





### 2017 VOLCAN ANNUAL REPORT



#### > DISCLAIMER

"THIS DOCUMENT CONTAINS ACCURATE AND SUFFICIENT INFORMATION ABOUT VOLCAN COMPAÑÍA MINERA S.A.A.'S BUSINESS ACTIVITIES IN 2017. REGARDLESS OF THE ISSUER'S LIABILITY, THE UNDERSIGNED ARE RESPONSIBLE FOR THE CONTENT HEREIN, IN ACCORDANCE WITH APPLICABLE LAWS."

**LIMA, FEBRUARY 28, 2018** 

**José Picasso Salinas** Chairman of the Board **Juan Ignacio Rosado Gómez de la Torre** Chief Executive Officer



# **INDEX**

/	Part 09	95
	BUSINESS MANAGEMENT	
		97
19	RESULTS AND INVESTMENTS	
	ANALYSIS	
	Part 11	107
25	ENERGY	
		113
33	SAFETY, HR, CORPORATE	
	SOCIAL RESPONSIBILITY AND	
	ENVIRONMENT	
39	Part 13	135
	CONSOLIDATED FINANCIAL	
	RESULTS	
45		
	Part 14	145
	LEGAL AFFAIRS	
59		
	Part 15	153
	STOCK INFORMATION	
81		
	Part 16	159
	CORPORATE INFORMATION	
	25 33 39 45 59	Part 10 Part 10 Part 10 Part 11 Part 11 Part 11 Part 12 Part 12 SAFETY, HR, CORPORATE SOCIAL RESPONSIBILITY AND ENVIRONMENT  Part 13 CONSOLIDATED FINANCIAL RESULTS  Part 14 LEGAL AFFAIRS  Part 15 STOCK INFORMATION  Part 16



# 01

## LETTER TO THE SHAREHOLDERS

#### LETTER TO THE SHAREHOLDERS

#### **DEAR SHAREHOLDERS:**

IN 2017, THE INTERNATIONAL POLITICAL CONTEXT WAS MARKED BY THE NUCLEAR THREAT FROM NORTH KOREA, THE ECONOMIC CRISIS IN VENEZUELA, PRESIDENTIAL ELECTIONS IN FRANCE AND GERMANY, THE IMPLEMENTATION OF NEW TRADE POLICIES BY THE UNITED STATES, AND CATALONIA'S FAILED ATTEMPT AT INDEPENDENCE FROM SPAIN.

Despite this context, the global economy grew 3.7%, the highest rate in the last six years. This trend is sustained, on the one hand, by greater dynamism in developed economies such as the United States and the Eurozone thanks to increased private consumption and investment expansion; primarily in infrastructure. These also contributed to a drop in unemployment. Notably, in December U.S. President Donald Trump enacted a tax reform, the main thrust of which was to reduce corporate income taxes from 35% to 21% starting in 2018 and generate tax incentives for repatriation of capital gains.

In addition, for the first time in seven years China's yearover-year economic growth was positive, rising from 6.7% in 2016 to 6.9% in 2017. This was explained primarily by greater growth globally and higher public investment in infrastructure. This greater dynamism resulted in a recovery of commodity prices, boosting growth in Latin American economies. In particular, Argentina returned to a positive rate of expansion thanks to a recovery in the construction sector and higher household purchasing power, in the context of economic stabilization, fiscal consolidation and international reinsertion programs implemented by the government of Mauricio Macri. It is worth noting that Sebastián Piñera won the presidential election in Chile in 2017, contributing to the region's political and economic stability. Elections in Mexico, Brazil and Colombia will take place in 2018.

With regards to stock markets world wide, both emerging economies and developed economies indicated significant

growth.S&P 500 of the United States (+19.4%), INikkei 225 of Japan (+19.1%), Shanghai Composite Index of China (+6.6%), IPSA of Chile (+34.0%) and BOVESPA of Brazil (+26.9%). For its part, the Lima Stock Exchange increased 28.3%.

In the domestic context, Peru was also subject to climatic, political and economic turbulence in 2017. In March, Peru was affected by the coastal El Niño phenomenon, which caused economic damage and irremediable human losses throughout the entire country. Volcan contributed equipment, food and personnel in the northern and central parts of the country to help those affected. We must also mention the support provided by the National Society of Mining, Energy and Petroleum to the victims. Our company also experienced problems during the coastal El Niño phenomenon, which caused a rupture of the penstock and damage to the transmission line for the Rucuy hydroelectric plant as well as difficulties in the transport of concentrates and supplies.

In the political realm, the conflict between the executive and legislative branches continued. There were cabinet leadership changes in education, transportation and communication and health, among others. Subsequently, the legislature passed a no-confidence vote in the cabinet of Prime Minister Fernando Zavala in September. In addition, the Odebrecht corruption scandal sharpened conflicts between the executive and legislative branches, slowing the country's progress and growth. Numerous infrastructure projects were suspended in Lima and in the country's interior. Former president Ollanta Humala and his wife Nadine Heredia were placed in preventive custody and other former presidents are also under investigation. Also, in December Congress sought to impeach President Pedro Pablo Kuczynski; this effort ultimately failed due to the fracturing of a group of Fuerza Popular legislators and the abstention of the Izquierda Nuevo Perú caucus. A few days later, on December 24, President Kuczynski, exercising his presidential prerogative, pardoned former president Alberto Fujimori. After Congress again sought to impeach President Pedro Pablo Kuczynski, he resigned the

**VOLCAN 2017 ANNUAL REPORT** 

#### **LETTER TO THE SHAREHOLDERS**

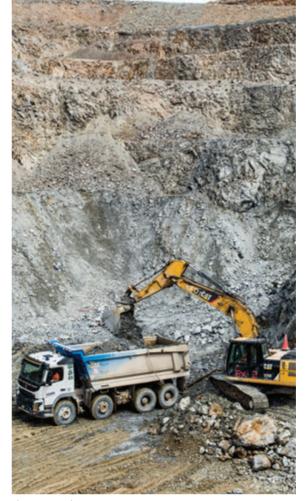
presidency on March 21, 2018. Two days later, on March 23, 2018, Congress accepted the president's resignation and, in accordance with the Constitution, the presidency was assumed by Martín Vizcarra, first Vice President of the Republic and Peru's ambassador to Canada.

On the same day that President Vizcarra was sworn in by Congress, he gave a speech to the country in which he mentioned the instability and institutional peril Peru was experiencing and which no Peruvian wanted and that the time had come to say enough. Specifically, he mentioned certain serious developments that had occurred in recent times. He said that the judiciary must act independently, responsibly and guickly, but at the same time, it was time to end the politics of hate and confrontation which has only served to harm the country. Politicians and those in public office have an obligation to respond to the many needs, demands and aspirations of every Peruvian, he continued. This last point is the start of a new stage of institutional rebuilding in the country, in which democracy and respect for others are the flags, moving beyond personal interests and desires as well as political differences, to emphasize the wellbeing of all. Among his objectives he mentioned the fight against corruption, transparency, institutional stability, the fundamental division of powers to ensure that no branch of government is able to dominate the others, and the reconstruction of governance.

# IN ECONOMIC MATTERS, THE HORIZON INDICATES A STABLE COUNTRY WITH ORDERLY AND EQUITABLE GROWTH, AIMED AT DRIVING PERU DOWN THE PATH OF CREDIBILITY AND STABILITY.

Creating quality jobs for all Peruvians through building infrastructure will be a pillar of the president's administration on the coast, in the mountains and in the jungle. Health, education and public security will be fundamental issues on his agenda, working toward the great transformation of this country, putting Peru first. He ended his message by calling for everyone to work together for the good of Peru, as there is no time to lose.

All of this political uncertainty in Peru affected the country's economic growth outlook. Gross domestic product increased by 2.5% with respect to the previous year, the lowest growth rate in the last 3 years. This loss of dynamism is due to



Alpamarca Pit - Alpamarca

lower growth of private consumption associated with a reduction in household confidence indicators, lower levels of adequate employment and greater underemployment. With respect to public investment, the delay in execution of projects during the first half of the year due to the coastal El Niño phenomenon was partially offset by the recovery of public investment because of national infrastructure work for the Panamerican Games during the second half of the year. For its part, private investment halted the contraction it had experienced for three consecutive years, with expansion of 0.1% for the year. Notably, investment in the mining sector grew by 15.7%.

In sectoral terms, construction grew by 2.2% compared to the previous year, after two years of contraction, while the fishing sector grew 4.7% over the previous year, thanks to greater extraction of anchovies for industrial consumption. On the other hand, manufacturing fell by 0.3%, compared to a decline of 1.4% in the previous year.

The mining and hydrocarbons sector expanded 3.2% in 2017, below the two previous years (9.5% in 2015 and 16.3% in 2016) due to lower growth of copper production, after the production expansion at Las Bambas and Cerro Verde in 2016.

Peru's current balance of payments had a deficit of 1.3% of the GDP, lower than the 2.7% GDP deficit recorded in 2016.

The trade balance was helped by higher metal prices, which caused appreciation of the sol, closing 2017 at 3.24 PEN/USD. The average exchange rate during 2017 was 3.26 PEN, compared to 3.37 PEN in 2016. For its part, inflation in Metropolitan Lima closed the year at 1.4%, within the Central Bank's target range.

IN 2017, PRICES OF MOST BASE METALS INCREASED OVER THEIR 2016 LEVELS. THIS STRONG PERFORMANCE WAS DUE TO A MORE SOLID GLOBAL ECONOMY, AS SHOWN IN THE U.S., EUROPE, ASIA AND LATIN AMERICA.

The rising trend in the cycle of metal prices was supported by increased demand and a reform in Chinese supplies, with greater environmental controls. Demand recovered substantially due to investments in infrastructure in China and the United States, the electric vehicle revolution and greater demand for copper. In regard to supply, it is important to note that China has been implementing policies to absorb idle plant capacity to reduce supplies that are highly contaminating, inefficient and unprofitable, resulting in a reduction in inventory.

The price of zinc rose 29.1% from 2,563 USD/MT at the end of 2016 to 3,309 USD/MT at the close of 2017. Likewise, the price of lead increased 25.7% from 1,985 USD/MT at year-end 2016 to 2,495 USD/MT at the close of 2017, while copper saw a 30.1% increase to 7,157 USD/MT, silver rose 3.8% to 16.87 USD/oz and gold climbed 12.3% to 1,294 USD/oz. This is the second year of a price recovery after almost five years of constant declines in metal prices. This positive trend in metal prices has enabled greater investment in the mining sector.

According to the Fraser Institute's annual survey for 2017, Peru rose nine positions in the ranking of attractiveness for mining investment, at 19 out of 91 jurisdictions. This ranking evaluates two factors: geological potential and political perception. In geological potential, Peru was ranked 14th, three positions above 2016. In terms of the perception of public policy and practices related to the sector, although Peru was ranked 43rd, an improvement of 11 positions, we continue to be outranked by Botswana, Namibia and Chile, among others. Notably, our neighboring country Chile was ranked 8th, moving up 31 positions, due to better political perception and stability in that country. We need to place



Ticlio Mining Camp - Yauli

#### **LETTER TO THE SHAREHOLDERS**

greater emphasis on promoting government policies to take advantage of Peru's mining potential, facilitate investment, and guarantee the start-up of important projects that continue to be stalled, including Tía María, Cuajone, Quellaveco, Conga, Río Blanco, Galeno, Michiquillay, and La Granja. Currently, the mining sector represents 10% of the country's GDP and more than 60% of total exports.

As we said years ago, it is our responsibility to stimulate the country's development, since windows of opportunity do not open every day, and we must remember that we have to compete to attract new investments that ultimately go to countries offering the best conditions. We have observed that neighboring countries without a tradition of mining such as Ecuador, Colombia and recently Argentina, under Mauricio Macri's government, are beginning to position themselves better to attract investors who will take advantage of their mining potential.

It is also important to mention that excessive pressure in terms of taxes and labor, environmental, and social issues has limited opportunities for development of the country's mining industry. This, in addition to the damage caused by the Law of Prior Consultation and inefficient use of mining royalties, which should be distributed in line with the needs of each region, has resulted in social conflicts that have yet to be resolved. The result is delayed private investment and higher costs faced by local mining companies. The executive branch is carrying out a series of reforms to reduce the excessive bureaucratic procedures that are currently required of the mining sector for exploration and project start-up.

In 2017, Volcan's production reached 255,000 FMT of zinc, 17.3 million ounces of silver and 51,000 FMT of lead. These represent decreases of 6.7%, 21.1% and 1.9% respectively, compared to 2016. This was mainly due to lower production grades at the Yauli and Chungar units. In addition, production was affected by the 65-day stoppage at Islay mine from August to October due to conflicts with one of the local communities, relating to authorization for work with the raise borer in the South vein, and the 18-day stoppage in February at the oxides plant due to conflicts with the Rancas Community.

It is important to mention that the Company continues to focus on cost control and reduction in all operating units.

THE COMPANY HAS IDENTIFIED SPECIFIC OPPORTUNITIES FOR IMPROVEMENT RELATED TO THE MINE, SUPPORTS, MAINTENANCE, TRANSPORTATION AND ADMINISTRATIVE UNITS. THESE WILL BE IMPLEMENTED IN THE COMING MONTHS.

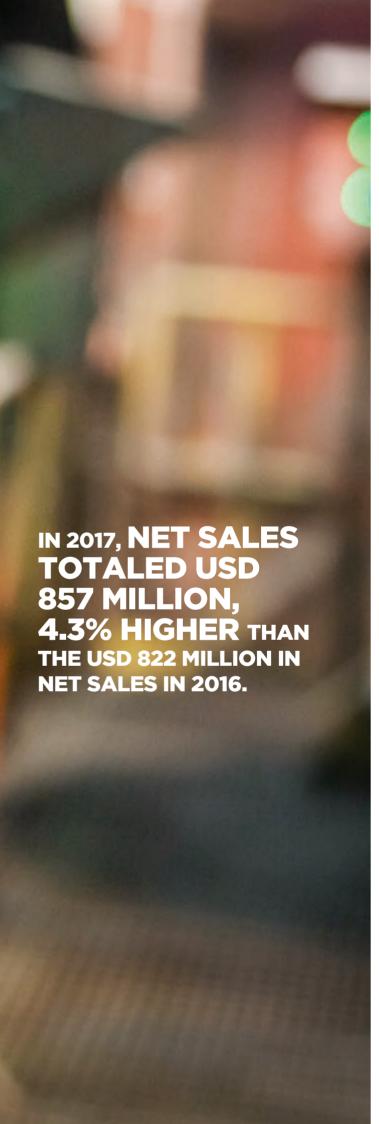
As a result, unit cost in 2017 was 47.90 USD/MT, 3.3% less than the 49.50 USD/MT seen in 2016.

Investment in our operating units increased 52% from USD 113 million in 2016 to USD 172 million in 2017, mainly in plants, tailing dams, development and local exploration. Meanwhile, investment in regional exploration was up 367.4%, from USD 3 million in 2016 to USD 15 million in 2017 and investment in the energy business fell 43.2% compared to the previous year, from USD 6 million to USD 3 million. This decline reflects completion of the Rucuy hydroelectric plant in 2016. In total, Volcan invested USD 193 million in 2017, 58% more than the USD 122 million invested in 2016.

In 2017, net sales totaled USD 857 million, 4.3% higher than the USD 822 million in net sales in 2016. The Company's gross margin increased from 29% in 2016 to 34% in 2017, thanks to higher metal prices, lower production costs, and a decrease in sales volume of third-party concentrates, which generate lower margins. EBITDA rose to USD 343 million, compared to USD 303 million in 2016, while net profits were USD 93 million.

It is important to note that Volcan recorded a one-time net charge of USD 570 million as a result of aligning the Company's financial statements with the corporate accounting standards and policies of our shareholder Glencore. Because of its share in Volcan, Glencore is required to include the financial results of Volcan Compañía Minera S.A.A. in its consolidated financial statements. The adjustments were mainly focused on i) evaluation of devaluation of fixed and intangible assets (impairment); ii) deferred taxes; and iii) accounting provisions. These exceptional charges did not have any effect on the Company's cash flow. Also, in the case of the devaluation of fixed assets and intangibles, in the future the adjustment





may be reversed in the event of a scenario other than the one considered in the evaluation as of December 31, 2017.

## VOLCAN HOLDS 371,000 HECTARES OF MINING CONCESSIONS FOR THE DEVELOPMENT OF EXPLORATION ACTIVITIES AND MINING PROJECTS.

To estimate Volcan's total reserves, the Company uses geostatistical tools to generate resource block models. These have been applied to almost all mineralized structures in our operating units, in order to improve interpretation and classification of these structures. This generates solid reserve models that provide greater support to mining plans.

In terms of mine development strategy, in 2017 Volcan concentrated its efforts on exploration at its current operations, aiming to develop the value chain in ore resources. For example, the diamond drilling program consisted of more than 150,000 meters at our Yauli and Chungar units.

Volcan also conducted exploration at six projects-three in the advanced phase and three in the initial phase-totaling more than 54,000 meters of diamond drilling. Notable among the projects in the advanced phase are Romina II and Carhuacayán, which will enable operational continuity of the Alpamarca unit. In the case of Romina II, significant polymetallic mineralization has been defined in the Puagjanca body, and there is evidence of other zones with high potential such as Yuncán, Nuevo Yuncán, Why Not and Romina Central. La Tapada body has been identified at Carhuacayán, as have other targets such as La Tapada Oeste and Toldojirca. At Palma, in 2017 we received approval for the second modification to the semi-detailed exploration EIS and we are updating the geological model for estimating new resources.

Projects in the initial stage include work at Alpamarca Norte, Santa Bárbara and Chumpe. In addition to these advances, and in line with Volcan's long term vision, the Company continued to evaluate opportunities to acquire projects and mining operations aligned with its corporate strategy.

Regarding our corporate policies on safety and the environment, we made significant progress in our cultural



Andaychagua Plant - Yauli

change in safety, health and the environment program, developed jointly by all areas of the Company. In 2017 Volcan focused on controlling the critical risks for our workers represented by falling rock, mobile vehicles and equipment, energy blocking, and manual tools. At year's end, and despite having reduced the number of disabling accidents and property damage, we deeply regret the occurrence of four accidents with fatal consequences: three employees of contractor companies and one Volcan employee. Investigations were carried out to determine the causes of each incident and corrective measures were taken with an emphasis on supervision, training, and evaluation to strengthen oversight.

In terms of energy generation, in 2017 the Company produced 353 GWh, an increase of 9% compared to the previous year, and due to greater production at the Chungar hydroelectric plants resulting from greater availability of water.

On the other hand, Company energy consumption rose to 707 GWh, with average power demand of 103 MW,

up 11% over the previous year. This increase is primarily caused by greater demand from mining operations. It should be noted that self-generation, without taking into account energy produced and supplied to third parties, represented 24% of total energy consumption; the remainder was supplied by Electroperú through a contract that expired on December 31, 2017. New electricity supply contracts signed with the company Engie went into effect in January 2018. These contracts will significantly reduce energy consumption rates for our operations.

Volcan continued its strategy of investing in renewable energy and a proprietary electricity transmission system to guarantee a constant, reliable source of power for its operating units and avoid unnecessary plant shutdowns. As of the close of 2017, Volcan's energy business consists of 13 hydroelectric plants, 350 km of transmission lines and 26 electrical substations. In 2017 studies were continued on expansion of the Tingo hydroelectric plant, which would achieve an installed capacity of 15 MW, and easement agreements were signed for the Chancay 2 and Chancay 3 projects.

It should be noted that as a consequence of the coastal El Niño phenomenon, the Rucuy hydroelectric plant was temporarily out of service, after the penstock and transmission line were damaged. To date, insurers have disbursed USD 3 million as an advance toward reparation of material damages, and the plant is expected to resume operations during the second half of the year.

On October 9, 2017, Glencore International AG launched a public tender to acquire a minimum of 436,659,163 and a maximum of 787,140,176 class A shares at USD 1.215 per share. When the public offering concluded, Glencore had purchased a total of 603,077,387 shares for USD 734 million.

GLENCORE INTERNATIONAL AG AND ITS AFFILIATED COMPANIES, AS OF THE LAUNCH DATE OF THE PUBLIC OFFERING, ALREADY HELD 295,754,888 SHARES (18% OF CLASS A SHARES), BRINGING THE TOTAL NUMBER OF CLASS A SHARES IT HOLDS TO 898,832,275. THIS REPRESENTS 55.028% OF CLASS A SHARES AND 23.29% OF TOTAL COMPANY EQUITY.

#### **LETTER TO THE SHAREHOLDERS**

Glencore, which trades on stock exchanges in London, Johannesburg and Hong Kong, has a market capitalization of approximately USD 75 billion. As of December 31, 2017, Glencore's worldwide assets total USD 135.593 billion, with sales of USD 205.476 billion, EBITDA of USD 14.762 billion and net income of USD 5.777 billion. This world-class company produces copper, cobalt, zinc, lead and nickel as well as energy products such as coal and petroleum. It also has agricultural businesses.

Now that Glencore holds a larger share of the company's equity, it has engaged with Company operations, bringing in professionals from different areas and specialties such as mine operations, plants, geology, safety and the environment. These professionals come from various countries including Australia, Canada and South Africa, to assist with developing all Volcan units. At the same time, they are prioritizing the potential of current operations, assigning resources to the operating units and identifying possible synergies that will benefit Volcan. The expectation is that this will result in lower costs, optimization of all variables that affect cash flow and increased Company production and reserves. As of the date of publication of this Annual Report, three Glencore executives have joined the Company: Mr. Aldo de la Cruz Peceros as vice president of operations, Mr. Carlos Francisco Fernández Navarro as executive vice president and Mr. Jorge De Olazabal Angulo as deputy manager of corporate environmental affairs.

With respect to Terminales Portuarios Chancay S.A., a wholly owned subsidiary of Volcan, the process of negotiation to incorporate a strategic partner is ongoing. Preliminary work has begun on the port construction project, for which Volcan invested a total of USD 24.3 million in 2017. It's worth noting that, as a contribution to the development of the village of Chancay, Volcan was awarded the new PEN 22 million Chancay food market project as part of the Public Works Tax Credits program. The project will benefit 85,000 people who will be able to buy and sell essential staple products in a safe, clean and organized setting.

With respect to Volcan corporate social responsibility and care for its surroundings, the Company seeks to engage in dialog and strengthen its relations with community leaders, key authorities and social organizations to generate a positive impact on the development of the

communities within its direct sphere of influence. Toward that end, in 2017 the Company invested USD 5 million in agreements with 60 communities in their area of influence. In addition, the various Volcan units provided work to 17 community enterprises, which invoiced about USD 50 million throughout the year. It is important to highlight the Company's pioneering participation in the Public Works Tax Credit program, having developed and/or won 15 projects with a total value of PEN 126 million, including investments in roads, schools, water, and sanitation.

In September, our operations manager at Cerro de Pasco, Mr. Hermán Flores Arévalo, resigned his position. We are appreciative of his contributions to the development of the Company.

In October, our head operations manager Mr. Roberto Maldonado Astorga, who for many years worked toward the Company's development and growth, also presented his resignation. On behalf of our Board of Directors, we would like to express our gratitude for his dedication, hard work and commitment to the Company's goals.

In addition, we mourn the passing in January 2018 of Dr. Otto Eléspuru Nesanovich, general manger of Empresa Administradora Cerro S.A.C. and Óxidos de Pasco S.A.C. He also held a management position in the Company's legal department. We are appreciative of the dedication, hard work, loyalty, and commitment that he showed for the Company.

It is also important to mention that in November 2017, as a result of Glencore's public tender, the following company directors resigned from the Board: Madeleine Osterling Letts, Felipe Osterling Letts and José Bayly Letts. On behalf of the Board, we would like to thank them for all of their contributions during their tenure as directors.

The Board of Directors, acting within the powers bestowed on it by law, appointed Ms. Victoria Soyer Toche and Mr. Carlos Perezagua Marín to the Board on November 18, 2017.

Subsequently, in December Mr. Pablo Moreyra Almenara resigned from the Board of Directors. On behalf of the Board, we would like to thank him for his collaboration during his time with the Company.

In addition, we would like to report that, as of the date of presentation of this Annual Report, Volcan class B shares have been reclassified from the FTSE Global Small Cap Index to the FTSA Global Mid Cap Index. The shares have also been added to a new index, the FTSE All-World Index.

I WOULD LIKE TO TAKE THIS OPPORTUNITY, ON BEHALF OF OUR BOARD OF DIRECTORS, TO THANK ALL OF OUR EMPLOYEES, EXECUTIVES AND PARTNERS FOR THEIR HARD WORK, DEDICATION, AND COMMITMENT TO THE COMPANY'S OBJECTIVES.

It's also important to mention that we now have a history of seven decades of investment in mining development in our country's central highlands, with a commitment to sustainable growth in harmony with surrounding communities and the environment. This hasn't been an easy undertaking. There have been numerous challenges,

and thanks to the hard work of our founders and those who have enabled the Company to continue to grow-workers, engineers, executives and directors-we have successfully overcome them.

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

Sincerely,

**José Picasso Salinas** 

Chairman





# **02**

# MACROECONOMIC ENVIRONMENT

#### INTERNATIONAL **OUTLOOK**

# IN 2017, THE GLOBAL ECONOMY GREW 3.7%, THE HIGHEST RATE IN THE LAST SIX YEARS.

This higher growth was due, in part, to greater dynamism in developed economies such as the United States and the Eurozone. In particular, improved labor market conditions stimulated consumption, while positive expectations and higher corporate earnings boosted private investment.

Emerging economies also grew at a faster pace especially in Latin America, stimulated by the recovery of commodity prices and expansive monetary policies in certain countries in the region. For the first time since 2010, the Chinese economy showed higher economic growth than the previous year, rising from 6.7% in 2016 to 6.9% in 2017. Greater growth in that country is largely explained by more dynamic import and export activity in a context

of stronger global growth and public investment in infrastructure.

The financial markets were less volatile in 2017 than the previous year, as uncertainty about the future of monetary policy in developed economies subsided. However, there were some episodes of moderate uncertainty, such as the elections in France and geopolitical tension between the United States and North Korea. In that context, the leading stock markets showed significant gains.

Also, the U.S. dollar fell 10% against the basket of five principal global currencies, mainly because of the strong performance of the Eurozone economy.

<sup>\*</sup>Developed economies: S&P 500 - United States (+ 19.4%); Nikkei 225 - Japan (+19.1%); DAX - Germany (+12.5%), CAC 40 - France (+9.3%); FTSE 100 - U.K. (+7.6%) and IBEX 35 - Spain (+7.4%). Emerging economies: IPSA - Chile (+34.0%); SP/BVL Peru General - Peru (+28.3%); BOVESPA - Brazil (+26.9%); COLCAP - Colombia (+12.0%).

#### PERUVIAN **ECONOMY**

IN 2017 PERU'S GROSS DOMESTIC PRODUCT (GDP) EXPANDED 2.5% COMPARED TO THE PREVIOUS YEAR. THIS WAS THE LOWEST RATE OF GROWTH IN THE LAST THREE YEARS, THE RESULT OF A SLOWDOWN IN THE MINING AND HYDROCARBONS SECTOR.

Production in that sector, which increased by 9.5% in 2015 and 16.3% in 2016, was limited to just 3.2% in 2017. The main drivers of this trend were lower growth in copper production, since Las Bambas and Cerro Verde stabilized their production rates in 2016. In contrast, the construction sector showed a positive trend, its first growth after two years of contraction. This was due to an improved outlook for recovery of mining investment (+15.7%).

#### > DOMESTIC PRODUCTION OF PRINCIPAL METALS

METAL	2016	2017	VAR%
Zinc (thousands FMT)	1,337	1,473	10.2
Lead (thousands FMT)	314	307	-2.4
Copper (thousands FMT)	2,354	2,446	3.9
Silver (millions Oz)	140.7	138.4	-1.6
Gold (thousands Oz)	4,919	4,858	-1.2

Source: Ministry of Energy and Mines

Peru's current balance of payments had a deficit of 1.3% of GDP, below the 2.7% deficit seen in 2016. Higher commodity prices, particularly for metals, helped boost the balance of payments, with a positive result for the year of USD 6.3 billion. Because of this lower deficit, the Sol appreciated 3.4%, closing 2017 at 3.24 PEN/USD.

Inflation in Metropolitan Lima ended the year at 1.4%, within the target range of Peru's Central Bank (between 1.0% and 3.0%). The drop in inflation was due primarily to negative underlying inflation, after a reversal of the supply-side shocks that affected agricultural production in late 2016 and the first quarter of 2017.



