

# 2019



A N N U A L R E P O R T



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# 01

## STATEMENT OF RESPONSIBILITY

**“THIS DOCUMENT CONTAINS ACCURATE AND SUFFICIENT INFORMATION ON THE BUSINESS ACTIVITIES CONDUCTED BY VOLCAN COMPAÑÍA MINERA S.A.A. IN 2019. NOTWITHSTANDING THE ISSUER’S LIABILITY, THE UNDERSIGNED ARE LIABLE FOR ITS CONTENTS IN ACCORDANCE WITH THE APPLICABLE LEGAL PROVISIONS”.**

Lima, July 16, 2020



**José Picasso Salinas**  
Chairman of the Board of Directors

**Juan Ignacio Rosado Gómez de la Torre**  
Chief Executive Officer

# LETTER TO THE SHAREHOLDERS

## Dear Shareholders:

Throughout this year, trade negotiations between the US and China have affected world economy. Even though a truce was reached in December by way of a preliminary agreement that prevented the escalation of the conflict, the status quo has not been re-established. On the other hand, the Brexit; decided by the British people in a referendum in 2016 and initially scheduled for March 2019, has been postponed three times given that there is no agreement on the exit conditions.

Trade tensions between the United States and China have affected the global economy, which growth slowed from 3.6% in 2018 to 3.0% in 2019. As a result, China's GDP recorded its lowest rate in 30 years (6.0%), while the United States slowed from 2.9% in 2018 to 2.2% in 2019. On the other hand, the EU showed a decline in GDP from 1.9% in 2018 to 1.0% in 2019, which was also affected by the uncertainty surrounding Brexit.

According to the figures from the European Central Bank, EU economy did not perform well for the third year in a row, mainly due to political instability across Europe.

Latin America's economy grew 0.1% as a result of its complicated political and social situation. The Latin American political environment during 2019 was defined by protests of all kinds: In Venezuela, due to Maduro's re-election followed by the opposition leader Juan Guaidó's self-proclamation as interim president; in Ecuador, as a result of the removal of fuel subsidies; in Chile (GDP + 1%), social crisis flared up due to the rise in the Metro fares, leading to a number of riots demanding a more equitable economic model; in Colombia (GDP + 3.2%), against the social and economic policies of President Iván Duque, and; in Bolivia (GDP + 3.2%) against the presidential re-election of Evo Morales, which led to his resignation and asylum, first in Mexico, then in Argentina. In Argentina (GDP + 2.7%) Alberto Fernandez was elected president, who is the candidate of Kirchnerism and opponent of Macri, right-wing predecessor president. All these demonstrations in Latin America reflected the unrest of the general population, mostly related to a surge in the demand for better social conditions. We are paying close attention to these

situations in our neighbouring countries to the extent that we are economically and culturally similar, and the fact that they could lead to radical political-economic positions that have done so much damage to the world throughout history.

In 2019, Peru's gross domestic product grew 2.3%, its lowest growth rate in the last 10 years, explained by a lower dynamism of domestic spending as well as lower exports within a context of lower global growth.

In 2019, the domestic political arena was also plagued with various significant political events. On January 8, 2019, Mr. Pedro Chavarry resigned from office as Attorney General due to the mounting pressure over his decision to remove the special prosecutors assigned to the Lava Jato case, who were later reinstated. The Lava Jato Case Special Prosecution Group later signed a collaboration agreement with the Brazilian company Odebrecht, which entailed a civil compensation of PEN 610 million and declarations from the cooperating witnesses before the Attorney General's Office about their participation in the corruption scheme and the payment of bribes to officials and politicians in order to be awarded contracts and works concessions.

That is how, during 2019, the Lava Jato Case Special Prosecution Group recommended the preliminary arrest of several former presidents and public officials for allegedly favouring Odebrecht.

The President of the Republic, Mr. Martín Vizcarra, while addressing the nation on July 28, proposed to Congress holding early general elections in April 2020 and bring the political conflict between the Legislative and Executive branches to an end. However, the majority of Congress decided to shelve this initiative. Following that, the Congress immediately tried to elect the new magistrates of the Constitutional Tribunal, and therefore the former Prime Minister, Salvador del Solar, asked for a vote of confidence prior to such election. This motion proposed to modify the procedure to elect the members of such constitutional body and to address such modification before congressmen elected the new members. Nevertheless, Congress started to elect the new magistrates of the Constitutional Tribunal. As a

result, the President of the Republic, Mr. Martín Vizcarra, dissolved Congress on the grounds that ignoring the motion constituted a de facto vote of no confidence by the Legislative branch and called for new congressional elections to be held on January 26, 2020. While Congress was closed, from September onwards, the President of the Republic, Mr. Martín Vizcarra, ruled by way of emergency decrees.

This political roller coaster affected the internal demand, added to the slower expansion of private consumption due to the lower growth in formal employment and the damage of consumer confidence. Moreover, public investment contracted due to limited progress in budget execution within a context of change of authorities at regional and local level. On the other hand, public consumption increased from a 0.8% expansion in 2018 to 2.0% in 2019. Meanwhile, private investment maintained the same growth rate as the previous year (4.2%).

At sector level, the metal mining sector shrank again for the second consecutive year (-1.7% in 2018 and -1.3% in 2019), as a consequence of lower gold production, particularly from Barrick and Buenaventura, added to lower zinc production from several companies and lower iron production. The fishing sector also fell by 18.6% due to lower extraction of anchovy. Similarly, non-primary sectors' growth also slowed from 4.2% in 2018 to 3.2% in 2019, due to a lower dynamism in manufacturing and construction.

Regarding metal prices, a significant drop in the prices of zinc and lead was recorded. This is mainly explained by the decrease in demand and increase in supply, in addition to a significant price volatility brought about by the uncertainty and speculation resulting from the trade war between the United States and China.

The zinc price declined by 8.7%, from 2,511 USD/MT at the end of 2018 to 2,293 USD/MT at the end of 2019. Likewise, the lead price decreased by 4.3% from 2,009 USD/MT at the end of 2018 to 1,924 USD/MT at the

end of 2019. Conversely, copper saw a 3.2% increase to 6,156 USD/MT; silver rose by 16.7% to 18.05 USD/oz and gold by 19% to 1,523 USD/oz.

Zinc prices reached their lowest levels (2,275 USD/MT) between August and December 2019, while the price of lead also fell to 1,817 USD/MT. On the contrary, silver prices saw a significant increase in September 2019, reaching 18.17 USD/oz, while the gold price reached 1,510 USD/oz.

According to the annual ranking of the Fraser Institute for 2019, Peru moved down ten spots in the mining investment attractiveness index and was ranked 24th out of 76 evaluated jurisdictions. This annual ranking evaluates two factors: geological potential and political perception. Regarding geological potential, Peru dropped four positions compared to 2018, reaching the 12th spot. In terms of the perception of public policies and practices associated with the sector, Peru was ranked 45th after moving down eight positions compared to 2018, outranked by Brazil, Argentina, Chile, Botswana, Namibia, among others. Greater emphasis should be placed on promoting State policies to seize the mining potential of Peru, in addition to facilitating investments and guaranteeing the startup of important projects that remain stagnant such as Tía María (Arequipa), Mina Justa (Ica), Corani (Puno), Cuajone (Moquegua), Quellaveco (Moquegua), Conga (Cajamarca), Río Blanco (Piura), Galeno (Cajamarca), Michiquillay (Cajamarca), La Granja (Cajamarca), among others. The unfortunate case of Minera Las Bambas is worth noting, continuously affected by social conflicts which, added to extremist left-wing political interference, have gone so far as to result in operational shutdowns. It is noteworthy the sustained blockade to stop the traffic of concentrate trucks to the Matarani port (Peru's southern corridor), which affects around 30% of Peru's copper production.

In 2019, the mining sector accounted for 9% of GDP and 61% of total exports, which requires stronger public policies for the defense and promotion of this sector.

As noted in the past, we are responsible for promoting

the development of Peru. Opportunities do not come everyday, particularly when there is global competition for attracting new investments that will go to those countries where better conditions are offered. We see that traditionally non-mining countries in the region such as Ecuador, Colombia, Brazil and Argentina, are beginning to develop a better reputation in order to attract investors that seize their mining potential.

It should be reiterated that excessive oversight pressure on tax, labor, environmental and social matters is in detriment of the opportunities for developing the major potential of Peru's mining industry. Such pressure, added to the damage caused by the law of prior consultation and the inefficient use of the mining royalties, which should be distributed more effectively depending on

the needs of each region, resulted in social conflicts that remain unresolved to this date. This has brought about delays in private investment and cost overruns for local mining companies. It should be noted that the Executive branch has failed to push a series of reforms to reduce the excessive bureaucratic procedures that the mining sector is required to satisfy in order to explore and develop any projects, and that makes it very difficult to invest in the country.

In 2019, Volcan produced 239 thousand FMT of zinc, 0.8% lower than in 2018, 15.6 million ounces of silver, lower by 8.7%, and 49 thousand FMT of lead, higher by 4.6%. This is mainly explained by the shutdown of certain Mining Units in order to enhance safety standards. The ore treated at the Oxide Plant showed



lower grades for silver but higher grades for gold (in-situ oxides).

It should be noted that the Company remains focused on controlling and reducing costs in all Mining Units. As a result, the unit cost in 2019 was 45.2 USD/MT, a 3.1% decrease compared to the 46.6 USD/MT of 2018.

Investments made in the Mining Units grew by 2.6%, from USD 175 million in 2018 to USD 180 million in 2019. This increase is mainly explained by investments related to mine infrastructure. In addition, investments in expansion projects rose from USD 2.8 million to USD 7.8 million, while regional exploration investments increased from USD 3.5 million to USD 4.2 million. Energy business investments decreased from USD 3.8 million to USD 2.5 million. As a result, total investments in 2019 amounted to USD 194 million, a 4.9% increase with regard to USD 185 million in 2018.

During 2019, net sales totaled USD 744 million, a 4.1% decline if compared to USD 775 million in 2018. The Company's gross margin decreased from 31% in 2018 to 20% in 2019, mainly explained by lower metal prices, partially offset by hedging results, and lower negative sales adjustments and negative final settlements (USD -56.4 million in 2018 vs USD -10.5 million in 2019). EBITDA amounted to USD 244 million, compared to USD 289 million in 2018. Meanwhile, net loss before exceptional charges totaled USD 22 million and the final net loss for the year was USD 70 million as reported in the balance sheet of Volcan Compañía Minera and Subsidiaries.

Volcan owns 354 thousand hectares of mining concessions for the development of exploration activities and mining projects. In terms of total ore reserves, Volcan's estimates have been prepared by applying industry best practices and the international standards established in the JORC CODE, as well as complying with the guidelines established by Glencore Technical Services.

As part of the brownfield development strategy for 2019, the Company completed 6,735 meters of diamond

drilling on priority targets at the Andaychagua, Ticlio and San Cristóbal mines.

In addition, Volcan carried out exploration activities in four advanced projects: Romina, Carhuacayán, Palma and Zoraida. This involved the completion of a total of 54,294 meters of diamond drilling. In Romina, significant mineralization of zinc, lead and silver has been defined at the Puagjanca body, where most of the exploration was focused. Mineralized bodies and mantos have also been defined in the surrounding areas, named as Andrea, Adriana and Esperanza. In Carhuacayán, significant mineralization of zinc, lead and silver has been defined in the La Tapada body. The ore produced from Romina and Carhuacayán will be treated in the Alpamara plant, where production is expected to begin in 2023. Palma is a greenfield project where significant mineralization of zinc, lead and silver has been defined, with great potential in four major areas along a 7 km corridor: Kenita, Palma, Santa Lidia and Palmeron. This will enable the development of a separate mining project from the other Mining Units.

As regards the corporate safety policy, emphasis was placed on the control of the following Fatal Hazard Protocols in 2019: Ground/Strata Failure, Working at Height, Energy Isolation, Electrical Safety and Mobile Equipment.

Even though the number of disabling accidents declined by 27% when compared to 2018, we are deeply sorry to report the occurrence of a fatal accident. An investigation was conducted to determine the root cause of the accident and corrective measures were taken with an emphasis on supervision, training and evaluation in order to strengthen current controls.

Regarding the energy business, as of the end of 2019, Volcan owns 13 hydroelectric plants, 350 km of transmission lines and 26 electrical substations. Energy generation during 2019 totaled 387 GWh, which represents a 26% increase with regard to the previous year. This is explained by the restart of operations of the Rucuy hydroelectric plant on June 01, 2019, generating 68 GWh over that same year.

Energy consumption during the year totaled 756 GWh, up by 6% if compared to the previous year. This slight increase is mainly explained by the 10%

## INVESTMENTS TOTALED

USD  
**194 MM**  
IN 2019. USD 191.5 MM MADE IN THE MINING UNITS AND USD 2.5 MM IN ENERGY BUSINESS INVESTMENTS



increase in treated ore. It is worth highlighting that energy generation accounted for 51% of total energy consumption.

As part of its policy on corporate social responsibility and care for the environment, Volcan seeks to engage in dialog and strengthen its relations with community leaders, key authorities and social stakeholders to generate a positive impact on the development of the communities within its direct area of influence. For such purpose, in 2019 the Company invested over USD 5 million in agreements with 60 communities within its direct area of influence. It is noteworthy that the Company delivered the New Chancay Food Market project to the city of Chancay, where the new port of Chancay is under construction. This market was completed through the Works for Taxes program, has more than 650 stands and involved an investment of over PEN 22 million. This was a very important project for the city of Chancay that will benefit 85 thousand people.

In January 2019, in Davos (Switzerland), the Company signed agreements with the Chinese company Cosco Shipping Ports Limited (CSPL) for the development of the Chancay port. The Vice President of Peru, Mrs. Mercedes Araoz, and the highest authorities of the Chinese Government witnessed the event. Also present were: the Chairman of the Board of Cosco Shipping Group, Mr. Hu Lirong, the Chairman of the Board of Cosco Shipping Ports Limited, Mr. Zhang Wei, and the Managing Director, Mr. Zhang Dayu. This project is located 80 km north of Lima. In May 2019, in a ceremony held at the Government Palace, with the presence of the President of the Republic, Mr. Martin Vizcarra Cornejo, the Minister of Transport and Communications, Mrs. Ana Jara, and other Ministers of State, the Chairman of the Board of Cosco Shipping Group, Mr. Hu Lirong, and the Chairman of the Board of Cosco Shipping Port Ltd., Mr. Zhang Wei, Volcan entered into the final association agreement whereby this company was incorporated as shareholder of Terminales Portuarios Chancay (TPCH) with 60% of the shares representing the share capital. Volcan holds the remaining 40% of the share capital of TPCH.

CSPL is a subsidiary of Cosco Shipping Group, the largest Chinese transnational corporation in the world engaged in the integrated port, shipping and shipyard business, with USD 130 billion in assets. In addition, it is ranked first worldwide regarding container management, with 110 million TEUs per year, and more than 60 ports



operating in Asia, America, Europe and the Middle East. It should also be mentioned that this group owns COSCO SHIPPING LINE, the largest shipping company in the world, with 1,300 vessels, and member of the Ocean Alliance together with Evergreen, CMA-CMG and OOCL shipping companies (40% of the world's cargo).

The first construction stage of the Chancay port involves an estimated investment of USD 1,300 million and includes the entrance complex, the underground viaduct tunnel and the port operating area, which also include four docks: the container terminal with two docks, and the bulk loading, general loading and mobile loading terminal with two additional docks. The USD 1,300 million amount includes the contribution already made by Volcan and the USD 225 million contribution made by CSPL for 60% of the share capital. The remaining investment will be financed. To date, a great deal of progress has been made to secure the funds for the construction of the port's major works.

The construction of the Chancay port represents a major opportunity for the economic development of Peru through a new connectivity network made up of maritime and terrestrial economic routes between China and the rest of the world. Due to its outstanding features, it is expected to become the integrated port and logistical hub of the Pacific region in the medium term.

Finally, on behalf of the Board of Directors, I would like to avail of this opportunity to thank all of our current workers, employees, executives and partners for their hard work, dedication, and commitment to the goals of the Company. For more than seven decades now, Volcan has been investing in the mining development of Peru's central highlands, with a commitment to sustainable growth in harmony with neighboring communities and the environment. However, this hasn't been an easy task. A number of challenges have emerged, but thanks to the hard work of our founders and of those who over decades have enabled the Company to continue to grow – workers, engineers, executives and directors – we have successfully overcome them.

Lastly, I would like to thank you, our shareholders, for your trust, support and interest in Volcan's activities.

**José Picasso Salinas**  
Chairman of the Board of Directors



# 03

## MACROECONOMIC ENVIRONMENT



### 3.1 INTERNATIONAL OUTLOOK

The global economy grew 3.0% in 2019, a setback with regard to the 3.6% growth in 2018. The lower growth compared to the previous year is mainly explained by the lower dynamism of China, which GDP expansion rate has been declining in recent years up to reaching 6.0% in 2019, the lowest rate in the last 30 years, as a result of trade tensions with the United States. It should be noted that the Chinese manufacturing PMI index throughout the year, on average, was within the pessimistic range compared to the previous years where it was within the optimistic range.

Along these lines, the United States economy's growth slowed to 2.2% in 2019 compared to the 2.9% growth in 2018, owing to a lower dynamism in investments and exports. In this context, the Federal Reserve initiated an interest rate cut to 2.00%-2.25% in August 2019, after having kept it within the 2.25%-2.50% range since December 2018, closing the year with two further cuts until reaching 1.50% -1.75% in October. Subsequently, during the first half of 2020, the Federal Reserve made a series of interest rate cuts on several occasions until reaching the 0%-0.25% range. None the less, it should be noted that this lower dynamism is in line with the

potential growth of the US economy, which is estimated to be around 2.0% per year.

Meanwhile, the EU economy saw a decline in its growth rate, from 1.9% in 2018 to 1.0% in 2019, as a result of the deterioration in industry and trade conditions, mainly in Germany, within a scenario of lower global demand due to the commercial crisis between the United States and China, two of its three major trading partners. The uncertainty surrounding Brexit also played its part.

Regarding financial markets in 2019, the yields on sovereign bonds of developed economies fell as compared to the previous year, within a context of lower volatility in the markets and interest rate cuts in some Asian economies. In the meantime, the yield on the 10-year sovereign bond of the United States closed the year at 1.92%, compared to the yield of 2.68% in 2018. The yield on the 10-year sovereign bond of Germany closed the year at -0.2%, similar to the previous year. Regarding equity markets, it should be mentioned that most stock markets suffered losses<sup>1</sup>.



<sup>1</sup> Developed economies: S&P 500 from the United States (+28.9%), CAC 40 from France (+26.4%), DAX from Germany (+25.5%), Nikkei 225 from Japan (+18.2%), FTSE 100 from United Kingdom (+12.1%), and IBEX 35 from Spain (+11.8%). Emerging economies: IBOV from Brazil (+31.6%), COLCAP from Colombia (+25.4%), SP/BVL Peru General from Peru (+6.1%), MEXBOL from Mexico (+4.6%), and IPSA from Chile (-11.3%).

## 3.2 PERUVIAN ECONOMY

In 2019, Peru's gross domestic product grew 2.2%, representing its lowest growth rate in the last 10 years. The slowdown compared to the previous year, where GDP grew 4.0%, is related to both the lower dynamism of domestic spending as well as exports within a context of lower global growth. The impact on domestic demand is related to the slower expansion of private consumption, owing to a lower growth in formal employment and the damage of consumer confidence in the first semester; as well as the contraction in public investment associated with the limited progress in budget execution in a context of change of authorities at the regional and local level. On the contrary, public consumption accelerated with regard to the previous year, moving from a 0.8% expansion in 2018 to 2.4% in 2019. Meanwhile, private investment maintained the same growth rate as the previous year (4.2% in 2018 and 4.0% in 2019). It is worth noting that mining investment saw a 24.5% increase throughout the year.

In real terms, exports of goods and services grew 0.8% in 2019, lower than the 2.4% growth in the previous year. This is explained by lower export volumes of traditional products such as minerals, petroleum and fish oil, as well as by lower dynamism in non-traditional exports, which volumes slowed from 11.0% growth in 2018 to 5.7% in 2019.

At sector level, the metal mining sector shrank again for the second consecutive year (-1.7% in 2018 and -0.8% in 2019), as a consequence of lower gold production, particularly from Barrick and Buenaventura, added to a zinc production decline due to lower grades in Antamina

and a decrease in iron production. The fishing sector also fell by 18.6% due to lower extraction of anchovy. Similarly, non-primary sectors' growth also slowed from 4.1% in 2018 to 3.2% in 2019, due to a lower dynamism in manufacturing and construction.

### PERU'S PRODUCTION OF MAJOR METALS

METAL	2018	2019	VAR%
Zinc (miles TMF)	1,474	1,404	-4.7
Lead (miles TMF)	289	308	6.6
Copper (miles TMF)	2,437	2,455	0.8
Silver (millones Oz)	133.8	124.1	-7.2
Gold (miles Oz)	4,508	4,129	-8.4

Peru's current balance of payment registered a 1.5% deficit of GDP, similar to the deficit of the previous year. Lower prices of raw materials for export, particularly copper, zinc and lead, deteriorated the balance of trade from USD 7,197 million in 2018 to USD 6,614 million in 2019, offset by a decline in profit remittances abroad by foreign direct investment companies and higher transfers from Peruvians abroad.

Inflation in Peru, as well as in Metropolitan Lima, closed the year at 1.9%. Both rates are within the target range of Peru's Central Reserve Bank (between 1.0% and 3.0%).

## THE METAL MINING SECTOR SHRANK AGAIN FOR THE SECOND CONSECUTIVE YEAR (-1.7% IN 2018 AND -0.8% IN 2019)

## 3.3 METALS PRICES

The year 2019 saw a significant drop in the prices of zinc and lead. This was mainly driven by the decrease in demand and increase in supply, as well as the uncertainty surrounding the "Trade War" between the United States and China.

On the other hand, the silver price increased slightly as compared to 2018 (0.5 USD/Ounce).

Zinc price reached its lowest level (2,275 USD/MT) between August and December 2019. Lead price also fell, reaching

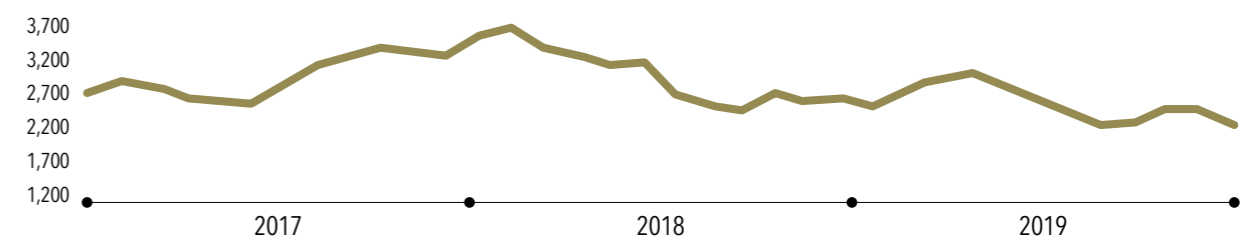
1,817 USD/MT. One may observe a significant volatility of the average monthly prices of 2019, brought about by speculations about the future commercial relations between the US and China.

As regards silver and gold prices, a significant increase was registered in September 2019, reaching 18.17 USD/oz and 1,510.33 USD/oz for silver and gold, respectively.

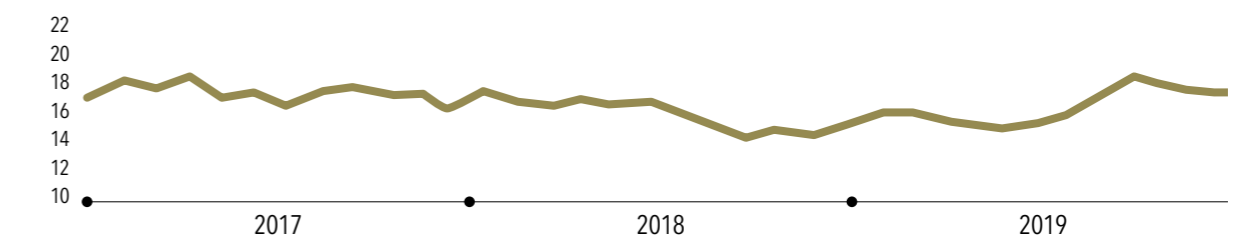
### EVOLUTION OF AVERAGE METAL PRICES

PRICES DE LOS METALES	2013	2014	2015	2016	2017	2018	2019
Zinc (USD/TM)	1,910	2,162	1,933	2,091	2,894	2,925	2,549
Lead (USD/TM)	2,142	2,096	1,786	1,871	2,318	2,244	1,998
Copper (USD/TM)	7,326	6,860	5,502	4,863	6,163	6,525	6,005
Silver (USD/oz)	23.9	19.1	15.7	17.1	17.1	15.7	16.2

### ZINC PRICE (USD/TMF)



### PRICE OF THE SILVER (USD/OZ)



# OUR COMPANY



## 4.1 HISTORY

The Company started mining operations in 1943 in the upper Ticlio pass. Due to the continuous hard work and dedication of its directors and employees, Volcan became one of the leading producers of silver, zinc, and lead in Peru and across the world.

In the first years, Volcan's operations focused on the Carahuacra and Ticlio Mines, involving a group of 30 mining concessions. The ore extracted was sold to the Mahr Túnel Concentrator Plant, owned at the time by the U.S. company Cerro de Pasco Copper Corporation, which was expropriated by the military government in the early 1970s.

It was in the 1990s when Volcan broadened its operations through the acquisition of mining areas and their relevant assets, within a context of economic reforms implemented by the government and aimed at promoting private investment in public companies. The vision of the Board of Directors and the leadership of Dr. Roberto Letts played a key role in the Company's growth.

Through an international public auction in 1997, Volcan Compañía Minera S.A. acquired Empresa Minera Mahr Túnel S.A. from Centromin Peru. This included the Mahr Túnel, San Cristóbal and Andaychagua mining operations and the Mahr Túnel and Andaychagua plants. The transaction amounted to USD 128 million, added to an investment commitment of USD 60 million. Over the year that followed, Empresa Minera Mahr Túnel S.A. and Volcan Compañía Minera S.A. went through a merger process that created Volcan Compañía Minera S.A.A.

Subsequently, in 1999, Volcan acquired Empresa

Minera Paragsha S.A.C. from Centromin Peru for USD 62 million, plus an investment commitment of USD 70 million. In addition, the Company undertook a USD 20 million financial debt held by Centromin. This transaction included the Cerro de Pasco Mining Unit. As a result of this acquisition, Volcan became Peru's largest zinc producer.

In 2000, Volcan acquired Empresa Administradora Chungar S.A.C. and Empresa Explotadora de Vinchos Ltda. S.A.C., owners of the Animón and Vinchos mines, respectively. This transaction involved a USD 20 million cash payment and the issue of 16 million class B shares. This acquisition also included the Françoise and San José II hydroelectric plants, with a joint generation capacity of 2.2 MW. The Vinchos silver mine started operations in 2004. In addition, Volcan acquired the Baños I, II, III, and IV and Chicrín hydroelectric plants, with a combined generation capacity of 7.5 MW.

In 2006, Volcan acquired Minera Santa Clara and Llacsacocha S.A., owner of the Zoraida Mine. In the following year, the Company purchased Compañía Minera El Pilar, owner of El Pilar Mine, adjacent to the Cerro de Pasco Mine and Open Pit.

In 2009, Empresa Administradora Chungar S.A.C. completed the construction of the Baños IV hydroelectric plant, which enabled Volcan to achieve an overall installed capacity of 13 MW.

In 2010, Volcan acquired Compañía Minera San Sebastián, which mining concessions are also located in the surroundings of Cerro de Pasco.

**DUE TO THE CONTINUOUS HARD WORK AND DEDICATION OF ITS DIRECTORS AND EMPLOYEES, VOLCAN BECAME ONE OF THE LEADING PRODUCERS OF SILVER, ZINC, AND LEAD IN PERU AND ACROSS THE WORLD.**

In January 2011, the simple reorganization of the Cerro de Pasco Mining Unit was approved. As a result, this unit was renamed as Empresa Administradora Cerro S.A.C. and became a subsidiary of Volcan Compañía Minera S.A.A. The reorganization aimed at enabling each mining unit to be managed separately.

In January 2012, as part of an international bond issue under Rule 144A and Regulation S of the United States Securities Act of 1933, Volcan placed 10-year corporate bonds for a total amount of USD 600 million at a fixed rate of 5.375%. The purpose of this issue was to provide the financing for the Oxide Plant expansion project in Cerro de Pasco and the new Alpamarca Mining Unit.

A month afterwards, in February 2012, Volcan acquired Empresa Hidroeléctrica Huanchor S.A.C. for USD 47 million. This hydroelectric plant was owned by Sociedad Minera CGoldna S.A. and had a capacity of 19.6 MW. Halfway through the year, Empresa Administradora Chungar S.A.C. also completed the construction and entry into operation of the Baños V hydroelectric plant. This 9.2-MW plant required a total investment of USD 24 million.

In 2013, the Islay Mine was consolidated into the Chungar Mining Unit as a result of the acquisition of two nearby mining concessions (Islay and Islay 4) for USD 17 million. Early that year, the Company also completed the Animón concentrator plant expansion from 4,200 to 5,200 tpd (tons per day). The upgrade of the Victoria and Andaychagua plants located in the Yauli Mining Unit was also completed in 2013, up to a capacity of 10,500 tpd.

In 2014, the Company continued expanding the Yauli Unit plants to reach a treatment capacity of 10,800 tpd. Moreover, the Jacob Timmers shaft started operations in the Chungar Mining Unit, with a nominal capacity of 4,000 tpd.

In July 2014, Volcan acquired the 1.25 MW Tingo hydroelectric plant in addition to 82 km of transmission lines (22.9 kV and 50 kV), for a total of USD 13.5 million. This plant is expected to be upgraded to approximately 15 MW and connected to the Alpamarca and Chungar Mining Units.

In 2014, the Company started operations in the new Alpamarca Mining Unit and the Oxide Plant in Cerro de



Pasco. The plant reached full capacity in June 2015 with a total investment of USD 280 million.

In 2015, the following corporate reorganizations were undertaken: merger under which Chungar absorbed the entire property of El Pilar, Huascarán, Santa Clara, Shalca, and Troy, which took effect on September 1, 2015; spin-off in Empresa Administradora Cerro S.A.C. involving an equity block made up of assets and liabilities related to the Oxide Plant, which took effect on October 1, 2015; and merger by absorption between Compañía Minera Alpamarca S.A.C. (absorbing company) and Empresa Administradora Chungar S.A.C. (absorbed company), which took effect on January 1, 2016. Finally, the latter changed its corporate name to Compañía Minera Chungar S.A.C.

It is worth highlighting that the 20 MW Rucuy hydroelectric plant (120 GWh/year) began operations in August 2016. This project involved a total investment of USD 50 million. With the latest addition, the Company now has 13 hydroelectric plants in operation with a total generation capacity of 63 MW.

Also in 2016, Volcan acquired the Romina polymetallic project from Milpo. From 2008 to 2012, more than 13,000 meters of diamond drilling have been completed in such deposit. This project will provide operational continuity to the Alpamarca Mining Unit.

In November 2017, Glencore International AG acquired a total of 603,077,387 class A common shares via a Public Tender Offer. As of the launch date of such offer, Glencore International AG and affiliated companies already held 295,754,888 shares, thus accumulating a total of 898,832,275 class A shares representing 55.028% of the class A common shares and 23.29% of the share capital (considering the class A shares and class B shares that the Company has in its portfolio).

At the end of 2018, Volcan completed the New Chancay Food Market Project through the Works for Taxes program. This Municipal market has more than 650 stands and involved a PEN 22 million investment. This was a very important project for the city of Chancay that will benefit 85 thousand people.

In 2019, the Company entered into association agreements with the Chinese company Cosco Shipping Ports Limited (CSPL) for the development of the Multi-purpose Port Terminal of Chancay, located 80 km north of Lima. As a result, this company became a shareholder of Terminales Portuarios Chancay (TPCH), holding 60% of the shares representing the share capital. Volcan will maintain the remaining 40% of the share capital in TPCH.

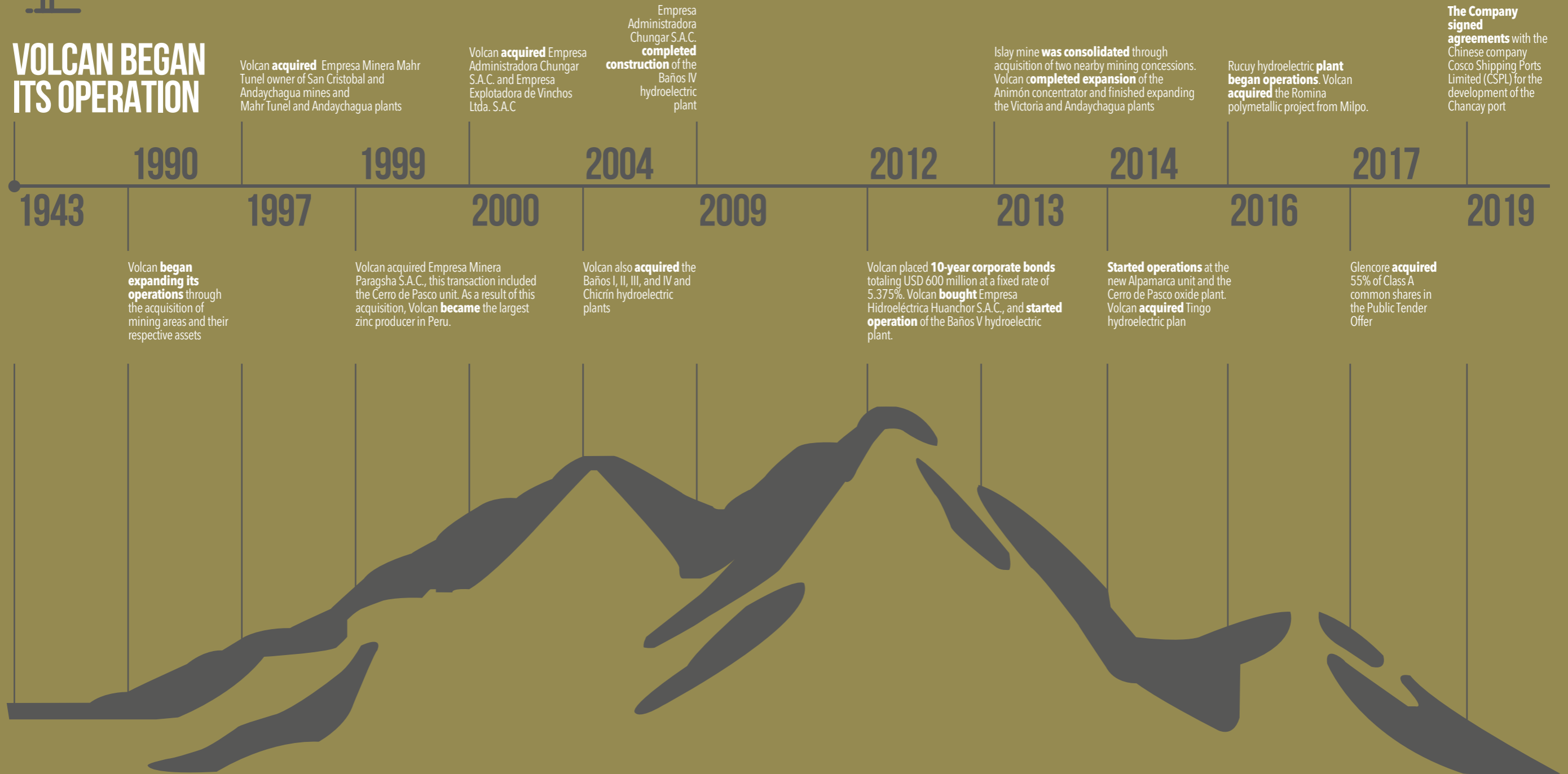
In December 2019, Volcan entered into an agreement with Cerro de Pasco Resources Inc. for the sale of its shares in Empresa Administradora Cerro S.A.C., Óxidos de Pasco S.A.C. and Remediadora Ambiental S.A.C. Cerro de Pasco Resources Inc. is a Canadian company listed in the Canadian Securities Exchange. It has had presence in Cerro de Pasco for several years now and is the holder of the El Metalurgista mining concession. This transaction involves an initial payment of USD 30 million, in addition to a 2% NSR on the concessions held by Administradora Cerro S.A.C. and a percentage of the future sales of Au and Ag from the Oxide Plant throughout its entire operation. Moreover, the company is bound to sell to Volcan 100% of the concentrates produced from the concessions held by Administradora Cerro S.A.C. Finally, Cerro de Pasco Resources Inc. undertakes to continue with the health, safety, environmental and social promotion programs currently developed by Volcan in the area.

