

MEXICO

MINING REVIEW

HIGHLIGHTS 2020



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MINING REVIEW

Mexico Mining Review provides business and political leaders with the information and industry analysis necessary for success in the Mexican mining industry.

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CONTACT

ISABEL ADAME

ia@mexicobusinesspublishing.com

+52 55 5263 0220

CLAUDIA GUZMÁN

cg@mexicobusinesspublishing.com

+52 55 5263 0237



www.mexicobusinesspublishing.com/mining

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MINING REVIEW 2020

Mining is a quintessential economic activity. It provides zinc used to manufacture the paints embellishing buildings, copper and lithium for the electric engines of the future and gold jewelry that clads a bride at a wedding in India. But even when the industry's products are engrained in everyday life, it remains highly volatile. The effects of the last downturn are still being felt and companies are not overly expectant about the rise in gold and silver prices. Rather, miners are focused on optimizing resources to keep their operations lean and strong. From exploration, to human talent and innovative technologies, the industry's outlook is bound by doing the most with the least.

Global trends acquire a unique character in Mexico, a country with a long-standing mining tradition and privileged mineral resources. Almost a year since Andrés Manuel López Obrador came to power, the industry is still waiting for a clear road map that guarantees the security of extremely capital-intensive projects. Also, miners are insistent upon their request for a more competitive fiscal framework, especially regarding preoperational expenses. As companies and the government develop a framework of cooperation in economic, social and environmental matters, guarded optimism is the dominant note playing over the Mexican landscape.

Mexico Mining Review 2020 gathers all the expertise of the mining industry's top leaders in Mexico. Over 200 interviews, in-depth analysis and infographics provide companies the business intelligence they need to seize the industry's opportunities. The sixth edition of Mexico Mining Review is written as an essential reference point for the industry, analyzing the top trends over the past year and shedding light on the direction mining is likely to follow over the near and midterm.

OPERATORS, EXPLORERS READY TO CAPITALIZE ON INCIPIENT UPTURN

Geopolitical turbulence and a global economic slowdown have pushed prices for precious metals to alluring levels. Base metals are still in demand, even if their prices have fallen and exploration remains limited as companies await incentives to kick-off activity

The last year was marked by geopolitical uncertainty and slow economic growth influencing metal prices. On the one hand, gold and silver, precious metals considered by investors as safe-haven investments, have seen their prices increase. Investors on the whole are generally bullish on the outlook for these metals, while some are more cautious than others. As Carsten Fritsch of Commerzbank AG Frankfurt pointed out to LBMA, “the end of the Fed’s rate hike cycle and the depreciation of the US dollar that this will trigger should lend buoyancy to the gold price this year. The silver price is likely to follow the gold price on its upward trajectory for the most part; nonetheless, we do not expect silver to perform noticeably better than gold, apart from some brief periods.” But the same reasons that buoy precious metals’ prices impact negatively on those of base metals. A global economy losing momentum dampens industrial demand for copper and zinc, the most important non-ferrous base metals in Mexico in terms of production, and a climate of uncertainty deters new investments from taking place.

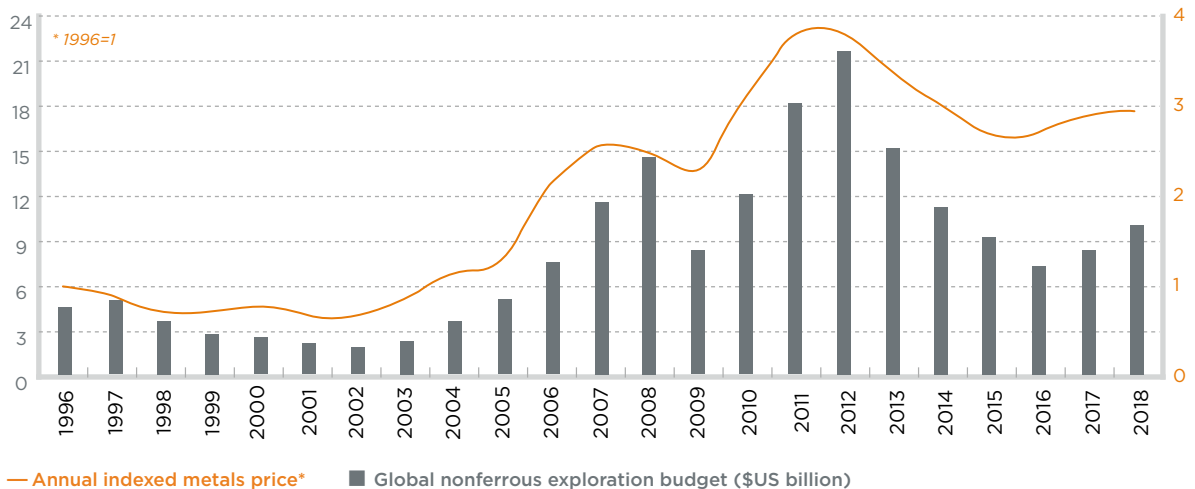
GOLD ON A BULLISH RUN

After falling to nearly US\$1,000/oz in 2015, the industry is keen to capitalize on the rise of the gold price in 2019. The yellow metal averaged US\$1,357/oz during the first three quarters of the year and reached US\$1,537 in August. As per figures released by the World Gold Council, global

gold production in 2018 grew slightly in comparison with the previous year, reaching 104.8 million ounces. Mexico regained eighth place on the global list of gold producers after falling to ninth in 2017. This recovery came to pass despite the country’s production having diminished 6.7 percent in 2018, totaling 3.8 million ounces. Among the factors that CAMIMEX lists to account for the contraction of Mexico’s gold output in 2018 are the following. First, the yield at Goldcorp’s Peñasquito decreased 43 percent that year, particularly due to the exhausting of high-grade mineral ore. Second, the Pinos Altos mine in Chihuahua, operated by Agnico Eagle showed a slight diminution—3.5 percent—in its production. Third, Alamos Gold’s El Chanate ceased activities and progressed into the residual leaching phase, just as McEwen Mining’s El Gallo. Finally, the performance of several smaller mines in San Luis Potosi and Durango was less than expected.