Mahr Tunel Plant - Yauli

#### METAL PRICES

For the majority of metal prices, 2017 was a turning point after five years of depressed markets.

This good performance was the result of a more solid global economy and upward revisions due to macroeconomic indicators.

THE UPWARD TREND IN THE METAL PRICES CYCLE WAS SUPPORTED BY THE PREVALENCE OF MARKETS IN BALANCE AND IN DEFICIT, LED BY INCREASED DEMAND AND CHINESE SUPPLY REFORMS.

Demand recovered, catalyzed by robust investments in infrastructure in China and the United States as well as the electric vehicle revolution. In regard to supply, it is

important to note that China has been implementing policies to absorb idle plant capacity and reduce supply. These policies are aimed at reducing highly contaminating, inefficient, and unprofitable supply resulting in a reduction in inventory.

Zinc prices in January 2017 were \$2,713 USD/MT, 79% above the price one year before, generating positive market sentiment. These levels were attractive enough to partially restart production, which had stopped as a consequence of downward pressure on prices in 2015 and part of 2016. Although insertion of this new production slightly affected prices in the second quarter, with an average of 2,598 USD/MT, the drop wasn't substantial enough to halt the continuous price increases in the second half of the year. Starting in July, prices showed a sustained growth pattern,

#### > EVOLUTION OF AVERAGE METALS PRICES

METALS PRICES	2011	2012	2013	2014	2015	2016	2017
Zinc (USD/MT)	2,193	1,948	1,933	1,910	2,162	2,091	2,894
Lead (USD/MT)	2,402	2,062	1,786	2,142	2,096	1,871	2,318
Copper (USD/MT)	8,821	7,949	5,502	7,326	6,860	4,863	6,163
Silver (USD/Oz)	35.1	31.2	15.7	23.9	19.1	17.1	17.1



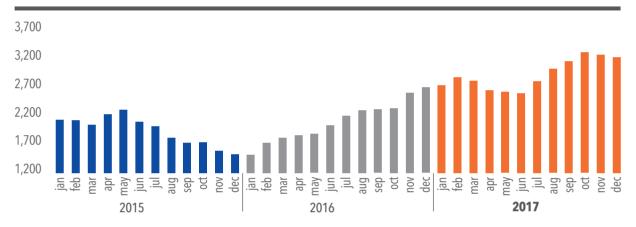
Animon Mine - Chungar

#### **MACROECONOMIC ENVIRONMENT**

reflecting solid supply and demand fundamentals and reaching an average price of 3,098 USD/MT. Overall, 2017 was a year of rising prices, supported by lack of investment in new supply.

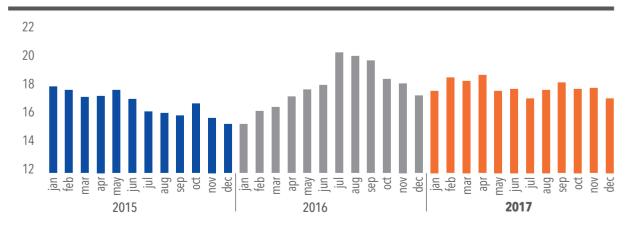
Lead followed the trend seen in zinc, given that it has very similar fundamentals in terms of supply, demand, and inventories. The price of lead started the year at 2,200 USD/MT and then jumped to 2,500 USD/MT towards the end of 2017; these prices had not been seen in 10 years.

#### > ZINC PRICE (USD/TMF)



The fundamentals of precious metals were not as solid as those of base metals. Average prices for gold and silver remained very close to their 2016 levels. Central banks played a key role with concrete statements referring to the withdrawal of the monetary stimulus. In the United States, the Federal Reserve increased reference interest rates three times in 2017 and confirmed that it would gradually normalize its monetary policy, impeding a potential increase in gold and silver prices. Silver started the year with prices close to 17.00 USD/oz, reached a monthly maximum of 18.10 USD/oz in April and then fluctuated between 16.00 USD/oz and 17.00 USD/oz.

#### > SILVER PRICE (USD/oz)







### **COMPANY HISTORY**

# IN 2017, VOLCAN CELEBRATED 74 YEARS SINCE IT STARTED OPERATIONS IN 1943 IN THE UPPER TICLIO PASS.

Through the continuous hard work and dedication of its directors and employees, Volcan has become one of the leading producers of silver, zinc, and lead in Peru and the world

Initially, Volcan operations were limited to the Carahuacra and Ticlio mines, a group of 30 mining concessions. The ore extracted was sold to the Mahr Túnel concentrator plant, owned at the time by U.S. investment company Cerro de Pasco Copper Corporation, which was expropriated by the military government in the early 1970s.

In the 1990s, in the context of economic reforms implemented by the government and aimed at stimulating private investment in public companies, Volcan began expanding its operations through the acquisition of mining areas and their respective assets. The vision of the Board of Directors and the leadership of Dr. Roberto Letts were fundamental to the Company's growth.

THROUGH AN INTERNATIONAL PUBLIC AUCTION IN 1997, VOLCAN COMPAÑÍA MINERA S.A. ACQUIRED THE MAHR TÚNEL, SAN CRISTÓBAL, AND ANDAYCHAGUA MINING OPERATIONS AND THE MAHR TÚNEL AND ANDAYCHAGUA PLANTS BY PURCHASING EMPRESA MINERA MAHR TÚNEL S.A., WHICH THEN BELONGED TO CENTROMIN PERÚ.

The acquisition was valued at USD 128 million plus an investment commitment of USD 60 million. One year later, Empresa Minera Mahr Túnel S.A. merged with Volcan Compañía Minera S.A. and the resulting company was named Volcan Compañía Minera S.A.A.

Subsequently, in 1999 Volcan acquired Empresa Minera Paragsha S.A.C. from Centromin Perú for USD 62 million plus an investment commitment of USD 70 million. In addition, Volcan agreed to take on USD 20 million of Centromin's financial debt. This transaction included the Cerro de Pasco UEA. As a result of this acquisition, Volcan became the largest zinc producer in Peru.

#### **OUR COMPANY**

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, IN TRANSACTIONS WITH A TOTAL VALUE OF USD 20 MILLION IN CASH AND USD 16 MILLION IN VOLCAN CLASS B SHARES.

This acquisition included the Françoise and San José II hydroelectric plants, with total generation capacity of 2.2 MW. Operations began at the Vinchos silver mine in 2004. Volcan also acquired the Baños I, II, III, and IV and Chicrín hydroelectric plants, with a combined capacity of 7.5 MW.

In 2006, Volcan acquired Minera Santa Clara and Llacsacocha S.A., owner of the Zoraida Mine. One year later, Volcan bought Compañía Minera El Pilar, owner of El Pilar Mine, adjacent to Cerro de Pasco Mine and pit.

In 2009, Empresa Administradora Chungar S.A.C. completed construction of the Baños IV hydroelectric plant, giving Volcan a total of 13 MW of installed capacity.

Then, in 2010 Volcan acquired Compañía Minera San Sebastián, whose mining concessions are also located near Cerro de Pasco.

In January 2011, the Company approved a simple reorganization of the Cerro de Pasco UEA. As a result, that unit was renamed Empresa Administradora Cerro S.A.C. and it became a subsidiary of Volcan Compañía Minera S.A.A. The goal of the reorganization was to enable each mine unit to be managed independently.

Subsequently, 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 totaling USD 600 million at a fixed rate of 5.375%. This bond issue provided financing for future growth projects such as the oxide plant at Cerro de Pasco and the new Alpamarca operating unit.

In February 2012, Volcan bought Empresa Hidroeléctrica Huanchor S.A.C., with a capacity of 19.6 MW, from

Sociedad Minera Corona S.A. for USD 47 million. Also that year, Empresa Administradora Chungar S.A.C. completed construction and started operation of the Baños V hydroelectric plant. The 9.2-MW plant required a total investment of USD 24 million.

In 2013, the Islay mine was consolidated into the Chungar operating unit through acquisition of two nearby mining concessions–Islay and Islay 4–for USD 17 million. Early that year the Company completed expansion of the Animón concentrator plant from 4,200 to 5,200 tpd (tons per day). Also in 2013, the Company finished expanding the Victoria and Andaychagua plants in the Yauli UEA, increasing capacity to 10,500 tpd.

In 2014, Volcan continued expanding the treatment capacity of Yauli UEA plants to reach 10,800 tpd. Also, operations began in the Jacob Timmers shaft (Chungar UEA), with a nominal capacity of 4,000 tpd.

In July 2014, Volcan acquired the 1.25-MW Tingo hydroelectric plant and 82 km of 22.9-kV and 50-kV transmission lines, for a total of USD 13.5 million. The Company plans to expand this plant to approximately 15 MW and connect it to the Alpamarca and Chungar UEAs.

In 2014, the company started operations at the new Alpamarca unit and the Cerro de Pasco oxide plant, which reached full capacity in June 2015. Investment in those projects totaled USD 280 million.

In 2015, the following company reorganizations were undertaken: the merger through which Chungar absorbed the assets of El Pilar, Huascarán, Santa Clara, Shalca, and Troy, which took effect on September 1, 2015; the splitting from Empresa Administradora Cerro S.A.C., of a block of equity composed of assets and liabilities related to the oxide plant, which took effect on October 1, 2015; and the merger in which Compañía Minera Alpamarca S.A.C. absorbed Empresa Administradora Chungar S.A.C., which took effect on January 1, 2016.

It is important to note that in August 2016 the Rucuy 20-MW hydroelectric plant (120 GWh/year) began operations.

The total investment in this unit was USD 50 million. With this latest addition, the Company now has 13 hydroelectric plants in operation with a total capacity of 63 MW.

Also in 2016, Volcan acquired the Romina II polymetallic project from Milpo. From 2008 to 2012, more than 13,000 meters of diamond drilling was carried out at the deposit. This project will provide operational continuity to the Alpamarca unit.

In November 2017, Glencore International AG carried out a public tender offer to acquire class A common shares, eventually purchasing a total of 603,077,387 shares. As of the launch date of the public offer, Glencore

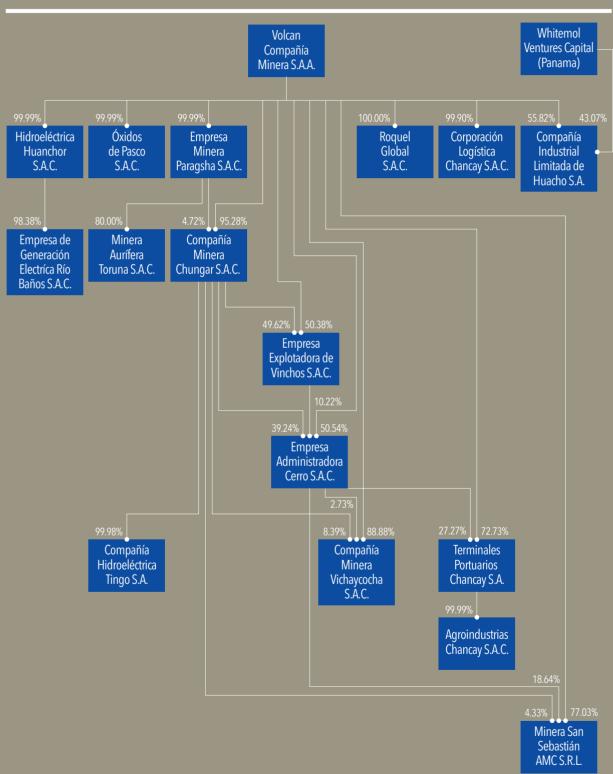
International AG and its affiliated companies already held 295,754,888 shares. The share acquisition brought the total number of class A shares it holds to 898,832,275, or 55.028% of class A shares and 23.29% of total company equity (excluding the class A shares and class B shares that the Company has in its portfolio).

AS A RESULT, 74 YEARS AFTER ITS FOUNDING VOLCAN HAS MORE THAN 371,000 HECTARES OF MINING CONCESSIONS, 12 MINES, SEVEN CONCENTRATOR PLANTS AND A LIXIVIATION PLANT, AND IS A TRULY DIVERSIFIED, INTERNATIONAL LEADER IN ZINC, LEAD, AND SILVER PRODUCTION.



San Cristobal Mine - Yauli

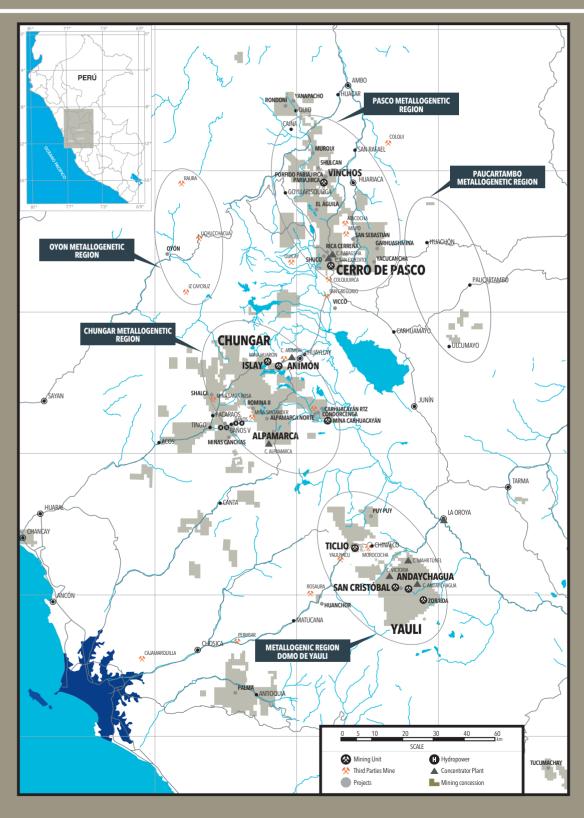
#### > CORPORATE STRUCTURE 2017



#### **> BUSINESS GROUP AND CORPORATE PURPOSE**

COMPANY	DIIC	CODDODATE DI IDDOCE
COMPANY	RUC	CORPORATE PURPOSE
Volcan Compañía Minera S.A.A.	20383045267	Extraction of other non-ferrous metalliferous minerals
Compañía Minera Chungar S.A.C.	20514608041	Exploitation of other mines and quarries
Empresa Administradora Cerro S.A.C.	20538848060	Extraction of other non-ferrous metalliferous minerals
Óxidos de Pasco S.A.C.	20600715187	Smelting of non-ferrous metals
Empresa Explotadora de Vinchos Ltda S.A.C.	20100539439	Extraction of other non-ferrous metalliferous minerals
Empresa Minera Paragsha S.A.C.	20347644502	Extraction of other non-ferrous metalliferous minerals
Minera Aurífera Toruna S.A.C.	20510318227	Exploitation of other mines and quarries
Minera San Sebastián AMC S.R.L.	20447348421	Exploitation of other mines and quarries
Compañía Industrial Limitada de Huacho S.A.	20102200170	Real estate activities
Compañía Minera Vichaycocha S.A.C.	20504972241	Exploitation of other mines and quarries
Hidroeléctrica Huanchor S.A.C.	20546236073	Generation, transmission and distribution of electric power
Empresa de Generación Eléctrica Río Baños S.A.C.	20537761670	Generation, transmission and distribution of electric power
Compañía Hidroeléctrica Tingo S.A.	20521371103	Generation, transmission and distribution of electric power
Terminales Portuarios Chancay S.A.	20543244300	Other business activities
Roquel Global S.A.C.	20602370748	Other transport support activities
Corporación Logística Chancay S.A.C.	20602314392	Other transport support activities
Agroindustrias Chancay S.A.C.	20407854269	Cultivation of vegetables and legumes

#### > LOCATION OF PRINCIPAL MINING HOLDINGS





04

# BOARD OF DIRECTORS AND SENIOR MANAGEMENT

#### **BOARD OF DIRECTORS**

#### **José Picasso Salinas**

Chairman

#### José Ignacio De Romaña Letts

Vice Chairman

#### **Christopher Eskdale**

Director

#### Irene Letts Colmenares de De Romaña

Director

#### **Daniel Maté Badenes**

Director

#### **Carlos Perezagua Marín**

since November 2017

#### **Victoria Soyer Toche**

since November 2017

#### **José Bayly Letts**

until November 2017

#### **Felipe Osterling Letts**

until November 2017

#### **Madeleine Osterling Letts**

until November 2017

#### **Pablo Moreyra Almenara**

until December 2017

#### Professional Background of the Board of Directors:

#### > JOSÉ PICASSO SALINAS

Director and member of the Executive Committee since March 1996. Vice chairman of the Board of Directors; since April 2010, chairman of the Board and the Executive Committee.

Mr. Picasso is also Chairman of Reactivos Nacionales S.A., Vice Chairman of Compañía Minera Poderosa and member of the boards of Bodegas Vista Alegre and Cemento Polpaico S.A. He previously served as Vice Chairman of Embotelladora Latinoamericana S.A.A. (Coca-Cola) and a member of the boards of Compañía Minera Atacocha S.A., EXSA, S.A., Castrovirreyna Compañía Minera, Compañía Molinera del Perú, 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 since September 2014. He is a member of the Executive Committee. Mr. De Romaña worked in the sales division of Compañía de Minas Buenaventura from 1992 to 1999 and was head of the Volcan sales division from 2000 to 2010. He also served as a member of the boards 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 Pacífico.

Mr. José Ignacio De Romaña Letts is the son of director Irene Letts Colmenares de De Romaña.

#### > CHRISTOPHER ESKDALE

Director since March 2012. A certified public accountant, Mr. Eskdale worked at Deloitte & Touche in London and Moscow and has been with Glencore since 1996.

He holds a master's degree from Oxford University and is a public accountant certified by the Institute of Chartered Accountants in England and Wales. He is in charge of worldwide zinc marketing for Glencore.

#### > IRENE LETTS COLMENARES DE DE ROMAÑA

Director since March 2012. She has also served on the boards of Ferrocarril Central Andino S.A. and Ferrovías Central Andina S.A. since 2004, on the boards of Proyectos Médicos and Clínica Montesur since 2002, and the board of Nueva Ginecología y Vida S.A.C. at Jockey Salud since 2007.

### **BOARD OF DIRECTORS AND SENIOR MANAGEMENT**

Mrs. Letts studied social work at Universidad Nacional Mayor de San Marcos and economics at Universidad de Lima.

Mrs. Irene Letts Colmenares de De Romaña is the mother of vice chairman José Ignacio De Romaña.

### > DANIEL MATÉ BADENES

Director since March 2006. He has served as co-director of the zinc, lead, and copper divisions at Glencore International since February 2000, overseeing marketing and industrial assets, including strategy and operations. Mr. Maté has worked at Glencore since 1988, starting at the office in Madrid and later obtaining experience in metals transactions and logistics in Spain and North Africa. After three years at Glencore's Madrid office, he joined the zinc and lead department in Switzerland in August 1991. In February 2002, he transferred to the copper department, where he was responsible for zinc concentrate operations in Spain, North Africa, and South America. He was subsequently placed in charge of worldwide zinc marketing for Glencore.

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

### > CARLOS PEREZAGUA MARÍN

Director since November 2017. He is co-director of corporate finance and capital markets at Glencore. Since December 2013 he has also served 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, in the corporate financing and high risk bond departments in London and Madrid.

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

### > VICTORIA SOYER TOCHE

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

Prior to joining the Glencore group in 2010, she spent seven years in various positions with Tyco International in the United States, most recently as finance director from 2008 until leaving the company in 2010.

Ms. Soyer is also a member of the board of directors of Textil del Valle, Perubar, and Transportadora Callao.



Oxides plant - Oxidos de Pasco

# SENIOR MANAGEMENT

In 2017, the following people left the Company:

### Roberto Maldonado Astorga

Chief Operations Officer

### **Paolo Cabrejos Martín**

Sales Manager

### **Juan Marceliano Rojas**

Occupational Health and Safety Manager

### **Jorge Chávez Manrique**

Geology Manager

### José Manzaneda Cabala

Metallurgic Operations Manager

### **Hermán Flores Arévalo**

Cerro de Pasco Operations Manager

### **Carlos Flores Trelles**

Information Technology Manager

### **Sergio Giampietri Ramos**

Corporate Asset Security Manager



Victoria Plant - Yauli

### **BOARD OF DIRECTORS AND SENIOR MANAGEMENT**

### > SENIOR MANAGEMENT AS OF DECEMBER 31, 2017

NAMES AND LAST NAMES	POSITION
Juan Ignacio Rosado Gómez de la Torre	Chief executive officer
Juan Carlos Ortiz Zevallos	Chief Operations Officer
Jorge Leoncio Murillo Núñez	Chief Finance Officer
José Edmundo Montoya Stahl	Chief business development officer
Alberto Víctor Manuel Gazzo Baca	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
Mario Eduardo de las Casas Vizquerra	Logistics manager
Alvaro Luis Cabrera Ramirez	Energy manager
Juan Luis Arenas Gomez Sanchez	Industrial plants manager
José Luis Alcalá Valencia	Occupational health and safety manager
Edgardo Zamora Pérez	Yauli operations manager
Carlos Manuel García Zapata	Andaychagua operations manager
Francisco Grimaldo Zapata	San Cristóbal operations manager
Adrián Felipe Corihuamán Mayta	Carahuacra operations manager
Reynol Renzo Fuentes Fernández	Ticlio operations manager
James Atalaya Chacón	Chungar operations manager
Eduardo Enrique Malpartida Espinoza	Alpamarca operations manager
Julio Cesar Beraún Sánchez	Cerro de Pasco operations manager
Eduardo Julio Magnasco La Torre	Maintenance and quality manager
Percy Luis Rivera López	Environmental affairs manager
Pedro Simón Navarro Neyra	Treasury manager
Willy Antonio Montalvo Callirgos	Accounting and tax manager
Dayan Gustavo Segura Vandervelde	Information technology manager
Mauricio Scerpella Iturburu	Budgeting and management control manager
David Brian Gleit	Investor relations manager
César Emilio Farfán Bernales	Regional explorations manager
Renzo Muente Barzotti	Employee development manager
Ronald Martín Castillo Ángeles	Contracts manager
Jorge Luis Cotrina Luna	Head of securities

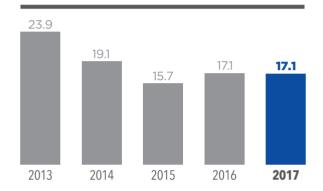


# **05**

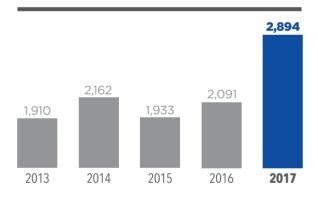
# PRINCIPAL INDICATORS

# MARKET **INDICATORS**

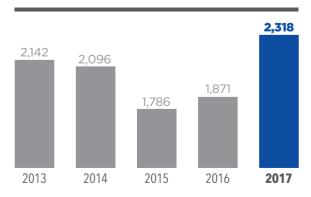
## > EVOLUTION OF THE AVERAGE SPOT PRICE FOR SILVER (USD/OZ)



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



## > EVOLUTION OF THE AVERAGE SPOT PRICE FOR LEAD (USD/TM)

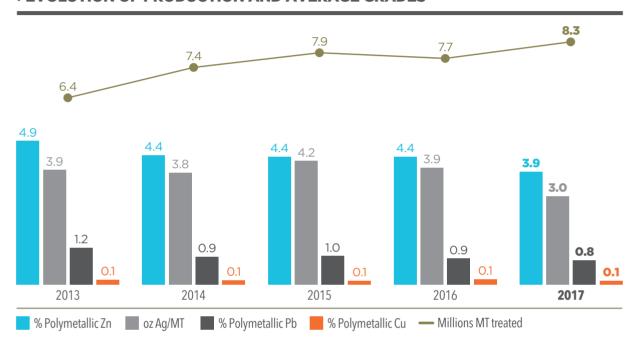




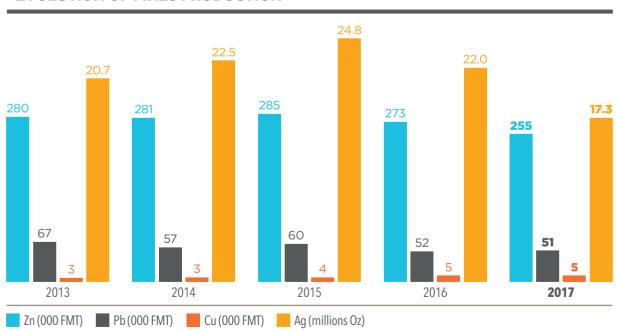
Oxides Plant - Oxidos de Pasco

# PRODUCTION INDICATORS

### > **EVOLUTION OF PRODUCTION AND AVERAGE GRADES**



### > EVOLUTION OF FINES PRODUCTION



### > 2017 PERUVIAN PRODUCTION RANKING - FINES

ZINC	Thousands MT
Compañía Minera Antamina S.A. *	442.5
Volcan Compañía Minera S.A.A. and subsidiaries	255.1
Compañía Minera Milpo S.A.A. *	229.7
Compañia de Minas Buenaventura S.A.A. **	58.5
Compañia Minera Raura S.A. 1*	54.1

LEAD	Thousands MT
Volcan Compañía Minera S.A.A. and subsidiaries	51.3
Compañía Minera Milpo S.A.A. *	49.7
Compañia de Minas Buenaventura S.A.A. **	40.1
Compañia Minera Raura S.A. *	21.4
Compañía Minera Antamina S.A. *	17.3

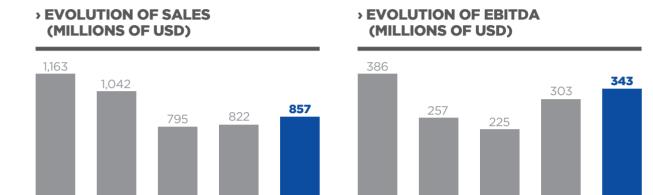
SILVER	Millions Oz
Compañia de Minas Buenaventura S.A.A. **	25.7
Compañía Minera Antamina S.A. *	20.8
Volcan Compañía Minera S.A.A. and subsidiaries	17.3
Hochschild Perú ***	15.9
Compañía Minera Milpo S.A.A.	8.8

Considers MINEM reports
Considers the MINEM reports. Includes 61.37% of El Brocal.
Hochschild's total production is 19.1 millons of ounces, which includes its participation in San José, Argentina.
Source: companies reports, Ministry of Energy and Mines

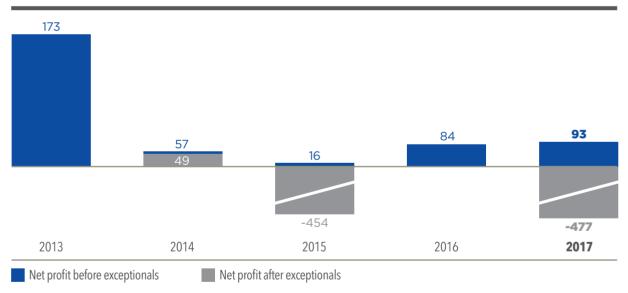


Animon Mine - Chungar

# FINANCIAL INDICATORS



### > EVOLUTION OF NET PROFIT (MILLIONS OF USD)





# **06**

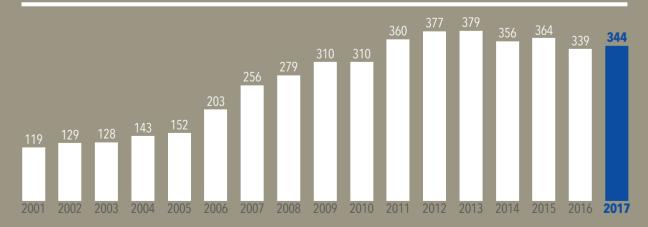
# RESOURCES AND RESERVES

# ORE RESERVES AND RESOURCES HAVE BEEN ESTIMATED AS OF DECEMBER 31, 2017 IN ACCORDANCE WITH THE INTERNATIONAL STANDARDS OF THE JOINT ORE RESERVES COMMITTEE (JORC\*).

In 2017, Volcan continued to develop its diamond drilling programs for exploration, definition of reserves, and infill drilling at its operations. The goal of these programs is to replace and increase the Company's ore resources and reserves.

Volcan carries out a strategy to access the highest quality resources and reserves, in order to operate efficiently. In line with this, diamond drilling at its operations increased by 23% over last year, in terms of meters drilled. More details about the exploration program are provided in the Exploration and Growth section.

### > HISTORICAL EVOLUTION OF RESERVES AND RESOURCES -VOLCAN AND SUBSIDIARIES (MILLIONS OF TONS)



<sup>\*</sup>The JORC Code is a code of professional practice that establishes standards for public disclosure of the results of ore exploration, resources, and reserves. It provides a system for classifying ore according to levels of confidence in the geological information and technical and economic considerations contained in public reports.

