is based will be realized.

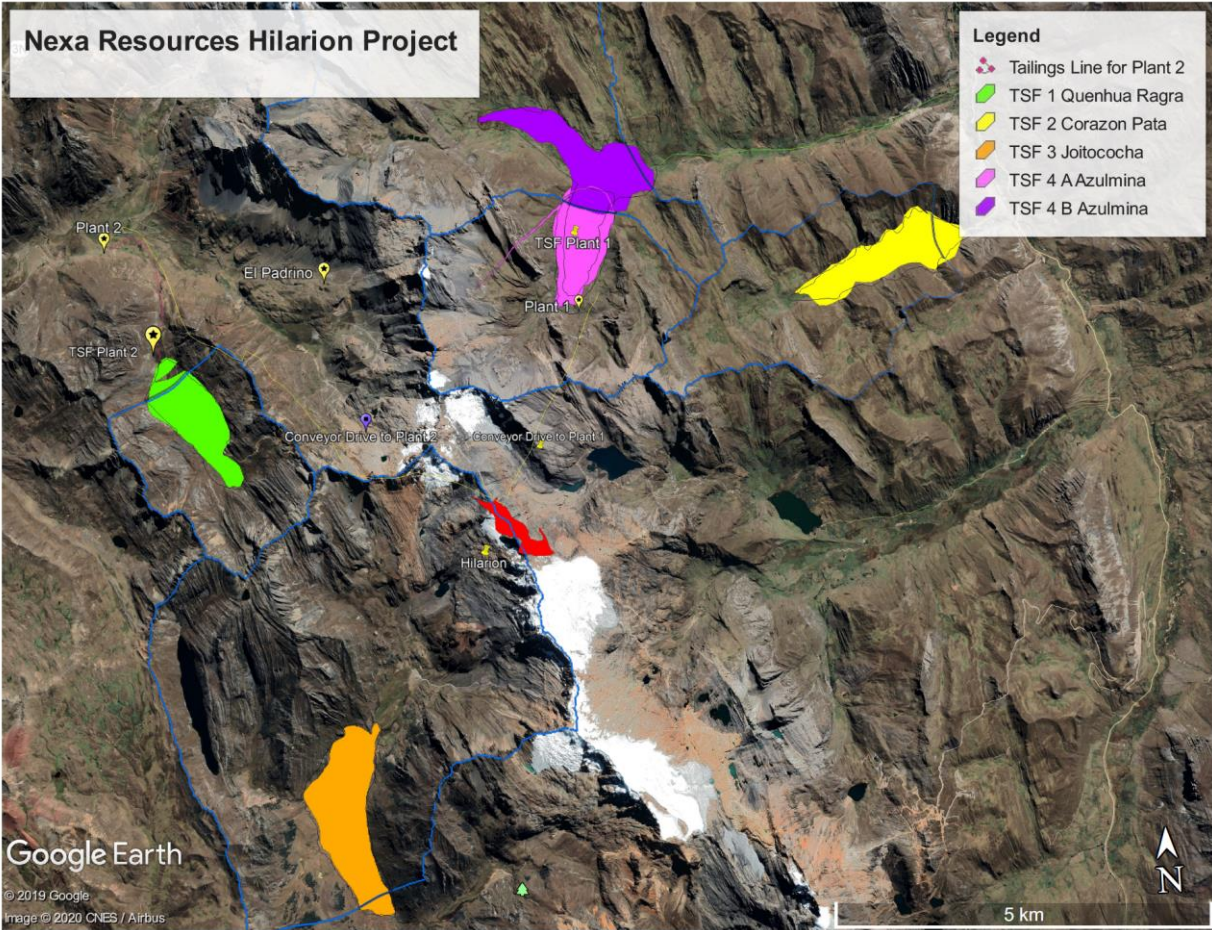
### Sensitivity Analyses

Project risks can be identified in both economic and non-economic terms. Key economic risks were examined by running cash flow sensitivities:

- Metal prices
- Exchange rate
- Head grades
- Recovery
- Operating costs
- Capital costs