CAMIMEX expects a moderately higher production in 2019. Projects such as the additional leaching pads at La Herradura plus Fresnillo plc’s new pyrites plant are arguments supporting this expectation. Likewise, Candelaria Mining expects to kick-start production at its Pinos mine in Zacatecas, which is expected to produce 12,700 ounces of gold per year. For the period encompassing 2019-2024, CAMIMEX reported that the registered portfolio of new gold production projects amounts to US\$2.7 billion. .

EXPLORATION THROUGH TIME



Source: S&P Global Market Intelligence

NATIONAL SILVER EXCELLENCE

The Silver Institute notes that global silver mine output declined for the third consecutive year, falling by 2 percent in 2018 and amounting to 855.7 million ounces. The institute partly attributes this fall to Guatemala's High Court suspending the mining license of its biggest operation and to other disruptions in Canada and the US. Also, physical demand increased 4 percent that year, propelled by a modest rise in jewelry and silverware fabrication and a jump in coin and bar demand. Lastly, industrial fabrication lost 3 percent, which slightly reduced its market share from 59 percent to 56 percent.

For nine consecutive years, Mexico remained the world's top silver producer, primarily thanks to a solid performance of the primary and gold sectors. According to data released by INEGI, silver mine supply from the North American country rose by 4 percent in 2018 (with respect to 2017), to a record high of 194.5 million ounces. The rise, as the Silver Institute and CAMIMEX explain, was led by a 7 percent growth in Fresnillo plc's output, where higher grades and higher recovery rates at La Herradura mine and the ramp-up of phase two of the San Julian mine pushed the company's silver production to 58 million ounces. Moreover, the acceleration of operations at Saucito's pyrites plant is expected to partially offset the decrease in head grades the mine has experienced in the last few years. "The plant represents a US\$155 million investment. It will result in the production of 3.5 million ounces of silver on average at a very competitive cash cost of US\$2.50 per ounce," says Octavio Alvidrez, CEO of Fresnillo. In turn, Industrias Peñoles achieved better grades and higher throughput, which boosted production to a total of 14.8 million ounces, representing a 5 percent increase from 2017.

COPPER, ZINC ASPIRING CROWN JEWELS

Notwithstanding the effects of the trade war between the US and China, the International Copper Study Group (ICSG) expects a modest growth in demand for copper in the short term, as the metal is essential to economic activity and even more so to the modern technological society. However, lower Chinese demand is expected, and the outlook for the EU and Japan remains sluggish for 2019 and 2020. Demand in the US is expected to rise in 2019 and level off in 2020. The ICSG foresees the world ex-China usage to grow by around 1.7 percent in 2019 and a further 2 percent in 2020. CAMIMEX points out that a major short-term trend in the industry will be the deficit in the concentrates market, which will put pressure on the refined copper market.

Mexico holds the eighth position in the ranking: according to INEGI, the country produced 751 tons in 2018, a 1.2

2018	
September	Francisco Quiroga presented as new Undersecretary of Mining
October	First Majestic reports record production due to high grade ore in its mines.
November	Leagold's Los Filos, in Guerrero, increases its reserves by 122 percent.
December	Andrés Manuel López Obrador sworn in as Mexico's president.
2019	
January	UNAM's mining engineering program ranked 22 worldwide.
February	Pan American becomes largest silver producer to list publicly after acquiring Tahoe Resources.
March	López Obrador informally announces no new mining concessions will be granted, but existing ones will be respected.
April	Newmont and Goldcorp formalize merger. Operations at Peñasquito are halted due to blockade.
May	López Obrador vows to recover bodies of dead miners at Pasta de Conchos.
June	Peñasquito reopens. CAMIMEX announces its affiliated companies are ready to invest US\$26 billion in the next five years.
July	Bacanora announces collaboration with Gangfeng at Sonora Lithium Project.
August	Gold price reaches highest level in six years.
September	Karen Flores is elected as new Director General of CAMIMEX. She is the first woman to hold the position.

percent increase with respect to 2017. Buena Vista del Cobre remained the top producing mine in 2018, churning out 414,142 tons, 4 percent less than the previous year. Located in Sonora, Buena Vista del Cobre is the world's second-biggest copper mine by reserve, as it contains 27 million metric tons of copper reserve, according to ICSG. Cananea started production in 1899, which makes it one of the oldest open-pit mines in North America. CAMIMEX does not expect Mexico's production to alter significantly in 2020 due to new projects.

With respect to zinc, the International Lead and Zinc Study Group ranked Mexico as the sixth-top producer in 2018, behind the US and India. Mexico's production accounted for 5 percent of global production, amounting to 690,895 tons. According to INEGI, Zacatecas is the largest producer in Mexico, even if the state's production was 0.6 percent lower in 2018 than in 2017, mainly due to a decrease in the production of Goldcorp's Peñasquito. Chihuahua and Durango ranked second and third in production, respectively. The companies that produced the most zinc in Mexico in 2018, in order of importance, were Peñoles, Goldcorp, Fresnillo plc, Grupo México and Frisco.



NEW MODELS BASED ON INDUSTRY BEST PRACTICES

FRANCISCO QUIROGA

Undersecretary of Mining at the Ministry of Economy

Q: What is the strategy of the Undersecretariat of Mining for strengthening the mining sector's competitiveness?

A: We will implement an active industrial policy that integrates the perspective of each of the actors in our sector, providing certainty to investors. The main guidelines are innovation, diversification and inclusion. To this end, there are three important approaches. First, carrying out business in a right way. Second, fostering the industry's competitiveness by reducing costs. Three, reconfiguring the role of authority. We have to implement new models based on industry best practices that underscore inclusion and sustainability.