The agreement is still subject to the satisfaction of certain conditions precedent to be materialized during 2020. As requested by Cerro de Pasco Resources Inc., two addendums to the agreement were signed to extend the closing deadline for the transaction: the first one was signed in March for an extension up to June 27, 2020, and the second one was signed in June for an extension up to August 31, 2020.

Volcan has just turned 76 years old since its founding. With over 354 thousand hectares of mining concessions, 10 mines in operation, seven concentrator plants and one leaching plant, it has become a highly diversified company and a global leader in zinc, lead, and silver production.

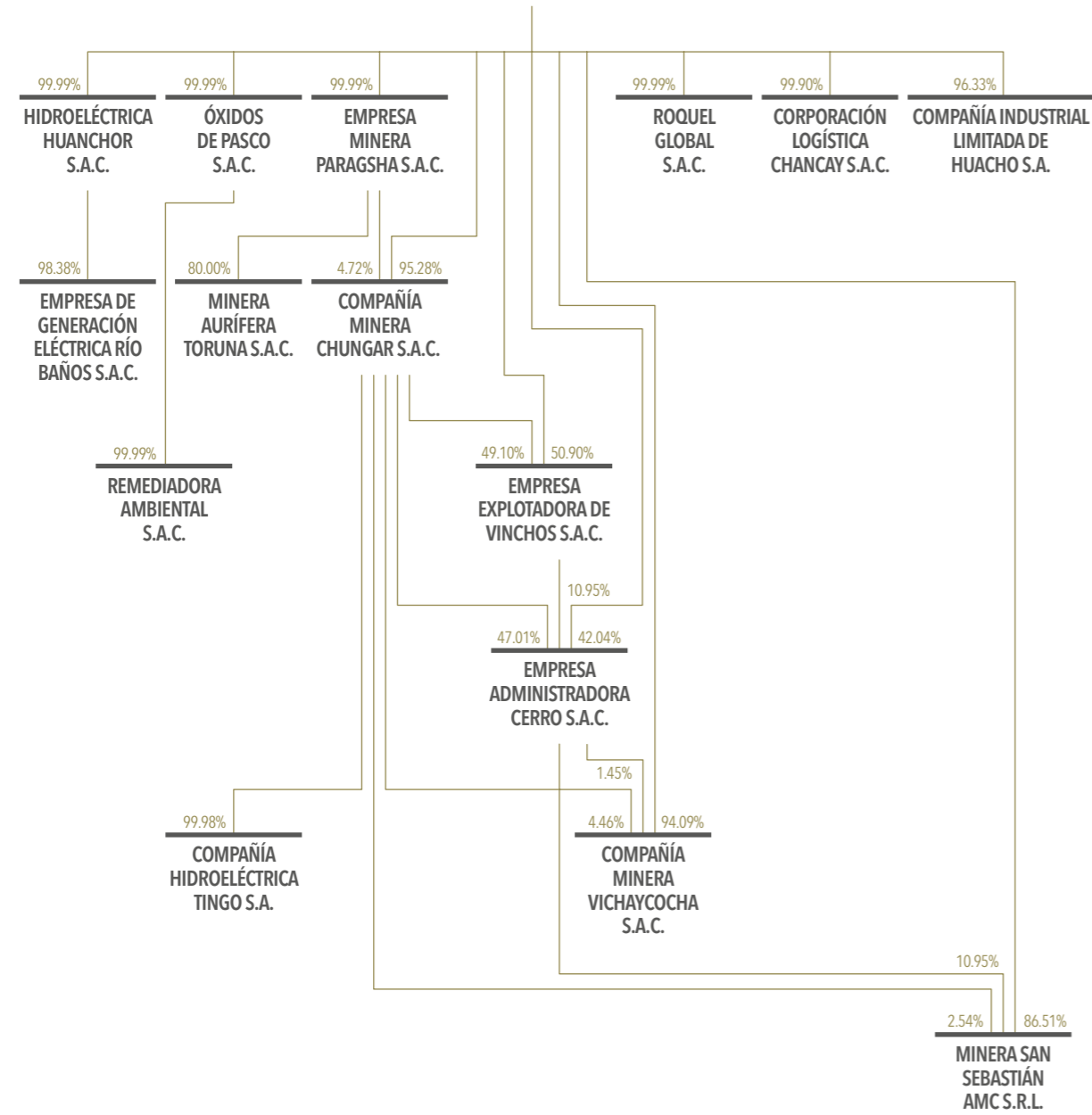


## VOLCAN BEGAN ITS OPERATION



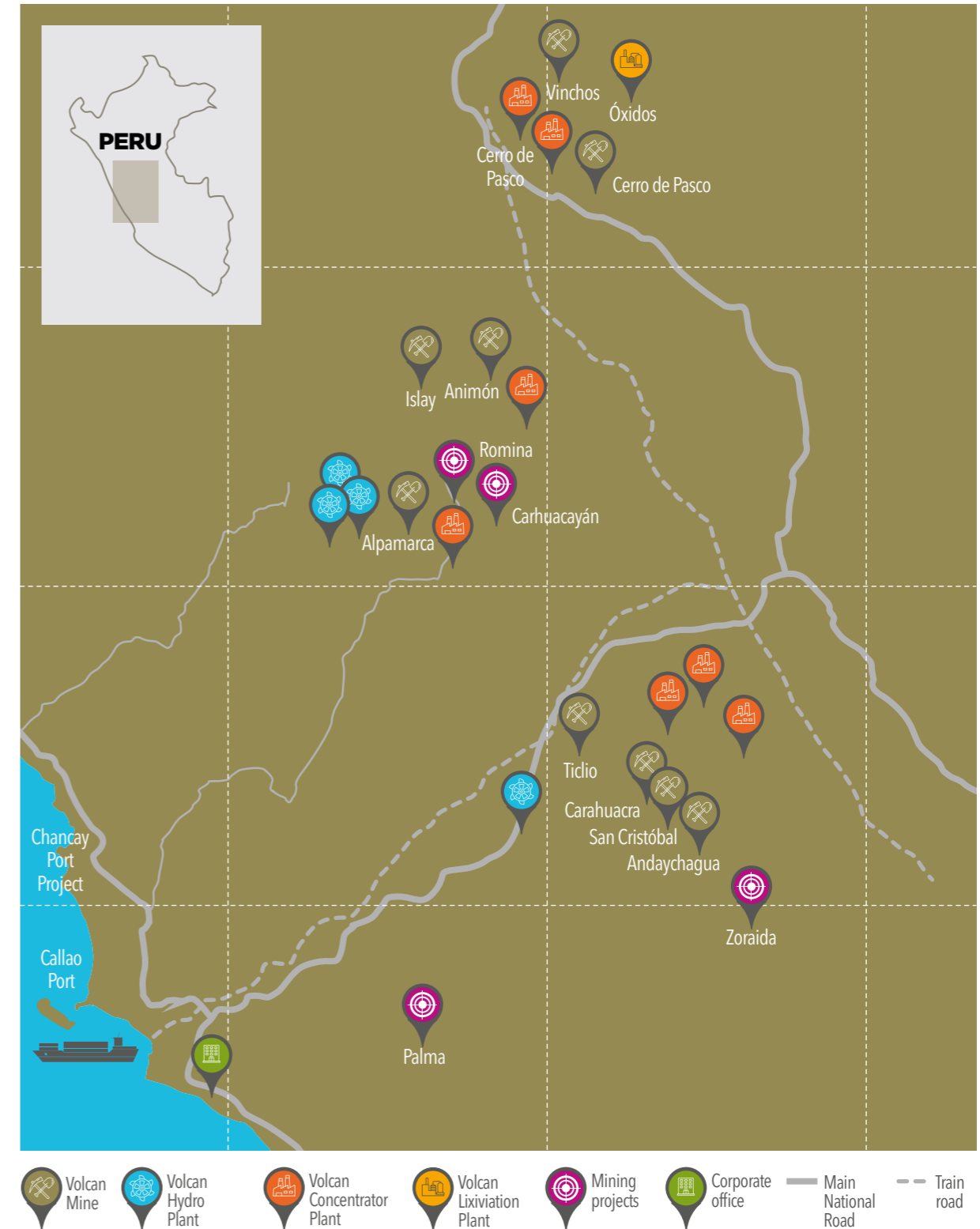
## 4.2 CORPORATE STRUCTURE 2019

### VOLCAN COMPAÑÍA MINERA S.A.A.



ECONOMIC GROUP AND CORPORATE PURPOSE

COMPANY NAME	COMPANY ID	CORPORATE PURPOSE
Volcan Compañía Minera S.A.A.	20383045267	Mining of other non-ferrous metal ores
Compañía Minera Chungar S.A.C.	20514608041	Production of other mines and quarries
Empresa Administradora Cerro S.A.C.	20538848060	Mining of other non-ferrous metal ores
Óxidos de Pasco S.A.C.	20600715187	Smelting of non-ferrous metals
Empresa Explotadora de Vinchos Ltda S.A.C.	20100539439	Mining of other non-ferrous metal ores
Empresa Minera Paragsha S.A.C.	20347644502	Mining of other non-ferrous metal ores
Minera Aurífera Toruna S.A.C.	20510318227	Production of other mines and quarries
Minera San Sebastián AMC S.R.L.	20447348421	Production of other mines and quarries
Compañía Industrial Limitada de Huacho S.A.	20102200170	Real estate activities
Compañía Minera Vichaycocha S.A.C.	20504972241	Production of other mines and quarries
Hidroeléctrica Huanchor S.A.C.	20546236073	Electric power generation, transmission and distribution
Empresa de Generación Eléctrica Río Baños S.A.C.	20537761670	Electric power generation, transmission and distribution
Compañía Hidroeléctrica Tingo S.A.	20521371103	Electric power generation, transmission and distribution
Roquel Global S.A.C.	20602370748	Other business activities
Corporación Logística Chancay S.A.C.	20602314392	Other business activities
Remediadora Ambiental S.A.C.	20600655133	Other professional, scientific, technical activities



# 05

## BOARD OF DIRECTORS AND SENIOR MANAGEMENT

### 5.1 BOARD OF DIRECTORS

BOARD OF DIRECTORS IN OFFICE AS OF DECEMBER 31, 2019

NAME AND LAST NAME	POSITION
José Picasso Salinas	Chairman
José Ignacio De Romaña Letts	Vice Chairman
Christopher Eskdale	Director
Daniel Mate Badenes	Director
Carlos Perezagua Marín	Director
Ricardo Revoredo Luna	Director
Victoria Soyer Toche	Director

Professional Background of the Board of Directors:

#### José Picasso Salinas

Director and member of the Executive Committee since March 1996. He served as Vice Chairman of the Board of Directors prior to starting his tenure as Chairman of the Board and the Executive Committee in April 2010.

Mr. Picasso is also Chairman of the Board of ReASSETS Nacionales S.A. and Vice Chairman of the Board of Compañía Minera Poderosa, as well as director of Bodegas Vista Alegre, Cemento Polpaico S.A - Chile, the National Society of Mining, Oil and Energy and member of the Peruvian-Chilean Business Council. He formerly served as Vice Chairman of the Board of Embotelladora Latinoamericana S.A.A. (Coca-Cola) and director of Compañía Minera Atacocha S.A., EXSA, S.A., Castrovirreyna Compañía Minera, Compañía Molinera del Peru, Compañía de Seguros La Fénix Peruana S.A., Bolsa de Valores de Lima and Acción Comunitaria.

#### José Ignacio De Romaña Letts

Director since 1993 and Vice Chairman of the Board since September 2014. Mr. de Romaña is also member of the Executive Committee. He served as Deputy Manager of the Marketing Division of Compañía de Minas Buenaventura from 1992 to 1999 and as Manager of Volcan's Marketing

Division between 2000 and 2010. He has also been a director of Castrovirreyna Compañía Minera S.A. and Corporación Minera Castrovirreyna from 2002 to 2012.

Mr. De Romaña holds a business administration degree from Universidad del Pacifico.

#### Christopher Eskdale

Director since March 2012. He served as public accountant in Deloitte & Touche, both in London and Moscow, and has been with Glencore since 1996.

Mr. Eskdale holds a master's degree from Oxford University and qualified as Chartered Accountant by the Institute of Chartered Accountants in England and Wales. He has been appointed as Head for the global operations of the Zinc Department of Glencore.

#### Daniel Maté Badenes

Director since March 2006. Mr. Maté has served as co-director of the zinc, lead, and copper departments of Glencore International since February 2000, overseeing its marketing business and industrial assets, as well as strategy and operations. He first joined Glencore's Madrid office in 1988, where he gained expertise in metals transactions and logistics in Spain and North Africa. He spent three years in the Madrid office and then joined the zinc and lead department in Switzerland in August 1991. He was subsequently transferred to the copper department in February 2002, where he was responsible for zinc concentrate operations in Spain, North Africa, and South America. Later, he was appointed in charge of worldwide zinc marketing for Glencore.

Mr. Maté is an economist and holds a law degree from Universidad de Deusto in Spain.

#### Carlos Perezagua Marín

Director since November 2017. Mr. Perezagua is co-director of corporate finance and capital markets in Glencore and, since December 2013, he also serves as



General Director of Risk at Glencore. He has been with Glencore since 2009. Prior to that, he spent 11 years in investment banking with Morgan Stanley and Citigroup as part of the corporate financing and high risk bond departments in London and Madrid.

Mr. Perezuaga is an economist and holds a law degree from Universidad Pontificia de Comillas (ICADE) in Spain.

**Ricardo Revoredo Luna**

Director since November 2019. Mr. Revoredo also holds office as alternate director of Compañía Minera Poderosa S.A. and Compañía Minera San Ignacio de MGoldcocha S.A.A., as well as director of Bolsa de Valores de Lima S.A.A., Compañía Minera Chungar S.A.C., Projects Médicos S.A. and member of the Advisory Board of the Department of Administration and Corporate Finance of Universidad San Ignacio de Loyola. He previously served as Vice Chairman of the Board of Directors of Bolsa de Valores de Lima S.A.A. and director of CAVALI ICLV.

Mr. Revoredo holds a business administration degree from Universidad Nacional Federico Villarreal. He also holds a post-graduate degree in capital markets from Instituto Brasileiro de Mercados de Capital (IBMEC) in Brazil, and a diploma of Finance from Escuela Superior de Administración de Negocios (ESAN).

**Victoria Soyer Toche**

Director since November 2017. Ms. Soyer holds a business administration degree from Universidad del Pacífico and an MBA from Thunderbird School of Management.

Before joining the Glencore Group in 2010, she held various positions within Tyco International in the United States for over seven years, most recently as Finance Director from 2008 until leaving the company in 2010. Ms. Soyer also serves as director of Perubar and Transportadora Callao.



**52 SENIOR MANAGEMENT**

NAME AND LAST NAME	POSITION
Chief executive officer	Chief executive officer
Carlos Francisco Fernandez Navarro	Executive vice president
Aldo de la Cruz Peceros	Vice president of operations
Jorge Leoncio Murillo Núñez	Vice president of administration and finance
Vanessa Aita de Marzi	Sales manager
Renzo Muenta Barzotti	Human resources manager
Roberto Juan Servat Pereira de Sousa	Corporate social responsibility and labor relations manager
Juan Alberto Begazo Vizcarra	Audit manager
Alfonso Rebaza González	Legal counsel
Ronald Martín Castillo Ángeles	Logistics manager
Alvaro Luis Cabrera Ramírez	Energy manager
Eduardo Enrique Malpartida Espinoza	Occupational health and safety manager
Juan Neyra Valverde	Industrial plant manager
Edgardo Zamora Pérez	Corporate planning manager
Carlos Manuel García Zapata	San Cristóbal - Carahuacra operations CEO
Carlos Trillo Medrano	Andaychagua operations manager
Francisco Grimaldo Zapata	Alpamarca operations manager
Adrián Felipe Corihuamán Mayta	San Cristóbal Mine operations manager
John Quispe Loayza	Ticlio operations manager
James Atalaya Chacón	Chungar operations general manager
John Ames Gavino	Chungar operations manager
Miguel Herrera Quispe	Maintenance manager
César Emilio Farfán Bernales	Geology manager
Percy Luis Rivera López	Environmental affairs manager
Willy Antonio Montalvo Calligos	Accounting and tax manager
Dayan Gustavo Segura Vandervelde	Information technology manager
Mauricio Scerpella Iturburu	Budgeting and management control manager
Jorge de Olazabal Angulo	Technical Manager of Environmental Permits
Jorge Luis Cotrina Luna	Securities manager

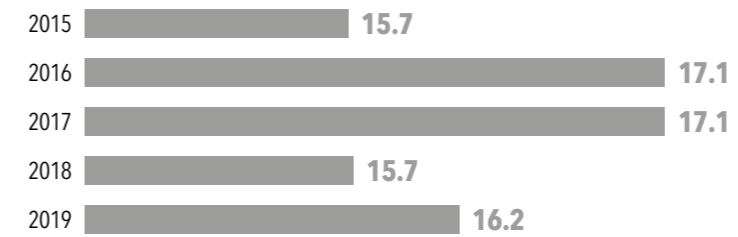
# 006

## MAIN INDICATORS



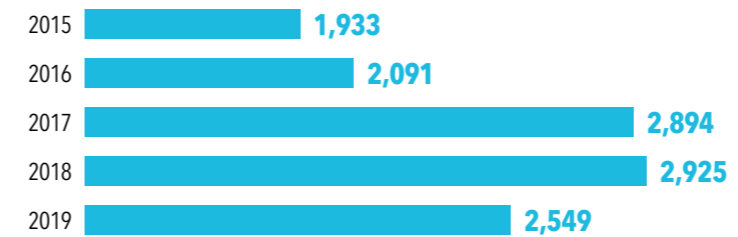
### 6.1 MARKET INDICATORS

EVOLUTION OF THE AVERAGE SILVER SPOT PRICE (USD/OZ)



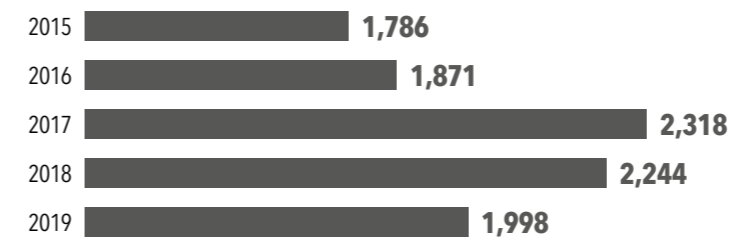
# Ag

EVOLUTION OF THE AVERAGE ZINC SPOT PRICE (USD/MT)



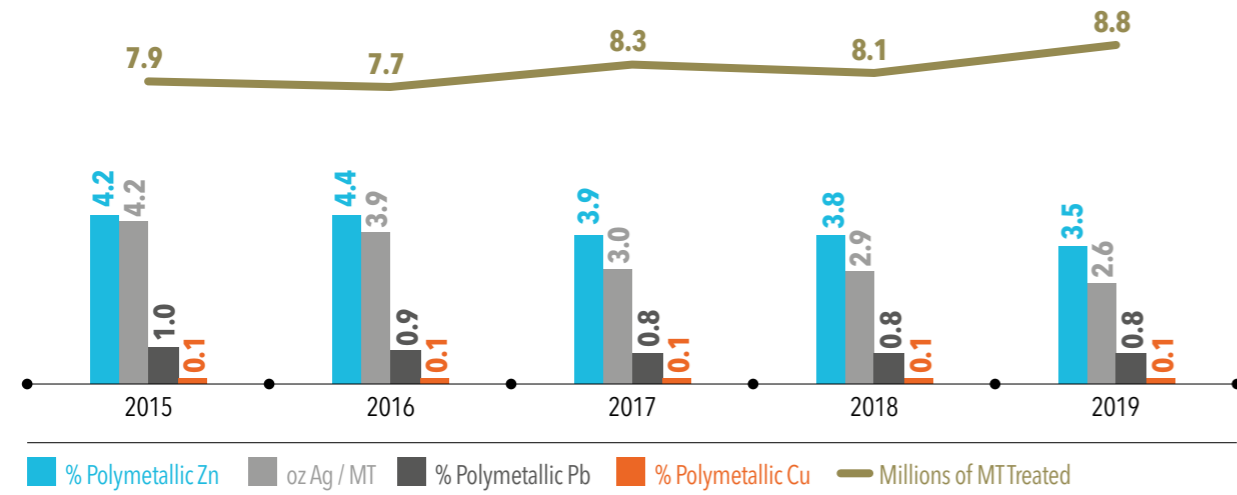
# Zn

EVOLUTION OF THE AVERAGE LEAD SPOT PRICE (USD/MT)

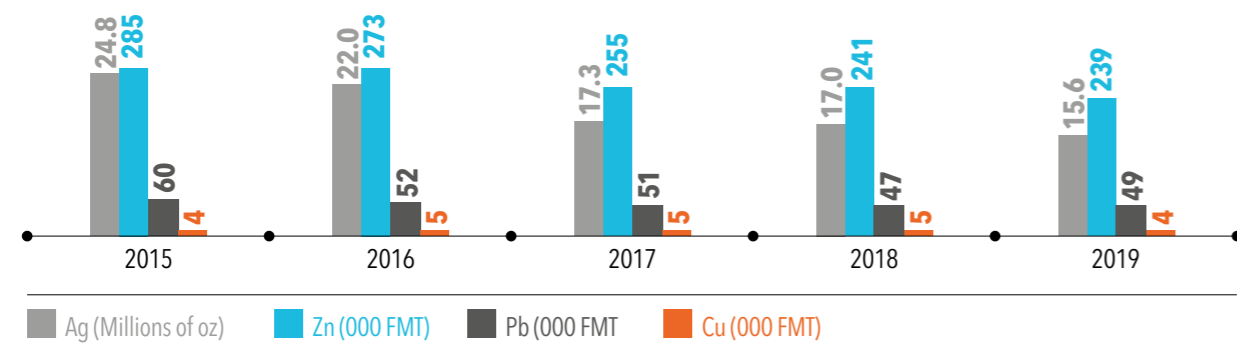


# Pb

EVOLUTION OF PRODUCTION AND AVERAGE GRADES



EVOLUTION OF FINES PRODUCTION



PERU PRODUCTION RANKING IN 2019 - FINES

ZINC	THOUSANDS OF MT
Compañía Minera Antamina S.A. <sup>1</sup>	OF MT
Volcan Compañía Minera S.A.A. AND subsidiaries	239.0
Nexa Resources Peru S.A.A. AND subsidiaries <sup>1</sup>	207.6
Compañía de Minas Buenaventura S.A.A. <sup>2</sup>	64.0
Catalina Huanca Sociedad Minera S.A.C. <sup>1</sup>	49.1

LEAD	THOUSANDS OF MT
Nexa Resources Peru S.A.A. AND subsidiaries <sup>1</sup>	50.1
Volcan Compañía Minera S.A.A. AND subsidiaries	49.4
Compañía de Minas Buenaventura S.A.A. <sup>2</sup>	44.0
Compañía Minera Raura S.A. <sup>1</sup>	16.7
Compañía Minera CGoldna S.A. <sup>1</sup>	16.6

SILVER	MILLIONS OF OZ
Compañía de Minas Buenaventura S.A.A. <sup>2</sup>	17.8
Hochschild Perú <sup>3</sup>	16.8
Compañía Minera Antamina S.A. <sup>1</sup>	15.8
Volcan Compañía Minera S.A.A. AND subsidiaries	15.6
Nexa Resources Peru S.A.A. AND subsidiaries <sup>1</sup>	9.2

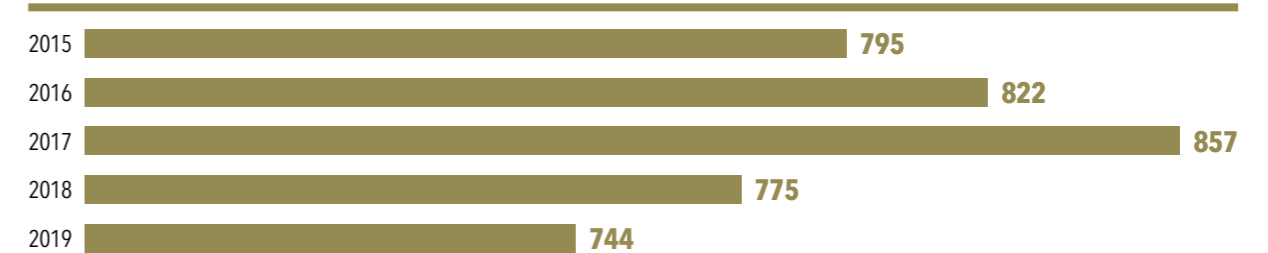
<sup>1</sup> Considers amount reported to MINEM  
<sup>2</sup> Considers amount reported to MINEM. Includes the 61.37% owned by El Brocal.  
<sup>3</sup> Total production of Hochschild is 19.7 million ounces, including its shares in San José in Argentina.  
 Source: company reports, Ministry of Energy and Mines

Zn  
 Pb  
 Ag



62 FINANCIAL INDICATORS

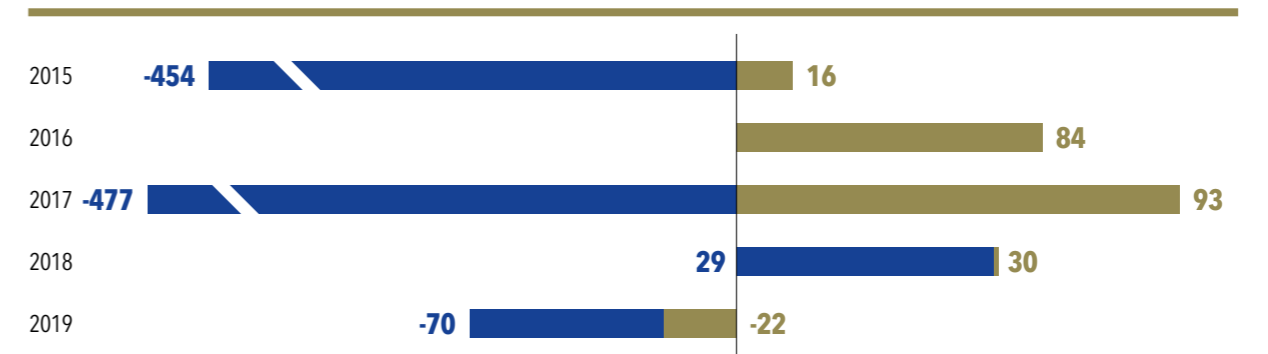
SALES EVOLUTION (IN MILLION USD)



EBITDA EVOLUTION (IN MILLION USD)



NET PROFIT EVOLUTION (IN MILLION USD)



Net Profit before Exceptional Charges    Net Profit after Exceptional Charges



# 07

## MINERAL RESOURCES AND ORE RESERVES

### MINERAL RESOURCE AND ORE RESERVE ESTIMATES OF VOLCAN COMPAÑÍA MINERA AS OF DECEMBER 31, 2019 HAVE BEEN PREPARED ACCORDING WITH INDUSTRY BEST PRACTICES AND THE INTERNATIONAL STANDARDS ESTABLISHED IN THE JORC CODE<sup>2</sup>.

These estimates will be included in the official report of Glencore Zinc, following the guidelines established by Glencore's technical department (Glencore Technical Services).

Mineral resources reported herein are also inclusive of those resources that produce reserves. This form of reporting follows the same one adopted for the report issued in 2018.

Specialized software was used to define the mineral resources and ore reserves. The Company currently owns the license of some of the best geology and mine planning software in the world.

As a result, the mineral resource and ore reserve estimation process in Volcan Compañía Minera is carried out under the highest international mining industry standards.

The Company developed a strategic plan for 2019 in order to carry out the diamond drilling programs for exploration, resource definition and infill drilling. The ultimate goal of this plan is to replace and increase ore reserves. This is possible through a dynamic relocation of the drilling programs to strategic areas to obtain the highest possible estimation of resources that can be converted to reserves. This allows for an adequate planning of production to ensure long-term sustainability.

Mineral resources and ore reserves as of December 31, 2019 were calculated using long-term metal price annual forecasts for the life-of-mine of each Mining Unit. The following average prices were used: 2,450 USD/MT for zinc; 1,910 USD/MT for lead; 6,460 USD/MT for copper; 1,250 USD/oz for gold; and 17 USD/oz for silver.

#### EVOLUTION OF METAL PRICES APPLIED TO THE ORE RESERVE ESTIMATION

PRICES	2011	2012	2013	2014	2015	2016	2017	2018	2019
Zinc (USD/MT)	1,800	1,800	1,900	2,200	2,200	2,300	2,450	2,440	2,450
Lead (USD/MT)	1,800	1,800	2,000	2,000	2,000	2,100	2,100	2,030	1,910
Copper (USD/MT)	6,500	6,500	6,500	6,500	6,500	5,800	6,400	6,500	6,460
Silver (USD/oz)	15	15	20	18	18	18	18.5	16	17
Gold (USD/oz)	1,000	1,000	1,200	1,200	1,200	1,200	1,250	1,250	1,250

<sup>2</sup>The Statement of Zinc Mineral Resources and Ore Reserves as of December 31, 2018, has been compiled in keeping with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves of 2012 (JORC Code). The term "ore reserves", as defined in Clause 28 of the JORC Code, has the same meaning as "mineral reserves" as defined by the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Standards for the definition of mineral resources and ore reserves.

## 7.1 ORE RESERVES

An Ore Reserve is the economically mineable part of a Measured or Indicated Mineral Resource. It includes diluting materials and allowances for losses, which may occur when the material is mined. Ore reserves are categorized as proved or probable depending on the level of confidence.

This estimate has been prepared by applying the guidelines established under best industry practices, and aligning Volcan procedures and methodologies to the standards used by Glencore on a corporate level. The procedures used in the Chungar, Yauli and Alpamarca Mining Units have been aligned. Given the purchase agreement of the Cerro de Pasco Mine, it was deemed convenient to report the same figures as of December 2018.

The Company ore reserve tonnage as of December 31, 2019 has slightly decreased by 5% compared to the previous year. The ore reserve quality has shown substantial grade increases: Zn +20%, Pb +22% and Ag +25% when compared to the previous year.

Ore reserves in Yauli Mining Unit decreased by 3% compared to the previous year. However, grades in general increased by approximately 20%. Even though tonnage has decreased, ore quality has improved, thus resulting in greater quantity of mineable fines.

In Chungar Mining Unit, ore reserves increased by 22% with regard to the previous year. Ore quality (grade) in general also increased by 2% compared to the previous year. This also brings about an increase in mineable fines.



**THE ORE RESERVE QUALITY HAS SHOWN SUBSTANTIAL GRADE INCREASES:**

**ZN +20%, PB +22% AND AG +25%**

**WHEN COMPARED TO THE PREVIOUS YEAR**

EVOLUTION OF TOTAL ORE RESERVES - VOLCAN AND SUBSIDIARIES

EVOLUTION OF ORE RESERVES	THOUSAND DE MT	GRADES				FINES		
		ZN %	PB %	CU %	AG OZ/MT	ZN THOUSAND OF MT	PB THOUSAND OF MT	AG MILLIONS OZ
2010	148,429	3.9	1.2	0.1	3.1	5,715	1,707	453
2011	135,691	3.9	1.1	0.1	3.2	5,238	1,520	438
2012	109,673	3.7	1.0	0.1	3.2	4,112	1,147	355
2013	69,417	3.9	1.0	0.1	4.0	2,728	676	276
2014	73,699	2.5	0.7	0.1	1.8	1,864	486	133
2015	76,891	3.7	0.9	0.1	3.5	2,840	701	267
2016	65,242	3.9	0.9	0.1	3.3	2,536	614	215
2017	50,296	4.1	0.9	0.2	3.6	2,039	465	179
2018	34,300	4.0	0.9	0.1	2.4	1,388	306	81
2019	32,700	4.8	1.1	0.2	3.0	1,565	371	99

PROVED AND PROBABLE ORE RESERVES BY MINING UNIT

ORE REVERVES PROVED AND PROBABLE	MILLION DE MT	GRADES				FINES			
		ZN %	PB %	CU %	AG OZ/MT	ZN THOUSAND OF MT	PB THOUSAND OF MT	CU THOUSAND OF MT	AG MILLION OZ
<b>Yauli</b>	<b>20.9</b>	<b>5.2</b>	<b>1.0</b>	<b>0.2</b>	<b>3.6</b>	<b>1,086</b>	<b>211</b>	<b>39</b>	<b>75</b>
Proven	7.3	5.3	1.0	0.2	3.5	391	73	14	26
Probable	13.6	5.1	1.0	0.2	3.6	695	138	26	49
<b>Chungar</b>	<b>10.0</b>	<b>4.6</b>	<b>1.5</b>	<b>0.1</b>	<b>2.1</b>	<b>463</b>	<b>149</b>	<b>13</b>	<b>21</b>
Proven	2.7	5.4	1.5	0.1	2.2	144	41	4	6
Probable	7.4	4.3	1.5	0.1	2.1	319	107	9	16
<b>Alpamarca</b>	<b>1.8</b>	<b>0.9</b>	<b>0.7</b>	<b>0.1</b>	<b>1.5</b>	<b>16</b>	<b>12</b>	<b>1</b>	<b>3</b>
Proven	0.1	1.1	0.8	-	1.7	1	1	-	0
Probable	1.7	0.9	0.7	0.1	1.5	15	11	1	2
<b>Proven</b>	<b>10.1</b>	<b>5.3</b>	<b>1.1</b>	<b>0.2</b>	<b>3.2</b>	<b>536</b>	<b>115</b>	<b>18</b>	<b>32</b>
<b>Probables</b>	<b>22.6</b>	<b>4.6</b>	<b>1.1</b>	<b>0.2</b>	<b>3.0</b>	<b>1,029</b>	<b>256</b>	<b>36</b>	<b>67</b>
<b>Total</b>	<b>32.7</b>	<b>4.8</b>	<b>1.1</b>	<b>0.2</b>	<b>3.0</b>	<b>1,565</b>	<b>371</b>	<b>53</b>	<b>99</b>

In Alpamarca Mining Unit, ore reserves decreased by 28% as compared to the previous year. This is mainly due to the effect of mining in addition to operations closely approaching the final pit limit. Nevertheless, the Feasibility Study for the Romina Project is near completion and then it will be part of the Alpamarca Mine.

As regards the Cerro de Pasco Mining Unit, a decision was made not to include its ore reserves as of December 2019 given the purchase agreement with Cerro de Pasco Resources.

ORE RESERVES BY TYPE OF MINING OPERATION

ORE RESERVES BY TYPE OF MINING OPERATION	MILLIONS OF MT	GRADES			
		ZN %	PB %	CU %	AG OZ/TM
<b>Underground</b>	<b>30.9</b>	<b>5.0</b>	<b>1.2</b>	<b>0.2</b>	<b>3.1</b>
San Cristóbal	12.2	5.3	1.0	0.2	3.9
<b>Yauli</b>	<b>2.3</b>	<b>5.4</b>	<b>1.3</b>	<b>0.1</b>	<b>3.8</b>
Andaychagua	4.6	5.3	1.0	0.1	3.1
Ticlio	1.8	4.3	0.9	0.4	2.0
<b>Chungar</b>	<b>9.0</b>	<b>4.9</b>	<b>1.5</b>	<b>0.1</b>	<b>1.9</b>
Islay	1.0	2.2	0.9	0.1	4.4
<b>Open Pit</b>	<b>1.8</b>	<b>0.9</b>	<b>0.7</b>	<b>0.1</b>	<b>1.5</b>
Alpamarca	1.8	0.9	0.7	0.1	1.5
<b>Total Reserves</b>	<b>32.7</b>	<b>4.8</b>	<b>1.1</b>	<b>0.2</b>	<b>3.0</b>



## 7.2 MINERAL RESOURCES

The mineral resource estimate as of December 31, 2019, includes those resources that produce reserves. This form of reporting differs from the one used by Volcan in previous estimates, prior to 2018, where those resources that produced reserves used to be excluded.