### **RESOURCES AND RESERVES**

Reserves and resources as of December 31, 2017 were calculated using long-term metal price projections: 2,450 USD/MT for zinc, 2,100 USD/MT for lead, 6,400 USD/MT for copper, 1,250 USD/oz for gold and 18.50 USD/oz for silver.

### > EVOLUTION OF METAL PRICES APPLIED TO RESERVE ESTIMATES

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Zinc (USD/MT)	1,150	1,170	1,170	1,170	1,800	1,800	1,500	1,800	1,800	1,800	1,800	1,900	2,200	2,200	2,300	2,450
Lead (USD/MT)	500	600	800	800	1,000	1,800	1,500	1,800	1,800	1,800	1,800	2,000	2,000	2,000	2,100	2,100
Copper (USD/MT)	1,850	2,000	2,000	2,000	2,500	5,000	5,000	5,000	5,000	6,500	6,500	6,500	6,500	6,500	5,800	6,400
Silver (USD/Oz)	5.2	6.0	6.0	6.0	9.0	12.0	12.0	12.0	12.0	15.0	15.0	20.0	18.0	18.0	18.0	18.5
Gold (USD/Oz)	300	350	350	350	400	700	700	700	900	1,000	1,000	1,200	1,200	1,200	1,200	1,250



Adriana Outcrop - Romina II Project

# MINERAL **RESERVES**

MINERAL RESERVES CONSIST OF ORE CLASSIFIED AS PROVEN AND PROBABLE. MINERAL RESOURCES ARE ADDITIONAL TO ORE RESERVES. AN ESTIMATE OF THE COMPANY'S RESOURCES AND RESERVES IS MADE BY APPLYING INDUSTRY BEST PRACTICES.

### > HISTORICAL EVOLUTION OF TOTAL RESOURCES - VOLCAN AND SUBSIDIARIES

			GRAI	DES			FINES	
	THOUSANDS MT	Zn %	Pb %	Cu %	Ag Oz/MT	Zn Thousands MT	Pb Thousands MT	Ag Millions Oz
2001	48,459	8.10	2.20	0.10	3.10	3,925	1,066	150
2002	51,467	7.00	1.90	0.10	3.20	3,603	978	165
2003	51,620	6.90	2.00	0.10	3.70	3,562	1,032	191
2004	58,680	5.80	1.60	0.10	3.50	3,403	939	205
2005	64,553	6.40	1.90	0.10	3.60	4,131	1,227	232
2006	76,455	5.80	1.70	0.10	3.60	4,434	1,300	275
2007	110,320	4.80	1.50	0.00	3.30	5,295	1,655	364
2008	123,129	4.20	1.30	0.00	3.10	5,171	1,601	382
2009	140,260	4.00	1.30	0.00	2.90	5,610	1,823	407
2010	148,429	3.85	1.15	0.06	3.05	5,715	1,707	453
2011	135,691	3.86	1.12	0.05	3.23	5,238	1,520	438
2012	109,673	3.75	1.05	0.12	3.23	4,112	1,147	355
2013	69,417	3.93	0.97	0.12	3.98	2,728	676	276
2014	73,699	3.89	0.94	0.14	3.29	2,865	693	242
2015	76,891	3.69	0.91	0.14	3.47	2,840	701	267
2016	65,242	3.89	0.94	0.14	3.29	2,536	614	215
2017	50,296	4.05	0.93	0.17	3.55	2,039	465	179

VOLCAN 2017 ANNUAL REPORT

### **RESOURCES AND RESERVES**

Implementation of quality assurance and control programs, use of geostatistical tools to generate resource block models, and proper geological interpretation enable the Company to precisely estimate structures and classify them. The process currently used generates more robust reserve models that provide greater support to mining plans.

As of December 31, 2017, Company reserves were 22.9% lower in terms of tonnage than the previous year, while grades of Zn and Ag increased by 4.3% and 7.9%, respectively. The tonnage reduction was due to changes at the Yauli and Cerro de Pasco units.

At the Yauli UEA, reserves fell 14.7% compared to the year before, while grades were maintained. Tonnage adjustments were the result of incorporating new information from older zones, defining some intangible zones, and the use of a higher cut-off grade. The exploration plan carried out at that unit is aimed at defining largervolume structures in limestone rock and laterally verifying the size of mineralization of the structures for more efficient mining at a lower cost.

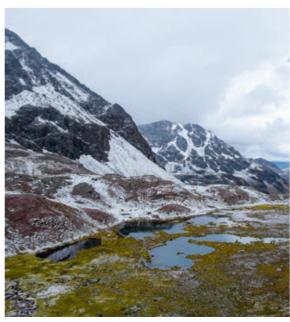
At the Chungar Unit, reserves increased 6.3% over last year, with grades slightly higher than those recorded previously. At the Animón mine, veins east of the concession were developed, indicating the opportunity of incorporating that zone into the operations area. Islay shows zones to the west with stratum structures that will be developed in greater detail in this year's campaign. Notable at this unit is the start of exploration of the Islay 4 concession between the Animón and Islay mines; this concession shows considerable indications of mineralization.



Animon Plant - Chungar

#### > PROVEN AND PROBABLE ORE RESERVES BY MINING UNIT

			GRA	DES		FINES			
	THOUSANDS MT	Zn %	Pb %	Cu %	Ag Oz/MT	Zn Thousands MT	Pb Thousands MT	Cu Thousands MT	Ag Millions Oz
Yauli	23,322	5.45	0.92	0.25	3.12	1,272	215	58	73
Proven	9,918	5.60	0.96	0.19	3.33	556	95	19	33
Probable	13,403	5.34	0.89	0.29	2.97	716	120	39	40
Cerro	15,490	1.25	0.44	0.07	4.94	193	69	11	77
Proven	1,696	1.23	0.44	0.13	5.44	21	7	2	9
Probable	13,794	1.25	0.44	0.06	4.88	172	61	9	67
Chungar	10,419	5.42	1.69	0.15	2.60	564	176	15	27
Proven	4,380	5.74	1.76	0.16	2.68	251	77	7	12
Probable	6,039	5.18	1.63	0.14	2.54	313	99	8	15
Alpamarca	1,065	0.90	0.59	0.07	2.05	10	6	1	2
Proven	49	0.74	0.45	0.13	5.18	-	-	-	-
Probable	1,016	0.91	0.60	0.06	1.90	9	6	1	2
Proven	16,044	5.16	1.12	0.18	3.38	828	179	28	54
Probable	34,252	3.53	0.83	0.17	3.63	1,211	286	57	124
Total	50,296	4.05	0.93	0.17	3.55	2,039	465	85	179



Route to Yauli

Reserves at the Cerro de Pasco unit fell 43.4% from the previous year. Adjustments were mainly due to a partial reclassification of reserves in the Pared Oeste project to the category of resources, reducing these by 69.2% (-10.5 MT) after adoption of a more conservative position regarding the viability of full development of the project.

Other adjustments were made to the oxides stockpiles, as a consequence of the exploitation of this ore per the production plan, as well as minor adjustments in stockpiles of pyrite with high grade silver stemming from infill drilling carried out in the area.

At the Alpamarca unit, variations in reserves were due to mining carried out during 2017.

### **RESOURCES AND RESERVES**

### **> ORE RESERVES BY MINING METHOD**

				GRAD	ES	
		THOUSANDS MT	Zn %	Pb %	Cu %	Ag Oz/MT
Undergrou	nd mines	31,032	5.86	1.24	0.17	3.17
Yauli	San Cristóbal	11,624	6.45	1.05	0.23	4.23
	Carahuacra	2,989	5.37	0.46	0.09	2.31
	Andaychagua	3,061	4.46	0.93	0.06	3.17
	Ticlio	2,769	7.44	1.62	0.26	1.70
Chungar	Animón	9,336	5.86	1.78	0.16	2.04
	Islay	1,082	1.63	0.84	0.05	7.42
Alpamarca	Río Pallanga	170	1.30	0.79	0.18	5.58
Open pits		13,626	1.58	0.56	0.15	2.97
Yauli	Carahuacra N & Others	758	2.56	0.70	0.01	0.96
	Oyama	2,120	-	-	0.94	0.73
Cerro	Raúl Rojas	4,706	4.11	1.46	-	1.88
	Óxidos in situ	5,854	-	-	-	4.94
Alpamarca	Alpamarca	188	1.39	1.02	0.05	1.91
Stockpiles		5,638	0.08	0.05	0.20	7.04
Cerro	Marginales SP	-	-	-	-	-
	Oxides SP	944	-	-	0.13	8.16
	Pyrite Sulfide SP	3,987	-	-	0.24	7.80
Alpamarca	Alpamarca SP	708	0.67	0.43	0.05	1.25
Total reserv	es	50,296	4.05	0.93	0.17	3.55



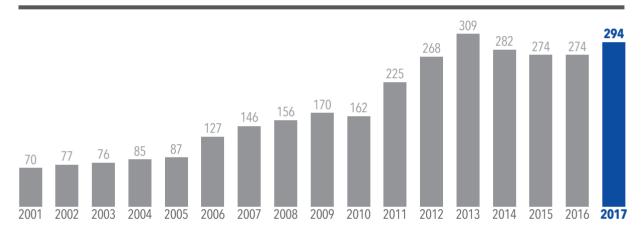
Puagjanca - Romina II Project

# MINERAL **RESOURCES**

The mineral resources listed below are not part of proven and probable reserves.

A cut-off grade close to variable costs is used to define ore resources, to ensure a minimal economic interest in the mineralized material prior to its inclusion as an ore resource.

## > HISTORICAL EVOLUTION OF MEASURED, INDICATED AND INFERRED RESOURCES VOLCAN AND SUBSIDIARIES (MILLIONS OF TONS)





Animon Mine - Chungar

### **RESOURCES AND RESERVES**

### > MEASURED, INDICATED AND INFERRED RESOURCES BY UEA

		GRADES					FIN	NES	
	THOUSANDS MT	Zn %	Pb %	Cu %	Ag Oz/MT	Zn Thousands MT	Pb Thousands MT	Cu Thousands MT	Ag Millions Oz
Yauli	49,676	4.03	0.82	0.22	2.66	2,002	406	107	132
Measured	6,521	2.81	0.71	0.10	2.04	183	47	7	13
Indicated	10,162	2.53	0.66	0.14	1.81	257	67	14	18
Inferred	32,993	4.73	0.89	0.26	3.05	1,561	293	86	101
Cerro	140,853	2.15	0.80	0.09	2.54	3,034	1,130	131	358
Measured	30,777	2.62	0.95	0.06	1.86	808	292	18	57
Indicated	84,604	2.24	0.83	0.10	2.46	1,899	705	84	208
Inferred	25,472	1.28	0.52	0.12	3.63	327	133	30	92
Chungar	15,992	6.07	1.97	0.16	3.21	970	314	25	51
Measured	842	5.03	1.33	0.10	2.69	42	11	1	2
Indicated	1,540	3.17	0.94	0.08	2.51	49	14	1	4
Inferred	13,611	6.46	2.12	0.17	3.32	879	289	23	45
Alpamarca	15,683	3.01	1.64	0.07	1.42	473	258	11	22
Measured	342	0.97	0.61	0.06	2.07	3	2	0	1
Indicated	7,623	3.71	1.82	0.08	1.42	282	139	6	11
Inferred	7,719	2.42	1.51	0.06	1.38	187	117	5	11
Vinchos	742	2.66	2.77	0.15	7.66	20	21	1	6
Measured	155	1.49	1.53	0.39	5.46	2	2	1	1
Indicated	414	2.33	2.71	0.07	8.17	10	11	0	3
Inferred	173	4.50	4.00	0.11	8.40	8	7	0	1
Rondoní	64,355	0.00	0.00	0.49	0.17	0	0	314	11
Indicated	42,360	0.00	0.00	0.49	0.19	0	0	208	8
Inferred	21,995	0.00	0.00	0.48	0.13	0	0	106	3
Palma	5,590	7.43	1.50	0.00	1.42	415	84	0	8
Inferred	5,590	7.43	1.50	0.00	1.42	415	84	0	8
San Sebastián	910	6.06	3.85	0.48	8.69	55	35	4	8
Inferred	910	6.06	3.85	0.48	8.69	55	35	4	8
Measured	38,637	2.69	0.92	0.07	1.92	1,039	354	26	74
Indicated	146,702	1.70	0.64	0.21	1.72	2,497	937	313	252
Inferred	108,462	3.16	0.88	0.24	2.48	3,432	956	255	269
Total resources	293,801	2.37	0.76	0.20	2.03	6,968	2,247	594	596

<sup>\*</sup> Measured and indicated resources are additional to reserves

Measured and indicated resources are made up of the mineralized material not included in reserves because its economic evaluation is still pending-usually in the case of projects-or because it is below the cut-off grade for reserves but has some economic potential, with a possible improvement in prices or technology, could generate economic benefits.

Inferred resources include mineralized material that is economically viable but whose level of geological certainty is not yet sufficient for it to be evaluated and classified as reserves.

The Company's measured and indicated resources as of December 31, 2017 totaled 185.3 million MT, an increase in tonnage with grades similar to 2016.

### > MEASURED AND INDICATED RESOURCES BY MINING METHOD

				GRAD	ES	
		THOUSANDS MT	Zn %	Pb %	Cu %	Ag Oz/MT
Undergrou	nd mines	38,061	3.63	1.13	0.07	1.60
Yauli	San Cristóbal	4,074	3.86	0.56	0.20	2.64
	Carahuacra	1,270	4.34	0.43	0.08	1.58
	Andaychagua	2,651	3.37	0.52	0.08	2.85
	Ticlio	1,798	3.05	0.74	0.16	1.18
Cerro	Paragsha Mine	19,242	3.40	1.08	0.03	1.03
Chungar	Animón	1,252	5.26	1.40	0.13	1.94
	Islay	928	0.83	0.39	0.02	3.22
	Shalca	201	8.68	2.25	0.07	3.49
Alpamarca	Alpamarca	6,074	4.42	2.12	0.08	1.37
Vinchos	Vinchos	569	2.10	2.39	0.16	7.43
Open pits		134,459	1.57	0.63	0.21	1.62
Yauli	Carahuacra N & others	2,320	2.25	0.56	0.01	1.19
	Zoraida	3,660	0.87	1.22	0.00	1.61
	Oyama	910	0.00	0.00	0.69	0.65
Cerro	Raúl Rojas	53,779	3.05	1.12	0.00	1.20
	Óxidos in situ	-	0.00	0.00	0.00	0.00
	Pyrites (sulfides)	29,539	1.24	0.59	0.25	4.49
Alpamarca	Alpamarca	1,890	0.89	0.65	0.05	1.72
Rondoní	Rondoní	42,360	0.00	0.00	0.49	0.19
Stockpiles		12,820	0.35	0.08	0.17	3.74
Cerro	Marginals Pb-Zn	2,196	2.04	0.47	0.01	0.51
	Oxides SP	259	0.00	0.00	0.12	3.43
	Pyrite Sulfide SP	10,364	0.00	0.00	0.20	4.43
Total measures	ured and indicated	185,340	1.91	0.70	0.18	1.76

### **RESOURCES AND RESERVES**

THE INFERRED RESOURCES AS OF DECEMBER 2017 ARE ON THE ORDER OF 108.4 MILLION MT, SIMILAR TO THE PREVIOUS YEAR.

Such resources are an important indicator of the capacity for growth and the future sustainability of operations. A significant portion of these resources will become reserves in the short and medium term.

### > INFERRED RESOURCES BY MINING METHOD

		THOUSANDS MT	Zn %	Pb %	Cu %	Ag Oz/MT
Underground	mines	55,214	5.70	1.47	0.17	3.02
Yauli	San Cristóbal	14,505	6.33	1.05	0.26	4.59
	Carahuacra	3,122	6.78	0.85	0.09	2.96
	Andaychagua	3,042	3.86	0.77	0.07	2.99
	Ticlio	5,348	5.00	1.03	0.29	1.52
Cerro	Mina Paragsha	1,872	5.16	1.36	0.05	1.05
Chungar	Animón	10,629	7.87	2.52	0.21	2.76
	Islay	2,928	1.35	0.69	0.04	5.39
	Shalca	54	5.36	1.13	0.03	1.65
Alpamarca	Alpamarca	6,343	2.76	1.71	0.05	0.70
	Río Pallanga	234	1.77	1.15	0.29	8.63
	Tirol	464	0.34	0.25	0.13	6.35
Vinchos	Vinchos	173	4.50	4.00	0.11	8.40
Palma Project	Palma	5,590	7.43	1.50	0.00	1.42
San Sebastián Project	San Sebastián	910	6.06	3.85	0.48	8.69
Open pits		46,566	0.61	0.31	0.32	1.62
Yauli	Carahuacra N & Others	1,225	1.96	0.51	0.02	1.18
	Zoraida	1,970	1.16	1.45	0.00	1.83
	Oyama	3,780	0.00	0.00	0.73	0.68
Cerro	Raúl Rojas	4,890	2.35	0.92	0.00	0.94
	Óxidos in situ	667	0.00	0.00	0.00	4.50
	Pyrites (sulfides)	11,362	1.01	0.55	0.13	4.93
Alpamarca	Alpamarca	677	0.89	0.67	0.06	1.82
Rondoní	Rondoní	21,995	0.00	0.00	0.48	0.13
Stockpiles		6,681	0.00	0.00	0.21	4.02
Cerro	Oxides SP	32	0.00	0.00	0.13	4.36
	Pyrite Sulfides SP	6,649	0.00	0.00	0.21	4.02
Total inferred	resources	108,462	3.16	0.88	0.24	2.48

The inferred resources of polymetallic mines represent 56% of the total, pyrites and oxides 17%, and projects 26%, of the 108.4 million tons.

# > DISTRIBUTION OF INFERRED RESOURCES

INFERRED R	ESOURCES	TMS	%	%
Polymetallic	Yauli	32,993	30.4%	
mines	Chungar	13,611	12.5%	
	Alpamarca	7,719	7.1%	E / 0/
	Vinchos	173	0.2%	56%
	Cerro UG	1,872	1.7%	
	Cerro OP	4,890	4.5%	
Pyrites	Cerro Py	18,011	16.6%	170/
Oxides	Cerro Ox	699	0.6%	17%
Projects	Rondoní	21,995	20.3%	
	Palma	5,590	5.2%	- 26%
	San Sebastián	910	0.8%	20 /0
TOTAL		108,462	100%	100%

INFERRED RESOURCES
ARE AN
IMPORTANT
INDICATOR OF
THE CAPACITY
FOR GROWTH
AND THE FUTURE
SUSTAINABILITY
OF OPERATIONS.





# **07**

# MINING OPERATIONS



# VOLCAN'S 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 operating 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 21,900 tpd and a lixiviation plant with a capacity of 2,500 tpd. The composition of each unit is detailed below:

### > VOLCAN'S MINING OPERATIONS

		MINES	PLANTS			
UNIT	NAME	TYPE	STATUS	NAME	TYPE	
	San Cristóbal	undeground	active	Victoria	concentrator	
	Andaychagua	undeground	active	MahrTúnel	concentrator	
Yauli	Ticlio	undeground	active	Andaychagua	concentrator	
	Carahuacra	undeground	active			
	Carahuacra North	open pit	active			
Chungar	Animón	undeground	active	Animón	concentrator	
	Islay	undeground	active			
	Paragsha Mine	undeground	suspended	Paragsha	concentrator	
Cerro de Pasco	Raúl Rojas	open pit	suspended	San Expedito	concentrator	
	Vinchos	undeground	suspended			
Alpamarca	Río Pallanga	undeground	suspended	Alpamarca	concentrator	
	Alpamarca	open pit	active			
Óxidos de Pasco	Stockpiles	stockpiles	active	Óxidos	leaching	

### **MINING OPERATIONS**

Treated tonnage increased from 7.7 million in 2016 to 8.3 million in 2017, mainly because of the marginal ore at Cerro de Pasco which was treated in an additional sorting process.\*.

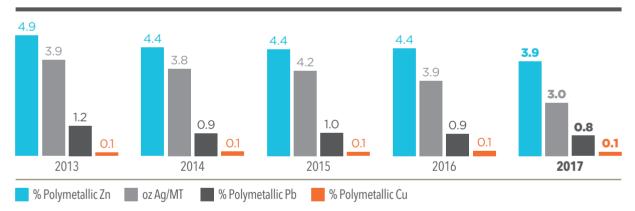
### > EVOLUTION OF TREATED TONNAGE (MILLIONS OF TONS)



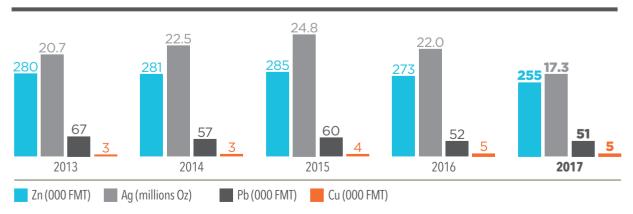
In 2017, average ore grades were 3.86% for zinc, 0.80% for lead, 0.13% for copper and 3.01 oz of silver per ton. Zinc, lead and copper grades in 2017 were similar to 2016 grades; however, silver grades in 2017 were lower than 2016 grades due to lower head grades at Yauli, Chungar, and Cerro de Pasco Oxides.

In terms of fines, in 2017 the Company produced 255,100 tons of zinc fines, 51,300 tons of lead fines, 5,400 tons of copper fines, 17.3 million ounces of silver, and 8,100 ounces of gold. These figures represent reductions of 7% in zinc, 2% in lead, and 21% in silver compared to 2016, mainly due to lower production at Yauli and Chungar. This was partially offset by higher production at Cerro and Alpamarca.

### > EVOLUTION OF AVERAGE GRADES: VOLCAN CONSOLIDATED



### > EVOLUTION OF FINES PRODUCTION: VOLCAN CONSOLIDATED



<sup>\*</sup> The sorting project consists of using a technology to select higher-grade ore from the stockpiles and treat it at the concentrator plant for greater recovery and production.

### YAULI

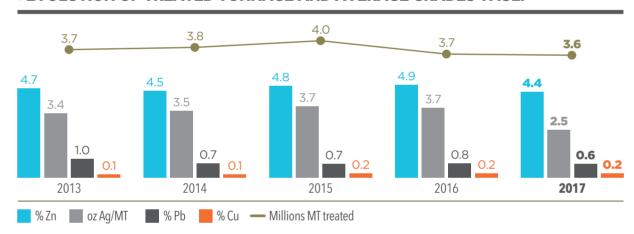
YAULI UEA IS LOCATED IN THE JUNÍN REGION, 40 KILOMETERS FROM THE CITY OF LA OROYA AND 170 KILOMETERS FROM LIMA, AND IT IS ACCESSIBLE BY ROAD AND RAIL.

The unit consists of four underground mines and one open pit, from which the ore is treated in three concentrator plants whose total installed capacity is 11,400 tpd.

In 2017, the total volume of ore processed at the three concentrator plants was 3.6 million tons. Ore grades were 4.43% Zn, 0.60% Pb, 0.16% Cu and 2.52 oz Ag/MT, representing 43% of Volcan's consolidated treated ore.

Production of silver fines totaled 7.7 million ounces, a decline of 34% reduction from 2016; zinc fines production was 146,300 tons, an 11% reduction; and lead fines production fell 26% to 18,100 tons. These decreases were primarily due to lower average head grades at the San Cristóbal and Andaychagua mines.

### > EVOLUTION OF TREATED TONNAGE AND AVERAGE GRADES YAULI

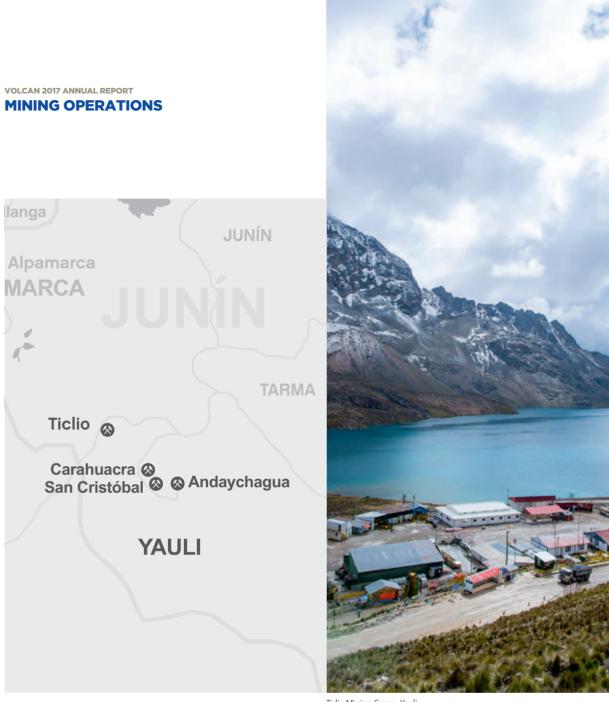


IN 2017, THE TOTAL VOLUME OF ORE PROCESSED AT THE THREE CONCENTRATOR PLANTS WAS

# 3.6 MILLION TONS

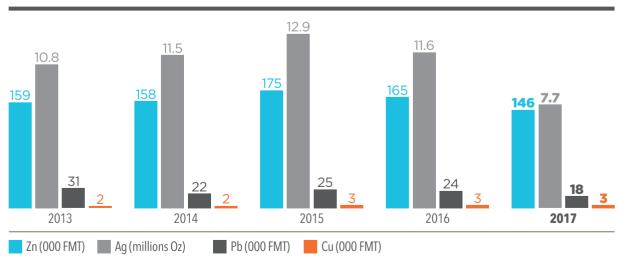


Mahr Tunel Plant Worker - Yauli



Ticlio Mining Camp - Yauli

### > YAULI'S EVOLUTION OF FINES PRODUCTION



#### > YAULI'S PRODUCTION BY MINE

	TREATED TONNAGE (000 MT)		Zn Grade (%)		Zn Grade (%)		Cu Grade (%)		Silves Grade (oz/MT)	
	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017
San Cristóbal	1,175	1,161	5.6	4.9	0.7	0.5	0.3	0.2	3.5	2.3
Andaychagua	1,047	963	3.7	3.8	0.9	0.7	0.1	0.1	5.9	3.8
Ticlio	357	385	5.5	4.7	1.5	1.2	0.4	0.5	1.9	1.7
Carahuacra	805	950	6.0	4.6	0.4	0.3	0.1	0.1	2.0	1.8
Carahuacra Norte Pit	273	105	1.8	1.9	0.4	0.4	0.0	0.0	3.1	2.3
Total Yauli	3,657	3,585	4.9	4.4	0.8	0.6	0.2	0.2	3.7	2.5



Efficiencies in progress improved in 2017, aimed at increasing mine development and preparation, both in terms of depth and lateral developments. The development sequence has been accompanied by infill exploration, to provide continuity for the short-term plan.

THIS YEAR THERE WAS SIGNIFICANT PROGRESS IN EXECUTION PROGRAMS FOR RAISE BORER CHIMNEYS, DESIGNED TO IMPROVE COVERAGE AND VENTILATION FOR OPERATIONS AND COMPLY WITH CURRENT REGULATIONS AND STANDARDS.

Implementation of the Personnel and Equipment Monitoring System, which began at Carahuacra, continued during the year. This system will enable, in real time: (i) detection of a worker who has fallen, (ii) location and traceability of personnel and mobile equipment, (iii) emission of an evacuation alert, (iv) emission of a vehicle proximity alert, (v) detection of carbon monoxide, temperature and humidity, and (vi) oversight of production and productivity.

### San Cristóbal Mine

Development and preparation progress of 44% was achieved in 2017 (compared to 2016) on the four main structures, which led to a recovery of average production in the last semester of the year. The operating strategy for production was reassessed, increasing the volume of drilling through sublevels and reducing cut and fill. In addition, mine standardization continued in an effort to improve working conditions and prevent losses in the productive process.

### **Andaychagua Mine**

Andaychagua production has been affected by a reduction of the reserves zones. In 2017 the Company sought alternatives on the Adriana and Rousse veins. On the Adriana vein, preparation continued for long hole drilling at the 1,250 and 1,300 levels. Meanwhile, progress was maintained on the Andaychagua vein at depth. Other activities that were started were long hole drilling for exploitation of the Prosperidad I vein, preparation of the Prosperidad Techo vein at the 1,200 level, and diamond exploration in zones below the 1,200 level.

In addition, work continued on the pumping system, with completion of the principal pumping chamber at the 1,200 level, which will enable an increase in mine depth.

### **MINING OPERATIONS**

### **Ticlio Mine**

The Ticlio mine continued its production stabilization process, contributing 7.5% more ore than 2016. Also, work has begun on construction of the principal pumping system at level 11 in the west zone, and will be completed in the second quarter of 2018.