As for the industry's competitiveness, we must tackle all those cost factors that can be lessened without impacting Mexico's development. And regarding the role of the authority, we see ourselves as leaders of the sector, with all the risks and costs this implies. Our goal is to reverse the current trend we observe in the sector. One of our recent achievements is that during 1H19 we reduced the delay in the procedures of the Public Mining Registry by 95 percent. Although we received a large amount of unresolved applications from the previous administration, 63.5 percent of the current resolutions correspond to 2H18.

Q: How can the way of doing business in mining be reformed to benefit all stakeholders?

A: It is of the utmost importance to clearly distinguish three aspects. One, that to which each stakeholder is entitled. Two, what we really want to achieve as an industry, which in turn demands that each stakeholder go beyond what he is entitled to. Three, that which is non-negotiable. For instance, human life is non-negotiable. I am convinced that mining does not have to cost a single human life. Another non-negotiable aspect is natural disasters. To put it in stark terms, Mexican mining, given the current perception of the industry among some segments of the public, would not

survive a disaster like the one that happened in Brazil at the beginning of 2019. And I would like to note that naming them "natural" is just a figure of speech because there really is no such thing as a natural disaster in mining. The third non-negotiable aspect has to do with the manner in which stakeholders, including the authorities, relate to each other.

Q: What is your opinion on including indigenous consultations in the regulatory framework?

A: This is a commitment which implementation Mexico has been delaying for years. It is no longer possible to keep procrastinating on this. The current government will implement indigenous consultations and will do so following the highest standards. We will have effective, fast and well-designed consultations, fiscal compliance, remediation of the effects of mining activities and respect for the human and political rights of workers. More generally, it is crucial to include host communities in the project, whether they are indigenous or not. We have to involve the communities, make them part of the process and integrate them into supply chains and to the mining activity itself, if possible. When one does that, everything else is facilitated. Community participation is part of our way of understanding the regulatory framework. To increase Mexico's competitiveness while protecting the wellbeing of all stakeholders, every industry-member has to work in harmony with each other. That is a joint responsibility, but it starts with the Undersecretariat of Mining.

Q: What strategy should be implemented to improve the public perception of mining?

A: As an industry, we need to stop talking to each other and start communicating with the public at large. In the 13 years since Pasta de Conchos, our industry has evolved considerably. We must step out of our comfort zone and convince others of the fact that mining is fundamental for the development of Mexico's economy. Investing in state-of-the-art technology, environmental protection programs and better social practices, as well as procuring strong supply chains, is crucial to this end. We have to construct a legacy in line with that of the new administration by building citizenship and aiding in pacifying the country.

Francisco Quiroga has more than 18 years of experience in the mining industry. He has a background in directive positions in several mining-metallurgical companies. Quiroga has degrees from Nuevo Leon, Yale and Auckland universities

WEAVING THE ECONOMIC AND SOCIAL FABRIC OF ZACATECAS

CARLOS BÁRCENA

Minister of Economy of Zacatecas



Q: What changes can be made to the regulatory framework to boost the mining industry?

A: Three areas must be addressed. First, the popular consultations to begin projects. There must be a clear definition of what constitutes an indigenous population and a native population. Zacatecas has no indigenous population registered, so it is hard to know who are native to this region. It is crucial to define who to consult and when. Miners usually come to an agreement with landowners before the exploration stage. Only when they are ready to move on to the next stage of the mining project do they file for a concession. Therefore, the uncertainty around popular consultations has reduced exploration investment substantially.

Second, the fiscal aspect. Mining companies have adapted to the tax that goes to the Mining Fund. But Mexico is losing its competitiveness because it is impossible to deduct exploration expenses within a reasonable period of time. Companies must wait 10 years. Other countries in Latin America are more competitive in this regard. There must be a fiscal incentive where both the state and the companies win and exploration is boosted.

Third, the natural environment must be protected in a way that is also appropriate for business. Water is a prime example in this regard. Some people argue that a mining company should replace every single drop of water it uses or moves from one place to another. However, it is more reasonable to push for a moderate policy. For instance, companies should not be held accountable for water that is simply drained and moved about, but they should be for water used in productive processes such as lixiviation.

Q: How can the Mining Fund be reformed so as to guarantee wealth is redistributed adequately?

A: The great change that is being proposed is that the distribution of resources be exclusive to the Ministry of Economy through the Undersecretariat of Mining. This is desirable. How to deliver the resources is another matter. The way it has been working so far is that part of the money goes to the mining counties, while another goes to the state that oversees these counties. Then, a committee decides how

to invest the resources. But the communities nearest to the mining projects were not always taken into account because the county government is often far away from them. The new formula under discussion includes mining communities to a greater extent. It also demands that mining companies be more involved in the proper use of resources. But companies feel this is too much to ask, that it goes beyond their responsibilities. The ideal scheme would be focused on the communities that are actually close to a given mining project. It would make sure that the levied taxes actually return to these communities, but in a way that really impacts their development.

Q: How is Zacatecas working to promote mining?

A: The first aspect of our plan is to fortify small mining companies in the state. What often happens is that these companies grow to a certain point in which buying them or forming other types of alliances becomes attractive. This will keep happening. The state of Zacatecas is committed to helping integrate small and medium companies, fostering the environment and value chain that makes this possible. Second, we are supporting large mining companies by upholding physical and patrimonial safety, promoting the best possible community relationships and developing supply chains. For example, we worked with First Majestic to produce social programs and monitor safety. The third part of our plan has to do with promoting a talented workforce. We have organized highly successful job fairs. Also, we facilitate collaborations between companies and universities. In one case, we partly financed a project where Datamine introduced some of its equipment into the Technological University of Zacatecas. We are working to generate the necessary talent so that the industry remains as local as possible. At our mines there are very few Zacatecan managers: most of them are from other states in Mexico. Compared to salaries in other state mining industries, Zacatecas' salaries are the highest in the country.

Carlos Bárcena has occupied different roles in the state governments of Zacatecas and San Luis Potosi throughout his professional career. He promoted the manufacturing industry in the Bajío region alongside GM, BBVA, USAID and CONACYT



LEVELING THE FIELD FOR GENDER PARITY

FERNANDO ALANÍS

Director General of Industrias Peñoles

Q: What elements should be present to ensure the correct development of the industry in the coming years?