It should be noted that both forms of reporting resources

are accepted by the JORC code, as long as the form used is clearly indicated. This new form of reporting has been adopted to be aligned with the reporting methodology used by Glencore.

A cut-off grade is used for reporting mineral resources to ensure that mineralized material with no economic interest is removed.

### MEASURED, INDICATED AND INFERRED RESOURCES BY MINING UNIT

MEASURED AND INDICATED MINERAL RESOURCES BY TYPE OF MINING OPERATION	MILLIONS OF MT	GRADES			
		ZN %	PB %	CU %	AG OZ/TM
<b>Underground</b>	<b>66,6</b>	<b>6,2</b>	<b>1,4</b>	<b>0,2</b>	<b>3,8</b>
Yauli					
San Cristóbal	23,5	6,7	1,2	0,3	4,7
Carahuacra	8,5	6,6	1,1	0,1	3,4
Andaychagua	7,6	5,5	1,1	0,1	3,8
Ticlio	5,8	4,4	1,0	0,3	1,8
Chungar					
Animón	16,7	7,5	2,1	0,2	2,8
Islay	4,4	1,8	0,8	0,1	5,8
<b>Open Pit</b>	<b>3,0</b>	<b>1,0</b>	<b>0,7</b>	<b>0,1</b>	<b>1,6</b>
Alpamarca					
Alpamarca	3,0	1,0	0,7	0,1	1,6
<b>Stockpiles</b>	<b>2,1</b>	<b>1,2</b>	<b>0,6</b>	-	<b>0,5</b>
Cerro					
SP Sulfuros	2,1	1,2	0,6	-	0,5
<b>Projects</b>	<b>82,4</b>	<b>1,6</b>	<b>0,7</b>	<b>0,4</b>	<b>0,5</b>
Palma					
Palma	12,5	4,5	0,9	0,0	0,9
Romina					
Puagjanca	10,6	4,7	2,6	0,1	1,2
Yauli					
Zoraida	3,0	4,8	3,3	0,1	4,6
Carhuacayán					
La Tapada	3,6	3,6	1,5	-	1,5
Rondoní					
Rondoní	52,7	-	-	0,5	-
<b>Total Measured and Indicated Resources</b>	<b>154,0</b>	<b>3,6</b>	<b>1,0</b>	<b>0,3</b>	<b>2,0</b>

\*Measured and Indicated Mineral Resources are inclusive of those Mineral Resources modified to produce the Ore Reserves.

### MEASURED,\* INDICATED AND INFERRED RESOURCES BY UNITS

RESOURCES MEASURED, INDICATED* AND INFERRED	MM DE TM	GRADES				FINES			
		ZN %	PB %	CU %	AG OZ/TM	ZN THOUSAND OF TM	PB THOUSAND OF TM	CU THOUSAND OF TM	AG MM DE OZ
<b>Yauli</b>	<b>74,5</b>	<b>5,9</b>	<b>1,1</b>	<b>0,2</b>	<b>3,8</b>	<b>4.408</b>	<b>800</b>	<b>158</b>	<b>282</b>
Measured	21,6	6,4	1,1	0,2	3,9	1.390	236	46	83
Indicated	23,8	6,0	1,2	0,2	4,1	1.419	276	54	97
Inferred	29,0	5,5	1,0	0,2	3,5	1.598	287	58	102
<b>Cerro</b>	<b>156,1</b>	<b>2,1</b>	<b>0,8</b>		<b>2,5</b>	<b>3.259</b>	<b>1.245</b>		<b>386</b>
Measured	2,1	1,2	0,6		0,5	25	13	-	1
Inferred	154,0	2,1	0,8		2,5	3.234	1.232	-	385
<b>Chungar</b>	<b>40,1</b>	<b>5,5</b>	<b>1,7</b>	<b>0,1</b>	<b>3,2</b>	<b>2.195</b>	<b>694</b>	<b>59</b>	<b>127</b>
Measured	5,8	7,8	2,2	0,2	4,3	459	127	12	25
Indicated	15,3	5,7	1,7	0,2	3,1	866	264	23	47
Inferred	18,9	4,6	1,6	0,1	2,9	871	303	24	55
<b>Alpamarca</b>	<b>3,0</b>	<b>1,0</b>	<b>0,7</b>	<b>0,1</b>	<b>1,6</b>	<b>31</b>	<b>22</b>	<b>2</b>	<b>5</b>
Measured	0,1	0,9	0,7	0,0	1,5	1	1	0	0
Indicated	2,8	1,0	0,7	0,1	1,6	29	21	1	5
Inferred	0,1	0,9	0,5	0,0	1,6	1	0	0	0
<b>La Tapada</b>	<b>10,1</b>	<b>3,4</b>	<b>1,4</b>	-	<b>1,4</b>	<b>349</b>	<b>140</b>	-	<b>14</b>
Indicated	3,6	3,6	1,5	-	1,5	130	56	-	5
Inferred	6,5	3,4	1,3	-	1,3	219	84	-	8
<b>Zoraida</b>	<b>4,0</b>	<b>4,8</b>	<b>3,4</b>	<b>0,1</b>	<b>4,6</b>	<b>189</b>	<b>134</b>	<b>4</b>	<b>18</b>
Indicated	3,0	4,8	3,3	0,1	4,6	143	99	3	14
Inferred	1,0	4,8	3,7	0,1	4,8	46	36	1	5
<b>Palma</b>	<b>22,7</b>	<b>4,4</b>	<b>0,8</b>	<b>0,0</b>	<b>0,8</b>	<b>993</b>	<b>188</b>	<b>7</b>	<b>17</b>
Indicated	12,5	4,5	0,9	0,0	0,9	568	110	4	11
Inferred	10,2	4,2	0,8	0,0	0,7	426	78	3	7
<b>Puagjanca</b>	<b>14,5</b>	<b>4,6</b>	<b>2,7</b>	<b>0,1</b>	<b>1,2</b>	<b>672</b>	<b>394</b>	<b>12</b>	<b>18</b>
Measured	5,8	4,3	2,3	0,1	1,1	248	135	4	7
Indicated	4,8	5,3	3,0	0,1	1,4	251	143	5	7
Inferred	4,0	4,4	2,9	0,1	1,2	173	116	3	5
<b>Andrea</b>	<b>5,4</b>	<b>3,9</b>	<b>0,0</b>	<b>0,0</b>	<b>0,2</b>	<b>213</b>	<b>3</b>	<b>2</b>	<b>1</b>
Inferred	5,4	3,9	0,0	0,0	0,2	213	3	2	1
<b>Santa Bárbara</b>	<b>140,2</b>	-	-	<b>0,4</b>	-	-	-	<b>561</b>	-
Inferred	140,2	-	-	0,4	-	-	-	561	-
<b>Rondoní</b>	<b>60,5</b>	-	-	<b>0,5</b>	-	-	-	<b>323</b>	-
Measured	18,4	-	-	0,5	-	-	-	92	-
Indicated	34,3	-	-	0,6	-	-	-	192	-
Inferred	7,8	-	-	0,5	-	-	-	39	-
<b>Measured</b>	<b>53,9</b>	<b>3,9</b>	<b>0,9</b>	<b>0,3</b>	<b>2,2</b>	<b>2.123</b>	<b>512</b>	<b>155</b>	<b>116</b>
<b>Indicated</b>	<b>100,1</b>	<b>3,4</b>	<b>1,0</b>	<b>0,3</b>	<b>1,8</b>	<b>3.406</b>	<b>969</b>	<b>282</b>	<b>184</b>
<b>Inferred</b>	<b>377,0</b>	<b>1,8</b>	<b>0,6</b>	<b>0,2</b>	<b>1,5</b>	<b>6.781</b>	<b>2.139</b>	<b>691</b>	<b>568</b>
<b>Recursos totales</b>	<b>531,1</b>	<b>2,3</b>	<b>0,7</b>	<b>0,2</b>	<b>1,6</b>	<b>12.310</b>	<b>3.620</b>	<b>1.128</b>	<b>868</b>

\*Measured and Indicated Mineral Resources are inclusive of those Mineral Resources modified to produce the Ore Reserves.



Inferred resources are a strong indicator of the capacity to grow and ensure the future sustainability of operations. A significant portion of these resources will be converted to ore reserves in the short and medium term.

Inferred resources in the polymetallic mines represent 54% of the total, while the projects account for 46% of the 377 million MT.

INFERRED RESOURCES BY TYPE OF MINING OPERATION

INFERRED MINERAL RESOURCES BY TYPE OF MINING OPERATION	MILLIONS OF MT	GRADES				
		ZN %	PB %	CU %	AG OZ/TM	
<b>Underground</b>	<b>48,0</b>	<b>5,1</b>	<b>1,2</b>	<b>0,2</b>	<b>3,3</b>	
<b>Yauli</b>						
San Cristóbal	16,2	5,6	1,0	0,2	3,5	
Carahuacra	4,1	6,2	1,3	0,1	4,3	
Andaychagua	4,7	6,2	0,8	0,1	3,8	
Ticlio	4,0	3,5	1,1	0,3	2,3	
<b>Chungar</b>						
Animón	15,0	5,4	1,8	0,1	2,5	
Islay	3,9	1,6	0,7	0,0	4,6	
<b>Open Pit</b>	<b>0,1</b>	<b>0,9</b>	<b>0,5</b>	<b>0,0</b>	<b>1,6</b>	
<b>Alpamarca</b>	Alpamarca	0,1	0,9	0,5	0,0	1,6
<b>Stockpiles</b>	<b>154,0</b>	<b>2,1</b>	<b>0,8</b>	-		
<b>Cerro</b>	<b>SP Sulfuros</b>	<b>154,0</b>	<b>2,1</b>	<b>0,8</b>	<b>2,5</b>	
<b>Projects</b>	<b>175,0</b>	<b>0,5</b>	<b>0,2</b>	<b>0,3</b>	<b>0,2</b>	
<b>Palma</b>	Palma	10,2	4,2	0,8	0,0	0,6
<b>Romina</b>	Puagjanca	4,0	4,4	2,9	0,1	1,2
	Andrea	5,4	0,9	0,5	0,0	1,6
<b>Carhuacayán</b>	La Tapada	6,5	3,4	1,3	-	1,3
<b>Yauli</b>	Zoraida	1,0	4,8	3,7	0,1	4,8
<b>Santa Bárbara</b>	Santa Bárbara	140,2	-	-	0,4	-
<b>Rondoní</b>	Rondoní	7,8	-	-	0,5	-
<b>Total Inferred Resources</b>	<b>377,0</b>	<b>1,8</b>	<b>0,6</b>	<b>0,2</b>	<b>1,5</b>	

INFERRED RESOURCE DISTRIBUTION

INFERRED MINERAL RESOURCES	MILLIONS OF MT	%	TOTAL %
<b>Polymetallic Mines</b>			54%
Yauli	29,0	8%	
Chungar	18,9	5%	
Cerro	154,0	41%	
Alpamarca	0,1	0%	
<b>Projects</b>			46%
Palma	10,2	3%	
Romina	9,4	2%	
Carhuacayán	6,5	2%	
Zoraida	1,0	0%	
Santa Bárbara	140,2	37%	
Rondoní	7,8	2%	
<b>Total Inferred Resources</b>	<b>377,0</b>	<b>100%</b>	<b>100%</b>



# MINING OPERATIONS

**VOLCAN MINING OPERATIONS ARE LOCATED IN THE CENTRAL HIGHLANDS OF PERU. THIS REGION IS PARTICULARLY PROPITIOUS FOR MINING DUE TO ITS GEOLOGICAL CHARACTERISTICS, PROXIMITY TO LIMA, AND EASY ACCESS TO PRINCIPAL HIGHWAYS.**

Volcan has five Mining Units: Yauli, Chungar, Cerro de Pasco, Alpamarca and the Pasco Oxides Plant. Together, they have nine underground mines, three open pits, seven

concentrator plants with a treatment capacity of 21,750 tpd and a leaching plant of 2,500 tpd. The composition of each unit is detailed below:

Yauli	Chungar	Cerro de Pasco	Alpamarca	Óxidos de Pasco
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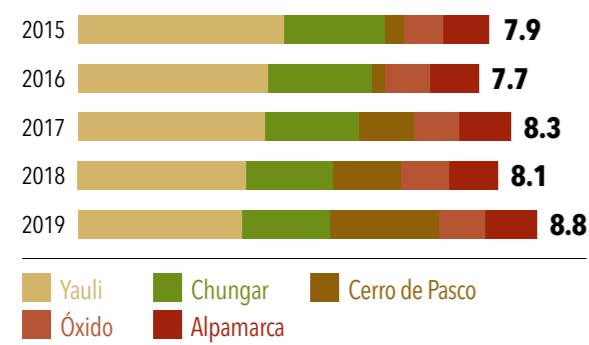
### MINING UNITS AND MINES PER TYPE

NAME	MINES			PLANTS		EXPLORATION AND EXTRACTION CONC' <sup>1</sup>	
	NOMBRE	TYPE	STATUS	NOMBRE	TYPE	NUMBER	HECTARES (000)
Yauli	San Cristóbal	Underground Mines	active	Victoria	Concentrator	144	40
	Andaychagua	Underground Mines	active	Mahr Túnel	Concentrator		
	Ticio	Underground Mines	active	Andaychagua	Concentrator		
		Underground Mines	active				
	Carahuacra Norte	Open Pits	Suspended				
Chungar	Animón	Underground Mines	active	Animón	Concentrator	12	14
	Islay	Underground Mines	active				
Cerro de Pasco	Mina Subterránea	Underground Mines	Suspended	Paragsha	Concentrator	29	18
	Raúl Rojas	Open Pits	Suspended	San Expedito	Concentrator		
	Vinchos	Underground Mines	Suspended				
Alpamarca	Río Pallanga	Underground Mines	Suspended	Alpamarca	Concentrator	28	19
	Alpamarca	Open Pits	active				
Óxidos de Pasco	Stockpiles	stockpiles	active	Óxidos	Lixiviation	1	0.1
Greenfield Explorations						629	263
<b>Total Concessions</b>						<b>843</b>	<b>354</b>

<sup>1</sup> As of December 31, 2019, Volcan Compañía Minera S.A.A. and subsidiaries have a total of 843 mining concessions covering 354 thousand hectares of surface extension, geographically located in the central highlands of Peru. Volcan has complied with the obligation to pay Currency Dues for its mining concessions in accordance with articles 38 and 39 of the Unique Text of the General Mining Law approved by Supreme Decree N° 014-92-EM..

Treated tons increased from 8.1 million in 2018 to 8.8 million in 2019. Mineral quality was prioritized in all Volcan mines and sulfide stockpile treatment in the Cerro de Pasco mine continued.

### EVOLUTION OF TREATED TONNAGE (MILLIONS OF TONS)

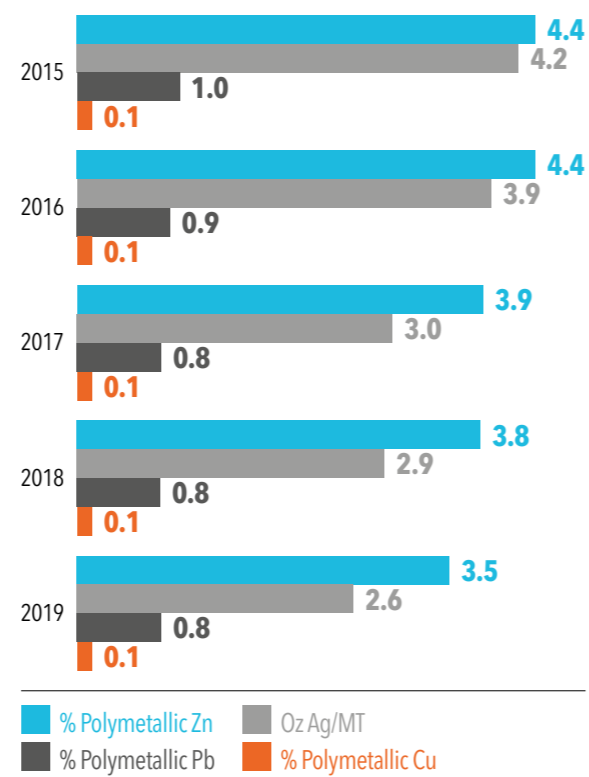


In 2019, average ore grades for Volcan Consolidated were 3.5% for zinc, 0.8% for lead, 0.1% for copper and 2.6 oz of silver per ton. Ore grades of zinc, lead, Copper and Oz Silver decreased by 7.7%, 0.2%, 8.6%, and 10.6% respectively.

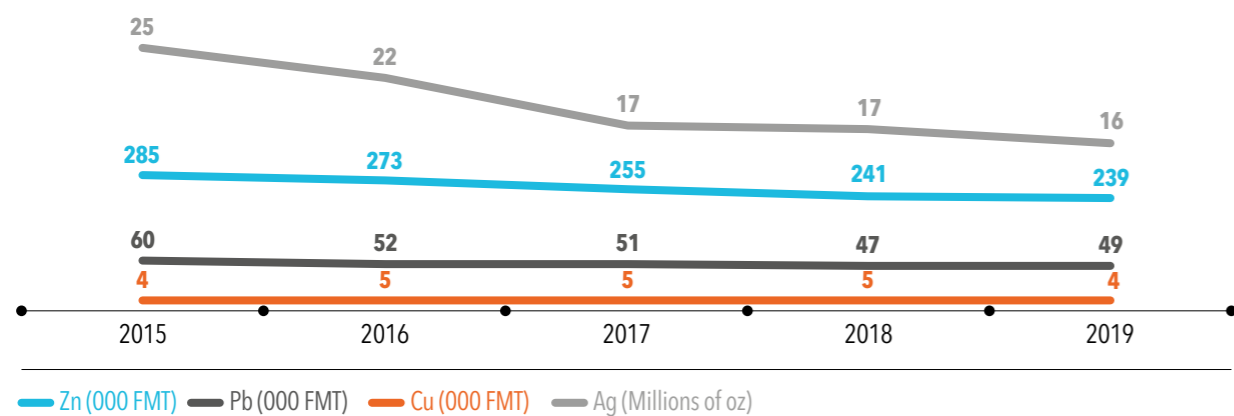
In relation of fines, in 2019 the Company produced 239,000 tons of Zinc Fines, 49,400 tons of Lead fines, 4,500 tons of Copper fines, 15.6 million ounces of Silver, and 21,600 ounces of gold. These figures represent

reductions of 0.8% in Zinc, 3.6 % in Copper and 8.6% in Silver, and an increase of 4.6% in Lead as compared to 2018, mainly due to mine operations shutdowns due to implementations related to world class mining standards to ensure safe and sustainable production.

### EVOLUTION OF AVERAGE GRADES VOLCAN CONSOLIDATED



### EVOLUTION OF PRODUCTION FINES CONSOLIDATED



## 8.1 YAULI MINING UNIT

Yauli Mining Unit is located in the Junín Region, 40 kilometers from the city of La Goldya and 170 kilometers from Lima, and it is accessible by road and rail.

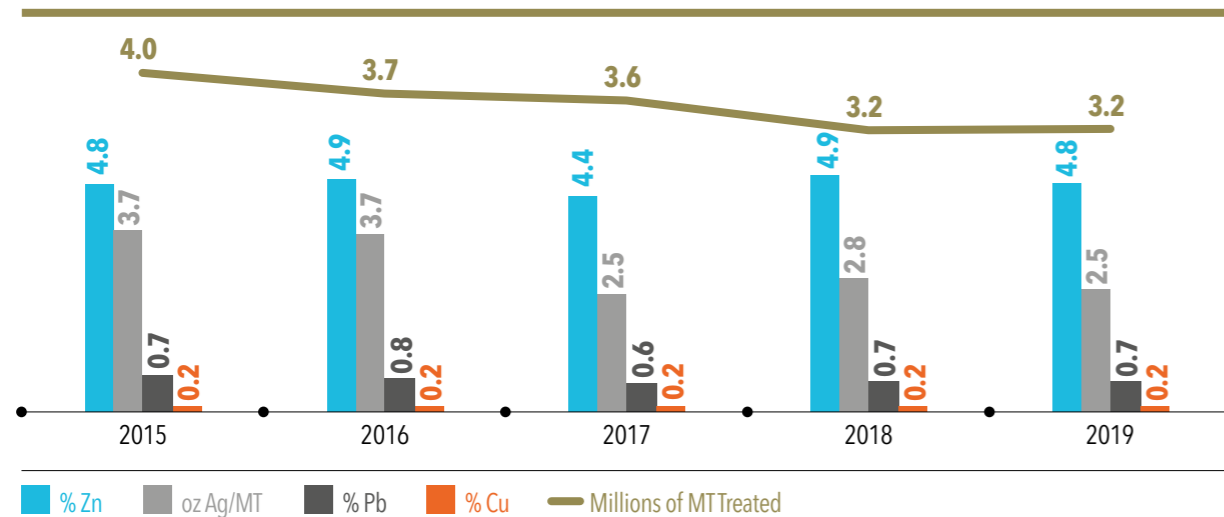
There are currently four underground mines in operation: San Cristóbal, Carahuacra, Andaychagua and Ticlio, where extracted ore is treated in three concentrator plants: Victoria, Mahr Tunnel and Andaychagua, with a total installed capacity of 11,400 tpd.

In 2019, the total volume of ore processed at the three concentrator plants was 3.2 million tons, which

represented 36% of Volcan's consolidated treated ore. 2019 Head grades totaled 4.82% Zn, 0.74% Pb, 0.17% Cu and 2.54 oz Ag/MT as compared to 2018 where it totaled 4.91% Zn, 0.69% Pb, 0.18% Cu and 2.82 oz Ag/MT.

Production of silver fines totaled 7 million ounces, a decrease of 11.1% from 2018; zinc fines production was 140,900 tons, a 3.9% decrease; and lead fines production increased 4.5% to 20,000 tons.

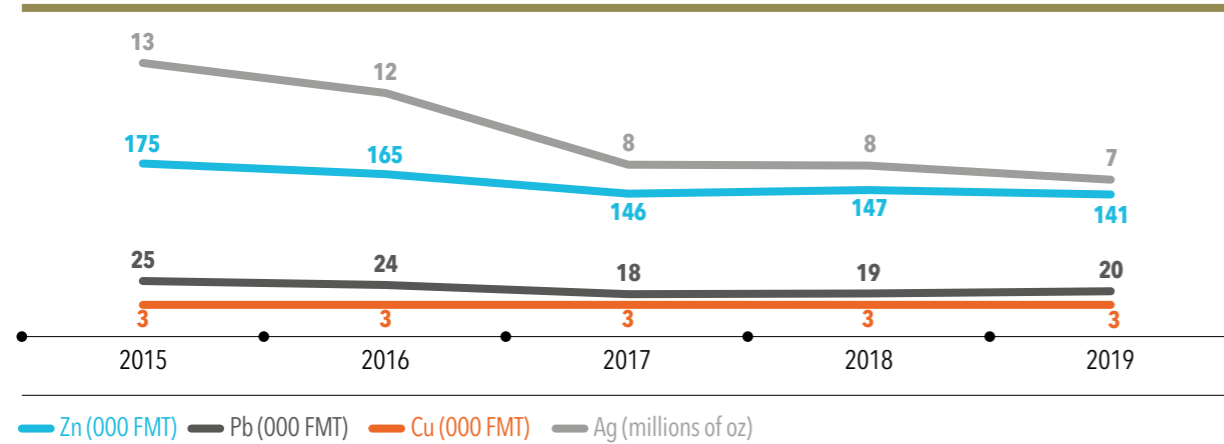
EVOLUTION OF TREATED TONNAGE AND AVERAGE GRADES YAULI



**IN 2019, THE TOTAL VOLUME OF ORE PROCESSED AT THE THREE CONCENTRATOR PLANTS WAS 3.2 MILLION TONS, WHICH REPRESENTED 36% OF VOLCAN'S CONSOLIDATED TREATED ORE.**



EVOLUTION OF FINES PRODUCTION YAULI



YAULI PRODUCTION BY MINE

	TREATED TONS (000 MT)		ZN GRADE (%)		PB GRADE (%)		CU GRADE (%)		AG GRADE (OZ/MT)	
	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019
San Cristóbal	1,098	1,191	5.4	5.5	0.5	0.6	0.2	0.2	2.7	2.9
Andaychagua	854	962	4.3	4.5	1.0	1.0	0.1	0.1	4.3	2.8
Ticlio	350	248	5.2	4.3	1.3	0.9	0.3	0.4	1.5	1.9
Carahuacra	857	764	4.9	4.4	0.3	0.5	0.1	0.1	2.0	1.8
Tajo Carahuacra Norte	44	0	2.1	0.0	0.4	0.0	0.0	0.0	2.2	0.0
<b>Total Yauli *</b>	<b>3,212</b>	<b>3,170</b>	<b>4.9</b>	<b>4.8</b>	<b>0.7</b>	<b>0.7</b>	<b>0.2</b>	<b>0.2</b>	<b>2.8</b>	<b>2.5</b>

\* 8,000 MT and 5,000 MT bought from third parties were processed in 2017 and 2018, respectively.

MINES

The year 2019 meant an improvement in the operational standards by implementing and reinforcing the Electrical Safety, Mobile Equipment, Emergency Response and Fire and Explosion Fatal Hazard Protocols, in order to become a world class mining operation.

During 2019, Yauli Mining Unit managed to consolidate the ore production from its four mines. Work has been done to improve the operational conditions by significantly reducing its risks, optimizing the long-term mining plans (LOM), oriented to generate higher value for the mines. Likewise, the infrastructures necessary for the continuity of operations were implemented aligned to high operational standards. Infill Drilling has been focused towards the areas planned in the short and medium term, in order to achieve greater certainty regarding the ore resources category and ensuring the fulfillment of the objectives.

In 2019, the ventilation models were updated and calibrated using VentSim software across all Mining Units. Also, progress has been made with the execution of the programs for raise boring ventilation and related services, as well as with the installation of main and secondary ventilators, in order to improve coverage and needs of fresh air in the operations, therefore guaranteeing an adequate work environment for our workers, complying with current standards and regulations.

The work throughout the year involved the

implementation of good practices from other Glencore mining operations in countries such as Canada, Australia, and Chile (benchmarking), where technical visits took place, as well as an exchange of knowledge, therefore strengthening the capacities of our professionals at the Volcan Group.

3D geological modeling was commenced, as well as the updating of the Hydrogeological Studies and Geomechanical Studies in order to define new mining methods in each of our mines. This information will allow us to strengthen our planning, to improve our process and to control our risks.

Additionally, the implementation of the underground Radio Communication System, aimed to improve our operations, has concluded.

SAN CRISTÓBAL MINE

During 2019, the head grades increased by 0.45% and 8.31 % in Zn and Ag, respectively, as a result of an operating strategy for controlling dilution at Split 658, RP722 and Sheyla Veins. The implementation of the sublevel stopping mining method was consolidated throughout all veins.

Exploration was directed towards the Split 658 and RP722 Veins, with favorable results in Zn and Ag, mainly in the upper and lateral area of the mine.



YAULI

The infrastructure of the first stage of the 10,000 volts electrical system for the deepening circuits was completed, guaranteeing 2 MW of installed capacity.

The 2019 ore production tons totaled over 8.42%, the results of Zn and Ag fines production were higher than in 2018, 7.61% and 19.69%, respectively.

**ANDAYCHAGUA MINE**

During 2019, production was primarily focused at Andaychagua vein and Prosperidad 1 and Prosperidad T Ore bodies, this last is considered a main Zn source.

The production of tons of ore rose in 12.55% in comparison with 2018, the production of Zn and Ag fines were higher in 18.07% and 16.47%, respectively.

Exploration in 2019 had good results with the discovery and exploration of two new high-grade zinc structures known as Salvadora and Salvadora N, and there were also good results in the exploration of the low zone of Prosperidad Techo with high values of Zinc.

**TICLIO MINE**

During 2019, production was mainly from the Ramal Techo Vein, specially from Stopes located at Deep areas of the mine, 61% of production came from using the sublevel stopping method in structures such as Ramal Techo East and West, Julissa, Kelly and Reemplazamiento Veins.

The production of tons of ore in Ticlio decreased by 29.17% as compared to 2018, and Zn, Pb and Ag fines production decreased by 41.97%, 57.35% and 12.52%, respectively.

This impact was the result of not having the mine prepared for 2019, mainly in the west area of Ramal Techo (high-grade zinc), and there were also failures of the pumping system during the process, which restricted the progress of the deepening ramp. Another important contributing factor was low availability of mine equipment fleet, as well as the long adaptation and learning curve that resulted from the change in Contractor Company.

The 2019 resources estimation was higher than reported for 2018, and there was an increase in DDH

drilling in 2019 compared to 2018, which has made possible to define the Reemplazamiento Structure, as well as a detailed reinterpretation of existing veins such as Veta Ramal Tech.

The communication project for underground and surface operations (Tetra radios) was also completed, meaning that the mine is 100% integrated in radio communication.

**CARAHUACRA MINE**

During 2019, production was mainly focused on Mary and ML Veins, representing 79% of total production. In the West area, mining started in Huaripamapa Ore Body at SL\_1070, the Main Manto at SL\_1020 and Galáctico Ore Body at SL\_780, contributing with a total of 15% of the production and with a higher contribution of Zn and Ag. Also, in this area, mining is consolidated using the OCF method utilizing Hydraulic backfill.

DDH exploration was aimed towards the Mary Vein at deepening levels, towards the Huaripampa Ore body and the Main Manto in the West, upper part of the mine.

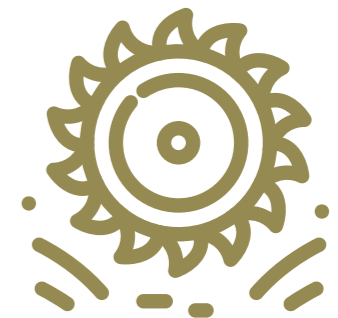
Works for the pumping system project at Level 1220 were completed, with a 130 l/s capacity that will provide better reliability to the system.

Carahuacra ore tons production dropped 10.86% as compared to 2018, while fine production of Zn and Ag decreased by 20.81% and 19.13%, respectively. The production of Pb fines increased 32.27%.

**CARAHUACRA NORTE PIT**

The Carahuacra Norte Pit remains halted since 2018.

**THE YEAR 2019 MEANT AN IMPROVEMENT IN THE OPERATIONAL STANDARDS BY IMPLEMENTING AND REINFORCING THE ELECTRICAL SAFETY, MOBILE EQUIPMENT, EMERGENCY RESPONSE AND FIRE AND EXPLOSION FATAL HAZARD PROTOCOLS, IN ORDER TO BECOME A WORLD CLASS MINING OPERATION**



**CONCENTRATOR PLANTS**

In 2019, the three concentrate plants made an average recovery of 92.3% for zinc, 85.4% for lead, 53.2% in copper and 86.6% for silver, better than 2018, where recoveries were 92.9% for zinc, 86.6% for lead, 50.0% in copper and 86.8% for silver due to a lower head grade effect in metallic content.

**VICTORIA PLANT**

During 2019, the processing capacity of the Victoria concentrator plant was maintained at 5,200 tpd.

Selective flotation of zinc was implemented, therefore eliminating in 100% the use of lime in the flotation process, thereby reducing flotation costs, lowering the ratios of the main reagents (CuSO4 from 0.38 to 0.34).

Copper flotation in the bulk circuit was improved, reducing the dosage of depressors in milling (Sodium Cyanide). Recovery reached 56.63% in 2019, in comparison with the 54.27% from 2018.

A new Cavex 650 cyclone was installed for Primary Milling, therefore reducing the mills' circulating load, allowing us to increase the plant's treatment capacity from 230TMH/h to 233 TMH/h.

In 2019 Zinc recovery reached 91.7% for zinc, 79.8% for lead and 85.1% for silver, as compared to 2018 where it showed a recovery of 92.7%, 78.6% and 83.3% for zinc, lead and silver respectively.

**ANDAYCHAGUA PLANT**

The Andaychagua plant has a treatment capacity of 3,450 tpd.

In 2019, Ball Mills No. 1, 2 and 3 (10.5' x 14', 8' x 10' and 7' x 12') began its implementation as Secondary Milling, which produces an overflow that feeds into the Flotation circuit mesh - 200: 58.98 % below 75 microns. P80 also increased from 145 microns to 120 microns, representing 68% of fines, therefore obtaining a higher release of floating particles which is reflected in the recoveries.

In 2019, recoveries were 92.9% for zinc, 90.9% for lead and 87.8% for silver, as compared to 2018, with recoveries of 92.0% for zinc, 90.2% for lead and 90.4% for silver.

**MAHR TÚNEL PLANT**

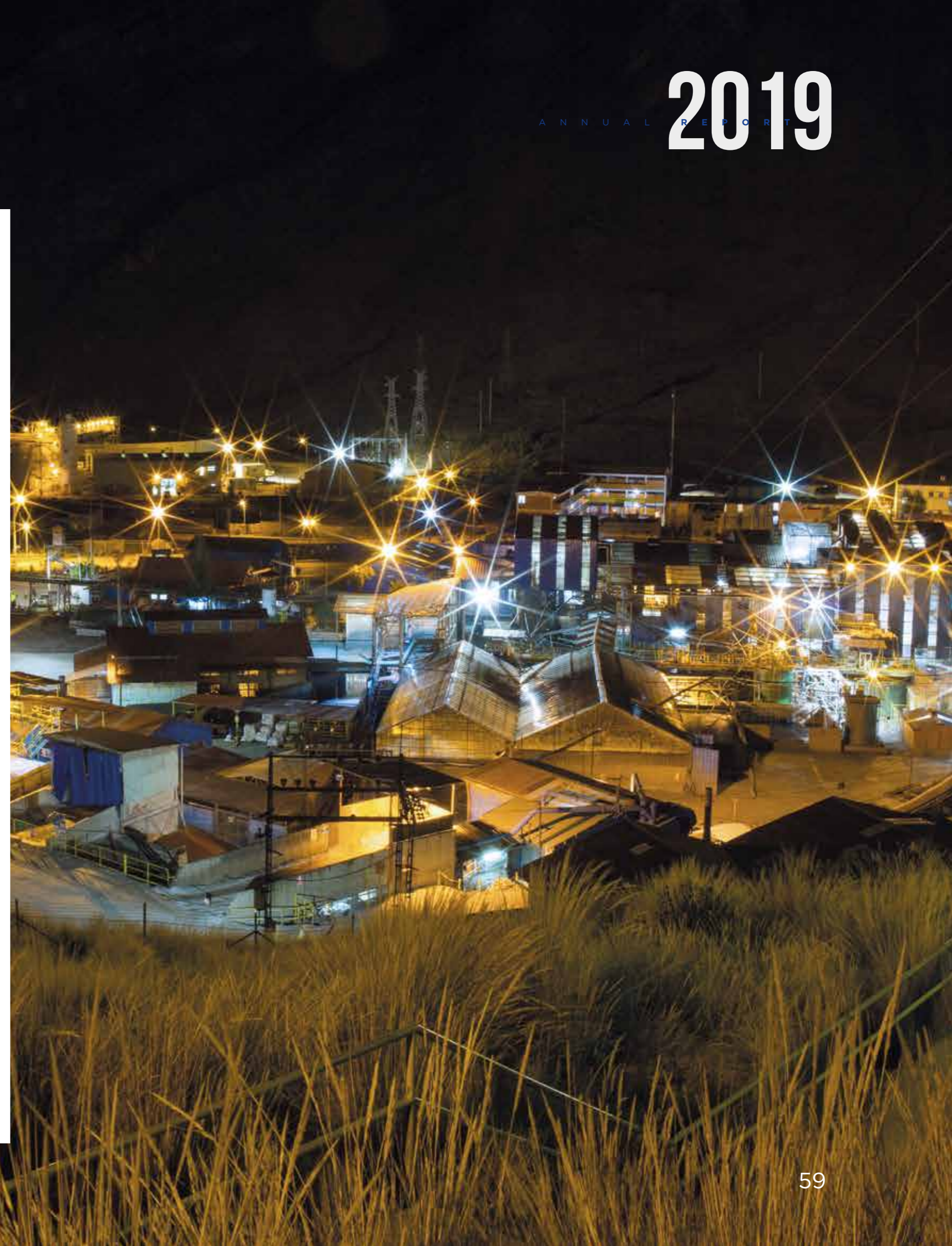
The Mahr Túnel plant has a treatment capacity of 2,750 tpd. During 2019, the Plant operated through monthly treatment campaigns with ore that came, from the most part, from Ticlio mine, although ore from the San Cristóbal and Carahuacra mines was also processed.

