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# THE MINING RECORD

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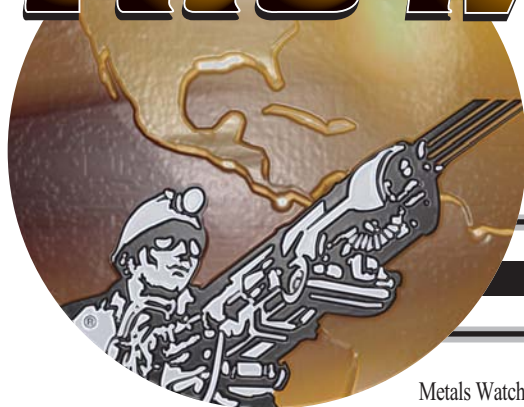
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Metals Watch (02/11/2022): Gold \$1,858.90 • Silver \$23.57 • Copper \$4.45 • Lead \$1.04 • Zinc \$1.65 • Platinum \$1,026.00 • Palladium \$2,249.00 • Uranium \$42.85 • Rhodium \$16,900.00 • Coal: \$189.00

## FCX Projects Copper Sales Of 4.3 Billion Pounds In 2022

PHOENIX, AZ - Freeport-McMoRan Inc. (FCX), Chairman and Chief Executive Officer, Richard C. Adkerson, said, "I am incredibly proud of our Freeport team's stellar performance during 2021 to deliver growth in volumes, solid cost and capital management in a challenging environment and to advance our sustainability objectives. We are positioned for a bright future as a leading, responsible, long-term supplier of copper to support the global economy and the transition to clean energy. We have a clear strategy of being foremost in copper, our balance sheet is strong and the prospects for our business have never been brighter. Our team is focused on continuing strong execution and generating strong cash flows to support advancement of organic growth initiatives and increase cash returns to shareholders under our established financial policy. Our success will support value creation for all stakeholders."

In the fourth quarter copper sales of 1.02 billion pounds approximated the October 2021 estimate of 1.025 billion pounds of copper. Fourth-quarter 2021 copper sales were higher than fourth-quarter 2020 sales of 866 million pounds of copper, primarily reflecting the ramp-up of underground mining at PT-FI and higher milling rates in North America and South America. Gold sales of 395 thousand ounces were 5 percent above the October 2021 estimate of 375 thousand ounces of gold, primarily



Freeport-McMoRan intends to increase exploration expenditures during 2022 primarily to advance Lone Star and other opportunities at the North America copper mines. Photo Courtesy Of: Freeport-McMoRan, Inc.

ly reflecting higher throughput rates. Fourth-quarter 2021 gold sales were higher than fourth-quarter 2020 sales of 293 thousand ounces, primarily reflecting the ramp-up of underground mining at PT-FI. Molybdenum sales of 19 million pounds were lower than the October 2021 estimate of 22 million pounds and fourth-quarter 2020 sales of 21 million pounds, primarily reflecting timing of shipments.

Consolidated sales volumes for the year 2022 are expected to approximate 4.3 billion pounds of copper, 1.6 million ounces of gold and 80 million pounds of molybdenum, including 970 million pounds of copper, 380 thousand ounces of gold and 20 million pounds of molybdenum in first-quarter 2022. Projected sales volumes are dependent on operational performance, weather-related conditions, timing of shipments and other factors

The Company is committed to validating all of its copper producing sites with The Copper Mark, a comprehensive assurance framework designed to demonstrate the copper industry's responsible production practices. To achieve The Copper Mark, each site is required to complete an external assurance process to assess conformance with 32 environmental, social and governance requirements. In fourth-quarter 2021, FCX achieved the Copper Mark at Bagdad. To date, FCX has a total of seven sites that have been validated (Bagdad, Morenci, Miami, El Paso, Cerro Verde, El Abra and Atlantic Copper), and has commenced The Copper Mark assessment process at four additional sites in North America, specifically Chino, Tyrone, Safford and Sierrita.

FCX has substantial reserves and future opportunities in the United States (U.S.), primarily associated with existing mining operations. Current operations at the Lone Star copper leach project, which was completed in the second half of 2020, are exceeding the initial design capacity of 200 million pounds annually and produced approximately 235 million pounds of copper in 2021. FCX continues to advance opportunities to increase Lone Star operating rates and is advancing plans to increase volumes to achieve 300 million pounds of copper per year from oxide ores. The oxide project advances the opportunity for development of the sulfide resources at Lone Star.

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DATED MATERIAL — RUSH

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# SGV Drill Hole Enters Paleozoic Lower-Plate Bedrock

RENO, NV - Nevada Exploration Inc. (NGE) reported on the exploration program at its South Grass Valley Carlin-type gold project (SGV). Current drill hole SGVC013 has entered Paleozoic "lower-plate" bedrock, and is currently at 630 metres drilling through the Goodwin Formation towards the Clm unit that hosts the Company's primary East Golden Gorge target.

SGVC013 appears to currently be drilling through the Water Canyon structural corridor, the sampling of which is an important objective for the drill hole. Drilling was halted for two weeks due to technical and mechanical issues that have now been resolved. In January, the Company finished a 50-square-kilometre passive-seismic geophysical survey, the data which will be analyzed with the goal of improving the structural resolution of NGE's geologic model at the Project.

NGE President and CEO, James Buskard, said, "Drilling conditions in these Carlin systems are generally difficult, and SGV C013 has provided some particular challenges around the bedrock contact. Our drilling partner Drill NV has been able to get through this zone, and we're now into lower plate drilling through the Goodwin Formation - the formation that sits above what we believe to be the Hales Formation, which contains our Clm host unit.

We're still relatively high in the stratigraphy compared to where we expect to encounter the Clm unit; however, this hole was purposely located along the projection of the Water Canyon structural corridor to collect important information about this feature, which we believe represented the primary source of mineralized hydrothermal fluids into the district. As we would expect this

close to a district-scale corridor, we're seeing extensive fault-related damage zones, as well as tectonic brecciation, known to provide important rock preparation that can improve grades within deposits. There is still a ways to go until we're down to the targeted unit, though we're pleased that the initial indications suggest we've reached, and are in fact currently drilling through, our projected corridor.

These early holes of Phase 3 drilling program continue to validate our exploration model, and as we've shared, our job is to now identify potential traps within this large Carlin-type mineral system that could have concentrated the gold, which we know are often structurally related. With the objective of potentially providing new data to improve the structural resolution of our geologic model, we've agreed to participate in an academic and industry research collaboration to look at the use of passive-seismic geophysics in Carlin-type systems. With our partners, we laid out a program at South Grass Valley designed to use the seismic energy generated at Cortez to the north to activate the array of sensors. The sensors were deployed in December and retrieved in January, and the data is now being sent to our industry partner for processing.

Beyond mapping the bedrock surface, we're also hoping to see contrast that can improve our understanding of how the Water Canyon structural corridor passes through the district. From a research perspective, what will be most interesting is if the method is able to recognize differences in bedrock related to fluid pathways or alteration associated with hydrothermal fluid flow, which is the mechanism that brings gold into these districts."

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# IP Geophysical Survey Completed At Stillwater

VANCOUVER - Group Ten Metals Inc. reported results from the Induced Polarization geophysical (IP) survey completed in 2021 at its 100%-owned Stillwater West PGE-Ni-Cu-Co + Au project in Montana. The 2021 survey was completed as an expansion off the west end of the 2020 survey, covering the area between the Hybrid and DR deposits at Chrome Mountain and drill-defined high-grade

180 mV/V were returned in the Pegmatoid Ridge target area, coincident with a strong kilometer-scale gold-in-soil anomaly that is contiguous with drill-defined high-grade gold at the Pine target, two kilometers to the southeast. Anomalous palladium, platinum, nickel and copper are also seen in soils in this area. 6) IP geophysics has proven to be an effective tool for identifying high-grade sulphide



gold mineralization at the Pine target area. The size and strength of the resulting geophysical signatures demonstrate additional potential for large bodies of sulphide mineralization.

Survey Highlights: 1) High-level geophysical anomalies, measured and modeled in 3D to 800 meters depth, extend the combined model from 9.2 kilometers ("km") to 12km in length in the center of the 32-kilometer-long Stillwater West project. 2) The five deposits defined by the Company's inaugural NI43-101 mineral resource estimate\* are set in similar anomalies in the 2020 IP survey and show strong spatial correlations with IP results, demonstrating the effectiveness of the technique in targeting desirable Platreef-style sulphide mineralization in the lower Stillwater complex. 3) Results of the combined IP surveys suggest significant expansion potential for drill-defined sulphide mineralization in the 2021 mineral resource estimates which delineated a total of 1.1Blbs of nickel, copper, and cobalt, plus 2.4Moz of palladium, platinum, rhodium and gold. 4) The expanded survey included the Pine target area with the objective of finalizing drill targets and advancing drill-defined high-grade gold mineralization towards definition of a formal mineral resource. 5) Very high chargeability readings of over

mineralization in the lower Stillwater Igneous Complex, guiding Group Ten's 2020 and 2021 drill campaigns to the discovery of multiple new high-grade magmatic horizons of Platreef-style nickel and copper sulphide mineralization, with palladium, platinum, rhodium, gold, and cobalt.

Michael Rowley, President and CEO, said, "Results from the 2021 IP geophysical survey expanded our model of the core project area by 30% in length and advanced very high-quality targets with some of the highest chargeability readings to date. 3D models developed from the combined survey - and the strong correlation with drill-defined mineralization that is demonstrated across the core 12-kilometer span of the project - highlight the remarkable scale and potential of the mineralized system at Stillwater West and provide important information on structure and geometry for our predictive geologic model to guide future drill campaigns. Near-term, we are looking forward to announcing additional assay results from the 14 resource expansion holes drilled in 2021. The results will allow us to finalize our exploration plans for 2022 which will focus on resource expansion drilling in priority deposit areas in addition to other high priority targets within the now expanded 12km core project area."

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## THE MINING RECORD

INDUSTRY NEWS™

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# Don E. Howell

April 6, 1939 - April 27, 2021



**Don E. Howell, Chairman and Chief Executive Officer**

In the early 1970's Don E. Howell purchased The Mining Record, a struggling publication which had once been a prominent daily newspaper of Denver. Using original publishing equipment, Don worked tirelessly to turn the business around, creating the Howell Publishing Company in the process. His newly formed company designed publications and marketing materials for some of the areas most recognized companies, growing to become one of Denver's leading publishing groups.

Don continued to publish The Mining Record weekly and during the ensuing years, built the newspaper into an industry frontrunner for mining news and advertising. The company grew from a one-man operation to employing industry professionals and recent mining school graduates, launching the careers of many who are now executives in the industry.

Expanding on his success, Don created publications for mining associations and began promoting mining trade shows and conferences in The Mining Record. His positive impact and influence, led to expanded attendance, increased exhibitor participation, and greater industry recognition. As a key player and straight shooter in a 'tight knit' industry, Don was able to further develop the business, forging friendships through the years that lasted a lifetime.

As a result, Don Howell became synonymous with The Mining Record.

Don was honored numerous times throughout the years for his impact and dedication, receiving multiple industry awards and in 2009, presented the Lifetime Achievement Award by his mining peers.

However, if you asked about his greatest accomplishment, he would answer - "Family. My family is my biggest accomplishment and the fact that they are proud of me, is all that matters".

We Honor the Love, Dedication, and Leadership of a "Larger Than Life" husband, father, grandfather, and friend.





# Positive Drill Program Results At The Frost Project

WINNEMUCCA, NV - Paramount Gold Nevada Corp. announced positive results from its first drill program at its Frost project located within trucking distance of the proposed Grassy Mountain Mine operation.

"We are pleased with the results of this initial program. We have encountered a robust

gold system which could have the potential to generate significant tonnage of economic material," said Glen Van Treek, President and Chief Operating Officer. "There is much more drilling to be done but these results confirm the presence of a gold system as indicated by our surface work."

A total of 13 reverse circulation drill holes totaling 9,010 feet were completed to test targets based upon surface geology and sampling, along with ground and helicopter borne geophysical surveys.

The drill plan was also designed to locate and test historical intercepts from drilling

in the 1990's which had significant gold values, however no records remain of the precise locations of the historic holes. Several drill holes intersected significant gold grades over interesting intervals including a 5-foot sample with a gold grade of 14.4 g/t and shallow intercepts up to 70 feet averaging

1.04 g/t.

The high-grade intercepts are related to silicified structures that have been interpreted to have near vertical dips. Specifically, intercepts in holes 2, 3 and 13 are interpreted to be the same vertical structure where the gold grade is increasing with depth as evidenced from the 20-foot grading 2.48 g/t of gold at 170-foot depth, and 4.85 g/t of gold at a depth of 370 feet.