A: The new policy approach must provide certainty. Investments in the mining industry are long-term and sponsors need to be sure that the rules of the game will not change. Latin America has some very good examples of these practices. For instance, Peru works under the tax stability convention where taxes are established in periods of 15 to 20 years. This provides certainty for economic models of profitability projections. Another indispensable topic is competitiveness, which depends on three main factors. First, the basic infrastructure of each country, which is in the hands of the government. Second, the technology and staff of each company. Third, the market's location. As for the government, it must fulfill its responsibilities. For instance, in the previous years, Mexico was not very competitive on electricity tariffs. To date, we still pay US\$0.10 per kWh when in other countries like Canada this amount equals US\$0.02 per kWh, in Peru US\$0.04 kWh and in the US US\$0.06 per kWh. In this industry, competitiveness takes place on a global scale. If Mexico works with electricity prices that are two, three or even five times higher, national competitiveness sees a relevant reduction. To face this challenge, we decided to generate our own electricity. In 2018, 92 percent of our consumed energy was acquired under a self-supply scheme and out of this amount, 31 percent came from renewable sources. By 2020, our goal is to increase this by 50 percent toward our main objective to become 100 percent renewable by 2027. This represents a double commitment because we can become more efficient and increase our competitiveness and at the same time support the energy transition. Other basic infrastructure, such as ports, roads, railways, transmission lines and gas pipelines, are the government's responsibility. If the country does not have an adequate

vision, competitiveness will be threatened. Not only in the mining sector, but in every industrial activity in Mexico.

Q: What was the main motive behind the company's strategy to refinance its debt?

A: About US\$800 million in Industrias Peñoles' long-term debt was going to expire in the next four years. We decided that the positive interest rate conditions in the market were favorable for a bond issuance under the 144A rule. This framework allows international investors to participate in the transaction. The issuance was a success as we were able to raise US\$1.1 billion in 3Q19. In these processes, you can measure the level of appetite the company's debt attracts. In this specific case, it resulted in a 6:1 ratio, which showcases Peñoles' positive market image and reputation. This was a major achievement as the company had never raised a 10-year debt. Now, US\$550 million is on a 10-year a scheme and another US\$550 million was raised over a 30-year period.

Q: How does Industrias Peñoles strengthen the development of gender equality in the mining industry?

A: The mining industry is one of the most chauvinistic sectors globally. In previous years, physical force was required and working conditions were not the best. This has radically changed in recent years because technological advancements demand intelligence, and intelligence has no gender. As Industrias Peñoles has heavily invested in technology, we have provided the opportunities to reach gender parity. At a global level, women represent 12 percent of the labor force in the mining industry. In Mexico, this number totals 17 percent and we have worked closely with CAMIMEX to increase it further. For its part, Peñoles is outperforming the sector, having already reached a 20 percent participation for women. Nevertheless, this number is not enough and we have a long way to go. I do not believe in gender quotas because it is more appropriate to have the conditions to promote development without favoring any gender. In terms of the company's generational profile, 67 percent of our employees are aged under 35 years. Even though Industrias Peñoles has over 132 years of experience in the Mexican market, it also has a young environment.

Industrias Peñoles is a 100 percent-owned subsidiary of Grupo BAL. The group is the largest gold and lead producer in Latin America and through its subsidiary, Fresnillo, the largest silver producer in the world

LONG-TERM POLICIES TO PROMOTE NEEDED INVESTMENT

OCTAVIO ALVÍDREZ
CEO of Fresnillo plc



Q: What changes in the Mining Fund would be appropriate so that it effectively fulfills its purpose?

A: The original design was sensible. Directing the levied resource to the communities was an important initiative. It must be said, however, that after almost five years of the fund's implementation, Fresnillo, has not reduced its social investments in communities. The same can be said of almost all mining companies. This makes the fund an additional burden to an already heavily-taxed industry. Despite this, I believe these resources must be directed completely to the mining communities. The Mining Fund can be a great complement to the work already undertaken by mining companies. It is not so much about redesigning the fund, as of making sure it works transparently and effectively.

Q: What specific measures is Fresnillo taking to achieve its production targets for 2019?

A: Our guidance for 2019 is between 55 and 58moz of silver and between 880,000 and 910,000 oz of gold. At Fresnillo mine specifically, we are implementing innovative maintenance programs to improve our equipment's reliability. Moreover, we are introducing automatic drilling devices so we can continue drilling in between shifts and increase productivity. We are increasing our contractors' efficiency and hiring some foreign mining contractors for development, which is the future of the mine. This is not to say that we do not prioritize a strong local supplier network. We work closely with the Zacatecas Mining Cluster, which has been reflected in a strong supplier network in Zacatecas and the neighboring states. That is a KPI we follow quite closely: how many of our goods and services come from local sources. But with respect to development specifically, we work with almost all the contractors in Mexico, and we have stretched them to capacity. We have had to hire foreign contractors to supplement those in Mexico.

Q: How will the new pyrites plant in the Fresnillo district further your overall production strategy?

A: This project is consistent with one of our central business pillars, which is to maximize the benefits of our current operations. Thanks to this plant, we will recover additional silver from what we have already mined. Fresnillo is an operation that goes back many decades, and we have tailings

that will be reprocessed with this technology. Fresnillo has been operating for decades, but continuously since the 1920s or so, initially with amalgamation processes, and then with the flotation process. We installed top-notch technology there to achieve very fine milling: 15 to 20 microtons. This gives us the possibility of recovering more silver than previously. The plant represents a US\$155 million investment. It will result in an annual production of 3.5moz of silver on average and close to 15,000 oz of gold at a very competitive cash cost of US\$2.50 per ounce. We have already finished the first leg of this project, which is the pyrites plant at Saucito. The second leg will be completed in 2H20, namely, the flotation plant to process the old and current tailings of Fresnillo. It is very exciting to be able to use new technology to extract value from what has been mined in the past.