The annual treatment plan was aligned to the storage capacity of tailings dam No. 6, and the final cycloned tailings transport to tailings dam No. 1 and 2, which was met.

During 2019, the Mahr Túnel concentrator plant achieved a zinc recovery of 94.4%, a lead recovery of 83.7%, a copper recovery of 84.0%, and a silver recovery of 90.1%, compared to 2018 where Zinc was 95.5%, lead was 92.7%, copper was 73.5%, and silver was 87.6%.

**TREATED TONNAGE AT YAULI, BY CONCENTRATOR PLANT**

	TREATED TONS (000 MT)		ZN CONCENTRATE (000 MT)		PB CONCENTRATE (000 MT)		CU CONCENTRATE (000 MT)	
	2018	2019	2018	2019	2018	2019	2018	2019
Victoria	1,768	1,756	177	162	14	17	8	8
Andaychagua	982	1,095	73	88	18	21	1	0
Mahr Túnel	462	318	39	24	9	5	3	4
<b>Total Yauli</b>	<b>3,212</b>	<b>3,170</b>	<b>289</b>	<b>274</b>	<b>41</b>	<b>43</b>	<b>12</b>	<b>11</b>



## 8.2 CHUNGAR MINING UNIT

Chungar Mining Unit is located in the Pasco Region, 219 kilometers east of Lima. It consists of two underground mines, Animón and Islay, and a concentrator plant also called Animón.

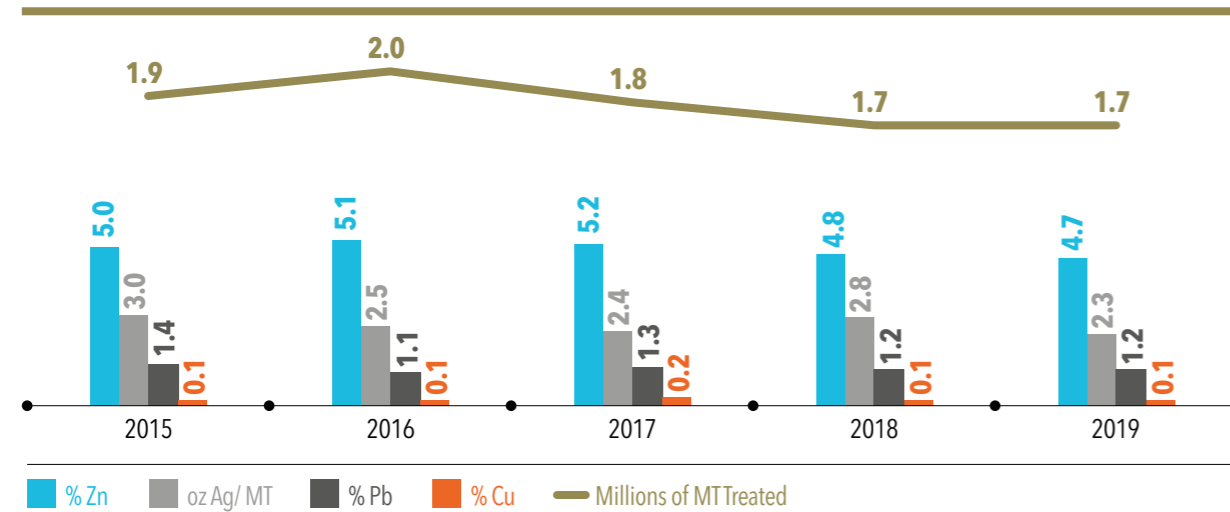
In 2019, the total volume of ore processed was 1.7 million tons, which represents 19% of Volcan's consolidated treated ore. In 2019, treatment was 0.9% higher than 2018, primarily due to more operational days as compared to 2018, where mine shutdowns were executed due to safety measures implemented.

In 2019, ore treated from the Chungar Mining Unit was processed at the Animón Plant with grades of 4.73% Zn,

1.18% Pb, 0.13% Cu and 2.33 oz Ag/MT, less than grades from 2018 of 4.80% Zn, 1.18% Pb, 0.13% Cu and 2.84 oz Ag/MT, due to a reduction in ore grades at the main production Stopes of Animon and Islay Mines.

In 2019, production of zinc fines decreased to 74,700 tons, and silver production totaled 3.2 million ounces, a reduction of 0.2% and 18.6%, respectively, as compared to 2018. The Lead fines production increased to 18,400 tons, a 1.5% increased as compared to 2018.

EVOLUTION OF TREATED TONNAGE AND AVERAGE GRADES CHUNGAR

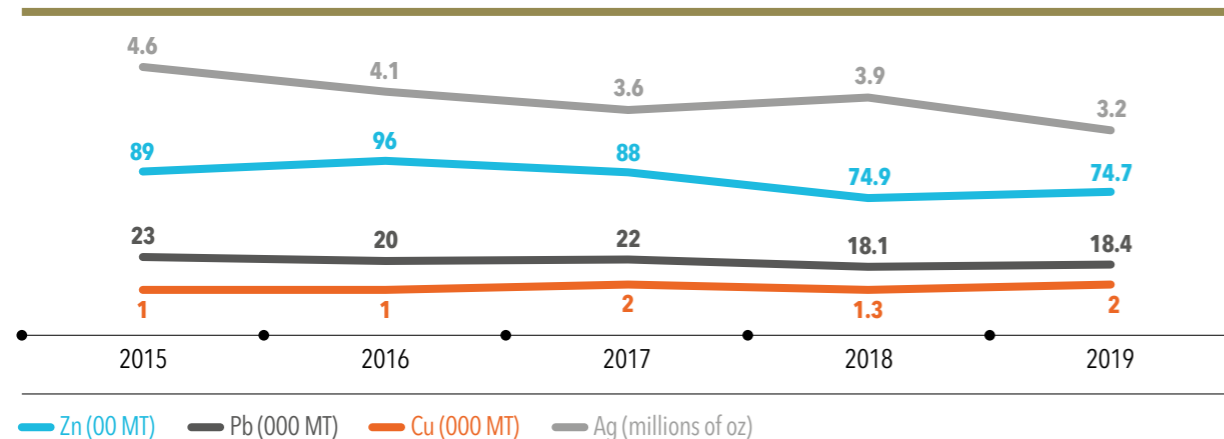


**IN 2019, THE TOTAL VOLUME OF ORE PROCESSED WAS 1.7 MILLION TONS, WHICH REPRESENTS 19% OF VOLCAN'S CONSOLIDATED TREATED ORE.**





EVOLUTION OF FINES PRODUCTION CHUNGAR



CHUNGAR PRODUCTION, BY MINE

	TREATED TONS (000 MT)		ZN GRADE (%)		PB GRADE (%)		CU GRADE (%)		AG GRADE (OZ/MT)	
	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019
Animón	1,387	1,452	5.6	5.3	1.3	1.2	0.1	0.1	2.2	1.9
Islay	303	253	1.2	1.7	0.7	0.9	0.1	0.1	5.8	5.1
<b>Total Chungar</b>	<b>1,690</b>	<b>1,705</b>	<b>4.80</b>	<b>4.73</b>	<b>1.18</b>	<b>1.18</b>	<b>0.3</b>	<b>0.13</b>	<b>2.86</b>	<b>2.33</b>

**MINES**

Chungar Mining Unit has two underground mines: Animón Mine, with a 4,140 tpd production capacity, and Islay Mine, with an 813 tpd production capacity. Tonnage produced by these two mines is treated at Animón Plant.

The year 2019 meant an improvement in the operational standards by implementing and reinforcing the Electrical Safety, Mobile Equipment, Emergency Response, Fire and Explosion, and Ground Strata Control Fatal Hazard Protocols, in order to become a world class mining operation.

**ANIMÓN MINE**

During 2019, the Animón mine consolidated its production at 4,140 tpd, improving its performance due to the established plan to develop and prepare the mine in the upper and lateral area, as well as continuing to deepen

the mine.

During 2019, the construction of the Esperanza and Montenegro pumping systems was continued, a pump series was started up to guarantee reliability of the main mine pumping system.

A radio communication system was implemented throughout the underground operations, with an approximate investment of USD 2 million, in order to optimize the coordination and management of our daily core activities and safety.

**ISLAY MINE**

The construction of underground pumping system infrastructure was commenced, to ensure a total capacity of 420 l/s, which will guarantee lateral development and deepening of the mine.

**CONCENTRATE PRODUCTION**

CONCENTRATE PRODUCTION

TREATMENT ANIMÓN PLANT (000 MT)	2018	2019
Treated Tons	1,690	1,705
Zn Concentrate	133	132
Concentrate Bulk	40	38

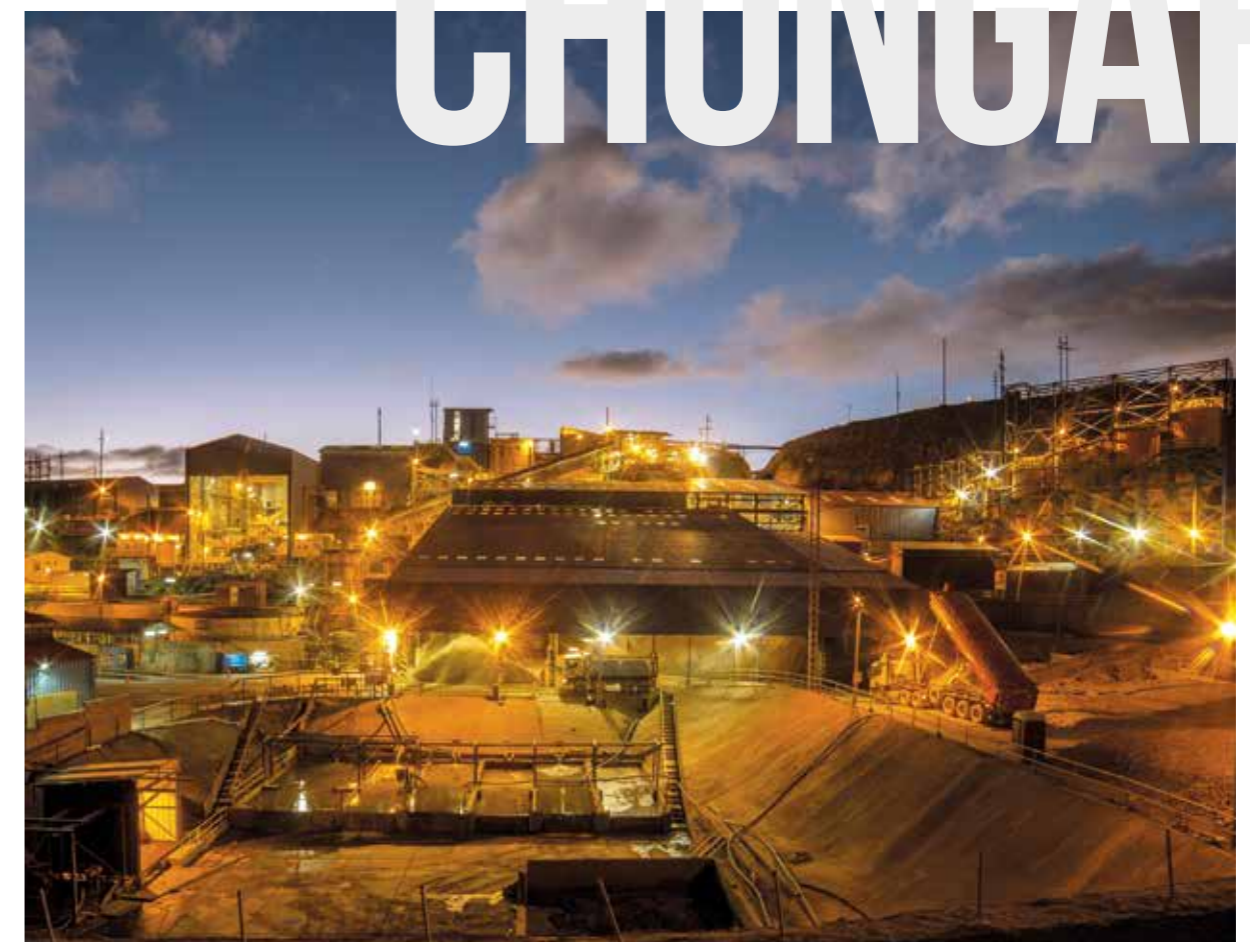
**ANIMÓN PLANT**

In 2019, treated tonnage at the Animón plant increased

0.90% with respect to the previous year. Aiming to improve the metallurgical indexes and understand metallurgy, it was decided to treat ore from the Animón and Islay mines as separate campaigns.

During 2019, the Animón Concentrator Plant achieved a zinc recovery of 92.7%, a lead recovery of 91.4%, a copper recovery of 54.4% and a silver recovery of 80.7%; compared to 2018 where Zinc totalled 92.3%, lead totalled 91.0%, copper totalled 60.1% and silver totalled 82.1%. The decrease in silver recovery was due to lower head grades as compared to 2018, and better bulk concentrate grade which reached 48.5% in 2019 as compared to 45.4% obtained in 2018.

CHUNGAR



## 8.3 ALPAMARCA MINING UNIT

Alpamarca Mining Unit is located in the Santa Bárbara area of Carhuacayán, Yauli Province, Junín Region, 182 kilometers east of Lima.

This Mining Unit, which consists of the Río Pallanga underground mine (temporarily halted), Alpamarca Open Pit, Alpamarca Concentrator Plant, and the Romina-Puagjanca project, began operations in April 2014.

The installed capacity of the concentrator plant as designed is 2,500 tpd.

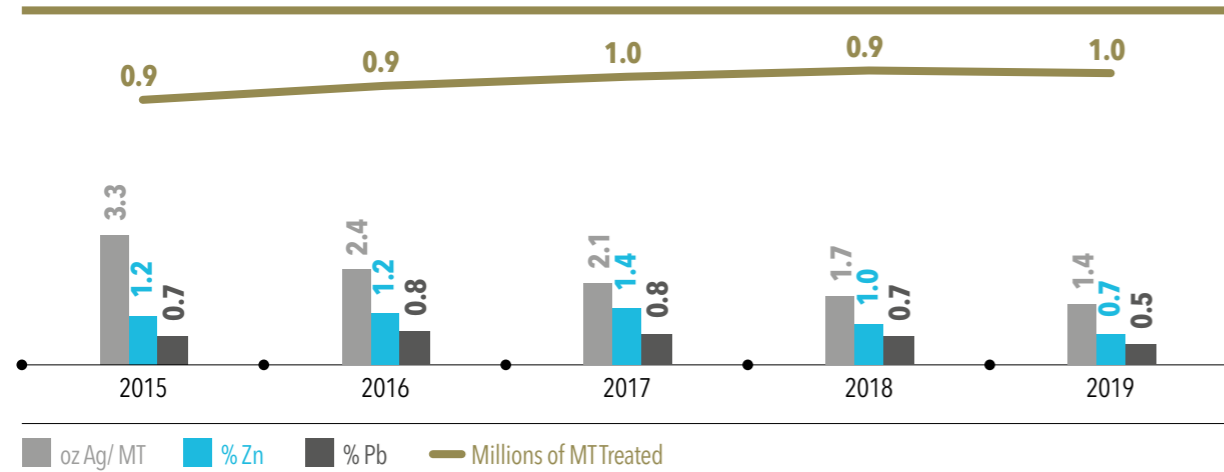
In 2019, ore processed in the concentrator plant came from the Alpamarca Open Pit and stockpiles. Treatment

totaled 950,000 tons, with average grades of 0.73% Zn, 0.53% Pb, and 1.43 oz. Ag/MT as compared to 2018 where average grades of 1.05% Zn, 0.72% Pb, and 1.74 oz Ag/TM were obtained.

Alpamarca production in 2019 totaled 5,920 tons of zinc and 4,660 tons of lead, decreases of 29.5% and 25.3% respectively compared to 2018. This was due to a resource modelling update, mining sequence, and lower head grades.

Meanwhile, silver production topped 1.21 million ounces of fines, a 17.3% decrease from 2018 due to same reasons as for lead and zinc.

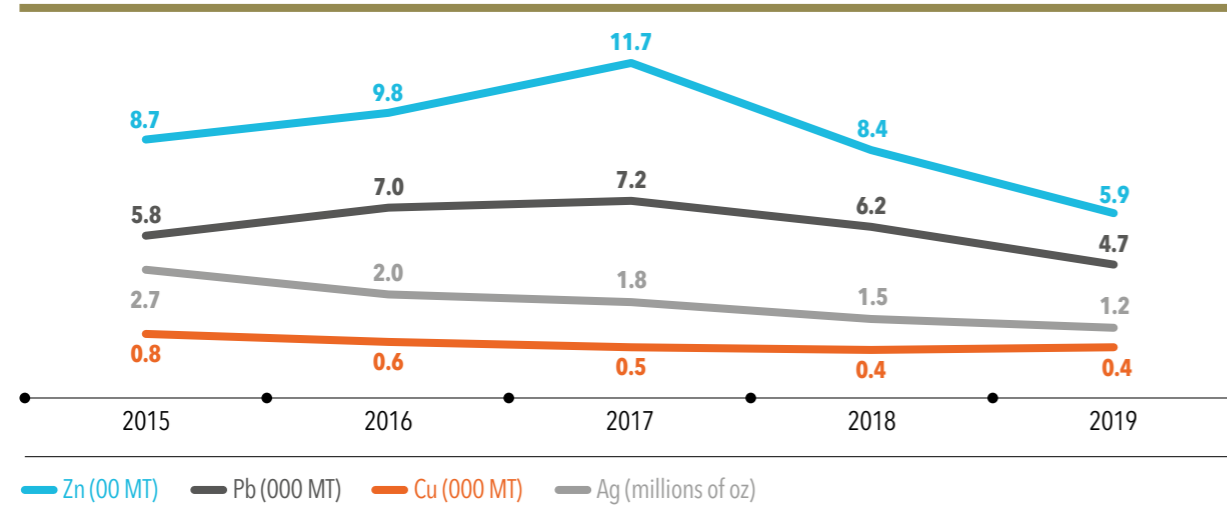
TREATED TONNAGE AND AVERAGE GRADES ALPAMARCA



**IN 2019, ORE PROCESSED IN THE CONCENTRATOR PLANT CAME FROM THE ALPAMARCA OPEN PIT AND STOCKPILES. TREATMENT TOTALED 950,000 TONS.**



RÍO PALLANGA MINE



**MINES**

**RÍO PALLANGA MINE**

Progress and production at the underground mine have been temporarily suspended since December 2015.

**ALPAMARCA PIT**

According to the reserve update as of March 2019, based

on the December 2018 resource model, mining of the Alparmarca Pit is projected up to November 2021.

In 2019, the Pit ore production totalled 552,000 tons. Likewise, 7.62 million tons of waste were mined, including preparation areas, reaching a stripping ratio of 13.8.

**CONCENTRATOR PLANT**

**ALPAMARCA PLANT**

CONCENTRATE PRODUCTION

TREATMENT ALPAMARCA PLANT (000 MT)	2018	2019
Treated tonnage	948	950
Zn concentrate	15	10
Bulk concentrare	10	8

During 2019, the Alparmarca Concentrator Plant steadily processed 950,000 tons of polymetallic ore from the Alparmarca Pit and stockpiles. Metallurgical performance at the Alparmarca Plant was strong, with metal recovery rates of 84.9% for zinc, 92.1% for lead, and 88.7% for silver; as compared to 2018, where recoveries for zinc, lead and

silver totalled 84.6%, 91.6% and 88.7 respectively.

**PROYECTO ROMINA - PUAGJANCA**

In 2019, the Alparmarca Mining Unit developed the Romina Project feasibility study. The Semi-detailed Environmental Impact Study was approved, enabling exploration works involving diamond drilling and the construction of an 850-meter exploratory tunnel directed towards the Puagjanca deposit. The Detailed Environmental Impact Assessment is under processing for approval, which is expected for the second half of 2020.

Ore from Romina will be treated in the Alparmarca Concentrator Plant. Processing has begun to modify its process given that ore from Romina is mineralogically different than ore currently treated.

ALPAMARCA



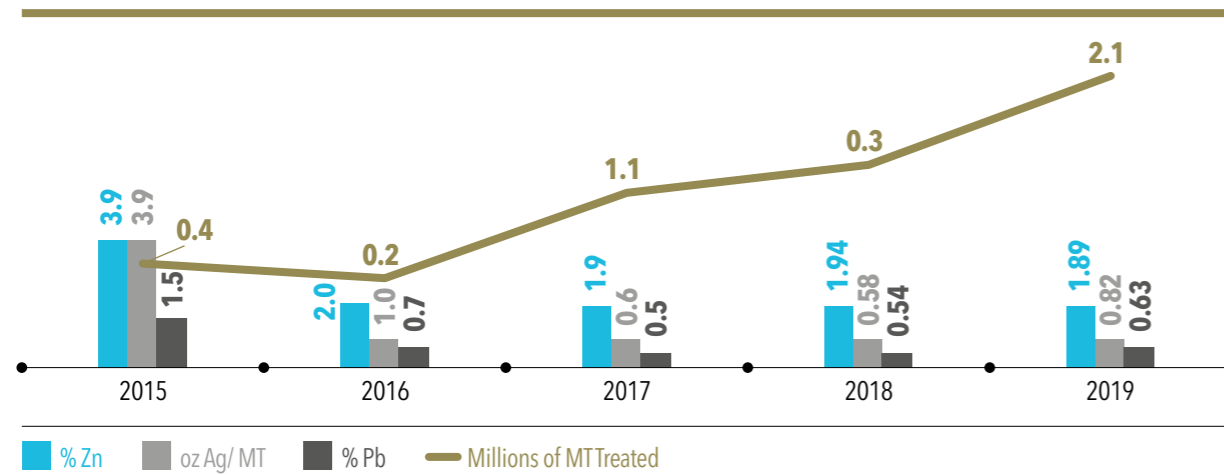
## 8.4 CERRO DE PASCO MINING UNIT

Cerro de Pasco Mining Unit is located in the Pasco Region approximately 295 kilometers from Lima and can be reached via the Central Highway.

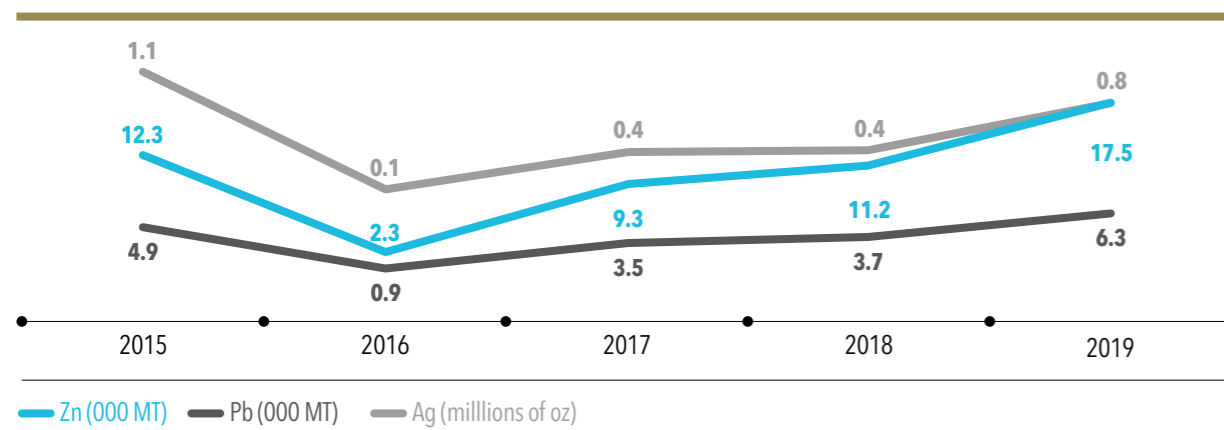
During 2019, 2.1 million tons of stockpiled ore were processed at the Paragsha- San Expedito plant, with ore grades of 1.89% Zn, 0.63% Pb, and 0.82 oz Ag/MT. This ore corresponds from the Raúl Rojas pit stripping.

In 2019, fines production totaled 17,500 tons of zinc, 6,300 tons of lead and 0.79 million ounces of silver, in comparison with the 2018 results of 11,200 tons of zinc, 3,700 tons of lead and 0.4 million ounces of silver due to higher ore treatment and head grades.

EVOLUTION OF TREATED TONNAGE AND AVERAGES GRADES CERRO DE PASCO



EVOLUTION OF FINES PRODUCTION CERRO DE PASCO



**MINES**

**PARAGSHA UNDERGROUND MINE**

During 2019, the Paragsha Mine continued with temporary suspension. The mine is being maintained and water pumping system is in good condition.

**RAÚL ROJAS PIT ORE STOCKPILES**

In 2019, marginal ore stockpiled from the Raúl Rojas Pit and sulfides ore from In-situ Oxides Pit was treated.

**VINCHOS MINE**

In 2019, no ore was produced in the Vinchos mine. Operations in this mine are under temporary suspension.

**CONCENTRATE PLANT**

CONCENTRATE PRODUCTION

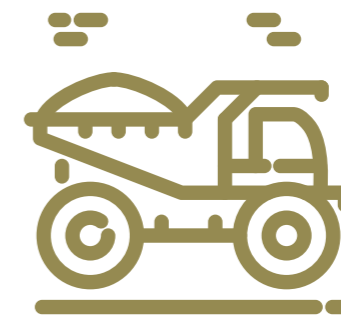
TREATMENT SAN EXPEDITO PLANT (000 MT)	2018	2019
Treated tonnage	1,314	2,073
Zn concentrate	26	39
Bulk concentrate	8	14

The Paragsha-San Expedito plants operated continuously, with treatment of marginal polymetallic ore from Cerro de Pasco's Raúl Rojas Pit.

Tonnage was progressively raised from 5,000 tpd (June 2019) to 7,000 tpd (December 2019), due to the implementation of pulp pumps and reactivation of re-milling and ball mills.

**IN 2019, ORE PROCESSED IN THE PARAGSHA-SAN EXPEDITO PLANTS TOTALED**

**2.1**  
**MILLION TONS**



CERRO DE PASCO



## 8.5 ÓXIDOS DE PASCO OXIDES MINING UNIT

Cerro de Pasco Oxide Mining Unit is located in the Pasco Region, approximately 295 kilometers from Lima and can be reached via the Central Highway.

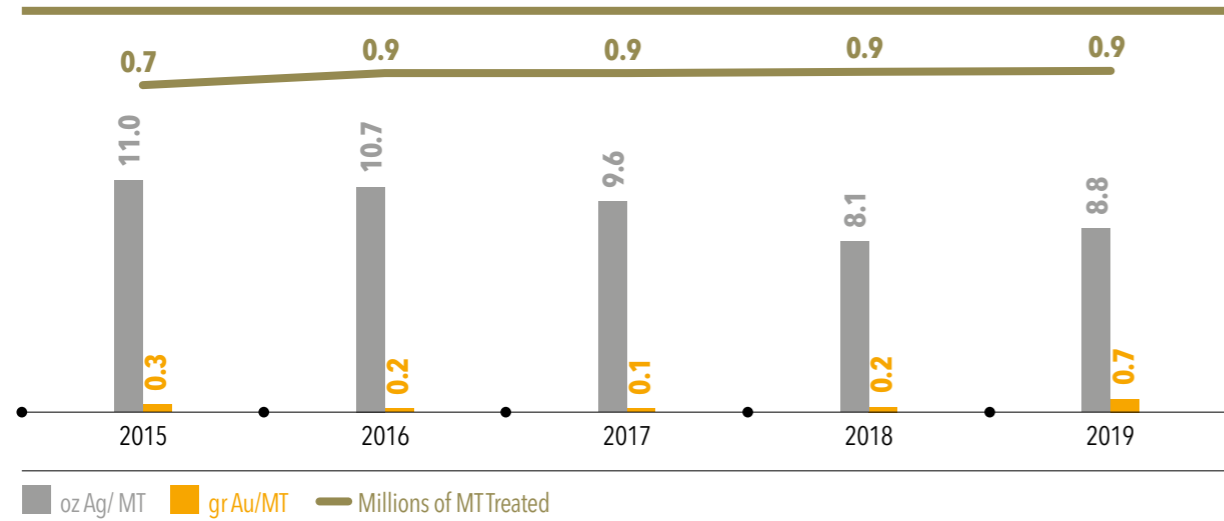
This Mining Unit, which includes Volcan's first leaching plant, began operations in 2014, with full production capacity reached in June 2015.

During 2019, 911,000 tons of stockpiled oxides were processed, with ore grades of 8.76 oz Ag/MT and 0.69 gr Au/MT.

Production of silver fines reached 3.3 million ounces, representing a reduction of 0.7% with respect to the 3.4 million ounces in 2018, due to the reduction in the silver grade in *stockpiles*.

In situ oxide reserves and resources were updated for the production design, south of the Raúl Rojas Pit.

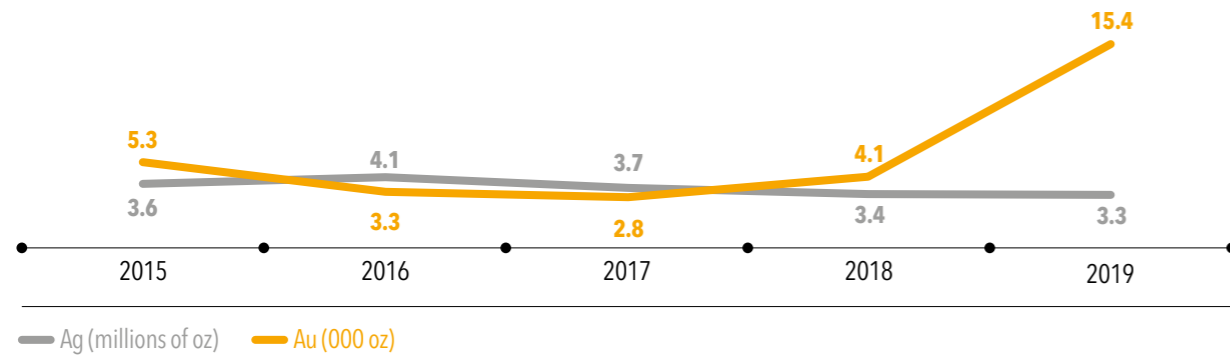
EVOLUTION OF TREATED TONNAGE AND AVERAGE GRADES OXIDES



**DURING 2019, 911,000 TONS OF STOCKPILED OXIDES WERE PROCESSED,**



EVOLUTION OF FINES PRODUCTION OXIDES



OXIDES PLANT

In 2019, the average processing rate totaled 2,558 tpd, including the Oxides Plant being fed from OIS (VGS=22%, SL=29%), pyrites (PY=32%) and Oxides Stockpile (SP=17%).

During the year, the Oxides Plant achieved a silver recovery at 41.8% and gold recovery at 75.8%, as compared to 2018, with silver recovery at 45.3% and gold at 72.1%.

DORÉ PRODUCTION

OXIDES PLANT TREATMENT	2018	2019
Treated Tons (000 MT)	914	911
Dore bars (000 kg)	109	115

# ÓXIDOS DE PASCO



# EXPLORATIONS AND GROWTH



## 9.1 EXPLORATIONS

In 2019, Volcan completed exploration activities in four advanced projects: Romina, Carhuacayán, Zoraida, and Palma totaling 54,294 meters of DDH.

Romina is noteworthy among the advanced projects, where significant mineralization has been defined, specifically in the Puagjanca Body with a significant zinc, lead and silver content. In addition, a significant mineralization has been discovered near Puagjanca between mineralized bodies and mantos named Andrea, Adriana and Esperanza.

On the other hand, at Carhuacayán, a significant mineralization was defined in the La Tapada body (Zn-Pb-Ag), not just beneath the old pit, but also on other levels of this older mine. Both projects, Romina

and Carhuacayán, will produce ore to be treated at the Alpamarca Concentrator Plant.

At Palma, a Greenfields project, a significant mineralization of zinc, lead and silver has been defined, sufficient to begin a mining project separate from the other Mining Units. The pre-feasibility stage will be carried out in 2020, leaving a massive geological potential yet to be discovered.

Finally, at Zoraida, a significant mineralization in zinc mantos, lead and silver has been defined. Production at Zoraida will be treated in the Andaychagua concentrate plant.

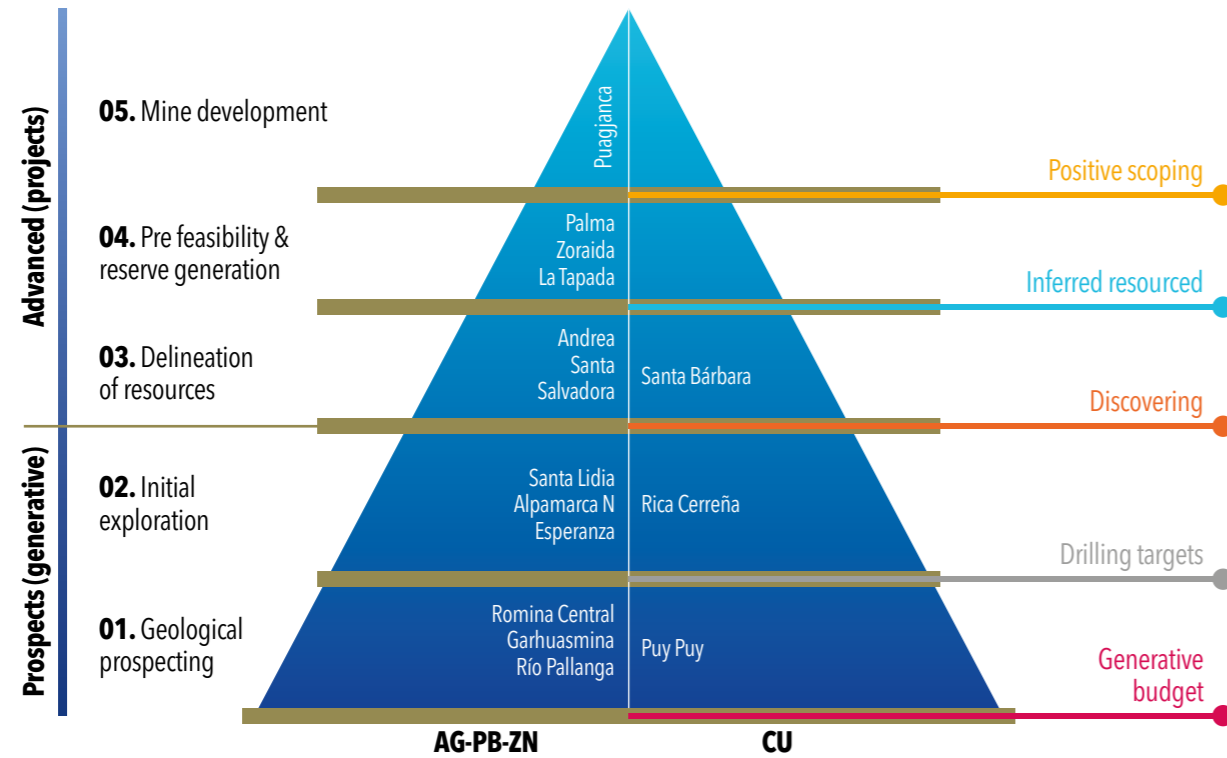
### PROGRESS IN REGIONAL EXPLORATIONS

REGIONAL EXPLORATION PROGRESS (m)	2016	2017	2018	2019
Carhuacayán	1,602	22,904	14,110	10,359
Puagjanca*	5,125	10,688	12,560	3,994
Andrea*				10,170
Palma		7,920	21,591	19,041
Zoraida			4,966	10,730
Shuco			984	
Santa Bárbara		9,087		
Alpamarca Norte		10,409		
Chumpe		875		
<b>Diamond Drill Hole (DDH)</b>	<b>6,727</b>	<b>61,883</b>	<b>54,211</b>	<b>54,294</b>

\*Romina Projects includes Puagjanca and Andrea Ore Bodies



PROGRESS IN EXPLORATIONS PROJECTS (PUAGJANCA IS PART OF ROMINA)



**POST-DISCOVERY DEVELOPMENT**

The polymetallic project portfolio was evaluated in 2019, prioritizing those with the most economic potential. Romina and Carhuacayán were selected due to their proximity to the Alpamarca Concentrator Plant, as well as Zoraida due to its proximity to the Andaychagua Concentrator Plant. Finally, Palma was selected for its major potential.