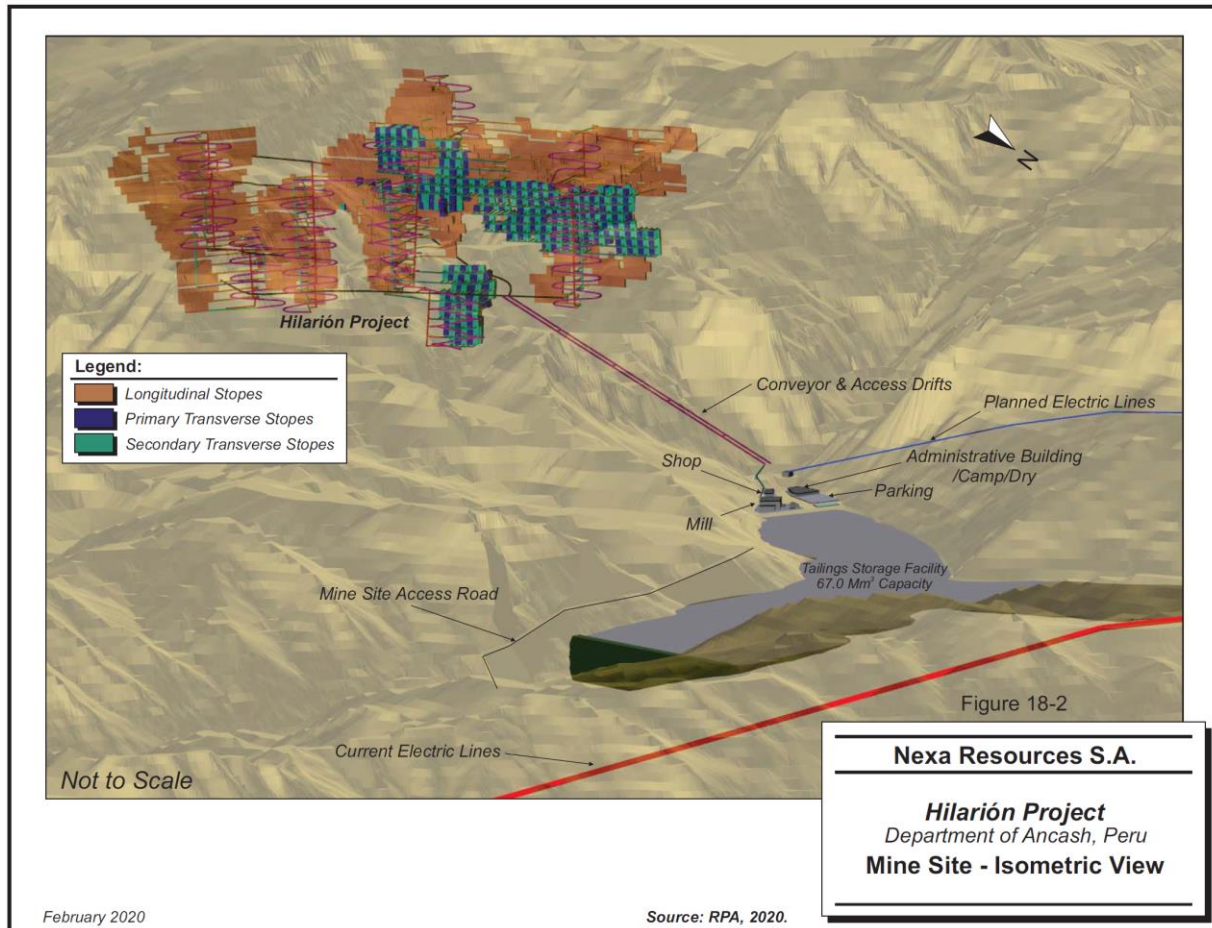
Pre-tax NPV sensitivity over the base case has been calculated for -20% to +20% variations. The operating and capital costs are estimated at -15% to +35% and zinc recovery is estimated at -3%, -5%, +2% and +5%.