Q: What is your perspective on the availability of human talent in the mining industry?

A: This remains one of the main challenges the company faces, given the fact that we doubled our size in a decade. The industry's cycles impact the creation of talent. This begins at the university level, where the problem is aggravated due to a mismatch between a high cycle in the industry and the amount of talent being generated at institutions of higher learning. We have taken that into account and work with all universities in Mexico that have earth sciences programs. We support them through different schemes, like providing opportunities for students to come and work at our mines for certain periods of time or updating professors on the main industry trends. Moreover, when we acquire new technologies, we promote them in universities by introducing them to their labs. We also work with graduates through mentorship programs, where distinguished members of our personnel guide newcomers over nine months at one of our operations, after which they may be offered a position if there are openings and their performance was satisfactory.

Fresnillo plc is the world's largest primary silver producer and Mexico's largest gold producer. It has seven operating mines, all in Mexico, two development projects and three advanced exploration projects



CLARITY WILL LEAD TO INVESTMENT

JASON REID

CEO of Gold Resource Corporation

Mexico could be a mining paradise for foreign investors, but the uncertainty that has settled over the industry threatens to do great damage. “By not issuing new concessions, this administration is eliminating the entrance of mining companies coming with risk capital. Most of them will fail, but the few successes are what will keep the mining industry moving,” says Jason Reid, CEO of Gold Resource Corporation. If uncertainty continues, he adds, investors are going to look elsewhere and current concessions will not sustain Mexico as a top mining producer.

“By not issuing new concessions, this administration is eliminating the entrance of mining companies coming with risk capital”

Gold Resource Corporation has operations in Mexico and the US. The Oaxaca mining unit consists of six potential high-grade gold and silver properties in the southern state of Oaxaca, including El Rey, El Chamizo, Alta Gracia, El Fuego, El Aguila and Las Margaritas. The Nevada mining unit has four potential high-grade gold properties in the Walker Lane Mineral Belt in western Nevada. Like others operating in Mexico, the company is seeking clarity before executing further investments. “We will continue to explore in our producing assets, but less exploration will take place in our other concessions until we see clear, positive signals from this administration,” Reid says.

If the right signals come from the administration, the company will be more apt to further invest in Mexico. “Our recent focus has been on constructing and commissioning our first mine in Nevada. Now with Nevada commissioning complete and the project ramping up, we will turn additional attention back to Mexico if this administration’s policies encourage more investment,”

Reid says. Gold Resource Corporation trades on the New York Stock Exchange.

Despite the geopolitical red flags across the globe, Reid says the company is determined to let efficiency determine its profits rather than global events. “The only way we can protect ourselves is by running as efficiently as possible. We cannot control what China does or what kind of tariffs may be imposed in the future. The best strategy is to remain profitable, and that is what we have done for the last eight years,” he says.

The company achieves its goals by remaining true to its business plan. “Mining companies need to be a positive influence with regard to the surroundings in which they operate. We have been able to successfully work in southern Oaxaca, a region that is known for its social conflict around infrastructure projects,” says Reid, adding that he is confident about the positive investments the company has made in local communities.

“Since day one, we have made a strong impact by allocating many resources to the regions in which we operate. If you visit the local towns near San José de Gracia, you are going to see paved streets, public lighting and access to water services, among many other positive contributions. Under the potential requirements of the proposed Mining Law, I believe the company will outshine its peers given our previous and ongoing partnerships with communities.”

Attracting the best possible talent is also part of this plan. “This is a difficult industry for attracting and retaining talent, as it is very competitive. Our competitors approach our people and we approach our competitor’s employees in search of talent. Hence, one of the primary ways we retain talent is to treat our people with respect,” says Reid. The company primarily focuses on Mexican nationals, but also has some expats working on day-to-day activities. “We bring experienced miners from other areas, and then train our people to become experienced miners as well,” he says.

LOCAL TALENT FOR SILVER EXCELLENCE

KEITH NEUMEYER

CEO of First Majestic Silver Corp.



Q: What are First Majestic Silver's main priorities to boost production at its existing mines?

A: Our experience operating six mines in Mexico has led us to the conclusion that local talent is key for First Majestic's success. We identify, hire and develop the best of what is available, favoring local workers over expats. We will continue strengthening this aspect of our operations, while also focusing on exploration and investment in new innovative technologies to lower costs and grow production. An example of these innovative technologies is the recent installation of a high-intensity grinding (HIG) mill at the Santa Elena mine. These key principles have led us to become one of the top silver producers in Mexico.

To keep positioned our mines among the best, the company will continue to focus on growing organically, as well as through a number of acquisitions. We want to become the world's largest primary silver producer. An additional pillar of our strategy is strong investment in IoT and automation. In 2019, First Majestic's capital allocation to corporate projects is estimated to be US\$29 million. This capital will be spent, among other improvements, on innovative technologies such as automated lime feeds, mill and grind optimization, microbubbles and fine grinding.

Q: What has been First Majestic's experience with the government and what advice would you give to Canadian or international companies looking to invest in the Mexico?

A: First Majestic has a strong relationship with the government thanks to its position as the second-largest silver producer in Mexico, operating across nine states. Canadian companies wishing to do business in Mexico should expect a government system similar to Canada's. The key to a company's success is to act like a good corporate citizen and be mindful of what it is to do business abroad.

Q: What is the state of the Santa Elena, San Dimas and La Parrilla mines and what new projects are on the pipeline?

A: Our 2Q19 reports indicate that San Dimas and Santa Elena account for 80 percent of our overall production. This is linked to the installation of a new HIG mill at Santa Elena. This

mill is a tall cylindrical unit that stands vertically as opposed to a traditional horizontal ball mill. Within its housing, the mill has a series of disks that spin at high speeds, similar to how a typical household blender works. This movement, combined with ceramic beads, helps grind ore to under 50µm and improves recoveries by 5 to 10 percent on average.