### **Carahuacra Mine**

The Carahuacra mine continued its growth process in 2017, increasing production by 18% over 2016. Priority was given to preparation of the Mary and ML veins, which compensated for a lower contribution from the Huaripampa Techo body. This resulted in higher amounts of ore production from long hole drilling.

In terms of infrastructure projects, the main pumping system at Carahuacra mine was completed, as were raise

borer chimneys for ventilation and installation of the substation in the deep zone of the Mary vein, improving operational reliability for progress and pit preparation.

By year-end 2017, 1.8 km of the integration ramp had been built; this will integrate the Carahuacra mine with the Victoria plant and result in a substantial cost savings. Also, as part of the technological improvements, a personnel and equipment monitoring system is being implemented.

### **Carahuacra North Pit**

The Carahuacra North pit continued with the process of production and classification of marginal ore, contributing a total of 105,000 tons. Diamond drilling was carried out to improve pit design from the upper levels.



San Cristobal Mine - Yauli

# **02.** CONCENTRATOR PLANTS

The Yauli Unit maintained a solid metallurgical performance in 2017. The three concentrator plants recorded average recoveries of 92.0% for zinc, 84.6% for lead, 52.2% for copper, and 85.8% for silver.

92% 84.6% 52.2% 85.8% COPPER SILVER

During the year, three filter presses were installed at the Andaychagua, Victoria, and Mahr Túnel plants to reduce the moisture levels of our concentrates. Work was also performed to heighten the Andaychagua and Rumichaca tailings dams. In addition, the deep-cone thickener at Rumichaca began operating, which will increase the useful life of the tailings dam, and upgrades were made to the reagent dosing system at Andaychagua plant.

### **Victoria Plant**

In 2017, the processing capacity of the Victoria concentrator plant was maintained at 5,200 tpd. Release of metallic content was controlled in milling-classification for optimal recovery in the copper, lead, and zinc flotation circuit. The natural pH process without lime was implemented in the zinc flotation circuit, maintaining the same grade and recovery levels, and keeping the effluent to the tailings dam within the maximum limits permissible. A new filter for zinc

concentrate was also installed, achieving moisture levels of 7.5%. At the Victoria plant, zinc recovery was 92.7%, lead recovery was 83.2%, while copper recovery was 46.6% and silver recovery was 82.7%.

Finally, because the deep-cone thickener at the Rumichaca tailings dam began operations, paste can be deposited there, increasing the dam's useful life.

### **Andaychagua Plant**

The Andaychagua plant continued to maintain its treatment capacity at 3,450 tpd. In 2017 an automatic reagent dosing system was implemented in the zinc flotation circuit. Natural pH flotation has also been implemented, definitively eliminating the use of lime and obtaining final effluent with a pH level within the maximum permissible limits. This important achievement is gradually being replicated in all Volcan concentrator plants.

### > TREATED TONNAGE AT YAULI, BY CONCENTRATOR PLANT

	Treated tonnage (000 MT)		Zn concentrate (000 MT)		Pb concentrate (000 MT)		Cu concentrate (000 MT)	
	2016	2017	2016	2017	2016	2017	2016	2017
Victoria	1,791	1,838	184	166	19	14	7	5
Andaychagua	1,109	1,032	71	69	20	15	0	0
MahrTúnel	758	715	65	55	13	12	5	7
Total Yauli	3,657	3,585	319	290	52	41	13	12

### **MINING OPERATIONS**



Andaychagua Plant - Yauli

A filter press has been implemented for zinc concentrate, which has lowered the moisture level to less than 8%. Zinc recovery was 90.4%, lead recovery was 85.0%, and silver recovery was 89.5%.

### **Mahr Túnel Plant**

The Mahr Túnel plant has a treatment capacity of 2,750 tpd. During 2017, operations continued with application of new flotation reagents and the elimination of others to maintain or reduce costs.

During the year, the Mahr Túnel concentrator plant maintained significant metallurgical efficiency, with zinc recovery at 92.0%, lead recovery at 86.0%, copper at 78.2%, and silver at 84.4%.

In addition, final tailings classification efficiency improved, raising coarse separation from 45% to 54%; this reduces tailings volume deposited and lengthens the useful life of the tailings dam.

# SOLID METALLURGICAL PERFORMANCE IN 2017

### **CHUNGAR**

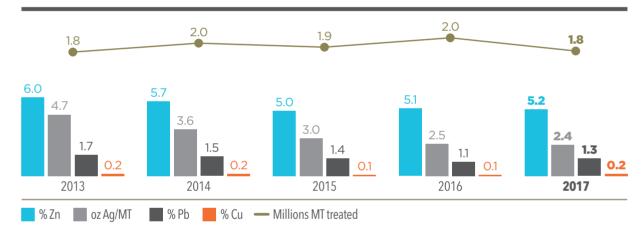
CHUNGAR UEA IS LOCATED IN THE PASCO REGION, 219 KILOMETERS EAST OF LIMA. IT CONSISTS OF TWO UNDERGROUND MINES, ANIMÓN AND ISLAY, AND A CONCENTRATOR PLANT ALSO CALLED ANIMÓN.

In 2017, 99.94% of the treated ore from the Chungar UEA was processed at the Animón plant, while 0.06% was

processed at the San Expedito plant, part of the Cerro de Pasco UEA. The latter was leased only for the month of January to process a large, low-grade ore deposit from Islay mine.

In 2017, the Chungar unit including the San Expedito plant processed 1.8 million tons, with ore grades of 5.16% Zn, 1.34% Pb, 0.15% Cu, and 2.43 oz Ag/MT.

### > EVOLUTION OF TREATED TONNAGE AND AVERAGE GRADES: CHUNGAR



IN 2017, THE CHUNGAR UNIT INCLUDING THE SAN EXPEDITO PLANT PROCESSED

### **1.8 MILLION TONS**

In 2017, production of zinc fines totaled 87,800 tons along with 3.6 million ounces of silver, reductions of 9% and 12%, respectively, compared to 2016. The decrease in production amounts was due to lower grade zinc at Animón mine and less tonnage treated at Islay mine, with greater silver content.

Meanwhile, lead production reached 22,500 tons, a 13% increase over 2016. This increase was due to the higher head grade of lead. In addition, the unit produced 1,900 tons of copper, 34% more than in 2016.

### VOLCAN 2017 ANNUAL REPORT

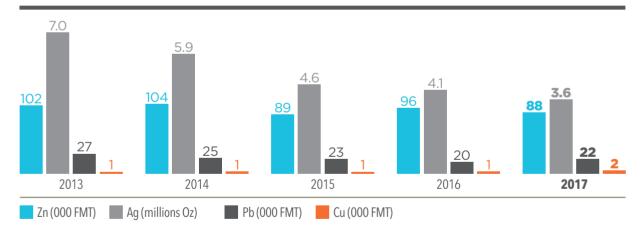
### MINING OPERATIONS





Chungar

### > EVOLUTION OF FINES PRODUCTION CHUNGAR



### **> CHUNGAR PRODUCTION BY MINE**

	Treated tonnage (000 MT)		Zn Grade (%)		Pb Grade (%)		Cu Grade (%)		Silves Grade (oz/MT)	
	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017
Animón	1,518	1,517	6.4	6.0	1.3	1.5	0.1	0.2	1.5	1.7
Islay	497	321	1.2	1.2	0.7	0.7	0.0	0.1	5.8	5.8
Total Chungar	2,016	1,838	5.1	5.2	1.1	1.3	0.1	0.2	2.6	2.4

# O1.

The Chungar UEA has two underground mines: the Animón mine, with a 4,100 tpd production capacity, and the Islay mine, with a 1,500 tpd production capacity. Tonnages produced from these two mines are processed in the Animón plant, and excess production from Islay is sent to San Expedito plant at the Cerro de Pasco UEA.

#### **Animón Mine**

Animón consolidated its production at 4,100 tpd, achieving better performance thanks to activity in the more centralized ore production zones.

In 2017, progress was made on commissioning the twostage pump system and the raise borers in the Principal and Gisela veins. Infrastructure in the main workshop at the 175 level was also completed.

### **Islay Mine**

In 2017, production at Islay was affected by a 65-day stoppage from August to October. This was due to conflicts with the community regarding permits to develop the raise borer on the Sur vein.

Infrastructure works to optimize the ventilation system inside the mine were completed, and raise borers were installed at the Sur and Manto Anito veins, as well as the Islay Piso vein.

In addition, the pumping system was optimized with the installation of pipes with capacity of 210 liters per second, the installation of a third pump line from Islay to Animón, and standardization of infrastructure for submersible pumps.

# **02.**CONCENTRATOR PLANT

#### **Animón Plant**

In 2017 treated tonnage at the Animón plant fell 9% with respect to the previous year, owing mainly to a 65-day stoppage at Islay Mine.

During the year, the Animón concentrator plant maintained a high level of metallurgical efficiency, with zinc recovery at 92.5%, lead recovery at 91.0%, copper at 65.1 %, and silver at 81.3%.

92.5%
ZINC
91%
LEAD
65.1%
COPPER
81.3%
SILVER

### > CONCENTRATE PRODUCTION

TREATMENT ANIMÓN PLANT (000 MT)	2016	2017
Treated tonnage	2,016	1,838
Zn concentrate	179	160
Bulk concentrare	40	47

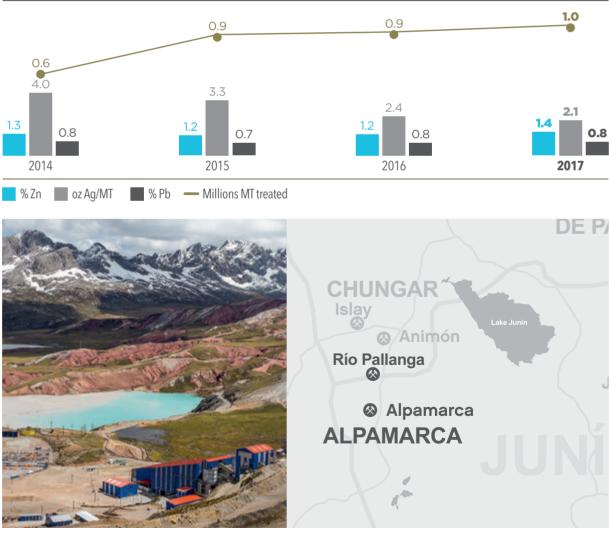
## ALPAMARCA

THE ALPAMARCA UEA IS LOCATED IN THE SANTA BÁRBARA AREA OF CARHUACAYÁN, YAULI PROVINCE, JUNÍN REGION, 182 KILOMETERS EAST OF LIMA.

This unit, which consists of the Río Pallanga underground mine, Alpamarca open pit, and Alpamarca concentrate plant, began operations in April 2014.

The installed capacity of the plant as designed is 2,500 tpd. In 2017, ore processed in the concentrator plant came from the Alpamarca open pit. Treatment totaled 958,000 tons, with average grades of 1.40% Zn, 0.78% Pb, and 2.11 oz. Ag/MT.

#### > TREATED TONNAGE AND AVERAGE GRADES: ALPAMARCA

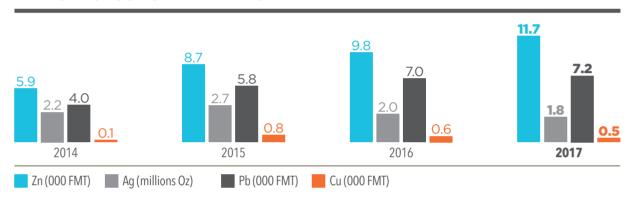


Alpamarca

Production in 2017 reached 11,700 tons of zinc and 7,200 tons of lead, increases of 20% and 4% respectively compared to 2016. This was due to the higher tonnage and higher zinc grade treated.

Meanwhile, silver production topped 1.8 million ounces of fines, a 7.6% decrease from 2016 due to lower head grades.

#### > FINES PRODUCTION: ALPAMARCA



#### > ALPAMARCA PRODUCTION BY MINE

	Treated t (000	٠ ا	l	irade %)		irade %)		irade %)		Grade MT)
	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017
Río Pallanga	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Alpamarca	910	958	1.2	1.4	0.8	0.8	0.1	0.1	2.4	2.1
Total Alpamarca	910	958	1.2	1.4	8.0	8.0	0.1	0.1	2.4	2.1



#### Río Pallanga Mine

Progress and production at the underground mine were temporarily suspended.

#### **Alpamarca Mine**

In 2017 ore production reached 958,000 tons based on removal of 1.7 million tons of overburden, for an average stripping ratio of 2.0.



#### > CONCENTRATE PRODUCTION

TREATMENT ALPAMAR- CA PLANT (000 MT)	2016	2017
Treated tonnage	910	958
Zn concentrate	17	22
Bulk concentrare	12	13

#### **MINING OPERATIONS**

Alpamarca 's concentrator plant processed 958,000 tons of polymetallic ore from the Alpamarca pit in 2017, with high mechanical availability and reliability. Metallurgical performance at the Alpamarca plant was strong, with metal recovery rates of 87.3% for zinc, 96.2% for lead, and 90.8% for silver.

87.3%
ZINC
96.2%
LEAD
90.8%
SILVER

Key achievements included lime dosing in the lead and zinc flotation circuit, in ore with natural pH above 8 (90% of treated ore). Classification of ore with moisture levels above 4% was improved in the crushing circuit, for proper processing. In addition, an ultrasound system was implemented to evaluate pressure variation and granulometry in the cyclone nest and thus determine possible deviations within the hydrocyclones for preventive management. Cameras were installed in the flotation cells to monitor and develop mathematical models to help control parameters such as reagent consumption. Likewise, PI systems are being used to compile, analyze, and visualize information in real time and optimize processes, adding value to concentrates.



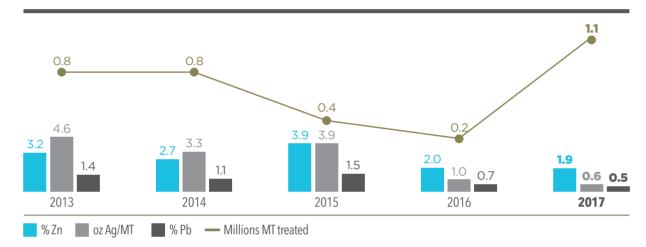
Alpamarca Plant - Alpamarca

## CERRO DE PASCO

THE CERRO DE PASCO UEA IS LOCATED IN THE PASCO REGION APPROXIMATELY 295 KILOMETERS FROM LIMA AND CAN BE REACHED VIA THE CENTRAL HIGHWAY.

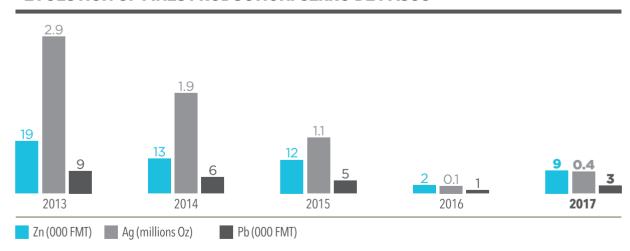
During 2017, 1.1 million tons of stockpiled ore were processed at the Paragsha-San Expedito plant, with ore grades of 1.88% Zn, 0.53% Pb, 0.01% Cu, and 0.62 oz Ag/MT. This ore comes from stockpiled polymetallic ore.

#### > EVOLUTION OF TREATED TONNAGE AND AVERAGE GRADES: CERRO DE PASCO



In 2017, fines production totaled 9,300 tons of zinc, 3,500 tons of lead, and 400,000 ounces of silver.

#### > EVOLUTION OF FINES PRODUCTION: CERRO DE PASCO



#### **MINING OPERATIONS**

#### > CERRO DE PASCO PRODUCTION BY MINE

	Treated to (000	•		irade %)		irade %)		Grade MT)
	2016	2017	2016	2017	2016	2017	2016	2017
Marginales Raúl Rojas Pit	233	1,059	2.0	1.9	0.7	0.5	1.0	0.6
Total Cerro de Pasco	233	1,059	2.0	1.9	0.7	0.5	1.0	0.6



DURING 2017,

1.1 MILLION TONS

OF STOCKPILED ORE WERE

PROCESSED AT THE

PARAGSHA-SAN EXPEDITO PLANT



Cerro de Pasco

# O1.

#### **Paragsha Underground Mine**

During 2017, the Paragsha underground mine was under temporary suspension. The mine is maintained in operating conditions, and, as a result of the implementation of the energy efficiency program and better cost controls, the energy costs for mine ventilation, compressed air, and water pumping were reduced.

#### Raúl Rojas pit ore stockpiles

In 2017, ore stockpiled from the Raúl Rojas pit in previous years was treated. During the year, construction was completed on the sorting circuit, which allows for selection of higher-grade ore before it is treated at the concentrator plant.

#### **Vinchos Mine**

The Vinchos mine did not produce any ore in 2017. Operations in this mine are under temporary suspension.



Oxides Plant Worker - Oxidos de Pasco

# **02**CONCENTRATOR PLANT

#### > CONCENTRATOR PLANT

Treatment San Expedito Plant (000 MT)	2016	2017
Treated tonnage	233	1,059
Zn concentrate	6	22
Pb concentrate	2	7

#### San Expedito/Paragsha Plant

In 2017, the crushing, milling, and filtering circuits at the Paragsha concentrator plant continued to be operational, as were the zinc and lead circuits at the San Expedito plant.

The Paragsha-San Expedito plants operated continuously, with treatment of marginal polymetallic ore from Cerro de Pasco's Raúl Rojas pit. Throughout the year, operational changes were made to increase production and improve the metallurgy of concentrates. In terms of crushing, classification of marginal ore with high moisture content was optimized, enabling continuous operations. Construction of the sorting circuit was completed in the third quarter and the testing process for treatment of marginal ore began in 2018. This, in addition to projects aimed at optimizing secondary/tertiary crushing, milling and flotation, will signify an improvement in grade qualities, better recovery, and greater volume of concentrates.

## CERRO DE PASCO **OXIDES UEA**

THE CERRO DE PASCO OXIDE PLANT IN THE **PASCO REGION IS LOCATED APPROXIMATELY 295 KILOMETERS FROM LIMA AND CAN BE REACHED VIA THE CENTRAL HIGHWAY.** 

This operating unit, which includes Volcan's first leaching plant, began operations in 2014, with full production

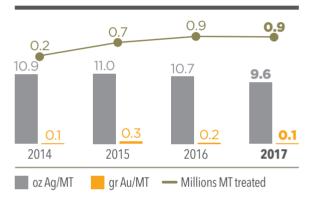
capacity reached in June 2015.



Oxides Plant - Oxidos de Pasco

During 2017, 872,000 tons of stockpiled oxides were processed, with ore grades of 9.63 oz Ag/MT and 0.15 gr Au/MT.

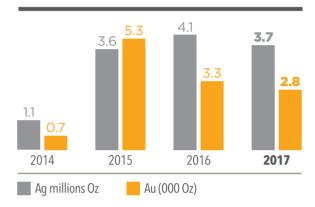
#### > EVOLUTION OF TREATED TONNAGE AND AVERAGE GRADES OXIDES





Silver fines production totaled 3.7 million ounces, down 9% from 2016 because of the lower grade of oxide silver, but partially offset by greater metallurgical recovery.

### > EVOLUTION OF FINES PRODUCTION OXIDES

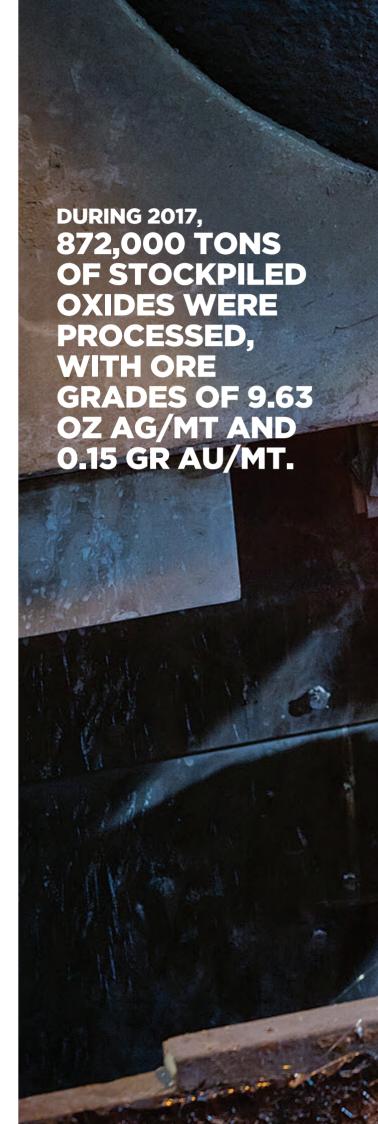


# **01.** OXIDES PLANT

In February 2017 there was an 18-day stoppage due to conflicts with the Rancas Community. Production subsequently stabilized, with average treatment of 2,500 tpd. During the year, improvements were made to crushing and milling that increased silver recovery to 44.48%.

#### > DORE PRODUCTION

OXIDES PLANTTREATMENT	2016	2017
Treated tonnage (000 MT)	900	872
Dore bars (000 kg)	162	142







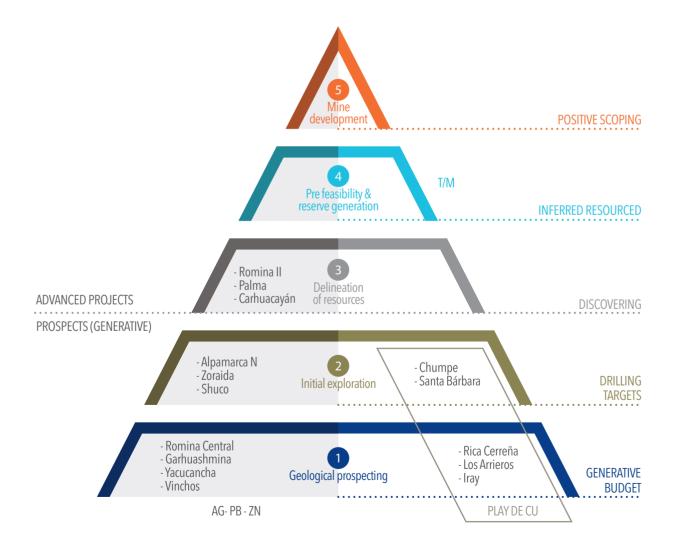
# **08**

# EXPLORATIONS AND GROWTH

## **EXPLORATIONS**

IN 2017, VOLCAN CARRIED OUT EXPLORATIONS IN THREE ADVANCED PROJECTS: ROMINA II, CARHUACAYÁN, AND PALMA, AS WELL AS THREE PROJECTS IN THEIR INITIAL STAGE: ALPAMARCA NORTE, SANTA BÁRBARA, AND CHUMPE. A TOTAL OF 54,400 METERS OF DIAMOND-DRILLED BOREHOLES WERE COMPLETED.

Romina II and Carhuacayán are notable among the advanced projects, with high potential for development. In the case of Romina II, significant mineralization has been defined in the Puagjanca body (Zn-Pb-Ag) and there is evidence of other zones with high potential such as Yuncán, Nuevo Yuncán, Why Not, and Romina Central. Meanwhile, La Tapada body has been identified at Carhuacayán, as have other targets such as La Tapada Oeste and Toldojirca. Both projects are focused on producing ore to be treated at the Alpamarca concentrate plant.



**VOLCAN 2017 ANNUAL REPORT** 

#### **EXPLORATIONS AND GROWTH**

## **T**GENERATING NEW PROJECTS

At the close of 2017 the Company had the following prospects listed for exploration in 2018, to confirm whether they continue to the next phase.

#### Shuco

Shuco is located 3 km west of the city of Cerro de Pasco. It is a Zn-Pb-(Ag) polymetallic prospect in a mountainous area, with mineralization that outcrops in the form of oxidized replacement bodies up to 200 meters long and 15 to 20 meters thick. The outcropping consists of five bodies of semi-massive to massive oxides (predominantly Fe), indicating that before oxidation, the bodies were rich in sulphides. Geochemical reconnaissance from "chip" samples from these bodies shows significant concentrations of Zn and Pb (up to 2.2% and 0.36%, respectively), indicating that they consisted of Zn-Pb-(Ag).

The environmental impact statement has been approved by the General Directorate for Environmental Affairs (DGAAM) of the Ministry of Energy and Mines, while the Surface Use Agreement has been approved by the Rancas Community. The Company is awaiting exploration approval from the Ministry of Energy and Mines for a diamond drilling program in 2018 to determine if extraction of the mineral at depth is economically viable.

#### Santa Bárbara

Sánta Bárbara is located 2 km east of the old Carhuacayán mine district and 20 km east of Alpamarca mine. RTZ explored this Cu-Au project from 1990 to 2000. In the most recent reconnaissance work, Volcan found evidence of a larger "lithocap" that could increase the potential of the project.

The EIS for the project has been approved by the DGAAM of the Ministry of Energy and Mines and the Surface Use Agreement has been approved by the Community of Santa Bárbara de Carhuacayán.

Diamond drilling at the mine totaled 9,085 meters. The first goal was to drill twin boreholes to confirm the finding



Nuevo Yuncan - Romina II

from the 1990s and then, in a larger grid, increase the project potential, which was positive. The project is in the preliminary metallurgical study phase in the laboratory to determine the recovery behavior of these metals.

#### Rica Cerreña

Located at Cerro de Pasco, immediately northwest of the Raúl Rojas pit. This is a Cu-(Au) and/or Cu-(Mo) porphyry blind mineralization prospect (no outcropping) but with a well-developed porphyry lithocap.

Volcan has a plan to complete five diamond drill boreholes (1,000 meters each) to confirm the project's potential. For this purpose, the Company has applied to the competent authority for approval of an exploration EIS to carry out this program during 2018.

# 2. POST-DISCOVERY DEVELOPMENT

In 2017, Volcan evaluated its portfolio of polymetallic projects to prioritize development of those that meet new criteria established and which have the potential to be economically viable. As a result, Romina II and Carhuacayán were prioritized because of their proximity to the Alpamarca concentrator plant, as well as Palma.

#### **Romina II**

Located in the Pacaraos District, 15 km west of Alpamarca Mine. It is a Zn-Pb-(Ag) 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 conducted 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 in 27 boreholes on the Puagjanca body to refine the geological model and define the category of the resources. In addition, surface exploration was conducted on other targets, resulting in new evidence of other possible mineralized areas such as Yuncán, Nuevo Yuncán, Why Not, Why Not Noroeste, and Romina Central, which significantly increases the project's potential.

In 2018 a technical-financial feasibility study of the mine will be carried out, based on results obtained in a preliminary study by Amec Foster Wheeler in December 2017, as well as results of the last drilling campaign in 2017, when resources were reclassified. The feasibility study will provide relevant information for submission of the Detailed Environmental Impact Study, which is being prepared for the project production permit.

#### Carhuacayán

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







Alpamarca Plant Worker - Alpamarca

In 2017, a diamond drilling program of 21,811 meters was carried out in the areas of La Tapada, Candelaria and surroundings, resulting in the discovery of significant mineralization mainly at La Tapada, as well as definition of other targets to be evaluated in the future.

La Tapada is a replacement body in a lime block embedded in an intrusion that was mined previously. What appears is a half-table replacement body that is more than 500 m long and 300 m deep, with a width varying from 30 to 50 m, located in significant semi-massive polymetallic mineralization areas. The current campaign is centered below the old production zone.

#### **Palma**

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

The first stage of the project involved 17,000 meters of diamond drilling. Drilling enabled an estimate of inferred resources and identified that the ore is structured in layers, with optimal potencies and good rock quality, and mineralization open at depth and laterally.

The second amendment to the EIS was approved by DGAAM in 2017, after which a diamond drilling program of 7,920 meters was carried out in the upper part of the system, confirming the continuity of the mineralization.

The geological model is now being updated for estimation of new mineral resources.

# **3**BROWNFIELD EXPLORATION Zoraida (Yauli)

Located 7 km south of Andaychagua in Yauli. Zoraida is mainly a silver project with lead and zinc content. Given its geological characteristics, it could become the third polymetallic system in the Yauli dome, along with San Cristóbal and Andaychagua.

After a system of veins parallel to the Andaychagua vein with lengths from 2 to 3 km was identified in 2017, the Company proceeded to seek approval for the exploration EIS, which is now under review by the DGAAM.

#### **Alpamarca North**

This is a Zn-Pb-(Ag) polymetallic prospect located immediately northwest of the Alpamarca mine. It is a blind mineralization prospect but there are reasonable indications of mineralization at depth.