The initial drill program has provided Paramount with an increased understanding of the gold distribution. The orientation of the main mineralized zone and the increase in gold grade with depth will be key factors for defining a second, follow-up drilling phase. 3D modeling of the drilling, assays and geologic interpretation are ongoing.

Results will be used for targeting a wider or more disseminated zone of mineralized material that can be mined and trucked to the proposed Grassy Mountain operation thus increasing the project's overall mine life.

Based upon similar low sulfidation epithermal deposits around the world and Paramount's experience with the Grassy Mountain and Sleeper projects, it is expected that the Frost veins will pinch and swell, changing in width dramatically along strike or at depth. The Company is pursuing evidence that these veins could be the lateral extension of a much larger mineralized zone.

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# Significant Production Growth At Lucky Friday And Casa Berardi

COEUR D'ALENE, ID - Hecla Mining Company, President and CEO, Phillip S. Barker, Jr. said, "All three mines reported strong production with significant production growth at Lucky Friday and Casa Berardi. Lucky Friday increased production by 75% over the prior year primarily because in 2021 the mine was in full production for the entire year. In the fourth quarter, the expected higher silver grades and benefits of the new mining method delivered a 15% increase over the third quarter. The 2020 and 2021 investments helped Casa Berardi produce 11% more gold ounces than in 2020 and 25% more than in the third quarter. At Greens Creek, silver grades improved after resolving the third quarter mine sequencing issues, as a result fourth quarter production was 2.3 million ounces of silver and over 9 million ounces for the year. Even with doubling our exploration expenditures from 2020 and further enhancing our silver-linked dividend, our strong operational performance in 2021 delivered an increase of \$80 million to our cash balance. With a strong operational and financial year behind us, we expect to con-

tinue to build on these achievements in 2022."

At the Greens Creek Mine in 2021, 9.2 million ounces of silver and 46,089 ounces of gold were produced. For the fourth quarter, 2.3 million ounces of silver and 10,229 ounces of gold were produced. Silver and gold production were lower for the year by 12% and 5%, respectively, primarily due to lower grades and mine sequencing, partially offset by higher mill throughput. Silver and gold production increased in the fourth quarter compared to the third quarter of 2021 by 23% and 5%, respectively, with the increase in silver due mainly to higher grades. The mill operated at an average of 2,307 tons per day (tpd) in 2021.

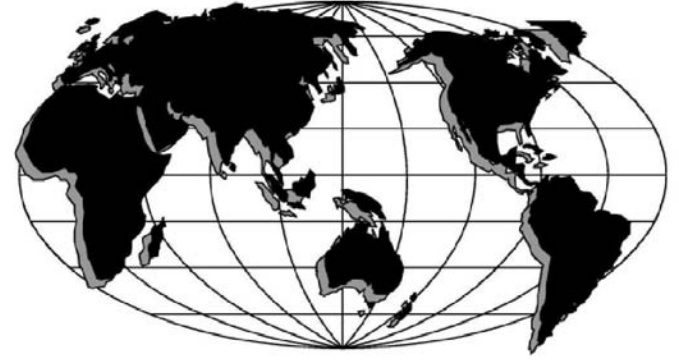
At the Casa Berardi Mine, 134,510 and 37,266 ounces of gold were produced in 2021 and the fourth quarter, respectively, increases of 11% and 25% over 2020 and the third quarter of 2021, respectively. The mill operated at an average of 4,187 tpd in 2021, which was a record, with ore production commencing from the new 160 pit in the fourth quarter of 2021.

At the Lucky Friday Mine, 3.6 million and almost 1.0 million ounces of silver were produced in

2021 and the fourth quarter, respectively. Silver production increased compared to 2020 and the third quarter of 2021 by 75% and 15%, respectively. The increase for the year reflected a full year of production, following the return to full production in the fourth quarter of 2020. The increase for the fourth quarter compared to the third quarter is due to higher grades and increase in milled tonnage. The mill operated at an average of 882 tpd, and approximately 86% of mine production for the year came from the newly developed Underhand Closed Bench mining method.

At the Nevada operations in 2021, production totaled 20,727 gold ounces and 46,319 silver ounces from remaining stockpiled non-refractory material, a bulk sample of refractory material processed at a third-party roaster, and additional refractory material processed at a third-party autoclave. The mine and mill facilities have been placed on care-and-maintenance while exploration at multiple targets and development of a decline to the Hatter Graben area at the Hollister mine continues. Underground exploration drilling from platforms available at Hollister commenced in the fourth quarter of 2021.

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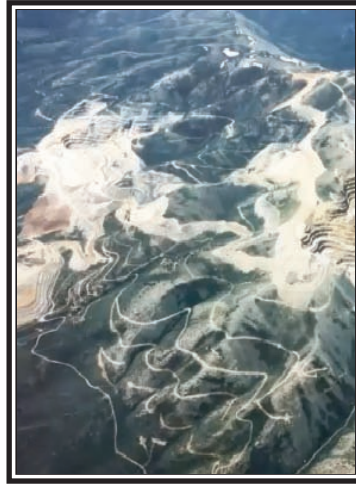
# High-Grade Mineralized Core At Rangefront Focus Area

VANCOUVER - Liberty Gold Corp. reported additional reverse circulation (RC) results from the 2021 drill program in the Rangefront Focus Area (RFA) at the Black Pine oxide gold deposit, Idaho. The RFA is host to a major new oxide gold discovery in the down-faulted southeast portion of the Black Pine gold system and has been a focus of our drill campaign since it was discovered in Q3 2021.

Results to-date confirm the RFA discovery is quickly expanding, with gold mineralization extending over an area of approximately one square kilometer (km<sup>2</sup>) and it remains open for extension in all directions.

Liberty Gold has continued to expand on the D-4 Discovery area within the RFA, adding drill sites to the north, south and east, toward the original Rangefront deposit defined by shallow his-

torical drilling. Notably, a NW-SE-trending, high-grade mineralized core has now been delineated over a 300 x 400-meter (m) area that remains open along trend to the NW and SE. Additionally, of the 46 holes drilled and assayed in the RFA since Q3 2021, virtually all have returned multiple, relatively flat zones of oxide gold mineralization from near-surface to a depth of up to 400 m.



controlled mineralization around a high-grade core. This similarity continues to reinforce our hypothesis that the RFA represents the down-faulted southeast portion of the Black Pine gold system.

The current success at the RFA is exciting and there remain several square kilometres of undrilled prospective ground."

The 2022 exploration program at Black Pine commenced at the beginning of January, with three RC and one core rig active. Drilling through to the end of February will focus on the lower-elevation RFA to provide data for resource estimation and metallurgical testing. The current RFA drill campaign will end in late February, and the drillhole database and geological model will be updated for the upcoming mineral resource estimate. The drills will then move off in the interim to continue both in-fill and step-out drilling at other prospective areas on the Black Pine deposit.

Liberty Gold plans to aggressively advance Black Pine in 2022 with drilling, initial engineering and permitting programs and further derisking activities, with the goal to provide an updated resource estimate and Preliminary Economic Assessment in Q3 2022 and reach a prefeasibility decision by Q4 2022.

Cal Everett, President and CEO, said, "RFA drilling continues to deliver significant oxide gold intercepts in multiple zones over a large surface area. With a high-grade core now defined and open for expansion along trend, we expect a significant upgrade to the mineral resource estimate in 2022."

Moirá Smith, VP Exploration and Geoscience, said, "The results are so compelling, we have decided to forgo the typical winter drill shut-down and work through the winter with three RC and one core drill focused on the RFA. The geometry and scope of mineralization at Rangefront looks very similar in many ways to the Discovery Zone after only four months of drilling, with several stacked, low-angle zones of structurally and stratigraphically

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# Final Seven Drill Holes Completed At The Haidee Target

TORONTO - Revival Gold Inc. reported that the final seven infill drill holes completed in the Haidee target area in connection with the Company's 2021 exploration program at the Beartrack-Arnett Gold Project located in Idaho. Each of the

seven holes reported, encountered above cut-off grade, near-surface oxidized gold mineralization. Highlights include: 1) 0.92 g/t gold over 16.2 meters in AC21-075D. 2) 0.75 g/t gold over 44.1 meters in AC21-084D. 3) 0.92 g/t gold over 14.8

meters in AC21-081D. 4) 0.57 g/t gold over 12.2 meters and 0.51 g/t gold over 22.2 meters in AC21-077D. 5) 0.42 g/t gold over 25.7 meters and 0.48 g/t gold over 27.4 meters in AC21-083D.

The 2021 drilling program at

Haidee was designed to upgrade and expand the deposit's current Inferred heap leachable mineral resources. In addition, the program included holes drilled to obtain engineering data for Revival Gold's planned late-2022 Pre-Feasibility Study. A

total of 15 holes were completed for approximately 2,500 meters, with four holes drilled for geotechnical and hydrological purposes. Results are consistent with results from previous drilling and continue to support the up-dip and down-dip extensions of mineralization in the Haidee area as areas for the potential expansion of the current Mineral Resources.

"Drill results released today will support an upgrade in the quality of the gold resource at Haidee and point to future resource expansion opportunities both up and down dip of the current deposit", said Hugh Agro, President and CEO. "An updated resource estimate for the entire Beartrack-Arnett project is well underway and results are expected to be released by quarter end."

## 166M Silver Ounces Declared At Calico Project Maiden Resource Estimate

VANCOUVER - Apollo Silver Corp. reported that the Maiden National Instrument (NI) 43-101 Mineral Resource Estimates (MRE) for the Waterloo and Langtry silver properties, now collectively referred to as the Calico Silver Project, located in San Bernardino County, California. An Inferred resource estimate of 166 million ounces (Moz) of silver contained in 58.1 million tonnes (Mt) at an average grade of 89 grams per tonne (g/t) has been defined at Calico by Derek Loveday, P.Geo., of Stantec Consulting Services Ltd..

"This resource estimate represents the achievement of a significant milestone," said CEO, Tom Peregoodoff. "The outcome we are announcing today confirms Calico as one of the largest undeveloped silver and positions Calico as one of the largest globally. The conservative cut-off grade, low strip ratio, and coherent distribution of silver mineralization provide a solid foundation for Apollo to advance the project. Calico represents an exciting development opportunity and provides low risk leverage to future silver prices. For investors looking for exposure to silver in a Tier 1 jurisdiction, Calico represents a compelling opportunity."

The MRE considered drilling information up to and including the most recently completed programs in 2012 and geological information from Apollo's 2021 activities. Drilling information included exploration drilling records for a total of 438 drill holes; 255 holes, 18,626 m (61,108) at Waterloo and 183 holes, 23,465 m (76,986 ft) at Langtry. Nominal drill hole spacing is 40 x 45 m (140 x 150 ft) at Waterloo and 50 x 60 m (160 x 200 ft) at Langtry. Average drill hole depths at Waterloo were 73 m (240 ft) and at Langtry 128 m (420 ft). Most holes are vertically oriented reverse circulation holes, with six holes being diamond drill holes.

The resource estimate only considered silver. Previously, metals had been included in historic resource statements.

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## ALASKA

# Johnson Tract Polymetallic Au Project Exploration Program

VANCOUVER - HighGold Mining Inc. reported results from ten (10) additional holes at its 0.75 Moz Indicated 10.9 g/t gold equivalent (AuEq) Johnson Tract polymetallic Gold Project (JT) in Southcentral Alaska. The 2021 JT exploration program was completed with 19 of 44 drill holes released to date. Drill holes are from infill and expansion drilling at the JT Deposit. Results include new mineralized intersections from: i) the upper deposit area; ii) down-plunge and down-dip extensions of the lower deposit; and iii) footwall copper zone mineralization.

"We continue to be impressed by the strength of the mineralizing system at Johnson Tract," commented President and CEO Darwin Green. "Drill hole JT21-134 is a prime example of the exceptional width and tenor of mineralization at JT, while drill hole JT21-133, which was drilled approximately 400m down-plunge of JT21-134 and well outside the current resource, highlights both the continuity and spectrum of mineralization styles present at JT. We are looking forward to the results of our metallurgical test program which will give us the first modern metal recoveries for the Project in over 25 years and will dovetail with the mineral resource update planned for early 2022."

Assay results include an inter-

section from infill drilling at the JT Deposit from hole JT21-134. It is the second of two planned infill holes designed with the dual purpose of collecting sample material to support the Phase I metallurgical testing program and also providing better definition of the upper, near-surface portion of the JT Deposit. The hole successfully intersected typical 'JT-style' mineralization in silicified, veined and brecciated dacite tuff over 84.7 meters from 66.3-151.0m.

