

# Santana Mine Operations Update and Optimization Progress 2021 Year-End Targets Exceeded and Explosives Storage Permit Received

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**Minera Alamos Inc. (the "Company" or "Minera Alamos") (TSX VENTURE:MAI)** is pleased to provide a 2021 year-end summary of the ramp-up of mining activities at the Santana gold mine in Sonora, Mexico. Through the end of 2021 approximately 9,100 ounces of gold were mined and stacked on the leach pad during the first phase of the project mining activities. The total exceeded the Company's initial mine opening projections and provides a sufficient amount of mining, crushing and leaching data to allow for final optimization of the operation through the last stages of ramp-up.

Operational highlights through the end of 2021

- Gold inventory moved to the leach pad 9,100 oz;
- Mine production rates approaching the 100,000 tonnes of mineralized material per month initial target for the project ramp-up;
- Cumulative gold recovery from mineralization under leach for more than 30 days exceeds 70% with additional recovery ongoing;
- Total area of stacked mineralization under finished/active leaching remains in excess of 50% and continues to expand;
- Low reagent consumptions in line with previous test pad results (~0.2 kg/t NaCN and <2 kg/t lime)

"The results from the first phase of early operations at the Santana project continue to impress. Gold extraction kinetics demonstrated to date underscore both the rapid leaching and strong recoveries achievable at Santana." stated Darren Koningen, CEO. "The ramp-up period has allowed us to gain valuable production insights which can then be utilized to further optimize the operation before it enters commercial production. This careful and methodical approach has been particularly helpful to guide modifications in our planning in order to address typical situations that arise during a normal project start-up prior to them evolving to a point where they may impact future performance. In addition, it allows our experienced technical team us to identify opportunities for consideration that could accelerate the longer-term value creation at the site. We are pleased to have recently received the explosives storage permit that will provide us the flexibility to implement more efficient blast scheduling moving forward."

## **Ongoing Project Ramp-up and Performance Optimization**

Gold extraction from mineralized material stacked on the Company's leach pad continues to demonstrate rapid leach kinetics similar to those reported previously. As the areas under active leach continue to increase the cumulative recovery curve for this part of the leach pad now exceeds 70% and is on a trend towards the results from previous test leaching studies performed in the area. Mining rates have approached the initial monthly targets of 100,000 tonnes of mineralized material from the Nicho Norte

starter pit prior to the next phase of operations where production will ultimately expand to also include material from the main Nicho deposit. Reagent consumptions remain low as anticipated.

Following the better than anticipated early results and the large amount of production data gained through initial operations the Company decided to scale back site mining activities over the holiday period in order to work internally and with the Company's mine contractor to analyze new information and focus on how to better optimize the back half of the ramp-up. Results from these optimization studies are summarized below and are currently being implemented as normal mining activities have resumed.

- Although economically positive, higher than anticipated gold grades from the Nicho Norte starter severely strained the capacity of the site crushing operations due to a much higher proportion of mine material (+70%) being crushed versus sent to the pad as run-of-mine (<30%). This also negatively impacted the overall efficiency of material flows between the mine and leach pad. Crushing cut-offs will be increased in the next phase of operations in order to rebalance the ratio of crushed to ROM material at closer to 50/50 which should remove most of the production bottlenecks. The overall impact of the change on expected gold recoveries will be minimal due to the extent of fragmentation that has been achieved by blasting to date which has demonstrated the ability to generate significant quantities of final size material without crushing (see next point).</li>
- Early efforts to optimize blasting fragmentation in the open pit have been very successful. These efforts will continue with a focus on varying fragmentation levels based on the material being mined in order to minimize the costs of both crushing and blasting (maximize fragmentation in mineralized zones and minimize in waste areas).
- A complete review of the mine contractor operations data in conjunction with decisions to relocate the site crushing operations will minimize material haulage distances (primary and rehandling) and therefore better utilize the existing equipment. Opportunities to reduce the size of the overall fleet were also identified.
- The leach pad stacking sequence was reworked to further reduce equipment and leaching congestion issues that are common during early operations. Short-term changes to be implemented over the next couple of months will allow for a more regular and efficient advance of new stacked areas under leach as the project moves forward and remove bottlenecks that could cause future issues as mining rates are projected to increase following the initiation of operations at the Nicho Main Zone.
- Planning was completed for the start of operations at the Nicho Main Zone. Discussions are ongoing with the current mine contractor to fully evaluate the paths into production from this new and larger second pit and opportunities to accelerate its development.