It shows minimal sulphide mineralization on the surface but has at least five main corridors of carbonate (basically calcite) vein networks housed in red layers of the Casapalca formation.

An 8,931-m diamond drilling program was completed in 2017 north of Alpamarca pit, finding a mineralized body that is currently being delineated to determine its continuity and whether future underground production is feasible.



## **CURRENT OPERATIONS**

# 1.

The exploration campaign conducted in 2017 focused on developing the value chain of mineral resources, with an emphasis on exploration in the growth program, brownfield exploration, definition of mineral potential, and delineation of inferred and measured and indicated resources.

Brownfield exploration was mainly aimed at continuing the geological re-mapping and geochemical sampling of the outcrop structures in the mining district and assessing the structural alignments and their correlation with the veins identified and developed in the mine.

Geological reinterpretation work began on the replacement bodies throughout the Ticlio fault corridor where it meets the volcanic rock of the Mitu group and the limestone of the Pucará group between the Carahuacra and San Cristóbal mines.

In line with the proposed exploration strategy, in 2017 the diamond drilling program consisted of 82,286

meters distributed as follows: 8,267 meters in the growth program; 1,668 meters aimed at detecting potential resources; 16,639 meters to delineate inferred resources; and 55,712 meters aimed at elevating the inferred resources to the measured and indicated resources category at the San Cristóbal, Andaychagua, Carahuacra, and Ticlio mines.

The results confirmed lateral continuity at depth of the resources in the main mineralized structures. In addition, the results provide evidence of new resources in mineralized structures such as Prosperidad Techo, Prosperidad 1, and Adriana, associated with target volcanic rock in Andaychagua; significant mineralization potential in the northeast extension of Split 658, 658, 722 and Ramal floor 722 veins in San Cristóbal mine; in the SW extension of the Mary, ML and Diana veins associated with formation of mineralized layers where they intersect with limestone in Carahuacra mine; and in the continuance of replacement bodies through the diorite-limestone contact in the Ramal Techo vein at Ticlio mine. The results obtained provide a sound basis for continuing the exploration program planned for 2018.

#### > YAULI DRILLING

		METERS DRILLED 2017				
MINE	GROWTH (M)	POTENTIAL(M)	RESOURCES (M)	INFILL DRILLING (M)	TOTAL(M)	
San Cristóbal	0	0	6,849	18,362	25,211	
Andaychagua	5,626	139	3,633	18,866	28,264	
Ticlio	0	423	862	7,687	8,972	
Carahuacra	2,641	1,106	5,295	10,797	19,839	
Total	8,267	1,668	16,639	55,712	82,286	

#### **EXPLORATIONS AND GROWTH**

# 2. CHUNGAR

At Chungar, exploration work was mainly focused on developing geological models of the veins, assessment of structural and lithological controls, correlation with the deposit's mineralogical controls, and reinterpretation of the veins identified inside the mine through diamond boreholes from the previous year.

In total, 67,918 meters of diamond drilling have been conducted at Animón and Islay, including 23,315 meters to delineate inferred resources, 30,100 meters aimed at increasing the certainty of inferred resources to measured and indicated resources, 3,021 meters to determine potential resources, and 11,4820 meters in the growth program. The results confirmed the continuity of the mineralized bodies in terms both of depth and direction, the definition of new mineralized bodies, and the discovery of new structures with economic potential.

#### > DRILLING AT CHUNGAR

MINE	GROWTH (M)	POTENTIAL(M)	RESOURCES (M)	INFILL DRILLING (M)	TOTAL(M)
Animón	11,482	2,546	16,778	21,541	52,347
Islay	0	475	6,537	8,559	15,571
Total	11,482	3,021	23,315	30,100	67,918



Alpamarca Pit - Alpamarca

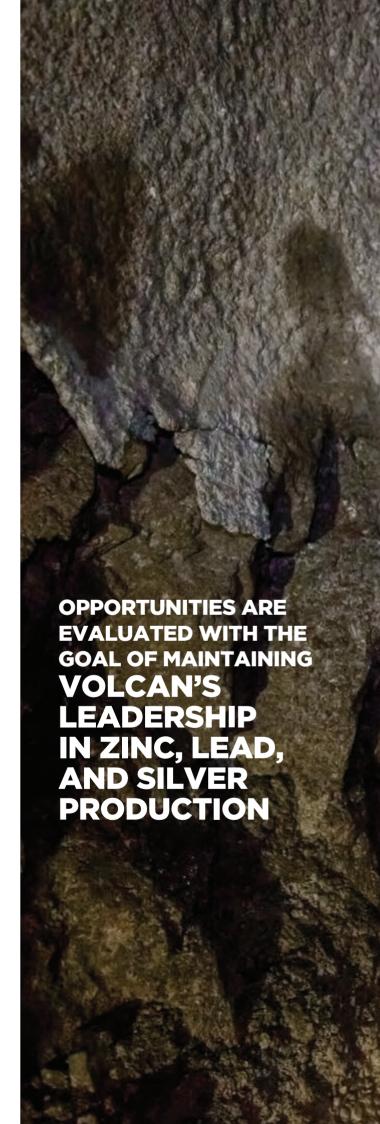
# **3.** ALPAMARCA

At Alpamarca, local exploration was mainly focused on developing a confirmation drilling program under the pit to define the possibilities of existing structures. The results in this area have not been positive.

# INORGANIC GROWTH ACQUISITIONS AND JOINT VENTURES

As in years past, inorganic growth remained a potential pathway for growth, prioritizing activities in the central highlands. In 2017, Volcan continued to evaluate opportunities for acquiring projects and mining operations that are aligned with its strategy.

The Company prioritizes opportunities in the area of influence and the existence of competitive advantages that will support synergies with the current portfolio. Acquisitions are evaluated with the goal of maintaining Volcan's leadership in zinc, lead, and silver production.







**09** 

# BUSINESS MANAGEMENT



# METAL PRICES ROSE IN 2017, PROVIDING A CERTAIN DEGREE OF STABILITY TO THE MINING SECTOR.

However, this price increase did not result in the reopening of mine operations that had been closed during the crisis in the sector. As a consequence, concentrates remained scarce during the year and this was reflected in sales terms, where tolling has remained the same or decreased.

In terms of zinc, tolling totaled 20 USD/MT in 2017, compared to 40 USD/MT in 2016 (CIF basis). Meanwhile, in mid-2017 lead tolling fell to 10 USD/TM CIF, compared to 70 USD/TM CIF in 2016. Due to the overall scarcity of concentrates, refineries have become more flexible when it comes to concentrate quantity. Also, due to specific qualities refineries are willing to increase the payable content of some concentrates above normal rates.

In addition to metal prices and sales terms that drive the market, other external variables that can affect sales are related to the ease of transporting concentrates, via land or sea. In 2017 highways were affected by El Niño, which hindered continuous shipment of our concentrates.

Volcan maintained its market diversification policy in the pursuit of greater value for its concentrates. Also, greater attention was paid to certain qualities that are more highly valued in the market, to achieve additional advantages. Likewise, certain changes were made in the logistics chain, which helped to significantly reduce sales expenses and achieve better concentrate placement.

#### > SALES BY DESTINATION (PERCENTAGE OF VALUE IN USD)

56.05% 23.13% 8.01% 5.28% USA

1.93% 1.49% 1.28% 2.84% Others

#### **BUSINESS MANAGEMENT**

The total fines sales volume decreased mainly due to lower production during the year and lower sales tonnage.

#### > FINES SALES VOLUME BY BUSINESS

	FINE SALES	2016	2017	VAR%
	Zinc (thousands FMT)	273.8	255.2	-6.8
	Lead (thousands FMT)	53.8	51.0	-5.3
Mining business	Copper (thousands FMT)	3.9	3.6	-6.4
	Silver (million Oz)	22.7	17.4	-23.1
	Gold (thousands Oz)	11.8	9.9	-16.2
	Zinc (thousands FMT)	30.5	2.5	-91.9
	Lead (thousands FMT)	1.4	0.6	-58.9
Commercialization business	Copper (thousands FMT)	1.4	1.5	2.7
business	Silver (million Oz)	1.1	0.7	-39.9
	Gold (thousands Oz)	0.2	0.2	5.5
	Zinc (thousands FMT)	304.3	257.7	-15.3
	Lead (thousands FMT)	55.3	51.6	-6.7
Total	Copper (thousands FMT)	5.3	5.1	-4.0
	Silver (million Oz)	23.8	18.1	-23.9
	Gold (thousands Oz)	11.9	10.0	-16.0

The average sales price of zinc increased from 2,077 USD/MT in 2016 to 2,836 USD/MT in 2017 ( $\pm$ 36.6%), lead rose from 1,858 USD/MT to 2,311 USD/MT( $\pm$ 24.3%), and silver increased from 17.00 USD/oz to 17.10 USD/oz ( $\pm$ 0.3%).

#### > SALES PRICES BY METAL

SALES PRICES	2016	2017	VAR%
Zinc (USD/MT)	2,077	2,836	36.6
Lead (USD/MT)	1,858	2,311	24.3
Copper(USD/MT)	4,901	6,148	25.4
Silver (USD/Oz)	17.0	17.1	0.3



# 10

# RESULTS AND INVESTMENTS ANALYSIS

## SALES

#### > NET SALES BREAKDOWN

SALES (MILLION	ICTICD/	2016	2017	VAR%
SALLS (WILLION				
	Zinc	351.4	478.9	36.3
	Lead	69.9	95.2	36.2
	Copper	8.5	13.1	53.8
Mining business	Silver	311.2	243.3	-21.8
Willing Dusiness	Gold	8.4	6.8	-18.4
	Total	749.4	837.4	11.7
	Adjustments	7.8	-7.2	-192.8
	Net sales	757.2	830.1	9.6
	Zinc	48.2	5.6	-88.5
	Lead	1.8	1.4	-25.8
	Copper	4.2	6.4	52.6
Commercialization business	Silver	12.1	9.4	-22.7
Commercialization business	Gold	0.1	0.1	-26.8
	Total	66.4	22.8	-65.7
	Adjustments	-2.1	3.8	-281.2
	Net sales	64.3	26.6	-58.7
	Zinc	399.6	484.5	21.2
	Lead	71.7	96.5	34.6
	Copper	12.7	19.5	53.4
Total	Silver	323.3	252.7	-21.8
Total	Gold	8.5	6.9	-18.5
	Total	815.9	860.2	5.4
	Adjustments	5.7	-3.4	-160.3
	Net sales	821.5	856.7	4.3

<sup>\*</sup> Adjustments: i) final shippment liquidations of previous terms, ii) adjustment for open positions (embedded derivative and sales adjustment), iii) hedging results

#### **RESULTS AND INVESTMENTS ANALYSIS**

Total sales in 2017, before adjustments, increased 5.4% from USD 815.9 million in 2016 to USD 860.2 million. This positive effect resulting from higher prices of zinc, lead, copper, and gold, was offset by a 65.7% reduction in sales of third-party concentrates, which fell from USD 66.4 million in 2016 to USD 22.8 million in 2017, in addition to lower sales of the Company's own concentrates.

Adjustments were as follows: for sales, USD -3.4 million; for provisions on open commercial positions, USD -7.2 million; for hedging results, USD -5.6 million; and for final positive settlements, USD 9.4 million. As a consequence, in 2017 sales after adjustments totaled USD 856.7 million, an increase of 4.3% compared to USD 821.5 million in 2016.



Animon Plant - Chungar

## COSTS

In absolute terms, the cost of production rose 4.9%, from USD 380.7 million in 2016 to USD 399.5 million in 2017.

Meanwhile, unit cost fell 3.3%, from 49.50 USD/MT in 2016 to 47.90 USD/MT in 2017, due to processing of a greater volume of stockpiled, low-grade polymetallic mineral at Cerro de Pasco.

## VOLCAN CONTINUES TO FOCUS ON COST CONTROL AND REDUCTION IN ALL OPERATING UNITS.

The Company has identified specific opportunities for improvement related to mining, supports, maintenance, transportation, and administrative units, and these will be implemented in the coming months.



Victoria Plant - Yauli

#### > ABSOLUTE COSTS (MILLIONS USD)

UNIT	2016	2017	VAR%
Yauli	220.0	232.9	5.9
Chungar	101.6	102.2	0.6
Cerro	3.9	14.3	268.6
Óxidos	33.7	33.3	-1.2
Alpamarca	21.5	16.9	-21.6
Consolidated	380.7	399.5	4.9

#### > UNIT COST (USD/MT)

UNIT	2016	2017	VAR%
Yauli	60.5	65.2	7.8
	50.9	55.0	8.2
Chungar Cerro	16.6	13.5	-18.9
Óxidos	37.4	38.2	2.1
Alpamarca	23.5	17.3	-26.1
Consolidated**	49.5	47.9	-3.3

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

#### **RESULTS AND INVESTMENTS ANALYSIS**

The Cerro de Pasco UEA reopened in the second half of 2016 to treat marginal ore from the Raúl Rojas pit.

In 2017, the cost of sales was USD 566.1 million, 2.6% lower than the 2016 cost of USD 581.2 million. This reduction was mainly due to lower purchasing of third-party concentrates, which totaled USD 46.2 million. This was partially offset by a USD 18.8-million increase in production cost and higher depreciation and amortization, amounting to USD 13.6 million.

#### **> BREAKDOWN OF SALES COSTS**

COST OF GOODS SOLD (MILLIONS USD)	2016	2017	VAR%
Volcan's Cost of Goods Sold	510.9	539.8	5.7
Own Cost of Production	380.7	399.5	4.9
D&A of Cost of Production	116.8	130.5	11.7
Mineral purchase	0.0	3.1	
Extraordinary Costs	2.8	2.7	-1.6
Own Inventories Change	10.6	4.0	-61.8
Third-party Cost of Goods Sold	63.0	18.5	-70.6
Concentrates Purchase	63.1	16.9	-73.2
Thirds Inventories Change	-0.1	1.6	
Workers Participation	7.3	7.8	6.4
Total	581.2	566.1	-2.6



Animon Plant - Chungar

## **INVESTMENTS**

TOTAL MINING INVESTMENT GREW 62.4%, FROM USD 116.9 MILLION IN 2016 TO USD 189.8 MILLION IN 2017.

Operations investment increased 51.7%, from USD 113.1 million in 2016 to USD 171.5 million in 2017, mainly in plants and tailing dams, development, and exploration,

while regional exploration investment rose 367.4%, from USD 3.2 million in 2016 to USD 14.8 million in 2017. Meanwhile, investment in the energy business fell 43.2% from USD 5.6 million in 2016 to USD 3.2 million in 2017. This decline reflects completion of the Rucuy hydroelectric plant in 2016. Finally, overall investment was up 57.6%, from USD 122.5 million in 2016 to USD 193.0 million in 2017.

#### > INVESTMENT BREAKDOWN

CONSOLIDATED INVESTMENTS (MM USD)	2016	2017	VAR%
Mining Business	116.9	189.8	62.4
Mining Units	113.1	171.5	51.7
Local Exploration	10.0	13.2	32.0
Development	49.8	69.6	39.7
Plants and Trailings Facilities	17.8	52.8	196.0
Mine and Infraestructure	29.8	26.6	-10.8
Energy in Units	2.3	3.5	54.4
Support and Others	3.4	5.8	73.0
Regional Explorations	3.2	14.8	367.4
Growth and Others	0.6	3.5	472.9
Energy Business	5.6	3.2	-43.2
Total	122.5	193.0	57.6

OVERALL INVESTMENT GREW 57.6% IN 2017 COMPARED TO 2016, FROM USD 122.5 MILLION IN 2016 TO USD 193.0 MILLION

## **PROFITABILITY**

### **GROSS MARGIN GREW FROM 29% IN 2016 TO 34% IN 2017.**

The increase in gross margin reflects higher metal prices and reduced participation in the third-party concentrate business, resulting in a lower share of total sales. As a result, gross profits climbed 20.9%, from USD 240.3 million in 2016 to USD 290.6 million in 2017.

Administrative expenses were up 3.5% from USD 44.2 million in 2016 to USD 45.7 million in 2017, due to higher provisions for worker participation, severance, and donations.

Meanwhile, sales expenses were down from USD 34.1 million in 2016 to USD 30.6 million in 2017. This drop mainly reflects lower freight and shipping costs resulting from logistical and commercial improvements.

As for other net revenue and expenditures, this line item fell from USD 6.8 million in 2016 to USD -10.5 million in 2017. In large part, this was because in 2017 Volcan recorded expenses from previous periods and dead freight expenses, while in 2016 the Company recorded extraordinary income of USD 14.0 million related to partial repurchase of international bonds issued in 2012.

Also, gains due to exchange rate fluctuations totaled USD 1.2 million in 2017, compared to gains of USD 100,000 in 2016.

All of this resulted in EBITDA increasing from USD 302.9 million in 2016 to USD 343.0 million in 2017. Likewise, net profits rose from USD 84.4 million in 2016 to USD 92.7 million in 2017.

To adjust Company financial statements to Glencore's corporate accounting policies and standards, at the close of 2017 Volcan recorded an exceptional net charge of USD 570.2

million. The adjustments were mainly focused on i) evaluation of devaluation of fixed and intangible assets (impairment); ii) deferred taxes; and iii) accounting provisions.

These exceptional charges did not have any effect on the Company's cash flow. Also, in the case of the devaluation of fixed assets and intangibles, in the future the adjustment may be reversed in the event of a scenario other than the one considered in the evaluation as of December 31, 2017.



Oxides Plant - Oxidos de Pasco

#### > INCOME STATEMENT

Settlements of prior periods         12.3         9.4         -23           Adj. open positions         19.4         -7.2           Hedging         -26.0         -5.6         -78           Sals after adjustments         821.5         856.7         4           Cost of Goods Sold         -581.2         -566.1         -2           Gross Profit         240.3         290.6         20           Gross Margin         29%         34%         5g           Administrative Expenses         -44.2         -45.7         3           Sales Expenses         -34.1         -30.6         -10.0           Other Income (Expenses)*         6.8         -10.5           Operating Profit         168.9         203.9         20           Operating Margin         21%         24%         3g           Financial Expenses (Income)         -35.6         -40.3         13           Exchange difference (net)         0.1         1.2         806           Royalties         -13.0         -17.5         34           Income Tax         -36.0         -54.6         51           Net Profit before adjustments         84.4         92.7         9           Net profit after a	INCOME STATEMENT (MILLIONS USD)	2016	2017	VAR%
Adj. open positions       19.4       -7.2         Hedging       -26.0       -5.6       -78         Sals after adjustments       821.5       856.7       4         Cost of Goods Sold       -581.2       -566.1       -2         Gross Profit       240.3       290.6       20         Gross Margin       29%       34%       5p         Administrative Expenses       -44.2       -45.7       3         Sales Expenses       -34.1       -30.6       -10         Other Income (Expenses)*       6.8       -10.5         Operating Profit       168.9       203.9       20         Operating Margin       21%       24%       3p         Financial Expenses (Income)       -35.6       -40.3       13         Exchange difference (net)       0.1       1.2       806         Royalties       -13.0       -17.5       34         Income Tax       -36.0       -54.6       51         Net Profit before adjustments       84.4       92.7       9         Net profit after adjustments       84.4       -477.5	Sales before adjustments	815.9	860.2	5.4
Hedging   -26.0   -5.6   -78	Settlements of prior periods	12.3	9.4	-23.8
Sals after adjustments         821.5         856.7         4           Cost of Goods Sold         -581.2         -566.1         -2           Gross Profit         240.3         290.6         20           Gross Margin         29%         34%         5g           Administrative Expenses         -44.2         -45.7         3           Sales Expenses         -34.1         -30.6         -10           Other Income (Expenses)*         6.8         -10.5           Operating Profit         168.9         203.9         20           Operating Margin         21%         24%         3g           Financial Expenses (Income)         -35.6         -40.3         13           Exchange difference (net)         0.1         1.2         806           Royalties         -13.0         -17.5         34           Income Tax         -36.0         -54.6         51           Net Profit before adjustments         84.4         92.7         9           Net profit after adjustments         84.4         -477.5	Adj. open positions	19.4	-7.2	
Cost of Goods Sold         -581.2         -566.1         -2           Gross Profit         240.3         290.6         20           Gross Margin         29%         34%         5p           Administrative Expenses         -44.2         -45.7         3           Sales Expenses         -34.1         -30.6         -10           Other Income (Expenses)*         6.8         -10.5           Operating Profit         168.9         203.9         20           Operating Margin         21%         24%         3p           Financial Expenses (Income)         -35.6         -40.3         13           Exchange difference (net)         0.1         1.2         806           Royalties         -13.0         -17.5         34           Income Tax         -36.0         -54.6         51           Net Profit before adjustments         84.4         92.7         9           Net margin         10%         11%         1p           Exceptional adjustments         84.4         -477.5           EBITDA ****         302.9         343.0         13	Hedging	-26.0	-5.6	-78.5
Gross Profit         240.3         290.6         20           Gross Margin         29%         34%         5 p           Administrative Expenses         -44.2         -45.7         3           Sales Expenses         -34.1         -30.6         -10           Other Income (Expenses)*         6.8         -10.5           Operating Profit         168.9         203.9         20           Operating Margin         21%         24%         3 p           Financial Expenses (Income)         -35.6         -40.3         13           Exchange difference (net)         0.1         1.2         806           Royalties         -13.0         -17.5         34           Income Tax         -36.0         -54.6         51           Net Profit before adjustments         84.4         92.7         9           Net Margin         10%         11%         15           Exceptional adjustments**         -570.2         Net profit after adjustments         84.4         -477.5           EBITDA ****         302.9         343.0         13	Sals after adjustments	821.5	856.7	4.3
Gross Margin       29%       34%       5 p         Administrative Expenses       -44.2       -45.7       3         Sales Expenses       -34.1       -30.6       -10         Other Income (Expenses)*       6.8       -10.5         Operating Profit       168.9       203.9       20         Operating Margin       21%       24%       3 p         Financial Expenses (Income)       -35.6       -40.3       13         Exchange difference (net)       0.1       1.2       806         Royalties       -13.0       -17.5       34         Income Tax       -36.0       -54.6       51         Net Profit before adjustments       84.4       92.7       9         Net Margin       10%       11%       1p         Exceptional adjustments**       -570.2       -477.5         EBITDA ***       302.9       343.0       13	Cost of Goods Sold	-581.2	-566.1	-2.6
Administrative Expenses -44.2 -45.7 3 Sales Expenses -34.1 -30.6 -10 Other Income (Expenses) * 6.8 -10.5  Operating Profit 168.9 203.9 20 Operating Margin 21% 24% 3g Financial Expenses (Income) -35.6 -40.3 13 Exchange difference (net) 0.1 1.2 806 Royalties -13.0 -17.5 34 Income Tax -36.0 -54.6 51 Net Profit before adjustments 84.4 92.7 9 Net Margin 10% 11% 15 Exceptional adjustments* -570.2 Net profit after adjustments 84.4 -477.5  EBITDA *** 302.9 343.0 13	Gross Profit	240.3	290.6	20.9
Sales Expenses       -34.1       -30.6       -10         Other Income (Expenses) *       6.8       -10.5         Operating Profit       168.9       203.9       20         Operating Margin       21%       24%       3p         Financial Expenses (Income)       -35.6       -40.3       13         Exchange difference (net)       0.1       1.2       806         Royalties       -13.0       -17.5       34         Income Tax       -36.0       -54.6       51         Net Profit before adjustments       84.4       92.7       9         Net Margin       10%       11%       1p         Exceptional adjustments**       -570.2         Net profit after adjustments       84.4       -477.5         EBITDA ****       302.9       343.0       13	Gross Margin	29%	34%	5 pp
Other Income (Expenses) *       6.8       -10.5         Operating Profit       168.9       203.9       20         Operating Margin       21%       24%       3 p         Financial Expenses (Income)       -35.6       -40.3       13         Exchange difference (net)       0.1       1.2       806         Royalties       -13.0       -17.5       34         Income Tax       -36.0       -54.6       51         Net Profit before adjustments       84.4       92.7       9         Net Margin       10%       11%       1p         Exceptional adjustments**       -570.2       -570.2         Net profit after adjustments       84.4       -477.5         EBITDA ****       302.9       343.0       13	Administrative Expenses	-44.2	-45.7	3.5
Operating Profit         168.9         203.9         20           Operating Margin         21%         24%         3 p           Financial Expenses (Income)         -35.6         -40.3         13           Exchange difference (net)         0.1         1.2         806           Royalties         -13.0         -17.5         34           Income Tax         -36.0         -54.6         51           Net Profit before adjustments         84.4         92.7         9           Net Margin         10%         11%         1p           Exceptional adjustments**         -570.2         -570.2           Net profit after adjustments         84.4         -477.5           EBITDA ***         302.9         343.0         13	Sales Expenses	-34.1	-30.6	-10.3
Operating Margin       21%       24%       3 p         Financial Expenses (Income)       -35.6       -40.3       13         Exchange difference (net)       0.1       1.2       806         Royalties       -13.0       -17.5       34         Income Tax       -36.0       -54.6       51         Net Profit before adjustments       84.4       92.7       9         Net Margin       10%       11%       1p         Exceptional adjustments**       -570.2       -477.5         Net profit after adjustments       84.4       -477.5         EBITDA ***       302.9       343.0       13	Other Income (Expenses) *	6.8	-10.5	
Financial Expenses (Income)       -35.6       -40.3       13         Exchange difference (net)       0.1       1.2       806         Royalties       -13.0       -17.5       34         Income Tax       -36.0       -54.6       51         Net Profit before adjustments       84.4       92.7       9         Net Margin       10%       11%       1p         Exceptional adjustments**       -570.2       -477.5         Net profit after adjustments       84.4       -477.5         EBITDA ****       302.9       343.0       13	Operating Profit	168.9	203.9	20.7
Exchange difference (net)       0.1       1.2       806         Royalties       -13.0       -17.5       34         Income Tax       -36.0       -54.6       51         Net Profit before adjustments       84.4       92.7       9         Net Margin       10%       11%       1½         Exceptional adjustments**       -570.2       -570.2         Net profit after adjustments       84.4       -477.5         EBITDA ****       302.9       343.0       13.0	Operating Margin	21%	24%	3 pp
Royalties       -13.0       -17.5       34         Income Tax       -36.0       -54.6       51         Net Profit before adjustments       84.4       92.7       9         Net Margin       10%       11%       1 p         Exceptional adjustments**       -570.2         Net profit after adjustments       84.4       -477.5         EBITDA ***       302.9       343.0       13.0	Financial Expenses (Income)	-35.6	-40.3	13.2
Income Tax       -36.0       -54.6       51         Net Profit before adjustments       84.4       92.7       9         Net Margin       10%       11%       15         Exceptional adjustments**       -570.2         Net profit after adjustments       84.4       -477.5         EBITDA ***       302.9       343.0       13.0	Exchange difference (net)	0.1	1.2	806.3
Net Profit before adjustments         84.4         92.7         9           Net Margin         10%         11%         1 p           Exceptional adjustments**         -570.2           Net profit after adjustments         84.4         -477.5           EBITDA ***         302.9         343.0         13.0	Royalties	-13.0	-17.5	34.1
Net Margin         10%         11%         1 p           Exceptional adjustments**         -570.2           Net profit after adjustments         84.4         -477.5           EBITDA ****         302.9         343.0         13.0	Income Tax	-36.0	-54.6	51.5
Exceptional adjustments**       -570.2         Net profit after adjustments       84.4       -477.5         EBITDA ***       302.9       343.0       13.0	Net Profit before adjustments	84.4	92.7	9.8
Net profit after adjustments         84.4         -477.5           EBITDA ***         302.9         343.0         13.0	Net Margin	10%	11%	1 pp
EBITDA *** 302.9 343.0 13.	Exceptional adjustments**		-570.2	
	Net profit after adjustments	84.4	-477.5	
	EBITDA ***	302.9	343.0	13.2
25 TO A Wargin 37% 40% 3	EBITDA Margin	37%	40%	3 pp

* Includes the sales and cost of sales of the energy division. In 2016, other income include extraordinal	ry income of USD 14.0 MM associated with the partial repurchase
of the international bonds.	

<sup>\*\*\*</sup> Exceptionals for 2017 are equivalent to USD -363.5 MM in other income (expenses) y USD -206.7 MM in income tax, which total USD -570.2 MM. Does not consider exceptional adjustments.

Source: Volcan Cía. Minera

## LIQUIDITY AND SOLVENCY

### IN 2017 VOLCAN GENERATED USD 295 MILLION IN CASH FLOW FROM MINE OPERATIONS.

USD -187 million was disbursed for investments in mining operations, exploration, and growth, USD -37 million for interest, USD -29 million for dividends, and USD -53 million for other investments. Cash flow from the energy division was USD 5 million, while the net financing flow was USD -35 million. As a consequence, total cash flow in 2017 was USD -39 million and the cash balance as of December 31, 2017 was USD 102 million.