The JT21-134 intersection of 84.7m at 4.7 g/t Au, 4.6% Zn, 1.6% Pb, 0.3% Cu contains higher-grade gold over much longer widths than immediately surrounding drill holes JT19-083 and JT19-087, and correlates well with down-dip hole JT19-088 which intersected 97.5m at 5.9 g/t Au, 3.9% Zn, 0.5% Cu. Collectively, the 2021 infill drill holes, which include JT21-134 and JT21-125 (56.6m at 18.7 g/t Au, 2.4% Zn, 0.5% Cu) will have a positive impact on the updated resource as both contain significantly higher gold grade than the resource blocks they tested.

The Company also reports drill results from eight (8) holes which were designed to test the along strike and down-plunge extents of the JT Deposit and related Footwall Copper Zone. Assays results from holes JT21-124, 126 to 130, 132 and 133 represent step-outs 100 to 350 meters



Drill equipment barged across Cook Inlet for the Johnson Tract Project (JT). The 2021 JT exploration program was completed with 19 of 44 drill holes released to date. Drill holes are from infill and expansion drilling at the JT Deposit.

along strike to the northeast and down-plunge from the JT Deposit mineral resource. The holes were designed to test the expansion potential of the JT Deposit on approximate 50-meter centres on 100-meter spaced cross-sections (subject to local topography). Drill hole JT21-131, also reported herein, tested a separate target located east of the JT Deposit.

The most encouraging hole, JT21-133, was drilled 200 meters down-plunge from the JT Deposit mineral resource. The hole intersected multiple discrete zones of mineralization starting at 229.0 meters downhole and continuing to 453.80 meters, all hosted within a dacite lapilli tuff, subsequently altered to massive anhydrite and locally quartz-sericite-pyrite, and cut by base metal-rich silici-

fied and veined zones up to 10 meters in width between 324.20-326.20m, 364.40-374.4m and 444.60-453.80m. The character of the mineralization observed in this hole ranges from an Au-Zn-Pb-rich upper zone, through Zn-Pb dominant zones, to a Cu-Ag-rich footwall zone. This area remains open at depth and along strike and will be the subject of follow-up drilling in the 2022 field season. The location of holes JT21-130/132/133.

The Au-Cu-Zn-Ag-Pb mineralization associated with the JT Deposit has been defined over total strike length of 600 meters and remains open along strike to the northeast and southwest, and at depth. JT Deposit true thickness ranges from 20 to 50 meters.

Data compilation is underway following the completion of the 2021 Drill Program at Johnson Tract in late October.

Total meterage for the Program was 16,198 meters in 44 completed drill holes. Assays results will be released on an ongoing basis pending review and meeting Company quality assurance-quality control protocols. A total of 19 drill holes have been released to date. An updated mineral resource estimate is planned for the JT Deposit in Q1-2022, following the completion and receipt of all assays from the 2021 drill program. The new mineral resource estimate will incorporate 30,000 meters of new drilling completed in 2020 and 2021 since the last estimate.

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# Metallurgy Testwork Confirms Excellent Gold Recoveries At Cyclopic Area Of Gold Basin

VANCOUVER - Gold Basin Resources Corporation reported on initial Bottle Roll Metallurgical Leach Testwork conducted in December 2021 on samples from the Cyclopic area of its 100%-owned Gold Basin project in Mohave County, Northern Arizona. In summary: 1) Bottle Roll Leach tests on samples from Cyclopic returned an average extraction of 72% gold and a maximum extraction of 86% gold (72 hrs leach time). 2) Gold extractions were good to excellent at depth and across the range of head grades. 3) Samples were taken across the deposit and at varying depths to ensure representativeness. 4) All results show a low sodium cyanide consumption in leach. 5) Further detailed metallurgical test-work is currently underway at the KCA laboratories in Reno, Nevada.

Gold Basin submitted a total of 126 oxide-gold sample interval composites to metallurgy and process design experts Kappes, Cassidy & Associates (KCA) in Reno, Nevada in late October 2021. KCA sorted, weighed and composited these



samples into sixteen (16) separate composite samples, which were then prepared with approximately 80% passing 1-2mm in size for bottle-roll leach test-work.

Samples were selected from four PQ diamond drill holes drilled in four areas of the Cyclopic deposit to provide a distribution laterally and verti-

cally through the deposit. The 72-hour leach tests demonstrate the potential for excellent extraction (recovery) for the Cyclopic oxide ore. 25% of the samples returned gold recoveries of over 80% and a further 50% above 70% gold recovery. Sodium cyanide consumptions ranged from 0.01 kilograms per metric tonne to 0.09 kilograms per metric tonne, which is on the lower side of typical consumptions. Hydrated lime additions ranged from 0.50 kilograms per metric tonne to 1.50 kilograms per metric tonne.

A comprehensive work program is currently underway on PQ core from the Cyclopic deposit that was provided to KCA in November 2021. The program was designed to provide at least a Scoping Study level of accuracy and will include 60-day column leach tests and a detailed dataset on the metallurgical recovery characteristics of the core. The Company will report on these results as they become available. KCA is independent of the Company.

## WASHINGTON STATE

# Gold Intersection On Cook Mountain Project

VANCOUVER - Adamera Minerals Corp. reported a high-grade gold intersection in the Overlook area of the Cook Mountain project in Washington State. Drill hole OLV6 intersected 3.05 metres with 6.5 g/t Au including a 1.52 metre zone with 12.2 g/t Au. Drill hole OLV6 was designed to test an induced polarization (IP) anomaly and gold in outcrop at the Outlook Ridge prospect. The high-grade intersection occurs from 239.57 to 242.62 metres down hole and is located approximately halfway between the Overlook and the Key West Mines which are 1000 metres apart.

The 12.2 g/t Au intersection occurs in clastic rocks approximately 122 metres above the limestone contact and projects to surface along a topographic / vegetation lineament between the two mines. At the clastic-limestone contact, a 6.2 metre interval with 0.7 g/t Au was intersected including 1.13g/t Au over 2.44 metres and 1.3 g/t Au over 1.5 metres. The IP response for this target appears to be related to veined and disseminated sulfides throughout the



drill hole. In addition to the gold bearing zones described above, several additional zones with elevated gold were encountered, including an interval with 0.41 g/t Au over 11.9 metres from 3.35 metres to 15.24 metres, incorporating a 1.5 metre interval with 1.03 g/t Au. This shallow mineralization is assumed to be related to the gold in outcrop.

"We intersected high-grade gold mineralization along trend and midway between two past producing mines. We also intersected multiple intervals with lower grade gold over meaningful widths. What is most surprising is the lack of past drilling in this area. We can only assume that drilling was focused around the immediate area of the mines," says Mark Kolebaba President and CEO.

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# Longest Continuous Clay Intercept On McGee Project

VANCOUVER - Spearmint Resources Inc. reported that drill hole-18, from the phase III drill program on Spearmint's McGee Lithium Clay Project in Clayton Valley, Nevada, has set a new record for the project, encountering a massive 652 feet of continuous potential lithium-bearing claystone.

To date, this is the longest continuous clay intercept discovered on the 'McGee Lithium Clay Project' and the farthest step-out hole to the West, at approximately 3,700 feet from any drill hole from previous phases of drilling. Previously, Spearmint announced that drill hole-15 of this phase III

drill program on McGee, encountered 562 feet of continuous potential lithium-bearing claystone, which was the longest to date at that point. Management cautions that past results or discoveries on properties in proximity to Spearmint may not necessarily be indicative to the presence of mineralization on the properties.

The targeted potential lithium-bearing claystone was encountered in 4 holes drilled on the Phase III drill program, including two massive intercepts of 562 feet (hole-15) and 652 feet (hole-18) of continuous claystone. These holes are two of the longest

continuous intercepts of claystone recorded in the history of Clayton Valley, Nevada. Samples from the phase III drill program have been immediately sent to ALS for assaying on a rush basis.

James Nelson, President, said, "We are extremely pleased to have once again discovered our longest intercept of 652 feet of continuous potential lithium-bearing

claystone to date on our flagship project, the McGee Lithium Clay Project in Clayton Valley, Nevada.

Hole-18 beats our recent longest claystone intercept of 562 feet, announced on Jan. 21, 2022. Not only are these two holes the longest but they are approximately 2,500 feet and 3,700 feet to the West of any previously hole

drilled in previous phases of drilling on the McGee. If these holes run at lithium grades, similar to what we've already achieved on the McGee Project, it could potentially increase our resource estimate significantly. Management eagerly awaits these assays, especially when you consider that lithium prices and demand are at all-time highs."

## Acquisition Of Buenaventura Stake In Minera Yanacocha


DENVER, CO - Newmont Corporation and Compañía de Minas Buenaventura S.A.A. (Buenaventura) announced that the companies have entered into a definitive purchase agreement through which Newmont will acquire Buenaventura's 43.65% interest in Minera Yanacocha.

"Newmont has successfully operated in Peru for more than 30 years and has deep knowledge of the asset and the value it brings to Newmont stakeholders. Buenaventura has been an exceptional partner and we

look forward to continuing a strong relationship," said, Newmont President and CEO, Tom Palmer. "This acquisition gives Newmont control of the Yanacocha district where we are positioning the sulfides project for profitable production and value generation for decades to come.

We are committed to continuing to be a catalyst for sustainable development in Peru by working closely with communities in the Cajamarca region and the Peruvian government."





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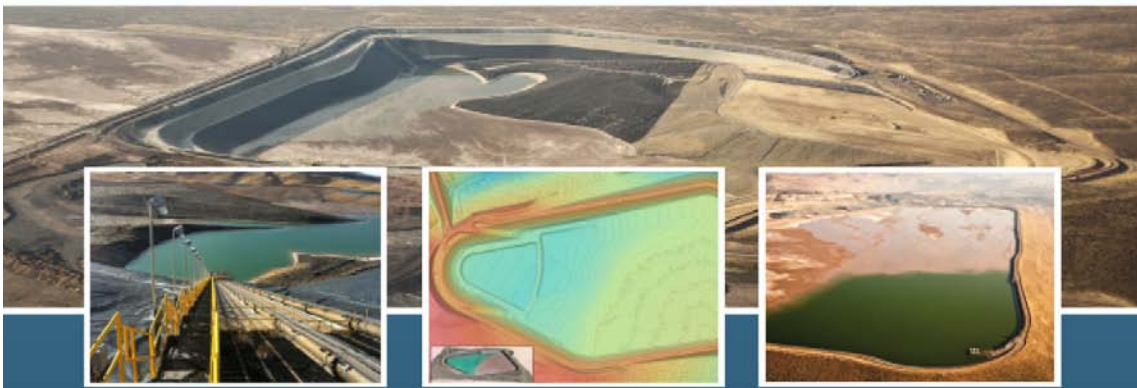


WYOMING

# Program Confirms Mineralization At Wolf Gold Project



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VANCOUVER - Visionary Gold Corp. reported on the first five drillholes at its Wolf Gold Project in Fremont County, Wyoming. Gold mineralized zones were encountered in each of the first five drill holes, confirming continuous gold mineralization over 480 metres ("m") of the 2.6-kilometre ("km") shear zone.

"Intersecting gold values in each drillhole of the first-ever drill program in the Lewiston District confirms the existence of a large gold-bearing hydrothermal system, supporting our exploration thesis," said, CEO, Wes Adams. "We know from extensive surface sampling and mapping that higher-grade zones of mineralization exist within the Wolf Shear structure, but more drilling is needed to further define them. Additionally, we plan to drill-test three recently defined parallel mineralized structures that have been identified adjacent to the Wolf Shear Zone, as well as other new targets generated

during a busy 2021 field program. Full results from regional exploration and a summary of new drill targets will be forthcoming."

The five holes drilled at the Wolf Gold Project in 2021 (WLF001-WLF005) totalled 780m. Gold mineralization occurred in chlorite and limonite-stained fault breccias, veins and zones of intense fracturing within the shear corridor. Interpreted mineralized corridors appear to be continuous over the full 480m; however, the widths and grades of mineralization appear to be increasing slightly to the northeast along strike.

All drill holes in the 2021 program were drilled from northwest to southeast across the interpreted strike of the Wolf Shear Zone; however, future drilling will also test cross cutting structures and shallowly, southeasterly dipping veins, which could have an influence on mineralization. Assay values results range of detection limit to 1.33 grams per tonne gold (g/t Au).

## NI 43-101 Technical Report For Maverick Springs Project

VANCOUVER - Element79 Gold Corp. reported the filing of a National Instrument 43-101 Technical Report on the Maverick Springs Project located in northeastern Nevada. Highlights of the Technical Report on Maverick Springs include: 3.71 million gold equivalent ounces "Au EQ" (278.0M Ag EQ ounces), within 125.4 million tonnes at an average grade of 0.92 g/t Au EQ (68.9 g/tonne Ag EQ) in the

Inferred category.

The Maverick Springs Project consists of approximately 4,800 acres across 247 unpatented claims that straddle the border of Elko County and White Pine County, proximal to the Carlin Trend, a belt of gold deposits approximately 5 miles wide and 40 miles long that is one of the world's richest gold mining districts, having produced more gold than any other mining district in the US.