**ROMINA PROJECT**

Located in the Pacaraos District, 15 km west of Alpamarca Mine. It is a zinc, lead and silver polymetallic mineralization that outcrops in the form of replacement bodies.

The project is in the advanced exploration phase; the Puagjanca sector is the most advanced in terms of development. Initial explorations were executed between 2008 and 2012 by Votorantin Metais and later by Milpo, who completed 13,263 meters of diamond drilling in 43 boreholes.

In 2017, an infill drilling program of 9,572 meters was completed totaling 27 boreholes on the Puagjanca body to refine the geological model and define the category of the resources.

In 2018, an infill drilling program of 5,830 meters was completed totalling 33 boreholes on the upper part of the Puagjanca body, including the surface. The results were very positive, which refined the geological model and increased the resource base.

In 2019, an infill drilling program of 3,994 meters was completed on the Puagjanca body in order to re-categorize the mineral resources, increasing certainty as well as increasing the resource base. DDH was also completed for metallurgical tests at a pilot level, carried out in SGS Chile, as well as drilling for geomechanical stress measurement tests.

In addition, after 10,170 meters of diamond drilling, inferred resources were defined in mineralized bodies and mantos in Andrea, Ariana and Esperanza zones. These are found in the vicinity of the Puagjanca Body and significantly increase the project potential.

In 2019, the pre-feasibility study was completed by REDCO Mining Consultants and Klohn Crippen Berger Company, defining that the Puagjanca body will follow an Open Pit and Sublevel Caving mining methods, and therefore starting the Feasibility Study that will continue to be developed during the first quarter of 2020.

The Feasibility Study will provide relevant information for the presentation of the Detailed Environmental Impact Assessment (EIAd).

**CARHUACAYÁN PROJECT**

Situated 20 km east of the Alpamarca Mine, Carhuacayán is a polymetallic project of zinc, lead, and silver located in a mountainous area. The mineralization is observed in veins, breccia bodies, replacement bodies and mantos.

In 2017, a 21,811-meter diamond drilling program was completed in the areas of La Tapada, Candelaria and surroundings. Positive results were obtained, with significant mineralization primarily in La Tapada. In addition, new possible exploration zones were defined.

Replacement bodies were found in La Tapada, in an

embedded lime block that had been mined previously. This half-table replacement zone has dimensions that are more than 500 meters long and 300 meters deep, with a width ranging from 30 to 50 meters, located in very significant polymetallic mineralization areas.

In 2018, a 14,110-meter DDH Program was completed in La Tapada. This was carried out primarily in the old production zone, showing significant mineralization in these older levels, defining a continuous mineralization over the older zone.

In 2019, a 10,359-meter DDH Program was completed in La Tapada, where indicated and inferred resources were increased to 10.1 million MT, and significant mineralization was evidenced in La Tapada Norte and La Tapada Oeste. Trade-off studies were commenced at Venture Analysis level.

The Venture Analysis will be completed in the first quarter of 2020, and therefore starting the Scoping Study.

**PALMA PROJECT**

Located 60 km southeast of the city of Lima, Palma is a project aimed at extracting volcanogenic massive sulfides (VMS) distributed in mineralized mantos of zinc, lead, and silver.

The first stage of the project involved 17,000 meters of diamond drilling. Drilling enabled estimating inferred



**DURING 2019, 278 THOUSAND METERS DDH CAMPAIGN WAS EXECUTED: 224 THOUSAND METERS DDH IN CURRENT OPERATIONS AND**

**54 THOUSAND DDH IN PROJECTS"**



resources and identifying that ore is structured in mantos, with optimal potencies and good rock quality, and mineralization open both at depth and towards the sides.

The second amendment to the semi-detailed EIA was approved by DGAAM in 2017, after which a 7,920-meter DDH program was completed in the upper part of the deposit, confirming the continuity of the mineralization.

In 2018, a 21,591-meter DDH Program was completed in the zone, showing very positive results. The mineralization horizon increased by one kilometer, with over 600 meters in depth. Currently, the geological model is undergoing updates.

In 2019, a 19,041-meter DDH Program directed towards the southwest extension was completed, achieving a significant increase in indicated and inferred resources to 22.7 million MT. The Scoping Study of the project was also commenced.

In 2020, the project's pre-feasibility study is scheduled to begin.

**BROWNFIELDS EXPLORATION**

**ANDAYCHAGUA AND TICLIO (YAULI)**

A Brownfields Exploration was undertaken in 2018 in the Yauli Mining Unit, with a special emphasis on the Andaychagua and Ticlio Mines, to define new mineralization zones and define the extent of current mines, generating a base to increase resources and replacement zones.

The work involved preparation of databases (compilation, standardization and integration of historic geological data), creation of 3D geological models (lithology, structural, alterations and mineralogy), defining drilling targets and exploring superficially (geological mapping, semi-detailed geochemical and mineralogical prospection and geophysical prospection).

This work provided the basis for defining several initial targets, both for the Andaychagua and Ticlio Mines.

In 2019, a 6,735-meter DDH Program was completed in Ticlio and Andaychagua Mines, identifying targets with great potent.

In Ticlio, in the old San Nicolás Mine, a corridor called Lucy featuring interesting zinc, lead and silver mineralization has been defined. Likewise, a Zn contact skarns mineralization was discovered. In addition, important polymetallic mineralization (mainly silver) was discovered in the western extension of the old Borrachitos mine. All of which will be drilled during 2020.

In Andaychagua Mine, it has been possible to verify the continuity of the Andaychagua metavolcanic corridor, as well as the feeder veins that contribute to the formation of mineralized bodies. The diamond drilling exploration will continue for this corridor during 2020.

Geophysical prospecting work has been carried out in a San Cristóbal metavolcanic rocks corridor, looking for replacement bodies similar to those of Andaychagua. The results show interesting anomalies to be evaluated with diamond drilling during 2020.

**ZORAIDA PROJECT (YAULI)**

Located 7 km south of the Andaychagua mine, Zoraida is primarily a silver project with lead and zinc content. Due to its geological characteristics, it may become the third polymetallic system in the Yauli dome, after San Cristóbal and Andaychagua Mines.

In 2018, more than 23,000 meters of diamond drillholes performed from 2007 to 2014 were reviewed and re-interpreted as per new standards. This review has assisted in defining part of the Zoraida Vein and replacement mantos with significant mineralization of silver, lead and zinc, generating a new geological model with high potential.

In 2019, a 10,730 -meter DDH campaign was completed, and it made possible to validate the geological model, any diamond drilling carried out in previous years and indicated and inferred resources of 4 million MT with a significant silver content.

The Venture Analysis will be completed in the first quarter of 2020, and therefore starting the Scoping Study.

**92 CURRENT OPERATIONS**

**YAULI**

The drilling campaigns executed during 2019 were mainly aimed at measuring indicated resources and recategorizing indicated and inferred resources, as well as increasing resources with the discovery of new structures and reinterpretation of old structures.

The geological evaluation works in the Excelsior group related to hydrothermal structures have allowed the discovery and exploration of two new high-grade zinc structures known as the Salvadora and Salvadora Norte bodies. Likewise, very good results were obtained in the exploration of the Prosperidad Techo lower body, with high zinc values at the Andaychagua mine, which will allow it to perform well in the upcoming years.

During 2019, a 131,985-meter DDH campaign was executed, distributed as follows:

The results confirmed the depth and lateral continuity of the resources in the main mineralized structures. Likewise, the following new resources were determined: (i) in Andaychagua Mine, new mineralized structures known as Salvadora y Salvadora Norte, associated with metavolcanic rocks; (ii) in San Cristóbal Mine, increased depth of 722, 658; Split 658 and Ramal Piso Veins continue on, as well as lateral continuity of vein 722, vein K, Siberia II, Split Aracely; and also, new extensional veins have been recognized, such as Leslie, Diana Sur and Jimena Veins; (iii) in Carahuacra Mine, increased depth of Mary, Manto Principal Techo, Manto Poderosa y Cuerpo Huaripampa Veins, as well as the discovery of MP1, MP2 and MP3 mantos, with good zinc values.

**YAULI DRILLING PROGRAM**

MINE	METERS DRILLED 2019				
	BROWNFIELD	POTENTIAL (M)	RESOURCES (M)	INFILL DRILLING (M)	TOTAL (M)
San Cristóbal		12.456	12.705	17.765	42.926
Andaychagua	977	7.251	10.022	20.735	38.985
Ticlio	5.759	1.685	8.260	7.230	22.934
Carahuacra		1,061	7,152	18,928	27,140
<b>Total</b>	<b>6,735</b>	<b>22,453</b>	<b>38,139</b>	<b>64,658</b>	<b>131,985</b>

**THE DRILLING CAMPAIGNS EXECUTED DURING 2019 WERE MAINLY AIMED AT MEASURING INDICATED RESOURCES AND RECATEGORIZING INDICATED AND INFERRED RESOURCES**

**CHUNGAR**

A brownfields exploration program was initiated in the lateral extensions of Animón mine, as well as in the deepening of the operating area, where 2,815 meters were drilled in order to explore for polymetallic bodies.

This preliminary campaign made possible the discovery of the Esperanza Body, located 700 m deeper than the current infrastructure. The results register an economic intercept of 120 meters with good zinc and copper content.

Similarly, the northwest of Islay mine is being explored in order to evaluate the potential of finding new structures.

For 2020, the plan is to continue with surface mapping, geochemical and geophysical works, aimed to continue generating drilling targets.

The exploration work in Animón and Islay mines was oriented at ensuring compliance with the 2019 production plan and extending the life of the mine, through the incorporation of economic mineral resources and the discovery of new structures with high content of zinc, lead and silver, such as Vein 3 in Animón mine and Jazmín and Guadalupe mantos, in Islay mine.

A 84,696-meter DDH campaign was executed in both Animón and Islay mines, distributed as follows:

**CHUNGAR DRILLING PROGRAM**

MINE	METROS PERFORADOS 2019				
	BROWNFIELD (M)	POTENTIAL (M)	RESOURCES (M)	INFILL DRILLING (M)	TOTAL (M)
Animon	2,815	4,907	9,250	34,686	51,658
Islay	0	3,989	8,693	20,356	33,038
<b>Total</b>	<b>2,815</b>	<b>11,710</b>	<b>17,944</b>	<b>55,042</b>	<b>84,696</b>

**ALPAMARCA**

Local exploration at Alpamarca was primarily focused on developing a drilling program beneath the pit to elevate the certainty of inferred resources to measured and indicated resources, incorporate new inferred resources, and assess continuity of mineralization in the Pit Deepening zone.

A 8,313-meter DDH campaign was completed.

Results allowed to confirm mineral resources in North and Center Pits, showing variable content of silver, zinc, and lead. Likewise, the sector known as Fortuna has been identified as a geological and economic high potential area.



**ALPAMARCA DRILLING PROGRAM**

MINE	METROS PERFORADOS 2019			
	POTENTIAL (M)	RESOURCES (M)	INFILL DRILLING (M)	TOTAL (M)
Alpamarca	3,097	2,217	1,488	6,802
<b>Total</b>	<b>3,097</b>	<b>2,217</b>	<b>1,488</b>	<b>6,802</b>



# 10

## MARKETING MANAGEMENT

The terms of trade for zinc and lead concentrates were unfavorable for mining producers if compared to the last three years.

The increase in the terms of trade for zinc concentrates is due to the sustained emergence of new concentrate production and the low capacity of refineries to process such new production. This imbalance created by the zinc concentrate surplus causes a significant increase in the terms of trade and in quality requirements. As a consequence, the average spot TC went up from 69 USD/DMT in 2018 to 272 USD/DMT in 2019, as published by Wood Mackenzie.

With regard to lead concentrates, the closure of some lead refineries due to environmental and/or economic issues has led to a significant decline in the demand for lead concentrates, adversely impacting the terms of trade. Accordingly, the average spot TC increased from 23 USD/DMT in 2018 to 68 USD/DMT in 2019, as published by Wood Mackenzie. It should be highlighted that the average spot TC in 4Q 2019 totaled 151 USD/DMT, as published by Wood Mackenzie.

Volcan maintained its policy of diversifying markets and finding ways to optimize the value of concentrates in order to improve the terms of trade. In this connection, the Company sought to achieve the optimal concentrate grade, focusing on a higher recovery of payable elements and reducing impurities in concentrates as much as possible. Lastly, the Company continued its efforts to

reduce sales expenses through new, more efficient logistical strategies.

The fines sales volume increased for all metals, except for silver, which decreased by 8.3% mainly explained by a lower production during the year.

### FINE CONTENT SALES VOLUMES

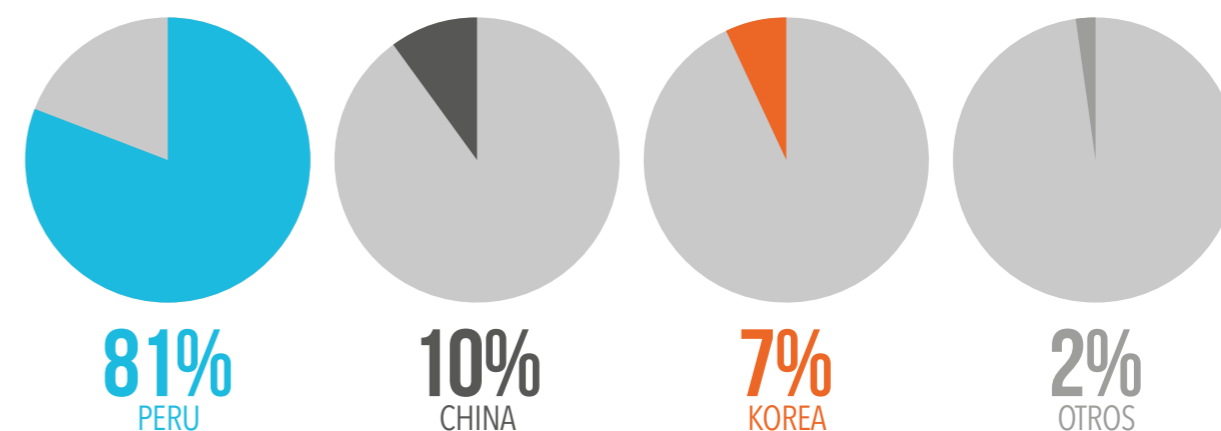
VENTA DE FINOS	2018	2019	VAR. %
Zinc (thousands FMT)	238.7	241.3	1.1
Lead (thousands FMT)	47.8	50.5	5.6
Copper (thousands FMT)	4.2	4.3	1.8
Silver (million Oz)	17.0	15.6	-8.3
Gold (thousands Oz)	15.0	24.4	62.7

The average sales price for zinc fell from 2,917 USD/MT in 2018 to 2,539 USD/MT in 2019 (-13%), while the average sales price for lead decreased from 2,245 USD/MT to 1,978 USD/MT (-11.9%). The average sales price for silver increased from 15.7 USD/oz to 16.1 USD/oz (+2.5%).

### SALES PRICES BY METAL

PRICES DE VENTA	2018	2019	VAR. %
Zinc (USD/MT)	2,917	2,539	-13.0
Lead (USD/MT)	2,245	1,978	-11.9
Cooper (USD/MT)	6,464	6,022	-6.8
Silver (USD/oz)	15.7	16.1	2.5

### SALES BY DESTINATION (PPERCENTAGE OF VALUE IN USD)



# 11

## ANALYSIS OF RESULTS AND INVESTMENTS

### 11.1 CURRENT OPERATIONS SALES

#### NET SALES BREAKDOWN

VENTAS (MILLONES USD)	2018	2019	VAR. %
Zinc	488.6	421.4	-13.8
Lead	92.5	83.8	-9.3
Copper	16.3	13.9	-14.6
Silver	220.7	206.5	-6.4
Gold	13.4	28.5	112.0
<b>Total</b>	<b>831.5</b>	<b>754.1</b>	<b>-9.3</b>
Ajustments <sup>1</sup>	-56.4	-10.5	-81.3
<b>Ventas Netas</b>	<b>775.1</b>	<b>743.6</b>	<b>-4.1</b>

<sup>1</sup>The reported cost of production is the cost of production itself, which does not include the cost of buying ore and concentrates to third parties, nor those extra costs from the liquidation of staff.

In 2019, total sales before adjustments declined by 9.3%, from USD 831.5 million in 2018 to USD 754.1 million. The above decline is mainly explained by: (i) lower metal prices, (ii) a decrease in silver and zinc production, and (iii) higher commercial discounts due to increased TCs for zinc and lead concentrates.

Sales adjustments totaled USD -10.5 million, as a result of: negative final settlements of USD -15.7 million, adjustments due to provisions on open commercial positions (USD -2.4 million), and adjustments for hedging results of USD 7.5 million. Accordingly, sales after adjustments in 2019 amounted to USD 743.6 million, representing a 4.1% decline with regard to USD 775.1 million in 2018.

#### COSTS

The absolute cost of production increased by 5.4%, from USD 376.3 million in 2018 to USD 396.7 million in 2019. Meanwhile, the unit cost of production was down by 3.1%,

from 46.6 USD/MT in 2018 to 45.2 USD/MT in 2019, owing to greater processed volumes of *stockpiled*, low-grade polymetallic ore from Cerro de Pasco.

Volcan remains focused on cost control and reduction in all Mining Units. In addition, it continues applying its policy of identifying specific opportunities for improvement in mining operations, ground support, maintenance, transportation, and supporting areas.

#### ABSOLUTE COSTS (MILLIONS OF USD)

UNIT	2018	2019	VAR. %
Yauli	208.6	210.1	0.7
Chungar	97.4	97.8	0.3
Cerro	18.8	27.3	45.1
Óxidos	35.2	38.8	10.3
Alpamarca	16.2	22.7	40.3
<b>Consolidated</b>	<b>376.3</b>	<b>396.7</b>	<b>5.4</b>

#### UNIT COST (USD/TMT)

UNIT	2018	2019	VAR. %
Yauli	65.1	65.9	1.3
Chungar	58.2	58.5	0.5
Cerro	14.3	13.2	-8.0
Óxidos	38.5	42.5	10.6
Alpamarca	17.0	24.3	42.6
<b>Consolidated**</b>	<b>46.6</b>	<b>45.2</b>	<b>-3.1</b>

\*\*The reported cost of production is the cost of production itself, which does not include the cost of buying ore and concentrates to third parties, nor those extra costs from the liquidation of staff.

In 2019, the cost of sales totaled USD 596.4 million, up by 11.7% with regard to the USD 534.1 million in 2018. This is mainly explained by the USD 42 million increase in depreciation and amortization and the USD 20.4 million increase in the absolute cost of production related to safety preventive stoppages in the Chungar and Yauli Mining Units.

**SALES COST BREAKDOWN BY BUSINESS**

SALES COST (MILLIONS OF USD)	2018	2019	VAR. %
<b>Cost of Own Sales</b>	<b>527.2</b>	<b>594.7</b>	<b>12.8</b>
Cost of Own Production	376.3	396.7	5.4
D&A on Cost of Production	148.0	190.0	28.4
Ore Purchase	1.7	1.0	-40.6
Extraordinary Costs	1.4	2.2	60.0
Variance in Own Inventory	-0.1	4.7	
<b>Worker Shares</b>	<b>6.8</b>	<b>1.7</b>	<b>-75.6</b>
<b>Total</b>	<b>534.1</b>	<b>596.4</b>	<b>11.7</b>

**INVESTMENTS**

Total mining investments grew by 5.7%, from USD 181.1 million in 2018 to USD 191.5 million in 2019. Operating investments also increased by 2.6%, from USD 174.9 million in 2018 to USD 179.5 million in 2019, primarily related to mine and infrastructure expansions. On the other hand, energy business investments decreased by 32.6% compared to the previous year, from USD 3.7 million in 2018 to USD 2.5 million in 2019. Finally, total investments increased by 4.9%, from USD 184.9 million in 2018 to USD 194.0 million in 2019.

**INVESTMENT BREAKDOWN**

INVESTMENT BREAKDOWN (MM USD)	2018	2019	VAR. %
<b>Mining Business</b>	<b>181.1</b>	<b>191.5</b>	<b>5.7</b>
<b>Operating Units</b>	<b>174.9</b>	<b>179.5</b>	<b>2.6</b>
Local Exploration	22.4	23.1	3.5
Development	76.9	70.8	-7.9
Plants and Tailings Dams	35.3	30.8	-12.6
Mine and Infrastructure	24.2	34.3	41.6
Energy in Units	8.2	6.3	-23.9
Administration and Others	7.9	14.2	79.2
<b>Regional Explorations</b>	<b>3.5</b>	<b>4.2</b>	<b>22.6</b>
<b>Growth and Others</b>	<b>2.8</b>	<b>7.8</b>	<b>179.4</b>
<b>Energy Business</b>	<b>3.7</b>	<b>2.5</b>	<b>-32.6</b>
<b>Total</b>	<b>184.9</b>	<b>194.0</b>	<b>4.9</b>

**TOTAL MINING INVESTMENTS GREW BY 5.7%, FROM USD 181.1 MM IN 2018 TO USD 191.5 MM IN 2019**

**PROFITABILITY**

The Company's gross margin in 2019 was 20% lower than the one reported in 2018 (31%). This gross margin decline is mainly related to the downward trend in metal prices. Therefore, gross profits fell by 38.9%, from USD 241.0 million in 2018 to USD 147.2 million in 2019.

In 2019, administrative expenses decreased from USD 48.1 million in 2018 to USD 38.3 million in 2019. Regional exploration expenses saw an increase from USD 13.7 million in 2018 to USD 18.9 million in 2019.

Meanwhile, sales expenses went down from USD 27.2 million in 2018 to USD 23.2 million in 2019. This decline is mainly explained by lower freight and shipping costs resulting from logistical and commercial improvements. As for other net income (expenses), this line item moved

from USD -18.8 million in 2018 to USD -24.0 million in 2019.

Furthermore, gains due to exchange rate fluctuations totaled USD 1.1 million in 2019, compared to the USD -4.1 million loss reported in 2018.

All of the above resulted in EBITDA decreasing from USD 288.8 million in 2018 to USD 244.1 million in 2019. Likewise, net profit before exceptional charges fell from USD 30.3 million in 2018 to USD -21.9 million in 2019.

In line with the Company's conservative accounting policy, in 2019 exceptional accounting adjustments were recorded in the amount of USD -48.4 million, mainly in Cerro de Pasco and in non-operating companies. These adjustments had no effect on the Company's cash flow. Accordingly, net profit for 4Q19 after exceptional charges totaled USD -70.3 million.



## INCOME STATEMENT

INCOME STATEMENT (MILLIONS OF USD)	2018	2019	VAR. %
<b>Sales before Adjustments</b>	<b>831.5</b>	<b>754.1</b>	<b>-9.3</b>
Final Settlements	-34.5	-15.7	-54.6
Provisions for Open Positions	-8.0	-2.4	-70.5
Hedging	-13.9	7.5	
<b>Sales after Adjustments</b>	<b>775.1</b>	<b>743.6</b>	<b>-4.1</b>
<b>Cost of Sales</b>	<b>-534.1</b>	<b>-596.4</b>	<b>11.7</b>
<b>Gross Profits</b>	<b>241.0</b>	<b>147.2</b>	<b>-38.9</b>
Margen Bruto	31%	20%	-11 pp
Gross Margin	-48.1	-38.3	-20.5
Administrative Expenses	-13.7	-18.9	37.8
Sales Expenses	-27.2	-23.2	-14.7
Other Income (Expenses) <sup>1</sup>	-18.8	-24.0	27.5
<b>Operating Profits</b>	<b>133.2</b>	<b>42.8</b>	<b>-67.9</b>
Operating Margin	17%	6%	-11 pp
Financial Expenses (net)	-40.7	-47.7	16.9
Exchange Difference (net)	-4.1	1.1	
Royalties	-13.3	-8.6	-35.0
Income Tax	-44.4	-9.5	-78.6
<b>Utilidad Neta antes de excepcionales Charges</b>	<b>30.3</b>	<b>-21.9</b>	
Net Margin	4%	-3%	-7 pp
Adjustments for Exceptional Charges <sup>2</sup>	-0.9	-48.4	
<b>Net Profit after Exceptional Charges</b>	<b>29.4</b>	<b>-70.3</b>	
<b>EBITDA<sup>3</sup></b>	<b>288.8</b>	<b>244.1</b>	<b>-15.5</b>
EBITDA Margin	37%	33%	-4 pp

<sup>1</sup> Includes sales and cost of sales for the energy division.

<sup>2</sup> Exceptional charges in 2019 are USD -1.1 MM in administrative expenses, USD -31.4 MM in other net income (expenses), USD 18.3 in financial expenses (net) and USD -34.2 MM in income tax, totaling USD -48.4 MM.

<sup>3</sup> This does not consider exceptional adjustments.

Source: Volcan Cia. Mining

### LIQUIDITY AND CREDITWORTHINESS

In 2019, cash flow generated by the mining operations and energy business, after operating investments, totaled USD 40 million. Financing cash flow was negative by USD 68 million and includes USD 39 million in respect of interest. As a result, total cash flow for the year was USD -27 million and the cash balance as of December 31, 2019 was USD 36 million.

Taking into account EBITDA, cash balance and debt, the leverage ratio (Net Financial Debt/EBITDA) at year end was 3.0 to 1 relative to 2.5 to 1 in 2018.

<sup>4</sup> Pertains to cumulative EBITDA for the last 12 months.







ENERGY

**VOLCAN OWNS HYDROELECTRIC POWER PLANTS AND ELECTRICAL TRANSMISSION SYSTEMS, WHICH CONTRIBUTE TO THE GENERATION OF RENEWABLE ENERGIES BY SUPPLYING ENERGY TO ITS OPERATIONS AND ALSO THIRD-PARTY OPERATIONS.**

This strategy allows for improving operating costs, ensuring power supply to the mining operations and contributing to the reduction of greenhouse gas emissions.

The overall installed capacity of the hydroelectric plants totals 63 MW according to the structure below:

- Ten Baños Hydroelectric Plants - Chungar (22 MW)
- Tingo Hydroelectric Plant (1 MW)
- Huanchor Hydroelectric Plant (20 MW)
- Rucuy Hydroelectric Plant (20 MW)

The consolidated power demand from Volcan and subsidiaries is 94 MW .

**ENERGY GENERATION**

In 2019, energy generation totaled 387 GWh, up 26% from the previous year's figure of 308 GWh. This increase was mainly due to the fact that: (i) the Rucuy Hydroelectric Power Plant restarted operations in June 2019, and (ii) the production of Chungar's hydroelectric plants remained constant at 151 GWh.

PCompañía Hidroeléctrica Tingo S.A.C. owns the 1.25 MW Tingo hydroelectric plant and 82 km of 50 and 22.9 kV transmission lines. This Subsidiary generated 9 GWh, which were fully supplied to Chungar's operations. This power



plant already has an approved environmental instrument and is currently taking the pertinent steps to obtain the final generation concession for the Tingo power plant expansion project from 1.25 MW to 15 MW.

Meanwhile, Hidroeléctrica Huanchor S.A.C. generated 159 GWh in 2019, representing a 9% increase over 2018. Such increase was due to the greater availability of the water resource. Huanchor is member of the Economic Operation Committee of the National Interconnected System (COES) and maintained electricity supply contracts with eight customers throughout 2019.

Finally, Empresa de Generación Eléctrica Río Baños S.A.C., owner of the Rucuy hydroelectric plant, restarted commercial operations on June 1, 2019, generating 68 GWh. Egerba is member of the Economic Operation Committee of the National Interconnected System (COES) and maintains a Renewable Energy Resources (RER) contract with the Peruvian State, under which it earns a guaranteed income for the generation of 110 GWh a year.

**ENERGY CONSUMPTION**

The Company's consolidated energy consumption during 2019 totaled 756 GWh, with a peak demand of 99 MW. This represented a 5% increase with regard to 2018. This is mainly explained by the greater vegetative demand from the mining

operations.

Energy generation accounted for 51% of total energy consumption. Additional energy required was purchased from the company Engie Peru S.A. and supplied via the National Interconnected System (SEIN), through a supply contract effective from January 1, 2018.

It is worth noting that the annual availability recorded for the High Voltage System during 2019 in Yauli was 99.91%, while the availability in Chungar-Alpamarca was 99.99%, excluding preventive maintenance activities. This indicator reflects the level of continuity and availability of electricity supply to the mining operations.

**BALANCE ELÉCTRICO**

ELECTRICITY BALANCE (GWH)	2018	2019	VAR. %
<b>Energy Production</b>	<b>308</b>	<b>387</b>	<b>26%</b>
CH's Chungar	153	151	-1%
CH Tingo	9	9	-5%
CH Huanchor	146	159	9%
CH Rucuy	0	68	100%
<b>Energy Consumption</b>	<b>712</b>	<b>756</b>	<b>6%</b>
<b>Energy Purchase</b>	<b>550</b>	<b>596</b>	<b>8%</b>



**THE COMPANY'S CONSOLIDATED ENERGY GENERATION DURING 2019 TOTALED**

**387 GWH**  
**THIS REPRESENTED A 26% INCREASE WITH REGARD TO 2018**



# 100

## SAFETY, HUMAN RESOURCES, CORPORATE SOCIAL RESPONSIBILITY & ENVIRONMENT



### 13.1 SAFETY

#### IMPLEMENTATION OF SAFEWORK PROGRAM

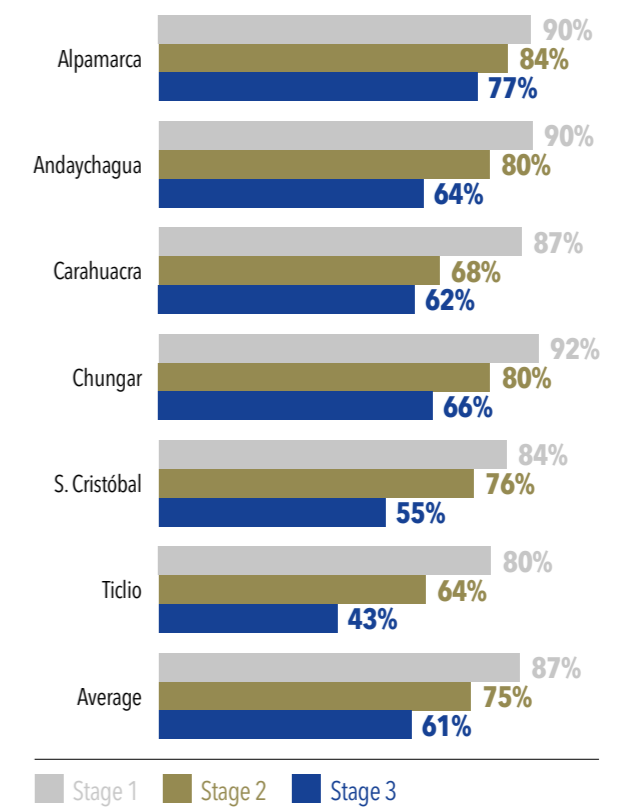
Implementation of 13 Fatal Hazard Protocols continued in 2019 and included Shafts & Winders.

#### 13 FATAL HAZARD PROTOCOLS



Quarterly internal cross-audits were completed among the mines from each Cluster. This audit allows to continuously measure the implementation and preparation of our Leaders. The following results were obtained at the end of 2019:

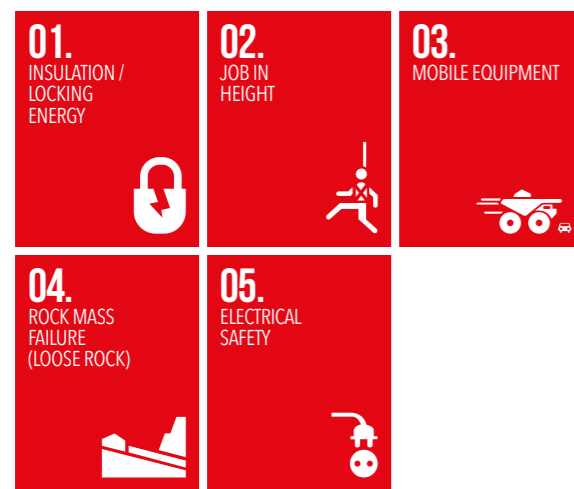
#### RESULTADOS POR UNIDAD MINERA



Audits from Glencore HSEC Corporate were also completed. They were focused in:

- SafeWork Program and its 19 elements
- Catastrophic Hazards Management
- Emergency Response / Fire & Explosion

Upon identification of hazards during these audits and resulting from the accidents and HPRI investigation processes, VOLCAN is making great efforts to ensure a safe working environment for our Employees, in alignment with Glencore's values and culture. In that sense, exposure to five Fatal Hazard Protocols is being mainly monitored:



Critical controls have been implemented to prevent accidents: For example:

- Energy Isolation:
  - Implement lockout matrix for each mining equipment
  - Test for "dead" energy in locked equipment
- Working at Height:
  - Certify anchor points using a third party
- Mobile Equipment:
  - Install four vision cameras and two monitors per each piece of mining equipment to ensure visibility of pedestrians and equipment located at blind spots
  - Install Operator's stand for remote-control equipment
  - Install tow hooks for towing purposes in case of equipment entrapment
- Ground Strata Failure:
  - Release the Intersections Heavy Ground Support Standard
  - Use cable bolts for ground supporting purposes as per geomechanical recommendations
  - Implement the Mine Face Opening Plan aligned to Glencore's Final Block Plan
- Electrical Safety:
  - Install differential protection panels at permanent and

advances pumping sumps

- Install shielded cables to ensure better protection and prevent any potential shortcut caused by damage
- Install resistances and measure grounding continuity at underground substations

Other critical controls implemented are associated to:

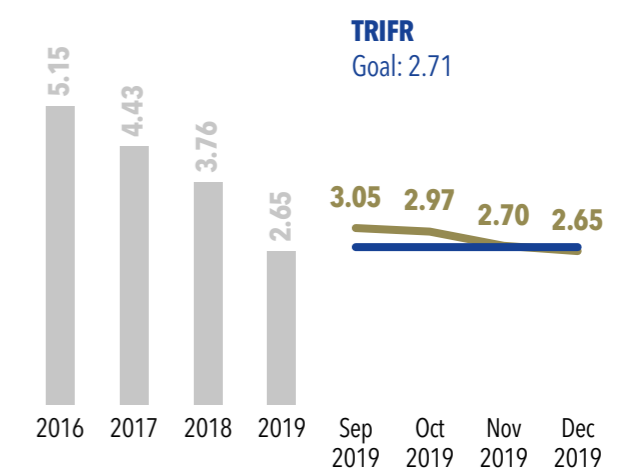
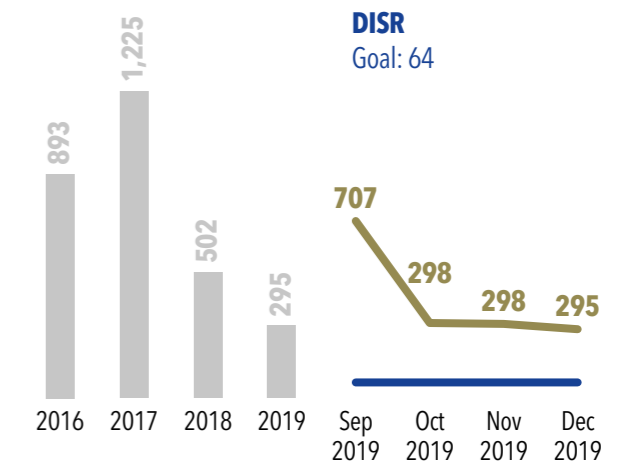
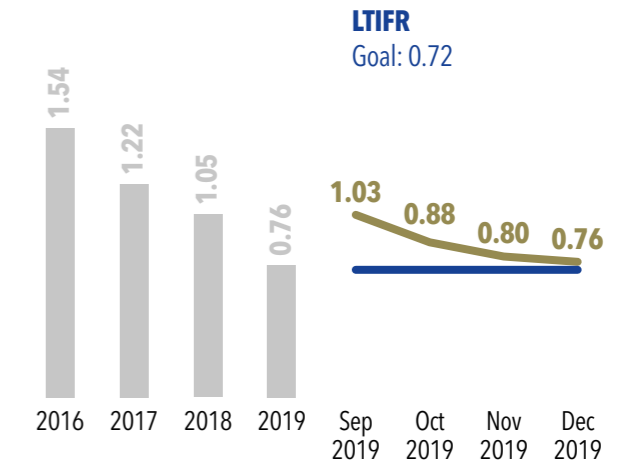
- Emergency Response:
  - Identify refuge zones for fresh air intake and foul air outtake, in case of refueling.
  - Install portable refuge chambers and tarp-like (movable and temporary)
  - Implement permanent refuge chambers for zones of massive gathering of personnel (workshops, canteens)
  - Delivery of Self-contained Self-rescuers (SCSRs) to the entire workforce going to the underground operations.
  - Install a Tag Board for identification purposes of personnel entering and exiting the underground mine and at production work fronts.
- Fire & Explosion:
  - Change from mineral to ester-based oil for electrical transformers.
  - Install Ansul System in mobile equipment.
  - Install fire suppression systems at Refueling Chambers and electrical substations

Action plans associated to these Fatal Hazard Protocols were uploaded to Glencore's Risk Manager Software, where all progress is reported.