Note that the cash balance has been adjusted by USD 62 million due to reclassification of the value of the Company's Cementos Polpaico shares as financial investments.

Considering the increase in EBITDA, cash balance, and debt, the leverage ratio (net financial debt/EBITDA) at year end was 2 to 1, compared to 2.2 to 1 in 2016.

\*This corresponds to cumulative EBITDA for the last 12 months.



Dore bars - Oxidos de Pasco



# **11**

## **ENERGY**

# OF HYDROELECTRIC PLANTS AND ELECTRICITY TRANSMISSION SYSTEMS, PARTICIPATES IN THE RENEWABLE ENERGY MARKET TO SUPPLY ITS OWN OPERATIONS AS WELL AS THIRD PARTIES.

This enables Volcan to lower its cost structure, enjoy greater reliability of energy supply for its mining operations, and contribute to reducing greenhouse gas emissions.

The total installed capacity of hydroelectric plants owned by Volcan subsidiaries is 63 MW, including the 10 plants at Baños (22 MW) and the Tingo (1 MW), Huanchor (20 MW), and Rucuy (20 MW) plants. The Company's total energy consumption is 103 MW.

#### **ENERGY GENERATION**

ENERGY GENERATION IN 2017 WAS 353 GWH, AN INCREASE OF 9% OVER THE 323 GWH OF THE PREVIOUS YEAR.

This increase was mainly due to higher production at the Chungar hydroelectric plants, which together generated 162 GWh, 17.5% over the previous year. This was due to higher availability of water in basins where the plants are located.

Compañía Hidroeléctrica Tingo S.A.C., owner of the Tingo hydroelectric power plant, with 1.25 MW and 82 km of transmission lines in 50 and 22.9 kV, generated 9 GWh. Of that, 5.1 GWh were used for Chungar operations and 3.9 GWh were sold to third parties. The Company is currently seeking generation and environmental permits to expand the Tingo plant from 1.25 to 15 MW.

Likewise, Hidroeléctrica Huanchor S.A.C., owner of the Huanchor hydroelectric plant, produced 147 GWh in

2017, which represented a 5.5% increase over 2016. This was due to greater availability of water and shorter maintenance times. Huanchor is part of the Economic Operation Committee of the National Interconnected System (COES) and supplied electricity to 10 clients (four mining companies, a free user and five electricity distributors) through contracts in 2017.

Finally, Empresa de Generación Eléctrica Río Baños S.A.C., owner of Rucuy plant, produced 35 GWh in 2017. This lower-than-anticipated production resulted from damage to the penstock caused by heavy rains, overflowing rivers, and landslides, part of the coastal El Niño phenomenon in March 2017. Work is continuing to bring the hydroelectric plant online and it is expected to begin operating in the second half of 2018. Damages, which were classified as force majeure by Osinergmin, were promptly reported to the insurer to request recognition of the damages and lost profit.



Rucuy Hydroelectric Plant

#### **ENERGY CONSUMPTION**

IN 2017, THE COMPANY'S TOTAL ENERGY CONSUMPTION ROSE TO 707 GWH, WITH AVERAGE POWER DEMAND OF 103 MW, UP 11% COMPARED TO 2016.

This increase was primarily caused by greater demand from mining operations. Self-generation, which does not include energy produced and supplied to third parties (Huanchor, Rucuy and part of Tingo), represented 24% of total energy consumption, while the rest of the energy was supplied by Electroperú through the National Interconnected Electricity System (SEIN), via a supply contract that expired on December 31, 2017.

New electricity supply contracts signed with the company Engie went into effect in January 2018 and are set to expire in December 2023. These contracts guarantee the supply of electricity for the next 7 years at very competitive prices in the energy market.

In 2017, the unit cost of energy was 5.50 USD/MT. In absolute terms, this was equivalent to an annual energy cost of USD 46 million, or 12% of consolidated operating costs.

Finally, in 2017, 99.69% availability was recorded for the Yauli electricity system and 99.99% for the Chungar-

Alpamarca electricity system, excluding preventative maintenance work. This indicator reflects the degree of continuity of electricity supply to operations. The closer the figure is to 100%, the lower the number of power outages and the greater the availability.

#### > PRODUCTION AND ENERGY CONSUMPTION

ELECTRICITY BALANCE (GWH)	2016	2017	VAR%
<b>Energy Production</b>	323	353	9%
Chungar plant	138	162	17%
Tingo plant	9	9	-3%
Huanchor plant	139	147	6%
Rucuy plant	36	35	-5%
<b>Energy Consumption</b>	635	707	11%
Energy Purchased	488	541	11%





# 12

## SAFETY, HR, CORPORATE SOCIAL RESPONSIBILITY AND ENVIRONMENT

#### **SAFETY**

In 2017 Volcan focused on control of the following critical risks and management tools:

#### > SAFETY CONTROLS

CRITICAL RISKS	MANAGEMENT TOOLS
Falling rock	Risk assessment
Energy blocking	Operations discipline
Manual tools	Substandard conditions
Vehicles and mobile equipment	Training / Communication / Motivation
	Contractor Management

Although in 2017 the Company was able to reduce the number of disabling and minor accidents and property and high potential damage in comparison to previous years, there were four fatal accidents at its operations: three at Yauli and one at Chungar.

In total, there were 117 accidents that resulted in human injury, of which 25% affected own personnel and 75% affected contractor personnel. The highest number of incidents occurred at San Cristóbal (Yauli), Carahuacra (Yauli), and Animón (Chungar) mines.

## SAFETY MANAGEMENT SYSTEM TOOLS

Priority was given to review of the Base HIRARC for activities related to the most important critical risks, as well as current controls. For activities where a high risk was identified, the

Company prepared and updated controls and personnel were trained accordingly.

In addition, considerable work was carried out with contractor companies to align them with the Volcan management system. Toward that end, the process for standardizing all companies that provide services at the Company's installations was continued, and their management tools and controls were reviewed prior to the start of activities.

Planned and unplanned field inspections were also continued, in order to ensure implementation of standards that guarantee safe working conditions. These management inspections were carried out in all units on a weekly basis, as a way to demonstrate leadership and commitment to employee safety.

At the same time, specific training was implemented for different positions, based on the training matrix.

VOLCAN CONTINUED WITH THE SUPERVISORS TRAINING PROGRAM, WHICH REINFORCES THEIR SOFT SKILLS, AND STARTED WITH THE AMAUTA PROGRAM TO TRAIN SPECIALISTS IN THE FOUR HIGHEST-RISK ACTIVITIES: DRILLING, BLASTING, HAULING AND TRANSPORTATION, AND SUPPORT.

The Company also emphasized communication campaigns for employees, using high-impact audiovisual materials to raise awareness and provide instructions to prevent accidents. The main campaigns were: Your life is worth more, Volcan Alert, Miner Self-Respect, Lessons Learned, Controlling Critical Risks, Testimony from Injured Workers, Typical Safety Excuses, etc.

Finally, the Company continued to recognize personnel, both own personnel and contractors, for exemplary performance in complying with health, safety, and environmental standards and procedures at each of the units, as well as the best supervisor at each mine.

<sup>\*</sup> HIRARC: Hazard Identification, Risk Assessment and Risk Control

#### SAFETY, HR, CORPORATE SOCIAL RESPONSIBILITY AND ENVIRONMENT

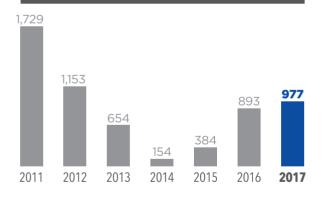
## 2. SAFETY INDICATORS

In 2017, our safety indicators increased in severity due to four fatal accidents that occured in Yauli and Chungar units.

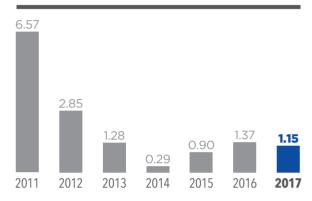
#### > FREQUENCY INDICATOR (INCAPACITING ACCIDENTS BY MILLION HOURS WORKED)



#### > SEVERITY INDICATOR (DAYS LOST PER MILLION HOURS WORKED)



#### > INCIDENCE INDICATOR (FREQUENCY INDICATOR MULTIPLIED BY SEVERITY INDICATOR)



After five years of hard work to consolidate the system, the challenge now is to ensure that operations areas take on a more important and active role in managing safety in their area, with a view toward total management of controls. This step is fundamental for achieving an interdependent safety culture and world-class results.



Animon Mine Workers - Chungar

## HUMAN RESOURCES MANAGEMENT

IN 2017, WORK PLANS AND IMPROVEMENT PROJECTS WERE DEVELOPED FOR THE DIFFERENT HUMAN-RESOURCE MANAGEMENT PROCESSES. VOLCAN LINKS TOGETHER SAFETY AND HUMAN DEVELOPMENT PROCESSES, INVOLVING NOT ONLY DIRECT PERSONNEL BUT ALSO SUPPLIERS AND CONTRACTORS.

The Company is committed to consolidating a well-prepared and committed human group, with solid personal and corporate values and a focus on excellent results in both safety and production.

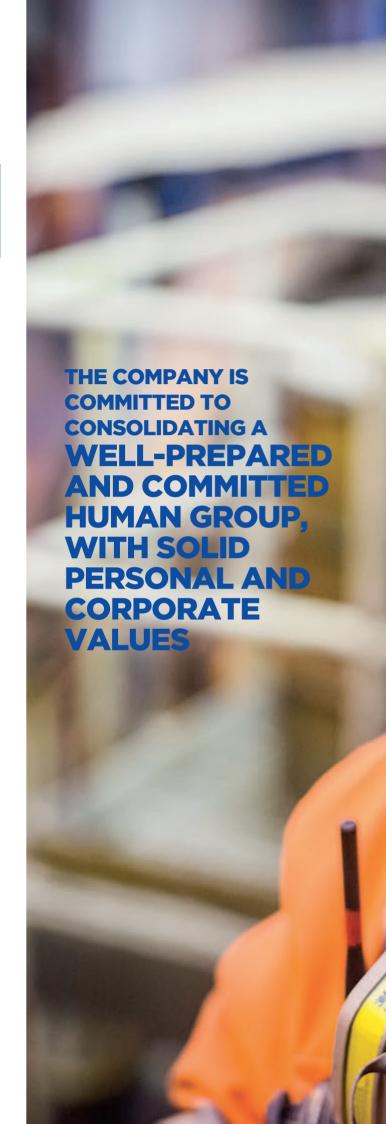
In 2017, efforts continued to optimize structures and standardize positions at all levels of the organization.

## 1. TRAINING

As is done every year, in early 2017 the annual training plan was developed. This plan is designed to meet the professional and personal development needs of employees, in alignment with the Company's strategic business objectives. Programs such as supervisor development, operator training, Amauta Minero, and critical risks have contributed to closing the gaps in appropriate behavior and improving staff skills. These programs had a significant impact on safety management at all mine units.

## 2. PERFORMANCE AND TALENT MANAGEMENT

As in previous years, the performance management process is part of the employee management cycle and is manifested through recognition of individual contributions in the period evaluated.





The Company implemented the Talent Management Portal, a tool to measure individual performance and goals, recognizing our employees with compensation plans or recognition program. This platform also provides up-dodate information about the organizational structure and work teams in each mining unit.

In 2017, the talent retention plan was continued, with salary planning and prioritizing training activities for outstanding personnel.

## **3.**COMPENSATION AND BENEFITS

The salary analysis was compared to the mining market to ensure external competitiveness and internal equity, followed by implementation of the necessary adjustments through salary planning.

## 4. PERSONNEL MANAGEMENT

In 2017, the Company raised efficiencies in controls through management indicators, achieving improvement in areas such as vacation management, absenteeism, overtime, personnel payments, and standardization of work schedules. The Company's procedures and internal policies were adapted to comply with new laws in an effort to minimize labor emergencies, generating discipline and a positive effect on services for employees.

## 5. INTERNAL COMMUNICATIONS

The communications plan was strengthened in 2017 to provide support to different areas of the Company and disseminate the objectives laid out in the mine units as well as Lima and Callao. These initiatives are intended to strengthen the corporate vision and business strategy, identity, and culture.

The Company continued its campaigns to inform employees about training, recognition, improvement initiatives, events, operational results, safety, etc., to ensure that all employees are aligned with the objectives and are up-to-date on their progress. Likewise, this plan supported the workplace climate committee to promote activities for employees.

In addition, events held have strengthened interpersonal relationships among employees and interaction with their families, incorporating them into diverse activities throughout the year.

## **6**PERSONNEL WELLBEING AND WORKPLACE CLIMATE

To promote work-life balance, workplace climate committees were formed in Lima and in the UEAs. The committees are multidisciplinary groups that analyze factors that have an impact on workplace climate and generate the respective action plans. This has led to the development of athletic tournaments, birthday celebrations, competitions, leadership workshops, marathons, holiday celebrations, better transportation for employees, improved dining hall services, nutritional consultations, physical and mental health counseling, and recognition of employee performance related to improved safety and productivity.

## 7. OCCUPATIONAL HEALTH AND SAFETY

Volcan developed actions to identify, assess, and control the risk of occupational illness among employees, mainly:

- Identification of groups who face similar types of exposure in all mine units to determine which agents may be causing occupational illnesses
- Design of control measures to minimize exposure to agents that may cause harm to people
- Monitoring of physical, chemical, biological, ergonomic, and psychosocial agents

#### SAFETY, HR, CORPORATE SOCIAL RESPONSIBILITY AND ENVIRONMENT

Furthermore, Volcan developed programs for compliance with occupational medical exams, achieving 100% participation of employees throughout the entire organization. Health campaigns were also organized in the units to rule out and prevent chronic illnesses, as well as opthalmological and odontological pathologies.

Volcan assigns health practitioners to mining units; these include qualified physicians, nurses, psychologists, paramedics and dentists, to ensure proper care of personnel in both outpatient care and emergencies. In addition, the Company offers health plans through EPS for employees, their dependents, parents, and children over the age of 18, as well as ESSALUD. Coverage is also provided for

employees through the Complementary Workplace Risk Insurance.

## 8. VOLCAN WORKFORCE

At year-end 2017, the Company had a total of 2,959 direct employees in Lima and its operating units. Of those, 2,011 are permanent employees (with contracts for an indefinite term) and 948 are temporary workers with fixed-term contracts. In addition, at year-end there were 8,367 employees from companies that provide specialized services to Volcan, for a total workforce of 11,326 employees.

#### > VOLCAN'S OWN PERSONNEL

	L	ABORER	S	Eľ	MPLOYEE	ES		STAFF			TOTAL	
N° OF PERSONNEL	2015	2016	2017	2015	2016	2017	2015	2016	2017	2015	2016	2017
Volcan Cía Minera S.A.A.	635	492	433	936	990	1,222	6	33	31	1,577	1,515	1,686
Emp. Admin. Cerro S.A.C.	159	156	167	66	52	62	1	-	-	226	208	229
Emp. Admin. Chungar S.A.C.	359	-	-	358	-	-	25	-	-	742	-	-
Cía. Minera Alpamarca S.A.C.	46	-	-	158	-	-	1	-	-	205	-	-
Cía. Minera Chungar S.A.C.	-	386	368	-	511	534	-	2	2	-	899	904
Oxidos de Pasco S.A.C.	36	37	39	64	75	78	-	1	1	100	113	118
Emp. Minera San Sebastián	-	-	-	1	-	-	-	-	-	1	-	-
Hidroeléctrica Huanchor S.A.C.	-	-	-	20	22	22	-	-	-	20	22	22
Total	1,235	1,071	1,007	1,603	1,650	1,918	33	36	34	2,871	2,757	2,959

#### **SOCIAL RESPONSIBILITY**

IN 2017, VOLCAN INVESTED USD 5 MILLION IN THE DEVELOPMENT OF 60 COMMUNITIES IN OUR AREA OF DIRECT INFLUENCE, MAINLY AS A CONSEQUENCE OF AGREEMENTS AND COMMITMENTS TO RURAL COMMUNITIES, SUSTAINABLE DEVELOPMENT PLANS, AND COMMUNITY RELATIONS PLANS CONTAINED IN ENVIRONMENTAL IMPACT STUDIES.

The investment is concentrated around five pillars: education, health, economic development, local employment development, and infrastructure. Also, to strengthen local economies Volcan does business with 17 community enterprises that invoice around USD 50 million each year. These enterprises are contracted to provide services such as civil works construction, mining operations, and load hauling, among others.

## CORPORATE

#### **Corporate Volunteer Program**

The first Volcan Corporate Volunteer Program was launched in 2017, through which the Company carries out CSR activities in our communities that involve all personnel. Employees from different areas of the Yauli and Chungar units, as well as from Lima, volunteer their time, becoming new change agents who, based on their professional experience, share their knowledge with children and youth in the communities near our operations. This has helped generate spaces for improvements in education, development of green spaces, and school infrastructure.

In 2017, six corporate volunteer activities were carried out: two in Lima, two at Yauli and two at Chungar.

#### **Newsletter**

The Company created an information channel for the community that is aimed at reinforcing basic values, providing safety and health advice, as well as articles on educational topics, emphasizing the importance of caring for

the environment, and informing the community about how the Company is complying with its commitments, among other information.

#### > EDITIONS OF THE INFORMATIVE MAGAZINE

UNIT	NUMBER OF EDITIONS
Yauli	6
Chungar	3
Baños	2
Cerro	2

#### **Corporate Recycling Program**

The "Recycle Me" recycling program was implemented through a partnership with Aldeas Infantiles SOS. The purpose of the program is to promote awareness about the need to recycle paper and preserve the environment, as well as to generate funds that will provide meals for children served by Aldeas Infantiles SOS.

#### **Cerro UEA**

The unit formed a strategic partnership with the Peruvian Superintendent of Banks (SBS) to implement the "Finances at School" program. The program is designed to improve the financial knowledge of teachers so that they can pass on that knowledge to their students. The ultimate objective is to enable the students to properly manage their finances and participate in the financial market, complying with the obligations they take on and ensuring that their consumer rights are respected. The first of these programs was carried out on May 19 and 20, 2017. In 2018, the Company plans to expand implementation to other units.

#### **Baños Hydroelectric Plants**

With support from Volcan, the rural community of Ravira was awarded PEN 280 million by the National Agricultural Innovation Institute (INIA), through its agricultural innovation program.



















## 2. EDUCATION

#### **Elementary and High School Education**

The company has strengthened its partnership with the "Enseña Perú" (Teach Peru) program, an association that helps professionals work together to transform education. In 2017, this partnership was present at the Yauli, Chungar, and Cerro de Pasco units, directly benefiting 612 students in primary and secondary schools, and indirectly benefiting another 1,550 students. This helped improve their performance in math, language comprehension, physics, English, science, and technology and the environment. This program has also been a key strategic partner in developing and implementing the first Volcan Corporate Volunteer program.

#### > ASSOCIATED COMMUNITIES INCLUDED IN THE PROGRAM

UNIT	DEPT.	COMMUNITY	NO. OF PROGRAMS
Cerro	Pasco	Rancas	2
Chungar	Pasco	Huayllay	4
		Huayhuay	2
Yauli	Junín	Yauli	2
fdull		Suitucancha	1
		Andaychagua	1
Total			12

#### > Yauli UEA

The following projects and competitions were implemented in Yauli thanks to the presence of "Enseña Perú":

- Huayhuay Community:
  - 1. Escuela Eco Amigable
  - 2. Círculo Pitágoras
  - 3. Strengthening of leadership capacity and skills among youth in the Huayhuay Community
- Suitucancha Community:
  - 1. Movistar Quiero Internet

#### > Baños Hydroelectric Plants

Twenty soft-skillstraining workshops for parents and children were held in the community of Santa Catalina to promote effective communication, teamwork, assertiveness, self-confidence, self-motivation, and creativity, among other things. These workshops were attended by 35 parents and 25 children.

#### **Higher Education**

#### > Yauli UEA

The National Service for Industrial-Technical Training (SENATI) full scholarship program was continued, with scholarships awarded to two young people from the rural community of Yauli to study heavy machinery mechanics and industrial electronics.

In 2017, one young woman from the rural community of Yauli graduated with a specialization in maintenance mechanics. At this time, four scholarship winners are studying three-year technical degrees.

Also, two SENATI scholarships were awarded in the community of Suitucancha. Two scholarship winners are currently studying three-year technical degrees.

#### > Cerro UEA

In the San Antonio de Rancas Community, 27 students at Universidad Nacional Daniel Alcides Carrión (UNDAC) were awarded scholarships. In addition, 13 students were given full SENATI scholarships.

Also, in the Quiulacocha community three students received scholarships to study at Universidad Nacional Daniel Alcides Carrión. One student earned a full SENATI scholarship.

#### > Chungar UEA

Full scholarships were awarded to two youths in the community of Huaychao. These scholarships cover technical studies at the Centro Tecnológico Minero (Mining Technology Center, CETEMIN).

#### > Baños Hydroelectric Plants

In San José de Baños, eight full scholarships were provided to adults and youth for technical studies at SENATI.

#### SAFETY, HR, CORPORATE SOCIAL RESPONSIBILITY AND ENVIRONMENT

#### **Training**

#### > Yauli UEA

- Pomacocha Community: Livestock Training Program: 30 participants
- Yauli Community: Training in operating sewing machines and sewing athletic clothing for adults - SENATI: 39 participants
- Community of San Francisco de Asís de Pucará: Talk on alcoholism and sexual education: 40 participants.
- Community of San Francisco de Asís de Pucará: Environmental Management Course - SENATI: 60 participants
- Suitucancha Community: Business Administration and Management Course SENATI: 16 participants.
- Community of San Antonio: Talk on alcoholism and sexual education: 120 participants
- Community of San Antonio: Business Administration and Management Course – SENATI: 100 participants

#### > Chungar UEA

- The SENATI course for heavy machinery operators was offered in the rural communities of Huayllay and Huaychao. Thirty-five students registered for the course.
- Two computer and IT courses were offered at SENATI, benefiting 42 students, who were trained to use software programs including PowerPoint and Excel, and information and communication technologies
- "Motivation and Self-Esteem" workshop for women in Huayllay, led by Sergio Cavero, a coach and employee of the Company. This workshop was attended by 50 women
- "Motivation and Self-Esteem" workshop for women in the Huayllay Community. This workshop was attended by 50 women

#### > Cerro UEA

- Training on the code of ethics and employee conduct and community relations was provided to our community contractor companies: Tingo Palca Community Enterprise, San Antonio de Rancas Enterprise, Racracancha Rural Community Enterprise, Quiulacocha Multiservice Enterprise and Yurajhuanca Multiservice Enterprise
- In coordination with UGEL Pasco, training was provided to teachers from educational establishments in Cerro de Pasco on skills for incentivizing reading among children, as well as development of their reading comprehension

- Support was provided for a SENATI textile training course (basic, intermediate and advanced levels) offered in Quiulacocha Community
- Training activities on participatory socio-environmental monitoring, aimed at communities and villages in the area of direct influence
- In coordination with local authorities and community-based organizations, sessions were provided to raise awareness about environmental protection and conservation, aimed at the population in the area of direct influence

#### **> Baños Hydroelectric Plants**

 A technical training program in basic computing, textile production, and electrical installation was offered through SENATI, with the participation of 120 beneficiaries from the communities of Ravira, Viscas, Pacaraos, Vichaycocha, Santa Cruz, and Santa Catalina



#### **Health Campaigns**

Volcan continued its partnership with NGO Prisma to have a real impact and improve community health standards.

The project uses indicators in more than 10 medical specializations to identify the most prevalent diseases such as respiratory, musculoskeletal and gastrointestinal diseases, and to monitor their evolution over time. In addition to development of health campaigns to treat these diseases, the Company implemented preventive care through advocacy meetings, raising the awareness of authorities, and experiential educational sessions on topics that cater to local needs, such as personal care and hygiene, nutrition, and lead prevention.

Because the government plays a fundamental role in the sustainability of the project, Volcan seeks to involve authorities in its implementation and management. In that sense, during the various health campaigns patients have been identified who require immediate attention by public health services, and the Company has helped facilitate their access to proper treatment.

#### > NUMBER OF PATIENTS SEEN/VISITS PER SPECIALIZATION AND SERVICE

UNIT	LOCATION	CAMPAIGN	SERVICES	SPECIALIZED SERVICES
	Pachachaca	1°	214	721
	Pomacocha	1°	94	430
Yauli	Suitucancha	1°	203	727
	Va.d:	1°	281	718
	Yauli	2°	334	876
	Outula aa ah a	1°	197	623
Cerro	Quiulacocha	2°	243	880
	Yurajhuanca	1°	136	300
	11	1°	241	834
Chungar	Huaychao	2°	203	888
	Huayllay	1°	665	1999
D ~	Ravira	1°	76	275
Baños	Viscas	1°	101	377

#### > YAULI UEA

UNIT	LOCATION	CAMPAIGN	NUMBER OF SESSIONS	NAME OF THE SESSION	NUMBER OF PARTICIPANTS		
			2	Talk on oral health prevention and tooth brushing technique	82		
	Do ma o oo olo o	1°	1	Anemia prevention	20		
	Pomacocha	1-	2	Educational session - demonstration on proper handwashing technique	55		
			1	Balanced food combinations	46		
			1	Demonstration session on food groups	30		
	Pachachaca	1°	1	Demonstration session on balanced combinations	64		
Yauli			2	Educational session - demonstration on proper handwashing technique	203		
Υa		1º	2	Demonstration session on balanced combinations	84		
	Suitucancha	I	2	Educational session - Demonstration on proper handwashing technique	250		
		1°	10	10	2	Educational session - Demonstration on proper handwashing technique	100
	Yauli		2	Educational session - Demonstration on proper handwashing technique	293		
			2	Educational session on nutrition - Balanced combinations	106		
	2°		2	Educational session on child development - distribution of The Flying Hippo story	293		

#### SAFETY, HR, CORPORATE SOCIAL RESPONSIBILITY AND ENVIRONMENT

#### > CERRO UEA

UNIT	LOCATION	CAMPAIGN	NUMBER OF SESSIONS	NAME OF THE SESSION	NUMBER OF PARTICIPANTS
			1	Educational session - Demonstration on proper handwashing technique	27
		1°	1	Anemia prevention - Micro-nutrients	25
	Quiulacocha		1	Safe water use, handwashing and oral health	74
		2°	2	Demonstration Session on balanced combinations	112
Cerro			1	Demonstration Sessions on Food Groups	30
<u> </u>		Z	2	Educational session - Demonstration on proper handwashing technique	71
			2	Distribution of chlorine - safe water (health stands)	77
			1	Educational session on nutrition	29
	Yurajhuanca	1°	1	Educational session - Demonstration on proper handwashing technique	48
	,		1	Educational session on the importance of child development	50

#### > CHUNGAR UEA

UNIT	LOCATION	CAMPAIGN	NUMBER OF SESSIONS	NAME OF THE SESSION	NUMBER OF PARTICIPANTS	
		10	3	Demonstration session on combining foods	118	
		1°	3	Educational session - Demonstration on proper handwashing technique	90	
	Huaychao	1°	3	Nutrition workshop - Foods	121	
	L.		2	Educational session - Demonstration on proper handwashing technique	132	
Chungar			1	Educational session - Importance of Child Development	132	
<u>.</u>			4	Educational session - Demonstration on proper handwashing technique	396	
	Huayllay 1°			4	Educational session - Importance of Child Development	396
		1°	1	Educational session on nutrition	29	
			1	Demonstration session on Food Groups	22	
			1	Educational session, Balanced Mixes and Combinations	31	

#### > BAÑOS HYDROELECTRIC PLANTS

UNIT	LOCATION	CAMPAIGN	NUMBER OF SESSIONS	NAME OF THE SESSION	NUMBER OF PARTICIPANTS
	Ravira	10	2	Healthy foods and food combinations	41
Baños	NdVIId	I	2	Educational session - Demonstration on proper handwashing technique	53
Baî	Viscos	10	2	Healthy foods and food combinations	53
Viscas		1-	2	Educational session - Demonstration on proper handwashing technique	35

#### **ECONOMIC DEVELOPMENT Farming Development**

Volcan has designed a strategy with NGO Prisma for the conservation and care of traditional enterprises and the development of their industry and innovative ideas.

Farming campaigns have been carried out to improve the productive chain in communities through technical assistance and monitoring progress, benefiting 689 people in our area of influence.