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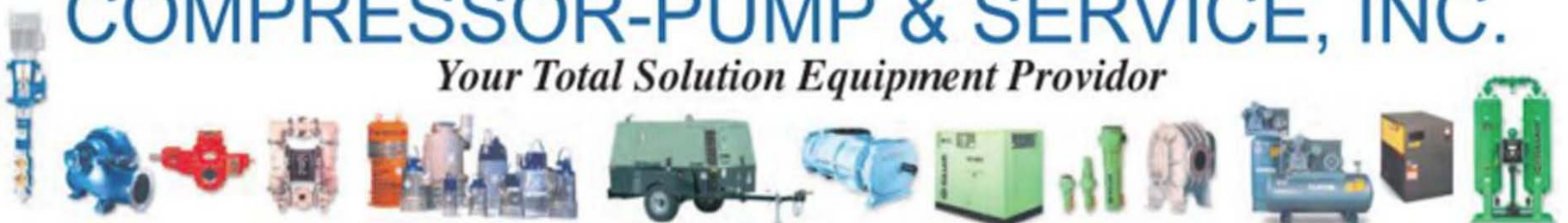
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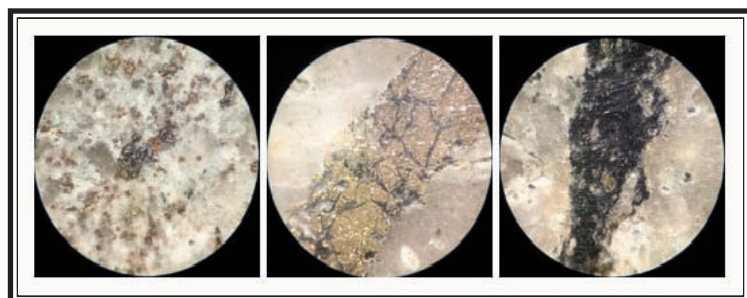




ARIZONA

# Copper Sulfide In Porphyry Identified At Big Sandy Project

VANCOUVER - Bell Copper Corporation has drilled a supergene chalcocite (copper sulfide) deposit hosted by quartz porphyry at its Big Sandy project. Big Sandy is a large, truncated porphyry copper-molybdenum target located in northwestern Arizona, approximately 30 kilometers south of the Perseverance Project.



Drillhole BS-3, which was oriented to test a 2400 meter by 2100 meter area of high electrical conductivity that was detected in an earlier Magneto-telluric survey, passed out of gravel and into hematite-rich, pervasively sericitized quartz porphyry (i.e. "leached capping") at an inclined depth of 1192 meters. The true thickness of the gravel layers penetrated by BS-3 at an oblique angle is estimated to be 860 meters. Disseminated chalcocite (copper sulfide) and pyrite was first encountered at an inclined depth of 1303 meters, immediately beneath leached capping. Chalcocite variably overprints predominantly pyritic mineralization from inclined depths of 1303m to at least 1589m, the current bottom of BS-3. Chalcocite mineralization in this 286-meter interval is interrupted by spotty jarosite-bearing shear zones lacking pyrite and chalcocite. No copper oxide minerals have been encountered in the ongoing intersection.

Chalcocite (Cu<sub>2</sub>S, 80 percent by weight copper) is present as

1) steely black coatings surrounding disseminated pyrite, 2) partial to complete replacement of disseminated pyrite grains, and 3) partial to complete replacements of pyrite veins. Minor amounts of bornite (Cu<sub>5</sub>FeS<sub>4</sub>, 65 percent by weight copper) have been seen rimmed by chalcocite in the center of particular pyrite veins. To date, only trace quantities of chalcopyrite (CuFeS<sub>2</sub>, 33 percent by weight copper) have been encountered, mainly in the deepest few meters of core. Sparse quartz-molybdenite veinlets appear to increase in abundance with depth in BS-3.

Oriented core collected near the base of the gravel cover shows that at BS-3 the porphyry system is tilted about 45 degrees from its orientation before faulting. This tilt suggests that the supergene copper blanket in BS-3 can be targeted at shallower depth in the direction of drillhole BS-1, located 1200 meters to the east. A 2-meter interval of chalcocite supergene enrichment underlying hematitic leached capping was cut at a

depth of 936 meters in BS-1 suggesting continuity of supergene copper enrichment and porphyry-related alteration across a distance of 1200 meters.

The intervening ground showed anomalously high electrical conductivity in the August 2020 magneto-telluric survey. A future drillhole is now contemplated to test that shallower target. Drillhole BS-2, located 2.3 kilometers southeast of BS-3, showed only trace amounts of chalcocite, spotty chalcopyrite and pyrite veins, and "fringy" propylitic alteration in Precambrian host rocks.

Tim Marsh, President and CEO, said, "Bell Copper continues to build on the discovery at Big Sandy, first announced in January 2020 with BS-1 cutting chalcocite, chalcopyrite, and molybdenite mineralization hosted by a strongly altered 74.2 Ma porphyry. Our original model of a decapitated, large copper-rich top to the Laramide Diamond Joe porphyry root, which concept also underpins the exploration target at our nearby Perseverance property, is

being borne out in the ongoing Big Sandy drilling program. The Company intends to follow the copper outward and downward in BS-3 to a logical conclusion, and immediately follow up with a 500-meter step-out hole from

the same drill pad. Meanwhile, we will construct a new drill site under our existing permits directly above the BS-3 intersection and mobilized a second drill to push down additional stepout holes from that pad."

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## BOLO GOLD-SILVER PROJECT

# High Priority Untested Exploration Targets Identified

VANCOUVER - New Placer Dome Gold Corp. and Copuar Minerals reported on the recently completed 14.4 line-kilometre induced polarization (IP) / resistivity geophysical survey completed during Q4 of 2021 at the Bolo Gold-Silver Project in Nye County, Nevada. IP/resistivity surveys in conjunction with existing grid rock sampling and geological mapping have defined high priority untested

2021 IP/resistivity surveys expand coverage 1 km north of the 2019 survey limits to test underexplored northern extensions of the prospective Mine Fault and East Fault targets. Inverted chargeability and resistivity data highlight the boundaries of a 1,000-metre x 500-metre outlier of Windfall Formation rocks that occurs within the East Fault target area. Windfall rocks are cut but fault controlled jasperoid units and coincident arsenic (As), barium (Ba) and antimony (Sb) pathfinder element anomalies within surface grid rock samples. The results highlight the prospective East Fault that hosts an outlier of the Windfall Formation, which is the primary host for gold mineralization at the South Mine Fault Zone has yet to be drill tested.

Max Sali, CEO and Founder, said, "We are excited to expand our focus to areas beyond the South Mine Fault Zone and



Uncle Sam prospect. The favorable geology, structure, and pathfinder element anomalies highlighted in the East Fault area provide a compelling exploration target worthy of significant follow-up work, including future drilling. This is further underpinned by the results of the 2021 IP/resistivity surveys that provide evidence of favorable geology and potentially mineralized fault structures extending to depth."

A sharp resistivity gradient

associated with depressed chargeability values defines the eastern fault boundary of the Windfall Formation in the East Fault area. A significant chargeability contrast marks the fault boundary with younger shaley units to the west. Significantly, chargeability inversions define an internal fault structure within the mapped Windfall Formation, associated with fault-related jasperoids and anomalous As, Ba, and Sb pathfinder values.

The geophysical data suggest there may be considerable vertical offset along the structure within areas of the Windfall Formation.

The East Fault target area Windfall Formation is largely underexplored and untested by drilling. An internal fault structure defined by chargeability inversions and associated with jasperoid and elevated pathfinder values within Windfall Formation rocks represents a com-

PELLING, high-priority exploration target. The Company plans to follow up with additional prospecting and rock sampling grids in the northern areas of the Bolo Project to further refine targets prior to drilling.

Five IP/resistivity lines were completed during Q4 of 2021 at the Bolo Gold-Silver Project. The lines are spaced 200 metres apart, with line lengths of approximately 2900 metres. Data were collected using the Direct Current Resistivity, Induced Polarization ("DCIP") method, on a 16-channel pole-dipole array with a dipole size (a-spacing) of 100 metres. A GDD GRx16 receiver and GDD 5000W-2400V-20A IP Tx model Tx4 transmitter was used. Raw data were loaded into GDD IP Post-Process software and Geosoft Oasis Montaj software for quality control and review. The reviewed data were used to produce pseudo section plots of apparent resistivity and apparent chargeability and were the input for the inversion. Inversions were completed using the UBC-GIF DCIP2D inversion codes. Each line of data was inverted independently. The resistivity and IP inversion is a two-step process. The resistivity inversion is run first, and this model is used in the chargeability inversion. Multiple inversions were completed for quality control.

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# Option Granted For Acquisition Of The Klondike Property

VANCOUVER - Allied Copper Corp. reported that it has been granted an option to acquire the Klondike Property, located in Colorado. The Klondike Property consists of 76 unpatented mining claims, a State of Colorado Exploration Permit and an exclusive right to a State lease.

The Klondike Property is located 25 km (15.6 miles) South of Naturita, Colorado and lies within the Paradox Copper Belt

of San Miguel County, Colorado. The operational Lisbon Valley Mine lies 50 km (approx. 31 miles) to the NW. The property consists of 76 unpatented lode claims totaling 843 hectares (2,083 acres).

The Klondike Property is located about 3.2 km (2 miles) off Colorado Highway 141 and accessible by an all-weather County Road and then unimproved dirt roads throughout the

project. The project is expected to be accessible all year round except during serious winter storms.

A recent reconnaissance program conducted by Cloudbreak/Alianza, consisting of mapping, stream sediment sampling and rock sampling, was undertaken at the Klondike Property to help define drill targets at the West Graben Fault and East Graben Fault targets. Rock sampling and

mapping successfully expanded the footprint of both targets and identified a new target named the Northeast Fault.

Sampling at the Northeast Fault returned 1.56% copper and 1.4 grams per tonne ("g/t") silver over a 4.6 metre chip sample of bleached, bitumen spotted and altered Jurassic sandstones of the Saltwash member of the Morrison Formation.

Copper mineralized sand-

stones at the Northeast Fault target can be traced along the fault and outboard from it into the adjacent sandstones over an area 200 metres long by 100 metres wide before becoming obscured beneath gravel cover. Further anomalous copper, including 2.1 metres of 463 ppm copper, was encountered over one kilometre to the northwest where the structure and host strata next appear from beneath the same gravel cover.

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ARIZONA

# Core Drilling Commences At Philadelphia Au Project

VANCOUVER – Arizona Silver Exploration Inc. reported core drilling has started on the Philadelphia gold Kproject, Mohave County, Arizona. The objective is to further demonstrate the continuity and extent of both high grade and stockwork gold targets on the property. The drilling contract provides for a minimum of 3,000 metres (10,000 feet) of core drilling 12 hours/day, on a 20-day on, 10-day off schedule.

Drilling will commence at the north end of the Perry patented claim where drill holes PRC21-81 thru PRC21-83 intersected high grades in a hanging wall vein up to 3.3 metres thick at 16.9 grams per tonne (gpt) gold and 51.15 gpt silver. Stockwork mineralization up to 47.3 metres thick at 1.63 gpt gold and 7.74 gpt silver was intersected between the vein and a footwall calcite-cemented quartz vein breccia.

Four core holes will be drilled on one section line, immediately down dip from previous reverse circulation drill holes to test: 1) The down-dip continuation of the high-grade vein. 2) Mineralization in the hanging wall (above) of the high-grade vein intersected further to the south. 3) Stockwork

mineralization footwall to the high-grade vein. 4) Increasing gold content with depth in the calcite-cemented quartz vein breccia below previous gold-bearing intercepts.

The Shark Fin outcrops 50 metres north of the four holes described above on a patented claim named the Rising Fawn. The Shark Fin is interpreted to be the same footwall calcite-cemented quartz vein breccia as we will drill to the south. The feature will be tested by two angle holes collared from the first drill pad to the south.

Once the drilling at the north end of the Perry claim is completed the drill rig will move some 300 metres to the south end of the Perry claim to test the down-dip and immediate strike extensions of mineralization in that area. The untested area between these two targets is referred to as the “GAP” where drill roads must first be established.

Greg Hahn, VP Exploration, said “I am delighted to resume drilling on the property. This program is designed to demonstrate the real upside of the system, showing that we have continuity to depth and the potential to develop significant ounces. I expect some exciting results.”

# Geophysical Report Confirms Significant Au-Ag Potential At The Navarre Creek Claim Block

VANCOUVER - ExGen Resources Inc. reported on Phoenix Copper Ltd.’s exploration and development activities at the Empire Mine Project in Custer County, Idaho.