San Dimas is the cornerstone asset in our portfolio. As of May, 2018, we reached a new streaming agreement and the operation is now generating significant cash flows. Our strategy is to implement a series of projects to optimize its operation, including implementing high-intensity grinding technology, lime automation and pH control and upgrading the tailing filtration plant.

We took the decision to suspend our La Parrilla operations at the end of 2019 due to low silver and lead prices. The rationale behind this was to improve the company's margins and profitability. Unfortunately, commodity prices are all over the map and out of our control. That is why it is important to continually invest in new innovative technologies and be mindful of costs. First Majestic has doubled the exploration plan at La Parrilla to approximately 24,000m to test near-mine targets in an effort to develop new resources necessary to justify preparing the site for a potential reopening in the future. This, however, will depend on a significant improvement in commodity prices.

An exciting project in the pipeline is the Ermitaño silver-gold project, where we made a significant discovery in late 2016. The Ermitaño project is located 4km southeast of the Santa Elena mill. With a number of drills on site, the company is working on completing over 32,000m of infill, step out and metallurgical drilling. In the coming months, the company will begin working on the mine portal. Mining operations are expected to commence in early 2021.

First Majestic Silver Corp. is a mining company focused on silver production in Mexico and is aggressively pursuing the development of its existing mineral property assets. It owns and operates six mines throughout the country

| VIEW FROM THE TOP



OSVALDO XU
CEO of Minera Mahakala



RAO FENG
Director of Projects at
Minera Mahakala

A CHINESE BET ON MEXICAN MINING

Q: Since arriving in Mexico in 2017, how has your market participation evolved and what are your main projects here?

OX: Our goal is to increase our market participation in the Mexican mining sector. We have been working to establish relationships with Mexican government levels, local mining organizations and mineral companies. We will start with the Mahakala project in Nacoriba, Sinaloa. Chinese companies usually want to work with Chinese collaborators but it is not so easy to move a whole workforce across continents. We are recruiting the right mix of Mexican and Chinese people to build a great mine in the country. We have faith in Mexico's mining potential and that is why we are betting on the country.

RF: Minera Mahakala was founded in China in 2003 and we ventured into the Mexican market in 2017. The Nacoriba mine in the state of Sinaloa was our first in the country. This is a molybdenum mine and it also has a processing facility. The first data we received for this project came from SGM, which dates back to 1970. In 2017, we continued the above-surface exploration of the Nacoriba ore body to take it into production. We have not yet started production because of the time required for permitting and exploration.

The company will begin to build a 2,500t/d plant by the end of 2019 and we should start production by 2020. We also have concessions in Chihuahua, Durango and other states, but these properties are in the very early stages of exploration. Our goal is not only to have a business division in the country but to invest in the projects of the future.

Q: What technological innovations are helping you enhance productivity and ramp up operations?

RF: We divide project development and operations into three stages. First, we extract the minerals from the soil. In Nacoriba's case, we will be doing underground mining. The

second stage is processing. We will use a mill for grinding the minerals. We will have a total of three mills in our plant, each with a processing capacity of 1,000t/d. Our goal is to eventually reach 5,000t/d production.

The key to achieving this goal is to deploy high-capacity equipment that allows us to have better control of the processing stage. For example, cameras monitor all stages of our processing. While we still use traditional monitoring methods that rely mostly on employee supervision, we complement these with remote monitoring to increase accuracy.

Similar procedures have been used by many big companies, including Grupo México and Goldcorp. The third stage comes down to the tailings dam and its potential contamination and pollution. We will use geo-polymerization technology to consolidate our tailings dam and prevent any collapses or spills. This works by consolidating mineral particles in the tailings dam to prevent them from floating away. Geo-polymerization reactions are concrete.

Q: How is Minera Mahakala promoting collaboration between Chinese and Mexican mining companies?

OX: We have met with several Mexican mining companies, such as Peñoles and Grupo México. We want to build a commercial cooperation relationship with them, we could buy their concentrated products and metals and invest along with them.

Our goal venturing into Mexico is not to compete but to differentiate ourselves and contribute to instilling a collaborative mindset in the industry. But we will let our actions speak for themselves and help us gain the confidence of our Mexican and foreign peers. We have received some reluctance from the industry to include Asian and particularly Chinese groups, as most work with Canadians, Americans and Australians. We understand that Mexicans are more familiar with doing business with Western partners, given cultural similarities. Our message is that we are willing to take the time to show and prove the benefits of working with Mahakala.

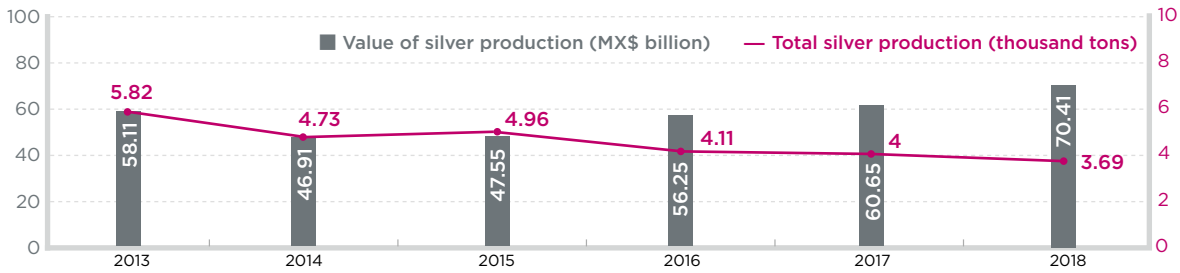
Minera Mahakala was established in 2003 in China. Its goal is to be a producer of tin, tungsten, molybdenum, gold, silver, lead, zinc and copper and to continue developing a solid portfolio of properties through exploration and production initiatives