Volcan's Senior Management has prioritized safety as the main value and production does not exceed safety. This safety message has been cascaded down to all Employees through communication campaigns and focus group.

Likewise, as part of the rollout, the Life-Saving Behaviors, importance of compliance, zero tolerance to deviations and rewarding or disciplinary measures for our behaviors. The Mine General Managers are the leaders in the communication and scope of this message to all Volcan's employees and contractors.

The following are the 2019 Safety KPIs:



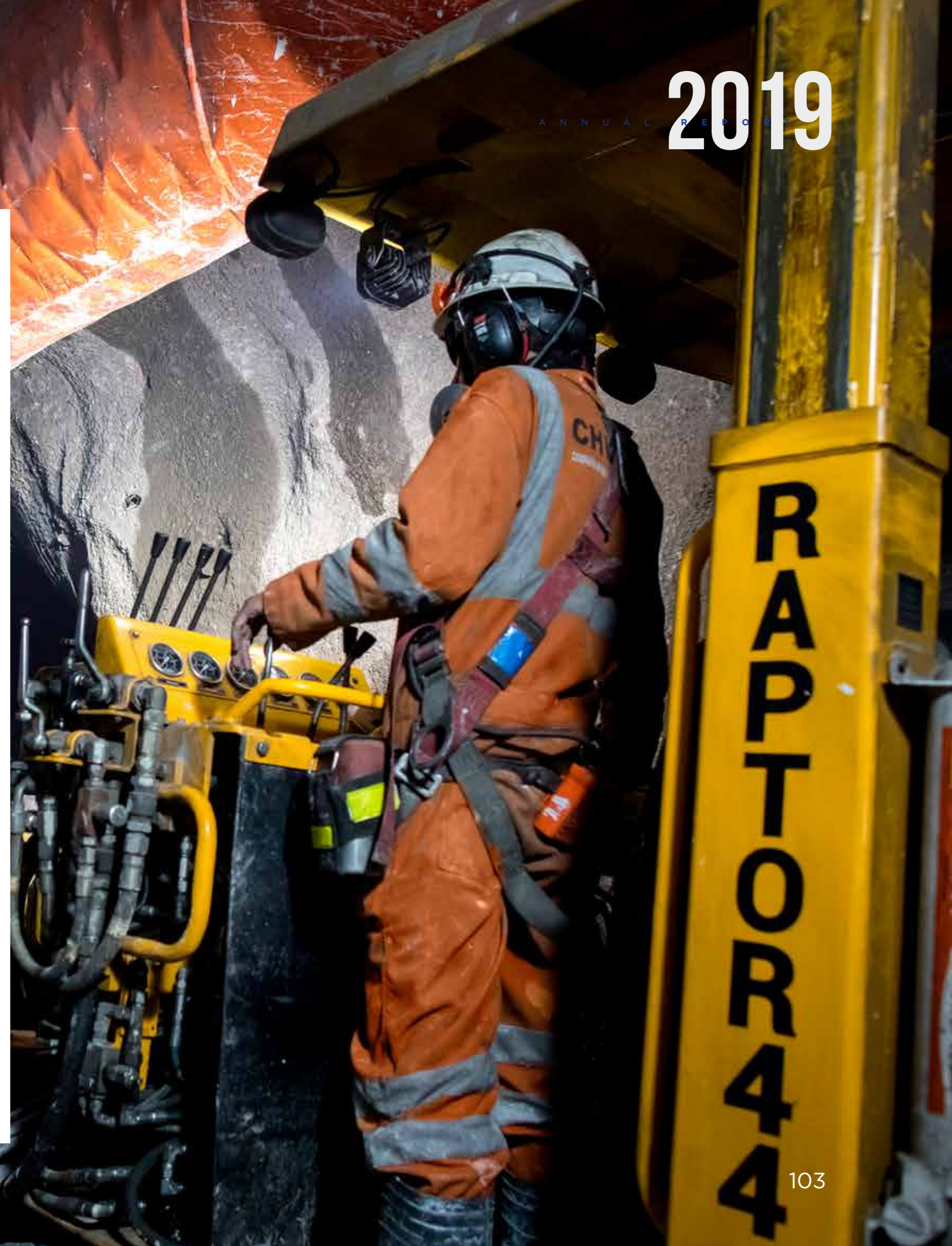
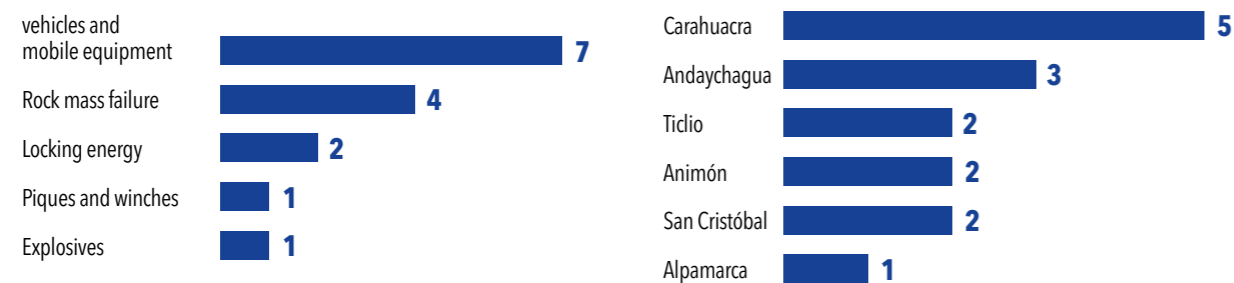
### Results from the Volcan and subsidiaries Safety Managements:

- 1 Fatal Accident at Chungar Mining Unit
- 19 Disabling accidents - 27% less as compared to 2018
- 50 Minor incidents - 29% less as compared to 2018
- 17 accidents with damages to property - 48% less as compared to 2018
- 15 HPRI's - 46% less as compared to 2018

The main objectives for 2020 are to guarantee Zero Fatal Accidents, consolidate our Safety Culture towards a Zero Damage Culture and seek alignment to world-class mining standards under Glencore's guidelines, focus on prevention and mitigation of catastrophic consequence events and be prepared to provide Emergency Response and Fire & Explosion.

### HPRI DETAIL

N°	UNIT	DATE	COMPANY	TYPE	FATAL DANGER	CLASSIFICATION
1	Carahuacra	03/01/2019	ROBOCON	Contratista	Rock mass failure	Accident
2	Carahuacra	23/01/2019	Tecnomin	Contratista	Locking energy	Accident
3	Andaychagua	18/02/2019	Volcán	Volcan	Rock mass failure	Incident
4	Andaychagua	05/03/2019	Volcán	Volcan	Piques and Winches	Incident
5	Ticlo	28/06/2019	Volcán	Volcan	vehicles and mobile equipment	Accident
6	Animón	01/07/2019	Geohidráulica	Contratista	Vehicles and mobile equipment	Incident
7	Alpamarca	24/07/2019	Ecoserm Rancas	Contratista	vehicles and mobile equipment	Incident
8	Carahuacra	24/07/2019	Pacific Perú	Contratista	vehicles and mobile equipment	Incident
9	Animón	15/08/2019	Tecnomin	Contratista	vehicles and mobile equipment	Incident
10	San Cristóbal	21/08/2019	RockDrill	Contratista	vehicles and mobile equipment	Incident
11	San Cristóbal	01/10/2019	Volcán	Volcán	vehicles and mobile equipment	Accident
12	Carahuacra	05/10/2019	Volcán	Volcán	vehicles and mobile equipment	Accident
13	Ticlo	05/11/2019	JRC	Contratista	Explosives and Blasting	Incident
14	Carahuacra	25/12/2019	Volcán	Volcán	Rock mass failure	Incident
15	Andaychagua	27/12/2019	Volcán	Volcán	Rock mass failure	Accident



## 13.2 HUMAN DEVELOPMENT (HR MANAGEMENT)

In 2019, clear goals were undertaken, which made it possible to align each employee's individual efforts and professional development with the business strategy. By following the performance management cycle, we promote a high-performance and continuous improvement culture that enables us to achieve the levels of quality and excellence we set as goal.

Safe work has been and will continue to be one of our biggest challenges. We seek to strengthen those behaviors aimed at safeguarding the employees' health and wellbeing through the implementation of leadership, training, communication and recognition programs.

Finally, we continue working on the "humanization" process with a view to providing to all our employees and contractors' personnel a better workplace, where health, wellbeing and organizational climate are key elements to achieve a proper balance between personal life and professional life.

### TRAINING

In 2019, we continue to focus our efforts on executing systemic training activities intended to develop the technical and behavioral competencies required by the employees to attain the strategic objectives set by the organization. The competency development process is supported by the identification of the strategic, tactical, and business operating objectives, the definition of the goals of each production process, and the detection of the

training needs defined in the job profiles contained in the Organization and Functions Manual.

The training policy was directed towards improving the induction process and the execution of the Annual Training Plan. It was structured to focus on the strengthening of the Company's Safety, Health and Environmental culture through the SafeWork Program, the best practices on comprehensive risk management, the Development Program for Operators, and the Leadership Program for Supervisors, where supervisors and operators developed their behavioral skills.

With regard to technical competencies, training activities were carried out for increased productivity and for the continuous improvement of the Company's core processes: mine operations, planning, geology, metallurgical processes, and quality. Furthermore, the best practices, innovations and updates were incorporated into the Company's administrative, legal, financial, and cost management processes.

### PERFORMANCE AND TALENT MANAGEMENT

As in previous years, the performance and talent assessment was consistently carried out. This process is part of the employee management cycle and is manifested through recognition of individual contributions during the period evaluated. In 2019, we developed new corporate competencies and conducted a 360 degree assessment on our leader.

The results contributed to strengthening a meritocracy

**WE PROMOTE A HIGH-PERFORMANCE AND CONTINUOUS IMPROVEMENT CULTURE THAT ENABLES US TO ACHIEVE THE LEVELS OF QUALITY AND EXCELLENCE WE SET AS GOAL**

culture. In 2019, training, career line, compensation, talent retention and recognition plans were developed.

In 2019, continuing with the 2nd version of the Trainee Program, a number of young professionals went through different areas, strengthening their academic knowledge, gaining more experience and developing an improvement project. All these professionals developed skills in the management of our processes.

### BENEFITS AND COMPENSATION

In 2019, as in previous years, a salary benchmark survey was conducted on the mining market to ensure external competitiveness and internal equity, followed by implementation of the necessary adjustments through a salary planning based on the performance and potential of our employees.

Halfway through the year, an analysis of the processes with the highest risk exposure levels (mine operations, mine services and maintenance) was completed together with the Operations Department in order to include the contractors' personnel involved in such processes into

Volcan's payroll, subject to a prior evaluation of whether they satisfied the required job profiles and competencies.

Finally, action plans were designed and executed, with a focus on optimizing and controlling management indicators such as headcount, personnel turnover, budget, absenteeism, vacations, among others. These plans contributed to the attainment of the corporate goals and to the improvement of the management's processes.

### WORKPLACE CLIMATE

Volcan is continuously developing initiatives and improving working conditions. This has enabled to enhance our employees' wellbeing, commitment and satisfaction year on year.

In 2019, workplace climate committees were set up for each workplace. They analyzed the survey results, thus identifying strengths and improvement opportunities. Cross-sectional and specific action plans were developed based on the results and the information gathered.

As part of 2019's actions, we improved working



conditions such as housing, nutrition, infrastructure and working hours, implementing the flex time.

Efforts continued to strengthen our culture through the recognition of our values, safety and years of work. In 2019, we made 243 recognitions and implemented a digital tool that allows making recognitions quickly.

Lastly, the following activities were carried out: Volcalloween, monthly birthday celebrations, holiday celebrations, competitions, fairs, nutritional advice, in-house sports activities, five-year period celebrations, among others.

**PERSONNEL MANAGEMENT**

2019 has been a year of process optimization and effective development of management indicators of the personnel management area.

All employees were encouraged to use their vacation time in order to promote work-family life balance. Moreover, a detailed record of personnel absenteeism was kept, resulting in a more efficient control and monitoring of absenteeism, and optimizing the control of work schedules.

Furthermore, improvements were made in the management and granting of overtime pay, salary payment, and employee benefits. The automated Access Control System was implemented in the Chungar and Andaychagua Mining Units; it enables to efficiently manage the personnel's entry to the Company's facilities.

In 2019, the Company's internal policies and procedures were adapted to the new statutory provisions, in an effort to eliminate labor contingencies, generating discipline and promoting the best service for our employees.

**INTERNAL COMMUNICATIONS**

In 2019, the focus has been on providing support to the main internal clients with the aim of strengthening our HSEC culture, together with all departments involved: HR, Safety, Environmental Affairs, and Social Responsibility. Moreover, the processes have been standardized by



developing the internal communication matrix in all Mining Units, which enabled to control and position the corporate image.

The annual internal communications plan was fulfilled. Likewise, corporate events and activities were carried out in order to enhance workplace climate and reinforce the employees' pride in belonging to Volcan.

**HEALTH AND WELLBEING**

In 2019, the Health, Hygiene and Wellbeing Department worked cooperatively, concentrating its efforts on the prevention of occupational diseases, including chronic diseases that do not necessarily result from the exposure to labor agen.

The Industrial and Occupational Hygiene Department monitored all the physical, chemical, biological, disergonomic and psychosocial agents in the operations, focusing on the job positions defined as the critical ones during last year's identification of Similar Exposure Groups (SEGs). Emphasis was placed on disergonomic agents, as several job positions that may create risks for musculoskeletal disorders were identified.

Occupational medical examinations were performed on 100% of the Company's and contractors' workers, which include entry, periodical, exit, and change of position medical examinations. Underground workers who have

a history of occupational diseases were removed from service.

In 2019, instructions were given to install obstetric and dental offices in the Carahuacra Mine, in addition to the construction of a new Medical Center in the Andaychagua Mine.

Volcan designed a chronic disease control program addressed to all workers suffering from diseases such as diabetes, high blood pressure, and dyslipidemia. For this purpose, blood tests were performed for several indicators in order to detect and prevent these diseases.

The Social Wellbeing Department carried out several health campaigns in our operations, with the support of the insurance companies and brokers.

**VOLCAN WORKFORCE**

As of December 31, 2019, the Company had a total of 3,090 direct employees, both in Lima and in the Mining Units. Of those, 2,128 are permanent employees with indefinite-term contracts and 962 are employees with indefinite-term contracts. Additionally, at year-end, the number of contractors' employees amounted to 7,437, making a total workforce of 10,527 employees.

**VOLCAN'S OWN PERSONNEL**

NUMBER OF PERSONAL	EMPLOYEES			WORKERS			OFFICIALS			TOTAL		
	2017	2018	2019	2017	2018	2019	2017	2018	2019	2017	2018	2019
Volcan Cía Minera S.A.A.	433	442	395	1222	1228	1286	31	32	32	1686	1702	1713
Cía Minera Chungar S.A.C.	368	366	365	534	558	612	2	3	3	904	927	980
Emp. Admin. Cerro S.A.C	167	171	172	62	69	79				229	240	251
Óxidos de Pasco S.A.C.	39	39	38	78	80	86	1	1		118	120	124
Hidroeléctrica Huancho S.A.C.				22	22	22				22	22	22
<b>Total</b>	<b>1007</b>	<b>1018</b>	<b>970</b>	<b>1918</b>	<b>1957</b>	<b>2085</b>	<b>34</b>	<b>36</b>	<b>35</b>	<b>2959</b>	<b>3011</b>	<b>3090</b>

## 13.3 SOCIAL RESPONSIBILITY

In 2019, Volcan invested USD 5.42 million in the development of the 39 communities located within its direct area of influence, as a consequence of the agreements and commitments in place, the sustainable development plans and community relations plans contained in the Environmental Impact Assessments. The investment is centered on five intervention pillars: education, health, economic development, local employment promotion, and infrastructure. Furthermore, in order to strengthen local economies, Volcan does business with community companies. These are contracted for different types of service, such as civil works, mining operations, hauling, among others.

### CORPORATE VOLUNTEER PROGRAM

As part of its culture, Volcan continued its Corporate Volunteer Program during 2019. Employees from several areas in the different Mining Units (including Corporate) volunteer their time, sharing their knowledge, abilities and skills with members of the adjoining communities. As a result, our employees become change agents who directly participate in the development of the communities located within the areas of influence and the society in general.

### NEWSLETTER

The Company's external communication channels include publications that serve as sources of information and are aimed at reinforcing the population's basic values,

providing safety and health advice, as well as articles on educational topics, emphasizing the importance of caring for the environment, informing the community on how the Company is complying with its commitments, boosting the culture, among others.

MINING UNIT	NUMBER OF EDITIONS
Yauli	4
Chungar	4
Baños	2
Cerro	2

### CORPORATE RECYCLING PROGRAM

Efforts were made to continue the "Recycle Me" program implemented through a partnership with SOS Children's Villages. The purpose is to raise awareness and promote continuity of the actions needed to address paper and cardboard waste, protect the environment, as well as to secure the funds that will provide meals for the children that rely upon SOS Children's Villages.

The "Tapatón" campaign was continued during 2019. This campaign was implemented together with the NGO "Tierra y Ser" and the participation of Lima office and Mining Units who continue to push this initiative as part of Volcan's culture. In addition to promote plastic recycling, the added value of this program is to provide the tools that will help improving the quality of life of people with disabilities within the area of influence.

**IN 2019, VOLCAN INVESTED USD 5.42 MILLION IN THE DEVELOPMENT OF THE 39 COMMUNITIES LOCATED WITHIN ITS DIRECT AREA OF INFLUENCE**

## EDUCATION

### ELEMENTARY AND HIGH SCHOOL EDUCATION

The partnership with "Enseña Perú" remains strong. This NGO aims at driving professionals into working together to transform education. In 2019, this partnership was present in the Yauli, Chungar, and Cerro de Pasco Mining Units, directly benefiting more than 830 students in primary and secondary schools.

This helped improve their performance in math, language comprehension, physics, English, science, and technology and the environment.

### ASSOCIATED COMMUNITIES INCLUDED IN THE "ENSEÑA PERÚ" PROGRAM

DPTO.	MINING UNIT	COMMUNITY
Pasco	Cerro	Rancas
	Chungar	Huayllay Huaychao
Junín	Yauli (Carahuacra-San Cristóbal, Andaychagua, Ticlio)	Huayhuay Suitucancho Yauli

Additionally, a pilot project was performed with "Diseña el Cambio", a non-governmental organization specializing in the implementation of educational methodologies geared towards the innovation and self-generation of sustainable solutions to community's problems. The negotiations intended to replicate the results in educational institutions of our operations ended.

### HIGHER EDUCATION

#### Yauli UEA

In 2019, Volcan continued the full scholarship program through the National Service for Industrial-Technical Training (SENATI). Scholarships were awarded to two young people from the peasant community of Yauli to study heavy machinery mechanics and electronics.

Additionally, throughout this year, scholarships were awarded to six young people from the peasant community of Yauli to receive technical training.

Moreover, a project training program was implemented for secondary education teachers from the peasant

community of Yauli, providing training to 20 teachers from "I.E. José Santos Chocano".

#### Cerro UEA

In the San Antonio de Rancas Community, 25 students were awarded scholarships to Universidad Nacional Daniel Alcides Carrión (UNDAC) and 15 students were awarded full scholarships to SENATI.

Furthermore, in the Quiulacocha Community, three students were awarded scholarships to UNDAC and one student was awarded a full scholarship to SENATI.

#### Chungar UEA

At the end of 2019, there are five scholarship recipients in the community of Huaychao and 12 scholarship recipients in the community of Huayllay under the SENATI scholarship program.

#### Alpamarca UEA

In 2019, in the community of San José de Baños, three students received full scholarship to SENATI and one student received a scholarship to Cetemin.

In the community of Santa Catalina, three students received full scholarship to SENATI and four students received scholarships to Cetemin. Additionally, the "small reporters" vacation program was implemented, with the participation of all the children from the community.

### TRAINING

#### Yauli UEA

- In 2019, nine women from the peasant community of Yauli received training in baking and bread-making, with the successful implementation of the community bakery.
- A training workshop in solid waste management was delivered to promote recycling, supporting the women committee's PET plastic recycling initiative.
- A training workshop in heavy machinery was organized for residents of the communities located within the areas of influence desiring to participate and for their children, thus contributing to their education and work experience.
- Three-month computer and IT workshops were held, with the participation of over 20 students from the community of Pomacocha.
- Pre-professional practices were provided to the children of community residents who were about to finish their technical or university studies. Moreover, in 2019, two students from the communities of Yauli and Pomacocha



completed a summer internship in the company.

**Chungar UEA**

The annual "Heavy Machinery Operator" training course was delivered to 20 residents of the communities of Huayllay and Huaychao and their children.

- English classes were offered to more than 20 students in the community of Huayllay.
- Training in textile artisanry and work tools was offered to 18 women registered in the peasant community of San Agustin de Huaychao, district of Huayllay, Pasco.

**Cerro UEA**

Training was provided on the Code of Ethics and Conduct to contractors' employees and employees of other local companies in the direct area of influence. This was carried out in compliance with the Information and Communication Program of the Community Relations Plan.

- In coordination with the Regional Health Bureau of Pasco (DIRESA), training sessions on nutritional health, adolescent health, healthy schools and healthy homes were held for residents of the communities in the area of influence.
- Dental hygiene talks were held, as well as awareness sessions on environmental protection and conservation,

targeted at students from local schools.

- Training on participative socio-environmental monitoring, addressed to the communities and towns in the area of influence, followed by participative environmental monitoring.
- Labor and technical training modules were developed in the area of livestock, shearing, production and sale techniques. The purpose of this activity was to increase labor skills in the population to help them enter the labor market in the region, while promoting the development of productive and sales chains.

**Alpamarca UEA**

The "Building Relationships in the Communities of Santa Catalina and San José de Baños" program was implemented. It entailed an intervention and a field visit by the female students of the social work school of the University of Trujillo to the communities of San José de Baños and Santa Catalina in order to identify the problems faced by the different communities intervened and undertake community development actions that promote social inclusion in the different stakeholders.



**AS PART OF ITS CULTURE, VOLCAN CONTINUED ITS CORPORATE VOLUNTEER PROGRAM DURING 2019 AS A RESULT, OUR EMPLOYEES BECOME CHANGE AGENTS WHO DIRECTLY PARTICIPATE IN THE DEVELOPMENT OF THE COMMUNITIES LOCATED WITHIN THE AREAS OF INFLUENCE AND THE SOCIETY IN GENERAL.**



**HEALTH**

**HEALTH CAMPAIGNS**

Volcan continued to partner with NGO Prisma to support the improvement of health standards and the impact on

**MEDICAL CAMPAIGNS PER COMMUNITY**

DIVISION	MINING UNIT	LOCATION	CAMPAIGN
Mining	Yauli	Pachachaca	1°
		Pomacocha	1°
		Suitucancho	1°
		Yauli	2°
	Cerro	Quiulacocha	2°
		Yurajhuanca	1°
	Chungar	Huaychao	2°
		Huayllay	1°
	Alpamarca	Santa Catalina	2°
		Carhuacayán	2°
Exploraciones		Cochahuayco	1°
		Sisicaya	1°
<b>Total minería</b>			<b>17</b>
Energy	CH Baños	Ravira	1°
		Viscas	1°
			<b>2</b>
<b>Total</b>			<b>19</b>

**ANTI-ANEMIA CAMPAIGN**

VILLAGE	NUMBER OF HOUSEHOLDS	HOUSEHOLDS WITH CHILDREN UNDER 5 YEARS OLD AND PREGNANT	CHILDREN UNDER 5 YEARS OLD	PREGNANT
Huaychao	136	38	41	7
Paragsha	855	319	335	29
Quiulacocha	177	64	74	5
<b>Total</b>	<b>1168</b>	<b>421</b>	<b>450</b>	<b>41</b>

the quality of life of our communities.

The project has identified (through progress and monitoring indicators) the most prevalent diseases in more than 10 medical specializations; the mostly identified diseases were the respiratory, musculoskeletal and gastrointestinal ones. The Company implemented preventive care through advocacy meetings, raising awareness among authorities, and experiential educational sessions on topics that cater to local needs: personal care and hygiene, healthy eating, anemia prevention, among others. More than 9,500 medical attentions are given every year.

Given that the government plays a fundamental role in ensuring the sustainability of the project, Volcan seeks to involve government authorities in the implementation and execution of these initiatives. In this sense, the Company helped the patients identified as requiring immediate attention to have access to proper treatment in the public health institutions.

**ANTI-ANEMIA CAMPAIGN**

At the same time since 2018, via the same partnership, Prisma has been battling the impact of anemia in children under the age of 5 in the communities of Cerro and Chungar. This plan includes the identification of children's nutritional state, ensuring that they eat iron-rich foods and/or supplements and are able to process the necessary micronutrients. If children are found to be suffering from anemia, they are given help in fighting this health condition.

**ECONOMIC DEVELOPMENT**

**FARMING DEVELOPMENT**

As far as Economic Development is concerned, Volcan and NGO Prisma designed a joint strategy for the conservation and protection of traditional businesses and the development of their industry through innovative ideas.

The farming campaigns held were targeted at improving the production chain through technical assistance and the monitoring of progress made in the areas of influence. In 2019, over 165,000 heads of livestock were vaccinated.

In 2019, as part of the agreement with the community of

**CAMPAIGN BY LOCATION**

DIVISION	MINING UNIT	LOCATION	CAMPAIGN
Mining	Cerro	Coop. Yanamate	1°
		Quiulacocha	2°
		Yurajhuanca	1°
	Chungar	Huayllay	1°
		Huaychao	1°
	Alpamarca	Santa Catalina	1°
		Pomacocha	1°
	Yauli	Yauli	1°
		Suitucancho	1°
Energy	CH Baños	San José de Baños	1°
		Santa Cruz de Andamarca	1°
		San Miguel de Vichaycocha	1°
		San Juan de Chauca	1°
		Viscas	1°
		Ravira	1°
			<b>6</b>
<b>Total</b>			<b>16</b>

Santa Catalina to gain its backing for the Romina II project, the community received 46 improved-breed heifers and one bull worth USD 100,000. Approximately 250 meters of paved roads and sidewalks were built, with the respective water system, and USD 15,000 was provided for the continuation of the pastures project. In the community of San José de Baños, metal posts and mesh were provided to build farm fences and boundary fences with the community of Chuquiripay.

**PROMOTION OF LOCAL EMPLOYMENT**

The Company promotes local employment to help reducing unemployment rates and increase income in the communities in the area of influence, fostering upskilling and contributing to human and professional development. Volcan continues to pursue its policy of engaging local companies. In 2019, community companies reported an annual sales turnover of approximately USD 50 million as a whole.

**CERRO UEA**

In 2019, Volcan worked with the following local companies:

- Empresa comunal Ecoserm-Rancas
- Empresa comunal Tingo Palca
- Empresa comunidad campesina Racracancho
- Empresa comunal de servicios múltiples Quiulacocha
- Empresa comunal de servicios múltiples Yurajhuanca

**CHUNGAR UEA**

In 2019, Volcan worked with the following local companies:

- Empresa Minera Constructora Asuntos Ambientales (Emiconsath)
- Empresa Comunal de Servicios Múltiples Huaychao
- Empresa Comunal Multiservicios San Juan de Huayllay
- Administradora de Proyectos Mineros y Civiles S.R.Ltda.
- Empresa Comunal Quimacocha S.R.L.

**YAULI UEA**

In 2019, Volcan worked with the following local companies:

- Empresa Comunal de Servicios Múltiples Huayhuay
- Comunidad Campesina de Huayhuay
- Comunidad Campesina Suitucancho
- Empresa Comunal de Servicios Múltiples Yauli

- Empresa Comunal de Servicios Múltiples Pomatarea
- Empresa Comunal de Servicios Múltiples Pachachaca
- Comunidad Campesina San Juan Bautista de Pachachaca
- Empresa Comunal de Servicios Múltiples Pucará-MGoldcocha

**INFRASTRUCTURE**

**YAULI UEA**

- The third stage of the Technical Institution Center (CITE) was completed in compliance with the "24-hectare Rumichaca TSF Expansion" agreement signed in 2012 with the Yauli Community. All the stages of this work represent a total investment of PEN 579,000 in support of education.
- Additionally, as part of the contribution to the infrastructure, 400 sacks of cement were delivered for the construction of the Jaumanchaca bridge.
- In coordination with the community of Pomacocha, contributions were made to the construction of the community's horse-riding ring, thus promoting local culture and activities.

**CERRO UEA**

- The "Healthy Homes" Program was carried out to improve the quality of life and provide a healthy environment to the residents of the San Antonio de Rancas community, who are settled in the surroundings of the OcroyocTSF and other mining areas. Solar panels were provided to the 13 families identified.
- Annual maintenance works were completed on the access routes to the canal, in compliance with the agreement signed with the Racracancha peasant community.

**CHUNGAR UEA**

- The works to improve the stadium in the rural farming community of Santo Rosario were completed in

compliance with the agreement with the peasant community of Huaychao.

- 50% of the construction of the second livestock shed in Jatumpampa was completed.

**ALPAMARCA UEA**

- In 2019, as part of the agreement with the community of Santa Catalina, located near the Romina II project, over 250 meters of paved roads and sidewalks were built, with their respective water and drainage system, in the community of Santa Catalina, for an amount of approximately USD 100,000.
- Tingo - Baños Peasant Community road maintenance was performed and, as in previous years, Volcan actively participated in watering the road segment between the Tingo bridge and the community of San José de Baños, as part of its environmental commitment.

**WORKS FOR TAXES PROGRAM**

Since 2010, Volcan has funded 14 infrastructure and public utility projects with major social impact for an amount of PEN 108.5 million. These projects contributed to reduce the infrastructure gap in the country in sectors related to education, water and sanitation, solid waste management, transport, among others. Approximately 500,000 people have been benefited by these projects.

Volcan continues participating and actively promoting the Works for Taxes Program through the execution of new projects and by engaging new local, regional and national authorities. The projects completed by the Company mainly benefit the surrounding communities and also align with an internal strategy to invest in important

**VOLCAN HOLDS THE THIRD SPOT AMONG MINING COMPANIES IN THE WORKS FOR TAXES RANKING IN TERMS OF TOTAL INVESTMENT AMOUNT COMMITTED**

**RANKING OF COMPANIES BY INVESTMENT AMOUNT AND NUMBER OF PROJECTS (IN MILLION PEN BETWEEN 2009-2019)**

Nº	COMPANY	TOTAL
1	Banco de Crédito del Perú (BCP)	1,147.96
2	Compañía Minera Antamina S.A.	613.70
3	Southern Peru Copper Corporation	600.02
4	Optical Technologies S.A.C.	232.46
5	Telefónica del Perú S.A.A.	222.78
6	Banco Internacional del Perú S.A.A. - Interbank	186.94
7	Unión de Cervcerías Peruanas Backus y Johnston S.A.A. - Backus	109.81
<b>8</b>	<b>Volcan Compañía Minera S.A.A.</b>	<b>108.60</b>
9	Cementos Pacasmayo S.A.A.	87.39
10	Ferreyros S.A.	80.40

Source: Bureau of Decentralized Investments - ProlInversión

sectors that generate greater social impact.

Moreover, Volcan holds the third spot among mining companies in the Works for Taxes ranking in terms of total investment amount committed. In addition, Volcan is a founding member of the Works for Taxes Alliance (ALOXI), which groups those companies responsible for more than 80% of the projects executed under this program.

In 2019, an event was held to hand over the Chancay Food Market, which was attended by the most important local authorities. The project required an investment of PEN 22 million.

Volcan seeks to continue developing the city by investing in new projects under the Works for Taxes program. New projects are currently evaluated for execution in conjunction with the authorities.



## 13.4 ENVIRONMENTAL AFFAIRS

Volcan's efforts to create value for its *stakeholders* continue, in fulfillment of its environmental obligations to the Peruvian Government.

The commitment is aimed at the protection and care of the environment, seeking to ensure that any environmental impacts resulting from its processes, activities and projects are prevented, reduced, mitigated and controlled.

In line with Volcan's growth strategy, goals were set in 2019 for the improvement of environmental performance and the strengthening of safety systems in TSFs. As part of the implementation of the TSF Adaptation and Assurance Program, best practices were adopted and migration was performed to the best available technology, with the goal of adapting to the guidelines of the Canadian Dam Association (CDA).

The Company takes a preventive approach to environmental management, which seeks to reduce environmental gaps for the purpose of strengthening and improving environmental performance year on year,

with a focus on achieving environmental excellence in our operations.

### ENVIRONMENTAL MANAGEMENT SYSTEM

Following the Management System evolution and oriented to become a world-class company, control implementation for Environmental Critical Risks continued in 2019. It was aimed to focalize efforts in prevention and control of major environmental risks.

The following are the implemented critical risks:

1. Liquid effluents exceeding the limits
2. Tailings dams rupture
3. Waste of natural resources
4. Degradation of areas
5. Inadequate waste disposal
6. New Projects
7. Accidents during the transport of hazardous cargo
8. Atmospheric emissions

The system was measured through annual external audits based on the 8-environmental standards audits protocols. In 2019, the Environmental Management System was implemented at 71%, representing a 5% increase over the progress achieved in 2018. These results confirm the continuous improvement approach and commitment intended to prevent and control the main environmental risks, which are being standardized in all operations.

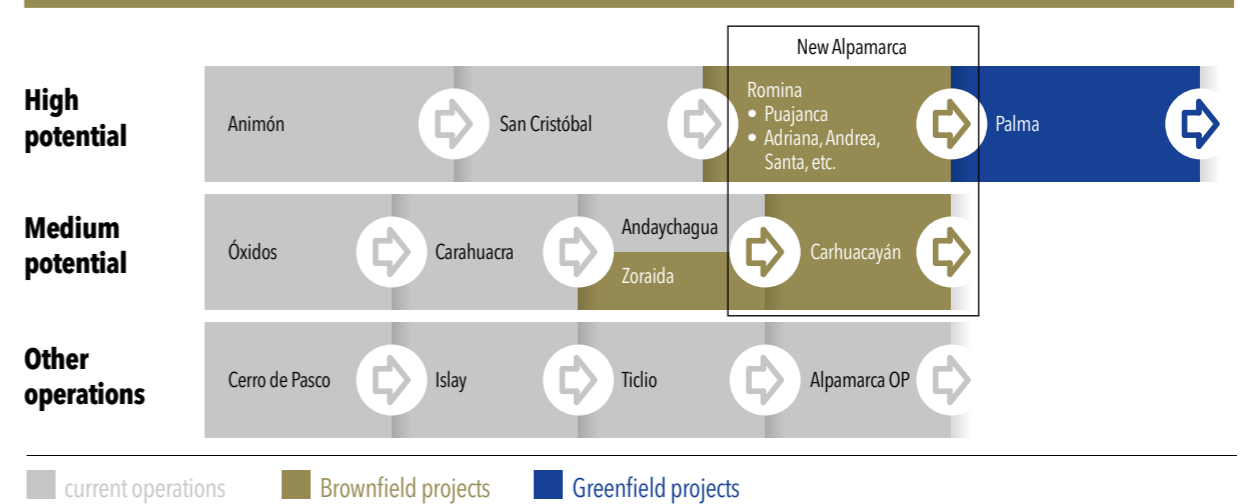
### ENVIRONMENTAL CERTIFICATIONS AND LICENSES

Based on its growth strategy, Volcan has undertaken environmental studies related to the projects, expansions, modifications, and technological improvements, in keeping with the corporate environmental guidelines and the technical guidelines established by the Ministry of Energy and Mines and the Environmental Certification Service for Sustainable Investments (SENACE).