Hilarion Project layout





*Hilarion Project – mine and plant layout*

### Opportunities and exploration potential

According to the new geological interpretation, the Hilarion and El Padrino deposits are located within two parallel northwest mineralized trends with 5 km of strike length including several surface mineral occurrences. Mia and Eureka targets are located in the eastern mineralized trend north of Hilarion deposit. El Padrino deposit is located in the western mineralized trend. Both deposits are open along strike and at depth as defined by the drilling campaigns executed throughout 2018 and 2019.

The exploration drilling campaigns executed in 2018 and 2019 defined wide mineralized intersections with high gold grades including an intersection of 61.8 m @ 0.43% Zn, 0.29% Pb, 768.40ppm Mo, 5.99g/t Au and 62.26g/t Ag. This intersection is completely open for future exploration and may have potential for aggregating relevant content of precious metals to the Project in the future.

Copper was not included in the Hilarion deposit mineralization solids as the current model was based only on zinc mineralization. A quick analysis of the copper drill hole database and geological sections shows significant copper grades outside the zinc mineralized bodies. A new geological model is presently under development and copper mineralization will be

included which is expected to add value to the mineralized blocks and potentially increase the NSR value.

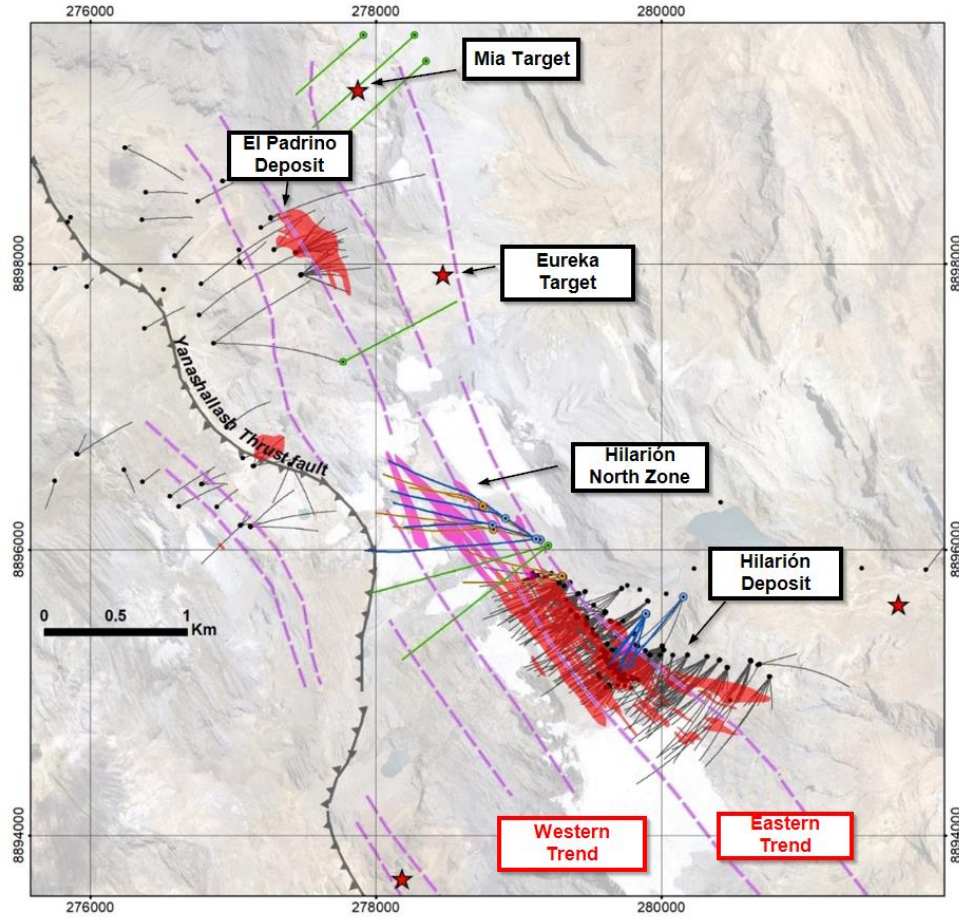
Eureka and Mia, located 2 and 3 km north of Hilarión deposit respectively, have outcropping mineralization mapped and sampled on the surface. These two occurrences represent the mineralization continuity of the Hilarión deposit and there is a good potential to add mineralization for 2 km or 3 km along the strike.