SILVER PROFILE

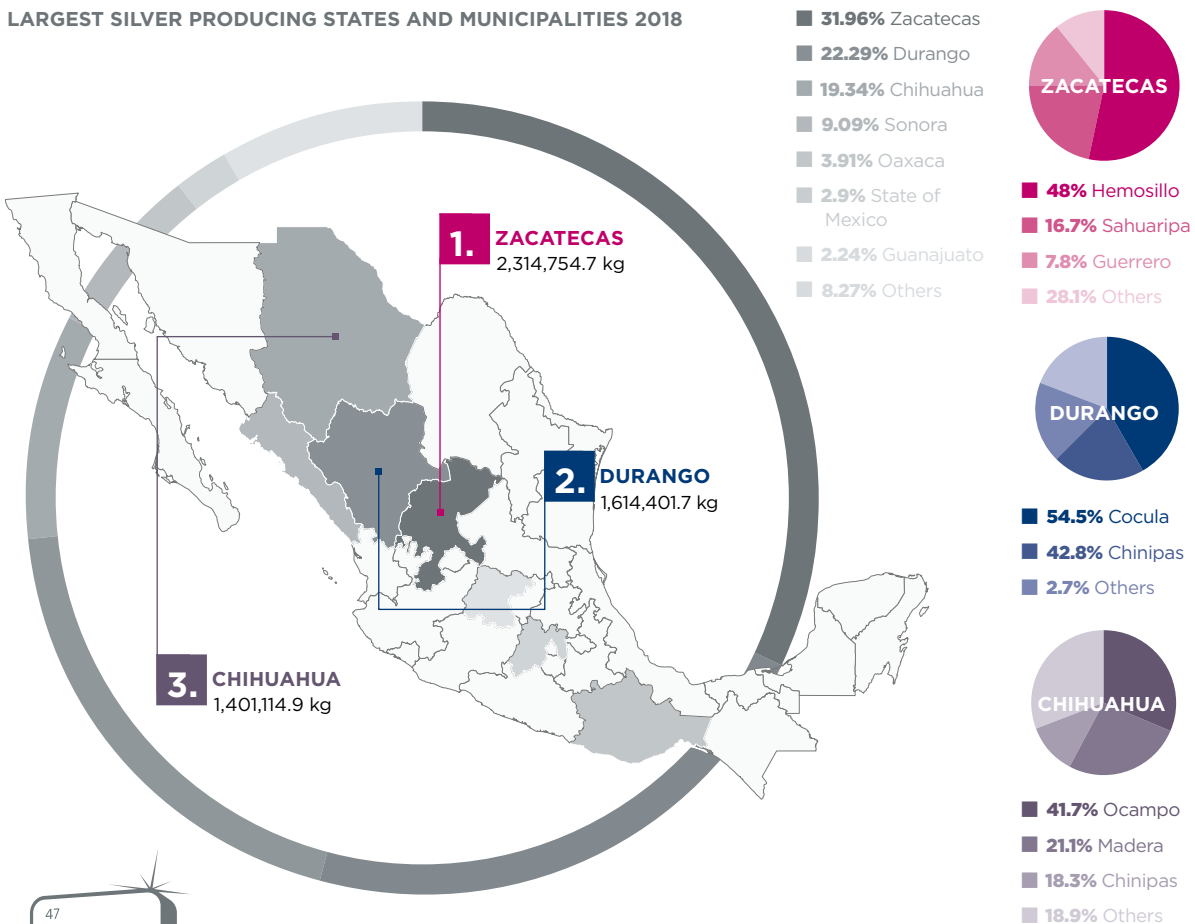
When it comes to silver, Mexico outshines the entire world. As the largest global producer of silver, the industry has great expertise to share. In 2018, Mexico produced 3,690 tons of silver, with Zacatecas, Durango and Chihuahua as its top three producers. Although Oaxaca has climbed

the ranking in terms of production, Mexico's south still faces many challenges to uncover its silver reserves. As in previous years, Zacatecas, Durango and Chihuahua held the Top 3 spots in the ranking. Fresnillo plc was the country's crown jewel, producing 61.8 moz in 2018.

NATIONAL SILVER PRODUCTION

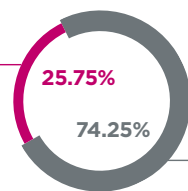


LARGEST SILVER PRODUCING STATES AND MUNICIPALITIES 2018



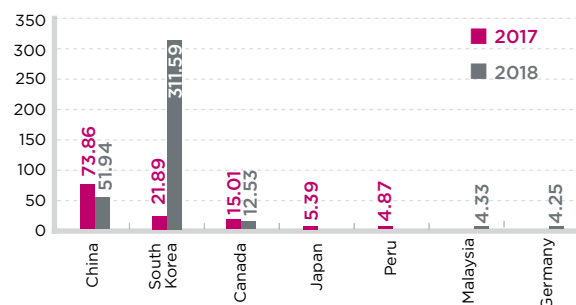
Mexico is the **#1** silver producer in the world

Mexican ore production **7,243.34 tons**



Global ore production **28,143.34 tons**

MEXICAN SILVER ORE AND CONCENTRATES EXPORTS BY COUNTRY (tons)



Source: CAMIMEX, INEGI, SGM, Anuario Estadístico 2018, ed 2019.

MEXICO 2021

MINING REVIEW

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CONTACT:

Isabel Adame
 ia@mexicobusinesspublishing.com
 +52 55 5263 0220

Claudia Guzmán
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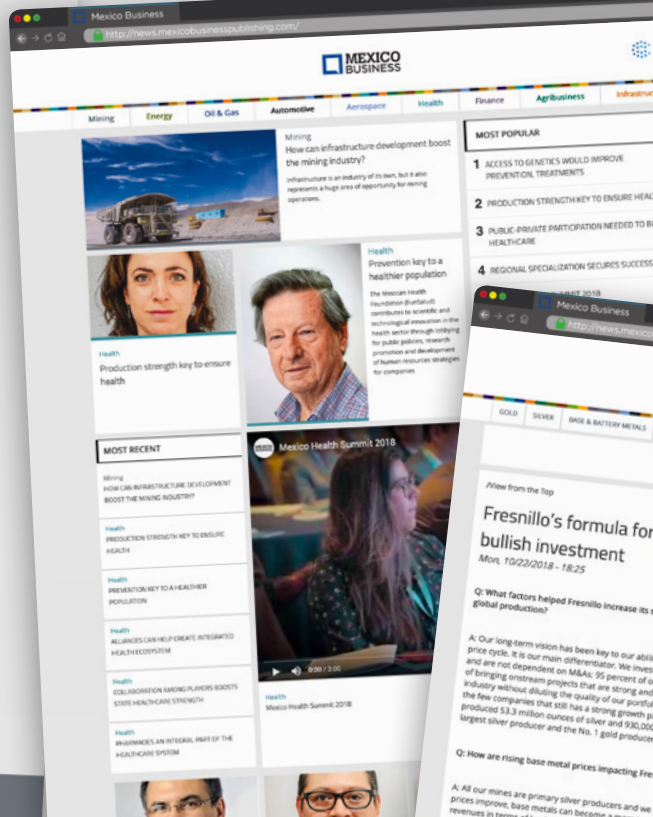
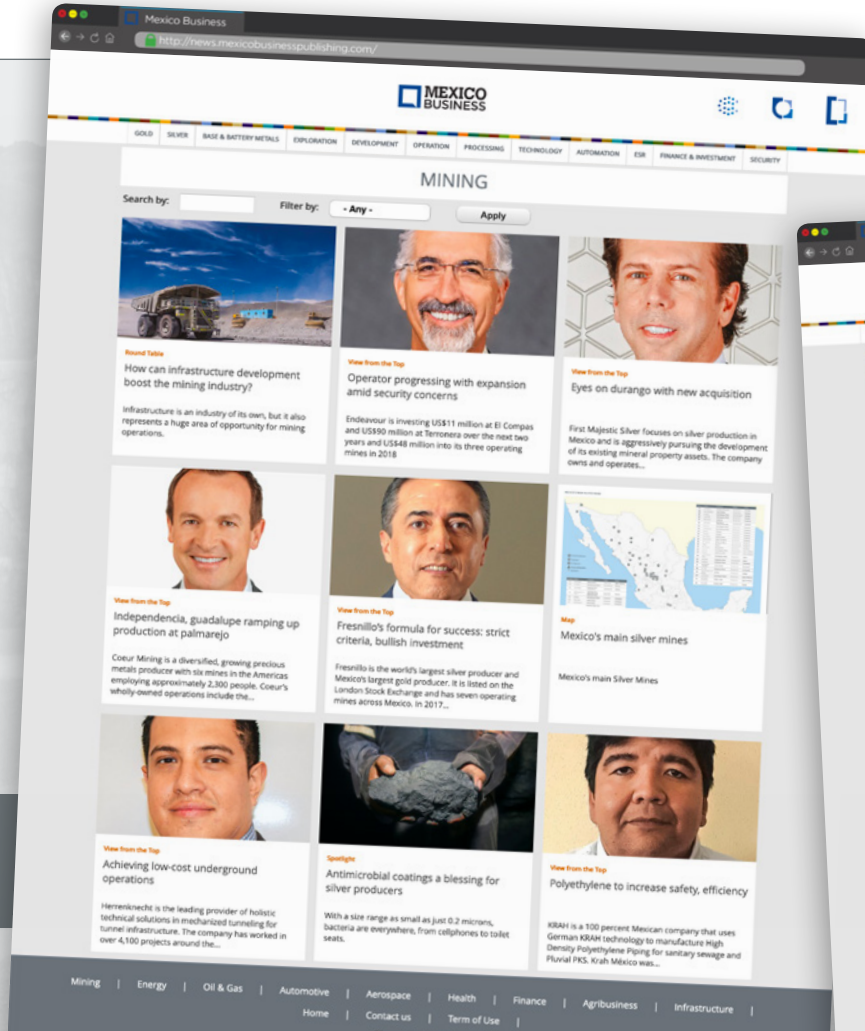
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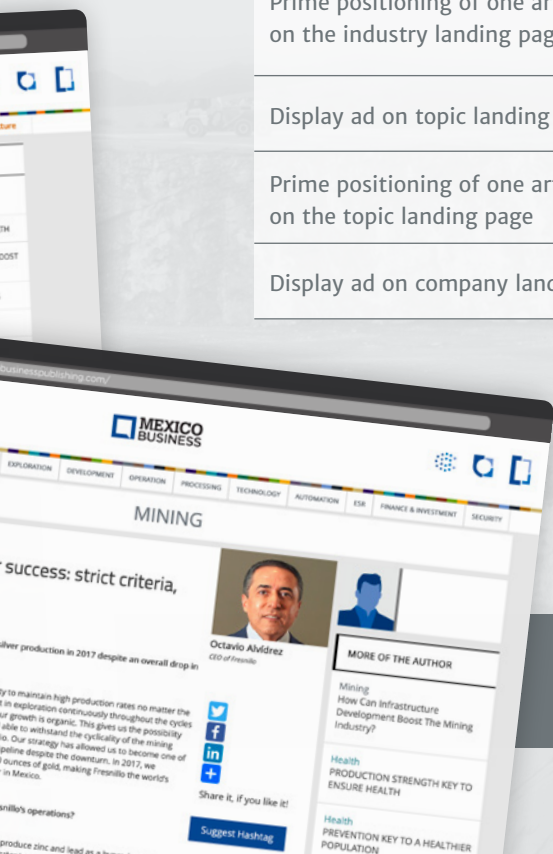


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Rate / year	US\$60,000	US\$30,000
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Logo in topic bar (right side)		X
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Article	4	2
Technology / project spotlight	2	1
Branded map / infographic	2	1
E-mail campaign	4	2
Social media post	10	5
Company landing page	1	1
Display ad on industry landing page	X	
Prime positioning of one article on the industry landing page	X	
Display ad on topic landing page		X
Prime positioning of one article on the topic landing page		X
Display ad on company landing page	X	X

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CONTACT

Misael Oliver
 mo@mexicobusinessevents.com
 +52 55 5263 0221

Isabel Adame
 ia@mexicobusinesspublishing.com
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