In 2019, Volcan continued to conduct external audits, which are primarily aimed at measuring the degree of compliance with environmental and legal obligations, according to the following classification:

1. Proven efficacy
2. Improvement opportunity

### GROWTH STRATEGY



LIST OF CERTIFICATIONS AND PERMITS HELD BY VOLCAN COMPAÑÍA MINERA VOLCAN AND SUBSIDIARIES

COMPANY	MINING UNIT	TYPE OF PERMIT	APPROVAL RESOLUTION	DESCRIPTION
Empresa Administradora Cerro SAC	Cerro Pasco	Autorización de Funcionamiento	R.N° 0544-2019-MINEM-DGM-V	Ocroyoc Tailings Dam to elevation 4,272, corresponding to stage II phase 2
		PCM	RD N° 187-2019-MINEM-DGAAM	2nd PCM Cerro Pasco update
Compañía Minera Chungar	Alpamarca	Autorización de Funcionamiento	R.N.0382-2019-MINEM-DGM-V	Alpamarca Tailings Dam to elevation 4,680, corresponding to stage III
	Romina	ITS	R.D. 136-2019-MINEM-DGAAM	Expansion of explorations
	Palma	ITS	R.D. 099-2019-MINEM-DGAAM	2nd Supporting Technical Report of Palma mining exploration project
Volcan Compañía Minera S.A.A.		MCB	R.N.0547-2019-MINEM-DGM-V	Modification of the MCB
		Autorización de Funcionamiento	R.D. 0071-2019-MEM-DGM-V	Andaychagua Alto Tailing Dam to elevation 4,408, corresponding to stage IV part B
	Andaychagua	ITS	RD N° 201-2019-SENACE-PE-DEAR	3rd Supporting Technical Report of Andaychagua unit
	Carahuacra	MDIA	R.N° 162-2019-MINEM-DGAAM	MDIA Zoraida II project
		MDIA	R.N° 152-2019-MINEM-DGAAM	MDIA of Oyama Triunfo mining exploration
		PCM	R.D. 076-2019-MEM-DGAAM	2nd PCM of Carahuacra update
	Carahuacra	Autorización de Funcionamiento	R.D. 0913-2018-MEM-DGM-V	Rumichaca Tailing Dam to elevation 4,224
		ITS	RD N° 186-2019-SENACE-PE-DEAR	4th Supporting Technical Report of Carahuacra unit
	Ticio	AEIA	R.D. 0042-2019-MEM-DGAAM	AEIA of Ticio unit
		ITS	RD N° 045-2019-SENACE-PE-DEAR	1st Supporting Technical Report of Ticio unit
SC-MT	ITM	R.D. N° 0053-2019-MEM-DGM-V	Nr 06 Tailings Dam to elevation 4,036, corresponding to stage IV	
	ITM	R.D. N° 0108-2019-MEM-DGM-V	Disposal of coarse and fine tailings in Tailings N° 4 and N° 5 and free edge reduction from 2 to 1 m. in deposit No. 6	

ITS: Sustaining Technical Report  
 PCM: Mine Closure Plan  
 EIAsd: Semi-detailed Environmental Impact Study  
 ITM: Mining Technical Report  
 MDIA: Modification of the Environmental Impact Statement  
 AEIA: Update of Environmental Impact Study  
 MCB: Modification of the Benefit Concession

The results obtained exceeded 2018's results by 3%, which evidences an improvement in the environmental performance of our operations.

All the mining units submitted the documents required by the Ministry of Energy and Mines, the Agency for Environmental Assessment and Enforcement (OEFA), and the National Water Authority in terms of the environmental obligations assumed under the Environmental Management Instruments and the Environmental Protection and Management Regulations for Mining, Processing, General Workings, Haulage, and Mining Storage Activities (Supreme Decree No. 040-2014-MEM).

With the framework of Volcan's and subsidiaries' growth, the table below shows the 15 most important environmental licenses and permits obtained in 2019:

## 13.5 MINE CLOSURE PLANS

During the execution of the mine closure plans approved by the Peruvian Government, the implementation of the Progressive Revegetation and Rehabilitation Program was continued. This plan seeks to reclaim areas affected by mining activities benefiting the communities included in the environmental influence areas. Progress of executed activities and results were reported to the Peruvian Ministry of Energy and Mines to be audited at a later stage by the Peruvian Environmental Agency (OEFA).

Updates and modifications of the Mine Closure Plans (PCMs) for our mines were commenced in 2019. Approval for PCM modified was obtained for Carahuacra and Cerro de Pasco Mines.

The execution of the 2019 Mine Closure Plan was focused on the compliance to the activities approved by the Peruvian Ministry of Energy and Mines.



# 14

AUDITED  
FINANCIAL  
STATEMENTS



No key accounting or auditing officer has resigned or has been made redundant over the past two years.

VOLCAN COMPAÑÍA MINERA S.A.A.  
AND SUBSIDIARIES

CONSOLIDATED FINANCIAL STATEMENTS  
AS OF DECEMBER 31, 2019 AND 2018

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VOLCAN COMPAÑÍA MINERA S.A.A. AND SUBSIDIARIES

## CONSOLIDATED STATEMENT OF FINANCIAL POSITION AS OF DECEMBER 31, 2019 AND 2018

(Expressed in thousands of US dollars)

ASSETS	2019	2018	LIABILITIES AND EQUITY	2019	2018
<b>ASSETSS CORRIENTES</b>			<b>CURRENT LIABILITIES</b>		
Cash and cash equivalent	33,828	62,950	Bank overdrafts	8,448	34
Trade accounts receivable, net	36,159	41,842	Financial obligations	224,476	208,665
Other accounts receivable	73,906	168,597	Trade accounts payable	178,175	202,544
Other financial assets	5,416	640	Other accounts payable	64,044	96,969
Inventories, net	36,709	64,640	Other financial liabilities	53,407	48,218
Assets classified as held for sale	301,986	-	Liabilities directly associated with assets classified as held for sale	171,484	-
<b>Total current assets</b>	<b>488,004</b>	<b>338,669</b>	<b>Total current liabilities</b>	<b>700,034</b>	<b>556,430</b>
<b>NON-CURRENT ASSETS</b>			<b>NON-CURRENT LIABILITIES</b>		
Other accounts receivable	7,990	6,992	Financial obligations	576,322	587,764
Other financial assets	-	-	Other financial liabilities	-	-
Inventories, net	-	7,752	Provisions	179,089	233,086
Financial investments	193,794	53,305	Deferred income tax	142,989	199,557
Property, plant and equipment, net (net)	676,790	978,205	<b>Total non-current liabilities</b>	<b>898,400</b>	<b>1,020,407</b>
Right-of-use assets	22,463	-	<b>Total liabilities</b>	<b>1,598,434</b>	<b>1,576,837</b>
Mining concessions, exploration and development costs and other intangibles (net)	780,122	840,067	<b>NET EQUITY</b>		
Deferred income tax	-	-	Issued capital	1,134,300	1,134,300
<b>Total non-current ASSETS</b>	<b>1,681,159</b>	<b>1,886,321</b>	Treasury shares	-60,926	-61,285
<b>Total ASSETSS</b>	<b>2,169,163</b>	<b>2,224,990</b>	Legal reserves	11,755	1,055
			Capital reserves	-173,217	-172,801
			Revaluation surplus	0	30,307
			Unrealized earnings	-5,918	1,121
			Accumulated earnings	-335,265	-284,544
			<b>Total net equity</b>	<b>570,729</b>	<b>648,153</b>
			<b>Total liabilities and net equity</b>	<b>2,169,163</b>	<b>2,224,990</b>

VOLCAN COMPAÑÍA MINERA S.A.A. AND SUBSIDIARIES

## CONSOLIDATED STATEMENT OF INCOME FOR YEARS ENDING DECEMBER 31, 2019 AND 2018

(Expressed in thousands of US dollars)

ASSETS	2019	2018
Net sales	743,578	775,102
Cost of sales	-596,403	-546,383
<b>Gross profit</b>	<b>147,175</b>	<b>228,719</b>
Administrative expenses	-58,275	-61,877
Sales expenses	-23,199	-27,185
Other income	66,840	56,297
Other expenses	-119,923	-77,361
Income from reversal of non-financial	35,600	109,972
Loss from non-financial asset impairment	-19,613	-69,261
<b>Profit (loss) of operation</b>	<b>28,605</b>	<b>159,304</b>
Financial income	1,842	649
Financial expenses	-48,386	-45,488
<b>Profit (loss) before income tax</b>	<b>-17,939</b>	<b>114,465</b>
Profit from income tax	-52,389	-85,090
<b>Net profit (loss) for the year</b>	<b>-70,328</b>	<b>29,375</b>
Weighted average of the number of shares in circulation (in thousands)	3,857,618	3,857,668
Basic and diluted profit (loss) per share	-0.018	0.008

VOLCAN COMPAÑÍA MINERA S.A.A. AND SUBSIDIARIES

## CONSOLIDATED STATEMENT OF OTHER COMPREHENSIVE INCOME FOR YEARS ENDING DECEMBER 31, 2019 AND 2018

(Expressed in thousands of US dollars)

	2019	2018
<b>Net profit (loss) for the year</b>	<b>-70,328</b>	<b>29,375</b>
Other comprehensive income:		
Items that can not be Subsequently reclassified to the Income statement:		
(Pérdida) ganancia no realizadas de inversiones en instrumentos de patrimonio	-9,247	950
Unrealized profit (loss) of derivative financial instruments	-738	29,734
Deferred income tax	2,946	-9,052
Total other comprehensive income (loss) that can be subsequently reclassified to the statement of profit or loss	-7,039	21,632
<b>Total comprehensive income</b>	<b>-77,367</b>	<b>51,007</b>



VOLCAN COMPAÑÍA MINERA S.A.A. AND SUBSIDIARIES

## CONSOLIDATED STATEMENT OF CHANGES IN NET EQUITY FOR YEARS ENDING IN DECEMBER 31, 2019 AND 2018

(Expressed in thousands of US dollars)

	ISSUED CAPITAL US\$(000)	TREASURY SHARES US\$(000)	OTHER CAPITAL RESERVES US\$(000)	CAPITAL RESERVES US\$(000)	REVALUATION SURPLUS US\$(000)	UNREALIZED EARNINGS US\$(000)	ACCUMULATED EARNINGS US\$(000)	TOTAL US\$(000)
<b>Balance as of January 1, 2018</b>	<b>1,134,300</b>	<b>-61,222</b>	<b>1,055</b>	<b>-174,320</b>	<b>30,307</b>	<b>-20,511</b>	<b>-297,286</b>	<b>612,323</b>
Comprehensive income								
Net profit for the year	-	-	-	-	-	-	29,375	29,375
Other comprehensive income for the year	-	-	-	-	-	21,632	-	21,632
Distribution of dividends	-	-	-	-	-	-	-16,641	-16,641
Adjustments	-	-63	-	1,519	-	-	8	1,464
<b>Balance as of December 31, 2018</b>	<b>1,134,300</b>	<b>-61,285</b>	<b>1,055</b>	<b>-172,801</b>	<b>30,307</b>	<b>1,121</b>	<b>-284,544</b>	<b>648,153</b>
Comprehensive income								
Net profit for the year	-	-	-	-	-	-	-70,328	-70,328
Legal reserve	-	-	10,700	-	-	-	-10,700	0
Net profit for the year	-	-	-	-	-	-7,039	-	-7,039
Derecognition of Terminales Portuarios Chancay S.A. (now Cosco Shipping Ports Chancay Perú S.A.)	-	-	-	-	-30,307	-	30,307	0
Adjustments	-	359	-	-416	-	-	-	-57
<b>Balance as of December</b>	<b>1,134,300</b>	<b>-60,926</b>	<b>11,755</b>	<b>-173,217</b>	<b>0</b>	<b>-5,918</b>	<b>-335,265</b>	<b>570,729</b>



VOLCAN COMPAÑÍA MINERA S.A.A. AND SUBSIDIARIES

## CONSOLIDATED CASH FLOW STATEMENTS FOR YEARS ENDING DECEMBER 31, 2019 AND 2018

(Expressed in thousands of US dollars)

	2019	2018		2019	2018
<b>OPERATING ACTIVITIES:</b>					
Collections corresponding to:			Collections corresponding to:		
Sale of goods	831,377	909,295	Acquisition of financial obligations	290,000	223,515
Return of balance in favor of extracted material	29,834	20,456	Acquisition of other financial liabilities	37,840	-
Payments corresponding to:			Payments corresponding to:		
Suppliers of goods and services	-521,438	-524,384	Amortization of financial obligations	-336,371	-244,439
Payments to and on behalf of employees	-106,150	-103,668	Amortization of overdrafts and other financial liabilities	-24,177	-9,606
Income tax	-10,538	-32,604	Payment of interest	-39,479	-35,545
Royalties	-8,506	-16,827	Payment of dividends	-48	-14,908
Financial hedging instruments, net	2,060	-16,870	<b>Net cash from financing Activities</b>	<b>-72,235</b>	<b>-80,983</b>
<b>Net cash and cash equivalents provided by operating activities</b>	<b>216,639</b>	<b>235,398</b>	<b>NET REDUCTION IN CASH AND CASH EQUIVALENT</b>	<b>-26,728</b>	<b>-38,879</b>
<b>INVESTMENT ACTIVITIES:</b>					
Collections corresponding to:			CASH AND CASH EQUIVALENT AT YEAR OPENING	62,950	101,829
Other charges related to investment activities	-	1,689		<b>36,222</b>	<b>62,950</b>
Payments corresponding to:			CASH AND CASH EQUIVALENTS CLASSIFIED AS HELD FOR SALE	-2,394	-
Acquisition of subsidiaries in prior years	-	-	<b>CASH AND CASH EQUIVALENT AT YEAR END</b>	<b>33,828</b>	<b>62,950</b>
Purchase of property, plant and equipment	-89,088	-80,461			
Purchase of intangible assets	-82,043	-114,522			
<b>NET CASH APPLIED TO INVESTMENT ACTIVITIES</b>	<b>-171,131</b>	<b>-193,294</b>			

VOLCAN COMPAÑÍA MINERA S.A.A.

## SEPARATE STATEMENTS OF FINANCIAL POSITION AS OF DECEMBER 31, 2019 AND 2018

(Expressed in thousands of US dollars)

ASSETS	2019	2018	LIABILITIES AND EQUITY	2019	2018
<b>ASSETSS CORRIENTES</b>					
Cash and cash equivalent	20,985	36,691	<b>CURRENT LIABILITIES</b>		
Trade accounts receivable, net	8,130	14,135	Bank overdrafts	8,205	34
Accounts receivable from related parties	386,464	511,522	Financial obligations	214,330	204,759
Other accounts receivable (net)	31,597	37,761	Trade accounts payable	101,644	99,675
Other financial assets	3,279	640	Accounts payable to related parties	46,497	32,563
Inventories, net	20,770	19,600	Other accounts payable	33,740	52,032
Assets classified as held for sale	131,115	-	Other financial liabilities	53,407	48,218
			Liabilities directly associated with assets classified as held for sale	1,905	-
<b>Total current ASSETS</b>	<b>602,340</b>	<b>620,349</b>	<b>Total current liabilities</b>	<b>459,728</b>	<b>437,281</b>
<b>NON-CURRENT ASSETS</b>					
Other accounts receivable	677	874	<b>NON-CURRENT LIABILITIES</b>		
Other financial assets	-	-	Financial obligations	563,583	575,429
Investment in subsidiaries	913,457	1,046,735	Other financial liabilities	-	-
Property, plant and equipment, net	255,277	265,637	Provisions	102,823	104,669
Right-of-use assets	15,878	-	Deferred income tax	101,203	67,415
Mining concessions, exploration and development costs and other mining assets (net)	473,914	424,035	<b>Total non-current liabilities</b>	<b>767,609</b>	<b>747,513</b>
Deferred income tax	-	-	<b>Total liabilities</b>	<b>1,227,337</b>	<b>1,184,794</b>
<b>Total non-current assets</b>	<b>1,659,203</b>	<b>1,737,281</b>	<b>NET EQUITY</b>		
<b>Total ASSETS</b>	<b>2,261,543</b>	<b>2,357,630</b>	Issued capital	1,134,301	1,134,301
			Treasury shares	-	-
			Legal reserves	986	-
			Capital reserves	-	-
			Revaluation surplus	-	-
			Unrealized earnings	-68	451
			Accumulated earnings	-101,013	38,084
			<b>Total net equity</b>	<b>1,034,206</b>	<b>1,172,836</b>
			<b>Total liabilities and net equity</b>	<b>2,261,543</b>	<b>2,357,630</b>

VOLCAN COMPAÑÍA MINERA S.A.A.

## SEPARATE STATEMENTS OF INCOME FOR YEARS ENDING DECEMBER 31, 2019 AND 2018

(Expressed in thousands of US dollars)

ASSETS	2019	2018
Net sales	390,379	411,746
Cost of sales	-325,563	-284,162
<b>Gross profit</b>	<b>64,816</b>	<b>127,584</b>
Administrative expenses	-41,680	-39,941
Sales expenses	-12,586	-14,367
Dividends from subsidiaries	-	60,870
Other income	93,620	35,876
Other expenses	-36,631	-39,582
Impairment loss of long-lived assets	35,600	-33,429
<b>Operating income</b>	<b>-89,310</b>	<b>54,253</b>
Financial income	33,310	26,309
Financial income	-43,445	-52,688
<b>Income before income tax</b>	<b>-99,445</b>	<b>27,874</b>
Income tax	-38,666	-18,018
<b>Net profit (loss) for the year</b>	<b>-138,111</b>	<b>9,856</b>
Weighted average of the number of shares in circulation (in thousands)	3,857,618	3,857,975
Basic and diluted profit (loss) per share	-0.036	0.003

VOLCAN COMPAÑÍA MINERA S.A.A.

## SEPARATE STATEMENT OF OTHER COMPREHENSIVE INCOME FOR YEARS ENDING DECEMBER 31, 2019 AND 2018

(Expressed in thousands of US dollars)

	2019	2018
<b>Net profit (loss) for the year</b>	<b>-138,111</b>	<b>9,856</b>
Other comprehensive income:		
Items that can be subsequently Reclassified to income for the Year:		
Unrealized income from derivative financial instruments	-739	17,931
Income tax	220	-5,290
<b>Other comprehensive income, net of income tax</b>	<b>-519</b>	<b>12,641</b>
<b>Total comprehensive income</b>	<b>-138,630</b>	<b>22,497</b>



VOLCAN COMPAÑÍA MINERA S.A.A.

## SEPARATE STATEMENTS OF CHANGES IN NET EQUITY AS OF DECEMBER 31, 2019 AND 2018

(Expressed in thousands of US dollars)

	ISSUED CAPITAL US\$(000)	TREASURY SHARES US\$(000)	LEGAL RESERVES US\$(000)	CAPITAL RESERVES US\$(000)	UNREALIZED EARNINGS US\$(000)	ACCUMULATED EARNINGS US\$(000)	TOTAL US\$(000)
<b>Balance as of January 1, 2018</b>	<b>1,134,301</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>-12,190</b>	<b>36,512</b>	<b>1,158,623</b>
Comprehensive income							
Net profit for the year	-	-	-	-	-	9,856	9,856
Other comprehensive income	-	-	-	-	12,641	-	12,641
Distribution of dividends	-	-	-	-	-	-16,641	-16,641
Adjustments	-	-	-	-	-	8,357	8,357
<b>Balance as of December 31, 2018</b>	<b>1,134,301</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>451</b>	<b>38,084</b>	<b>1,172,836</b>
Comprehensive income							
Net profit for the year	-	-	-	-	-	-138,111	-138,111
Legal reserve	-	-	986	-	-	-986	0
Other comprehensive income	-	-	-	-	-519	-	-519
<b>Balance as of December 31, 2019</b>	<b>1,134,301</b>	<b>0</b>	<b>986</b>	<b>0</b>	<b>-68</b>	<b>-101,013</b>	<b>1,034,206</b>

VOLCAN COMPAÑÍA MINERA S.A.A.

## SEPARATE CASH FLOW STATEMENTS FOR YEARS ENDING DECEMBER 31, 2019 AND 2018

(Expressed in thousands of US dollars)

	2019	2018	2019	2018
<b>OPERATING ACTIVITIES:</b>				
Collections corresponding to:				
Sales collections	448,675	490,000		
Return of balance in favor of extracted material	899	-		
Other operating charges	23,087	120,714		
Payments corresponding to:				
Payments to suppliers and third parties	-261,782	-304,256		
Payments to workers	-63,478	-62,882		
Income tax payments	-9,016	-10,919		
Royalty payments	-4,374	-8,475		
Financial hedging instruments, net	0	-10,175		
<b>NET CASH FROM OPERATING ACTIVITIES</b>	<b>134,011</b>	<b>214,007</b>		
<b>INVESTMENT ACTIVITIES:</b>				
Collections corresponding to:				
Other cash charges related to investment activities	0	1,689		
Payments corresponding to:				
Payments to related	-240,270	-254,680		
Purchase of property, plant and equipment	-29,487	-30,656		
Acquisition of subsidiaries in prior years	0	0		
Purchase of intangible assets	-62,604	-65,943		
<b>NET CASH AND CASH EQUIVALENTS USED IN INVESTMENT ACTIVITIES</b>	<b>-332,361</b>	<b>-349,590</b>		
<b>FINANCING ACTIVITIES:</b>				
Collections corresponding to:				
Collections from related	243,299	190,382		
Acquisition of financial obligations	290,000	223,515		
Acquisition of other financial liabilities	35,780	41,362		
Payments corresponding to:				
Amortization of financial obligations	-325,309	-240,489		
Amortization of overdrafts and other financial liabilities	-23,988	-50,968		
Payment of interest	-37,138	-34,957		
Payment of dividends	0	-16,641		
<b>NET CASH FROM FINANCING ACTIVITIES</b>	<b>182,644</b>	<b>112,204</b>		
<b>NET REDUCTION OF CASH AND CASH EQUIVALENT</b>	<b>-15,706</b>	<b>-23,379</b>		
CASH AND CASH EQUIVALENT AT YEAR OPENING	36,691	60,070		
<b>CASH AND CASH EQUIVALENT AT YEAR END</b>	<b>20,985</b>	<b>36,691</b>		

# 15 LEGAL AFFAIRS

## **VOLCAN COMPAÑÍA MINERA S.A.A.**

Company Management, based on the opinion of external and internal legal counsel, has conducted a review of all tax, labor, civil and administrative proceedings, among others. A provision has been made for all probable contingencies amounting to USD 15.7 million which, as of December 31, 2019, is presented in the Provisions line item (USD 14.3 million as of December 31, 2018). Management and the legal counsel believe that this provision covers all probable contingencies, and no additional provisions are necessary.

For possible contingencies, the Company's external and internal legal counsel have determined a total of USD 20.0 million as of December 31, 2019.

## **CIVIL AND LABOR PROCEEDINGS**

As of December 31, 2019, the Company is involved in civil and labor proceedings with a probable contingency level of USD 7.4 million, which is presented in the Provisions line item, and with a possible contingency level of USD 16.6 million (USD 6.8 million and USD 14.0 million as of December 31, 2018, respectively) in respect of compensation for occupational diseases, reimbursement of fringe benefits, payment of profits, reinstatement of workers and others.

## **TAX PROCEEDINGS**

As of December 31, 2019 and 2018, the Company has several administrative proceedings pending resolution with the National Superintendence of Tax Administration (SUNAT) and the Tax Court in connection with various rulings on determination of taxes, fines and interest.

The rulings on determination of taxes, fines and interest primarily relate to the differing criteria applied to determine the taxable bases for payment of the third-bracket income tax and the value added tax for the 1998-2014 period and, in SUNAT's opinion, to the failure to pay taxes. The Company records probable contingencies in the amount of USD 4.4 million as of December 31, 2019 (USD 4.2 million as of December 31, 2018).

Furthermore, there are other tax proceedings rated as possible, which refer to expenses brought to question by SUNAT as they do not comply with the principle of causality or are not properly supported, among other related concepts. These possible contingencies amount to USD 3.2 million as of December 31, 2019.

## **ADMINISTRATIVE SANCTIONING PROCEDURES AND CONTENTIOUS ADMINISTRATIVE ACTIONS**

The Company has several environmental, occupational health and safety, and labor safety proceedings pending resolution with the following regulatory entities: the National Water Authority – Local Water Authorities, the Ministry of Labor and Employment Promotion (National Superintendence of Labor Enforcement), the Ministry of Energy and Mines, the Ministry of Production, the Supervisory Body for Investment in Energy and Mining (OSINERGMIN), and the Agency for Environmental Assessment and Enforcement (OEFA), due to the alleged violation of a number of environmental rules and the Occupational Health and Safety Regulations. Such proceedings have a probable contingency level of USD 3.9 million, as presented in the Provisions line item, and a possible contingency level of USD 0.2 million as of December 31, 2019 (USD 3.0 million and USD 2.8 million as of December 31, 2018, respectively).

Company Management and the legal counsel, based on the findings of fact and law, believe that the final resolution of all these proceedings will not result in significant additional liabilities for the Company.

## **COMPAÑÍA MINERA CHUNGAR S.A.C.**

Company Management, based on the opinion of external and internal legal counsel, has conducted a review of all tax, labor, civil and administrative proceedings, among others. A provision has been made for all probable contingencies amounting to USD 3.8 million which, as of December 31, 2019, is presented in the Provisions line item (USD 3.0 million as of December 31, 2018). Management and the legal counsel believe that this

provision covers all probable contingencies, and no additional provisions are necessary.

For possible contingencies, the Company's external legal counsel have determined a total of USD 0.5 million as of December 31, 2019.

Civil and Labor Proceedings

As of December 31, 2019, Chungar is involved in civil and labor proceedings with a probable contingency level of USD 0.8 million, which is presented in the Provisions line item, and with no possible contingencies (USD 0.3 million and USD 0.02 million as of December 31, 2018, respectively) in respect of compensation for damages arising from occupational diseases, reimbursement of fringe benefits, among others undergoing appeal and/or final judgment.

#### **TAX PROCEEDINGS**

As of December 31, 2019 and 2018, Compañía Minera Chungar S.A.C. has several administrative proceedings pending resolution with the National Superintendence of Tax Administration (SUNAT) and the Tax Court in connection with various rulings on determination of taxes, fines and interest.

The rulings on determination of taxes, fines and interest primarily relate to the differing criteria applied to determine the taxable bases for payment of the third-bracket income tax and the value added tax for the 2001-2005 and 2012-2015 periods, and, in SUNAT's opinion, to the failure to pay taxes. To this date, these proceedings are being challenged through administrative and claim remedies filed with SUNAT and appeals filed with the Tax Court, as well as in the Judiciary.

In addition, this Subsidiary is involved in tax administrative procedures rated as probable contingencies, which are included in the Provisions line item, amounting to USD 0.5 million as of December 31, 2019 (USD 0.5 million as of December 31, 2018).

Finally, there are other contingencies arising from

discrepancies with the Tax Administration, which have been rated as possible and total USD 0.3 million.

#### **ADMINISTRATIVE SANCTIONING PROCEDURES AND CONTENTIOUS ADMINISTRATIVE ACTIONS**

The Subsidiary has several environmental, occupational health and safety, and labor safety proceedings pending resolution with these regulatory entities: the National Water Authority - Local Water Authorities, the Ministry of Labor and Employment Promotion (National Superintendence of Labor Enforcement), the Ministry of Energy and Mines, the Ministry of Production, OSINERGMIN, and OEFA, due to the alleged violation of a number of environmental and occupational health and safety regulations. Such proceedings have a probable contingency level of USD 2.5 million, which is presented in the Provisions line item as of December 31, 2019 (USD 2.2 million as of December 31, 2018).

#### **EMPRESA ADMINISTRADORA CERRO S.A.C.**

Company Management, based on the opinion of external and internal legal counsel, has conducted a review of all tax, labor, civil and administrative proceedings, among others. A provision has been made for all probable contingencies amounting to USD 6.6 million which, as of December 31, 2019, is presented in the Provisions line item (USD 4.2 million as of December 31, 2018). Management and the legal counsel believe that this provision covers all probable contingencies and no additional provisions are necessary.

For possible contingencies, the Company's external legal counsel have determined a total of USD 3.6 million as of December 31, 2019.

#### **LABOR PROCEEDINGS**

As of December 31, 2019, the Subsidiary is involved in labor proceedings with a probable contingency level of USD 3.4 million, which is presented in the Provisions line item, and with a possible contingency level of USD 3.6 million (USD 3.0 million and USD 2.9 million as of December 31, 2018, respectively)

in respect of compensation for damages arising from occupational diseases, reimbursement of fringe benefits, reimbursement of profits, payment of production bonuses and others undergoing appeal and/or final judgment.

#### **TAX PROCEEDINGS**

As of December 31, 2019 and 2018, the Subsidiary has several administrative proceedings pending resolution with the National Superintendence of Tax Administration (SUNAT) and the Tax Court in connection with various rulings on determination of taxes, fines and interest.

In SUNAT's opinion, the rulings on determination of taxes, fines and interest relate to the failure to pay taxes, as well as the differing criteria applied to determine the taxable base for payment of the third-bracket income tax for the years 2012, 2014 and 2015, in addition to a refund pertaining to the year 2014. To this date, these proceedings are being challenged through administrative remedies.

In addition, this Subsidiary is involved in tax administrative procedures rated as probable contingencies, which are included in the Provisions line item, amounting to USD 1.1 million as of December 31, 2019 (USD 1.1 million as of December 31, 2018).

Finally, there are other contingencies arising from discrepancies with the Tax Administration, which have been rated as possible and total USD 0.02 million (USD 1.1 million as of December 31, 2018).

#### **ADMINISTRATIVE SANCTIONING PROCEDURES AND CONTENTIOUS ADMINISTRATIVE ACTIONS**

The Subsidiary has several environmental, occupational health and safety, and labor safety proceedings pending resolution with these regulatory entities: The National Water Authority - Local Water Authorities, the Ministry of Labor and Employment Promotion (National Superintendence of Labor Enforcement), the Ministry of Energy and Mines, the Ministry of Production, OSINERGMIN, and OEFA, due to the alleged violation of a number of environmental rules and the Occupational Health and Safety Regulations. Such proceedings have a probable contingency level of USD 2.1 million, which is

presented in the Provisions line item as of December 31, 2019 (USD 0.08 million as of December 31, 2018).

#### **EMPRESA EXPLOTADORA DE VINCHOS LTDA S.A.C.**

Company Management, based on the opinion of external and internal legal counsel, has conducted a review of all tax, labor, civil and administrative proceedings, among others. A provision has been made for all probable contingencies amounting to USD 0.6 million which, as of December 31, 2019, is presented in the Provisions line item (USD 0.3 million as of December 31, 2018). Management and the legal counsel believe that this provision covers all probable contingencies and no additional provisions are necessary.

#### **HIDROELÉCTRICA HUANCHOR S.A.C.**

Company Management, based on the opinion of external and internal legal counsel, has conducted a review of all tax, labor, civil and administrative proceedings, among others. A provision has been made for all probable contingencies amounting to USD 0.1 million which, as of December 31, 2019, is presented in the Provisions line item (USD 0.1 million as of December 31, 2018). Management and the legal counsel believe that this provision covers all probable contingencies, and no additional provisions are necessary.

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## STOCK INFORMATION



Volcan Compañía Minera S.A.A. is listed on the Lima Stock Exchange, the Santiago Stock Exchange and Latibex (Madrid).

### VOLCAN COMPAÑÍA MINERA S.A.A. STOCK TICKERS

STOCK	LIMA STOCK EXCHANGE	SANTIAGO STOCK EXCHANGE	LATIBEX (MADRID)
Class A Common Shares	VOLCAAC1	VCMAC1	
Class B Common Shares	VOLCABC1	VCMB1	XVOLB.MC

As of December 31, 2019, the subscribed, paid-in and registered capital totals PEN 3,546,617,792 and is represented by 1,633,414,553 class A common shares and 2,443,157,622 class B common shares, having a nominal value per share equal to PEN 0.87. The subsidiary Empresa Minera Paragsha S.A.C. holds 182,970,350 class A common shares and 12,234,901 class B common shares. The subsidiary Compañía Minera Chungar S.A.C. holds 23,442,345 class A common shares. The subsidiary Compañía Industrial Limitada De Huacho S.A. holds 306,283 class A common shares.

### SHAREHOLDING STRUCTURE

As of December 31, 2019, the shareholding structure is as follows:

#### CLASS A COMMON SHARES

SHAREHOLDING	NUMBER OF SHAREHOLDERS	INTEREST %
Menor al 1%	453	1.40
Entre 1% y 5%	4	9.05
Entre 5% y 10%	3	26.10
Mayor al 10%	3	63.45
<b>Total</b>	<b>463</b>	<b>100.00</b>

#### CLASS B COMMON SHARES

SHAREHOLDING	NUMBER OF SHAREHOLDERS	INTEREST %
Menor al 1%	7,738	38.16
Entre 1% y 5%	7	13.61
Entre 5% y 10%	5	37.70
Mayor al 10%	1	10.53
<b>Total</b>	<b>7,751</b>	<b>100.00</b>

Of the share capital, 66.93% pertains to domestic shareholders representing 2,728,557,898 shares, while 33.07% pertains to foreign shareholders representing 1,348,014,277 shares.

The following shareholders have an interest greater than 4.0%:

**CLASS A COMMON SHARES**

MAIN SHAREHOLDERS	%	PERSONA	NATIONALITY	CORPORATE GROUP
Glencore International AG (*)	41.91	Legal Entity	Swiss	Glencore
Empresa Minera Paragsha S.A.C.	11.20	Legal Entity	Peruvian	Volcan
De Romaña Letts José Ignacio	10.33	Individual	Peruvian	Not applicable
Letts Colmenares de De Romaña Irene Florencia	9.90	Individual	Peruvian	Not applicable
Blue Streak International N.V.	8.38	Legal Entity	Netherlands Antilles	Not applicable
Sandown Resources S.A.	7.81	Legal Entity	Panama	Glencore

(\*) The Glencore group, including all subsidiaries, owns a 55.03% interest

**CLASS B COMMON SHARES**

SHAREHOLDER	INTEREST (%)	PERSONA	NATIONALITY	CORPORATE GROUP
AFP Integra-Fondo 2	10.53	Legal Entity	Peruvian	Not applicable
AFP Integra-Fondo 3	8.79	Legal Entity	Peruvian	Not applicable
Prima AFP-Fondo 2	8.76	Legal Entity	Peruvian	Not applicable
Prima AFP-Fondo 3	7.30	Legal Entity	Peruvian	Not applicable
Profuturo AFP-PR Fondo 2	6.86	Legal Entity	Peruvian	Not applicable
Profuturo AFP-PR Fondo 3	5.98	Legal Entity	Peruvian	Not applicable
López de Romaña Dalmau Hernando Diego Francisco	4.13	Individual	Peruvian	Not applicable



**SHAREHOLDING STRUCTURE BY INVESTOR TYPE**

HOLDINGS BY TYPE OF SHAREHOLDER OF THE STOCK OR SECURITIES INCLUDED IN THE S&P PERU SELECTIVE INDEX (AT THE END OF THE FISCAL YEAR)	SHARE:	VOLCAACT
	NUMBER OF HOLDERS	INTEREST % (3)
1. Members of the Company's Board of Directors and Senior Management, including relatives (1)	2	20.24
2. Company employees not included in No. 1	2	0.00
3. Individuals not included in No. 1 and No. 2	422	0.49
4. Pension funds managed by Private Pension Fund Administrators (AFP) under the supervision of the Superintendence of Banking, Insurance, and AFPs	5	0.00
5. Pension funds managed by the Pension Administration Office (ONP)		0.00
6. Peruvian government entities, except for those included in No. 5		0.00
7. Banks, financial institutions, municipal savings and lending institutions, EDPYMES, rural credit institutions, and savings and lending cooperatives under the supervision of the Superintendence of Banking, Insurance, and AFPs		0.00
8. Insurance companies under the supervision of the Superintendence of Banking, Insurance, and AFPs	1	0.00
9. Broker agents, under the supervision of the Superintendence of Securities Market (SMV)	2	0.00
10. Investment funds, mutual funds, and trust corpuses under the scope of the Securities Market Act and the Investment Fund Act, as well as bank trusts under the scope of the General Law of the Financial System		0.00
11. Autonomous Assets and bank trusts fro abroad, where identifiable		0.00
12. Foreign depositaries listed as holders of shares within the framework of ADR or ADS programs		0.00
13. Foreign depositaries listed as holders of shares not included in No. 12		0.00
14. Foreign custodians listed as holders of shares		0.00
15. Entities not included in the preceding numbers (2)	29	79.27
16. Shares pertaining to the S&P/BVL Peru Select Index or securities representing these shares, in the Company's portfolio		0.00
<b>Total</b>	<b>463</b>	<b>100.00</b>

HOLDINGS BY RESIDENCY STATUS OF THE HOLDERS OF STOCK OR SECURITIES INCLUDED IN THE S&P/BVL PERU SELECT INDEX (AT THE END OF THE FISCAL YEAR)	NUMBER OF HOLDERS	INTEREST %
Resident	426	33.56
Non-resident	37	66.44
<b>Total</b>	<b>463</b>	<b>100.00</b>

(1) The term "Relatives" is used according to the regulations on indirect ownership, relationship and economic groups.  
 (2) The term "Entities" is used according to the regulations on indirect ownership, relationship and economic groups.  
 (3) Two decimals.