El Padrino is open in all directions and there is a good potential to increase resources with additional exploration and infill drilling. This drilling will be tied in with metallurgical test work to support a future mine plan. The inclusion of El Padrino resources could extend the Hilarión LOM and add value to the Project due to its higher copper grades associated with zinc mineralization.

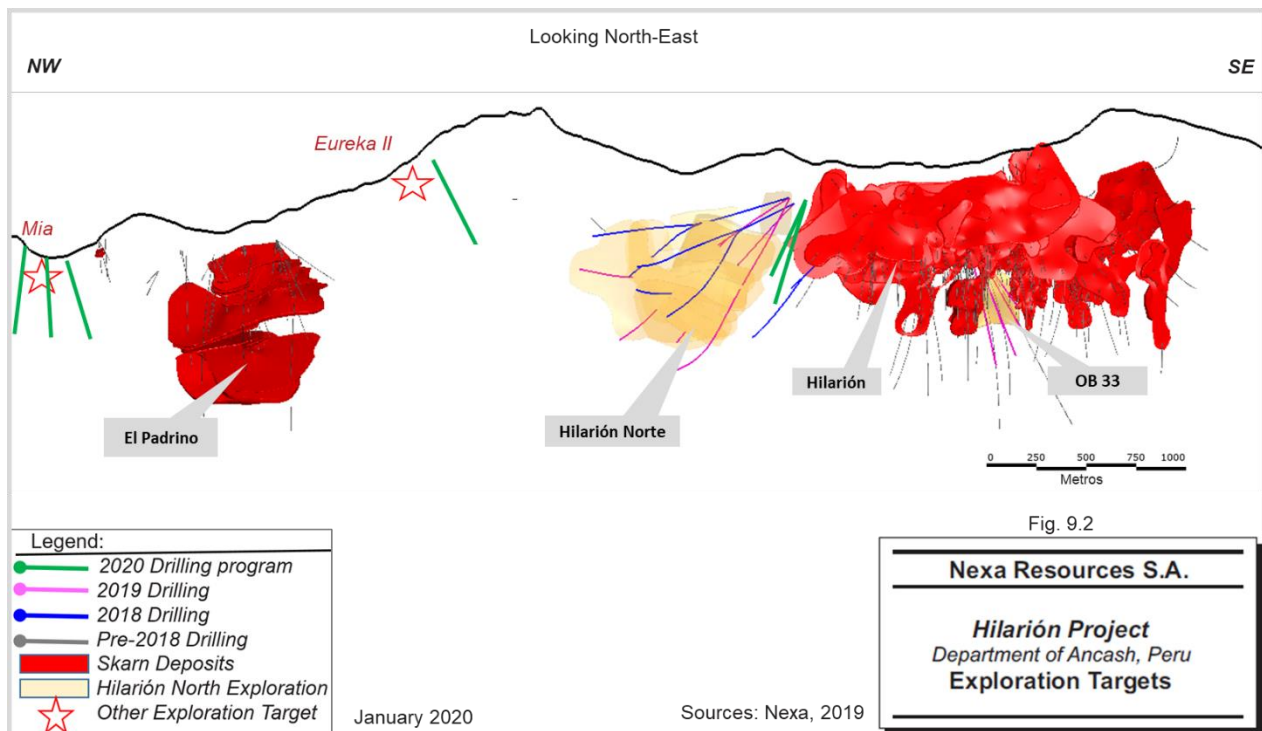
### **Next steps**

Nexa is continuing to pursue the strategy of full integration of mining and smelting operations with the positive results of Hilarión Project PEA. To improve the competitiveness of the Hilarión Project and maximize the economic return, the following steps are estimated to be undertaken:

1. update the Hilarión Mineral Resources block model with the 2018-2019 drilling and build a new geological model based on all relevant metals, to incorporate all metal values that is expected to result in increasing the NSR values of the resources;
2. continue exploration drilling in the eastern trend of the Hilarión deposit towards the Eureka and Mia targets that could expand Mineral Resources integrated in the future with Hilarión Project;
3. obtain permits to develop initial drifts for detailed exploration drilling between Hilarión and El Padrino to convert exploration potential defined by wide spaced drilling into Mineral Resources, and potentially extend the life of mine and increase production capacity;
4. execute a drilling program on El Padrino to potentially upgrade and increase Mineral Resources that could be included in the Hilarión Project LOM; and
5. develop a new metallurgical testwork program for the Project considering the recovery of other base and precious metals to increase the competitiveness of the Hilarión Project, and increase zinc concentrate grades.



Hilarion and El Padrino deposits and exploration drilling program for 2020.



## Technical Information

The scientific and technical information contained in this news release has been reviewed, verified and approved by RPA, based on the requirements of NI 43-101. The Technical Report entitled "Technical Report on the Hilarión Project, Department of Ancash, Peru" dated February 14, 2020, with an effective date of December 31, 2019, was prepared by Jason J. Cox, P.Eng., Normand L. Lecuyer, P.Eng., Rosmery J. Cárdenas Barzola, P.Eng., Brenna J.Y. Scholey, P.Eng. of RPA Inc., and Luis Vasquez, P.Eng. of SLR Consulting (Canada) Ltd., each of whom are independent "qualified persons" as defined NI 43-101 and has been filed with Canadian securities regulators and is available under the Company's SEDAR profile at [www.sedar.com](http://www.sedar.com). Such report includes relevant information regarding, among others, the effective dates and the assumptions and parameters relating to mineral reserves and resources cited in this news release, as well as information regarding data verification, exploration procedures and other matters relevant to the scientific and technical disclosure contained in this news release.

## About Nexa

Nexa is a large-scale, low-cost integrated zinc producer with over 60 years of experience developing and operating mining and smelting assets in Latin America. Nexa currently owns and operates five long-life underground mines - three located in the Central Andes of Peru and two located in the state of Minas Gerais in Brazil - and is developing the Aripuanã Project as its sixth underground mine in Mato Grosso, Brazil. Nexa was among the top five producers of mined zinc globally in 2019 and also one of the top five metallic zinc producers worldwide in 2019, according to Wood Mackenzie.

## Cautionary Statement on Forward-Looking Statements

This news release contains certain forward-looking information and forward-looking statements as defined in applicable securities laws (collectively referred to in this news release as "forward-looking statements"). All statements other than statements of historical fact are forward-looking statements. 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. Forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of Nexa to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. These forward-looking statements related to future events or future performance and include current estimates, predictions, forecasts, beliefs and statements as to management's expectations with respect to, but not limited to, the business and operations of the Company and mining production, our growth strategy, the impact of applicable laws and regulations, future zinc and other metal prices, smelting sales, capex, expenses related to exploration and project development, estimation of mineral reserves and/or mineral resources, mine life and our financial liquidity.

Forward-looking statements are necessarily based upon a number of factors and assumptions that, while considered reasonable by management, are inherently subject to significant business, economic and competitive uncertainties and contingencies. Statements

concerning future production costs or volumes are based on numerous assumptions of management regarding operating matters and on assumptions that demand for products develops as anticipated, that customers and other counterparties perform their contractual obligations, full integration of mining and smelting operations, that operating and capital plans will not be disrupted by issues such as mechanical failure, unavailability of parts and supplies, labor disturbances, interruption in transportation or utilities, adverse weather conditions, and that there are no material unanticipated variations in the cost of energy or supplies, among other assumptions.

We assume no obligation to update forward-looking statements except as required under securities laws. Further information concerning risks and uncertainties associated with these forward-looking statements and our business can be found in our public disclosures filed under our profile on SEDAR ([www.sedar.com](http://www.sedar.com)) and on EDGAR ([www.sec.gov](http://www.sec.gov)).

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