Phoenix has provided the results from its ground-based field magnetics survey and airborne hyperspectral mineral surveys. Highlights are: 1) 169-line kilometres (‘km’) of ground-based total field magnetics and airborne hyperspectral imaging completed for the entirety of the Navarre Creek claim block. ) Two distinct intrusive bodies identified, partially concealed below glacial till showing strong magnetic signatures which complement the existing jasperoid outcrops. 3) A northeast trending, approximately 2.3-mile-long by 1-mile-wide corridor of hydrothermal alteration also identified, consistent with the gold and silver bearing Carlin-style epithermal deposits. 4) Markers for Carlin-style gold deposits are the presence of jasperoids, and the association of gold, antimony, silver and zinc. These markers are found at Navarre Creek and may signify the potential for this style of deposit.

The results of these surveys, together with the results of previous exploration, highlight the

prospectivity of the claim block. These positive results will drive further exploration and drill targeting in 2022.

During the 2021 field season, Phoenix contracted Magee Geophysical Services to acquire approximately 169 line-km of total field magnetic measurements at the Company’s Navarre Creek project and SpecTIR, LLC of Reno, Nevada to complete an airborne hyperspectral survey of the same Navarre Creek area to identify prospective exploration targets in an area, many of which are largely concealed by glacial till. The ground magnetics survey looked specifically for magnetite and magnetic-bearing minerals, some of which have been identified in limited outcroppings, while the hyperspectral imaging helps to identify alteration minerals often associated with precious metal deposition.

Hyperspectral imaging incorporates a small airplane with mounted infrared lights and sensors to detect a wide range of wavelengths, mineral absorption and reflectance within the target area. The wavelength data collected in this survey are VNIR (Visible and Near-Infrared), SWIR (Short-Wave Infrared), and LWIR (Long-Wave Infrared). The human eye can

detect wavelengths (colors) from 390 nanometers (‘nm’) to 700nm. The VNIR and SWIR sensors collected wavelength data from 390nm to 2,450nm, while the LWIR sensors ranged from 8,000nm to 12,000nm.

The Navarre Creek project is located within an intrusive dome complex, where the magnetic components in overlying volcanic lithologies is destroyed by silicic alteration associated with steam-heated, acidic, and oxidized hydrothermal fluids. The survey highlighted several such areas including the Lehman Creek fault, one or more porphyry plugs, and several contacts/faults.

The survey identified volcanic associated alteration that is both acidic and of fairly high temperature as evidenced by pyrophyllite and dickite. As would be expected in the Challis Volcanic Field, the white mica is Al-rich (paragenetic) and also shows zoned crystallinity patterns, typical of intermediate-to-high sulfidation systems and is likely proximal to a magmatic heat source. The presence of iron oxide associated with some of these zones adds prospectivity. The alteration pattern is useful in developing an exploration model to optimise future drill targets.



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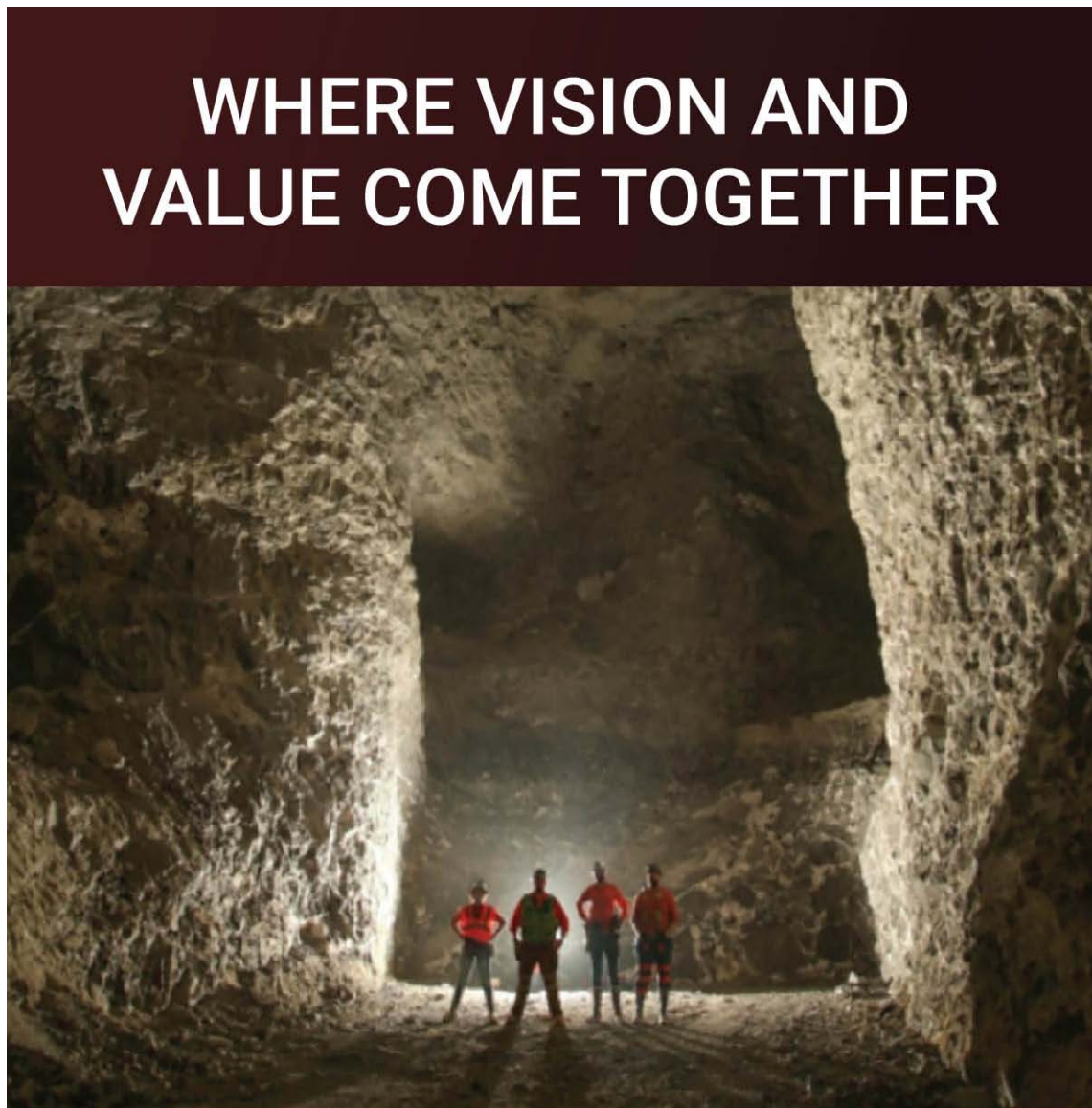
## Inaugural Drill Program At The Corvette-FCI Property

VANCOUVER - Patriot Battery Metals Inc. reported on the second hole of its inaugural drill program at the Corvette-FCI Property, located in the James Bay Region of Quebec. The second drill hole (CF21-002) targeted the eastern portion of the CV5 Spodumene Pegmatite outcrop, which forms part of the more than 25 km long CV Lithium Trend that is host to multiple spodumene pegmatite occurrences. Drill core sample assay highlights include: 0.94% Li<sub>2</sub>O and 117 ppm Ta<sub>2</sub>O<sub>5</sub> over 155.1 m (from 77.9 m to 233.0 m), which includes the entire intersection of pegmatite, including higher grade intervals of: 1.38% Li<sub>2</sub>O and 160 ppm Ta<sub>2</sub>O<sub>5</sub>

over 38.0 m (from 124 m to 162 m), including, 3.91% Li<sub>2</sub>O and 308 ppm Ta<sub>2</sub>O<sub>5</sub> over 5.0 m (from 157 m to 162 m); and 1.14% Li<sub>2</sub>O and 104 ppm Ta<sub>2</sub>O<sub>5</sub> over 44.0 m (from 189.0 m to 233.0 m).

Blair Way, President and Director, said, "This second hole of our program is in line with our expectations and demonstrates high grades over wide widths, in two drill holes spaced over 100 m apart along-strike at the CV5 Pegmatite. The CV5 Pegmatite outcrop is demonstrating some excellent grades and potential scale.

It is very satisfying to see our first two holes demonstrate just how significant this discovery is."



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### BARRICK

## Bulyanhulu Mine-North Mara Advancing To Tier One Status

TORONTO - Barrick Gold reported that Bulyanhulu Gold Mine-North Mara and Bulyanhulu, which were moribund gold mines when Barrick took over their management two years ago, delivered a combined production of more than 500,000 ounces in 2021, meeting a key criterion for membership of the company's elite Tier One portfolio. The within-guidance performance was achieved with both mines retaining their ISO 45001 safety and ISO 14001 environmental accreditations, in common with Barrick's other operations.

North Mara is on track to become a fully integrated mine

with the planned commissioning of the Nyabirama pit during the current quarter and the scheduled commencement of the Nyabigena pit in third quarter of 2022.

This is expected to add substantial resources and increased flexibility to its plan. Bulyanhulu has been re-established as a world-class, low-cost, long-life underground mine as it achieved steady state production on the successful ramp-up of its mining and metallurgical operations in December 2021.

Both mines are expected to report a significant growth of their mineral reserves, net of depletion, for 2021.



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CONTINUED FROM PAGE 1

# FCX Projects Copper Sales Of 4.3 Billion Pounds In 2022

The Company is increasing exploration in the area to support metallurgical testing and mine development planning for a potential long-term investment in a concentrator. It is also evaluat-

ing an expansion of the Bagdad operation in northwest Arizona and is engaging stakeholders. Feasibility studies to double Bagdad's operating rates are expected to commence in 2022.

The Company continues to advance initiatives to recover additional copper from its large existing leach stockpiles. There are several initiatives ongoing across FCX's Americas footprint which incorporate new applications, technologies and data analytics. Initial results are encouraging and support additional work on these emerging opportunities. FCX operates seven open-pit copper mines in North America - Morenci, Bagdad, Safford (including Lone Star), Sierrita and Miami in Arizona, and Chino and Tyrone in New Mexico.

In addition to copper, certain of these mines produce molybdenum concentrate, gold and silver. All of the North America mining operations are wholly owned, except for Morenci, where it records 72 percent undivided joint venture interest in Morenci using the proportionate consolidation method.

Milling rates at Cerro Verde's concentrator facilities, in Peru, averaged 376,700 metric tons of ore per day in fourth-quarter 2021 and 380,300 metric tons of ore per day for the year 2021. Subject to ongoing monitoring of COVID-19 protocols,

Cerro Verde is targeting milling rates to increase to approximately 400,000 metric tons of ore per day during 2022. El Abra, in Chile, increased operating rates to pre-COVID-19 pandemic levels during 2021. Increased mining and stacking activities are expected to result in a 30 percent increase in El Abra copper production for the year 2022, compared with the year 2021. FCX continues to evaluate a large-scale expansion at El Abra to process additional sulfide material and to achieve higher copper recoveries. El Abra's large sulfide resource could potentially support a major mill project similar to the facilities constructed at Cerro Verde in 2015. Technical and economic studies continue to be evaluated to determine the optimal scope and timing for the sulfide project, and it is engaging stakeholders and preparing data required for submission of a robust permit application. The Company is continuing to monitor potential changes in regulatory and fiscal matters in Chile and will defer major investment decisions pending clarity on these matters.

PT-FI operates one of the world's largest copper and gold mines at the Grasberg minerals district in Papua, Indonesia. PT-FI produces copper concentrate that contains significant quantities of gold and silver. FCX has a 48.76 percent ownership interest in PT-FI and manages its mining operations. Under the terms of the shareholders agreement, FCX's economic interest in PT-FI approximates 81 percent through 2022. The ramp-up of underground production at PT-FI continues to advance on schedule. Fourth-quarter 2021 highlights include: Achieved quarterly copper and gold volumes approximating 100 percent of the projected ultimate annualized levels; and 21 new drawbells were constructed at the Grasberg Block Cave and Deep Mill Level Zone (DMLZ) underground mines, bringing cumulative open drawbells to 510.

Combined average production



from the Grasberg Block Cave and DMLZ underground mines approximated 160,800 metric tons of ore per day and PT-FI's total milling rates averaged 181,000 metric tons of ore per day. PT-FI expects milling rates to average approximately 180,000 metric tons of ore per day in 2022. The installation of additional milling facilities at PT-FI are in progress and are currently expected to be completed in 2023, which will increase milling capacity to approximately 240,000 metric tons of ore per day. Average annual production of approximately 1.6 billion pounds of copper and 1.6 million ounces of gold for the next five years at an attractive unit net cash cost, providing significant margins and cash flows.