HOLDINGS BY TYPE OF SHAREHOLDER OF THE STOCK OR SECURITIES INCLUDED IN THE S&P PERU SELECTIVE INDEX (AT THE END OF THE FISCAL YEAR)	SHARE:	VOLCABC1
	NUMBER OF HOLDERS	INTEREST % (3)
1. Members of the Company's Board of Directors and Senior Management, including relatives (1)	2	1.12
2. Company employees not included in No. 1	29	0.10
3. Individuals not included in No. 1 and No. 2	7,524	31.66
4. Pension funds managed by Private Pension Fund Administrators (AFP) under the supervision of the Superintendence of Banking, Insurance, and AFPs	12	51.67
5. Pension funds managed by the Pension Administration Office (ONP)		0.00
6. Peruvian government entities, except for those included in No. 5	2	0.18
7. Banks, financial institutions, municipal savings and lending institutions, EDPYMES, rural credit institutions, and savings and lending cooperatives under the supervision of the Superintendence of Banking, Insurance, and AFPs	4	0.60
8. Insurance companies under the supervision of the Superintendence of Banking, Insurance, and AFPs	3	0.92
9. Broker agents, under the supervision of the Superintendence of Securities Market (SMV)	3	0.01
10. Investment funds, mutual funds, and trust corpuses under the scope of the Securities Market Act and the Investment Fund Act, as well as bank trusts under the scope of the General Law of the Financial System	12	1.76
11. Autonomous Assets and bank trusts from abroad, where identifiable		0.00
12. Foreign depositaries listed as holders of shares within the framework of ADR or ADS programs		0.00
13. Foreign depositaries listed as holders of shares not included in No. 12	4	1.40
14. Foreign custodians listed as holders of shares		0.00
15. Entities not included in the preceding numbers (2)	156	10.58
16. Shares pertaining to the S&P/BVL Peru Select Index or securities representing these shares, in the Company's portfolio		0.00
<b>Total</b>	<b>7,751</b>	<b>100.00</b>

HOLDINGS BY RESIDENCY STATUS OF THE HOLDERS OF STOCK OR SECURITIES INCLUDED IN THE S&P/BVL PERU SELECT INDEX (AT THE END OF THE FISCAL YEAR)	NUMBER OF HOLDERS	INTEREST %
Resident	7,517	89.25
Non-resident	234	10.75
<b>Total</b>	<b>7,751</b>	<b>100</b>

(1) The term "Relatives" is used according to the regulations on indirect ownership, relationship and economic groups.  
(2) The term "Entities" is used according to the regulations on indirect ownership, relationship and economic groups.  
(3) Two decimals.



**DIVIDENDS**

No cash dividends were paid in 2019.

**STOCK PRICES ON THE LIMA STOCK EXCHANGE**

The stock price evolution during 2019 for class A and class B common shares, expressed in Nuevos Soles, is shown in the table below:

**CLASS A COMMON SHARES**

MONTH	OPEN PEN	CLOSE PEN	HIGH PEN	LOW PEN	PRICE PROMEDIO S/
January	3.500	PEN	PEN	PEN	3.500
February	3.500	3.500	3.500	3.500	3.500
March	--	--	--	--	3.500
April	--	--	--	--	--
May	3.500	3.500	3.500	3.500	3.500
June	3.500	3.500	3.500	3.500	3.500
July	3.500	3.500	3.500	3.500	3.500
August	--	--	--	--	--
September	3.500	3.500	3.500	3.500	3.500
October	--	--	--	--	--
November	3.490	3.490	3.490	3.490	3.490
December	3.490	3.490	3.490	3.490	3.490

Source: Lima Stock Exchange

**ACCIONES COMUNES CLASE B**

MONTH	OPEN PEN	CLOSE PEN	HIGH PEN	LOW PEN	PRICE PROMEDIO S/
January	0.700	0.750	0.760	0.650	0.714
February	0.740	0.680	0.750	0.640	0.686
March	0.680	0.620	0.680	0.620	0.656
April	0.620	0.550	0.630	0.530	0.584
May	0.550	0.480	0.550	0.400	0.471
June	0.475	0.520	0.600	0.460	0.530
July	0.530	0.480	0.550	0.470	0.528
August	0.470	0.449	0.491	0.405	0.464
September	0.449	0.475	0.485	0.435	0.460
October	0.445	0.387	0.455	0.380	0.417
November	0.395	0.343	0.400	0.334	0.374
December	0.340	0.445	0.450	0.313	0.393

Source: Lima Stock Exchange

**STOCK PRICES ON LATIBEX DURING 2019**

MONTH	EURO EXCHANGE RATE	OPEN PEN	CLOSE PEN	HIGH PEN	LOW PEN	AVERAGE PRICE PEN
January	3.912	0.55	0.70	0.70	0.51	0.56
February	3.846	0.69	0.69	0.69	0.68	0.69
March	3.890	0.70	0.70	0.70	0.70	0.70
April	3.880	0.69	0.54	0.66	0.54	0.56
May	3.970	0.55	0.54	0.54	0.54	0.54
June	3.922	0.53	0.58	0.58	0.55	0.55
July	3.801	0.57	0.46	0.53	0.41	0.50
August	3.807	0.53	0.47	0.47	0.46	0.47
September	3.841	0.47	0.47	0.47	0.47	0.47
October	3.802	0.46	0.62	0.62	0.31	0.43
November	3.791	0.62	0.40	0.42	0.40	0.41
December	3.877	0.39	0.45	0.47	0.36	0.42

Sources: Madrid Stock Exchange, Superintendencia of Banking, Insurance, and AFPs

**CORPORATE BONDS**

On January 26, 2012, as part of an international bond issue under Rule 144A and Regulation S of the United States Securities Act of 1933, the Company placed 10-year corporate bonds for a total amount of USD 600 million at an annual fixed interest rate of 5.375%.



# CORPORATE INFORMATION

Professional Background of Senior Management:

**JUAN IGNACIO ROSADO GÓMEZ DE LA TORRE**

Chief Executive Officer since April 2014. Prior to that, he was Deputy Chief Executive Officer from June 2010. He has also served as Vice Chairman and Finance Director at Hochschild Mining Plc. From August 2000 to January 2005, he held the position of Senior Project Manager at McKinsey & Company. A Director of Lake Shore Gold Corp. from March 2008 to June 2010 and Zincore Metals in 2010 (both mining companies are listed on the TGoldnto Stock Exchange).

Mr. Rosado holds a degree in economics from Universidad del Pacifico and an MBA from Ross School of Business, University of Michigan.

**CARLOS FRANCISCO FERNÁNDEZ NAVARRO**

Executive Vice President since January 2018. He previously served as Business Development Manager for the Zinc Department of Glencore International AG, Asset Manager - South America for the Zinc Department of Glencore International AG and as Investor Relations Manager for Glencore International AG. Mr. Fernández holds a degree in Applied Mathematics from Yale University.

**ALDO DE LA CRUZ PECEROS**

Vice President of Operations since January 2018. Prior to that, he served as Vice President of Operations of Sinchi Wayra Mine (Glencore Zinc), from October 2015 to December 2017. He has been Senior Technical Advisor of Glencore Zinc South America from August 2012 to October 2015. From April 2010 to June 2012, he served as Vice President of Operations at Mopani Copper Mines Plc Zambia of Glencore Copper. He has also served as Senior Technical Advisor of Glencore Copper from November 2009 to March 2010.

He held various positions within Glencore between 2003 to 2009, including General Manager at Kamoto Underground Mine Congo DRC, General Manager at Mufulira Mine Zambia, and Project Manager at Nkana Mine, Mopani Copper Mines Plc Zambia. In addition, he held the position of Mine Operations Chief in Mina Yauliyacu (Peru) from 1999 to 2003.

Mr. de la Cruz is a Mining Engineer graduated from

Universidad Nacional de Ingeniería and holds a master's degree in Mining Management from GERENS. He also holds a diploma in Mining Management from Universidad del Pacifico.

**JORGE LEONCIO MURILLO NÚÑEZ**

Vice President of Administration and Finance since January 2018. He formerly served as Central Financial Manager from December 2013 and as Management Control and Financial Planning Manager from January 2011 to December 2013.

His professional background includes serving as Financial Consultant for KPMG Consulting, Financial Controller for Peru and Colombia at Bearing Point, Deputy Corporate Financial Planning Manager at Grupo Gloria and Budget Manager at Hochschild Mining Plc.

Mr. Murillo holds an industrial engineering degree from Pontificia Universidad Católica de Peru, a diploma in finance from same university, and an MBA from Universidad ESAN.

**VANESSA AITA DE MARZI**

Commercial Manager since April 2018. She joined Volcan in May 2012, where she served as Contract Manager from February 2014 to May 2016, and was subsequently appointed as Deputy Commercial Planning Manager.

Ms. Aita holds a degree in international business and administration from Universidad de Lima.

**RENZO MUENTE BARZOTTI**

Corporate Human Development Manager since May 2019. Mr. Muenta joined the Company in April 2011 as Deputy Corporate Manager of Human Development and was subsequently appointed as Human Development Manager in 2014.

He previously served as Human Resources Manager of Unilever Peru, Training Manager for Unilever Andean Region, and Human Resources Manager for the food product division of Unilever Colombia.

Mr. Muenta holds a degree in industrial engineering from Universidad de Lima and a master's degree in human capital strategic management from Universidad Peruana de Ciencias - UPC.

**ROBERTO JUAN SERVAT PEREIRA DE SOUSA**

Corporate Social Responsibility and Labor Relations Manager since December 2010. He joined Volcan in January 2007 as legal advisor to the Chairman of the Board of Directors. Prior to that, he held office as Vice Minister of Labor, Vice Minister of Social Promotion, advisor to the Minister's office, General Director of the Legal Advisory Office, and member of the Advisory Commission of the Ministry of Labor and Employment Promotion. He also served as member of the Defense of Competition and Intellectual Property Court of INDECOPI, and member of the Board of the Superintendence of Healthcare Service Providers.

He is currently a member of the Labor Affairs Commission of the Lima Chamber of Commerce and the Board of the Peruvian Society of Labor and Social Security Law. He serves as professor at Universidad de Lima.

Mr. Servat holds a law degree from Universidad de Lima and a master's degree in public administration from Instituto Ortega y Gasset, affiliated with Universidad Complutense de Madrid.

**JUAN ALBERTO BEGAZO VIZCARRA**

Internal Audit Manager since July 2010. He first joined Volcan in December 2008 as Administration and Control Manager. Prior to that, he served as CFO with Gold Fields, General Controller with Doe Run, and Accounting Manager with Centromin.

Mr. Begazo is a certified public accountant and a member of the Committee of Experts in Mining Accounting. He also serves as Chair for the Mining Management Certification Program of Universidad de Lima.

**ALFONSO REBAZA GONZÁLEZ**

Chief Legal Counsel since September 2010. He brings extensive experience in corporate and mining law, in addition to arbitration and contracts. He has been a partner of Osterling Abogados law firm and professor of Civil Law at Pontificia Universidad Católica del Perú.

Mr. Rebaza holds a law degree from Pontificia Universidad Católica del Perú.

**RONALD MARTÍN CASTILLO ÁNGELES**

Logistics Manager since November 2019. He previously

served as contract manager and deputy manager, as well as head of contracts from February 2011, when he returned to the Company. Prior to that, he was the corporate contract manager of Compañía Minera Milpo. He also held the office of logistics-contract manager with Compañía Minera Atacocha.

He began his career in 1997 as mine administrator at the Chungar Mining Unit, which was later acquired by Volcan. Thereafter, he was transferred to the Cerro de Pasco Mining Unit and subsequently dealt with corporate contract matters until May 2008.

Mr. Castillo holds a public accounting degree from Universidad Nacional Daniel Alcides Carrión and an MBA from Universidad del Pacífico and Esade Business School.

**ÁLVARO LUIS CABRERA RAMÍREZ**

Energy Manager. He joined Volcan in March 2012. His professional background includes serving as Energy Operations Manager and Division Lead at Sociedad Minera CGoldna from 2004.

Mr. Cabrera is an electronic engineer graduated from Universidad Peruana de Ciencias Aplicadas (UPC), and holds an MBA from EADA (Barcelona) and a postgraduate degree in energy, electricity and gas law (UPC).

**EDUARDO MALPARTIDA ESPINOZA**

Occupational Health and Safety Manager since January 2018. Prior to that, he was the Operations Manager of the Alpamarca Mining Unit from September 2014. He has also served as Operations Manager with BRECA Grupo Empresarial - Administración de Empresas S.A.C., General Superintendent with Grupo ARUNTANI - Anabí and Operations Manager at the Arcata, Selene and Pallancata mines owned by Grupo Hochschild Mining Plc.

Eduardo holds a degree in mining engineering from Universidad Nacional Daniel Alcides Carrión in Cerro de Pasco and a master's degree in operations and logistics management from EOI Escuela de Negocios in Madrid, Spain.

**JUAN NEYRA VALVERDE**

GConcentrator Plant Manager since April 2019. He has served as metallurgical operations superintendent at the Chungar unit, the Alpamarca unit and the Cerro de

Pasco unit. Previously, he worked as superintendent of Compañía Minera Colquisiri S.A. concentrate plant and as process manager of BBA Ingenieros S.A.

Juan holds a degree in Metallurgical Engineering from Universidad Nacional de San Agustín de Arequipa.

**EDGARDO ZAMORA PÉREZ**

Corporate Planning Manager since January 2018. He previously served as operations manager of the Yauli Mining Unit since September 2012. He joined Volcan in May 2000 and was appointed as General Superintendent of Empresa Administradora Chungar S.A.C. in 2007. Subsequently, he served as operations manager from 2010 to 2012.

He has 12 years of professional experience in mine operations. He served as planning superintendent until March 2007.

Mr. Zamora earned a degree in mining engineering from Universidad Nacional Mayor de San Marcos.

**CARLOS MANUEL GARCÍA ZAPATA**

San Cristóbal - Carahuacra Operations General Manager since November 2018. He previously served as operations manager at Andaychagua since February 2014. He served in Volcan as production superintendent at the Yauli Mining Unit in 2013-2014, superintendent of San Cristóbal mine in 2012, superintendent of safety and hygiene at Minera Yauli in 2011, and deputy superintendent of safety and hygiene at Minera Yauli (July 2009 to 2010).

During his career, he has worked as Assistant to the VP of Operations for Doe Run Perú from 2005 to 2009, as head of security and other positions in mining operations in the Cobriza, Cerro de Pasco and Yauricocha mines.

Mr. Garcia is a mining engineer with a degree from the Universidad Nacional de Ingeniería, an MBA from Universidad Río de la Silver, and is a specialist in mining safety and hygiene and mine rescue (University of Missouri-Rolla/ USA) - Doe Run Company - MSHA USA.

**CARLOS TRILLO MEDRANO**

Andaychagua Operations Manager since January 2019. Formerly, he served as operations manager at Sociedad Minera Austria Duvaz S.A.C., as general manager at Grupo

Minero Bolivar, a company belonging to Glencore, as manager of the Pallancata-Selene mining unit at Grupo Hochschild, and as operations manager of Contonga mine at Nyrstar Ancash S.A.

Mr. Trillo holds a degree in mining engineering from Universidad Nacional de Ingeniería and pursued studies at the Advanced Business Management Program (PADE) of Universidad ESAN and at International Safety Training And Technology (ISTEC), a Safety Management System implemented by Pan American Silver S.A.C.

**FRANCISCO GRIMALDO ZAPATA**

Alpamarca Mining Unit Operations Manager since January 2018. He formerly served as operations manager of the San Cristóbal Mine (Yauli) since October 2016. From January 2006 to January 2016, he served as General Manager of the Yauliyacu Unit and operations and project manager of the Iscaycruz Unit with Empresa Minera Los Quenuales - Glencore Group. He also served as general superintendent of Cerro de Pasco in Volcan from September 1999 to January 2005 and previously worked for Centromin Perú.

Mr. Grimaldo is a mining engineer graduated from Universidad Nacional de Ingeniería and holds an MBA from ESAN. He also served as Professor at Universidad Nacional de Ingeniería where he lectured mining specialization courses for 14 years.

**ADRIÁN FELIPE CORIHUAMÁN MAYTA**

San Cristóbal Operations Manager since December 2018. Prior to that he served as Operations Manager of Carahuacra Mine (Yauli Unit) from July 2017. He served as project manager at SAME and operations manager at Quiruvilca mine since June 2016. Prior to that, he was operations manager at Cía Minera Caylloma, Cía Minera Arcata, and Cía Minera Ares, all part of Grupo Hochschild Mining Plc, from January 2003 to May 2016.

Mr. Corihuamán holds a mining engineering degree from Universidad Nacional de Tacna and pursued business administration studies at CEPADE.

**JOSÉ FRANCISCO ZEGARRA CARMONA**

Carahuacra Operations Manager since December 2018. Previously, he served as Operations Manager of El Povenir - Atacocha mining unit at Votoratim Metais and,

subsequently, at Nexa Resources.

Mr. Zegarra holds a degree in mining engineering from Universidad Nacional de Ingeniería, and a diploma degree in mining management from Gerens. He is currently studying an MBA course at Universidad Esan.

**JOHN QUISPE LOAYZA**

Ticlo Operations Manager since March 2019. Previously, he served as Engineering and Planning Superintendent of San Rafael mining unit at Minsur S.A., as Engineering and Planning Superintendent of Carahuacra mining unit at Volcan, as Mine Planning Superintendent of Yauliyacu unit at Glencore, and as Underground Mine Project and Planning Superintendent at Cía. Minera Antapacay S.A.A., belonging to Glencore.

Mr. Quispe holds a degree in mining engineering from Universidad Nacional Santiago Abad del Cuzco, an MBA in Business Management and Organization from Universidad Politécnica de Catalunya, Barcelona, and a diploma degree in Mining Project Design, Assessment and Management under PMI approach from GERENS.

**JAMES ATALAYA CHACÓN**

Chungar Mining Unit Operations General Manager since January 2016. Mr. Atalaya joined the Company in February 2015 as planning superintendent at the Chungar unit.

Prior to that, he served as planning superintendent at Compañía Minera Ares S.A. and as mining superintendent at Minsur S.A.

Mr. Atalaya holds a degree in mining engineering from Pontificia Universidad Católica del Perú, a diploma in mining business management from Universidad del Pacífico, a diploma in finance from the Monterrey Institute of Technology and Higher Education, Mexico, and has also earned a master's degree in strategic business management from Centrum Católica.

**JOHN AMES GAVINO**

Chungar Operations Manager since April 2019. Formerly, Mr. Ames served as Engineering and Planning

Superintendent of Chungar unit at Volcan, as Chief of Planning and Engineering of San José mining unit at Fortuna Silver Mines (Oaxaca – Mexico), and as Chief of Mine Planning of San Rafael mining unit at Minsur S.A.

Mr. Ames holds a mining engineering degree from Pontificia Universidad Católica del Perú, and has studied an MBA in EAE-OBS Business School - Universitat de Barcelona.

**MIGUEL HERRERA QUISPE**

GMaintenance Manager since May 2019. Previously, he served as Deputy Maintenance and Productivity Manager at Minera Colquisiri S.A., as Deputy Maintenance Manager of Yauli unit at Volcan, as Manager of Negocios Mineros Norte at Confipetrol Andina S.A., and others.

Mr. Herrera holds a mechanical engineering degree from Universidad Nacional de Ingeniería, has participated in the Managerial Development Program of the Business Management School of Universidad de Piura, and holds a Quick MBA from GERENS.

**CÉSAR EMILIO FARFÁN BERNALES**

Geology Manager since December 2019. He served as regional explorations manager, corporate chief of regional explorations and general superintendent of the Vinchos Mining Unit from 2002.

He holds a degree in geological engineering from Universidad Nacional Mayor de San Marcos, with postgraduate studies in geology-metallogeny at Universidad Central de Quito, Ecuador.

**PERCY LUIS RIVERA LÓPEZ**

Environmental Affairs Manager since May 2014. Prior to joining Volcan, he was manager of safety, health and environment at Minsur S.A. and manager of safety, health and environment at Votorantim Metais Cajamarquilla S.A.

Mr. Rivera holds a master's degree in environmental management from Universidad Nacional de Ingeniería and a certificate in quality management and environmental auditing from Universidad Nacional Agraria La Molina. He also holds a degree in sanitation

engineering from Universidad Nacional de Ingeniería.

**WILLY ANTONIO MONTALVO CALLIRGOS**

Accounting and Tax Manager since September 2015. Prior to that he served as general accountant at Volcan from November 2010. His professional background includes serving as accountant at the department store Ripley S.A., Cia. Minera Ares S.A.C. (Grupo Hochschild), Química Suiza S.A., Corporación Andina de Distribución S.A. (Carsa), and PricewaterhouseCoopers.

Mr. Montalvo is a certified public accountant from Universidad San Martín de Porres and holds a master's degree in strategic business administration from the Centrum Business School. He also holds certifications in International Financial Reporting Standards and International Accounting Standards from the Association of Chartered Certified Accountants (ACCA, London) and the Institute of Chartered Accountants in England and Wales (ICAEW, London), as well as a diploma in tax specialization from Universidad de Lima.

**DAYAN GUSTAVO SEGURA VANDERVELDE**

Information Technology Manager since September 2017. Prior to that, he was deputy IT manager for infrastructure and communications at Volcan.

Mr. Segura holds a degree in computing engineering from Universidad de Lima and a master's degree in strategic business management, with major in innovation, from Monterrey Institute of Technology and Higher Education.

**MAURICIO SCERPELLA ITURBURU**

Budget and Control Manager since February 2014. He formerly served as mining projects controller and corporate head of cost and budget analysis at Volcan.

Mr. Scerpella earned an MBA with major in strategy from Monterrey Institute of Technology and Higher Education. He also holds an economics degree from Universidad San Ignacio de Loyola.

**JORGE DE OLAZÁBAL ANGULO**

Technical Manager of Environmental Permits since

June 2019. Previously, he served as deputy manager of Environmental Affairs at Volcan, as corporate manager of Environment and Permits at Inversiones República S.A. - Glencore, as Environmental Operations Manager at Minsur S.A. - Mining Division of the Grupo Breca, and as corporate environmental superintendent at Compañía Minera Ares S.A.C. - Hochschild Mining PLC.

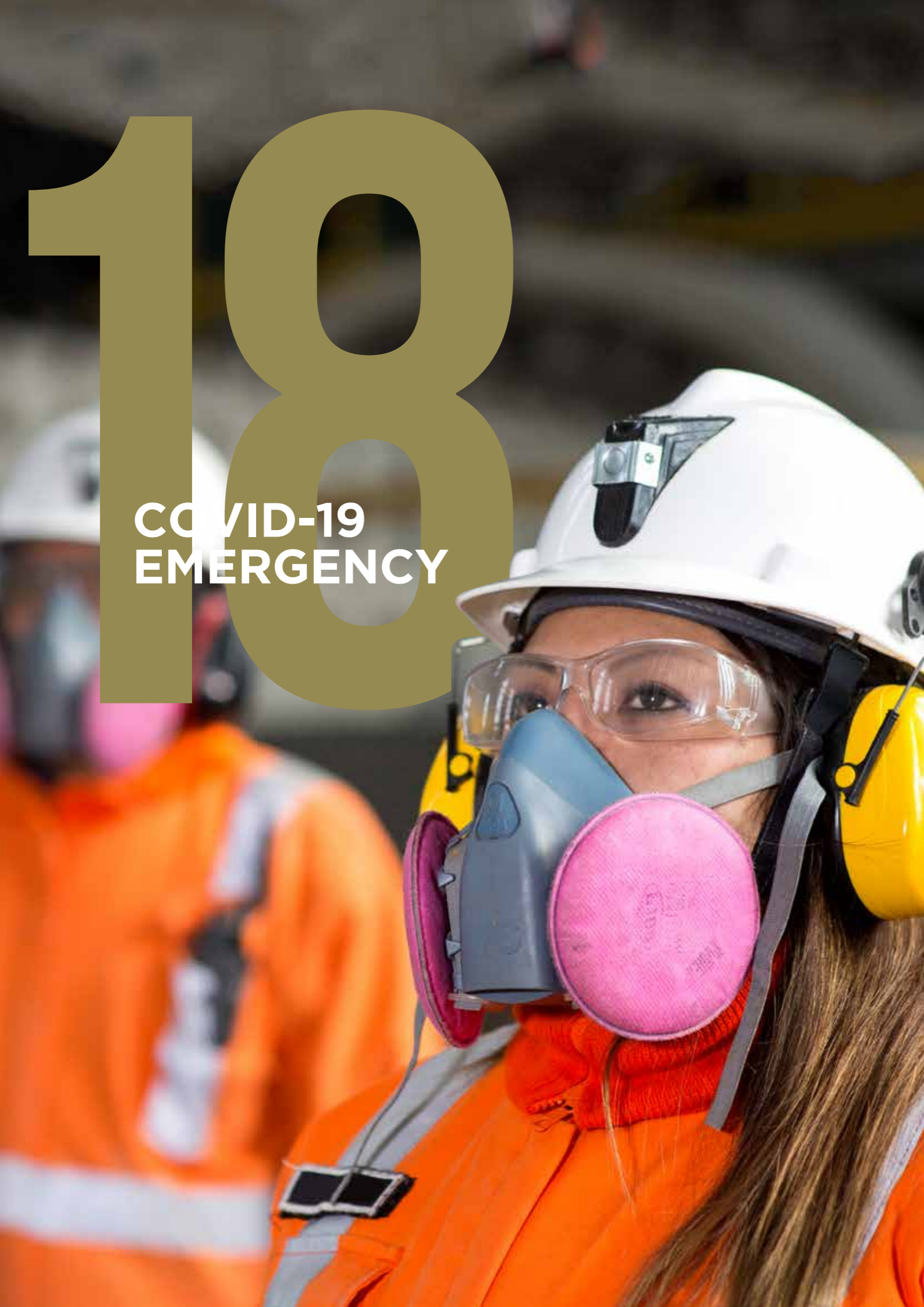
Mr. Olazabal holds an MBA from Centrum - Pontificia Universidad Católica del Perú, a Master's Degree in Environmental Engineering and Technology from FUNIBER, a Master's Degree in Safety, Health and Environment from Escuela de Negocios EOI (Spain), and an Industrial Engineering degree from Universidad Nacional de San Agustín.

**JORGE LUIS COTRINA LUNA**

Securities Manager since November 1999. He held various positions in the banking sector from 1984 to 1999. Mr. Cotrina holds a business administration degree from Universidad Nacional Mayor de San Marcos and pursued studies in banking and capital markets at Pontificia Universidad Católica del Perú.

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## COVID-19 EMERGENCY



The new coronavirus SARS-CoV-2 (COVID-19) that emerged in the Chinese city of Wuhan at the end of 2019 continues to spread across the world. As of the date of this publication, there are 16.8 million people diagnosed with COVID-19 in 186 countries worldwide, out of which 9.8 million have already been cured and more than 660 thousand have lost their lives. This pandemic has forced almost all governments in the world to take measures such as social distancing, which paralyzed their economies in order to contain the disease.

In Peru, the government and the BCR (Central Reserve Bank of Peru) took some measures to inject liquidity into the economy of people and companies in order to prevent the breaking of payment and supply chain and the closing of many productive and commercial activities. However, the reality is that the purchasing power of millions of formal and informal workers has decreased. We are going through a serious health and economic crisis.

On March 15, 2020, the government of Peru declared a state of national emergency and mandatory social quarantine nationwide after the first case of COVID-19 was reported on March 6, 2020.

Even before the declaration of a state of national emergency and social isolation, Volcan had identified all its vulnerable workers to COVID-19 and determined that they should stay at home, and those who could, do remote work.

On March 16, 2020, the day after the declaration of a state of national emergency and mandatory social isolation, Volcan had to halt all its mining operations in order to protect the health and safety of all its employees and their families.

As of March 17, Volcan shut down its operations and entered a phase of "Care and Maintenance". We focused only on critical and essential activities such as:

- Pumping System
- Water treatment
- Energy
- Electrical sub stations
- Maintenance of Concentrator and Leaching Plants
- Occupational safety

The fixed costs for these critical and essential activities totalled approximately USD 12-14 MM per months.

Likewise, Volcan has participated in a social fund against COVID-19 aimed at vulnerable communities that are in the area of direct influence. In accordance with the guidelines of this fund, Volcan has delivered basic medical kits for the vulnerable population, improved medical kits to equip local medical posts, and food kits.

Likewise, Volcan Compañía Minera participated in the donation of COVID-19 rapid tests for the population through the National Society of Mining, Energy and Petroleum.

It should be noted that the Volcan Group's hydropower plants did not stop their operations during quarantine, as the energy sector was authorized by the Government to operate without restrictions.

The standstill of economic activities in Peru, from March 16 until the end of June 2020, has caused a deterioration in the Company's financial outcomes. In order to take care of liquidity and working capital, and to be able to comply with its obligations to employees and suppliers, the Board of Directors adopted a series of measures such as:

- Delay most of investments (CAPEX)
- Halt expenses on good and services, except for the critical ones
- Carry out a policy of austerity and operational efficiency
- Come to an agreement with workers about salary reductions and wages for three months
- Come to an agreement with workers about overtime elimination during 2020

During the following weeks, Volcan actively participated in the coordination meetings between the Executive Power and other companies regarding health and safety protocols for the restart of operations.

This is how a strict health protocol was established (The COVID-19 surveillance, prevention, and control Plan for all our operations). The Peruvian Ministry of Energy and Mines, and the Peruvian Ministry of Health approved this protocol.

To restart its operations, Volcan carried out the following actions to prevent and minimize the spread of the virus:

1. E-Learning re-induction program: Virtual training platform where workers are trained in the new safety protocols and they sign compliance agreements.
2. 72-hour Negative COVID-19 Test and Isolation: Molecular testing for all workers three days before resuming operations. Also, they are self-isolated until they have a negative result for COVID-19.
3. Travel to the Mines: Once the above requirements are met, mobilization to the Mining Units takes place in buses at 50% capacity.
4. Workplace Induction: Employees are trained on the processes of each job position to comply with the minimum social distancing
5. Work groups: The members of work teams must keep a distance of at least 1.5 meters. Verificación diaria de sintomatología
6. Daily verification of symptoms
7. Mandatory use of COVID-19's PPE: Masks and safety glasses or face shields are mandatory in all facilities.
8. Evacuation of COVID-19 cases: Workers who test positive for COVID-19 are taken to isolation centers or health centers according to the severity of their condition

Within its mining facilities, the Company took a series of measures to ensure social distancing social:

- Capacity in buses and vans
- Hand washing stations - disinfection
- Capacity in canteens
- Installation of new accommodation-camps in operations (capacity)

The Peruvian Government issued the Supreme Decree 080-2020-PCM dated May 3, 2020, authorizing mining companies to gradually restart their operations as of May 11, 2020.

Volcan complied with the protocols that were required to restart operations; these protocols had to be approved by the Ministry of Energy and Mines and sent to the Ministry of Health for review.

This is how, as of May 18, 2020, Volcan gradually restarted its mining operations on the following dates:

		RESTART OF OPERATION	OPERABILITY BETWEEN 90% AND 100%
Mine	Ticlo	18 - may	26-may
Mine	Alpamarca	18- may	19-may
Mine	Animón	20-may	24-jun
Mine	San Cristóbal	27-may	06-jun
Mine	Carahuacra	28- may	18-jun
Plant	Cerro	29- may	29-may
Mine	Andaychagua	01-jun	8-jun
Plant	Óxidos	04-jun	04-jun
Mine	Islay	11-jun	14-jun

This stoppage, which led to the mandatory suspension of activities, has affected production levels and increased costs for the year. In addition, our revenues were affected as metal prices fell dramatically.

MINIMUM QUOTES JAN/JUN 2020	PRICE	DATE
Zinc (USD/TMF)	1,774	march 21, 2020
Lead (USD/TMF)	1,577	may 14, 2020
Cooper (USD/TMF)	4,618	march 23, 2020
Silver (USD/Oz)	120	march 19, 2020

In the first half of the year, production variations were as follows:

LOWER PRODUCTION OF 1S20 VS 1S19		
	ABS	VAR %
Zinc (000 TMF)	-48	-42
Lead (000 TMF)	-7	-31
Cooper (000 TMF)	-1.0	-43
Silver (MM Oz)	-2.5	-35
Gold (000 Oz)	-7	-64

**LOWER PRODUCTION OF 1S20 VS FORECAST**

	ABS	VAR %
Zinc (000 TMF)	-60	-48%
Lead (000 TMF)	-15	-48%
Cooper (000 TMF)	-1.2	-49%
Silver (MM Oz)	-3.5	-42%
Gold (000 Oz)	-9	-70%

In order to ensure the sustainability of operations for this year of serious impact due to lower production and income, bank financing has been arranged with the main financial entities in the country.

In addition, we signed up to the Reactive Peru Governmental Program for a total amount of USD 9.4 MM through Volcan Compañía Minera S.A.A. and its subsidiaries.

Volcan has been evaluating and analyzing various scenarios of lowest production impact on its operations and being able to generate higher income, always prioritizing safety and sustainability of the Company. The State of Emergency has put the Company's ability to face this difficult situation to the test, reaffirming its values of Safety, Integrity, Commitment, Excellence and Respect.

**Datos generales**

Volcan Compañía Minera S.A.A.

**Information related to incorporation**

Volcan Compañía Minera S.A.A. is a mining company organized by public deed dated February 1, 1998, executed before Notary Public Abraham Velarde Álvarez, Esq., as a result of the merger between Volcan Compañía Minera S.A. and Empresa Minera Mahr Tunel S.A. The company is registered in the Public Mining Registry under Entry 1, Card 41074, Item 11363057 of the Registry of Legal Entities of Lima.

The company is engaged in the exploration, mining, and processing of ore on its own account and of its subsidiaries, and is entitled to carry out extraction, concentration, treatment and commercialization of all products and concentrates.

Its activities are classified ISIC category 1320, Mining of non-ferrous metal ores. The duration of the Company is unlimited, although limited to the availability of ore reserves which, in turn, may vary based on the investments made in exploration and their results.

**Contact**

Jorge L. Cotrina L. - Securities Manager  
lcotrina@volcan.com.pe

**Head Office**

Address: Av. Manuel Olguín 373, Santiago de Surco,  
Lima, Perú  
Telephone: (511) 416-7000

**Website:**

[www.volcan.com.pe](http://www.volcan.com.pe)

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**Volcan Compañía Minera S.A.A.**

All communication regarding the 2019 Annual Report  
should be addressed to:

Mail: [\*\*sostenibilidad@volcan.com.pe\*\*](mailto:sostenibilidad@volcan.com.pe)

Address: Avenida Manuel Olgún N° 375,  
Santiago de Surco, Lima - Perú

Website: [\*\*www.volcan.com.pe\*\*](http://www.volcan.com.pe)