With support from Volcan, the rural community of Ravira in Paracaos District won the 2017 competition sponsored by the National Agrarian Innovation Program for agricultural extension services. As a result, the community will have access to PEN 196,000 to carry out the pasture improvement project with automatic irrigation. This will enable them to develop more sustainable dairy production in that area in the future.



Alpacas at Yanamachay Lagoon - Chungar

#### > VISITS PER LOCATION

UNIT	CAMPAIGN	MANAGEMENT/COMMUNITY	TOTAL HEADS DOSED
	1°	Cooperativa Yanamate	11,929
Carra	1°	Quiulacocha	13,613
Cerro	1°	Quiulacocha	13,613
_	1°	Yurajhuanca	4,180
Chungar	1°	Huayllay	27,887
Chungar -	1°	Huaychao	24,601
	1°	San Jose de Baños	1,988
	1°	Santa Cruz de Andamarca	2,101
	1°	San Miguel de Vichaycocha	6,365
Baños	1°	San Juan de Chauca	232
_	1°	Santa Catalina (incluye Chauca)	1,021
_	1°	Viscas	683
	1°	Ravira (Pacaraos)	1,134
	1°	Pomacocha	6,313
Yauli	1°	Yauli	6,858
-	1°	Suitucancha	24,003
Total			146,521

#### SAFETY. HR. CORPORATE SOCIAL RESPONSIBILITY AND ENVIRONMENT

This initiative underscores the benefits of obtaining access to public funding to improve the quality of life for rural residents.

#### **5**.

#### **LOCAL EMPLOYMENT DEVELOPMENT**

The Local Employment Program was implemented in Chungar in 2017 to fulfill our commitment to hire personnel from the community as the labor force for specialized contractor companies. The Corporate Social Responsibility Division has developed a simple selection procedure that facilitates compliance with the agreement between Compañía Minera Chungar and the communities of Huayllay and Huaychao. This procedure has been implemented since May 2017 and has facilitated and improved relations between the Company, contractor companies, and the communities.

## 6. INFRASTRUCTURE

#### Yauli UEA

Suitucancha Community

- Completion of the Tree Nursery, as part of the Zoraida I Agreement. The budget for this project was PEN 77,000.

#### Yauli Community

- The second stage of the Technical Institution Center is 98% complete, with a total of USD 97,000 invested in 2017 as part of the "24-hectare Rumichaca Tailings Dam Expansion" agreement signed in 2012.Base average of the work: PEN 579,000 to support education
- Completion of work on "Installation of a permanent substation and all necessary operating equipment to provide electric power to thermal baths", for a total amount of PEN 231,000, as part of the "52.5-hectare Victoria Tailings Dam Remediation" agreement.

#### Pomacocha Community

 Work on the second stage of an aspersion irrigation project and installation of 13 hectares of grass as part of the "10.9-hectare Rumichaca Tailings Dam Expansion" agreement signed in 2014, for a total amount of PEN 83,000 spent in 2017 (80% progress) on the work.

#### **Chungar UEA**

- Improvement of the athletic field in Canchacucho in the form of improvement of bleachers and a small restaurant.
   Approximate amount: PEN 100,000
- Construction and implementation of a retail space in Andacancha. Amount: PEN 350.000
- Construction of a restaurant at La Hacienda recreation center and construction of bungalows in the village of León Pata. Approximate amount: PEN 148,000
- Construction of a garden in La Cruzada to benefit an educational establishment. Approximate amount: PEN 18.000
- Improvement of main piping in La Cruzada. Approximate amount: PEN 6,000

#### **Cerro UEA**

- The Company contributed to improving electrical infrastructure conditions for San Andrés National Integrated School No. 31774.
- Painting assistance was also provided for the remodeling of the medical clinic. Quiulacocha.
- The Company assisted with implementation of school libraries in the area's schools: Paragsha, Rancas, the neighborhoods of Ayapoto, Barrio Buenos Aires, Champamarca, Yurajhuanca, Quiulacocha, and Barrio de Uliachín.
- Concrete blocks were purchased for construction of 144 cowsheds to benefit the Community of Rancas.Base average of the work: PEN 460,000 to support livestock

#### **Baños Hydroelectric Plants**

- Volcan has actively participated in watering the Tingo bridge highway segment to the community of San José de Baños from May to November as part of its commitment to the environment.
- Preparation of a technical dossier on rural electrification and redesign of primary and secondary lines for 13.2kV and demand of 30kW and purchase of a generator in the rural community of Santa Catalina.
- Construction of 1,000 meters of perimeter fencing to delimit the community of Santa Cruz de Andamarca
- Delivery of 500 meters of livestock fencing and 100 2-meter by 2-inch metal tube posts for the community of San José de Baños and 1,000 meters of livestock fencing for the community of Carhuacayán, to improve livestock production.





## PUBLIC WORKS AND TAX CREDIT PROGRAM

Since 2010, Volcan has committed PEN 126 million to financing 15 infrastructure and public service projects of high social impact. These projects in the areas of education, water and sanitation, solid waste management, and transportation, among others, benefit almost 500,000 people and include sustainability, innovation, and integral solution components.

In 2017, Volcan continued to actively promote the Public Works and Tax Credit Program. The Company was awarded the new Chancay food market project, in which it will invest PEN 22 million. The project will benefit close to 85,000 people who will be able to buy and sell essential products in a safe, clean, and organized setting.

In addition, assistance was provided to public entities and communities as part of the start of operations of two important projects in our direct area of influence: a) water and sanitation in the village of San Agustín de Huaychao (Huayllay - Pasco) and b) water and sanitation in Yauli, in the neighborhoods of Barrios de Aguas Calientes, Santa Rosa, Bolognesi, Centro Yauli, Las Brisas, Manuel Montero, and San Juan Bautista de Pachachaca (Yauli - Junín). Both projects were completed through the Public Works and Tax Credit Program in 2016. The total investment in the first project was PEN 8.1 million, jointly with Ferreyros and Unimaq, and the second one had a total investment of PEN 9.5 million, in partnership with Ferreyros and Chinalco.

Volcan is ranked third among mining companies in terms of the number of projects awarded and total investment amount committed in the Public Works and Tax Credit Program. In addition, it is a founding member of the Alliance for Public Works and Tax Credit (Alianza para Obras por Impuestos, ALOXI), which represents companies responsible for more than 80% of the projects executed as part of that program.

#### > COMPANIES RANKING (PUBLIC WORKS AND TAX CREDIT PROGRAM)

N°	COMPANY	TOTAL 2009-2017
1	Banco de Crédito del Perú-BCP	1,103.8
2	Southern Peru Copper Corporation	586.11
3	Compañía Minera Antamina S.A.	570.4
4	Telefónica del Perú S.A.A.	210.8
5	Banco Internacional del Perú S.A.A. – Interbank	179.1
6	Optical Technologies S.A.C.	167.5
7	Volcan Compañía Minera S.A.A.	125.9
8	Unión de Cervecerías Peruanas Backus y Johnston S.A.A BACKUS	97.0
9	Cementos Pacasmayo S.A.A.	66.8
10	Ferreyros S.A.	57.9



Project of the New Market of Supplies of Chancay

#### **ENVIRONMENT**

VOLCAN IS COMMITTED TO THE PROTECTION AND CARE OF THE ENVIRONMENT, ENSURING THAT ALL PROCESSES AND ACTIVITIES ARE CARRIED OUT IN SUCH A WAY AS TO PREVENT, REDUCE, MITIGATE AND CONTROL ANY ENVIRONMENTAL IMPACTS.

The focus of management in this area is preventive in nature, in order to strengthen and improve the company's environmental performance. In that sense, for 2017 the Company outlined strategies and goals aligned with the corporate vision for implementing world-class practices by 2021.

## ENVIRONMENTAL MANAGEMENT SYSTEM

As part of Volcan's environmental management strategy, in 2017 the Company implemented the Critical Environmental Risks program to focus efforts on prevention and control of such risks. In addition, the Company sought to standardize operational criteria based on "the best practices identified in the market."

Eight Critical Environmental Risks were implemented, with the greatest emphasis placed on management of:

- Liquid effluent exceeding established limits
- New projects
- Rupture of tailings dams
- Inadequate solid waste disposal

An audit was conducted in 2017 to measure the degree to which the Critical Environmental Risks were implemented, finding that implementation reached 52%.

## 2. ENVIRONMENTAL CERTIFICATIONS AND PERMITS

Volcan continues to carry out its mining operations with new projects, expansions, modifications, and technological improvements, and the corresponding permits have been managed in compliance with current laws.

Since 2016 the company has been conducting legal environmental audits to measure the degree of compliance with environmental and legal obligations required by the Peruvian government.

Volcan obtained the following environmental certifications in 2017:



Alpacas at Yanamachay Lagoon - Chungar

#### > ENVIRONMENTAL PERMITS AND AUTHORIZATIONS OBTAINED BY VOLCAN COMPAÑIA MINERA SAA AND SUBSIDIRIES

COMPANY	AUTHORIZATION	DESCRIPTION	STATUS
Volcan Compañía Minera SAA	R.D N° 083-2017-MEM-DGAAM	Supporting Technical Report (STR) about the Reconfiguration of old tailings dams and replacement of Mahr Túnel concentrator plant equipment.	Approved
	R.D N° 298-2017-MEM-DGAAM	Detailed Technical Report of the Ticlio Mining Unit	Approved
	No. 004-2017-MEM/DGAA	Mining Exploration "Chumpe"	Approved
	RD No 021-MEM-DGAAM	Mining Exploration "Ticlio"	Approved
Empresa Administradora Cerro SAC	RD_249_2017_SENACE_DCA	STR "Optimization of the Paragsha Plant for stockpiles processing"	Approved
	RD 009-2017-MEM-DGAAM	"Proyecto Chuco" Environmental Impact Statement	Approved
Empresa explotadora de Vinchos SAC	RD 037-2017-SENACE-JEF-DEAR	STR "Vinchos Exploration"	Approved
Compañía Minera Chungar SAC	RD No 288-2017-MEM-DGAAM	STR about the Modification of the Environmental Impact Statement "Romina 2"	Approved
	RD 236-2917-MEM/DGAAM	Second Modification of the Semidetailed Environmental Impact Assesment of the "Palma Project" Tunnel	Approved

## **3.**MINING ENVIRONMENTAL LEGISLATION

Volcan mining units complied with all requirements of the Ministry of Energy and Mines, OEFA, and the National Water Authority, including the following:

- 1. Annual Solid Waste Management Declaration
- 2. Environmental Monitoring Reports
- 3. Sustainability Report

- 4. Environmental Strategy Compliance Report.
- 5. Annual Report on Significant Decreases during the period.
- 6. Annual Report on Reagents and Operational Inputs.

Finally, environmental training was provided to personnel in all mining units in compliance with Article 153 of Supreme Decree No. 040-2014-MEM. One of the most important training topics was environmental obligations in the framework of approved environmental instruments.





# **13**

# CONSOLIDATED FINANCIAL RESULTS



There has been no resignation or dismissal of the chief accountant or auditor in the last two years.

## VOLCAN COMPAÑÍA MINERA S.A.A. AND SUBSIDIARIES

## CONSOLIDATED FINANCIAL RESULTS AS OF DECEMBER 31, 2017 AND 2016

#### Contents

- Independent auditors report
- Consolidated statement of financial position
- Consolidated statement of comprehensive income statement
- Statement of changes in consolidated net assets
- Consolidated cash flow statement



#### **VOLCAN COMPAÑÍA MINERA S.A.A. AND SUBSIDIARIES**

#### > CONSOLIDATED STATEMENT OF FINANCIAL POSITION AS OF DECEMBER 31, 2017 AND 2016

(In thousand US Dollars)

ASSETS	2017	2016
<b>CURRENT ASSETS</b>		
Cash and cash equivalents	101,829	140,945
Financial investments	51,806	62,406
Trade accounts receivable, net	61,852	69,121
Other accounts receivable	160,929	350,479
Other financial assets	46,770	43,248
Inventories, net	71,672	90,553
Total current assets	494,858	756,752
NON-CURRENT ASSETS		
Other accounts receivable	3,378	30,213
Other financial assets	-	21,159
Investments in associates	162	442

Bank overdrafts	4,005	30,256
Financial obligations	173,386	250,923
Trade accounts payable	209,962	211,244
Other accounts payable	92,043	111,161
Other financial liabilities	126,620	105,228
<b>Total current liabilities</b>	606,016	708,812
NON-CURRENT LIABILITIES		
NON-CORRENT LIABILITIES		
Long-term financial	628,987	562,504

2017

LIABILITIES AND EQUITY

**CURRENT LIABILITIES** 

<b>NON-CURRENT ASSETS</b>		
Other accounts receivable	3,378	30,213
Other financial assets	-	21,159
Investments in associates	162	442
Property, plant and equipment, net	938,557	1,021,428
Mining titles & concessions, and exploration, development & stripping costs	705,710	579,738
Deferred income tax assets	147,578	274,811
Total non-current assets	1,795,385	1,927,791

Total non-current liabilities	1,079,554	854,101
mining units		
Provision for the closure of	134,890	70,528
Provision for contingencies	38,835	34,449
Deferred income tax liability	276,842	162,050
Other financial liabilities	-	24,570
obligations		
Long-term financial	628,987	562,504

Total assets	2,290,243	2,684,543

NET EQUITY		
Issued capital	1,134,300	1,253,181
Shares in treasury	-61,222	-196,778
Other capital reserves	1,055	3,553
Capital reserve	-174,320	20,298
Revaluation surplus	46,554	-
Unrealized gain or loss	-20,511	-
Accumulated gain or loss	-321,183	41,376
Total net equity	604,673	1,121,630

Total liabilities and net	2,290,243	2,684,543
equity		

#### **CONSOLIDATED FINANCIAL RESULTS**

#### **VOLCAN COMPAÑÍA MINERA S.A.A. AND SUBSIDIARIES**

#### > CONSOLIDATED STATEMENT OF INCOME FOR THE YEARS ENDED DECEMBER 31, 2017 AND 2016

(In thousand US Dollars)

	2017	2016
Net Sales	856,734	821,548
Cost of Sales	-566,118	-581,224
Gross Profit	290,616	240,324
Operational (Expenses) Revenues:		
Administrative expenses	-45,718	-44,163
Selling expenses	-30,563	-34,068
Other revenues	136,065	47,914
Other expenses	-158,228	-92,499
Reversal of impairment of non-finantial assets	74,315	51,400
Impairment of non-finantial assets	-432,147	-
Operating Profit	-165,660	168,908
Financial Revenues (Expenses):		
Revenues	49,706	89,216
Expenses	-82,765	-124,674
Profit before income tax	-198,719	133,450
Income tax	-278,747	-49,044
Net Profit	-477,466	84,406
Weighted average of the number of issued and outstanding shares (in thousands)	3,858,230	3,858,520
Basic and diluted earnings per share	-0.124	0.022

#### **VOLCAN COMPAÑÍA MINERA S.A.A. AND SUBSIDIARIES**

#### > OTHER CONSOLIDATED COMPREHENSIVE INCOME FOR THE YEARS ENDED DECEMBER 31, 2017 AND 2016

(In thousand US Dollars)

	2017	2016
Net Profit	-477,466	84,406
Other comprehensive income		
Net variation in unrealized gain on derivative financial instruments	-29,094	35,505
Income tax	8,583	-9,942
Other comprehensive income, net of income tax	-20,511	25,563
Total comprehensive income	-497,977	109,969

#### **VOLCAN COMPAÑÍA MINERA S.A.A. AND SUBSIDIARIES**

#### > CONSOLIDATED STATEMENT OF CHANGES IN NET EQUITY FOR THE YEARS ENDED DECEMBER 31, 2017 AND 2016

(In thousand US Dollars)

	NUMBER (	OF SHARES	
	COMMON A SHARES	COMMON B SHARES	issued Capital Us\$(000)
Balance as of January 1, 2016	1,427,753,658	2,430,922,721	1,531,743
Net profit	-	-	-
Net variation of unrealized gain on			
derivative financial instruments	-	-	-
Use of accumulated losses	-	-	-278,562
Dividends distribution	-	-	-
Appropriation	-	-	-
Retained Earnings Empresa			
Administradora de Puertos S.A.C.	-	-	-
Purchase of shares of the Company			
by a subsidiary	-156,762	-	-
Increase of shares in the portfolio	-	-	-
Conversion effect	-	-	-
Balance as of December 31, 2016	1,427,596,896	2,430,922,721	1,253,181
Balance as of January 1, 2017	1,427,596,896	2,430,922,721	1,253,181
Net loss	-	-	-
Reclassifications	-289,669	-	-118,881
Appropriation	-	-	-
Revaluation of assets	-	-	-
Unrealized loss due to hedging financial			
instruments, net	-	-	-
Use of accumulated losses	-	-	-
Dividends distribution	-	-	-
Increase of shares in the portfolio	-	-	-
Retained earnings of new subsidiaries	-	-	-
Conversion effect	-	-	-
Balance as of December 31, 2017	1,427,307,227	2,430,922,721	1,134,300

#### **CONSOLIDATED FINANCIAL RESULTS**

SHARES IN TREASURY US\$(000)	OTHER CAPITAL RESERVES US\$(000)	Capital Reserve US\$(000)	REVALUATION SURPLUS US\$(000)	UNREALIZED GAIN OR LOSS US\$(000)	ACCUMULATED GAIN OR LOSS US\$(000)	TOTAL US\$(000)
-240,450	119,837	20,296		-25,563	-378,364	1,027,499
-	-	-	-	-	84,406	84,406
-	-	-	-	25,563	-	25,563
43,725	-116,516	-	-	-	351,353	-
-	-	-	-	-	-15,136	-15,136
-	232	-	-	-	-232	-
-	-	-	-	-	-4,418	-4,418
-	-	-	-	-	-	-
-53	-	2	-	-	-	-51
-	-	-	-	-	3,767	3,767
-196,778	3,553	20,298	-		41,376	1,121,630
-196,778	3,553	20,298	-		41,376	1,121,630
-	-		-	-	-477,466	-477,466
135,723	41,490	-194,337	-	-	136,005	-
-	11,845	-	-	-	-11,845	-
-	-	-	46,554	-	-	46,554
-	_	_	-	-20,511	-	-20,511
-	-55,833		-	-	55,833	-
-	- -	-	-	-	-30,454	-30,454
-167	-	-281	-	-	· -	-448
-	-	-	-	-	-15,261	-15,261
-	-	-	-	-	-19,371	-19,371
-61,222	1,055	-174,320	46,554	-20,511	-321,183	604,673

#### **VOLCAN COMPAÑÍA MINERA S.A.A. AND SUBSIDIARIES**

### CONSOLIDATED STATEMENT OF CASH FLOWS FOR THE YEARS ENDED DECEMBER 31, 2017 AND 2016

(In thousand US Dollars)

	2017	2016
OPERATING ACTIVITIES:		
Collection of sales	961,891	904,156
Balance refund in favor of benefit	49,054	47,656
Payments to suppliers and third parties	-466,354	-574,442
Payments to employees	-95,357	-79,838
Payments of income tax	-22,359	-9,548
Payments of royalties	-16,132	-9,110
Outflow of hedgings	-15,007	-44,55
NET CASH INCREASE FROM OPERATING ACTIVITIES	395,736	234,317
INVESTMENT ACTIVITIES:		
Received dividends	-	304
Purchase of investment property	-	-26,11
Acquisition of property, plant and equipment	-123,354	-43,743
Disbursements for exploration, development	-207,963	-69,883
NET CASH DECREASE FROM INVESTMENT ACTIVITIES	-331,317	-139,432
FINANCING ACTIVITIES:		
Sale of treasury shares	-	,
Payment of financial obligations	-37,644	-31,61
Payment of interests	-36,526	-37,090
Payment of dividends	-29,365	-15,13
NET CASH DECREASE FROM FINANCING ACTIVITIES	-103,535	-83,841
NET DECREASE OF CASH AND CASH EQUIVALENT	-39,116	11,044
CASH AND CASH EQUIVALENTS AT THE BEGINNING OF THE YEAR	140,945	129,90
CASH AND CASH EQUIVALENTS AT THE END OF THE YEAR	101,829	140,94

# **CONSOLIDATED FINANCIAL RESULTS**

# **VOLCAN COMPAÑÍA MINERA S.A.A. AND SUBSIDIARIES**

# CONSOLIDATED STATEMENT OF CASH FLOWS FOR THE YEARS ENDED DECEMBER 31, 2017 AND 2016

(In thousand US Dollars)

	2017	2016
RECONCILIATION OF NET PROFIT OR LOSS WITH CASH FROM OPERATING ACTIVITIES:		
Net (loss) profit	-477,466	84,406
Plus (less) adjustments in net (loss) profit:		
Depreciation and amortization	139,093	133,964
Allowance for impairment of fixed assets and intangibles	432,147	
Reversion of allowance for impairment of intangibles	-74,315	-51,399
Revenue from changes of allowances	-89,036	
Write-off of property, plant and equipment	12,168	1,714
Provision of contingencies	4,386	
Provision for closure of mining units	-1,106	
Other financial assets	17,637	
Adjustment of investments to third parties	280	
Impairment of financial investments	10,600	
Allowance for doubtful accounts	21,865	
Impairment of inventories	14,371	
Deferred income tax	222,545	242,025
Adjustments to equity accounts	-55,591	
Net changes in assets and liabilities:		
(Increase) decrease of operating assets		
Accounts receivable, net	201,789	-11,160
Inventories	4,510	16,415
Increase (decrease) of operating liabilities		
Trade accounts payable	-1,281	45,950
Other accounts payable	16,319	-227,598
Other financial liabilities	-3,179	
NET CASH FROM OPERATING ACTIVITIES	395,736	234,317



# **14**

# LEGAL AFFAIRS



# VOLCAN COMPAÑÍA MINERA S.A.A. Labor Cases

The Company is facing labor lawsuits, qualified as a probable contingency, totaling USD 6.49 million, as compensation for work-related illness, reinstatement of benefits, payment of profits, reinstatement of workers, and other items

There are also two legal processes (labor actions and 1998 production bonuses) for which an amount claimed has not been determined. This amount may be determined on the date of sentencing, in the unlikely event that the ruling is unfavorable to the Company.

# **Tax Cases**

The Company has several administrative cases pending with the National Superintendent of Tax Administration (SUNAT) and the Tax Court for rulings related to determination of taxes, fines, and interest totaling approximately PEN 1.210 billion.

Rulings on taxes, fines and interest correspond mainly to differences in criteria regarding determination of the taxable bases for payment of the third-category income tax and general sales tax (VAT) for the 1998-2010 period, and in the opinion of SUNAT, failure to pay taxes and withhold taxes from third parties.

The main issue in dispute is SUNAT's qualification of concentrate export operations as domestic sales subject to general sales tax. Other mining companies are being assessed for similar charges. To date, there have been diverse rulings in administrative and legal courts that have established that the operations in question are exports and not subject to sales tax under the law.

To date, these cases are being challenged administratively in complaints filed with SUNAT and appeals before the Tax Court, as well as in the courts of law.

In addition, as of December 31, 2017, the Company had two administrative tax cases pending before municipalities. The first is with the Pasco Provincial Municipality regarding a property tax ruling for USD 185,000. The case is in the

appeals process. However, to date and despite an order from the Tax Court, the Municipality has not yet presented the file. The other process is with the Municipality of Yauli, for an estimate referring to the 2013-2015 Property Tax, amounting to approximately USD 20,000, which is currently under appeal.

The company estimates that these processes represent a probable contingency totaling USD 640,000.

# Administrative sanction procedures and administrative litigation actions

The Company has several environmental, occupational health and safety, and labor safety cases pending before the following regulatory entities: National Water Authority – Local Water Authorities, Ministry of Labor and Employment Promotion (National Superintendent of Labor Enforcement), Ministry of Energy and Mines, Ministry of Production, Supervisory Agency of Investment in Energy and Mining (OSINERGMIN), and the Environmental Evaluation and Enforcement Organism (OEFA) for alleged violations of various environmental regulations and the Occupational Health and Safety Regulation, with a probable contingency amount of USD 4.7 million.

Company management and its legal counsel, based on reasons in fact and law, are of the opinion that final resolution of these cases will not result in significant additional liabilities for Volcan.

# **Contribution by Regulation**

To date, the Company is awaiting final resolution of the constitutional protection processes initiated against the government arising from the obligation to pay the Supervisory Agency of Investment in Energy and Mining (OSINERGMIN) and the Environmental Evaluation and Enforcement Organism (OEFA) for regulation of the Company's mining activities. As of December 31, 2017, the amount imposed by the government was USD 9.2 million.

# **Provision for Contingencies**

Company management, based on the opinion of external legal counsel, has undertaken a review of all cases related to tax, labor, civil, and administrative matters, among others, and has established a provision for probable contingencies

## **LEGAL AFFAIRS**

of USD 21.03 million. Company management and its legal counsel are of the opinion that this provision covers probable contingencies and additional provisions are not necessary.

# 2 COMPAÑÍA MINERA CHUNGAR S.A.C. Labor Cases

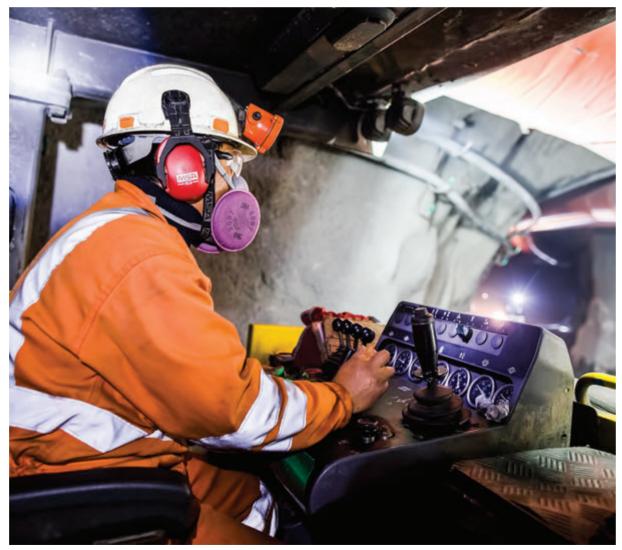
Chungar is facing labor lawsuits, qualified as probable, totaling USD 480,000 for compensation for damages, work-related illness, reimbursement of benefits, and other

items. These lawsuits are in the appeals and/or sentencing process.

# **Tax Cases**

Chungar has several administrative cases pending with SUNAT and the Tax Court for rulings related to determination of taxes, fines, and interest totaling approximately USD 231 million.

The rulings on taxes, fines and interest correspond mainly to differences in criteria for determination of the taxable bases for payment of the third-category income tax and



San Cristobal Mine - Yauli

general sales tax (VAT) for the 2001-2005 and 2012-2014 periods, and in the opinion of SUNAT, failure to pay taxes and withhold taxes from third parties. To date, these cases are being challenged administratively in complaints filed with SUNAT and appeals before the Tax Court, as well as in the courts of law.

Also, as of December 31, 2017, the subsidiary has an administrative tax case pending with the Huayllay District Municipality regarding property taxes for the period 2006 to 2012, in the amount of USD 145,000. The case is currently in the appeals stage.

In addition, as of the same date there is an administrative procedure pending with the aforementioned District Municipality in regard to several fines totaling USD 174,000, also in the appeals stage.

The company estimates that these processes represent a probable contingency totaling USD 430,000.

# Administrative sanction procedures and administrative litigation actions

Chungar has several environmental, occupational health and safety, and labor safety cases pending before the following regulatory entities: National Water Authority – Local Water Authorities, Ministry of Labor and Employment Promotion (National Superintendent of Labor Enforcement), Ministry of Energy and Mines, Ministry of Production, OSINERGMIN, and OEFA, for alleged violations of various environmental standards and Occupational Health and Safety Regulations. These cases are qualified as probable with a total contingency of USD 3.28 million.

# **Contribution by Regulation**

To date, the Company is awaiting final resolution of the constitutional protection processes initiated against the government arising from the obligation to pay the Supervisory Agency of Investment in Energy and Mining (OSINERGMIN) and the Environmental Evaluation and Enforcement Organism (OEFA) for regulation of the subsidiary's mining activities. As of December 31, 2017, the amount imposed by the government was USD 6.26 million.

# **Provision for Contingencies**

Company management, based on the opinion of external legal counsel, has undertaken a review of all cases related to tax, labor, civil, and administrative matters, among others, and has established a provision for probable contingencies of USD 10.45 million. Company management and its legal counsel are of the opinion that this provision covers probable contingencies and additional provisions are not necessary.

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

The subsidiary is facing labor lawsuits, qualified as probable and totaling USD 3.29 million, for compensation for damages for work-related illness, reinstatement of benefits, reinstatement of profits, payment of production bonuses, and other matters in the appeals and/or sentencing process.