As is occurring in many areas of the broader economy, the Company continues to feel real and lasting impacts from the past two years of the worldwide Covid pandemic. Discussions aimed at minimizing these impacts are particularly relevant not just for the Company's current Santana operations but also for the planning and preparations underway for future projects in the Company's development pipeline. To proactively manage these impacts the Company is addressing areas that include:

 Options to minimize the impact from difficulties in sourcing maintenance parts/equipment (along with corresponding extended delays and cost inflation) particularly related to mining and crushing contractor operations.

- Accelerated construction of on-site laboratory facilities which can provide basic mine blasthole and leach solution analyses to reduce the quantity (and associated delays) of samples being sent to third party facilities for analysis.
- Discussions with new suppliers for reagents and general site maintenance supplies in order to try and ensure multiple supply options for key items so that any supply chain delays can be reduced.
- An overall review of bureaucratic matters and areas where significant delays continue to exist as
  a result of Covid shutdowns of government offices and the resultant backlogs. While in receipt of
  necessary permits to start operations, the Company has experienced delays (see explosives permit
  below) in approvals for some items that will allow for a more efficient expansion of operations at
  Santana. The Company is evaluating all opportunities to minimize the impact that these delays
  may have on the ongoing ramp-up of current operations while continuing to work to advance the
  receipt of the formal documentation. The recent receipt of a formal permit for explosives storage
  at site is an example of a permit that became significantly delayed and required temporary
  workarounds to prevent significantly impacting start-up. With the permit now in hand the
  Company has added flexibility to implement a more efficient and cost effective approach to
  blasting activities at Santana thereby paving the way towards opening up the Nicho Main Zone.

The Company's extensive experience in Mexico continues to be a significant asset while facing the challenges of developing new mining operations in the wake of Covid disruptions. Without appropriate foresight and planning these challenges could overwhelm a start-up operation. To date, the Company has managed to identify solutions as required to lessen any potential negative impacts on operations and will continue wherever possible to plan proactively for both the remaining phase of ramp up at Santana but also in preparation for the second planned operation at Cerro de Oro where we hope to begin the permitting process shortly upon receipt of all remaining surface rights agreements.



Photo 1: Advancement of stacking and leaching activities at Santana heap leach pad

#### **Cautionary Statement**

The Company made its production decision and has started the development and production of the Santana gold mine without having completed a feasibility study demonstrating economic and technical viability. As such, there may be increased uncertainty of achieving planned production levels, estimated recovery of gold, the costs associated with such recovery, including increased risks associated with developing a commercially mineable deposit. Historically, such projects have a much higher risk of economic and technical failure. Failure to commence production would have a material adverse impact on the Company's ability to generate revenue and cash flow to fund operations.

Mr. Darren Koningen, P. Eng., Minera Alamos' CEO, is the Qualified Person responsible for the technical content of this press release under National Instrument 43-101.

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#### About Minera Alamos Inc.

Minera Alamos is a gold prodution and development Company undergoing the operational startup of its first gold mine that produced its first gold in October 2021. The Company has a portfolio of high-quality Mexican assets, including the 100%-owned Santana open-pit, heap-leach mine in Sonora that is currently going through its operational ramp up. The 100%-owned Cerro de Oro oxide gold project in northern Zacatecas that has considerable past drilling and metallurgical work completed and could enter the permitting process rapidly. The La Fortuna open pit gold project in Durango (100%-owned) has an extremely robust and positive preliminary economic assessment (PEA) completed and the main Federal permits in hand. Minera Alamos is built around its operating team that together brought 3 mines into successful production in Mexico over the last 13 years.

The Company's strategy is to develop very low capex assets while expanding the projects' resources and continuing to pursue complementary strategic acquisitions.

## **Caution Regarding Forward-Looking Statements**

This news release may contain forward-looking information and Minera Alamos cautions readers that forward-looking information is based on certain assumptions and risk factors that could cause actual results to differ materially from the expectations of Minera Alamos included in this news release. This news release includes certain "forward-looking statements", which often, but not always, can be identified by the use of words such as "believes", "anticipates", "expects", "estimates", "may", "could", "would", "will", or "plan". These statements are based on information currently available to Minera

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The Company does not have a feasibility study of mineral reserves, demonstrating economic and technical viability for the Santana project, and, as a result, there may be an increased uncertainty of achieving any particular level of recovery of minerals or the cost of such recovery, including increased risks associated with developing a commercially mineable deposit. Historically, such projects have a much higher risk of economic and technical failure. Failure to commence production would have a material adverse impact on the Company's ability to generate revenue and cash flow to fund operations.

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