In October 2021, PT-FI commenced long-term mine development activities for its Kucing Liar deposit, which is expected to produce over 6 billion pounds of copper and 5 million ounces of gold over the life of the project. Similar to PT-FI's experience with large-scale, block-cave mines, pre-production development activities will occur over an approximate 10-year timeframe. At full operating rates, annual production from Kucing Liar is expected to approximate 600 million pounds of copper and 500 thousand ounces of gold, providing PT-FI with sustained long-term, large-scale and low-cost production.

In connection with PT-FI's 2018 agreement with the Indonesia government to secure the extension of its long-term mining rights, PT-FI committed to construct new domestic smelting capacity totaling 2 million metric tons of concentrate per year by December 2023. During 2020, PT-FI notified the Indonesia government of schedule delays resulting from the COVID-19 pandemic and continues to review with the government a revised schedule for satisfying its commitment.

PT-FI is actively engaged in the following projects for domestic smelting activities: Construction of a new greenfield smelter in Gresik, Indonesia with a capacity to process approximately 1.7 million metric tons of copper concentrate per year; Expansion of PT Smelting's (PT-FI's 39.5-percent owned copper smelter and refinery in Gresik, Indonesia) capacity by 30 percent

to 1.3 million metric tons of concentrate per year, which is expected to be completed by the end of 2023; and Construction of a precious metals refinery (PMR) to process gold and silver from the new greenfield smelter and PT Smelting at an estimated cost of \$250 million.

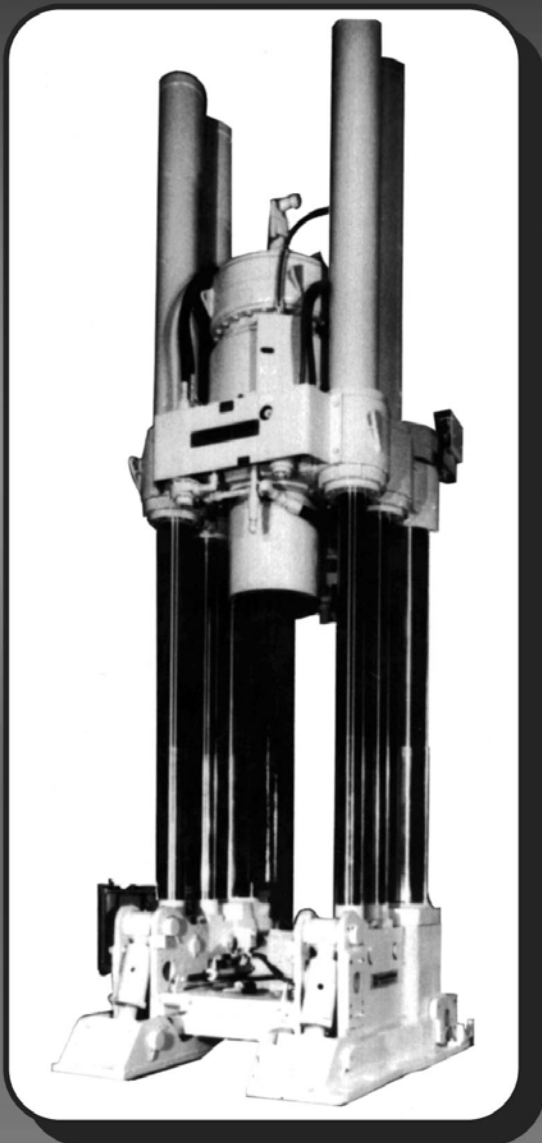
In Colorado, FCX operates two wholly owned molybdenum mines, the Henderson underground mine and the Climax open-pit mine. Production from the molybdenum mines totaled 7 million pounds of molybdenum in fourth-quarter 2021 and 5 million pounds of molybdenum in fourth-quarter 2020. FCX plans to increase mining rates at the Climax mine in 2022 to provide options to increase volumes in response to market demand for molybdenum. The Company's consolidated molybdenum sales and average realized prices, which include sales of molybdenum produced at the Molybdenum mines.

Mining exploration activities are primarily associated with its existing mines, focusing on opportunities to expand reserves and resources to support development of additional future production capacity. Exploration results continue to indicate opportunities for significant future potential reserve additions at our existing properties in North America and South America. Exploration expenditures for the year 2022 are expected to approximate \$110 million, compared with \$50 million in 2021. FCX intends to increase its exploration expenditures during 2022 primarily to advance Lone Star and other opportunities at its North America copper mines. The Company has long-lived reserves and a significant resource position in its existing portfolio.

FCX has significant mineral reserves, mineral resources and future development opportunities within its portfolio of mining assets. FCX's preliminary estimated consolidated recoverable proven and probable mineral reserves from its mines at December 31, 2021, include 107.2 billion pounds of copper, 27.1 million ounces of gold and 3.39 billion pounds of molybdenum. Recoverable mineral reserve volumes are those which it estimates can be economically extracted or produced at the time of the mineral reserve determination.



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# High-Grade Gold At Golden Zone In South Central Alaska

TORONTO - Avidian Gold Corp. reported assay results from the remaining 9 of the 17 reverse-circulation (RC) drill holes completed on the southwest portion of the Mayflower Extension Zone (MEZ). Assay results from the 9 holes reported along with the previous 8 holes announced complete the reporting of all 17 RC holes that drill tested a 600 m portion of the MEZ in 2021. The district-scale (125.5 sq. km) Golden Zone Project is located in south-central Alaska and is strategically positioned midway between Anchorage and Fairbanks and only 10 km west of paved State Highway 3, the Alaska Railroad, and the 345 kV Alaska Intertie power lines.

Highlights of drill assays

received from the southwest 300 m portion of the MEZ include: Hole GZ21RC-18 intersected 6.10 meters (m) grading 2.06 g/t Au, including 3.05 m grading 3.89 g/t Au; Hole GZ21RC-22 intersected 15.24 m grading 2.65 g/t Au, including 3.05 m grading 11.70 g/t Au; Hole GZ21RC-23 intersected 4.57 m grading 2.43 g/t Au and 4.58 m grading 2.22 g/t Au within a broader zone of 73.45 m grading 0.45 g/t Au; Hole GZ21RC-24 intersected 6.10 m grading 2.14 g/t Au within a broader zone of 60.96 m grading 0.68 g/t Au; and All 17 RC drill holes are located wholly within the northeast-trending zone and have successfully extended the known strike length an additional 185 m for a total strike

length of 600 meters and the MEZ remains open both along strike and at depth.

Steve Roebuck, President & CEO, said, "The consistent and impressive assay results from the

2021 drill program prove that MEZ is a significant mineralized system that has considerable potential to quickly build a near-surface gold resource. As we look forward to the 2022 field season,

and continued drilling at MEZ, our focus will be to extend the drill-defined mineralization another 300 m along strike toward the Bunkhouse Prospect and follow the gold to depth."

## Drilling Continues To Expand Near Surface Mineralization At La Romana

VANCOUVER - Pan Global Resources Inc. announced new drill results and the expansion of the La Romana mineralized target area at the Escacena Project in the Iberian Pyrite Belt, southern Spain. Exploration is also in progress on the adjoining Al Andaluz permit area within the Escacena Project where drilling has commenced at the La Jarosa target.

Tim Moody, PPresident and CEO, said, "The latest results further confirm that high-grade copper mineralization continues near to surface at La Romana, with recent drilling returning more than 2% Cu over 10.1m from less than 10m below surface. The new drill results also extend the copper and tin mineralization to the west and show that the mineralization is wide open in several directions. It should also be noted that further

results are also awaited for more than 20 drill holes.

These latest results are very encouraging and continue to expand the near surface high-grade copper/tin target at La Romana, the first of several gravity targets on the Escacena Project.

Following the recent grant of the Al Andaluz permit we have rapidly mobilized a drill rig and are excited to have commenced drilling the first hole at the La Jarosa copper target, some 4 km from La Romana.

An extensive exploration program is also now in progress, including gravity and surface geochemistry surveys, and a high-resolution airborne electromagnetic survey due to begin within the next two-weeks.

Once data is available from this work the Company plans to commence a substantial follow

up drill program throughout 2022."

The 2022 plan includes up to 20,000m of drilling at the Escacena Project (approx. 40 to 60 holes), most of which will test targets generated from the regional surveys. A significant follow-up drill program (meterage to be determined) is also expected in the second half of 2022.

Drilling has commenced on the La Jarosa target in Al Andaluz designed to follow-up the historic Exxon drill hole PJ2 1985 which intersected 9.5m at 1.42% Cu. A second drill hole is also planned to test dip extensions to the mineralization. The Exxon drill hole was never followed up and the drill core is no longer available to verify the results. The Company makes no representation as to the reliability or accuracy of the historical Exxon drill results.

## IDAHO

### Breccia Property Final Five Holes Completed

VANCOUVER - Ophir Gold Corp. reported on the final five holes of the 2021 drill program at the Breccia Gold Property. The drill program targeted the Breccia Gold Zone, which is situated within the larger Meadows Fault Zone. The Property is located approximately 40 km southwest of Salmon, Idaho, and is accessible directly by road. A total of 2,063.2 m (~6,769 ft) over ten (10) holes were completed as part of the program, with results for the first set of drill holes announced December of 2021, highlighted by drill hole BG21-004 which returned 13.02 g/t Au and 46.6 g/t Ag over 7.4 m. Core sample assays for the remaining five (5) holes (BG21-005 through 009) of the 2021 drill program are reported herein, and highlights include: BG21-06: 1.68 g/t Au and 5.6 g/t Ag over 22.8 m, including, 3.05 g/t Au and 10.4 g/t Ag over 11.8 m; and BG21-05: 0.02 g/t Au and 6,940 g/t Ag over 9.5 m.

CEO Shawn Wescott, said, "We are pleased to report additional intervals of strong gold-silver mineralization in this final series of holes from our 2021 drill program at the Property. These results are very encouraging and build upon our first set of results that returned numerous gold-silver intervals, including BG21-004 that returned 7.4 m of 13.02 g/t Au and 46.6 g/t Ag. Our inaugural drill program at the Breccia Gold Zone has confirmed a much larger breccia system than was previously understood as well as demonstrated its potential for precious metal mineralization. We look forward to following up these results with additional drilling in the spring/summer 2022."

The strongest gold mineralization from the five (5) drill holes reported herein was encountered in BG21-006 and included 3.05 g/t Au and 10.4 g/t Ag over 11.8 m, within a wider mineralized interval of 1.68 g/t Au and 5.6 g/t Ag over 22.8 m, starting at 108.3 m downhole. The interval is highlighted by three intensely altered and brecciated quartz veins, with abundant vugs and occurrences of bladed quartz, within a wider strongly iron-manganese oxide altered breccia

unit. These three (3) veins ranged in core length thickness of 0.65 to 0.93 m, each assaying more than 10 g/t Au to a peak assay of 15.2 g/t Au.

Similar high-grade veins have been encountered in previously reported holes, highlighted by drill hole BG21-001 which included a 0.57 m interval of vuggy, hematite-manganese oxide altered quartz vein material assaying 40 g/t Au and 88.2 g/t Ag.

Drill hole BG21-006 was collared approximately 60 m southwest of BG21-001 and undercut it at a steeper angle of -80° compared to the more shallow -45° of BG21-001. Collectively, these veins highlight a key exploration target at the Property and have been sampled at surface as well as at depth, often returning significant precious metal mineralization in excess of 10 g/t Au. An increase in abundance and coalescence of the strongly mineralized quartz vein material at depth is a key exploration model target for the project.