# Tax Cases

**Labor Cases** 

As of December 31, 2017, the subsidiary had three appeals pending with the National Superintendent of Tax Administration (SUNAT) for rulings related to determination of taxes, fines and interest totaling USD 8.5 million.

The rulings on taxes, fines and interest are due, in the opinion of SUNAT, to failure to pay taxes, and also because of differences in criteria for determination of the taxable bases for payment of the third-category income tax for 2012 and 2014, as well as a tax refund for 2014. To date, the cases are being challenged administratively in complaints filed with SUNAT and appeals before the Tax Court.

Meanwhile, as of December 31, 2017, the subsidiary has five pending administrative cases with district municipalities for diverse payment orders and tax determinations, with respect to property tax for 2012 and 2013 totaling USD 125,000. These rulings have been appealed.

In addition, there are two administrative cases pending with the Yanacancha District Municipality for various payment orders, based on the determination of a supposed

## **LEGAL AFFAIRS**

non-payment of rights to obtain demolition permits, in the amount of USD 212,000. These are currently in the claims stage.

Finally, as of the same date, there is a pending request filed with the Pasco Provincial Municipality for reimbursement of improper payment of USD 115,000 in property taxes for 2011. The case is currently in the appeals process.

The company estimates that these processes represent a probable contingency totaling USD 1.15 million.

# Administrative sanction procedures and administrative litigation actions

The subsidiary has several environmental, occupational health and safety, and labor safety cases pending before the following regulatory entities: National Water Authority – Local Water Authorities, Ministry of Labor and Employment Promotion (National Superintendent of Labor Enforcement), Ministry of Energy and Mines, Ministry of Production, OSINERGMIN, and OEFA, for alleged violations of various environmental standards and Occupational Health and Safety Regulations totaling USD 70,000.

# **Contribution by Regulation**

To date, the Company is awaiting final resolution of the constitutional protection processes initiated against the government arising from the obligation to pay the Supervisory Agency of Investment in Energy and Mining (OSINERGMIN) and the Environmental Evaluation and Enforcement Organism (OEFA) for regulation of the subsidiary's mining activities. As of December 31, 2017, the amount imposed by the government totaled USD 1.12 million.

# **Provision for Contingencies**

Company management, based on the opinion of external legal counsel, has undertaken a review of all cases related to tax, labor, civil, and administrative matters, among others, and has established a provision for probable contingencies of USD 5.63 million. Company management and its legal counsel are of the opinion that this provision covers probable contingencies and additional provisions are not necessary.

# 4.

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

### **Labor Cases**

The Company faces contingent labor lawsuits in the appeals and/or sentencing stage totaling USD 70,000 for compensation for damages and harm due to fatal accidents, nullification of dismissals, and other matters.

### **Tax Cases**

As of December 31, 2017, the subsidiary had two appeals pending with the National Superintendent of Tax Administration (SUNAT) for debts allegedly totaling USD 11 million.

The rulings on taxes, fines, and interest are due, in the opinion of SUNAT, to failure to pay taxes, and also because of differences in criteria for determination of the taxable bases for payment of the third-category income tax for 2013 and 2014.

No claims have been filed that would necessitate a provision.

# Administrative sanction procedures and administrative litigation actions

The subsidiary is involved in several environmental and occupational health and safety procedures pending before the following regulatory entities: National Water Authority – Local Water Authorities, Ministry of Labor and Employment Promotion - National Superintendent of Labor Enforcement, Ministry of Energy and Mines, Ministry of Production, OSINERGMIN, and OEFA, for alleged violations of various environmental standards and Occupational Health and Safety Regulations totaling USD 230,000.

# **Contribution by Regulation**

To date, the Company is awaiting final resolution of the constitutional protection processes initiated against the government arising from the obligation to pay the Supervisory Agency of Investment in Energy and Mining (OSINERGMIN) and the Environmental Evaluation and Enforcement Organism (OEFA) for regulation of the

subsidiary's mining activities. As of December 31, 2017, the amount imposed by the government was USD 70,000.

# **Provision for Contingencies**

Company management, based on the opinion of external legal counsel, has undertaken a review of all cases related to tax, labor, civil, and administrative matters, among others, and has established a provision for probable contingencies of USD 370,000. Company management and its legal counsel are of the opinion that this provision covers probable contingencies and additional provisions are not necessary.

# 5. HIDROELÉCTRICA HUANCHOR S.A.C. Cases Before Municipal Authorities

As of December 31, 2017, the subsidiary had an administrative tax case pending with the San Mateo District Municipality regarding municipal taxes for 2014 and 2015, in the amount of USD 22,000. The case is currently in the appeals stage.

In addition, as of the same date the subsidiary had an administrative procedure pending with the aforementioned

District Municipality against the resolution to charge real estate transfer tax totaling USD 95,000. This is also in the appeals stage.

# **Provision for Contingencies**

Company management, based on the opinion of external legal counsel, has undertaken a review of all cases, and has established that no provision for probable contingencies is needed.

# **6**ÓXIDOS DE PASCO S.A.C. Other processes

To date, the Company is awaiting final resolution of the constitutional protection process initiated against the government arising from the obligation to pay the Supervisory Agency of Investment in Energy and Mining (OSINERGMIN) and the Environmental Evaluation and Enforcement Organism (OEFA) for regulation of the subsidiary's mining activities. As of December 31, 2017, the sum the government claims it is owed totals USD 720,000, for which the company has created a provision as a probable contingency.





# **15**

# STOCK INFORMATION



Shares of Volcan Compañia Minera S.A.A. are traded on the Lima Stock Exchange, the Santiago Stock Exchange, and the Latibex in Madrid.

# > VOLCAN COMPAÑIA MINERA S.A.A. STOCK SYMBOLS

STOCK	LIMA STOCK STOCK EXCHANGE		Madrid Stock Exchange (Latibex)	
Volcan Class A Common	VOLCAAC1	VCMAC1	(22 ,)	
Volcan Class B Common	VOLCABC1	VCMBC1	XVOLB.MC	

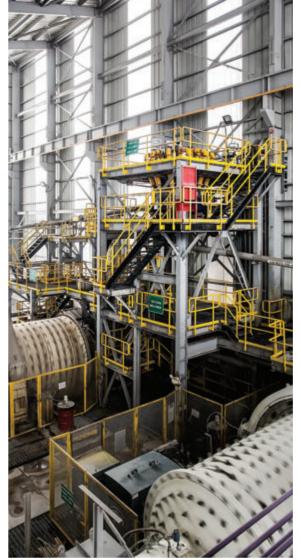
Subscribed, paid, and registered capital as of December 31, 2017 totals PEN 3,546,617,792, represented by 1,633,414,553 class A common shares and 2,443,157,622 class B common shares, each with a nominal value of PEN 0.87. The subsidiary Empresa Minera Paragsha S.A.C. holds 182,664,981 class A common 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.

# **Stock Ownership Composition**

As of December 31, 2017, the share composition is as follows:

# > CLASS A COMMON SHARES

PERCENTAGE HELD	NUMBER OF SHAREHOLDERS	% SHARE
Less than 1%	453	1.42
From 1% to 5%	4	9.05
From 5% to 10%	3	26.10
More than 10%	3	63.43
Total	463	100.00



Alpamarca Plant - Alpamarcat

### > Class B Common Shares

PERCENTAGE HELD	NUMBER OF SHAREHOLDERS	% SHARE
Less than 1%	7,969	37.88
From 1% to 5%	12	24.40
From 5% to 10%	4	27.09
More than 10%	1	10.63
Total	7,986	100.00

Of total company equity, 61.36%, or 2,501,289,379 shares, are held by domestic shareholders while 38.64% is held by foreign shareholders with 1,575,282,796 shares.

Shareholders holding more than 4.0% of the company's stock are as follows:

### **STOCK INFORMATION**

# > CLASS A COMMON SHARES

PRINCIPAL SHAREHOLDERS	%	PERSON	NATIONALITY	CORPORATE GROUP
Glencore International AG (*)	41.91	Legal entity	Swiss	Glencore
Empresa Minera Paragsha S.A.C.	11.18	Legal entity	Peruvian	Volcan
De Romaña Letts José Ignacio	10.33	Individual	Peruvian	Does not apply
Letts Colmenares de De Romaña Irene Florencia	9.90	Individual	Peruvian	Does not apply
Blue Streak International N.V.	8.38	Legal entity	Netherlands Antilles	Does not apply
Sandown Resources S.A.	7.81	Legal entity	Panamanian	Glencore

<sup>(\*)</sup> The Glencore group, including all of its subsidiaries, owns a 55.03% share.

# > CLASS B COMMON SHARES

SHAREHOLDER	% OWNERSHIP INTEREST	PFRSON	NATIONALITY	CORPORATE GROUP
		. 2110 011		
AFP Integra - Fondo 2	10.63	Legal entity	Peruvian	Does not apply
AFP Integra - Fondo 3	7.29	Legal entity	Peruvian	Does not apply
Prima AFP - Fondo 3	7.23	Legal entity	Peruvian	Does not apply
Prima AFP - Fondo 2	6.58	Legal entity	Peruvian	Does not apply

# **Dividends**

Total dividends paid in cash for 2014 profits:

- February 2017 PEN 0. 0.01169540 for each class A common share.
- February 2017 PEN 0.01228017 for each class B common share.

Total dividends paid in cash for 2016 profits:

- October 2017 PEN 0.0130 for each class A common share.
- October 2017 PEN 0.013650 for each class B common share.

# Stock Prices on the Lima Stock Exchange

In 2017, the market prices of class A and class B common shares, expressed in Nuevos Soles, were as follows:



Oxidos de Pasco Worker

# > CLASS A COMMON SHARES

Month	Opening PEN	Closing PEN	Maximum PEN	Minimum PEN	Price Average PEN
January	1.410	1.500	1.510	1.360	1.477
February	1.500	2.050	2.100	1.500	1.841
March	2.050	2.320	2.320	2.020	2.124
April	2.350	2.800	2.800	2.350	2.596
May	2.700	2.000	2.700	2.000	2.402
June	2.150	2.000	2.150	2.000	2.063
July	2.000	1.950	2.000	1.950	1.984
August	1.900	1.900	1.900	1.700	1.819
September	1.970	2.700	2.720	1.970	2.363
October	2.780	3.800	3.970	2.780	3.710
November	3.750	3.700	3.750	3.700	3.940
December	4.000	4.000	4.000	4.000	4.000

Source: Lima Stock Exchange

# > CLASS B COMMON SHARES

Month	Opening PEN	Closing PEN	Maximum PEN	Minimum PEN	Price Average PEN
January	0.720	0.820	0.850	0.710	0.786
February	0.810	0.840	0.940	0.810	0.863
March	0.850	0.880	0.950	0.770	0.885
April	0.880	0.860	0.920	0.840	0.870
May	0.870	0.840	0.870	0.810	0.845
June	0.840	0.830	0.850	0.750	0.801
July	0.820	0.850	0.890	0.800	0.866
August	0.850	0.930	0.930	0.830	0.877
September	0.920	1.170	1.190	0.920	1.006
October	1.180	1.600	1.690	1.180	1.492
November	1.590	1.390	1.610	1.230	1.414
December	1.400	1.320	1.400	1.120	1.272

Source: Lima Stock Exchange

# **STOCK INFORMATION**

# > LATIBEX PRICES 2017

Month	Euro exchange rate	Opening PEN	Closing PEN	Maximum PEN	Minimum PEN	Average price PEN
January	3.673	0.70	0.77	0.87	0.72	0.81
February	3.621	0.76	0.91	1.00	0.74	0.89
March	3.585	0.90	0.83	0.93	0.76	0.87
April	3.692	0.92	0.89	1.00	0.86	0.91
May	3.774	0.94	0.84	0.94	0.83	0.86
June	3.726	0.87	0.85	0.86	0.72	0.80
July	3.884	0.89	0.94	0.95	0.85	0.85
August	3.913	0.92	0.90	0.96	0.79	0.88
September	4.062	0.90	1.04	1.04	0.93	1.01
October	3.895	0.99	1.55	1.64	1.02	1.26
November	3.899	1.56	1.01	1.46	0.94	1.06
December	3.945	1.07	1.22	1.34	0.99	1.09

Sources: Madrid Stock Exchange, Peruvian Superintendent of Banks, Insurance and Private Pension Funds

# **Corporate Bonds**

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



Oxidos de Pasco Workers



# **16**

# CORPORATE INFORMATION

# PROFESSIONAL BACKGROUND OF SENIOR MANAGEMENT:

# > Juan Ignacio Rosado Gómez de la Torre

Chief executive officer since April 2014. He served as deputy chief executive officer from June 2010 until being appointed chief executive officer. He previously served as vice chairman and finance director at Hochschild Mining Plc. He was a senior project manager at McKinsey & Company from August 2000 to January 2005. He served on the Board of Lake Shore Gold Corp. from March 2008 to June 2010 and the Board of Zincore Metals in 2010 (both companies are listed on the Toronto Stock Exchange).

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

# > Juan Carlos Ortiz Zevallos

Chief operations manager since October 2017. He was previously corporate operations manager for Compañía Minera Milpo, from 2014 to 2017. From 2005 to 2014, he held various positions at Grupo Trafigura in Peru, including operations manager at Condestable mine, general manager of Catalina Huanca Sociedad Minera SAC, project manager, and technical manager supporting the mining business unit. During that period, he served on the boards of directors of Andean American, Corporación Minera Castrovirreyna, and Salazar Resources. From 2002 to 2004 he worked at Compañía Minera Atacocha and from 1992 to 2002 he was with Compañía Minera San Ignacio de Morococha (SIMSA).

## > Jorge Leoncio Murillo Núñez

Chief financial officer since December 2013. He served as financial planning and management control manager from January 2011 until December 2013.

His previous positions included financial consultant for KPMG Consulting, financial controller for Peru and Colombia at Bearing Point, deputy corporate financial planning director at Grupo Gloria and budget manager at Hochschild Mining Plc.

Mr. Murillo has an industrial engineering degree from Pontificia Universidad Catolica de Peru, a certificate in finance from the same university, and an MBA from Universidad FSAN.

# › José Edmundo Montoya Stahl

Chief business development officer since June 2010. He previously worked at major corporations such as Votorantim Metais, Exsa S.A., and Minera Yanacocha S.R.L., occupying positions in production and planning for underground and open pit mines.

Mr. Montoya has a mining engineering degree from Pontificia Universidad Catolica del Peru and a master's degree in mining economics from Colorado School of Mines. He participated in executive development programs at Universidad de Piura and Fundación Don Cabral (Brazil).

# > Alberto Víctor Manuel Gazzo Baca

Human resources manager since December 2012. Prior to that he was human resources manager for Latin America at American Cyanamid Company, human resources director for Latin America at NCH, and general manager of human and organizational development at Votorantim Metais in Brazil and Peru.

Mr. Gazzo has a doctorate in human sciences from Pontificia Universidad Catolica de Rio de Janeiro in Brazil. He holds a degree in law, philosophy, and theology. He has also earned master's degrees in business management, quality management, and human resources management in Río de Janeiro.

### > Roberto Juan Servat Pereira de Sousa

Corporate social responsibility and labor relations manager since December 2010. He began working with Volcan in January 2007 as legal advisor to the chairman of the Board of Directors. He previously served as deputy minister of labor, deputy minister of social promotion, an advisor to the minister's office, general director of legal advising, and member of the Advisory Commission of Peru's Ministry of Labor and Employment Promotion, a judge

# **CORPORATE INFORMATION**

in the Bankruptcy Division in Matters of Fair Competition and Intellectual Property of INDECOPI, and member of the Board of the Superintendency 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 is a professor at Universidad de Lima.

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

# > Juan Alberto Begazo Vizcarra

Audit manager since July 2010. He joined Volcan in December 2008 as administration and control manager. He previously served as CFO at Gold Fields, general controller at Doe Run, and accounting manager at Centromin.

Mr. Begazo is a certified public accountant and member of the Committee of Experts in Mining Accounting, and he teaches in the mining management certificate program at Universidad de Lima.

## › Alfonso Rebaza González

Legal counsel since September 2010. He has experience in corporate and mining law, arbitration and contracts. He was previously a partner with Estudio Osterling and professor of civil law at Pontificia Universidad Catolica del Peru.

Mr. Rebaza earned a law degree from Pontificia Universidad Catolica del Peru.

# > Mario Eduardo De las Casas Vizquerra

Logistics manager at Volcan since February 2010. From 2007 to 2010 he served as deputy manager of contracts, logistics and supplies for the Project Division of Votorantim Metais, Cajamarquilla Refinery, and from 1998 to 2007 he was logistics manager for Volcan. He worked in the logistics division of Buenaventura S.A. and Minera Yanacocha S.A. from 1990 to 1998.

Mr. De las Casas has a degree in business administration from Universidad Ricardo Palma, completed the PADE program in logistics at Universidad ESAN, and has an MBA from Universidad de Piura.

# Alvaro Luis Cabrera Ramírez

Energy manager. He joined Volcan in March 2012. During his career, he has served as energy operations manager and he has been the manager of his division at Sociedad Minera Corona since 2004.

Mr. Cabrera has a degree in electronic engineering from Universidad Peruana de Ciencias Aplicadas (UPC), a master's degree in business administration from EADA (Barcelona) and a postgraduate qualification in energy, electricity and gas law (UPC).

# **Juan Luis Arenas Gómez Sánchez**

He joined the company in September 2016 as industrial plant manager. He is a petrochemical engineer with a degree from Universidad Nacional de Ingeniería and holds an MBA from ESAN. He also has completed postgraduate studies in project management at Pontificia Universidad Católica.

He has worked in companies such as Petroperú, Cervecería Backus y Johnston and Corporación José R. Lindley. From 2000 to 2016, he worked in San Miguel Industrias Pet S.A. in the plastics sector as corporate production manager.

# > José Luis Alcalá Valencia

Occupational health and safety manager since July 2017. Before that, he was with Compañía Minera Milpo S.A.A. From 2008 to 2010 he served as mine superintendent in the Atacocha production unit, later serving as safety manager until 2011 and operations manager until 2012. From 2013 to 2014 he was manager of the Atacocha and El Porvenir units, and from 2015 to 2016 he was general manager of the Cerro Lindo mine unit. In 2016 he served as operations director for Minsur S.A.'s subsidiary in Brazil, Compañía Minera Taboca S.A.

Mr. Alcalá holds a mining engineering degree from Universidad Daniel Alcides Carrión, a certificate in new

mining management from Gerens, and master's degrees in management and mining health, safety, and environment from the Cámara Minera del Perú.

# › Edgardo Zamora Pérez

Operations manager of the Yauli UEA since September 2012. He joined Volcan in May 2000. In 2007 he became general superintendent of Empresa Administradora Chungar S.A.C. and from 2010 to 2012 he served as operations manager.

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

Operations manager at Andaychagua since February 2014. He served in Volcan as production superintendent at the Yauli UEA 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 vice chairman 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.

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

# > Francisco Grimaldo Zapata

Operations manager of San Cristóbal (Yauli) since October 2016. From January 2006 to January 2016, he served as CEO of the Yauliyacu unit and operations and project manager of the Iscaycruz unit of Empresa Minera Los Quenuales – Grupo Glencore. He also served as general superintendent at Volcan's Cerro de Pasco from September

1999 to January 2005 and previously worked for Centromin Perú.

Mr. Grimaldo earned a mining engineering degree from Universidad Nacional de Ingeniería and an MBA from ESAN.

# › Adrián Felipe Corihuamán Mayta

Operations manager at Carahuacra (Yauli) since 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 Hochsschild Mining Plc, from January 2003 to May 2016.

Mr. Corihuamán has a mining engineering degree from Universidad Nacional de Tacna and studied business administration at CFPADE.

# > Reynol Renzo Fuentes Fernández

Operations manager at Ticlia (Yauli) since September 2017. He previously worked at Compañía Minera Milpo S.A., in the Porvenir-UM Atacocha unit, as planning and development manager at Pasco.

Mr. Fuentes has a degree in mining engineering from Universidad Nacional Jorge Basadre Grohmann in Tacna, an international master's degree in leadership from EADA Business School and a master's degree in strategic management from CENTRUM Católica.

# > James Atalaya Chacón

Operations manager of the Chungar UEA since January 2016. Mr. Atalaya joined the Company in February 2015 as planning superintendent at the Chungar UEA.

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

Mr. Atalaya has a degree in mining engineering from Pontificia Universidad Católica del Perú, a diploma in mining company management from Universidad del Pacífico, a diploma in finance from the Monterrey Institute of Technology and Higher Education, Mexico, and he also

# **CORPORATE INFORMATION**

graduated from the master's program in strategic company management at Centrum Católica.

# > Eduardo Enrique Malpartida Espinoza

Operations manager of the Alpamarca UEA since September 2014. He previously served as operations manager at BRECA Grupo Empresarial – Administración de Empresas S.A.C., general superintendent at Grupo ARUNTANI – Anabí and operations manager at the Arcata, Selene and Pallancata mines owned by Grupo Hochschild Mining Plc.

He has 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.

# > Julio Cesar Beraún Sánchez

Operations manager of the Cerro de Pasco unit since September 2017. Previously, he served as operations manager at Carahuacra starting in February 2016. Before that, he was technical services and mine manager at El Mochito – Nyrstar Honduras, from September 2014 to October 2016. He was also operations manager at Contonga – Nyrstar Perú from September 2013 to August 2014. He served as operations manager at PD&B Services LDT Grand Cayman from August 2012 to April 2013 and key accounts manager and chief engineer at Voladura, EXSA SA, from August 2005 to May 2012.

Mr. Beraún has a degree in mining engineering from Pontificia Universidad Católica del Perú and an MBA from Centrum, Pontificia Universidad Católica del Perú.

# > Eduardo Julio Magnasco La Torre

Maintenance and quality manager since November 2010. In his career, he has served as deputy director of airworthiness at the General Directorate for Civil Aviation of Lima, director of quality assurance for Compañia de Aviación Faucett, maintenance manager at Americana de Aviación in Lima, quality control director at TANS Perú and maintenance manager of TACA Perú.

Mr. Magnasco is an aeronautical engineer with experience in operations, maintenance, logistics, regulations, quality,

human resources, and administration. He has an MBA from Universidad Diego Portales in Chile.

# > 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 has a degree in sanitation engineering from Universidad Nacional de Ingeniería.

# > Pedro Simón Navarro Neyra

Treasury manager since December 2010. He served as deputy finance manager from 1998 to 2010.

He holds a degree in business administration and a master's degree in business management from Universidad de Piura, as well as a master's degree in strategic financial management from Universidad Peruana de Ciencias Aplicadas in Peru and EOI of Spain.

# > Willy Antonio Montalvo Callirgos

Accounting and tax manager since September 2015. Prior to that he was a general accountant at Volcan from November 2010. During his career, he has worked as an accountant at the department store Ripley S.A., Cia. Minera Ares S.A.C. (Grupo Hochshild), Química Suiza S.A., Corporación Andina de Distribución S.A. (Carsa), and Pricewaterhouse Coopers.

Mr. Montalvo is a certified public accountant who graduated from Universidad San Martín de Porres. He has 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 has a degree in systems engineering from Universidad de Lima and a master's degree in strategic business management, with a specialization in innovation, from Monterrey Institute of Technology and Higher Education.

# > Mauricio Scerpella Iturburu

Budgeting and management control manager since February 2014. Previously, he was the mining project controller and corporate head of cost and budget analysis at Volcan.

Mr. Scerpella obtained an MBA with a specialization in strategy from Monterrey Institute of Technology and Higher Education. He also has a degree in economics from Universidad San Ignacio de Loyola.

### David Brian Gleit

Investor relations manager at Volcan since February 2014. Before that, he was business development manager for the company. He has extensive professional experience in investment and financial advising. Previously, Mr. Gleit served as marketing and institutional relations director at Aronson+Johnson+Ortiz in Philadelphia, general manager of Compass Perú, founder and general manager of Perú Investment Advisers S.A.C., senior banker at Inteligo Bank Ltda. (part of Grupo Interbank of Nassau, Bahamas), and CFO at mining contractor Stracon S.A.C.

Mr. Gleit studied literature and economics at the University of Vermont and has an MBA in finance from Drexel University.

# > César Emilio Farfán Bernales

Regional explorations manager since December 2010. He served as corporate chief of regional explorations from 2007 to 2010 and general superintendent of the Vinchos mining unit from 2002 to 2007.

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

### > Renzo Muente Barzotti

Employee development manager since October 2014. Mr. Muente joined the Company in April 2011 as deputy corporate manager of employee development.

Previously, he served as human resources manager at Unilever Perú, training manager for Unilever-Andean Region, and human resources manager for the food products division of Unilever Colombia.

He has a degree in industrial engineering from Universidad de Lima and a master's degree in strategic management of human capital from Universidad Peruana de Ciencias.

# > Ronald Martín Castillo Ángeles

Contracts manager since April 2017. He has served as deputy manager and contracts manager since February 2011, when he returned to the company. Previously he was corporate contracts manager for the Milpo mining company. He was also logistics-contracts manager at the Atacocha mining company.

He began his career in 1997 as mine administrator with the Chungar unit, which was acquired by Volcan. He subsequently transferred to the Cerro de Pasco unit where he oversaw corporate contracts until May 2008.

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

# > Jorge Luis Cotrina Luna

Head of shareholder services since November 1999. He held various positions in the banking sector from 1984 to 1999. He has a business administration degree from Universidad Nacional Mayor de San Marcos and studied banking and capital markets at Pontificia Universidad Catolica del Perú.



### **GENERAL INFORMATION**

# Volcan Compañía Minera S.A.A.

# > Information about incorporation

Volcan Compañia Minera S.A.A. is a mining company that was incorporated by public deed on February 1, 1998, executed before Notary Public Dr. Abraham Velarde Álvarez, as a result of the merger of Volcan Compañía Minera S.A. and Empresa Minera Mahr Tunel S.A. The company is registered in the Public Mining Registry under Entry 1, Record 41074, Card 11363057 of the Registry of Legal Entities of Lima.

The company is engaged in the exploration, production, and processing of its own ore and ore from subsidiaries that carry out extraction, concentration, treatment and commercialization of all products and concentrates.

Its activities are classified ISIC category 1320, Mining of nonferrous metal ores. The Company is a going concern, limited by the availability of ore reserves that may vary according to investments made in explorations and their results.

# > Contact

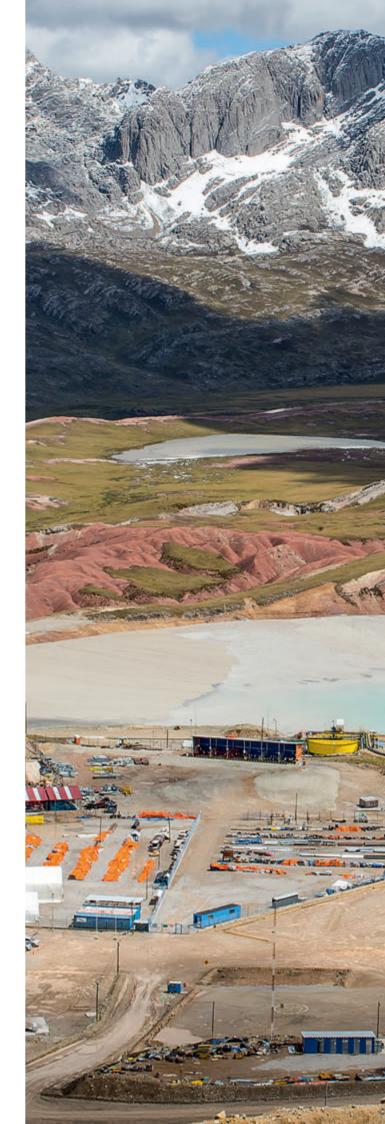
Jorge L. Cotrina L. - Securities Manager lcotrina@volcan.com.pe

# > Head Office

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

# > Web site

www.volcan.com.pe





# Annual Report Volcan 2017 has been prepared by:

Edition **Volcan Compañía Minera S.A.A.**Av. Manuel Olguín 373, Santiago de Surco – Lima 33, Peru

Diagramation and design **Kick Off Typographica** www.ko.com.pe

Printing
Impresiones Santa Ana S.A.C.
Ignacio Cossio 1157, La Victoria. T: 474 7878

Lima, July 2018 Legal deposit made in the National Library of Peru  $N^\circ 2011\text{-}04680$ 





**Volcan Compañía Minera S.A.A.** Av. Manuel Olguín 373, Santiago de Surco. Lima 33, Perú Telephone: (511) 416-7000

www.volcan.com.pe