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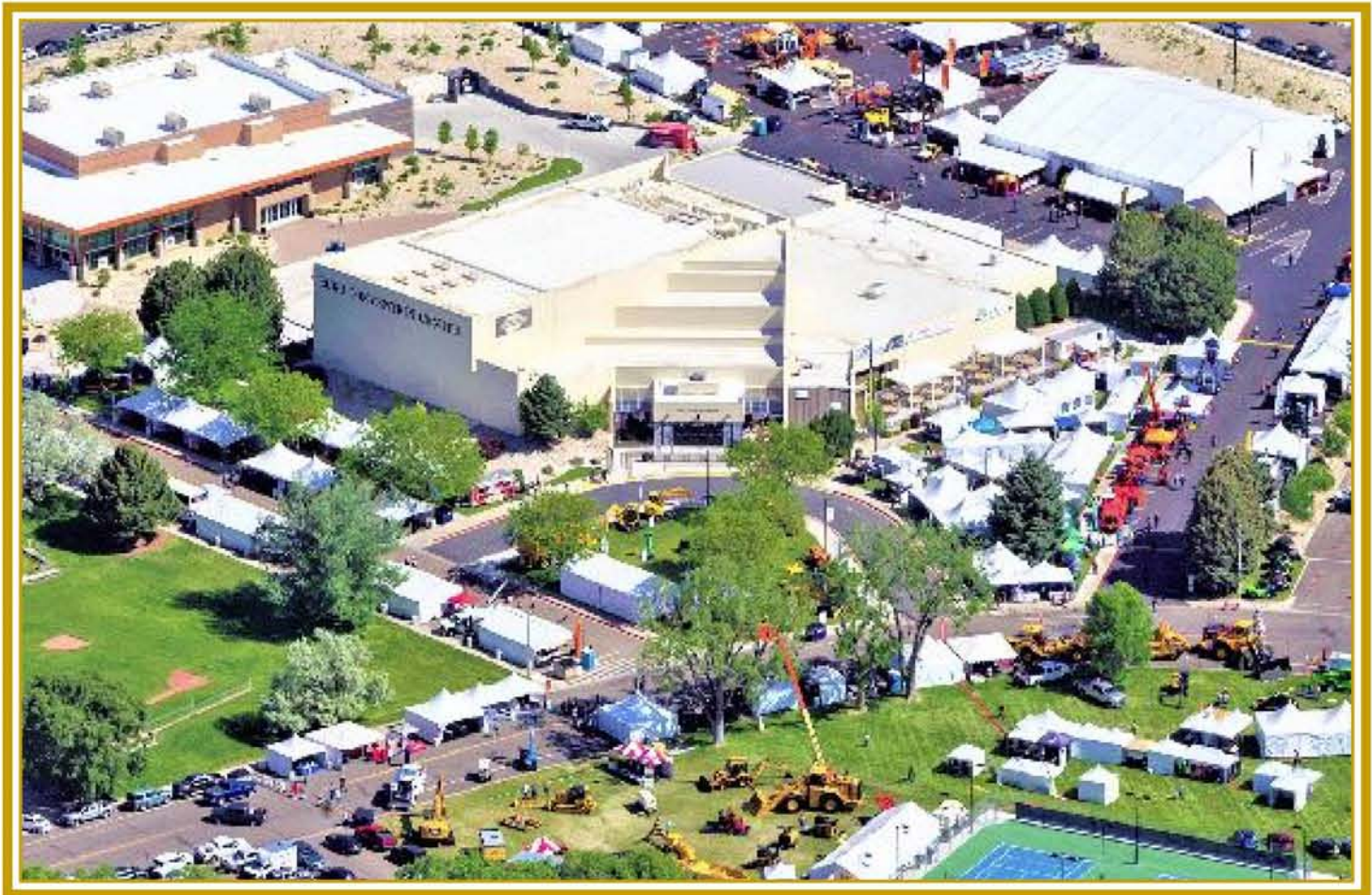
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# Crucial And Complicated: The Mining Sector's Journey To Net Zero

By Rachel Wyles & Russell Polack  
Golder Associates, Member Of WSP

The global transition to a low carbon economy is underway, and the mining sector has a crucial and complicated role to play. Rapid uptake of green technologies to achieve decarbonization means increased demand for minerals and metals, like lithium to produce electric vehicle batteries or copper for electrification. However, the mining sector is being challenged to meet this demand while also decreasing its own carbon footprint. As a result, many mining companies are developing ambitious decarbonization targets that align with the 2015 Paris Agreement on Climate Change and strive to eventually achieve net zero carbon emissions.

Net zero carbon emissions occurs when the GHG emissions released by an organization are counterbalanced with an equivalent amount of carbon removals from the atmosphere. For many mining companies, this means establishing a baseline level of GHG emissions, and looking for opportunities to undertake actions to reduce GHG emissions (often referred to as “decarbonization”). While there are practical limits on how much GHG emissions can be reduced by a mining operation, several innovative approaches are being explored and the future is promising.

## Hydrogen Fuel Cell Trucks: 263 Tonnes of Low Carbon Transport

According to the International Council on Mining & Metals (ICMM), large mining mobile equipment and vehicles can account for up to 80% of GHG emissions at a mine. As a first step, mine operators are assessing what their options are for reducing GHG emissions from vehicles. Marginal reductions can be realized through increased use of bio-fuels or exploring alternative material movement that reduces haulage needs.

But these changes alone are unlikely to sufficiently meet a net zero target, so emerging technologies such as battery electric vehicles (BEV) or hydrogen-based trucks are being piloted. The technology best suited for a particular operation can depend on many factors, including ore type, mining method, mine location and availability of electric or hydrogen infrastructure. A solid understanding of technology options, both current and future, and adoption considerations can shape a mining operation's strategy around options for reducing GHG emissions from vehicles.

The “Innovation for Cleaner Safer Vehicles (ICSV)” initiative, a collaborative model launched by ICMM member organizations, is focused on solving these industry-level challenges and accelerating development of a new generation of cleaner and safer mining vehicles. An excellent example is an imposing and impressive 263-tonne dump truck that uses hydrogen fuel cells. Developed by Williams Advanced Engineering and ENGIE, the truck will be tested by Anglo American in the first half of 2021 at the Mogalakwena platinum open pit mine in the north-western part of South Africa in Mokopane, Limpopo. Anglo American plans to generate

hydrogen from electrolysis on site, using renewable power sources, to power the truck.

## Solar and Wind are Renewable and Realistic

In addition to vehicles, the mining sector uses large amounts of energy to operate safely, supplying ventilation in underground mines and processing extracted materials. The industry is actively looking for alternative energy sources including increasing the use of renewable energy from solar and wind installations that produce less GHG emissions to generate electricity than fossil fuel alternatives. This is particularly important for remote mines that are not connected to the electrical grid and currently rely on diesel, natural gas or liquified natural gas (LNG) for power supply.

As renewable energy becomes more economically viable it is expected that these large-scale installations will be integrated into mining operations. For example, a planned 34MW solar plant will be powering Rio Tinto's Gudai-Darri, an iron ore mine in Western Australia. Nearly 100,000 solar panels will generate enough electricity to supply 100% of Gudai-Darri's electricity demand during peak solar power generation times and approximately 65% of the mine's average electricity demand.

Meanwhile, Australia's largest hybrid renewable energy micro-grid, as well as the first mine in the world to utilize wind generation, are in place at Agnew Gold Mine. The Agnew Hybrid Renewable Project supplies 55% of Agnew's electrical power and, depending on conditions, over 80% of all of the site's electrical power is generated by the five 110m tall wind turbines and solar farm.

## How Tailings Can Support Net Zero

The mining industry is also looking into how tailings can support net zero. Under certain conditions, tailings have been demonstrated to have an ability to sequester carbon dioxide through a process called “carbon mineralization.” Carbon dioxide sequestration in mine tailings is receiving increasing attention as companies look within their own operations for innovative approaches to remove carbon dioxide from the atmosphere and use that as part of the ‘balance’ strategy towards becoming net zero.

One mechanism by which tailings carbon dioxide sequestration can be achieved is through a process referred to as “passive sequestration.” The ability of tailings to passively sequester carbon dioxide and the rate of passive sequestration depends mainly on the mineralogy, grain size, temperature, precipitation process and pore water chemistry and surface area of exposed material. The use of microorganisms in tailings storage facilities has the potential to enhance the effectiveness of this process.

Tailings sequestration can also be achieved through technological modifications at the processing plant. Process modifications can include introduction of carbon dioxide to tailings streams at elevated pressure and temperature or carbon dioxide injection.

Thorough site-level investigations of the potential to implement a tailings carbon dioxide sequestration project at a mining operation are critical. Field scale trials can be undertaken to understand site specific conditions and optimize the sequestration methods.

While the solution is not yet common practice, progress is being made. A recent webinar featuring faculty from The University of British Columbia's Bradshaw Research Initiative for Minerals and Mining (BRIMM) provides an update on the research around carbon mineralization in tailings: Decarbonization of Mines: From Challenges to Opportunities.

## Looking Forward

Achieving net zero is a huge challenge for the mining industry, but the sector is working to meet the challenge. Organizations such as ICMM and the Mining Association of Canada (MAC) are

supporting innovation at a sector level. One example of which is the MAC ‘Towards Sustainable Mining’ initiative, a globally recognized sustainability program that supports managing key environment and social risks, including GHG emissions.

Brendan Marshall, President and Chief Executive Officer for the Mining Association of Canada believes that by working together major stakeholders within the sector can lead the transition to a low carbon economy: “Canada's mining industry is committed to being a constructive partner in the fight against climate change and by providing the minerals and metals essential to the development of low carbon technologies like EV batteries, wind turbines and solar panels, our members are making a concerted effort to play an important role in the path to net zero.”

Rachel Wyles is an Associate and Senior Carbon Management

and Climate Change Specialist with the Golder Vancouver office. Over the past nineteen years, Rachel has global experience in GHG management and climate change assessments. Assignments have included working with companies to develop carbon footprints, upstream and downstream GHG assessments, carbon neutral road maps, and sustainability reporting and reduction target support.

Russell Polack works in Golder's Sudbury office as a Senior Greenhouse Gas Specialist. In his 13 years with Golder, Russell has had the opportunity to work with a wide variety of mining operations across Canada and internationally. The bulk of his current work centers around GHG emissions assessment and reporting, and assisting mining clients with cost forecasting, strategy and compliance with carbon pricing programs.

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## MT. KEITH & LEINSTER OPERATIONS POWERED BY Off-Grid Mining Solar & Battery Energy Storage Systems

AUSTRALIA - BHP reported that construction is now underway on one of the world's largest off-grid mining solar and battery energy storage systems being built by TransAlta to help power BHP Nickel West's Mt Keith and Leinster operations. The Northern Goldfields Solar Project, which was announced last year, includes a 27.4 MW solar farm at Mt Keith, a 10.7 MW solar farm and a 10.1 MW battery at Leinster, and will be integrated into TransAlta's Northern Goldfields remote power grid.

The project, which will replace power currently supplied by diesel and gas, will help BHP

Nickel West reduce scope 2 emissions at its Mt Keith and Leinster operations by 12 per cent, resulting in an estimated reduction of 54,000 tonnes CO<sub>2</sub>-e per annum. The construction phase of the project is set to create more than 100 direct and indirect jobs in the Goldfields and Perth regions and is expected to produce its first solar power by November 2022.

The project aims to employ Traditional Owners from the Tjiwarl Native Title Holders following TransAlta's contractor, juwi, awarding Cundaline Resources with the primary civil contractor role on the project. Cundaline Resources is an Ab-

original business whose owners include members of the Tjiwarl Aboriginal Corporation.

BHP Nickel West Asset President, Jessica Farrell, said, "BHP was meeting its commitment to deliver sustainable low carbon nickel to its customers, a product that is in high demand to power batteries and electric vehicles. The Northern Goldfields Solar Project is BHP's first off-grid large-scale renewable energy project across our global operations and, significantly, will remove the equivalent of up to 23,000 combustion engine cars from the road every year, supporting our greenhouse gas reduction targets. It is also very exciting that following years of close engagement with the Tjiwarl Native Title Holders, our project has contracted the services of a local Aboriginal business, boosting opportunities for people in

the local community and across the northern Goldfields generally."

TransAlta also unveiled today it had entered into an agreement with BHP to identify potential wind sites for a 40 to 50MW wind farm, which would connect to TransAlta's northern grid and reduce scope 2 emissions at BHP's Mt Keith and Leinster operations by an estimated further 30 per cent. Adding wind will increase renewable energy supply to support BHP's growth and to further each company's sustainability goals.

TransAlta Australia Managing Director, Kelvin Koay, said, "The construction phase of the solar and battery farm was an exciting step for the project. The Northern Goldfields Solar Project is TransAlta's first renewable energy project in Australia and is an important element of our Clean Electricity Growth plan.

This project contributes to achieving TransAlta's target of a 75 per cent GHG emissions reduction over 2015 levels by 2026 and 2050 carbon neutrality goal. As a company, we have a strong decarbonisation track record having already achieved a 61 per cent emissions reduction since 2005. We've had a long-standing partnership with BHP since the 1990s and we welcome the opportunity to support BHP in meeting its carbon emission targets and in enhancing its competitiveness as one of the lowest carbon nickel miners in the world. Throughout the planning phase and now into construction, both TransAlta and BHP have prioritised their stakeholder engagement with the Tjiwarl Traditional Owners to understand what is important to them and to ensure we consider that when we plan, develop and construct a project."

### BURIN PENINSULA

## Exploration Drilling Program Commences At Hickey's Pond

VANCOUVER - Burin Gold Corp. reported that drilling operations have commenced at its Hickey's Pond - Paradise Gold Project (HPP Project) on the Burin Peninsula in southeastern Newfoundland. The first of two planned diamond drills has been mobilised to site and has started drilling at the Hickey's Pond prospect. A minimum of 10,000 m of diamond drilling is planned for the property in 2022. This will include the first phase of a resource definition program at Hickey's Pond, as well as exploration drilling of several of the other high priority, yet to be drill tested targets on the property.

Drilling has commenced on the historical Hickey's Pond showing. The Company's initial scout drilling in 2020 obtained a best result of 10.8 m of 4.43 g/t Au within a larger interval of 58.25 m of 1.12 g/t Au in hole HP-20-002. Overall, the footprint of the alteration system around Hickey's Pond is over 7 km in strike length, and less than 10% of this has received even cursory drill testing.

The first ten drill holes of the 2022 program will be located on the Hickey's Pond showing, as follow-up drilling to the Company's 2020 scout drill holes. The new holes are designed to both expand the footprint of mineralisation along strike, provide infill drilling for resource modelling, and test down-dip of the mineralised structure for continuity of mineralisation to depth. A total of 1,900 m in ten diamond drill holes are planned for the area of the historical showing, drilled on four 50 m spaced sections.

Chief Executive Officer, David Clark, PGeo, said, "I am pleased that our exploration team in Newfoundland has mobilised a diamond drill quickly to start our 2022 drill program. We have many excellent targets to test, so an early start will maximise the amount of drilling we can complete this year at Hickey's Pond and elsewhere on the property. We anticipate that, with current assay laboratory backlogs, gold assay results for the first drill holes should be available in mid-April."

A second diamond drill is planned. The selection of drill targets for the second drill will be dependent on the long-term weather forecast for the remainder of winter on the Burin Peninsula.

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## Third Gold-In-Oxide Blanket Identified Within The Cuiú Cuiú Gold District, Brazil

VANCOUVER - Cabral Gold Inc. reported on an initial 12 RC drill holes and three diamond holes drilled within and above the Central gold deposit within the Cuiú Cuiú gold district in northern Brazil.

Highlights are: 1) DDH251, intersected gold-in-oxide mineralization at the Central deposit, and returned 55.1m @ 1.1 g/t gold from 4.9m depth, including 5m @ 6.1 g/t gold 15.5m @ 1.7 g/t gold from 65.8m depth, and 3.5m @ 0.8 g/t gold from 81.3m depth in un-weathered and highly brecciated and altered intrusive rocks beneath the oxidation. 2) DDH247, also drilled at Central, returned 11.0m @ 0.7 g/t gold from surface, in gold-in-oxide blanket material, as well as 20.4m @ 0.5 g/t gold and 23.3m @ 0.3 g/t gold in un-weathered and highly brecciated and altered intrusive rocks further down the hole. 3) Results on an initial 10 shallow RC holes drilled within and around the northern part of the Central deposit, revealed a thin but consistent gold-in-oxide blanket. Results of note include RC259 which returned 26m @ 0.4 g/t gold in oxidized material from surface.

Alan Carter, President and CEO, said, "The results from the initial drilling at the Central gold deposit clearly demonstrate that we have a significant zone of gold-in-oxide mineralization forming a blanket above the primary Central deposit. This is the third gold-in-oxide blanket identified at Cuiú Cuiú since the initial discovery at MG in April of

last year, and these recent discoveries are in addition to the two existing hard-rock deposits with resources at Cuiú Cuiú. At this stage, we do not know the extent of the blanket or how much of this material at Central is in-situ weathered primary gold mineralization, and how much is transported cover material. Nevertheless, both types of material are expected to add significantly to the inventory of potentially leachable gold-in-oxide deposits recently identified at MG and PDM.

Additional drilling over the next months is expected to further define the limits of the oxide material at Central, whilst providing further definition of the high-grade zones within the underlying primary deposit at Central."

## Additional Infill Drilling Results At The Ewoyaa Lithium Producing Mine

SYDNEY, AUS - Atlantic Lithium Limited reported on final high-grade infill drilling results from the December campaign at the Ewoyaa Lithium Project in Ghana, West Africa, where the Company recently announced an updated Scoping Study and increased JORC compliant Mineral Resource Estimate of 21.3Mt @ 1.31% Li<sub>2</sub>O (MRE - Resource) resulting in a significant improvement in project economics and life of mine (LOM).

Vincent Mascolo, CEO, said, "Drilling results received confirm grade and continuity where tested across the Ewoyaa deposits, including a broad, high-grade intersection of 30m at 1.5% Li<sub>2</sub>O at the Ewoyaa Northeast deposit, as well as new zones of mineralization defined outside of the current Resource footprint. Multiple high-grade drill intersections have been returned over the east-

ern strike extension of the Grasscutter West deposit; all of which occur outside of the Resource and expected add further tonnes. Additional assay results received over the Ewoyaa Sill target continue to impress, with high-grade mineralisation and good widths occurring in flat lying structures favourable for tonnage addition and low strip ratio; also, outside of the Resource which is expected add further tonnes. The results reported herewith represent the final drilling results for the programme completed in December 2021, where the Company is targeting >80% resource conversion from inferred to indicated over the 21.3Mt @ 1.31% Li<sub>2</sub>O JORC Resource, as well as a targeted tonnage increase to over 24Mt in support of a 12-year mine life for future studies. Our Resource continues to grow, and the upside of

the Project is clear; not only do we believe that Project metrics will improve significantly beyond the current defined mine life, however we also see further potential for substantial economic improvement due to the recent increases in spodumene concentrate pricing which have far exceeded our initial SC6 price modelling parameters. We believe these fundamentals continue to demonstrate Ewoyaa as an industry-leading asset; with the Company ideally positioned to benefit from the growing lithium market; we look forward to progressing the Project towards production and establishing Atlantic Lithium as a new player in the lithium supply chain."

Exploration and resource drilling programmes are planned to recommence in March 2022 to test new targets along strike and at depth.

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### Multiple Undrilled High-Grade Veins Sampled At Mogollon

VANCOUVER - Galen McNamara, CEO of Summa Silver Corp., said "We expect 2022 to be transformative for the Company. Extensive drill programs are required on both properties as we aggressively push towards mineral resource estimates.

As this process moves forward, we also expect to regularly release results from up to 75 holes, all of which are planned to test zones of known high-grade mineralization on either an extension or infill basis. In the bigger picture, the current drilling area at the Consolidated Extension target represents only a small part of the story here. As exploration and drilling advance, we will soon find out if Mogollon is one of the great vein fields left in the United States."

The 2,467-acre Mogollon Property is located in the Mogollon mining district of southwest New Mexico, approximately 120 km north of Silver City. Numerous workings have exploited high-grade gold and silver veins from three primary mines: Fanny, Last Chance and Consolidated. Mining ceased in 1942 and the district has since been largely inactive other than a few exploration drill programs in the 1980s and in 2010: totalling 15,600 m. The property hosts approximately 34 km of near-continuous epithermal-associated veins and faults where only 0.5 km of that veining is currently being drill tested.

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## NICARAGUA

## Multi-Rig Exploration Programs Objectives

VANCOUVER - Calibre Mining Corp. reported on the 2022 discovery and resource expansion drilling programs at Limon, Libertad, Pavon and Eastern Borosi in Nicaragua, highlighting results from 2021 and outlining key 2022 targets and objectives.

Year end 2020 reserves increased 200% to 864,000 ounces grading 4.49 g/t gold after depletion. The Company completed in excess of 100 km of drilling with the objective of putting five years of mine life into Reserves (End of Year 2021 Resource and Reserve update planned for end of Q1 2022). The 2022 programs have been designed to target >250,000-ounce deposits to help bolster the project pipelines, providing a solid base for future growth. Planned infill drilling to advance technical studies at the Eastern Borosi Project ("EBP") including Riscos de Oro underground and Guapinol/Vancouver open pit mines.

The Company reported high-grade, resource expansion opportunities at Volcan, Tranca, Panteon Northeast, Talavera extension and Southwest Riscos De Oro which are not yet included in the resources. In addition Calibre advanced the newly approved Buena Vista concession, located near the Limon mine complex where at least seven new vein targets have been identified and the La Fortuna concession, located near the Libertad mine complex which covers a large, newly discovered epithermal alteration zone exposed at surface over 8 km<sup>2</sup>, drilling to commence in late 2022. It initiated 10,000-line km of airborne geophysical surveys (VTEM and EM) to help define and vector new targets, and exploration over the last two years has positioned Calibre for 2023 and 2024 production growth.

Darren Hall, President & Chief Executive Officer, said, "During 2021 our primary exploration efforts focused on increasing confidence in known resource areas at Limon, Libertad, Pavon and EBP which I expect will positively impact reserves after 2021 depletion and further increase confidence in future production. Additionally the team advanced new prospective concessions along the western epithermal belt, discovered new zones, progressed our geological understanding and target delineation work which form the basis of our 2022 drilling programs."

As a result of the exploration work completed over the last two years, we are in a strong position for 2023 and 2024 production growth. The discovery of new gold zones and continued progress at the high-grade EBP strengthens our outlook to continually expand resources and reserves. Our initial focus at EBP has been to progress the Guapinol, Vancouver and Riscos De Oro deposits which continues with permitting, studies and consultation followed by a construction decision in the first half of 2023. We continue to discover and develop new ore bodies through a sustained commitment to exploration, thereby unlocking the growth and discovery opportunities we see across our portfolio of mines and the exploration properties."

# Laszlo

*A good picture doesn't need a caption. It is complete in itself. It tells a story that is interesting and exciting.*

**Laszlo Photographer, Inc.**



A good picture doesn't need a caption. It is complete in itself. It tells a story that is interesting and exciting. These are the pictures I strive for. I have done so all my adult life. Though in my career I have done every type of photography possible from architecture to products, during the past twelve years or so I have specialized in mining photography. Why? One reason is the people. They are down to earth both literally and figuratively. They're not rushing around to find the latest fashion in photography. They want solid pictures that tell their story and that's precisely what I love to do.



The other reason is that I find the subjects of mining—the mills, the haul trucks, the leach pads, the excavators, and the people—fascinating. The scale, the intensity, the color—these are all things photographers live for. They satisfy my soul as they satisfy the needs of the marketing group. It's a great combo.



Clients for whom I have done significant assignments include Hecla Mining, Great Lakes Environmental, Jerritt Canyon Gold, Novagold, National EWP, and Freeport McMoRan. My mining pictures were the subject of a major exhibition in 2017 at the National Mining Hall of Fame and Museum in Leadville Colorado.

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## U.S. Must Develop Raw Materials For Electric Vehicles & Solar Panels

By: *Michael Stumo*

In recent years, Americans have become far more aware of China's massive presence in the global economy. They've faced shortages of imports from China during the COVID pandemic, with stores running out of common, everyday goods.

rebuilding America's industrial base won't happen overnight. That's doubly clear, now that the U.S. Geological Survey (USGS) has weighed in with a new report regarding America's deepening dependence on imported metals and minerals from China.

Here is what the USGS is

them come from China.

China knows exactly how important these raw materials are since minerals are the building blocks for emerging technologies such as electric vehicles (EVs). Beijing has smartly made itself the leading supplier to the United States for 16 of these critically needed minerals, including the rare earth metals necessary for not just EVs but also solar panels and wind turbines.

These renewable energy technologies will require a massive increase in mineral supplies in order to meet global demand.

The International Energy Agency expects that demand for minerals like lithium, which is used in electric vehicles and batteries, will grow more than 40 times in the next 20 years. But like so many other minerals, China has a stranglehold on lithium production and supplies.

America's investments in new EV plants and battery manufacturing facilities are intended to launch a made-in-America renaissance. But China's control over key materials gives Beijing considerable geopolitical leverage, and also threatens the viability of this effort.

Demand may be soaring for the minerals needed in the EV revolution, but there simply might not be enough to go around.

One recent analysis found that, by 2030, automakers could be unable to fill as many as 35 million EV orders in a timely fashion simply due to a lack of



And they've seen global protests over China's hosting of the Winter Olympics. Congress is now paying attention, and is finally starting to confront China's predatory behavior.

The problem for Washington, however, is that ending the nation's heavy reliance on China, and

warning about. The United States now depends on imports for more than half of its entire supply of 47 different minerals used in a wide variety of manufacturing industries. Even worse, the U.S. is now 100 percent reliant on imports for 17 of these essential minerals. And most of

battery materials.

Beijing can easily exploit such an opportunity, and make sure that Chinese automakers get the materials they need while U.S. producers are left dangling in the wind. That would imperil the future of America's auto industry and the jobs it supports.

This tells us that "Made in America" will be meaningless unless it is also "Mined in America."

Washington must act decisively to break America's reliance on China's supply chains. That means starting with the foundation, mining and mineral processing.

The U.S. possesses vast mineral resources here at home. It's past time to rebuild America's mining industry and reestablish secure, domestic supply chains in order to support a competitive, future American industrial base.

Michael Stumo is CEO of the Coalition for a Prosperous America, a nonprofit bipartisan coalition of farmers, ranchers, manufacturers, and labor organizations that make and grow things in the United States.

For more information, visit: [prosperousamerica.org](http://prosperousamerica.org). Follow Stumo on Twitter: @michael\_stumo

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